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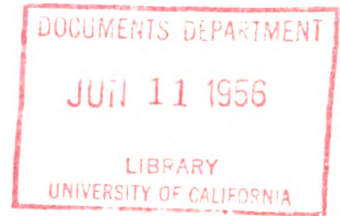
**HISTORY OF
THE SECOND WORLD WAR
UNITED KINGDOM CIVIL SERIES
Edited by SIR KEITH HANCOCK**

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AGRICULTURE

By

KEITH A. H. MURRAY



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CONTENTS

| | <i>Page</i> |
|---|-------------|
| PREFACE | xi |
| PART I: INTRODUCTION | |
| CHAPTER I: THE FIRST WORLD WAR | 3 |
| i. British Agriculture in 1914 | 3 |
| ii. The Food Production Programme, 1917 and 1918 | 7 |
| iii. The Production Programme for 1919 | 10 |
| iv. Agricultural Prices and Markets | 11 |
| v. Retrospect | 14 |
| CHAPTER II: THE INTER-WAR YEARS, 1919-39 | 17 |
| i. Movements in Agricultural Prices | 17 |
| ii. Changes in Output and Technique | 21 |
| iii. The Role of the State | 26 |
| CHAPTER III: PREPARATION FOR WAR | 40 |
| i. The Premises of a Wartime Production Programme | 40 |
| ii. The First Conceptions | 47 |
| iii. Preliminary Measures to Increase Food Production | 52 |
| iv. Last Minute Preparations | 57 |
| PART II: GATHERING MOMENTUM | |
| CHAPTER IV: THE FIRST YEAR OF WAR, 1939-40 | 67 |
| i. Food Production in 1939-40 | 67 |
| ii. The Import Programme, 1939-40 | 68 |
| iii. The Home Production Programme, 1939-40 | 72 |
| iv. Measures to Implement the Programme | 81 |
| CHAPTER V: THE SECOND YEAR OF WAR, 1940-1 | 102 |
| i. Food Production in 1940-1 | 102 |
| ii. The Import Programme, 1940-1 | 104 |
| iii. The Home Production Programme for 1940-1 | 107 |
| iv. Measures to Implement the Programme | 123 |
| v. 'The End of the Beginning' | 139 |

PART III: THE PEAK EFFORT

| | |
|---|-----|
| CHAPTER VI: THE THIRD YEAR OF WAR, 1941-2 | 145 |
| i. Food Production in 1941-2 | 145 |
| ii. The Import Programme, 1941-2 | 147 |
| iii. The Home Production Programme for 1941-2 | 153 |
| iv. Measures to Implement the Programme | 158 |
| CHAPTER VII: THE FOURTH YEAR OF WAR, 1942-3 | 174 |
| i. Food Production in 1942-3 | 174 |
| ii. The Import Programme, 1942-3 | 176 |
| iii. The Home Production Programme for 1942-3 | 180 |
| iv. Measures to Implement the Programme | 188 |
| CHAPTER VIII: THE LAST YEARS OF WAR, 1943-4 AND 1944-5 | 200 |
| i. Food Production in 1943-4 | 200 |
| ii. The Import Programme, 1943-4 | 202 |
| iii. The Home Production Programme for 1943-4 | 204 |
| iv. Measures to Implement the Programme | 209 |
| v. Food Production in 1944 and 1945 | 219 |

PART IV: RETROSPECT

| | |
|---|-----|
| CHAPTER IX: PRODUCTION POLICY AND ACHIEVEMENT | 227 |
| i. Programmes and Performance | 227 |
| ii. Measurements of the Achievement | 240 |
| iii. Domestic Food Production during the War | 245 |
| CHAPTER X: CHANGES IN THE STRUCTURE AND TECHNIQUE OF FARMING | 249 |
| i. Crop Production | 249 |
| ii. Livestock Production | 260 |
| iii. Manpower and Machinery | 271 |
| CHAPTER XI: THE CONTROL AND DIRECTION OF PRODUCTION | 278 |
| i. Prices and Price Control | 279 |
| ii. Farm Incomes | 288 |
| iii. Financial Assistance through Grants and Subsidies | 292 |
| iv. The Problem of Marginal Output | 294 |
| v. Direction of Production | 299 |

| | Page |
|---|------------|
| vi. Dispossession and the Termination of Tenancies | 302 |
| vii. Control and Rationing of the Supplies of Labour and Agricultural Requisites | 303 |
| viii. Propaganda and Persuasion | 306 |
| ix. Guaranteed Prices and Assured Markets | 309 |
| CHAPTER XII: THE FORMULATION AND EXECUTION | |
| OF POLICY | 311 |
| i. The Formulation of Policy | 311 |
| ii. Executive Responsibility | 312 |
| iii. The Role of the Agricultural Departments | 319 |
| iv. The Local Organisation | 324 |
| CHAPTER XIII: CONCLUSION | |
| | 340 |
| APPENDIX <i>Notes on Agricultural Policy for those directing the</i> | |
| <i>Food Production Campaign, issued by the</i> | |
| <i>Ministry of Agriculture, Spring 1942</i> | |
| | 355 |
| APPENDIX TABLES | |
| | 370 |
| INDEX | |
| | 389 |

TEXT TABLES

| | |
|--|-----|
| 1 Index Numbers of Wholesale and Agricultural Prices, 1914-9 | 12 |
| 2 Index Numbers of the Volume of Food Imports into the United Kingdom, 1931-7 | 31 |
| 3 Cubic Feet of Shipping Space per ton and per 1,000 calories, and the Cost per 100,000 calories of Various Imported Foodstuffs | 45 |
| 4 The Output of Certain Farm Products in the United Kingdom in 1939-40, Compared with Pre-war | 68 |
| 5 Numbers of Workers Employed on Agricultural Holdings in the United Kingdom in June 1936-8 to 1944 | 85 |
| 6 The Output of Certain Farm Products in the United Kingdom in 1940-1, Compared with Pre-war and 1939-40 | 103 |
| 7 Estimated Supplies of Feedingstuffs, in terms of Starch Equivalent, available in the United Kingdom in Pre-war Years and in 1941-2 | 119 |
| 8 Numbers of Land Drainage Schemes Undertaken in England and Wales, 1940-4 | 129 |
| 9 The Output of Certain Farm Products in the United Kingdom in 1941-2, Compared with Pre-war and 1940-1 | 146 |
| 10 Total Non-tanker Imports into the United Kingdom | |

| | <i>Page</i> |
|--|-------------|
| under Departmental Programmes and under the Ministry of Food's Programme, by War Years, 1939-40 to 1944-5 | 152 |
| 11 The Output of Certain Farm Products in the United Kingdom in 1942-3, Compared with Pre-war and 1941-2 | 175 |
| 12 Estimated Utilisation of Lime for Agricultural Purposes in the United Kingdom in 1935-6 and 1938-9 to 1943-4 | 191 |
| 13 The Output of Certain Farm Products in the United Kingdom in 1943-4, Compared with Pre-war and 1942-3 | 201 |
| 14 The Output of Certain Farm Products in the United Kingdom in 1944-5 and 1945-6, Compared with Pre-war | 220 |
| 15 Numbers of Counties in Great Britain Grouped according to the Proportion which the Arable Acreage formed of the Total Acreage of Crops and Grass in 1939 and 1944 | 230 |
| 16 Index Numbers of the Acreages, Livestock Numbers and Output of the Principal Agricultural Products in the United Kingdom, 1940-5 | 237 |
| 17 Supplies of Imported Feedingstuffs in the United Kingdom, Pre-war to 1944-5 | 238 |
| 18 Gross and Net Output of Calories from British Agriculture, 1938-9 to 1943-4 | 242 |
| 19 Index Numbers of the Value (at constant 1945-6 prices) of the Gross and Net Output of Agriculture in the United Kingdom, Pre-war to 1944-5 | 243 |
| 20 Estimated Numbers of Fowls in Domestic Flocks and the Number of Pigs Slaughtered on Holdings of less than One Acre in the United Kingdom, in Pre-war years and from 1939-40 to 1944-5 | 247 |
| 21 Changes in the Distribution of the Potato Acreage in England between 1939 and 1944 | 256 |
| 22 Quantities of Fertilisers and Lime used by Farmers in the United Kingdom, 1938-9 to 1945-6 | 259 |
| 23 Production and Utilisation of Milk in the United Kingdom, Pre-war to 1944-5 | 262 |
| 24 Comparative Changes in Milk Prices and Net Farm Costs per Gallon of Milk during the Summer and Winter Periods in England and Wales, 1938-9 to 1942-3 | 265 |
| 25 Changes in Farm Power Supplies in Great Britain, 1925-46 | 274 |
| 26 Increase in the Use of Certain Types of Agricultural Machinery on Farms in Great Britain between 1942, 1944 and 1946. | 276 |
| 27 Index Numbers of the Cost of Living, Retail Food Prices, Wholesale Prices, and of Agricultural Prices, 1939-45 | 286 |
| 28 Acreages of Land Taken into Possession and Tenancies Terminated in England and Wales, 1940-5 | 302 |
| 29 Distribution of Cereal and Protein Feedingstuffs Coupon Entitlements among Different Classes of Livestock under the Rationing Scheme, 1941-5 | 305 |

CONTENTS

ix

| | <i>Page</i> |
|--|-------------|
| 30 Gross Expenditure by the Board or Ministry of Agriculture in 1912-3, 1918-9, 1938-9 and 1944-5 | 323 |
| 31 Numbers of Staff Employed by County War Agricultural Executive Committees in Great Britain in March 1942, 1943 and 1945 | 330 |
| 32 Number of Farm Workers Employed by Executive Committees in Great Britain in December, 1941-4 | 331 |

TEXT FIGURES

| | |
|---|---------|
| 1 Index Numbers of Agricultural Prices and Agricultural Wage Rates, 1920-50 | 19 |
| 2 Index Numbers of Prices of British Farm Products and of Imported Foodstuffs, 1920-50 | 20 |
| 3 Non-tanker Imports into the United Kingdom under Departmental Programmes, by Quarters, September 1939 to August 1945 | 229 |
| 4 Changes in the Percentage of Arable Land to the Total Acreage of Crops and Grass in England and Wales and in Scotland between 1939 and 1944 | 232-233 |
| 5 Index Numbers of Agricultural Prices, 1914-23 and 1939-48 | 287 |

APPENDIX TABLES

| | |
|---|---------|
| I Crop Acreages and Livestock Numbers on Agricultural Holdings in the United Kingdom, 1875 and 1914-9 | 370 |
| II Crop Acreages and Livestock Numbers on Agricultural Holdings in Great Britain, 1885, 1914, 1918, 1932 and 1939-45 | 371 |
| III Subsidy and Price Insurance Payments, 1924-5 to 1938-9 | 372 |
| IV Crop Acreages and Livestock Numbers on Agricultural Holdings in the United Kingdom, Pre-war and 1939-45 | 373 |
| V Estimated Yield per Acre of the Principal Crops in the United Kingdom for 1929-38 and 1939-45 | 374 |
| VI Estimated Output of Products from Agricultural Holdings in the United Kingdom, Pre-war and 1939-40 to 1945-6 | 375 |
| VII Estimates of Increased Costs and Returns for Various Agricultural Products between the Pre-war Years and June 1940, and the Schedules of Agricultural Prices in May, June and August 1940 | 376-377 |
| VIII Numbers of the More Important Home-produced and Imported Agricultural Implements Made Available Annually in the United Kingdom, 1937-9 to 1944 | 378 |
| IX Agricultural Net Income for the United Kingdom, 1937-8 to 1944-5 | 379 |
| X Sales of Milk by the Milk Marketing Boards of Great Britain, by Winter and Summer Months, 1938-9 to 1944-5 | 380 |

| | <i>Page</i> |
|--|-------------|
| XI Index Numbers of the Prices of Agricultural Products in England and Wales, by Harvest years, 1939-40 to 1944-5 | 381 |
| XII Changes in Net Income per Farm by Type of Farming Groups in England and Wales and in Scotland, 1936-7 to 1940-1 | 382 |
| XIII Changes in Net Income per Farm by Type of Farming Groups in England and Wales and in Scotland, 1940-1 to 1944-5 | 383 |
| XIV Exchequer Grants and Subsidies of Direct and Indirect Assistance to British Farming, 1939-40 to 1944-5 | 384 |
| XV Estimated Supplies of Imported Feedingstuffs in the United Kingdom, Pre-war to 1944-5 | 385 |
| XVI Utilisation of the Principal Food Crops in the United Kingdom, Pre-war to 1945-6 | 386 |

PREFACE

THIS HISTORY, like most of the other volumes in this series, has been based largely on written documents. A most important source of information was of course the memoranda and minutes of the Cabinet and Cabinet Committees. Since, however, such documents dealt in the main with problems that either required departmental co-ordination or were so controversial as to need decision at a high level, there is a danger that too great a reliance on them may give a distorted picture of events and may exaggerate departmental differences. This danger was mitigated in part by the use of other sources; a multitude of departmental files showing the formulation and administration of policy, instructions issued to and by County War Agricultural Executive Committees, Ministers' speeches, Parliamentary debates and the contemporary farming press were all used to arrive at a fair appraisal of the war-time problems and of their solutions. Fortunately it was also possible to draw upon the memories of officials who were the chief actors in the events described and who must necessarily remain anonymous.

The author of this book was not able, as were other writers of this series, to pursue his research while the war was being fought. Indeed only the University vacations of 1952 and 1953 were available to him for writing this history. In this time it would have been impossible for him exhaustively to examine and to digest the contents of the many departmental files which were such important sources of valuable material. Relief was however generously afforded him by Miss Edith Whetham, Gilbey Lecturer at Cambridge University, who as a member of the Historical Section of the Cabinet Office had worked in the Ministry of Agriculture during the later war years. She handed over without reservation her research notes which covered the most important departmental files and which she had made for the preparation of a history – a history that her return to Cambridge prevented her from completing. The writer acknowledges his deep gratitude to her while at the same time he absolves her from any responsibility for the form or contents of this history.

The division of the book into four parts calls for some explanation. It was clear to the author that the agricultural policy adopted in preparation for war was based very largely on the experience of 1914–18 but modified by the course of events during the 'twenties and 'thirties. An introductory section about agricultural developments in the twenty-five years before the Second World War therefore seemed essential.

The second and third parts are severely chronological; the former covers the first two years of the war when the drive for increased food production gathered momentum and the latter describes the four

harvests during the peak of the war-time effort. The basis of each of the five chapters in the second and third parts is the agricultural harvest year, September to August;¹ since the war began in September these years coincide with the war years and it is therefore possible to study the supply of home-produced food made available to meet the nation's requirements during each of these years. The first section of each chapter summarises the outcome of the harvest at the beginning of the year, the changes in the numbers of livestock and the output of livestock products for the year. There follows a brief description of the import programme for that year since this was the key to any modification of the current cropping programme or livestock policy and also to the formulation of the plans for food production in the next year of the war; the complex inter-relationships between the programmes for home production and for food imports made it impossible to consider this country's agricultural production policy in isolation. Lastly, after outlining these developments in agricultural planning during the year, each chapter concludes with a section on the more important measures for the implementation of the programme – manpower, machinery, fertilisers, prices and price policy, control of supplies and the like.

Some may feel that the time sequence of developments contained in the second and third parts of the book has been overwritten. The balance between chronology and topics has indeed been a difficult one to strike. But one of the most notable features of policy was its evolution, phase by phase, not only to meet the changing circumstances of the war but also to turn to advantage the lessons learned by experience in the earlier years.

In the fourth part of the book, narrative gives way to discussion. Here the author has attempted to summarise in separate chapters, four of the topics which he considers to be among the most important which were brought to the fore by war-time experience. There are many other features of war-time policy which would have been well worth special studies but which for reasons of space have had to be dealt with too summarily or omitted altogether. For example, the means whereby agricultural labour problems were solved – the magnificent work of the Women's Land Army, the use of labour gangs and prisoners of war, the complexities of providing hostels and other accommodation for farm workers in scattered and isolated parts of the country – merit not merely a separate study but a separate history. It is to be hoped that authors of books and theses outside this series will one day take up such topics.

K.A.H.M.

Lincoln College, Oxford.

September 1953.

¹ The livestock output year, however, runs from June to May.

PART I

Introduction

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

CHAPTER I

THE FIRST WORLD WAR

(i)

British Agriculture in 1914

THOUGH the circumstances in which British farming found itself in 1939 differed greatly both in kind and in degree from those of 1914, there is much in the history of the First World War that is relevant to the story of food production in the United Kingdom during the years 1939-45.

From 1815 to 1914 the farmers of the United Kingdom enjoyed a ninety-nine years' lease of peace. Although there were wars in the interval they touched neither the farmer nor his men. Thus it was assumed . . . that after centuries of disturbance from invasion and civil and foreign wars, British agriculture had in 1815 acquired the possession of peace in fee simple. When on 4th August 1914 this long lease of peace terminated abruptly, the 'way going' found the farmer quite unprepared.¹

There was nothing in the Government policies of the preceding years - and, in fact, little in the first eighteen months of the war - that indicated to the farmer that abnormal efforts would be required of him, either in anticipation of war or upon its outbreak.

The State had, for some seventy years, been content to let the farming industry adjust itself to the almost unmitigated influence of economic forces. The opening-up of vast areas of agricultural land in new countries, many of them relatively better suited to certain types of farming than this country; the rapid development of transport; the discoveries of agricultural science and improvements in agricultural technique, many of them, again, of comparatively greater advantage to overseas countries; the growth of industry and commerce at home with their increasing competition for manpower at all levels; these were some of the factors which compelled the farmer constantly to adjust himself to new economic circumstances.

From the national point of view, a *laissez-faire* policy for agriculture seemed to pay handsome dividends. The *per capita* real wealth of the country over the period almost doubled and the increase was derived almost entirely from industries other than farming. The value of

¹ Sir Thomas Middleton, *Food Production in War*, Carnegie Endowment for International Peace, Oxford University Press, 1923, p. 1.

agriculture's contribution, after allowing for price changes, remained almost constant over the period with the result that its share of the national income is estimated to have fallen from some 17 per cent. in 1867-9 to 6 per cent. in the immediate pre-war years, 1911-3.¹ Exports of industrial goods against imports of food and raw material had proved to be good business under the conditions prevailing in world trade before 1914.

The adaptation of the farmer to the conditions of peace was greater than his subsequent adjustment to the demands of war. He took advantage of the growth in the supply of relatively cheap animal feedingstuffs and fertilisers from all over the world; he turned to account the comparative natural advantages of large parts of this country in grassland farming; he recognised the growing demand from the consumers on the home market for the more expensive foods, such as livestock products, fruits and vegetables arising from this country's industrial prosperity; and he did what he could to economise in the use of labour.

The total agricultural area of the United Kingdom, excluding rough grazings, declined by only 500,000 acres from 47,300,000 acres to 46,800,000 acres, in the forty years between 1875 and 1914.² But there had been a great change in the nature of farming. The area under crops other than grass, which are in the main the crops which require more labour, fell by some 4,400,000 acres, from 17,200,000 acres to 12,800,000 acres, while the area of grassland increased by almost 4 million acres, from 30,100,000 acres to 34,000,000 acres. The numbers of livestock also changed markedly. The numbers of dairy and beef cattle, of pigs and of poultry had all increased; only the numbers of sheep had dropped, a reflection to a great extent of the decline in arable farming. The number of persons occupied in agriculture was reduced from 2,800,000 in 1871 to 2,200,000 in 1911.

These changes entailed a growing dependence on overseas food supplies. If it is assumed that an acre of crops available directly for human consumption produces three or four times as much energy food as an acre of grassland does in the form of livestock products, the change from arable to grassland farming acquires even greater significance. It has been estimated that the output of British farming in the early seventies was adequate to meet the annual needs of some 26 million people; but so great was the reduction in the output of energy-producing food as a result of the radical changes in the farming systems that this number had dropped to under 16 million by 1914. Meanwhile the population of the United Kingdom had risen from 33½ million to 45¼ million. By 1914, at the ordinary rates of consumption of the years before the war, the output of food from the

¹ E. M. Ojala, *Agriculture and Economic Progress*, Oxford University Press, 1951, p. 66.

² Appendix Table I, p. 370.

United Kingdom's own soils met only approximately one-third of its annual needs.

This growing reliance on external food supplies was accepted deliberately, even when strategic considerations were taken into account. In 1903 a Royal Commission reported:¹ 'We think that . . . while there will be some interference with trade and some captures, not only is there no risk of a total cessation of our supplies, but no reasonable probability of serious interference with them, and that, even during a maritime war, there will be no material diminution in their volume' – unless there were to be a naval disaster of the gravest possible character, a possibility that the Commission did not contemplate. This underlying belief explains why no serious measures to increase the output of British farming were taken in anticipation, or even during the first eighteen months, of the First World War. There had, it is true, been discussions on the possibilities of increasing storage facilities and the arable acreage; but, in the light of the expected continuation of imported food supplies, the difficulties of carrying out either of these two policies, particularly the latter, seemed too great to warrant serious consideration. 'The Allied Powers . . . had the world to draw from on two main conditions. One was that they could find the money to buy, the other that they could find the ships to carry. The first of these was the more important factor until the intensive submarine campaign ranged America with her wealth on the side of the Allies in the spring of 1917; the second was the dominant consideration thereafter until the end of the War.'² This conclusion had no little relevance to the course of events some twenty years later.

Of the five harvests during the 1914–8 war, only two were the result of special production programmes, those of 1917 and 1918. Though little was done until 1917 drastically to increase home output, there were a few initial steps in 1914–6 which proved useful in view of subsequent developments. At the beginning of the war, the President of the Board of Agriculture and Fisheries established a consultative committee of experts to assist him in advising farmers on future production, and cautious advice was given in August 1914 on cropping for the 1915 harvest; this suggested primarily an increase in wheat and a reduction in the area under grass, though a reservation was hastily added that there were only limited classes of grassland that would probably pay for breaking up. The terms of most tenancy agreements relating to the ploughing of pasture remained sacrosanct and were not to be disturbed except by agreement with the landlord. The controversy between experts on the relative productive

¹ *Report of The Royal Commission on Supply of Food and Raw Material in Time of War*, Cd. 2643, 1905, p. 59.

² Sir Arthur Salter, *Allied Shipping Control*, Carnegie Endowment for International Peace, Oxford University Press, 1921, p. 2.

capacity of grassland and arable land which gave rise to these half-hearted recommendations persisted throughout the whole war and was not resolved until many years later.

The Prime Minister, Mr Asquith, had added to the general atmosphere of complacency about future prospects by announcing in the House of Commons in September 1914 that the Government did not feel justified in holding out a financial inducement to farmers to increase their acreage of cereals. The supply of agricultural labour was allowed to dwindle; by the beginning of 1915, about one-sixth of the farm labourers in England and Wales had enlisted. Fortunately the labour shortage which might have been expected to cause a big drop in production was counterbalanced by additional efforts from those left behind and by a particularly favourable season. The harvest of 1915 was well above average; only milk production suffered a set-back. An additional 420,000 acres of wheat and 280,000 acres of oats in the United Kingdom was achieved mainly at the expense of some 350,000 acres of barley, 150,000 acres of temporary grassland, 150,000 acres of fodder crops and some minor crops and fallow. These changes were helped by the uncontrolled movements in prices. Crop prices rose more rapidly than those of livestock products while prices of wheat and oats were relatively better than the price of barley.¹

After the change of Government in May 1915, Lord Selborne, the new President of the Board of Agriculture and Fisheries, set up a committee, with Lord Milner as chairman, to draw up a food production programme for England and Wales in case it should become necessary to increase the supply of home-grown food. Similar committees were established for Scotland and for Ireland. Though established only in June, all the committees had issued their final reports by the end of October. There was, however, a marked lack of unanimity among the three committees in their conclusions, and even among the members of each committee; the points of difference included practically all the important considerations, such as the advisability of compulsory tillage, the desirability of creating confidence by guaranteeing prices for cereals, the consequent establishment of a 'fair wages' scheme, and the kind of advisory and executive organisation required to carry out a production programme. Regional consideration of these issues need not have led to such degrees of disagreement, if there had not been a prevailing impression that the problem of food supplies was not yet serious.²

As late as August 1915, Lord Selborne announced that the Government, impressed by what proved to be a temporary reduction

¹ Table 1, p. 12.

² The Milner Committee achieved a unanimous interim report, which influenced greatly the Government's subsequent policy though not its immediate decisions, but split in its final report.

in the menace of submarine warfare, by the good harvests in Canada and Australia, by the surprising increase in the output of British crops and in livestock numbers, and by the great financial stringency which it expected to prevail after the war, still felt unable to offer any inducement in the way of minimum or guaranteed prices.¹

The tide of good fortune turned almost immediately. The weather in the autumn of 1915 and the spring of 1916 was unfavourable, farm workers continued to leave the land to enlist or to enter munition works, certain types of fertilisers were becoming scarce, and further poor weather persisted during the later part of the 1916 cereal harvest and for the lifting of root crops; all these factors resulted in an alarming decrease in home production. The area under crops had actually declined, an indication of the increasing labour shortage and the growing disbelief of the farmer that any special effort was required of him.

Small crops in Canada, Australia and Argentina also added to the disquiet; sugar supplies were declining; in September 1916 monthly losses of merchant vessels belonging to Allied or neutral countries exceeded, for the first time, 200,000 gross tons – in October they were over 300,000 gross tons – and at the end of the year Germany announced her policy of unrestricted submarine warfare. Action to increase the home production of human food was long overdue and it was already almost too late to affect the 1917 harvest.

(ii)

The Food Production Programme, 1917 and 1918

A production policy based largely on the Milner Report, on a report of the Food (War) Committee of the Royal Society and on memoranda by Sir Thomas Middleton was hastily pieced together and the administrative machinery was set up to put it into effect.

A Food Production Department was created on 1st January 1917 within the Board of Agriculture. This was a necessary innovation as the Board's organisation had been designed for 'policing' functions such as the supervision of disease and pest control, tithe legislation and administration and the like and not for the formulation and, if necessary, the enforcement of an agricultural production policy. The new Department, whose main duties were to assist in the better distribution of labour, machinery, feedingstuffs, fertilisers and other requisites, was sub-divided into seven Divisions, under a Director-General.

¹ One seed of importance was, however, sown at this time which eventually led to the establishment of County War Agricultural Committees and their district sub-committees.

Some sixty-one County Agricultural Executive Committees were formed from the existing excessively large County Agricultural Committees; each consisted of seven members from the County Committees and one or two representatives appointed by the Board of Agriculture. These Executive Committees owed their allegiance to the County Councils rather than to the Board. Powers were delegated to them by Cultivation of Land Orders under the Defence of the Realm Act to inspect land, to issue directions as to cultivation and manuring, and to cultivate land that was unoccupied or improperly farmed. Sub-Committees were formed in each county to deal with specific problems such as Cultivation, Supplies, Labour, Machinery and Finance. A regional organisation was built up by grouping the counties into twenty-one Districts, each with a District Commissioner appointed by the Board assisted by a total of thirty-six Sub-Commissioners.

Finally, a survey of the position in each county was undertaken by each Committee in an attempt to mitigate within the limited time available some of the shortages of labour, fertilisers and seeds which were undoubtedly hazarding the desired increase in output from the 1917 harvest.

In February 1917 the Government took its first practical step towards increasing food production. The powers that had been granted to compel farmers to plough up grassland were not used in Great Britain for the 1917 season.¹ But the Government recognised that financial incentives were necessary and that some system of guaranteed prices was required to ensure action; minimum prices were announced for wheat and oats until 1922 and for potatoes of the 1917 crop. In spite of poor weather throughout most of the season and shortages of labour, fertilisers and seeds, there was an increase in the area under the plough; in England and Wales the area under crops other than grass rose by 285,000 acres compared with 1916, and in Scotland by 51,000 acres. The cereal harvest was poor in the former and good in the latter but the potato crop was excellent in both. On balance, however, total food production was not materially greater in the third summer of war than in the pre-war quinquennium.

A start was, however, made in January 1917 to plan the harvest of 1918. The first scheme, based on certain shaky assumptions about the availability of increased supplies of labour (mainly from the Army), horses, tractors, seeds and fertilisers, proposed an ambitious addition of 3 million acres to the arable area of the United Kingdom, as compared with the 1916 harvest. This was to be found entirely by

¹ It is interesting to note that in Ireland an Order was passed that did entail compulsory tillage for the 1917 harvest. The area under crops other than grass in Ireland increased between 1916 and 1917 by almost 65,000 acres or 27.1 per cent., compared with an increase of 3.4 per cent. in England and Wales and 2.8 per cent. in Scotland.

breaking up permanent pastures and the scheme aimed at regaining in one year nearly three-quarters of all the land converted from tillage to grass in the preceding half century. If Scotland and Ireland could not grow more arable crops than in 1916, then the 3 million acres were to be found in England and Wales.

Eventually this programme was whittled down. The Cabinet's discussion of the scheme was delayed, production prospects in Scotland and Ireland improved, expectations that more agricultural workers would be released from the Services were disappointed, and other shortages were serious. For all these reasons the programme for additional arable acreage in 1918 was reduced from 3 million to 2.6 million acres in England and Wales; of this figure some 2 million acres were to be obtained from permanent grass and the rest from temporary grass.

In June 1917 the Food Production Department circulated to each county target figures indicating the area of corn at which to aim, the area of grassland to be ploughed and the percentage of the arable area to be devoted to corn for the 1918 harvest. These county quotas were based to a large extent on the ratios of arable to grassland in 1875, modified to some extent by local conditions, availability of labour, livestock numbers and other such factors. The Executive Committees had powers to select the grassland which they considered suitable for conversion. 'As a matter of legal form, the ploughing was done under orders from the Executive Committees. Not less than 100,000 of these notices were served on occupiers. The great majority were carried out willingly. Only in 254 cases were prosecutions instituted for default and in 236 of these cases convictions were obtained. The Committees also exercised their powers of grading up the cultivation of land. . . . In the vast majority of cases improvements were carried out by the occupiers themselves according to the directions of the Committees. But 27,287 acres of badly farmed land were taken possession of by the Committees and arrangements made for their proper cultivation. In the case of 317 occupiers, holding 20,197 acres, the Board determined, or authorised the landlords to determine the tenancies which were at once placed under other management.'¹

The weather was good during the autumn, winter and spring of 1917-8 and in spite of labour and other handicaps, the results of the campaign were surprisingly good. The area of crops other than grass in the United Kingdom was greater in 1918 than in 1916 by very nearly 3 million acres, though 1 million acres of this came from the ploughing up of temporary grassland and only 2 million acres from permanent pasture.

¹ The Rt. Hon. Lord Ernle, 'The Food Campaign of 1916-8', *Journal of the Royal Agricultural Society of England*, Vol. 82, 1921, p. 32.

In Great Britain the area under permanent and temporary grass was reduced by 2,220,000 acres or about 10 per cent.; some 1,600,000 acres of permanent grass were ploughed up and some 620,000 acres of temporary grass were turned over to non-grass crops.¹ About 45 per cent. of the increased acreage went into oats, 31 per cent. into wheat, 11 per cent. into potatoes and 7 per cent. into barley. Average yields were good and, in spite of fertiliser shortages, the sowing of new crops on less good land and poor weather during the harvest in the north, they were not much below those of pre-war years.

(iii)

The Production Programme for 1919

Food prospects did not appear to improve during the early months of 1918; the shipping losses due to submarines were, it is true, less than in the previous year but the demands on tonnage for the transport of American troops and war supplies outweighed these savings. In addition, Russia and Rumania, two important sources of wheat imports, were cut off, so that wheat supplies had to be lifted from the more distant sources, India and Australia. In the spring the Food Production Department estimated that, unless special measures were taken, the arable acreage would drop by about $\frac{1}{2}$ million acres. To counter this and increase the food output still further, it concluded that a further million acres of grassland in England and Wales should be ploughed up for the 1919 harvest; this was considered a feasible programme, given the necessary labour. The German advances in the spring of 1918, however, led to an overriding demand by the Army for more men; in the four months following 21st March, British casualties amounted to some 400,000. Agriculture in England and Wales was asked to provide a further 30,000 able-bodied men in addition to the 273,000 men between eighteen and forty-three who had already joined up. The labour shortage, combined with serious doubts in farmers' minds about their future prospects, made it likely that a further appreciable addition to the area under the plough would be difficult to achieve. Before the 1918 harvest was in, it had been decided that neither the military position nor food supply prospects justified the risks of a compulsory extension of the arable acreage and the proposed programme had therefore been abandoned. The gamble was subsequently justified by the Armistice in November. As expected, the area under crops other

¹ For this and preceding paragraph, see Appendix Tables I and II, pp. 370, 371.

than grass in 1918-9 fell away by some 400,000 acres in Great Britain. The 1918 harvest was therefore the peak of the agricultural effort in the First World War.

Little has been said of changes in livestock numbers during the war because changes were comparatively small except in the case of pigs. The number of dairy cows showed little alteration during the four years though the milk output fell, mainly in 1918, as a result of a shortage of feedingstuffs. With the exception of a period of some relatively heavy slaughtering in the autumn of 1917 when prices were first controlled, the number of beef cattle, in fact, increased slightly. Sheep numbers kept up until 1917 but declined thereafter, due in part to the hard winter of 1916-7, a poor crop of lambs in 1917 and, to a lesser extent, labour difficulties. By 1918 the number of pigs had however fallen to 70 per cent. of the pre-war level.

After making allowance for the losses in milk and meat due to the ploughing up of grassland and the shortage of animal feedingstuffs, Sir Thomas Middleton estimated that the net increase in the output of home grown food from the United Kingdom in 1918, in terms of calories, was about 24 per cent. compared with 1909-13. 'In other words, whereas the country began the War with supplies provided by its own soil which would have sufficed for 125 days out of the 365, in the year in which the Armistice was signed it had secured a harvest that would have sufficed for 155 days out of the 365.'¹ In terms of tonnage, the 1918 harvest represented a saving in shipping of some 4 million tons compared with the harvest of 1916 when the programme was first conceived.

(iv)

Agricultural Prices and Markets

The behaviour of agricultural prices and the measures taken to influence them merit a brief reference. Firstly, there was little significant difference between the changes in prices of agricultural products and those of all commodities at wholesale level. Secondly, the prices received for crops sold off the farms in the earlier years rose more rapidly than those for livestock products; this was a direct incentive to the ploughing up of grassland, particularly when the prices of these two groups are compared with those of feedingstuffs, which rose more rapidly than those of livestock products, and of fertilisers which were relatively cheap, though, of course, limited in supply.

¹ Sir Thomas Middleton, *op. cit.* p. 322.

Little was done to interfere with the effect of supply and demand on prices of agricultural products until the end of 1916. As indicated above, the Milner Committee had reported in 1915 in favour of a

Table 1. Index Numbers of Wholesale and Agricultural Prices, 1914-9
(1911-3=100)

| | Whole- sale prices, <i>Statist</i> index* | All agri- cultural products | Crops | Livestock products | Feeding- stuffs | Ferti- lisers |
|------|---|-----------------------------------|-------|-----------------------|--------------------|------------------|
| 1914 | 102 | 101 | 98 | 106 | 100 | 98 |
| 1915 | 130 | 127 | 138 | 128 | 137 | 115 |
| 1916 | 163 | 160 | 182 | 158 | 187 | 156 |
| 1917 | 210 | 201 | 236 | 202 | 274 | 196 |
| 1918 | 230 | 232 | 221 | 235 | 287 | 211 |
| 1919 | 247 | 258 | 245 | 260 | 268 | 215 |

* Converted to 1911-3 base.

system of guaranteed prices for wheat but the Government, in the light of a good harvest and other favourable factors, had been unable to accept such a proposal. The poor harvest of 1916 and the mounting threat to imports, which had given rise to the establishment of the Food Production Department, led to a reconsideration of this decision. The agricultural community was, it should be noted, by no means unanimous about the desirability of price control, until the rising costs of fertilisers and particularly feedingstuffs gave cause for anxiety. At the same time additional support for the control of prices and distribution arose from consumers' protests at the rising cost of living. The first tentative steps were taken in January 1917 when, in consumers' interests, the Food Controller issued an Order¹ establishing a maximum growers' price and a fixed retail price for potatoes. In April 1917, following the Prime Minister's announcement in February of the Government's intention to guarantee prices for wheat and oats from the next six harvests and for potatoes for the 1917 crop, the Corn Production Act of 1917² embodied minimum prices for wheat and oats. These prices, though the guarantee of them was important in principle, never operated as the market had already exceeded them. Maximum prices for corn were determined by the Food Controller from April onwards and these were, in fact, those generally obtained by the farmer. Maximum price Orders were issued thereafter for the main agricultural commodities but it is of interest that these dealt in the main with wholesale or retail prices

¹ Potatoes 1916 Main Crop (Prices) Order (No. 2), 1917, S.R. & O., No. 178.

² 7 & 8 Geo. 5, Ch. 46.

or both. Only in the case of cereals, meat and cheese were growers' or producers' prices specified.¹

So far as the methods of price-fixing are concerned, there was criticism from the agriculturists that the Food Controller paid too much attention to consumers' interests. Suggestions were put forward for alternative machinery such as an independent Price Commission but none of these was adopted. On the whole, farmers had little cause for grievance with the actual prices received except on three occasions - fat cattle prices in the autumn of 1917, and potato prices at the same time and in the spring of 1919. Once price control was instituted, prices were, on the whole, determined with the idea of increasing production; the official historians recorded only two commodities whose prices were deliberately fixed to discourage their production, butter being sacrificed to cheese and both to liquid milk. The main hindrances to further increases in output were not prices but shortages of the factors of production such as labour, feedingstuffs, fertilisers and certain types of machinery.

Full control of supplies and distribution was established during 1917 and 1918 for cereals, meat and cheese and, later, potatoes, and partial control of distribution was instituted for milk, eggs, bacon, butter and feedingstuffs. The only market which was guaranteed to the farmer was that for potatoes; but under the conditions prevailing he had no fear of serious over-production and unmarketable surpluses during the actual years of war except for the 1918 crop.²

The supply and distribution of fertilisers were at first vested in the Ministry of Food on its formation in December 1916, but the responsibility for supply was transferred to the Ministry of Munitions in March 1917 and for distribution to the Food Production Department. The supply of feedingstuffs was a matter for the Ministry of Food until the end of the war; in January 1918 supplies were requisitioned, excepting those in the hands of farmers, dealers were licensed, and in February maximum prices were established. A scheme of priority certificates for rations for dairy cows was also instituted at the beginning of 1918 but it does not appear to have been very effective. The full-fledged rationing scheme came into force just as the war ended but it was never fully implemented nor was its efficiency tested; supplies of feedingstuffs became easier as the extraction rate of flour was lowered and overseas supplies flowed once more on the signing of the Armistice.

¹ The 'guaranteed' price of £6 for potatoes for the 1917 crop was not strictly a growers' price since the guarantee was effected by means of a deficiency payment bridging the gap between the market prices and the guaranteed price.

² The extent and significance of these controls are fully described in Sir William Beveridge's *British Food Control*, Chapters VI, VIII and IX, and E. M. H. Lloyd's *Experiments in State Control*, Chapters XIII, XIV, XX and XXII, both published by the Carnegie Endowment for International Peace.

A further reference to the Corn Production Act of 1917 is necessary since it introduced certain principles which had an important bearing on post-war developments. To implement the six years' guarantee minimum prices for cereals were established in Part I of the Act; Part IV gave the Government powers to control cultivation; Part III contained the doctrinaire stipulation that no increase in rent should accrue to the landowner from any changes brought about by the Act; while Part II introduced the machinery for the regulation of agricultural wages. The Act fixed a minimum weekly wage rate of 25s. for an agricultural labourer employed on time work in England and Wales, which came into force on 21st August 1917. This national minimum wage was maintained until the summer of 1918 when the Central Wages Board, which had been set up under the Act, established county minimum rates; these were based on the recommendations of District Committees and varied from 20s. to 36s. 6d.¹

Finally, it should be recorded that preparations for the post-war years were under discussion as early as 1916; the post-war planners were in the field before the first food production programme had been fully worked out. The Ministry of Reconstruction established in August 1916 an Agricultural Sub-committee to consider and report upon methods of effecting an increase in home-grown food supplies after the war was ended. This sub-committee, under the chairmanship of Lord Selborne, reported in January 1918, after the passing of the Corn Production Act, and welcomed its three principles – 'a guarantee of the price of wheat and oats to secure stability of conditions for all those who live from the land, a minimum wage to ensure his fair share of the profits of agriculture to the agricultural labourer or farm servant, a power in reserve to the State to influence the use of land to the greatest national advantage.'² Whatever may have been the cause of doubts in its mind, the Committee urged, among its ninety-one recommendations, that these principles should be embodied in a wider permanent statute, designed to ensure, after the war, that the people of the United Kingdom should be emancipated from dependence on supplies of foodstuffs brought from overseas and that the rural population should increase.

(v)

Retrospect

The achievements of British farming in 1918 were undoubtedly very considerable. There had been no special preparations in anticipation

¹ Similar machinery was set up in Scotland and Ireland.

² *Report of the Agricultural Policy Sub-Committee of the Reconstruction Committee*, Cd. 9079, 1918, p. 88.

of war, such as the building up of reserves of fertilisers or machinery; there was, from the time that war was declared, the serious exodus of agricultural labour into the Services and into industry – ultimately one third of the regular male workers had left the land – for which the substitution of prisoner-of-war and female labour did not compensate; there was the general complacency of both the Government and people in the first two-and-a-half years of war which did not breed that confidence which is so essential a condition of more intensive output in an industry such as agriculture; there was no clear-cut production programme to give a lead to farmers; there was no experienced central agency or body of administrators capable of executing an agricultural policy once one was formulated; there was little or no experience of methods of controlling prices or supplies to ensure the optimum utilisation of land, labour and agricultural requisites; there were shortages of animal feedingsuffs and fertilisers; there was no unanimity amongst scientists and agricultural experts on the efficiency of the ploughing up of grassland as a means of increasing food production; by and large, the weather was not helpful in three of the four harvest years.

On the other hand, farming had been relatively prosperous for a period of some eighteen years, following the recovery of prices which started in 1896. The land was in good heart; buildings, roads, fences and ditches were in good repair; the knowledge and practice of arable farming were known throughout the country and almost every farm had the necessary horses and equipment to carry the practice out. Tenant farmers, restricted by their tenancy agreements which usually prescribed rigidly the amount of land which must be kept under grass, were only too willing to extend their arable acreage.

Taking all factors into consideration, an increase in 1918 of 25 per cent. in the output of energy foods was remarkable. In two years, 1917 and 1918, the area of crops other than grass had been increased by about 3 million acres, which went a long way to retrieve the decline in arable land of almost $4\frac{1}{2}$ million acres between 1875 and 1916. Confined as it was practically to one year, the effort was an intense one – and exhausting. A study of the discussions which led to the abandonment of further efforts for the 1919 harvest leaves a strong impression that the end of the tether had been reached after one magnificent effort and that it was considered doubtful whether the level of output achieved in the 1918 harvest could even be maintained.

Lord Ernle, in recording his account of the food production campaign, hoped that 'should similar necessities ever arise in the future, our national action will be guided, as well in adoption as in avoidance, by the experience gained in 1916-8'. Much that was tried during these years subsequently became a permanent feature of

British farming and an essential part of its organisation, not merely on the outbreak of the Second World War, but also in the intervening years of peace. Not least in this legacy were a strengthened Ministry of Agriculture, the successful experiment of executing Government policy through voluntary committees composed largely of farmers themselves, the experience gained in price and supply control, and strong, if not conclusive, evidence that the most effective means of increasing rapidly the output of human food lay in the ploughing up of grassland. It was also shown to be probable – though here again there was divergence of opinion at the time – that the successes of 1918 would not have been achieved without the existence of compulsory powers to enforce the Government's production programme.

CHAPTER II

THE INTER-WAR YEARS, 1919-39

(i)

Movements in Agricultural Prices

THOUGH commodity prices continued to rise after the Armistice, there was no further increase in agricultural output after the harvest of 1918. The farmer had been discouraged by the delays in the formulation of the 1919 programme, by the effort of harvesting bumper crops with a depleted labour force, by the continued call by the Services for more of his regular workers and by the hesitations of Parliament in its legislation dealing with the future of the industry. Moreover, there were undoubtedly, in some parts of the country, growing technical doubts whether the existing arable land would stand a further year's intensive cultivation and whether the further marginal grassland that would have to be ploughed up would yield reasonable crops. The peak had been reached in 1918.

Prices of British farm products rose during 1919, as did world prices in general, in response to the persistent forces of inflation. In April 1920 they were 25 per cent. above the level reached at the end of the war and three times as high as in 1914.¹ The opening months of 1920 saw, however, the first break in world prices in the United States and the movement spread rapidly. Between May 1920 and September 1922, wholesale prices in this country were halved and farm prices fell to the same extent.

This collapse in his market was exactly what the farmer had feared and what had given rise to his uneasiness when asked to increase his production to meet the emergencies of war; it was this bogey that Parliament had attempted to remove when it undertook to guarantee the price of wheat and oats for the post-war years. Embodied originally in the Corn Production Act, 1917,² this promise had been confirmed so late as December 1920 by the Agriculture Act³ which had substituted new guaranteed prices, based on 1919 averages and subject thereafter to annual review, for those established during the war. It need cause no surprise if farmers felt that their confidence had

¹ Figure 5, p. 287.

² 7 & 8 Geo. 5, Ch. 46.

³ 10 & 11 Geo. 5, Ch. 76.

been betrayed when Royal Assent was given nine months later, in August 1921, to the Corn Production Acts (Repeal) Act,¹ which cancelled the financial provisions of the Acts of 1917 and 1920, withdrew the price guarantees and replaced them by lump sum payments of £3 per acre for wheat and £4 per acre for oats grown in 1921. The indemnification of wheat and oat growers cost the Government £19,400,000 and a further £1 million allocated to agricultural education and research but the more serious result was the distrust and bitterness engendered among farmers by the sudden change in policy, an aftermath which persisted for more than twenty years and which had a marked effect on attempts to win the confidence of farmers in the Second World War.

By 1922, three years after the end of the First World War, the only important remnants of war-time legislation were some ineffective machinery aimed at the regulation of agricultural wages, a system of County Agricultural Committees which became almost solely occupied with education and the 'policing' of certain forms of agricultural legislation, a greater measure of security of tenure for tenant farmers and the stabilisation of the burden of tithe payments; all these were a rather pathetic outcome to the high hopes held out to the industry in the later years of the war. Any financial gains of 1914-20 had been almost entirely wiped out by the losses of the succeeding three harvests while, in addition, the many farmers who had borrowed money and bought their farms during the years of high prices now found themselves loaded with debt payments which current prices could not meet.

The precipitous fall of prices in 1920-2 was followed by a more gradual decline until 1926 and a subsequent three years of relative stability. Then, in September 1929, came the second world-wide slump in commodity prices, again beginning in the United States. British farm prices were no exception and in the next three years they fell a further 34 per cent. until, in June 1933, they were back at the level at which they had been before the First World War.

Falling prices bear particularly heavily on agriculture as compared with most other industries. It has a slow turn-over of fixed capital, a feature not confined to farming but very characteristic of it. There is the lag between the start of production and the sale of the product; the period between the preparation for the most important crops and their sale is seldom less than a year and, in many instances, two years, while years elapse between the time when breeding a farm animal begins and the time when it comes into full production. In periods of falling prices, therefore, production costs are incurred at higher price levels than those at which sale takes place. Farm prices also fall

¹ 11 & 12 Geo. 5, Ch. 48.

more rapidly than farmers' costs such as interest rates, rents and, in particular, agricultural wages.

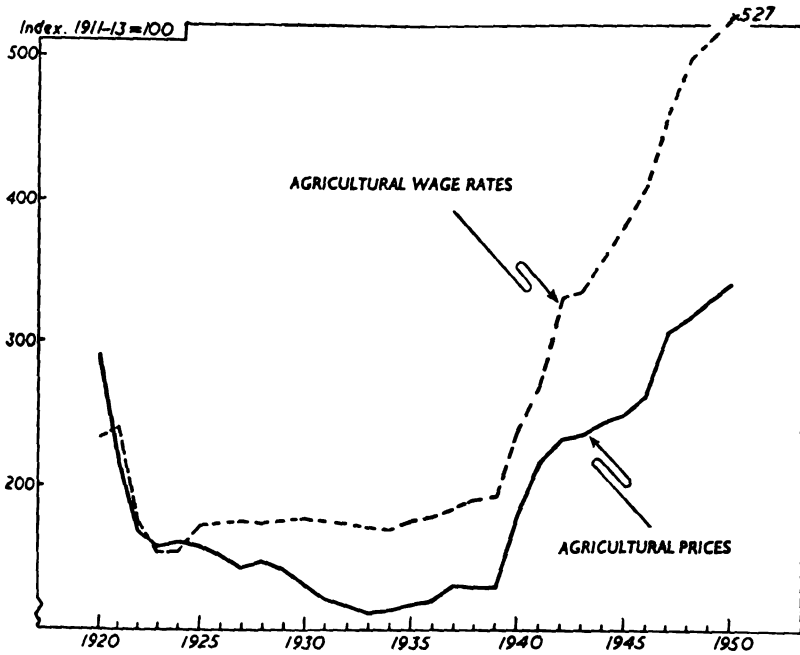


FIGURE 1. Index Numbers of Agricultural Prices and Agricultural Wage Rates, 1920-50.

Again, there is a lag in absolute marketing costs, due to the slow adjustment of urban rents and wages, so that the farmer receives a smaller share of the price paid by the consumer. Finally the type of organisation found in agriculture makes it peculiarly resistant to economic pressure. The ratio of overhead to prime costs in agriculture is higher than in most industries as is the proportion of family to hired labour; both these factors make for slow adjustment when demand and prices are falling. Prices must decline very substantially before a farmer either gives up farming or even reduces his output. Evidence of this is clearly seen in the comparative reactions of world agricultural and non-agricultural production to the price slump of 1929; the former fell by only 2 per cent. in the next three years and the latter by 36 per cent. When it is recalled that the demand for agricultural products as a whole is relatively inelastic, the serious effect on agricultural income resulting from an output in excess of market requirements is obvious.

While it is admittedly true that periods of rising prices such as occur in war benefit the farmer in that his production costs are in general

undertaken at a lower price level than that at which he sells, it should also be remembered that the high proportion of capital to prime costs, the rigidity in the supply of land and buildings and many biological factors hinder the farmer from increasing his output appreciably to take advantage of a rise in prices that is of relatively short duration.

The fall in prices of 34 per cent. during the three years between 1929 and 1932, which was almost unparalleled in its severity, caused acute agricultural depression; the industry became increasingly under-capitalised in relation to the total agricultural area under crops and grass. Not only did existing buildings, drains, fences, hedges, roadways, and equipment deteriorate but insufficient fresh capital was attracted to make possible extensive and often fundamental changes in farming systems necessitated by the new situation.

From June 1933 there was a gradual recovery in agricultural prices and the depth of the depression had been passed. The rise was in the main due to the regeneration of demand and the recovery of world prices in general but a small part must be credited to some of the measures taken by the State to improve agricultural incomes.¹

The relative movements in the prices of British farm products and of imported foodstuffs are shown in Figure 2; from 1920 until 1929

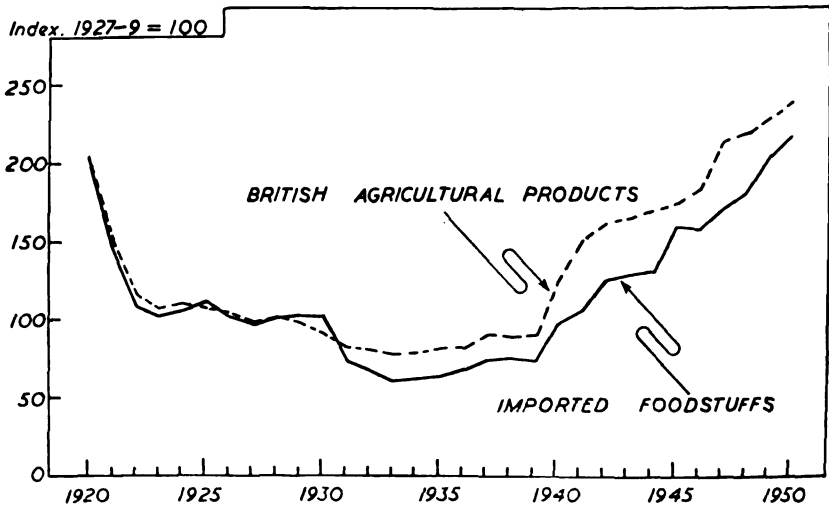


FIGURE 2. Index Numbers of Prices of British Farm Products and of Imported Foodstuffs, 1920-50.

there was little difference between them. But during the next four years the fall in the prices of home-produced foodstuffs was less

¹ pp. 26-38.

severe than those of imported foodstuffs, due in great measure to the relative maintenance of liquid milk prices on the naturally protected home market. From 1934 onwards until the outbreak of war, the rate of recovery in prices was very similar for both groups, an indication of the effect of the common factor, a resuscitation of consumers' purchasing power.

By the end of 1936 agricultural prices¹ had recovered by 22 per cent. from their lowest level in June 1933; thereafter the rate of improvement was slower and by September 1939 they had risen a further 8 per cent. Even then, however, they were still below their 1927-9 level.

There were, of course, differences in the extent to which the prices of the various farm products moved. Those of livestock products or of crops which had a naturally protected market, on account of either their bulk or their perishability, tended to fall less than those facing world competition.

(ii)

Changes in Output and Technique

The pre-war trends interrupted by the First World War continued. Farmers concentrated on the production of those things the prices of which had fallen least and they tried to produce them with as great an economy of labour as possible. The estimated total value of the gross agricultural output off farms in the United Kingdom in the three years immediately preceding the Second World War averaged about £285 million a year; of this about 71 per cent. came from the sale of livestock, milk and milk products, poultry and eggs, about 12 per cent. from fruits and vegetables and only 15 per cent. from the sale of crops.² The most important sources of income were:

| | £ million | | £ million |
|------------------|-----------|------------|-----------|
| Liquid milk | 74.4 | Potatoes | 14.8 |
| Beef | 41.5 | Wheat | 10.2 |
| Poultry and eggs | 30.4 | Barley | 5.6 |
| Pork and bacon | 28.4 | Sugar beet | 5.1 |
| Mutton and lamb | 16.7 | Oats | 3.9 |

The need for economy in labour costs, since agricultural wages remained more or less stable while prices of agricultural products

¹ Including subsidy payments.

² These figures somewhat underestimate the importance of livestock in the balance of British farming since a considerable proportion of these crops, such as oats, barley, pulses and even wheat, were sold for feeding to livestock.

declined,¹ resulted firstly in a big reduction in the amount of labour used and secondly in the more efficient use of what was retained – a greater output per man employed. The number of agricultural workers employed on agricultural holdings in Great Britain in 1921 was 869,000; in the next eighteen years the number dropped by 263,000, or nearly 15,000 a year. What was even more serious from the long term point of view was the particularly heavy decline in the lower age groups; the number of those under 21 years of age fell from 182,000 to just over 100,000. It would be a mistake to leave the impression that the active adoption of labour-saving methods was the only reason for this reduction in agricultural employment. Higher wages and shorter hours in other industries combined with better housing, educational opportunities for children and other amenities of urban life attracted workers away from the countryside, forcing the farmer either to reduce his output or to adopt more efficient farming systems and techniques.

The results are clearly seen in the acreage and livestock changes between 1918 and 1939.² Perhaps the most significant feature is the loss of 2.7 million acres from the farming area of Great Britain during that period, an average annual loss of nearly 150,000 acres a year. Some of this had reverted in the depression years to rough grazings, some had been abandoned, but much had been taken over for building sites and for Service requirements and was lost to food production. This reduction of over 8 per cent. was in itself a reduction in the need for agricultural labour. The second important point that emerges from the table is that the acreage of crops other than grass had declined by over 4 million acres since 1918 and, at the outbreak of the Second World War, was some 2 million acres less than in 1914. The area of temporary grassland had also dropped so that in all the area under the plough was 2.4 million acres smaller.

Numbers of livestock showed almost the same trends as before the war; dairy cattle, beef cattle, pigs and poultry continued to increase, though the upward trend is concealed in the annual figures by cyclical and short-term fluctuations. The trend in sheep numbers continued to decline, though less rapidly than before, as the arable area continued to shrink. As before the First World War, the farmer turned to imported concentrated feedingstuffs as being more economical than home-grown; imports of maize, barley, oilseeds and cakes and of wheat, from which the offals were available for feedingstuffs, all tended to increase during the period, until, in the three pre-war years, almost 8½ million tons were of overseas origin. By the middle of the thirties, grassland was providing some 60 per cent. of

¹ Figure 1, p. 19.

² Appendix Table II, p. 371.

the food requirements of British livestock; more than half of the remaining roughage and concentrates came from imports.¹

The changes in Northern Ireland were, in the main, very similar. There was not the same loss of agricultural land but there was the same loss of arable land to permanent grass. The area of crops other than grass fell from 610,000 acres in 1924 to 450,000 acres in 1938, a reduction of 26 per cent., while the area under temporary grass fell by only a small amount. The area of permanent grass increased from 1,216,000 acres to 1,404,000 acres. Numbers of dairy cattle tended to rise slightly until 1934 and then declined, while the other cattle population increased more consistently. The numbers of sheep rose by 65 per cent., of poultry by 54 per cent. and of pigs by 23 per cent. Feedingstuff imports increased at the same time. Northern Ireland, too, was turning her output more and more to livestock products, using grassland and imported feedingstuffs to an increasing extent in order to cut labour costs.

These statistics do not give a complete picture. The value of the gross output sold off farms in Great Britain, after making allowances for price changes, increased during the inter-war years until about 1935-6 and then declined slightly. But part of this increase must be attributed to a growing input of materials and services from outside the industry, such as imported feedingstuffs and livestock, fertilisers, machinery and the like; as a result, it is doubtful whether there was any material change in net output.² But it is certain that there was a marked rise in the net output per worker in agriculture, a high testimony to the management of the British farmer.³ Changes in

¹ The following estimates of the sources of feedingstuff supplies in the United Kingdom, in terms of starch equivalent for the year 1935, show clearly the importance of grassland and of imports in the feeding of livestock:—

| | Per cent. | | Per cent. | | Per cent. |
|---------------------------------|-------------|-----------------------------------|-------------|---|-------------|
| Home produced cereals . . . | 8.7 | Grassland rotation grazing . | 13.7 | Imported cereals cereal products & wheat offals . | 17.4 |
| roots & green crops straw . . . | 5.7 | rotation hay . | 4.7 | Imported oilseeds, cakes and meals . | 4.6 |
| industrial by-products . . . | 2.5 | permanent grazing permanent hay . | 31.5 | | |
| | 0.7 | rough grazing . | 9.1 | | |
| | | | 1.4 | | |
| Total . . . | 17.6 | Total . . . | 60.4 | Total . . . | 22.0 |

N. C. Wright, 'The Importance of Home-produced Feedingstuffs', *Transactions of the Highland and Agricultural Society of Scotland*, Vol. L, 1938.

² It should be recalled that the agricultural area shrank by 2½ million acres, or 8 per cent., between the wars, a factor which might well have led to a reduction in both gross and net output.

³ Between 1920-2 and 1930-4 the output per worker was estimated to have risen by about 20 per cent., and though it declined in the next four years, it still showed an increase of 10 per cent. E. M. Ojala, *Agriculture and Economic Progress*, Oxford University Press, 1951, p. 153.

technique in the interests of greater efficiency were achieved in many ways.

So far as crop production is concerned, yields did not increase as might have been expected, though qualities were improved and labour-saving varieties, such as stronger strawed cereals and disease resistant strains, were introduced. A beginning was, however, made in the better use of both permanent and temporary grassland, and, though the improvement was confined largely to experimental farms, it represented possibly the greatest potential development in British farming. Intensive research took place in the improvement of strains of grasses and clovers, of seed mixtures, of the treatment of grassland (manurially and mechanically) and of its grazing; the practical application of this successful work was becoming apparent as the Second World War started. Pest and weed controls were becoming understood. Soil analyses, soil surveys, research into plant food requirements, the role of organic matter and micro-organisms and recognition of the importance of soil structure were paving the way to the better utilisation of the soil itself.

During the inter-war years a growing amount of information had been accumulated on the fertility or deficiencies in fertility of soils, mainly as a result of the soil-testing work of the Advisory Chemists attached to the Provincial Advisory Centres in England and Wales and to the Agricultural Colleges in Scotland. This survey had been speeded up when the Land Fertility Scheme with its subsidies for the application of lime and basic slag was introduced in 1937.¹ By 1939 700,000 acres in England and Wales had been tested systematically for lime content and a small proportion for deficiencies in phosphate and potash.

Perhaps the more spectacular advances were seen in livestock production. Better returns in relation to the amount of labour employed were being obtained in practice by bull-licensing and improved breeding, by better feeding and rationing, by the recording of outputs, particularly of milk, butter fat, eggs and pig litters, by the establishment of higher quality standards such as accredited or tuberculin-tested (T.T.) milk, and by the control of certain animal diseases. Further considerable economies, both in labour and in feedingstuffs, were introduced by the earlier slaughtering of fat cattle, sheep and pigs; this was encouraged by the growing public demand for smaller joints and cuts.

Mechanisation, particularly in crop production, was making steady, though not spectacular, progress; tractors, whose use had been proved in the 1918 food campaign, found their way into the arable districts, together with their ancillary equipment; combine drills, crop sprayers, milking-machines, the petrol engine in the

¹ p. 53.

place of the human worker in the use of pumps, corn-mowers, seed-cleaners, turnip cutters, potato sorters and countless other types of farm equipment, all played their part in labour economy. Combine harvesters and crop driers were introduced on the most progressive farms.

Finally there was a growing interest in farm management problems as the work of the agricultural economists developed throughout the country. The value of financial tests of efficiency was becoming recognised, with a consequent scrutiny of the organisation of the farm as a business unit. The old established rotations were adapted to changed circumstances and here and there complete breaks with tradition were marked by success; pioneers such as Baylis with his system of corn growing in Berkshire, the Alley Brothers with their mechanised cereal production in Norfolk, Hosier with his mechanised dairying on the Wiltshire Downs, the Bomfords in the West Midlands, and Abbott in Lincolnshire with his division of the mixed farm into specialist units, were found throughout the country, and their influence on farming grew in importance during the period.

Among other developments of the inter-war years was the gradual rise in influence of the organisations directly representing farmers, workers and landowners. This growth had been less marked in the earlier part of the period but the change in agricultural policy in 1932 accelerated their advance particularly that of the Farmers' Unions. Consultations over marketing schemes and the control of imports, the negotiations and conferences with Empire producers, legislation affecting agricultural wages and, finally, the preparations for war called for closer association of farmers with the Agricultural Departments.

It would be an exaggeration to claim that any revolution in agricultural practice occurred during these twenty years but research into agricultural problems made very sure and certain advances; the results of this work, slow to be applied in practice, were of immeasurable value when the Second World War called for improvisation or even a complete change of organisation on practically every farm in the country. Further, the staffs of these growing research and educational services were available to administer and advise when the time came in 1939.

While the main changes in British agriculture in the pre-war years have been indicated from the statistics for the country as a whole, it is well to remember that there were wide divergences between different systems of farming in various parts of the country. Those parts of the country with mixed farms which had a good proportion of grass to arable land and which relied on the sale of livestock products, preferably milk, were in a better position than those where

farming was predominantly arable and devoted to the sale of crops. Indications of their relative positions are given in Appendix Table XII¹ which shows the average net incomes of different types of farming in England and Wales and in Scotland in the three pre-war years. Two extremes should be mentioned in particular as being amongst the most sorely hit during the years of depression – arable farming, particularly on the heavier soils, in the Eastern Counties and hill-sheep farming in Northern England, Wales and Scotland. In the former, possibilities were almost wholly confined to the rigid rotation of wheat, beans and fallow. This, combined with the high capital and labour costs of drainage and cultivation, left the farmer in an almost inextricable position, which was only partially alleviated by the substitution of sugar beet – a cash crop – for roots and fallow. In hill-sheep farming, the type of output was again limited by the climate, altitude and poor soils to the production of store sheep and wool; with the decline of arable sheep farming much of the market for stores had disappeared and sheep and wool prices were inordinately low. These farmers also had no alternative open to them.

(iii)

The Role of the State

The British farmer was left very much to his own devices to meet the cataclysm of the early twenties and of 1929-32. Three important measures of direct State assistance had however found their way into the Statutes – the Agricultural Rates Acts, 1923² and 1928,³ and the British Sugar (Subsidy) Act, 1925.⁴ The first two ultimately exempted from rates all agricultural land and buildings (except farm houses) while the last gave assistance to sugar-beet growing in the form of a remission of excise duty on home-grown sugar and a subsidy on the production of beet-sugar.⁵ The Tithe Act, 1925⁶ and the Land Drainage Act, 1930⁷ also deserve mention; the former reduced the farmers' indebtedness and standardised the tithe rent charge, while the latter gave for the first time a code of law relating to land drainage and made available increased financial resources which encouraged the Drainage Authorities to greater activities. The other legislative

¹ p. 382.

² 13 & 14 Geo. 5, Ch. 39.

³ 19 & 20 Geo. 5, Ch. 26.

⁴ 15 & 16 Geo. 5, Ch. 12.

⁵ Dr Venn has estimated that the value of the rates concession averaged about 3s. per acre in 1924-5. The total aid granted by revenue abatement and subsidy to the beet-sugar industry was about £64 million in the fifteen years 1924-5 to 1937-8.

⁶ 15 & 16 Geo. 5, Ch. 87.

⁷ 19 & 20 Geo. 5, Ch. 8.

measures of the period were mainly permissive ones, designed to encourage self-help and self-reorganisation, such as the Agricultural Credits Act, 1928,¹ the Agricultural Produce (Grading and Marketing) Act, 1928² and the Agricultural Marketing Act, 1931.³

On the other side of the account, from the farmers' short-term point of view, was the State regulation of minimum agricultural wages, begun under the Agricultural Wages (Regulation) Act, 1924.⁴ The control of wages in the later years of the First World War, associated with the guarantee of wheat and oat prices, had been abandoned at the end of 1921 and an ineffective system of Wage Conciliation Committees had been instituted to undertake collective bargaining within the industry. Under the new Act, County Wage Committees were established, comprised of farmers' and farm workers' representatives, together with impartial members appointed by the Minister; these committees had power to fix minimum wages, the number of working hours in the week, rates of overtime, etc., on a county basis. A Central Wages Board was re-established though given little jurisdiction. This system operated until conditions in the Second World War called for changes and the institution of a national minimum wage. There is little doubt that the decisions of the Committees maintained a higher level of wages throughout the country than if they had not existed, though they did not succeed to any great extent in reducing the marked disparities between industrial and agricultural wages.⁵ In 1931 farm wage rates were the same as in 1922,⁶ though the prices of farm produce had fallen by 30 per cent.⁷

The slump of 1929-32, however, brought about a revolution in agricultural policy. From the middle of the 19th century and for the first thirty years of the 20th century (excepting 1914-8) this country had taken full advantage of cheap food and feedingstuffs from all over the world, a policy determined by the ascendant industrial interests and one which, under the prevailing circumstances, was probably the best from the point of view of the national income. The new crisis brought into sharp relief underlying changes in the world's economic organisation and the change of Government in 1931 led to an active policy of assistance for British farming, even to the extent of protection against imports such as had not been known for almost a century.

¹ 18 & 19 Geo. 5, Ch. 43.

² 18 & 19 Geo. 5, Ch. 19.

³ 21 & 22 Geo. 5, Ch. 42.

⁴ 14 & 15 Geo. 5, Ch. 37.

⁵ Unemployment insurance for agricultural workers was not introduced until 1937 - and then at rates of contribution and benefit which were lower than in industry.

⁶ The wage rate per hour had actually increased as the number of hours worked for the minimum wage had declined.

⁷ Figure 1, p. 19.

State assistance designed to maintain, or raise, farm incomes showed four lines of development:¹

- (1) Marketing re-organisation and the regulation of home-produced supplies.
- (2) Regulation of imports.
- (3) Subsidies and price insurance.
- (4) Measures to increase efficiency and reduce costs of production.

MARKETING RE-ORGANISATION AND THE REGULATION OF HOME-PRODUCED SUPPLIES

The Agricultural Marketing Act, 1931, gave to organised producers of any agricultural product the powers, if they wished to assume them, to regulate the production and sale of that product and to enforce their regulations on the minority. Stimulus to use the powers of the Act was provided by the Agricultural Marketing Act, 1933² which offered control of the volume of imports of any commodity for which a producers' marketing board was set up or contemplated. By 1939 there were under the Acts seventeen boards or associations of producers in active operation in Great Britain and Northern Ireland, dealing mainly with milk and milk products, pigs and bacon, potatoes and hops. It must be admitted that the activities of the boards did little to bring higher returns to producers or even lower prices to consumers through economies in distribution. The regulation of the production or sales of liquid milk, potatoes and, particularly, hops – commodities with a fairly well-protected market – was however successful in maintaining or increasing the returns of the home farmer.³ In addition, it imparted a stability to prices which in itself was of great value to farming. The schemes for pigs and bacon were less successful, even when producers' hands were further strengthened under the Bacon Industry Act, 1938, partly because the freedom from the competition of imports possessed by the other commodity boards did not prevail and partly because the demand for bacon was more elastic. By 1939 public opinion was becoming a little restive about the granting of restrictive powers to groups of producers and there were suggestions that the price-fixing powers should be transferred into the hands of independent arbitrators. But the schemes had on the whole proved themselves as beneficial to farmers and there was a far greater likelihood of their extension than of their disappearance.

Marketing reforms were not entrusted solely to Marketing Boards

¹ Full details of all legislation and discussion of the consequent measures can be found in *The Agricultural Register*, for each of the six years 1933-4 to 1938-9.

² 23 & 24 Geo. 5, Ch. 31.

³ It must not be assumed that the powers to control market supplies were invariably used restrictively; the Milk Marketing Board strove successfully to widen the market for its most profitable outlet, liquid milk.

under the Agricultural Marketing Acts. Later statutes¹ established new forms of organisation, on the lines of the Wheat Commission,² the tendency being to place control in the hands of independent members rather than of producers' representatives. The Sugar Commission, the Livestock Commission and the Bacon Development Board are examples of the later model.

These Commissions were established for two reasons. Firstly, they enabled Great Britain or, in some cases, the United Kingdom to be covered by one organisation for administrative purposes instead of by two, or three, Departments. Secondly, in the case of the Livestock Commission there was held to be little hope of establishing a marketing board under the Agricultural Marketing Acts owing to the complexities of the livestock marketing systems in this country.

Though not expected at the time of the introduction of these marketing schemes, one of the greatest national benefits of the marketing authorities became evident on the outbreak of the Second World War; the experience of joint action and responsibility gained by farmers, the creation of administrative boards with specialist executives and, not least, the accumulated detailed knowledge of the production, distribution and consumption of some of the country's most important foods were assets which cannot be over-estimated. The experience of the Wheat Commission,³ the Livestock Commission⁴ and the Sugar Commission and especially of their staffs was of similar value.

REGULATION OF IMPORTS

The first step in the restriction of imports of food was taken in November 1931 when heavy import duties were placed upon certain horticultural products, but it was not until later in 1932 that the more effective measures were passed. Under the Import Duties Act⁵ passed in March of that year and the Ottawa Agreements Act⁶ passed in November, further duties were imposed on certain food imports from foreign countries. Under the latter Act arrangements were also made, for the first time, for the quantitative regulation of imports, whereby definite import quotas were allocated to various supplying countries. Quotas for imports of beef, mutton and lamb and bacon and ham from Empire countries were the first to be established. Voluntary agreements were then made with certain foreign countries for quantitative regulation of bacon and ham and certain meat imports

¹ Sugar Industry (Re-organisation) Act, 1936, 26 Geo. 5 & 1 Edw. 8, Ch. 18; Livestock Industry Act, 1937, 1 Edw. 8 & 1 Geo. 6, Ch. 50; and Bacon Industry Act, 1938, 1 & 2 Geo. 6, Ch. 71.

² p. 33.

³ *Ibid.*

⁴ See p. 32.

⁵ 22 & 23 Geo. 5, Ch. 8.

⁶ 22 & 23 Geo. 5, Ch. 53.

but these were later replaced by compulsory regulation for bacon and ham under the Agricultural Marketing Act, 1933¹ and, for meat, under the Livestock Industry Act, 1937.² Apart from beef, mutton and lamb, and pig meat, potatoes³ were the only other product for which the Acts provided quantitative regulation of imports.

Between 1933 and 1937 attempts were also made to achieve international agreement for the regulation of supplies of wheat, beef and sugar. The International Wheat Agreement was signed in 1933 by 22 countries; export quotas were agreed by the four major exporting countries, Canada, the United States, Australia and Argentina, but Russia, the fifth exporter, was unable to agree to a quota allocation; importing countries agreed to lower tariffs and not to encourage any extension of domestic wheat production, except, possibly, for strategic reasons. It proved impossible to arrange export quotas for subsequent years or to obtain agreement on prices and the Agreement became ineffective as an instrument for the control of supplies.

In 1937 the regulation of beef imports was passed to an International Beef Conference, representing home producers and both Empire and foreign exporting countries, and associated with it was an Empire Beef Council. Quarterly import quotas for chilled, frozen and canned beef were agreed from time to time and put into effect. By 1938 the international regulation of mutton and lamb imports was also brought within the scope of the Conference, in spite of hesitation on the part of Australia and New Zealand.

The original agreement among sugar-exporting countries, known as the Chadbourne Plan, had broken down in 1935; a more inclusive International Sugar Conference was held in 1937 and a new five-year agreement was drawn up and ratified by most interested countries. Under this agreement importing countries guaranteed a part of their markets to exporters; export quotas were established for the main producing countries and were brought into operation for the first time for the year 1937-8. Experience in the international allocation of supplies had thus been experienced for at least three food products.

The general policy underlying these measures for the control of imported foods was clearly laid down in the Ottawa Agreements where it was stated, in regard to meat:

The policy of His Majesty's Government in the United Kingdom in relation to meat production is, first, to secure development of home-production and, secondly, to give the Dominions an expanding share of imports into the United Kingdom.

¹ Bacon (Import Regulation) Order, 1934, S.R. & O., No. 344. Bacon (Import Regulation) (Amendment) Order, 1935, S.R. & O., No. 1237. Pork (Import Regulation) Order, 1935, S.R. & O., No. 160.

² Cattle (Import Regulation) Order, 1938, S.R. & O., No. 530. Sheep, Mutton and Lamb (Import Regulation) Order, 1939, S.R. & O., No. 4.

³ Potato (Import Regulation) Order, 1934, S.R. & O., No. 1160.

This order of priorities, with the foreign producer in the third place, was confirmed at the important British Empire Producers' Conference in Sydney in the spring of 1938 at which farmers from England and Wales, Scotland, Canada, Rhodesia, Australia and New Zealand discussed the possibility of producer-controlled commodity councils, similar to the Empire Beef Council. Plans for Councils for pig meat and dairy products had been approved by the Minister of Agriculture in London by the outbreak of war.

The volume of imports of foods which were also important farm products of the United Kingdom had increased by so much as 17 per cent. between 1927-9 and 1931; during this time, indeed, the United Kingdom became a sort of dumping ground for surplus food from all over the world. Following the introduction of the restriction policy total imports declined by 12 per cent. between 1931 and 1935, thus providing increased opportunities for the home producer. This curtailment was, however, achieved entirely at the expense of the foreign producer, whose market was cut by 32 per cent., whereas Empire supplies rose by 42 per cent.; the Empire's share of the British market

Table 2. Index Numbers of the Volume of Food Imports into the United Kingdom, 1931-7. (1927-9=100)¹

| | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 | 1937 |
|------------------------|------|------|------|------|------|------|------|
| From Empire sources . | 117 | 123 | 142 | 137 | 137 | 152 | 142 |
| From foreign sources . | 116 | 99 | 86 | 84 | 82 | 75 | 79 |
| From all sources . . | 117 | 111 | 107 | 104 | 103 | 105 | 103 |

for imported food had increased from just over one-third to over one-half, a development that was important in later years.

The effectiveness of import restriction as a certain means of raising farm incomes in these years is open to question. In the first place, many imported products were not directly competitive with their British counterparts and the latter were in general higher-priced articles; a shortage of the cheaper did not necessarily increase the demand for, and thereby the price of, the dearer home-produced article. Further, for many foods with an elastic demand the restriction of imports would have had to be much more severe before it had any appreciable effect on prices in this country. There is, however, no doubt that in a very limited field, such as fruits and vegetables, the regulation and restriction of imports were effective in bringing better returns to the British farmer for his produce.

¹ *The Agricultural Register, 1938-9*, Agricultural Economics Research Institute, 1939, p. 23.

SUBSIDIES AND PRICE INSURANCE

Direct subsidies were provided for only two commodities, beet-sugar and fat cattle. Both of these were originally planned as temporary assistance over a difficult period but, as with most subsidies, they had become permanent supports. The beet-sugar subsidy was established in 1925 to encourage the expansion of a virtually new crop, primarily in the hard-hit arable areas; the original intention was to pay the subsidy at a diminishing rate for the next ten years. The majority of a committee set up in 1934 to review the position recommended that the subsidy should be discontinued but the advice was not accepted and it was continued by temporary legislation in 1935 and permanently by the Sugar Industry (Re-organisation) Act, 1936. Between 1924-5 and 1938-9, the State had paid about £42 million to beet-sugar manufacturers and had forgone about £21 million in revenue rebates. The area of sugar-beet had risen from 22,000 acres in 1924 to 335,000 acres in 1936-8 and the output of home-grown refined sugar from 24,000 tons to 325,000 tons, some 16 per cent. of the country's pre-war annual requirements.

The fat cattle subsidy was introduced in 1934 at a period of low prices and was administered by a special Cattle Committee.¹ The subsidy was fixed at the rate of 5s. per live cwt. for live animals and 9s. 4d. per cwt. for carcasses. After three temporary extensions of the original Act, the principle was made more permanent by the Livestock Industry Act, 1937, under which the actual rate of subsidy was determined by a new Livestock Commission; it was fixed in the light of market conditions and varied with quality, the State's liability being limited by law to £5 million a year. The same Act also empowered the Commission, which was not a producers' organisation as under the Marketing Acts, to improve the livestock marketing system.

Price insurance differs only from the above subsidies in that the subsidy payment, if any, is variable rather than fixed – a varying supplemental payment given when and as the price falls below a certain level. The fixed rate of subsidy has its attractions from the farmers' point of view in periods of temporarily rising prices; on the other hand it gives no form of insurance against falling prices such as might occur if there was a marked increase in the home output or in imports. The relative advantages of the variable subsidy to the Exchequer, and to the producer in periods of falling prices, are obvious; in periods of rising costs and prices, however, they are not so attractive unless the standard price below which deficiency payments are made is subject to review to take into account any changing economic circumstances.

By 1939, forms of price insurance were in operation for wheat,

¹ Cattle Industry (Emergency Provisions) Act, 1934, 24 & 25 Geo. 5, Ch. 54.

barley, oats, milk for manufacturing into butter and cheese, bacon pigs and sheep. As with wheat, provision was eventually made in all instances for the scaling down of the insurance if output or livestock numbers exceeded certain established levels.

Under the Wheat Act, 1932,¹ producers of wheat received a deficiency payment equivalent to the difference between the average price realised for British wheat throughout the country and a standard price of 10s. per cwt. The fund from which this payment was made was raised by a levy on all flour imported into, or milled in, this country. The deficiency payment was, however, reduced proportionately as sales of wheat increased beyond a specified quantity, originally 27 million cwt. but raised to 36 million cwt. in 1937 when the possibilities of war came into account.² This type of subsidy had some novel features; firstly, it retained an element of competition among growers, encouraging efficiency and the reduction of costs, and it kept a premium on quality. Secondly, the scale of assistance was limited when sales rose above a certain level. From the farmers' point of view, too, it had the advantage of being administered by an independent statutory body on which farmers were represented – the Wheat Commission – which meant that there was no necessity for the subsidy to appear on the annual votes of Parliament and be subject to criticism in the House of Commons. From the consumers' point of view, it was probably less objectionable than a high protective tariff. But the levy-subsidy principle offended against the accepted canons of sound public finance; the system of assigned revenues had been abolished in the nineteenth century³ and any proposed extension of the system raised strong Treasury opposition. A suggestion that it might be suitable for dairy products where, as in the case of flour, imported supplies are so much greater than home-produced, was put forward in 1937 but it met with disapproval. Wheat remained the only commodity to be assisted by a levy-subsidy,⁴ the funds for the other measures of price insurance being provided by direct charges on the Exchequer.

There is no doubt that the subsidy was a stimulus to wheat production; the area under wheat in Great Britain increased by some 500,000 acres during a time when the area under the plough fell by about the same amount. The chief criticisms of the two principal

¹ 22 & 23 Geo. 5, Ch. 24.

² In 1938–9, deficiency payments were made on about 36,700,000 cwt, the ascertained average market price having been 4s. 6½d. and the deficiency payment 5s. 0½d. per cwt.; the British grower received on the average a price of 9s. 7½d.

³ The only modern pre-war example – the Road Fund – was discontinued in the Finance Act of 1936, 1 Edw. 8 & 1 Geo. 6, Ch. 54.

⁴ The price insurance scheme for barley (pp. 34 and 58) included provisions for a levy on barley imports and barley manufactures which was to be paid into the fund from which barley deficiency payments were to be financed. The collection of these levies was started in September 1939 but it was soon discontinued as market prices rose above the standard price.

schemes of state assistance, the beet-sugar subsidy and the wheat payments, were that their effects were too restricted to the eastern counties of England; for example, Scotland's share of the former was estimated to be only about 2 per cent. and of the latter only about 6 per cent., although she contributed about 12 per cent. of the value of sales off farms in Great Britain.

This inequity was met to a small extent by the extension of price insurance, under the Agriculture Act, 1937,¹ to producers of barley and oats who were not receiving the wheat payments; they became eligible for a deficiency payment equal to six times the difference between the average price of oats for the country as a whole and a standard price of 8s. per cwt. Instead of being paid at a rate per cwt., as for wheat, growers were paid at a rate per acre sown to oats or barley, at an equivalent of 6 cwt. per acre; the maximum acreage payment was limited by law to £1 per acre. As with the wheat subsidy, the full rate was paid on a standard acreage, taken as 10 per cent. above the 1937 acreage, and the deficiency payment was reduced proportionately as this limit was exceeded.² The subsidy for barley was also based on the price of oats, since the differences between the market values of malting and feeding barley made the conception of an average ascertained price unworkable. A similar national standard acreage was also established for barley. Amendments to this scheme were incorporated in the Agricultural Development Act, 1939³ as war-time production programmes took shape and the need for an increased output of home-grown feedingstuffs became both apparent and urgent; the rates of subsidy were increased, different bases of payment were established for oats and for barley, the maxima payable per acre were raised, the payments were made retrospectively to cover the 1938 harvest, the national standard acreages were lifted and those who were receiving wheat payments were permitted to benefit from the oats and barley payments, though at a lower rate.⁴

The subsidies to milk production, which had been embodied in the Milk Act, 1934,⁵ were three-fold. Firstly, there was a price insurance scheme for milk made into butter and cheese; the Government undertook to make repayable loans to the Milk Marketing Boards to enable them to pay the differences between the price actually received for this milk and 5d. per gallon in summer and 6d. per gallon in winter, the loans to be repayable at a later date. Secondly, there was a payment by the Exchequer, not exceeding £750,000 over the two years

¹ 1 Edw. 8 & 1 Geo. 6, Ch. 70.

² The subsidy for 1938-9 was 13s. 6d. per acre whereas the wheat subsidy for that year averaged almost £3 an acre.

³ 2 & 3 Geo. 6, Ch. 48.

⁴ p. 58.

⁵ 24 & 25 Geo. 5, Ch. 51.

covered by the Act, to enable the Boards to pay a premium for the production of high quality milk. Thirdly, there were Exchequer payments up to £1,000,000 over two years to increase, in the interests of national health, the demand for milk for liquid consumption, principally by supplying cheap milk at $\frac{1}{4}$ d. for a third of a pint to children in grant-aided schools¹ and by publicity. When the Act expired in 1936 it was extended by further Acts in 1936,² 1937³ and 1938;⁴ these Acts made minor changes in methods of estimating the market prices to be used and there was one major change in the last Act, in that the Boards were released from the obligation to repay the Exchequer deficiency payments on the manufacturing milk. The extending legislation also provided for the continued payment of assistance to increase the demand for milk.

Various abortive attempts were made in 1937 and 1938 to arrive at a more permanent policy for the milk industry including the establishment of an independent Milk Commission to supervise the whole industry and to take over the price-fixing functions of the Marketing Boards; but these proposals met with vehement opposition. It was finally decided that the time was not yet ripe for such far-reaching re-organisation of the industry as was envisaged in a White Paper⁵ of July 1937 and in the Milk Industry Bill introduced into the House of Commons in November 1938. Further legislation was therefore passed in 1939⁶ embodying the old principles of the Milk Acts but containing certain amendments such as increases in the Exchequer contributions towards the premiums paid by the Boards on high quality milk, extensions of the cheap-milk scheme to expectant or nursing mothers and children under 5 years old, changes in the method of computing the deficiency payments paid by the Exchequer on milk manufactured into butter and cheese, and reductions of these payments on any gallonage exceeding 125 million gallons a year.

Price insurance was next extended to bacon pigs in 1938.⁷ The proposals were designed to give financial guarantees to both bacon pig producers and bacon curers during a three-year scheme of re-organisation and rationalisation outlined in the Act. The selling of bacon pigs except under contract was forbidden and special provisions were made for the first three annual contract periods. Firstly, a contract price of 12s. 6d. per score for bacon pigs of a defined grade

¹ By the end of 1938, this cheap milk was available in the schools containing 93 per cent. of public elementary school children and 53 per cent. of them were drinking it. This first step in a nutrition policy showed its worth when war came; the habit of drinking milk was well-established.

² 26 Geo. 5 & 1 Edw. 8, Ch. 9.

³ 1 Edw. 8 & 1 Geo. 6, Ch. 66.

⁴ 1 & 2 Geo. 6, Ch. 61.

⁵ *Milk Policy*, Cmd. 5533, 1937.

⁶ Milk Industry Act, 1939, 2 & 3 Geo. 6, Ch. 46.

⁷ Bacon Industry Act, 1938, 1 & 2 Geo. 6, Ch. 71.

was established, falling to 12s. 5d. and 12s. 3d. in the second and third periods respectively. Secondly, this contract price was to vary with changes in the price of feedingstuffs over the preceding sixteen weeks, thus insuring the farmer against fluctuations in his heaviest outlay. Thirdly, curers were enabled to pay the contract price by means of a deficiency payment equivalent to the difference between the ascertained prices of British bacon and standard prices of 94s. 9d., 93s. 9d. and 91s. 9d. per cwt. in the successive contract periods. The numbers of contracted pigs on which payments were to be made were 2,100,000 in the first, 2,400,000 in the second and 2,500,000 in the third contract period.

Finally in the spring of 1939 and in the face of a serious fall in sheep prices a scheme for price guarantees was provided for the sheep industry.¹ A deficiency payment was to be paid on sheep in certain defined classes equivalent to the difference between the average market price and an average basic standard price of 10d. per lb. over the year; this price was to vary seasonally. The basic standard price was to be abated by $\frac{1}{8}$ d. for every increase of 250,000 in the United Kingdom sheep population over 27 million and $\frac{1}{4}$ d. for every 250,000 over 28 million. Provision was also made for the scaling down of these standard populations in the event of the basic standard price exceeding the average market price for two years.

The cost of these subsidy and price insurance schemes is shown in Appendix Table III.² It rose steadily until it reached almost £18 million in 1934-5 and then declined in the two succeeding years as the market price of wheat rose nearer to the standard price. But it increased again to about £19 million in 1938-9 as a result of a combination of heavy payments on wheat and fat cattle.

Criticism of these payments was made on two scores. Firstly, it was said that the annual total was excessive. It should, however, be recalled that, with the exception of the beet-sugar subsidy, these measures had been specifically designed to give agriculture the assistance which many other industries had received by means of the tariff duties imposed in 1932 and subsequent years. It was generally conceded, too, that such import restriction as had been imposed had done little to raise farm incomes owing to the elastic demand for most food imports. There was some justification for the farmers' claim that many manufacturing industries had the advantage of duty-free raw materials and the protection of a 20 per cent. *ad valorem* tax on imported manufactures, whereas food imports were mostly on the free list; these subsidies were therefore a counterpart, though, in the farmers' view an inadequate one, for the effective protection generally

¹ Agricultural Development Act, 1939, Pt. III.

² p. 372. With the exception of the deficiency payments under the Wheat Act which were met by a levy on home-milled and imported flour, these payments were borne by the State.

enjoyed by others. At their peak these payments represented about 8 per cent. of the total value of sales off farms in Great Britain. Moreover, the expenditure in the later years included items that were essentially war insurance payments, such as the disbursements on oats and barley in lieu of purchasing and storing reserves of feeding-stuffs.¹

There were, secondly, grounds for criticism on the distribution of this financial assistance. The benefits of the beet-sugar subsidy and the wheat deficiency payments, which together accounted for 80 per cent. of the payments between 1924-5 and 1938-9, were obtained to a very great extent by farmers in the Eastern counties. These were the areas, as was pointed out earlier, which were hardest hit by the depression and which had practically no alternative outlets. These types of farming were kept going in the pre-war years with the help of these measures; and these were the arable areas on which so much was to depend in the first years of the Second World War. On the other hand, there were those that argued that a more general distribution of these funds would have helped to maintain the acreage under the plough in the rest of the country; this would, in turn, have made easier the extension of the tillage area on the outbreak of the war and would have enabled the country to obtain a quicker dividend in arable crops. On the whole it is probably fair to say that, even for peace-time policy, too high a proportion of the subsidies found their way to the Eastern counties; if these payments are looked upon as war preparations then the criticism is certainly well-founded.

MEASURES TO INCREASE EFFICIENCY

This last group of measures whereby the State provided special assistance for farming may be considered in two categories, indirect and direct. In the former must be placed the financing and organisation of agricultural education and of scientific and technical research. During the inter-war years, the grants for these purposes increased steadily and as was shown by developments during the Second World War, this expenditure brought good dividends. It has been estimated that grants for this work were running at the rate of about £3 million a year in the later pre-war years. Other measures in this category include relief from tithe, special credit facilities, improvement of rural water supplies, schemes for improvement of livestock such as the subsidisation of high-quality sires and the encouragement of output recording societies, the provision of a national veterinary service under the Agriculture Act, 1937, and schemes for the eradication of animal and plant diseases and for pest control – to mention only a few of the services designed indirectly to raise farm income.

¹ p. 58.

The direct measures in operation before the war to reduce costs were the grants to drainage authorities, the subsidies to farmers provided under the Agriculture Act, 1937, to encourage the use of lime or basic slag, and finally the grant for the ploughing up of grassland;¹ these last three means of assistance might, however, well be classified among the preparatory measures for war, to be dealt with in the next chapter.

In summary, the main changes for British agriculture in the twenty years between the two world wars were firstly drastic changes in farming systems under the compulsion of falling prices and, secondly, the reversal of the State's *laissez-faire* policy towards food production.

The balance of agricultural production had indeed changed. The shift in output towards milk, meat, eggs and vegetables met the demand arising from the improving standard of life of the population between the two wars. Such decline in output as did occur after 1932 was almost entirely the result of the loss of agricultural land for industrial and urban development and of the reduced output of live-stock fodder crops resulting from the use of cheaper imported substitutes. The shift in output, too, had been accompanied by great changes in agricultural technique and systems of farm management.

Agricultural wages were low in relation to wages in other industries with a consequent drift from the land; but they were high in relation to farm prices with a consequent need for economy.² Labour costs became the paramount consideration. The number of employed persons on farms in Great Britain dropped by 30 per cent. in the twenties and thirties, while the area under the plough declined by 25 per cent., or 4 million acres. Yet in spite of these drastic changes, the adaptations in farming technique were such that the quantum of agricultural production increased over the period.

The change in agricultural policy dated almost entirely from 1932. The motives were many; one was to give agriculture some assistance equivalent to the protection afforded to other industries in 1932; another was to meet the increasing interest in nutritional problems which developed during the decade; a third was a traditional dislike of a decline in the rural population and of agricultural land going to 'waste'. There were also present in some people's minds the needs of national defence but while this undercurrent of thought may have been at work it did not appear on the surface to any marked extent until as late as 1937.

The methods of assistance, indirect and direct, were many and

¹ See pp. 53 and 57.

² Figure 1, p. 19.

varied. But out of the empirical approach certain principles were emerging by 1939; firstly, the statutory control of home-grown supplies by producers, coupled with the restriction of imports which this form of co-operation made possible, was leading to general uneasiness and the desire to see such powers vested in more impartial commissions or committees; secondly, among the various means of financial assistance, the system of guaranteed minimum prices with a maximum liability in regard to the output on which such prices were to be paid appeared to have given greatest general satisfaction. By the middle of 1939, guaranteed prices of some kind or other had been instituted for the main products of British farming, milk, fat cattle, sheep, bacon pigs, wheat, barley, oats, and sugar beet – a considerable list which, though its compilation had been slow, was finally fairly inclusive.

In the three years preceding the Second World War, British farming supplied some 30 per cent., by wholesale value, of the country's annual peace-time food requirements. About 70 per cent. were derived from overseas, either as food or as feedingstuffs for conversion into food by livestock in this country – a heavy liability in the event of war and the curtailment of imports by a possible 25 per cent. These proportions varied, of course, for the different foods; home production accounted for 100 per cent. of the country's liquid milk, 94 per cent. of its potatoes and about 50 per cent. of its meat. But 84 per cent. of the country's sugar and oils and fats, 88 per cent. of its wheat and flour and 91 per cent. of its butter came from overseas.¹

The agricultural area in the United Kingdom had fallen during the twenty inter-war years by some 2½ million acres to just over 31½ million acres, of which only 9 million acres were under crops other than grass, 4 million under rotation grass and 18½ million under permanent grass. In addition there were some 16½ million acres of rough grazing of indeterminate agricultural value.² Livestock numbers were at a high level but it was estimated that about 22–25 per cent. of the annual output of livestock products was dependent on the 8½ million tons of feedingstuffs brought in from overseas.

¹ R. J. Hammond, *Food*, Vol. I, p. 394, in this series (H.M.S.O.).

² Appendix Table IV, p. 373.

CHAPTER III

PREPARATION FOR WAR

(i)

The Premises of a War-time Production Programme

MEMORIES of the later years of the 1914–8 war were still too vivid to allow any illusions that what would be required of British farming in the event of war would be merely a continuation of peace-time practices or even at most an intensification of them. For countries that are practically self-sufficient in their food requirements or whose agriculture is perpetually on a war-time footing, war or the threat of war may necessitate little or no change in agricultural effort or output. But the United Kingdom, by 1938, was dependent on overseas resources for no less than 70 per cent. by value of its food supplies; some 23 million tons of food, animal feedingstuffs and fertilisers had to be imported annually to maintain the peace-time diet of its forty-six million inhabitants. Any possible interference with these imports, such as exclusion from any sources of supply, shortages of foreign exchange, or reductions in shipping facilities would call for a drastic change in this country's food production programme, depending in its extent both on the nature of the interference and on its degree.

What were the main considerations to be taken into account in drawing up a food production programme in the event of war? These may be taken as three-fold: (*a*) the continued availability of imported supplies, (*b*) the nutritional needs of the country in war-time, and (*c*) the agricultural practicability, both natural and economic, of producing the new requirements at home.

What would happen to imports? It was confidently assumed that, in general, this country's requirements would be available in the exporting countries when they were needed; world agricultural production was at a high level and the pressure of supplies on the British market in recent years had been such as to call for protective measures for their exclusion. But the more debated question was whether they would be obtainable. Firstly, some sources of supplies would undoubtedly be interrupted; assuming a war with Germany, imports of food – mainly livestock products – from her neighbours, Denmark, the Netherlands, Scandinavia and the Baltic countries might be seriously affected; a spread of hostilities on the Continent

would stop the supplies of potash fertilisers; the entry of Italy into the war would not only put an end to her offerings of certain fruits and vegetables but might also result in the closing of the Mediterranean, which in turn would cut off other sources of food, feeding-stuffs and fertilisers.

Secondly, shortages of certain foreign currencies might curtail the purchase of some foods, principally meat, eggs and butter, in their normal markets. This was not, however, a factor which came in for serious consideration until after the outbreak of war, though it was pressed by one or two individuals in the earlier stages of planning.

Thirdly, there was the problem of shipping. Would there be a submarine menace as in 1916-8? How grave would air attacks on shipping be? What ships would be needed to meet the demands of the Services and of the Commonwealth and other Allies? What neutral ships would be available to the United Kingdom? How would the war affect the fertility – the carrying capacity¹ – of shipping? For example, would ships have to spend longer at sea, in waiting for convoys or in crossing greater distances because evasive routing was necessary or because the Mediterranean was closed or for any one of a multitude of other possible causes? Another factor that would greatly influence the carrying capacity of ships was the time spent in port. Would ports be heavily bombed and would ships have to be diverted to unload at West coast instead of East coast ports? If so, could inland transport and distribution facilities stand the strain of diversion? In short, how scarce would shipping be and how limited would port capacity become? A war production programme for British farming could not be framed unless there were answers to these questions about the availability of imports or unless reasonable assumptions could be made about them.

The second group of questions that needed answers were those concerned with nutrition. Advances in nutritional science in the inter-war years had emphasised the need for a balanced diet for good health and growth; proteins and vitamins had come into their own as against calories. The maintenance of an adequate supply of these food constituents was considered to be essential, especially for certain sections of the population, and the provision of animal proteins and of vitamins had become a *sine qua non* in food policy; psychologically, too, if not physiologically, a continued supply of certain foods, such as meat, was deemed essential, thus militating against a whole-hearted return to a caloric diet. Foremost in these nutritional considerations was the need to maintain milk supplies.

The third category of considerations to be borne in mind in the

¹ It would be out of place to define this term fully in this book. It is explained in detail along with the whole complex of shipping problems in C. B. A. Behrens, *Merchant Shipping and the Demands of War*, in this series (HMSO).

framing of a war production policy included those of agricultural practicability. The limitations set by natural factors such as climate, soil or topography were clearly recognisable but there were others of great importance such as the supplies of labour, machinery and equipment, fertilisers and other agricultural requisites; shortages of these could limit agricultural expansion as surely as the weather. The capabilities, knowledge and experience of farmers were also factors that might well condition a production programme. Again, practicability depended upon administrative ability as well as upon physical factors. Experience in the First World War had shown the need for physical controls if production was to be guided in the desired direction; price incentives alone were inadequate. Moreover, controls in agriculture require a very extensive and a very knowledgeable organisation for directing production, for advisory work and for the distribution of requisites such as feedingstuffs and fertilisers; there were some 550,000 farms and holdings in the United Kingdom, showing such variety in system, output, and management as to make rigid classification for administrative purposes a dangerous, if not impossible, procedure.

Then, too, there were the economic and financial problems of costs and returns. Costs of production tend to become less of a matter for consideration in war than in peace, but they cannot be ignored. For they represent the use of factors of production, all of which are scarce in war – some more so than others – and physical control of distribution is insufficient to ensure that these factors are used to the best advantage. Agricultural practicability must also include the question of incentives and returns to farmers. How could farmers be encouraged to put forward the extra effort – or often a completely different type of effort – required of them? What level of prices would be required to attract resources into food production or, if these were directed there, to ensure their maximum output? What relative prices would be necessary to increase the output of some products more than of others, bearing in mind changes in farmers' costs? How could capital be made available to farmers who had to face the sudden increase in expenditure needed to change from grassland farming to arable crop production? How could financial incentives be best applied, by increasing prices or by subsidising costs of production, or both? Decisions on incentives could obviously be made only against a wider economic background and, in the days of pre-war planning, this background was hazy and the major landmarks in it were ill-defined.

Within the limitations set by these three categories of considerations there were certain principles that called for consideration in deciding the balance between livestock and crop production, between the different crops to be grown and between the different types of livestock to be fed.

It was no longer questioned, as it had been in the First World War, that the greatest output of food (in terms of calories) was obtained from land devoted to crops usable for direct human consumption such as wheat, potatoes and sugar beet. Crops that require conversion into milk, meat or eggs before becoming available for human consumption lose about 70–90 per cent. of their weight in the process; only 10–30 per cent. is returned as food for human use, the rest being used by the animals to keep themselves alive. ‘On the average, animals require about ten units of energy to produce one unit of energy in the form of food for human consumption.’¹ Land used to produce livestock feedingsuffs would therefore have to be diverted to produce food for direct human consumption; in essence this meant the ploughing up of grassland. This was the key to a war-time production policy. How much grassland which was capable of growing other crops could be ploughed up? Some estimates put it at 6 million acres, others as high as 9 million acres. How long could the arable land be kept under crops other than grass without excessive loss of fertility or without becoming pest or disease ridden, so that it had to be ‘rested’ by being put down to grass again or left fallow? Experience in the First World War suggested that an intensive cropping programme of not more than two years’ duration might be as much as could be accomplished.

But even if all the land could be turned over, for a shorter or longer term, to the direct production of human food, there would still be a need for livestock to consume the output of rotation grassland and to prevent the waste of the by-products of arable farming such as sugar beet tops, potato chats, straw and the like and for the maintenance of soil fertility.

The priority among crops, in so far as this was not determined by natural conditions, was not a simple choice. The highest calory-producers per acre were as follows:

| <i>Crop</i> | <i>Form of food produced</i> | <i>Calories per acre</i> |
|--------------------|------------------------------|--------------------------|
| Sugar beet | Sugar | 4,836,000 |
| Potatoes | Potatoes | 4,100,000 ² |
| Wheat | Flour | 1,980,000 |
| Oats | Oatmeal | 1,650,000 |
| Mangolds | Meat | 276,000 |
| Turnips and swedes | Meat | 195,000 |

But land would not necessarily be the scarcest factor in production in war. Labour and fertilisers might well be important considerations.

¹ F. Yates and D. A. Boyd, ‘The Relative Yields of Different Crops in Terms of Food and their Responses to Fertilisers’. *Agricultural Progress*, Vol. XXIV, Part 1, 1949.

² This gross output of calories per acre may exaggerate the yield from potatoes as it does not take into account heavy losses by wastage in certain years.

While potatoes and sugar beet yield more human food per acre than cereals, and cereals more than grass, the heavy-yielding crops are in general more expensive of labour, machinery and fertilisers; wheat requires only 40 man-hours per acre per annum against about 200 man hours for potatoes. On the basis of food value (starch equivalent) produced per man-hour, the ratio is in favour of wheat by at least $2\frac{1}{2} : 1$. Sugar beet requires five times as much fertiliser as barley to produce the same amount of food value. Moreover, the yield per acre of any crop, whether measured in product, dry matter or calories varies greatly under the different natural conditions found in the different parts of the country. Within the limits set by the national war-time food requirements, care would be necessary in planning the extension of any crop to ensure that there was no over-expansion on land where the yield would be less than under some other required crop.

The competitive claims of the different types of livestock for the available feedingstuffs were, likewise, not capable of straightforward determination. Animals vary in their efficiency as converters of feedingstuffs into human food:¹

| | <i>Energy produced, as percentage of energy in feedingstuffs</i> | <i>Protein produced, as percentage of protein equivalent fed</i> |
|-------------|--|--|
| Dairy cow | 19 | 23 |
| Beef cattle | 7 | 10 |
| Sheep | 8 | 13 |
| Pigs | 18 | 12 |
| Fowls | 10 | 32 |

So far as energy production is concerned the dairy cow producing milk is the most efficient converter, followed closely by the pig. The hen is the most efficient converter in terms of protein, with the cow in second place. But pigs and poultry are fed largely on concentrates such as cereals and cereal by-products which are usually suitable, without a 70-90 per cent. energy 'wastage', for direct human consumption. On the other hand, the dairy cow, together with the less efficient beef cattle and sheep, can be fed to a considerable extent on grass and is less of a competitor for human foodstuffs. At the same time, labour requirements might be an important consideration. Dairy cows and fowls require about twice as much direct labour in terms of food produced as do fat cattle and sheep and about five times as much as pigs. On the other hand, cattle and sheep, in so far as they eat grass rather than concentrates, use less indirect labour since cereals require relatively more labour than grass for production and storage.

¹ F. Yates and D. A. Boyd, *op. cit.*

The weights to be attached to these different considerations would, of course, vary in different parts of the country. For example, on good grassland the yield of energy per acre might well be almost twice as great as from an acre of cereals; under such circumstances it might well be to the national advantage to maintain this land under grass for milk production rather than to plough it for wheat or barley. Again, on a farm where regular or casual labour was scarce and where some of the land was perforce under grass, it might well be better to grow grain for livestock rather than potatoes even though the human food yield was so much lower. These two examples may be sufficient to indicate the complexities in the determination of a cropping programme for any particular region and, indeed, for any particular farm. It might be relatively simple to draw up a list of the national requirements, but there still remained the intricate task of its allocation to production to different regions and to individual farms – an allocation that could only be made locally in the light of the special circumstances, physical, biological, economic and human, of each farm.

Table 3. Cubic feet of Shipping Space per ton and per 1,000 calories, and the Cost per 100,000 calories of Various Imported Foodstuffs¹

| | Shipping space per ton | Energy value per cubic foot of shipping space | Cost per 100,000 calories |
|-----------------------|------------------------|---|---------------------------|
| | cu. ft. | 000 cals. | s. d. |
| Wheat in bulk . . . | 50 | 56 | 5 5 |
| Sugar | 45 | 83 | 4 3 |
| Fat and tallow . . . | 80 | 118 | 8 4 |
| Dried fruits | 50 | 55 | 21 0 |
| Butter | 55 | 143 | 27 3 |
| Cheese | 60 | 56 | 39 4 |
| Bacon | 110 | 39 | 35 9 |
| Frozen beef | 95 | 26 | 40 2 |
| Eggs in shell | 120 | 12 | 74 5 |

There was also the vital shipping factor. In the event of a shipping shortage, the relative amount of shipping saved might have to be an important criterion in drawing up a food production programme. The accompanying table shows the relative economies to be gained by importing some foods rather than others. Wheat, sugar and fats, in terms of energy value, occupy the least shipping space, while bacon, beef and eggs in shell are relatively costly. So far as imports for direct human consumption are concerned, priority for shipping space would be given to wheat, sugar and fats. On the other hand, since livestock on average waste about nine-tenths of the energy

¹ Sir John Boyd Orr, 'The Effects of War on Agriculture', *Transactions of the Highland and Agricultural Society of Scotland*, Vol. LII, 1940.

value in converting feedingstuffs into human food, it is obviously more economical to import bacon, beef and even eggs in shell than to import animal feedingstuffs (which may be assumed to be only slightly less economical of shipping space than wheat) for conversion into livestock products in this country.

The cost of the different imports in terms of energy value, an important consideration under certain circumstances such as the availability of overseas credits or shortages of particular currencies, is also shown in Table 3. From this point of view as well as from the standpoint of shipping space, wheat, sugar and fats are the most economical imports.

Finally, there are principles in the maintenance of soil fertility in this country which could not be ignored in drafting a cropping programme. Crop yields in this country are among the highest in the world, due in part to advantages of soil and climate for certain crops and to the use of fertilisers but also to farming practices based on a rotational sequence of crops appropriate to each district and a proper dove-tailing of livestock and crop production. There are those who maintain that only a proper 'balance' between livestock and crop production can keep the soil in good heart while there are others who maintain that soil fertility can be maintained without the intervention of livestock. The controversy is one of long standing and the answer is not yet clear. From the point of view of achieving a practicable production programme, however, the principle that the close inter-relationship between livestock and crops was essential on most farms for the maintenance of soil fertility could not be ignored; it was certainly the traditional belief of most farmers.

These, then, were some of the considerations to be taken into account in the formulation of a war-time production programme. The answers to a few of the questions were known, assumptions could be made about others, but for some the answers were not, or could not be, available until war actually broke out.

One issue was, however, settled – namely that there would be no major change in the existing peace-time agricultural policy in advance of war solely for defence purposes. Few would question the wisdom of this decision, economically, politically or even strategically, so long as preliminary measures were taken to bridge the gap between the outbreak of the war and the achievement of the first harvest of the war production programme and to provide the resources for undertaking the new programme. It might have been feasible to prevent some of the peace-time decline in arable land and to grow more in this country, principally more animal feedingstuffs, at the expense of imports. On the other hand it must be remembered that, apart from the increased costliness of this home-production, there would have been other losses to be offset – losses in our industrial

export trade and reductions in our overseas credits, the alienation of overseas sympathies by the curtailing of our markets, the loosening of our bonds with Commonwealth and foreign countries, the possible lowering of our nutritional standards of living and consequent deleterious effects on national health. Finally, there would have been a reduction in the amount of mercantile shipping at our disposal and, behind that, our shipbuilding capacity – two factors vital to this island's strength in time of war.

The decision not to anticipate the outbreak of war in agricultural policy had been accepted by the Committee of Imperial Defence as early as June 1924. In 1926 the Government had announced its decision that no case had been made out on defence grounds which would justify the expenditure necessary to induce farmers in times of peace to produce more than economic considerations dictated.¹ This decision was not seriously questioned until very late in the thirties.

(ii)

The First Conceptions

The construction of a war-time production programme was a gradual accomplishment and was subject to changes in quantitative estimates, and even occasionally to changes in direction, as new considerations arose and hypotheses were altered. The programme developed through continuous discussion between the Cabinet, committees, sub-committees and departments as well as through consultation with extra-Governmental organisations and individuals. But the four main advances to the position reached at the outbreak of war were plans put forward by the Ministry of Agriculture and Fisheries, in association with the Department of Agriculture for Scotland and the Ministry of Agriculture of Northern Ireland, in April 1936, January 1937, March 1937 and April 1939.

The first steps were taken by Mr Walter Elliot, then Minister of Agriculture, in the spring of 1935. In February of that year the British and French Governments had approached Hitler to discuss a general settlement of outstanding European issues. German re-armament had been proceeding systematically, though unobtrusively, and it was becoming increasingly difficult to conceal this fact. On 9th March 1935 the German Government informed the world of the existence of a German Air Force and a week later it announced its intention to re-introduce conscription and to build up a peace-time army. These first open steps in violation of the Treaty of Versailles were a clear warning to those who chose to notice them. Mr Elliot

¹ *Agricultural Policy*, Cmd. 2581, 1926.

appointed a Committee representing his Ministry, the Department of Agriculture for Scotland and the Ministry of Agriculture of Northern Ireland to consider the problem of food production in time of war. This Committee reported in April 1936. At that time there were no up-to-date calculations about imports in any future war, nor about shipping, nor about foreign exchange¹ and accordingly the Committee based its recommendations largely on the experience of 1914-8 conditions. Using statistics for 1934, the report pointed out that, on a caloric basis, only 40 per cent. of our food requirements could be produced at home; the most serious deficiencies, even for a war-time diet, were wheat, meat and fats. It emphasised the need for precise plans and early decisions in the event of war; lack of policy and of detailed proposals in the early years of the 1914-8 war had bred loss of confidence among farmers in the importance attached by the Government to food production and had prevented any very substantial increase in output until the harvest of 1918, the last year of the war.

Apart from a recommendation about the extension of allotment cultivation in towns, the Committee concluded that a war-time food policy should:

- (i) aim, as a general principle, at the maximum practicable increase in the home production of those foodstuffs which (a) give the largest and quickest return in the shape of food value and (b) are bulky to import,
- (ii) comprise special efforts to stimulate production of the following commodities: wheat, potatoes, oats, eggs and, to a limited extent, sugar beet,
- (iii) endeavour to maintain, so far as consistent with (ii) the pre-war level of production of beef, mutton and lamb, pigmeat, milk and fresh vegetables.

The five products mentioned in (ii) together with milk and fresh vegetables were deemed the essential requirement to keep the population in reasonably good health with the minimum reliance on food supplies from overseas.

The Committee recognised that one of the limiting factors and possibly the most important in carrying out (iii) would be the supply of imported feedingstuffs, such as wheat offals, barley, maize and oilseeds or cakes. To secure the desired increase in wheat and potatoes, as well as oats and barley, it would be necessary to increase the arable area by a ploughing up of permanent grassland similar to that which formed such an essential part of the 1916-8 campaign.

¹ It is worthy of note that in the preparatory stages of this report, attention was drawn to the consequences should Britain be unable to draw on certain foreign credits, particularly from the United States. The report pointed out how serious the situation in 1914-8 would have been if these restrictions had then been in force, and how serious it would be again if they were continued after the outbreak of the next war.

The Committee also indicated that Government action would be required to secure adequate supplies of labour, machinery, fertilisers and other requisites for such a programme. Draft regulations must be ready to give statutory powers of control to some central organisation, either to a Food Production Department under a Director General responsible to the Minister of Agriculture and Fisheries or to a separate Department of the Ministry itself in England and Wales and of the Department of Agriculture in Scotland. It was, however, considered essential that the Minister should delegate his powers – ‘Local operations could not be directed in detail from headquarters’ – and recommendations for the establishment of *ad hoc* County Committees, both executive and advisory in function, took a prominent place in the report. Whitehall was well aware that the delegation of responsibility and the largest possible measure of self-control would be necessary if the campaign was to succeed.

The fundamental principles of a war-time food production programme were thus clearly set out by this committee. It established, firstly, a policy of achieving a high degree of soil fertility in peacetime by maintaining livestock production and, secondly, a plan for the immediate ploughing up of grassland upon the outbreak of war for the increased output of human foodstuffs and of feedingstuffs, pending a planned reduction of livestock numbers if war-time requirements dictated this.

This report was considered by the newly appointed Food Supply Sub-Committee of the Committee of Imperial Defence in May 1936 who accepted it.

On 7th March 1936, Hitler had proposed to the French, Belgian, Italian and British Ambassadors a twenty-five year pact, including among other suggestions the demilitarisation of both sides of the Rhine. This invitation had been followed two hours later by his announcement to the Reichstag of his intention to occupy the German Rhineland zone already demilitarised under the Versailles Treaty. In fact, his troops had moved over the border even while he was speaking. The immediate reactions of the other nations only served to confirm to the few the inevitability of war. Against this background authority was given for the drafting of the legislation necessary to bring agriculture on to a war-time basis, for the further preparation of the necessary detailed administrative machinery, and for the Agricultural Departments to outline to other Government departments or sub-committees of the Committee of Imperial Defence what would be required of them in respect of manpower, fertilisers, tractors and other agricultural machinery in order to implement the programme.

The Sub-Committee proceeded to ask the Agricultural Departments to prepare actual estimates of food production in time of war.

But it was impossible for them to do this until they knew what assumptions they were to adopt about war-time imports. The general opinion was that a threat to our supplies comparable to that which was faced and overcome during the war of 1914-8 was unlikely to arise as the result of attack by surface raiders or by submarines, provided the necessary counter-measures - which it was considered would be adequate - were prepared in time of peace. The dangers of air attack on shipping and port facilities and other vital points in the distribution system were considered to be incalculable and to be assessed only by bitter experience.

In order 'to allow a reasonable margin of safety', the Food Supply Sub-Committee in July 1936 instructed officials to adopt the following assumptions for the purposes of their calculations:

- (a) the country would be liable to a severe temporary interruption and dislocation of supplies of food lasting for (i) three weeks or (ii) three months after the outbreak of war,
- (b) there would be a 25 per cent. overall decrease of imports of food for the whole duration of the war,
- (c) the avenue of supply from the North Sea would be closed to the extent of 10 per cent., from the Baltic to the extent of 90 per cent., but freedom for supply from the Mediterranean could be maintained.

At the same time the Sub-Committee laid down for the guidance of officials the assumptions that were to be made about other points. Thus it was to be assumed that there would be no major change in existing peace-time agricultural policy solely for defence purposes. Plans for home production in war-time should be prepared on the alternative assumptions of a war lasting twelve months or several years which might begin in either the spring or the autumn. Any maintenance of abnormal stocks in time of peace was to be regarded as an insurance against the temporary interruptions envisaged above and not as a means of meeting a continuing shortage. Lastly, officials were to assume that adequate controls would be established for implementing the Government's decisions about food production.

At this point, two lines of development in food policy may be differentiated, though they merge from time to time; there was, firstly, a storage policy designed to meet the temporary disruption of supplies and, secondly, an agricultural production programme to meet a reduction in food imports throughout a short or long war.

The origins of the former policy have been described elsewhere,¹ and the achievements of this scheme did not affect agriculture except in a negative way. The objective was to ensure that there were stocks of essential commodities in normal commercial channels and in Government reserves. For food, schemes ranging from £5 million to

¹ *Food*, Vol. I, Chapter II.

£100 million were considered but the one that was finally favoured was estimated to cost about £25 million and aimed at building up stocks representing about three months' consumption of the most important commodities. Agriculture's interest was, of course, primarily in reserves of feedingstuffs and fertilisers; three-months' requirements of these would have been about 1½ million tons of feedingstuffs,¹ some 375,000 tons of oilseeds, £300,000 of sulphur or pyrites, 130,000 tons of North African phosphate, an unspecified quantity of potash (K₂O) and 100,000 tons of ammoniacal liquor. These fertiliser estimates, however, were based on existing crop acreages and did not take into account any possible increase in the arable area. The cost of storage of feedingstuffs on such a scale, estimated at about £25 million including the capital cost of silos, and the annual outlay were considered too heavy, especially when the total authorised expenditure on the whole food storage scheme had been whittled down from £25 million to about £10-12 million. The proposal was therefore dropped and agriculture was left without reserves beyond the milling offals to be derived from some 400,000 tons of wheat and with the chilling thought that its needs of feedingstuffs were not considered essential.

Belated efforts were made to retrieve the situation in April 1939, when public outcry at the inadequacy of the measures hitherto adopted forced an expansion. Authority was then given for the purchase, for reserve, of 400,000 tons of oilseeds and 1½ million tons of cereals. But this came too late to be effective and agriculture entered the war with negligible reserves of imported feedingstuffs, and none under Government control. Moreover, the purchases of fertiliser materials under the Essential Commodities Reserves Act, 1938,² were very incomplete by the time the war started though some phosphate rock and potash had been accumulated.

The reserves of agricultural tractors and machinery which were established by the Ministry of Agriculture itself under the terms of the Agricultural Development Act, 1939, were not part of the essential commodities scheme.

The discussions of food storage problems and the ill-starred fortunes of the scheme for reserves of feedingstuffs had two important consequences which affected the agricultural production programme. As soon as the proposals for feedingstuff reserves were abandoned, the Departments of Agriculture quickly put forward their proposals for subsidising home-grown oats and barley. At the same time they produced their Land Fertility Scheme,³ arguing that an increase in

¹ In addition to the wheat offals available (at 85 per cent. extraction rate) from the Government reserve of wheat and with winter stocks of maize, barley and oats at their lowest point.

² 1 & 3 Geo. 6, Ch. 51.

³ See p. 53.

soil fertility was, in some respects, an alternative insurance. The other result from the discussions was a recognition of the practical difficulties of storing animal fats and bacon, a conclusion that had some influence on the determination of livestock policy in the first year of war.

(iii)

Preliminary Measures to Increase Food Production

The next move towards the more detailed formulation of a war-time production plan came early in 1937 when the Ministry of Agriculture and Fisheries, the Department of Agriculture for Scotland and the Ministry of Agriculture for Northern Ireland produced a quantitative estimate of the production of food in time of war, based on the hypotheses laid down by the Sub-Committee of the Committee of Imperial Defence.¹

On the two assumptions that there would be no major change in agricultural practice until the actual outbreak of war and that hostilities would begin in the early autumn, it was calculated, in the light of cropping achievements in 1918 and 1919, that it would be possible to increase the arable area for the next harvest by ploughing up some 1,285,500 acres of grassland; of this, 1 million acres² would be found in England and Wales, 175,500 acres in Scotland and 110,000 acres (excluding 40,000 acres which would be sown to flax) in Northern Ireland. This increase in the arable area would permit an expansion in the output of wheat by 26 per cent., barley by 7 per cent., oats by 18 per cent., and potatoes by 38 per cent.

It was difficult to estimate the net effect of all these factors on the supply of feedingstuffs and, thereby, on livestock policy. On the one hand there would be the changes in cropping, the 25 per cent. cut in imports, the probable prohibition on the feeding of wheat to livestock, the increase of the flour extraction rate in the milling of wheat and the use of some barley flour in bread; on the other hand, such shortages might encourage economies in feeding. In general it seemed that the total available supplies of feedingstuffs might be reduced by 14-16 per cent. If it were decided that the whole of the reduction should be borne by pigs and poultry, this would entail a cut of some 45 per cent. in the numbers of pigs and 33½ per cent. in the numbers of poultry. Given an adequate storage of oilseeds and cakes, the output of milk and beef could be maintained at pre-war levels. The intervening gap between the outbreak of the war and the first

¹ See p. 50.

² 250,000 acres for autumn sowing and 750,000 acres for spring sowing.

increased harvest could best be filled by reserves of wheat and oil-seeds accumulated in times of peace.

During the second half of 1936 it had become more certain than ever that German industry was being mobilised rapidly on a war basis; the period of conscription had been extended to two years; in January 1937 the first threatening reference to the return of Germany's colonies had been made by Hitler. The demand for *Lebensraum* was becoming more insistent. The framing of a food production policy in the United Kingdom had, in spite of the enthusiasm of the Agricultural Departments, been undertaken so far in a half-hearted, unrealistic way. The time had now come to bring it down to earth. The Cabinet, in February 1937, requested the Minister of Agriculture, Mr W. S. Morrison, to set up an interdepartmental committee, consisting of representatives of his Ministry, the Scottish Office and the Treasury, 'to make definite proposals for increasing the productivity of our own soil, with a view to ensuring increased food production in time of war'. These terms of reference clearly embodied a radical change in the Government's approach to agricultural problems. Attention was turned to the fundamental issue of how to get more *food* from the soil of this country; palliatives aimed at maintaining farmers' returns were no longer adequate in the face of the growing dangers.

Still assuming that any measures must be consistent with the normal development of the agricultural industry and that a highly artificial situation which would be difficult to liquidate should be avoided, the Committee made its report in April 1937. The report's main recommendations, which were accepted by the Cabinet, dealt with the means of increasing the basic fertility of the soil in preparation for more intensive production if and when the emergency arose. The first recommendation was the establishment of a Land Fertility Committee to advise the Government on future steps to be taken and also the immediate provision of grants to farmers to encourage the use of lime and basic slag; the State should subsidise such expenditure for at least the next three years to the extent of one-half of the cost of the former and one-quarter of the cost of the latter. Secondly, it was proposed that the powers of Drainage Authorities to make grants should be extended by relaxing some of the conditions laid down in the Land Drainage Act, 1930;¹ the proposed modifications would encourage the clearing of minor water courses and ditches both within and without the areas controlled by Drainage Boards. Thirdly, a large-scale campaign for eradicating animal diseases was proposed. These recommendations were embodied in the Agriculture Act, 1937 which received the Royal Assent in July.²

¹ 20 & 21 Geo. 5, Ch. 8.

² The Agriculture Act, 1937 also made provision for payments to barley and oat growers (p. 34) but at this stage these measures could not be classed primarily as direct preparation for war.

There was, however, a further recommendation of this Inter-departmental Committee which was directly designed as a preparation for war. It will be recalled that the full deficiency payment on wheat was reduced proportionately as the sales of home-grown wheat exceeded 27 million cwt. in any one year. It was now proposed that this amount should be raised to 36 million cwt.; this improvement in the guaranteed price system was expected to raise the wheat acreage by 10 per cent. This provision was also included in the Act.

The critical political developments during 1938 led to a further review of the agricultural situation which brought to light a number of disquieting deficiencies in the programme. On 10th March Germany had invaded and annexed Austria; the ensuing six months witnessed Hitler's campaign of agitation against Czechoslovakia, culminating in the Munich Agreement of 29th September. So imminent had war become that a draft announcement was actually prepared in September 1938 indicating the nature of the further measures that would be taken on the outbreak of hostilities. These included a request to farmers to plough up 10 per cent. of their grassland; an offer of £1 per acre to all farmers for every acre of permanent grassland which they ploughed up before 31st December,¹ provided that they increased their acreage of cereals and potatoes by an equivalent area; and the raising of the price of millable wheat from the standard price of 45s. per quarter to 49s. 6d. This announcement was never made and time was given for further consideration of the production programme during the winter and spring of 1938-9.

The conclusions of this final survey were embodied in an inter-departmental report to the Sub-Committee on Food Supply in Time of War at its last meeting on 18th April 1939. The proposals in this report were accepted by the Cabinet and formed the substance of the Agricultural Development Act, 1939.² A sense of urgency was instilled by the dramatic acceleration of events on the Continent during March and April. On 15th March Hitler had dissolved the Czechoslovak State, annexing Bohemia and Moravia to Germany; on 23rd March German troops had occupied Memel; and in the first few days of April Hitler had issued his secret instructions for the preparation of a campaign against Poland 'to be carried out at any time from 1st September onwards'.

The original production programme drawn up in 1935 and 1936 and accepted by the Sub-Committee at its first meeting on 4th May 1936 had been a stern one; based on vivid memories of shipping losses in 1917, it had called for a big increase in the production of cereals and potatoes for direct human consumption and a drastic

¹ Provision was made to vary the date in Scotland and Northern Ireland where ploughing operations continue later than in England and Wales.

² See p. 57.

reduction in numbers of pigs and poultry. It was never officially superseded. But gradually the assumptions underlying this programme had come to be questioned and almost imperceptibly the policy was modified; the accent of opinion, though still adhering to the major principle of war agriculture – the ploughing up of grassland – fell increasingly on the need for a large part of any increase in agricultural output to be directed towards the production of feedingstuffs for animals as distinct from food for human beings.

It is important to understand some of the reasons for this shift in emphasis. Chief among them was the growth of the belief that there would be no serious shortage of shipping if war came. The Admiralty believed that it could counter satisfactorily the dangers of submarines and surface raiders. This assumption did indeed prove true until the summer of 1940 when the Germans were in possession of the coast-line of France. Far less reliable were the assumptions in the pre-war shipping calculations about the effects of war on the carrying capacity of ships and on the availability of neutral shipping. Favourable forecasts about these two important factors led, after Munich, to the conclusion that in the first year of war imports would arrive in the United Kingdom in quantities nearly, if not equally, as high as in peace-time. This conclusion was not rescinded when, in the spring of 1939, earlier optimistic conclusions about the possibilities of diverting ships from the East Coast ports (which were very vulnerable to air attack) to the West Coast were adjudged in certain circles to be 'complete nonsense'.¹ In any case the dangers of air attack or of an initial temporary disruption of supplies seemed to have been minimised by the policy of accumulating three months' reserves of some of the most essential requirements.

It seemed that if there were any small shipping deficiency, it would be felt mainly in imports of animal feedingstuffs which were a particularly bulky cargo. This would be the more serious since the Government had failed to build up stocks of feedingstuffs, either of cereals or oilcake, as part of its general policy of accumulating reserves. There were other reasons, besides the shipping estimates, for the growing emphasis on the need to grow more feedingstuffs rather than crops for human consumption at home. Imports of some livestock products, for example meat and cheese, might be curtailed because of shortages of hard currencies rather than of shipping. Moreover, it had been impossible to create adequate stores of animal fats and bacon. If the output of home-produced livestock products was to be maintained, a greater output of feedingstuffs in this country would be necessary. Further, if war broke out in the autumn, there would be little opportunity immediately to get a big increase in winter wheat and spring wheats were not as yet widely grown; farmers

¹ For further discussion of this controversy, see *Food*, Vol. I, p. 131.

would therefore have to turn to spring corn, oats and barley, pulses and other feedingstuffs with which to sow their increased arable acreage.

Meanwhile the still small but persistent voice of the nutritionists was growing in volume, with its emphasis on animal proteins, minerals and vitamins. Finally, there was the undoubted pressure of opinion from a public who liked to eat meat, bacon, butter and cheese and from an industry that had turned increasingly for its income to the sale of livestock and livestock products; in some areas the plough had become almost a museum piece and the craft of arable farming had nearly died out.

This general change in the background of the agricultural programme underlay the final preparations for war. It was now beginning to be recognised that there would be certain obstacles in the way of achieving the programme which would have to be removed. The chief sources of worry were the declining supply of labour, the lack of fertilisers, the shortage of tractors and implements and the poor condition of much of the grassland.

The early estimates of agriculture's war-time potentialities, based at first on 1934 statistics, had assumed that the existing labour force would be available and that workers would only be released to the Services as, and to the extent that, substitute labour was made available. Both these suppositions had been falsified.¹

Nor had the Government's scheme for the storage of fertilisers progressed as planned. The necessary financial powers had been obtained under the Essential Commodities Reserves Act, 1938. The limited sum of £400,000 available for this purpose had been spent mainly on pyrites and sulphur; supplies of ammoniacal liquor needed for ammonium sulphate were inadequate; the Government had not yet purchased a ton of the rock phosphate necessary for the production of superphosphates, and stocks of potash, the sources of which were Germany and Alsace, were woefully meagre. Moreover, the storage programme had been based on the existing arable acreage and not on one that might in fact be 1 million or 2 million acres larger.

A census of farm tractors taken in 1937 had emphasised the fact that the 50,000 in use were largely concentrated in the arable areas, particularly in the Eastern counties; the new demand would arise largely in the grassland districts. Since the transfer of tractors from the well-supplied areas was considered impracticable, it was evident that some 3,000-5,000 additional tractors would be required for England and Wales and some 600-1,000 for Scotland; ancillary implements to go with the tractors would also be necessary.

Finally, it was considered essential that more direct measures

¹ See pp. 81-2.

should be taken to improve the quality of some of the grassland. The existing arable area was assumed to be in a reasonably good condition while some of the grassland was in a high state of fertility. But there was much neglected grassland, possibly as much as 5 million to 7 million acres, capable of growing crops; the potentialities of this land, by virtue of both its extent and its nature, were very great indeed.

It was clearly recognised that some incentive would be required if farmers were to be put in a position to meet these needs. The ultimate choice of method lay between a system of guaranteed prices, substantially higher than those prevailing in the spring of 1939 and extending forward over a number of years, and a series of *ad hoc* measures to safeguard supplies of machinery and fertilisers and to give direct assistance to improve the grassland. The choice fell on the latter means; time was running short and it was felt that quicker and more effective results could be achieved by this more direct action. Only a very spectacular improvement in prices and a guarantee of their continuance for a period of years would have produced as rapid or substantial results.

(iv)

Last Minute Preparations

In April 1939 the new Minister of Agriculture, Sir Reginald Dorman-Smith, asked for authority (a) to purchase and store additional quantities of fertilisers, especially phosphate rock, (b) to buy and store 3,000–5,000 tractors and their complementary implements at a cost calculated at £1¼–2¼ million, (c) to increase grants for arterial drainage and to extend them to field drainage and (d) to offer a payment of £2 per acre for every acre of permanent grass¹ that was ploughed up after 3rd May and before 30th September 1939 and that was either re-seeded, sown to an approved crop or fallowed. The recommendations for the subsidy for the ploughing of grassland and for the stock-piling of agricultural tractors and tractor-drawn implements were accepted, the announcement was made early in May 1939, and the consequent legislation was included in the Agricultural Development Act, 1939. In retrospect, the wisdom of these proposals is apparent. They did much to overcome the initial inertia and to reduce the time-lag in getting a food production campaign under way, as evidenced by the experience of the 1914–8 war.

The opportunity was taken at the same time, in view of the Government's abandonment of its proposals to build up a reserve of

¹ Permanent grass was land that had been down to grass for not less than seven years.

animal feedingstuffs to meet an initial three-months' emergency period, further to encourage the home production of oats and barley. The deficiency payments established in 1937, which were based on 6 cwt. per acre whereas the average yield of each crop for the United Kingdom was over 16 cwt. per acre, were limited to a maximum of £1 per acre and to those growers who were not in receipt of wheat deficiency payments.¹ Under the new Act, the payments to growers of oats were made equivalent to fourteen times the difference between the average ascertained market price for home-grown oats and the standard price of 8s. per cwt., with a maximum payment of £2 6s. 8d. per acre. (Growers who received wheat deficiency payments and were previously not eligible for the oat or barley subsidies, were now granted the earlier rates of assistance, based on 6 cwt. per acre with a maximum payment of £1 per acre.) Proportionate reductions in the deficiency payments were made if the oat acreage exceeded 1,470,000 acres in the first category and 1,030,000 acres in the second, though there was no reduction in either so long as the combined total was less than 2,500,000 acres.² Arrangements embodying similar principles were made for barley growers, modified to exclude, so far as possible, malting barley. The maximum payment per acre was raised to £2 13s. 4d. and proportionate reductions in the deficiency payments were made only when nine-tenths of the harvest exceeded 18 million cwt.³ Payments were made retrospectively, for each crop, for the 1938 harvest.

There were two irrelevant but interesting features of the barley price insurance scheme; firstly, there was a measure to encourage the sales of home-grown barley by requiring industrial manufacturers of barley products to use a minimum average proportion of home-grown barley;⁴ and secondly contributions towards the fund from which the subsidy was to be paid were to be levied from barley manufacturers and importers – a reappearance in miniature of the much reviled levy-subsidy principle.

At the same time, in an attempt to ease the labour position, agreement was reached to lower the age of reservation of agricultural tractor drivers and other classes of agricultural mechanics from 25 to 21 years and to postpone the compulsory military training of agricultural workers reaching the age of 20 until the end of November

¹ p. 34.

² The acreages of oats in the United Kingdom were 2,299,000 in 1937, 2,395,000 in 1938 and 2,426,000 in 1939. Though the Agricultural Development Act did not receive Royal Assent until July, its provisions were made known in May but too late to influence the 1939 harvest.

³ The United Kingdom barley output for 1937, 1938 and 1939 was 13,200,000 cwt. 18,100,000 cwt. and 17,800,000 cwt. respectively.

⁴ The measure to encourage the sales of home-grown barley was not mandatory and it was, in fact, hoped that it would be possible to avoid using the provision requiring manufacturers to use a minimum proportion of home-grown barley. The scheme for the 1939 crop made the levy compulsory but did not stipulate minimum quantities.

1939 and immediately to enrol and train the Women's Land Army in advance of the outbreak of war.

Thus by 1939, the prospective production programme had been sketched out; target figures for the area of grassland to be ploughed up in the autumn and spring of the first year of the war, totalling some 1,300,000 acres, had been established;¹ powers were at hand, under the Emergency Powers (Defence) Bill to control the ways in which land was to be cultivated, the crops to be sown and so forth;² preliminary steps had been taken to prevent a sudden reduction in the supply of labour and to increase the supplies of agricultural requisites.

What of the administrative machine that would be required to execute the policy? It has already been pointed out that one of the most successful experiments in 1914-8 had been the formation of area committees to which powers had been delegated; in the earliest days of preparation for the next war, the Ministry of Agriculture had stressed the need for similar arrangements.³ The decision to devise the necessary organisation was made at the first meeting of the Committee of Imperial Defence's Sub-Committee on Food Supply in Time of War in May 1936. The scheme for the establishment in every county of Great Britain of a War Agricultural Executive Committee was ready by the end of the same year and the Chairmen, Executive Officers and Secretaries had been provisionally selected, unknown to those persons themselves. The Minister had been authorised to approach certain individuals. The crisis in the autumn of 1938 led the Minister to issue 'standby' notices to the Chairmen and 'key' members of the Committees.

Each Committee was to consist of seven local residents, unpaid and all appointed by the Minister of Agriculture; with the exception of two members representing the agricultural workers and the Women's Land Army, the members of the Committee were chosen to organise the county and not to represent special interests. The Committees were recommended to delegate their work in two directions. Firstly, there were to be sub-committees at the centre for specific functions - to deal with labour, machinery, farmers' supplies, cultivation and ploughing orders, and, in some counties, horticulture; these would be manned mainly by members of the Committees with the Executive Officer or a deputy as Secretary. Secondly, there were to be District Committees, organised on a petty sessional basis, each consisting of four to seven residents with a good knowledge of local

¹ The estimate of 1,300,000 acres was made in 1936, since when the arable area had shrunk by a further 582,000 acres. Thus, to achieve the arable acreage originally proposed, about 2 million acres of grassland would have to be ploughed up.

² Cultivation of Lands Order, 1939, S.R. & O., No. 1078, Cultivation of Lands (Scotland) Order, 1939, S.R. & O., No. 1650 (S. 117).

³ p. 49.

farming, able and willing to give a certain amount of voluntary work, and also carrying the confidence of their fellow-farmers; here were the last and most sensitive fibres in the 'nervous system' connecting Whitehall and the individual farm. It was expected that the Ministry would have to draw heavily on the agricultural staffs of the County Councils to fill the posts of Executive Officers; of the sixty-one appointments in England and Wales, twenty-six were filled by County Land Agents and twenty-four by County Organisers. Five-sixths of the Executive Officers had thus had administrative experience in agriculture and local government.

The composition of the Committees in Scotland was very similar – a mixture of farmers, landowners, estate agents or business men of high standing, with paid officials for executive and technical work. In Scotland, however, the agricultural advisory work was centred on the three Agricultural Colleges, while the administrative and advisory work in connection with land settlement and small-holdings was the responsibility of the Department itself and not of the County Councils. The Executive Officers and other officials were therefore drawn largely from the Department itself and from the Agricultural Colleges.

In Northern Ireland, the County Agricultural Committees were re-organised for the food production campaign, and the newly established County Agricultural War Executive Officers were brought under the direct control of the Ministry. The staff of the Committees were designated as District Tillage Officers in each rural district to supervise the arrangements for the ploughing up of grassland and to encourage food production in other ways.

The existence of the newly created statutory organisations in Great Britain such as the Wheat Commission, the Marketing Boards, the Sugar Commission and the Livestock Commission also strengthened the administrative machine for the control of both production and distribution. Their extensive contacts and dealings with farmers provided not only an accurate and detailed knowledge of their particular branches of farming but also a considerable number of specialist administrative and technical personnel. For some time the war-time position of the Commissions was undetermined owing to the unwillingness of the Government to prejudice the freedom of action of any subsequent Food Controller or Minister of Food, but it was ultimately arranged that the main functions of the Commissions would be suspended, by Orders under the Defence (Emergency Powers) Bill and most of their staff absorbed into the appropriate departments of the Ministry of Food.¹ One of their primary functions, the administration of the subsidies or deficiency payments payable on

¹ S.R. & O., 1939, No. 927, Defence Regulation 55 (2) and (5) and S.R. & O., 1939, No. 1185 (adding Minister of Food to list of competent authorities).

wheat, milk, fat cattle, bacon pigs and fat sheep¹ would, it was expected, disappear when the payments became merged into whatever price structure would be adopted during the war.

It was realised that most of the Marketing Schemes would be redundant on the outbreak of war as plans had been made for the proposed Ministry of Food to become the sole buyer at fixed prices of all major foodstuffs at the start of hostilities. The Ministry of Agriculture suggested that all the Boards should be suspended for the duration of the war and their regulative functions transferred to the Ministry of Food; their funds should be placed in trust, ready for their automatic revival at the conclusion of the period of national emergency. These proposals were eventually carried out in the summer of 1939, for all except the four Milk Marketing Boards and the Hop Marketing Board, by agreement between the Agricultural Departments and the Food (Defence Plans) Department of the Board of Trade. Neither the hope nor the promise of resurrection was in itself sufficient to persuade the English Milk Marketing Board to end its existence and it was finally suggested that it should remain nominally independent of the Ministry of Food though exercising its functions as directed by the Ministry, which might lease its records, factories and working capital. This seemed, however, to the Agricultural Departments to undermine the principle of the Board's responsibilities to its producer-members and it was opposed by them. It was also argued that a Board that was representative of producers' interests might not have that degree of independence necessary successfully to execute a national milk policy. The Ministry of Food ultimately shrank from assuming full control of the extremely complicated processes of milk marketing and the four Boards lived to operate under the general supervision of the Ministry of Food.

Administrative arrangements were outlined for the controlled distribution of fertilisers and feedingstuffs. Within the organisation of the Ministry of Supply, a Controller of Fertilisers was to take responsibility for the import of raw materials, their manufacture and their distribution to approved merchants; responsibility for their allocation to farmers, if rationing became necessary, would be undertaken by the Agricultural Departments. The Food (Defence Plans) Department had prepared a scheme for the equitable distribution of feedingstuffs at fixed prices under which importers, manufacturers and distributors would operate as agents of the Food Controller, but the problem of determining a fair basis of distribution to farmers in the event of a shortage had not been solved by the time war broke out.

The steps taken to prepare agriculture for war may seem in retrospect slow, halting and, in some respects, inadequate; so indeed, they

¹ The subsidies on barley and oats were administered by the Agricultural Departments of the United Kingdom.

were. But one vivid impression from a study of the developments over these years of preparation is the part played by the Agricultural Departments. From the moment the first move was made in 1935 – and that originated within the Ministry of Agriculture itself – until September 1939, the Departments were quick to put forward the necessary preparatory schemes as requested. Dependent on assumptions which were sometimes imperfect or impracticable and which were handed down to them by other Departments or Committees, they built up a workable programme for agriculture, which in the light of subsequent events was not far off the mark. The initiative was perforce left with them, for other Departments and their Ministers were either apathetic or too deeply involved in their own affairs to be bothered with food production. Rebuff followed rebuff – for example, agricultural policy was not to deviate from its peace-time trends; reserves of feedingstuffs were the first to be dropped from the scheme for the stockpiling of essential commodities; substitute plans for increasing the fertility of the soil were whittled down or delayed for financial reasons; even the Munich crisis did little to facilitate the acceptance of their proposals. Yet the Agricultural Departments persevered and the main deficiencies in the state of preparation for war in September 1939 cannot be attributed to them.

A great deal of useful work had been accomplished. Advantage had been taken of experience in the 1914–8 war; a production programme had been drawn up and the administrative machine was ready to be put into gear to execute in every county in Great Britain; a belated start, due to delays in granting approval by the Treasury and the Cabinet, had also been made to provide the machinery and equipment required to implement the programme. There would be no delay this time of three harvests before an appreciable change could be made in food production at home. A stern fight by consecutive Ministers of Agriculture over the preceding eight years to provide a floor to agricultural prices had counteracted to some extent the effects, physical and psychological, of many years of depression.

What were the main gaps? The complete lack of feedingstuff reserves and the inadequacy of fertiliser stocks have already been noted. There was still doubt about the principal means to be adopted to keep an adequate supply of labour on the farm, for example a wages policy, though this deficiency was not confined to agriculture. Owing to delays, again caused by difficulties in getting approval from the Treasury and the Cabinet to promote legislation for grassland improvement, there was in September 1939 still too great an acreage of grassland that was not readily adaptable to crop production; the subsidies for the ploughing up of permanent pasture and for the use of lime and basic slag were too recent to have had an appreciable effect. Time had proved insufficient to reach the figures set for the reserves

of tractors, ancillary equipment and fertilisers. Finally, there was no clear-cut policy in regard to agricultural prices in war-time nor an assessment of the relative merits of price control and Direction Orders to implement the production policy. There were deficiencies, too, in the plans for the control of supplies necessary to buttress price control. Firm plans for agricultural price control could not, however, be formulated unless there was a coherent general financial policy to which the plans could be related. Agricultural prices could not be discussed seriously without raising the much larger issues of wages and prices, food subsidies or the control of profits. As it was, the early promise of a comprehensive financial policy for war-time had been dissipated as war grew nearer. Against such a background it is not surprising that the thought given in pre-war plans to farm prices went neither far nor deep.

What of the financial state of the industry itself in 1939 and how far would it be able to undertake the almost revolutionary transition from its peace-time economy to a war-time food production programme?

On the one hand, there were those who maintained that the financial returns to farmers in the pre-war years were not inadequate. The value of the gross output (constant at 1927-9 prices), they said, had increased about 15 per cent. during the ten years before the war and net output per worker had been raised.¹ By 1939 the farmer had adapted himself remarkably quickly and effectively to the changed conditions and a new state of equilibrium had been reached. This view is epitomised in the report of a committee that was requested in 1940 to assess the pre-war condition of the industry. It concluded that, after 1932,

the level of farming profits was sufficient under the conditions then prevailing to call forth an expanding volume of agricultural production. This expansion was secured in part by changes in the balance of production, some of which have to be reversed in order to produce the increased supplies of certain foods needed during war; but these changes were not attributable to any inadequacy of the general level of farming profits. Nor was the level of profits maintained at the cost of a net deterioration of soil fertility or of the capital equipment of agriculture. On the other hand, the wages of agricultural labourers, though increasing, were still low both absolutely and relatively to the skill and knowledge required; and the incomes received by many small-holders and small family farmers were also low.

On the other hand, there were those closely connected with farming who maintained that the expanding volume of agricultural production had been achieved only at the expense of capital and soil fertility and that twenty years of agricultural depression had left an

¹ pp. 23-4.

industry that was impoverished physically and that had no reserves on which to call. Farming systems had changed; the increasing output of livestock and livestock products had been based more and more on imports of relatively cheap feedingstuffs. Such arable land as was not devoted to the production of cash crops was allowed to go down to grassland; much of it became derelict or semi-derelict.¹ Extreme proponents of this school of thought pictured British farms as mere processing plants for the transformation of imported raw materials – feedingstuffs – into livestock products.

There was no doubt that the capital equipment of many farms had deteriorated during the years of depression. Fences and hedges were left unrepaired; field drains and ditches were not cleaned out and the land was waterlogged; farm buildings were dilapidated and grassland was under-stocked; the machinery and equipment for arable farming were antiquated or, in some parts of the country, non-existent. Ample evidence of this state of affairs came to hand later when the County War Agricultural Executive Committees went round the farms after the war had started. Whether pre-war farming was paying its way or not became an academic question when radical changes were required in various systems of farming to meet the country's war-time needs. Many parts of the country were ill-equipped for the expansion of food production from our own soil which the curtailment of imported supplies of foodstuffs and of feedingstuffs would necessitate. It was the failure to appreciate this state of affairs and the consequent need for greater financial resources to turn farming from its peace-time economy to a war-time footing that was one of the most serious deficiencies of pre-war planning.

¹ pp. 25–6 and E. H. Whetham, *British Farming, 1939–49*, Nelson's Agricultural Series, 1952, pp. 4–8.

PART II

Gathering Momentum

CHAPTER IV

THE FIRST YEAR OF WAR, 1939-40

(i)

Food Production in 1939-40

THE FOOD supplies available for use in the first year of the war were – apart from the relatively small reserves built up in 1939 – the harvest of 1939, the imports of food and feeding-stuffs in 1939-40 and the current output of livestock products during these twelve months.

The weather during the harvest period of 1939 had been good over most parts of the country and crops had been gathered without undue delay. There were local difficulties in the lifting of the sugar beet and potato crops, due partly to the loss of reservists to the Services and partly to delays in transport, but they were not serious. Wet and cold conditions in July had reduced both the yield and the quality of the hay crop but otherwise crop yields were above average, though below those of 1938 for cereals.¹ The potato and sugar beet yields were good, while the yields of orchard and small fruit were exceptionally high.

The total yield of the harvest, a fair indication of the labour involved in its collection, was some 54½ million tons or about 1½ million tons heavier than usual. The main increases were in potatoes and sugar beet, but there was a reduction in the output of fodder crops.²

Livestock numbers according to the June 1939 census were higher than in the immediate pre-war years, with the exception of 1938; there was a slight reduction in the number of cows but there were about ¼ million more head of other cattle and about 1 million more sheep than normal. Poultry numbers were lower as the result of disease.³

The output of livestock products for the June-May year 1939-40 was not materially below normal in spite of the reduction of almost 1½ million tons in the imports of feedingstuffs.⁴ The production of

¹ Appendix Table V, p. 374.

² Table 4, p. 68 and Appendix Table VI, p. 375.

³ Appendix Table IV, p. 373.

⁴ p. 72.

beef had almost been maintained while that of mutton and lamb had increased slightly as the result of a reduction in breeding flocks during the year. The aggregate meat output was about 1 per cent. below the pre-war level. The output of milk was only very slightly less than the pre-war three-year average but about 4 per cent. above that of 1938-9. Winter milk production had been sustained remarkably well, and sales by the Milk Marketing Boards showed a decline in the winter months of only 1 per cent. Egg output decreased as a result of the decline in poultry numbers.

Table 4. The Output of Certain Farm Products in the United Kingdom in 1939-40, Compared with Pre-war

| | Output | | Change | | Output | | Change |
|--------------|-------------|--------|---------------|----------------|----------|-----------------|---------------|
| | Pre-war* | 1939 | Pre-war = 100 | | Pre-war* | 1939-40 | Pre-war = 100 |
| | Wheat . . . | 1,651 | 1,645 | | 100 | Beef & veal . . | 578 |
| Barley . . . | 765 | 892 | 117 | Mutton & lamb | 195 | 200 | 103 |
| Oats . . . | 1,940 | 2,003 | 103 | Pig meat . . . | 417 | 402 | 96 |
| Potatoes . . | 4,873 | 5,218 | 107 | Offals . . . | 105 | 103 | 98 |
| Sugar beet . | 2,741 | 3,529 | 129 | Total meat . . | 1,295 | 1,279 | 99 |
| Vegetables . | 2,370 | 2,402 | 101 | Milk† . . . | 1,781 | 1,771 | 99 |
| Fodder & hay | 32,365 | 31,979 | 99 | Eggs‡ . . . | 3,837 | 3,793 | 99 |

* Average 1936-7 to 1938-9. † million gallons. ‡ million eggs.

Considering, in retrospect, the alarms and the heavy reductions in the quantities of imported feedingstuffs available in 1939-40 - in some of the winter months they fell so low as 33 per cent. of pre-war - the output of food from British agriculture in the first year of the war was well maintained without any indications, except for pigs, poultry and sheep, that this might have been at the expense of subsequent output.

(ii)

The Import Programme, 1939-40

In the immediate pre-war years dry-cargo imports into the United Kingdom averaged 55 million tons a year. In the calculations of shipping prospects that were endorsed by the Committee of Imperial Defence after Munich, it was estimated that British ships alone would be able to import about 48 million tons of dry cargo in the first year of war. In addition it was thought to be inconceivable that the United Kingdom 'should not, in fact, have substantial help from neutral shipping'. Since foreign dry-cargo ships, according to a war-time

estimate, brought perhaps 24 million tons of imports in peace-time, it seemed unlikely that total imports in the first year of war would be much, or indeed any, smaller than in peace-time.

This was the background to the imperceptible change of emphasis during the pre-war months in the plans for home food-production. But though the 1936 assumption of a 25 per cent. cut in war-time food imports receded it did not disappear from the minds of the officials of the Ministry of Agriculture; it was indeed quoted in the first war-time ploughing exhortation to farmers. In the Food (Defence Plans) Department, however, the old assumption of a 25 per cent. cut was discounted generously after the discussion about shipping prospects in the autumn of 1938.¹ During the early months of 1939 officials of the Department were attempting to make a list of their requirements on the basis of what they could get. When war broke out the Ministry of Food drew up buying programmes for the commodities it controlled on the basis of what the country needed and could get without regard to any possible shipping difficulties. At this stage the Ministry of Food was estimating that imports of food and feedingstuffs during the first year of war would be 21 million tons as compared with a peace-time average of nearly 22½ million tons. Food imports at such a level would entail only a negligible reduction in the normal imports of feedingstuffs; and consequently, in the weeks immediately after the outbreak of war, the outlook for all types of livestock production was comparatively rosy and very far removed from the gloomy calculations of 1936 which had envisaged, on the outbreak of war, an early reduction of 50 per cent. in the number of pigs and 33¼ per cent. in the number of poultry. Moreover, additional optimism had been engendered by the postponement by the Ministry of Food of the issue of the Order, which farmers had expected to be imposed on the outbreak of war, forbidding the use of home-grown wheat for feeding to livestock.

This brief period of illusion was ended abruptly by the news that dry-cargo arrivals in the first two months of war were running at more than one-third below normal. For various reasons shipping services were severely dislocated – ships had to be organised into convoys and had to be fitted with defensive equipment; evasive routeing had to be planned; there was a temporary diversion of ships from the East to the West Coast ports; and the Mediterranean was temporarily closed. Moreover, the foreign tonnage that had been confidently expected did not materialise. The short-fall in imports was worst for cereals and wheat reserves began to run down. The alarm was sounded and shipping was immediately diverted from importing other foods and, primarily, feedingstuffs in order to remedy

¹ *Food*, Vol. I, p. 67.

the wheat shortage. The Ministries of Agriculture and Food had long considered that if shipping tonnage were not so plentiful as the optimists forecast, the Cabinet would at once concentrate on importing wheat and this was undoubtedly a factor in the swing from the home-production of more wheat and potatoes towards more feedingstuffs from the 1940 harvest.¹ Later, in December 1939, economies in the use of wheat were decreed; Orders were issued² that farmers were not to use more than one-third of their output of millable wheat for feeding to livestock and that they must sell the other two-thirds for milling. The supply of barley to distillers for 1939-40 was cut to one-third of their previous year's purchase. Powers were also taken – but were not put into effect – to obtain possession of what were considered to be the excessive stocks of barley held by brewers and maltsters. The use of maize by brewers was forbidden entirely.

Late in October 1939 the Ministry of Shipping had given warning that dry-cargo imports in all kinds of ships during the first year of war would probably be about 47 million tons – which was some 5 million tons below the 1938 figure. This figure was adopted, in November, for the import programme; the Ministry of Food was to get 19.8 million tons, the Ministry of Supply 23.9 million tons and other Departments 3.3 million tons. This programme included 7,662,000 tons of feedingstuffs including milling offals from imported wheat and oilcake from imported oilseeds, compared with some 8½ million tons of imports in pre-war years.

During the autumn of 1939 most departments believed that the shipping shortage would only be temporary. The Ministry of Shipping insisted, however, that it would be permanent; it preached the need to reduce the consumption of imports and to construct an import programme that was more closely in line with probable resources. Finally, in the early spring of 1940 departmental import programmes were reviewed. The Ministry of Food programme was re-examined to see if it could be cut by 10 per cent., that is by about 2 million tons. It was generally recognised that the impact of such a blow would fall first on feedingstuffs and strong objections were raised by both the Minister of Food and the Minister of Agriculture; the former envisaged a heavy slaughtering of livestock and a drop in milk output if there was a cut of so much as 500,000 tons in imported feedingstuffs while the latter maintained that the cut should be made in foods and not in feedingstuffs. Ultimately it was decided that the burden of any cut that might be necessary should be taken mainly by the other Departmental programmes and the amended first year import programme was accepted by the War Cabinet in April:

¹ pp. 74-6.

² Home-Grown Wheat (Control) Order, 1939, S.R. & O., No. 1685. General Licence, 1939, S.R. & O., No. 1686.

| | <i>Million tons</i> |
|--------------------------|---------------------|
| Ministry of Food . . . | 19.00-19.95 |
| Ministry of Supply . . . | 23.64 |
| Unallocated . . . | 1.15 |
| | <hr/> |
| | 43.79-44.74 |
| | <hr/> |

The respite was, however, a short one. The dramatic change in the war situation during May and June 1940 called for a reconsideration of many previous policies. One urgent need was a new import programme. Anxiety was now felt not so much about a shortage of shipping as about a shortage of port and inland transport facilities; for it seemed likely that shipping would now have to be diverted to Western ports and that the dangers of heavy air attacks were imminent. A review of urgent economic problems by the Ministerial Committee on Economic Policy recommended in June that an import programme of 35 million tons should be drawn up, of which 15 million tons would be allocated to the Ministry of Food. The proposed sub-division of this quota indicated that feedingstuff imports would fall by some 2½ million tons from the current rate of about 7 million tons a year; against this would be set the increase in home production which would not, however, be ready until the autumn of 1940. The Committee on Economic Policy recognised that such a cut would call for a fundamental change in the home production programme for 1940-1; it envisaged the formulation of a slaughter policy for livestock and advocated that the cropping programme should ensure a diversion of arable land from the growing of feeding-stuffs to the growing of human food.

The Minister of Food urged that:

if it is decided to adopt in the near future a programme involving a reduction of 5 million tons in imports of food and feedingstuffs . . . this conclusion should not be considered as inevitably ruling our actions for the next 12 months and should be open to revision from time to time in the light of changing circumstances.

As it happened, however, the 35 million ton programme did not become a practical proposition. There was a general belief after the fall of France that in the interval before the Germans could mobilise their forces to attack Britain, importing capacity would be greater than at any previous period in the war; there would be a great increase in the number of foreign ships available and the French would no longer need help. The theory was that during the lull, consumption should be reduced to a level appropriate to a 35 million ton programme, and any surplus shipping should be used to bring in non-perishable and essential foodstuffs that could be stored. In

practice, however, some of the surplus shipping was used to bring in feedingstuffs – in order to ease the transition from peace-time to war-time husbandry – and even some perishable foods. The 15 million ton programme was thus dead, at least for the time being.

The actual volume of dry-cargo imports during the first year of the war was 44,169,000 tons, of which the Ministry of Food's imports were 20,689,000 tons – about 700,000 tons in excess of the highest figure in the April 1940 programme but 1,800,000 tons less than the average imports of foods and feedingstuffs during the five years before the war. Had it not been for the diversion in the summer of 1940 of over one million tons of food cargoes originally intended for Continental Europe, there would have been a deficit on the programme of about half a million tons. The principal excess over the programme was 562,000 tons of wheat and flour and the biggest deficit was 420,000 tons of cereal feedingstuffs. Actual imports of feedingstuffs for the June-May year 1939-40 amounted to 7,248,000 tons, including those derived from imported wheat and oilseeds, compared with 8,723,000 tons in the three pre-war years, a total reduction of 17 per cent. But the reduction had been concentrated to a great extent in the early winter months and therefore had had an unduly depressing effect.

(iii)

The Home Production Programme, 1939-40

THE CROPPING PROGRAMME FOR THE 1940 HARVEST

It will be recalled that the original plans for increased food production in time of war, drawn up in 1936, had stressed that any material increase in food output in the country could be achieved only by the extensive ploughing of permanent grassland and it had been estimated that 1,300,000 acres might be added to the arable area of the United Kingdom in the first year of war. This fundamental concept had been the *raison d'être* of the subsidies on the use of lime and basic slag, embodied in the Agriculture Act, 1937, and also for the grant of £2 for every acre of permanent grass put under the plough, which had been announced in May 1939 and legalised in the Agricultural Development Act, 1939.

Between 1936 and 1939, however, the arable area had declined by a further 600,000 acres, so that a higher target figure was called for. There were some 22 million acres of grassland in the United Kingdom; if farmers ploughed at least an additional 10 per cent. of their grassland, this would increase the tillage area by over 2 million acres. The target was ultimately placed at 2,010,000 acres:

| | | | |
|-------------------|---------|-----------|-------|
| England and Wales | . . . | 1,500,000 | acres |
| Scotland | | 260,000 | „ |
| Northern Ireland | | 250,000 | „ |
| | | <hr/> | |
| | | 2,010,000 | „ |
| | | <hr/> | |

This objective, which was to include some 150,000 acres already ploughed before 3rd September 1939 as a result of the announcement in May, represented about 10 per cent. of the area of permanent grass in England and Wales, 16 per cent. in Scotland and 17 per cent. in Northern Ireland.

The Minister of Agriculture, Sir Reginald Dorman Smith, broadcast on the day that war broke out:

For your immediate after-harvest plans most of you must think in terms of ploughing up more land, both for the supply of human food and animal feedingsuffs. You should get on with the job by ploughing up at least 10 per cent. of your present grassland. Newly ploughed land should be sown to wheat where it is likely to yield a satisfactory crop or, alternatively, should be used for potatoes, or such crops as oats, barley, beans, peas, rye or mixed corn for next year's harvest. With the exception of hops, all the existing restrictions on production or acreage, such as the levy on the excess acreage of potatoes, will be removed.

The £2 an acre subsidy, which was due to end in September, was extended until the end of the year, then to March 1940, and subsequently by stages throughout the war.

The County War Agricultural Executive Committees¹ were each given their county quota, the basis of which was 10 per cent. of the area of permanent grass with modifications up or down in the light of special conditions; for example counties in England and Wales where much of the grassland was at relatively high altitudes, and therefore unsuitable for crop production, were assessed at less than 10 per cent., with consequent increases in more favourably situated regions. Further adjustments were made to meet other special factors such as labour supplies, the minimum pasture needs of dairy herds and so on. On the whole, the quotas were accepted with good grace and the Committees settled down to work.

The system of distributing the tillage quota in Northern Ireland differed from that in Great Britain. There were no county quotas. Farmers' individual obligations varied according to the area previously under crop with the proviso that no farmer was required to cultivate more than 50 per cent. of his arable land. The first Tillage Order, issued on 15th September 1939, which concerned the 1940 harvest required a farmer to plough 20 per cent. of his arable land or

¹ pp. 59-60.

10 per cent. of his arable land in addition to whatever acreage he had under crops other than grass in 1939, whichever was the greater. The tillage percentage was varied during the years, as follows:

| | Percentage of arable land to be ploughed | | | | | |
|---|--|-----------|-----------|-----------|-----------|-----------|
| | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 |
| | per cent. | per cent. | per cent. | per cent. | per cent. | per cent. |
| Armagh, Down, Londonderry, Tyrone, North Antrim | 20 | 33½ | 40 | 45 | 45 | 45 |
| Fermanagh | 20 | 33½ | 40 | 45 | 30 | 30 |
| South Antrim | 20 | 33½ | 40 | 40 | 40 | 30 |

Twelfth General Report of the Ministry of Agriculture, Cmd. 295, H.M.S.O., Belfast 1951, p. 2.

The Tillage Orders permitted exemption by the Ministry where it was evident that land that was ploughed up would be less productive than under its existing use. In general, exemption was restricted to land which was carrying dairy herds producing milk for human consumption.

The reductions in the tillage percentages in Fermanagh and South Antrim in 1944 and 1945 became necessary when it was found that the heavy soils in these counties were often more productive under grass.

The administrative machine in England and Wales ran smoothly but by the end of October the Minister of Agriculture reported to the War Cabinet that there had been a serious set-back in the campaign and that there was unmistakable evidence of growing uncertainty and lack of confidence. Farmers were said to be hesitating to take on new commitments in the face of rising costs and stabilised prices of products and County Committees were reluctant to use their powers and bring pressure to bear on recalcitrant farmers.

It is possible that this view was unduly pessimistic; there were undoubtedly difficulties such as lack of cash or credit in individual cases and inexperience of arable cultivation in some areas but possibly one of the main causes of slow progress at this stage of the campaign was the foul weather. Excessive rain in October and November, sustained frost and heavy snow in January, and periods of hard frost in December and February constituted one of the most unfavourable winters for ploughing for many years. A fair proportion of the wheat sown had been winter-killed and required re-sowing with some other crop in the spring. More disturbing than the uncertainties about future prices was the acute shortage of feeding-stuffs towards the end of 1939 to which reference has already been made. This unexpected development led to a reconsideration of the

crop production programme – not of the fundamental question of ploughing up grassland but of the crops that should be grown on the newly ploughed land. An apparent paradox had arisen; a greater acreage of wheat and potatoes had originally been the soundest way to meet a possible reduction in imports. Now that such a reduction was occurring, it was countered by a move away from wheat and potatoes towards fodder crops.

This trend is shown in the successive instructions issued by the Ministry of Agriculture to the County War Agricultural Executive Committees. The first instruction dated 1st September 1939 indicated that newly ploughed land should be sown to wheat where it was likely to yield a satisfactory crop or, alternatively should be used for potatoes or such crops as oats, barley, mixed corn, rye or peas, for next year's harvest.¹ On 23rd September, this list was reaffirmed with the addition of sugar beet.² On 21st October greater latitude was given to the Committees to sanction departures from the approved list of crops. It was also recognised that in some districts where purely grassland farming had been practised, it might be desirable to grow kale or even to re-seed the land to grass; at the same time dairy farmers were urged in their own interests to plough up a proportion of their grassland for the production of home-grown feedingstuffs to take the place of imported supplies.³ By 25th November the change in the cropping policy was clarified beyond question; the Executive Committees were told that circumstances now called for a return to earlier farming practice when the agricultural industry was more self-supporting in feedingstuffs.⁴

The arguments used in favour of this change of policy were by no means impeccable. The 'wheat and potato' protagonists were no doubt right in maintaining that these were the cheapest energy-producing foods and the heaviest yielders per acre. But, it was argued by the Agricultural Departments, this policy was both unnecessary and undesirable at that stage; there were large stocks of wheat in America – the shortage of dollars was ignored – and home production plans should be made on the assumption that these would be available; the shipping situation called for a reduction in bulky imports such as cereal feedingstuffs and more of these should therefore be grown at home; the farming system over a large part of the country relied upon the maintenance of cattle and sheep to maintain soil fertility; the lay-out of buildings and farming equipment was planned for livestock production. The farmers' economic circumstances prevented a switch to wheat and potatoes unless prices of these two crops were fixed at extravagantly high levels, whereas merely *reasonable*

¹ County Circular No. 3.

² County Circular No. 27.

³ County Circular No. 53.

⁴ County Circular No. 77.

prices for milk and cattle and sheep would secure a much greater increase in output at a lower cost to the Exchequer or the consumer. Such were the arguments advanced at the time but they tended to mask the fundamental fact that the outbreak of war late in the year and the unfavourable weather in the autumn had together prevented the maximum increase in wheat production; later ploughing was required and consequently more oats, barley, and other crops in compensation.

Psychologically, the 'phoney' war of the winter of 1939-40 did little to convince farmers that it was yet necessary to sacrifice their livestock for more wheat and potatoes. Such a policy at that stage - before the first war-time harvest had been collected and the benefits of war-time prices had been received - would have landed many farmers in financial difficulties. At the same time - a point that carried great weight with certain members of the Cabinet - the imposition of a more spartan diet composed of more bread and potatoes could be postponed.

The fact was that the 'siege' conditions envisaged by the original planners had not yet arrived. Departments refused to believe that the current reduction in imports was more than temporary, and it was thought that there was yet time for another season of normal output. The policy of the Minister of Agriculture for the utmost latitude and flexibility in the farmer's choice of what was to be grown on the newly ploughed land was accepted by the War Cabinet and announced on 14th December. Even re-seeding to grass or bare fallow was to be permitted in exceptional cases. The Minister first reiterated that the Government was still relying on the ploughing up of 2 million acres of permanent grassland but he added:¹

The policy of the Government is, therefore, to allow as much latitude as possible in cropping, but farmers who are primarily concerned, either in milk or livestock, especially in milk, should in their own interests as well as the national interest try to make themselves more self-sufficient in food for their stock.

This policy, though possibly justifiable at the time, hardly warranted the claim that it would secure the maximum saving of shipping.

The extent of, or risk in, this shift of emphasis was perhaps not so great as many people feared so long as there was no reduction in the total ploughing up target. If it is accepted that the opportunities for the ploughing up of grassland and sowing of wheat in the autumn of 1939 were rigidly circumscribed by the lateness in the season of the outbreak of war and by weather conditions thereafter, then the only other crop of major interest to the Minister of Food was potatoes. In fact, the area under potatoes in 1940 showed an increase of about

¹ H. of C. Deb., Vol. 355, Col. 1388.

120,000 acres, as against 150,000 acres stated at one time to be the Minister of Food's desideratum, and this turned out to be adequate for consumption requirements in 1940-1.

A specific request was made in November 1939 for 390,000 acres of sugar beet from the 1940 harvest in England and Wales, i.e., a 15 per cent. increase on the 1939 figures, and county quotas were established on this basis.¹ By February 1940, however, it was clear that something was wrong; only 225,000 acres had been contracted, compared with 294,000 acres at the same period of 1939.² Guarantees were given that contract prices would be revised in the light of any further rises in production costs and the Executive Committees were asked to ensure the fulfilment of the target quotas. The outcome was an area of only 321,000 acres, which was a serious deficiency in a most important crop.

Depressing forecasts were current in the early spring indicating that yields were likely to be below normal owing to a variety of factors - the delays occasioned by an unusually cold and wet winter, a congestion of farm tasks in the spring, the probability of lower than average yields on newly ploughed grassland, the shortage of skilled labour and the lack of experience of many farmers who were growing crops for the first time.

In April, however, came the gratifying estimates that the campaign target had been reached and that 2,030,000 acres had been added to the arable area of the United Kingdom during the first year of war. There had been achieved in one year what had taken four years in the First World War. All but 290,000 acres of this increase in ploughed land had come from the area under permanent grass:

| | | <i>acres</i> |
|--|---|--------------|
| Permanent grass | } | 1,530,000 |
| Temporary grass | | 290,000 |
| Rough grazings | | 20,000 |
| | | to crops |
| Permanent grass ploughed and fallowed | | 150,000 |
| Permanent grass ploughed and re-seeded | | 40,000 |
| | | 2,030,000 |

In England and Wales, it was claimed, the target had been over-shot by some 42,000 acres, and fifty-two out of the sixty-one Committees reported that they had reached their marks. There were several reasons for the variations; in some counties the strength of the Committee, particularly of the Chairman or the Executive Officer, had been greater than in others; in some the press and publicity side of the campaign had been particularly well handled; in others the

¹ County Circular No. 78.

² County Circular No. 116.

District Committees had shown particular enthusiasm and hard work. In those few counties that did not reach their target, the failings were generally technical rather than human; in counties with particularly heavy clay land, the season of operations was so curtailed by the weather that the farmers were hard put to it to work the existing arable area, let alone add to it; in some, building development prevented the full increase in the arable area. Only in one county that did not reach its target could it be suggested that the weakness of the Committee had been the main contributing factor.

In Scotland, the achievement was only about 40,000 acres short of the quota of 260,000 acres, although only seven of the twenty-nine Committees reached their target figure. It was claimed in mitigation of this small deficiency that the county quotas had probably been set too high; that at least four counties had so much of their land requisitioned for defence purposes that it was impossible for them to attain their objective; and that it had proved more difficult than had been expected to get a quick increase in areas where arable cultivation had for long been discontinued and where the lack of skilled labour and equipment for cropping was too great a handicap.

In Northern Ireland, where the method of determining the area to be ploughed up was different from that in Great Britain,¹ the area of permanent grassland put under the plough was 273,000 acres, some 23,000 acres beyond the target.

Cropping target figures for the 1940 harvest were established only for sugar beet in England and Wales and for flax in Great Britain. The Ministry of Food wished for 390,000 acres of sugar beet, an increase of about 15 per cent. The Ministry of Supply hoped for an increase from 4,000 acres of flax in 1939 to 16,000 acres, of which 14,000 acres were to be in England and Wales and 2,000 acres in Scotland.

The crops that ultimately occupied the additional 2 million acres were oats (973,000 acres), barley (326,000 acres), wheat (43,000 acres), other cereals (180,000 acres), potatoes (128,000 acres) and fodder crops (56,000 acres). It also seemed at one time that some 270,000 acres might be bare-fallowed but an intensive effort was made to persuade farmers to take catch crops off this land; ultimately the June returns showed that the total fallow acreage had not increased but had been reduced by about 70,000 acres.

LIVESTOCK POLICY, 1939-40

The concern caused in the Ministry of Food by the shortage of wheat imports in October 1939 was evidently contagious. The Minister of Agriculture reported to the War Cabinet at the end of that month that 'the general agricultural situation has deteriorated

¹ pp. 73-4.

and is now a matter for grave concern'. There is no doubt that the shortage of feedingstuffs was alarming mainly on account of its unexpectedness. From the agricultural point of view it came at a season of the year when the feeding of concentrates was at its heaviest; moreover, few farmers had threshed out their own grain. The immediate result of this alarm was talk of premature slaughtering and it therefore became necessary for the Government to give a clear indication of its livestock policy under war conditions. On 22nd November the War Cabinet, in its first intimation of its livestock policy, had confirmed that the general aim was to encourage the continued production of livestock and livestock products unless and until a shortage of feedingstuffs called for a reduction in certain kinds of stock. The Minister announced that if and when this happened:¹

the maintenance of the milk supply is a matter of primary importance and, in consequence, every effort will be made to provide adequate supplies of feedingstuffs for dairy cows. Fat cattle and sheep are most valuable to the economy of the farm, and any reduction in their numbers would result in a diminution of the fertility of the soil which would have serious repercussions on the food production campaign as a whole. Furthermore, these classes of stock constitute a reserve of meat which once depleted cannot be speedily restored. . . . Farmers would be well advised to bear in mind, in connection with their cropping arrangements for 1940, the importance of reducing, so far as possible, their dependence on outside sources.

In these circumstances the necessary economies must be secured in the main by a reduction in the supplies of feedingstuffs available for the pig and poultry industries. . . . Pig and poultry producers are accordingly advised to plan their production programmes for the next twelve months on the basis that their feedingstuffs derived from imports will be reduced by at least one-third as compared with the normal pre-war quantities.²

At the same time steps were taken to encourage farmers to grow more of their own feedingstuffs, to use swill from aerodromes and hotels, to promote the formation of pig clubs and even – though this venture did not succeed – to organise the collection by school-children of acorns and beechnuts.

Hopes that the shortage of feedingstuffs would be temporary must have weakened by December when the releases of feedingstuffs by merchants to farmers had fallen to as low as 33 per cent. of the pre-war level. On 25th January, the Minister of Agriculture announced in the House of Commons that he hoped that the release would be raised to 66 per cent. in the very near future. This led to later

¹ M.A.F. Circular No. 100.

² In the first proposals it had been suggested that poultry should be cut to a greater and pigs by a lesser percentage but the heavier reduction for poultry was abandoned on nutritional grounds.

disappointment since the Minister's 66 per cent. referred to two-thirds of the monthly average supplies of imported feedingstuffs before the war and not to two-thirds of the normal supplies for the winter feeding period, when the feeding of cereal feedingstuffs and oilcakes is about twice that of the summer months.

General advice on livestock priorities was as far as the Government could go at that time. Any strict rationing of feedingstuffs to give effect to the schedule of priorities was at this stage considered impracticable by some and undesirable by others. Firstly, the Minister of Food claimed that he did not have sufficient reserves of concentrates to initiate and work a scheme. Secondly, an effective rationing scheme had not yet been evolved. Thirdly, there were still some who hoped that the shortage was temporary and would be remedied when the enlarged crops of 1940 came to hand. It was left to the merchants to distribute the available supplies, allocated to them on the basis of pre-war sales, as fairly as possible and to try to give effect to the Government's preferences among the classes of livestock.

The quantitative reduction in supplies of feedingstuffs was not the farmer's only source of complaint; he was now having to take delivery of compounds of unspecified constitution and straight feeds of which neither he nor his livestock had previous experience; this made both the composition of balanced rations in combination with home-grown feedingstuffs, and their economical use difficult if not impossible. The situation was alleviated somewhat by making arrangements for the issue of a greater proportion of straight feedingstuffs but there is little doubt that the shortage led indirectly to a less economical use of what was available and to higher costs of production.

By May 1940 the rate of release of feedingstuffs had been raised to 66 per cent. of the pre-war quantities for cereals and 80 per cent. for oilcakes. Nevertheless it had become clear that not only was the reduction likely to be of long duration but that it was almost certain to become worse in the second year of the war. It seemed desirable to reaffirm the Government's livestock policy. A second announcement of policy, based on recommendations of the Food Policy Committee at its meeting on 24th May 1940, was approved by the War Cabinet and made public:

- (i) Our first aim should be to avoid any appreciable diminution in the output of milk.
- (ii) The production of fat cattle and sheep should be maintained as far as is consistent with (i) above.
- (iii) Any necessary economies in imports of feedingstuffs should be made at the expense of cereals required for pigs and poultry. Steps should, however, be taken to mitigate as far as possible the very serious hardships involved to large numbers of specialist

producers, particularly of poultry, if the reduction in cereal imports required were of a substantial character. In any event every effort should be made to maintain an adequate nucleus of pig and poultry breeding stock.

- (iv) The prices of livestock should be so adjusted as to give to production, by varying the incentive in different branches, the general direction indicated in (i) to (iii) above.
- (v) A system of rationing of feedingstuffs should as soon as possible be made ready to put into operation at short notice.

A further warning was issued to pig and poultry producers (whose hopes that more would be required of them had been raised by the over-running of Denmark and the Netherlands) to curtail their breeding and cut down production, and in June the Minister of Agriculture again told farmers that pigs and poultry might have to be cut to one-third of their current numbers by the middle of autumn. Plans were made to build up stocks of feedingstuffs for next winter by cutting the monthly rate of release from June onwards and further restrictions were imposed on the sale of feedingstuffs for non-essential classes of livestock. Efforts to achieve recommendation (iv) were made without success in June,¹ but the revised schedules issued in August relating to prices to be paid in 1940-1 went a little way, by the adjustment of relative prices, to implement the priorities determined by the Committee.² Preparations were also begun to draw up a comprehensive scheme for the rationing of feedingstuffs which, if it could be devised, would be an additional means of enforcing the policy.³

(iv)

Measures to Implement the Programme

MANPOWER

Labour problems arose early in agriculture and the developments in the first year of war were of immense significance and importance to the industry not only at that time but in its post-war structure. When the first year's programme was drawn up in 1936, it had been based on the existing labour force. But the number of workers employed in agriculture had continued to drop by about 15,000 a year so that by the time war was declared, there was a deficit of about 50,000. Moreover, it had been assumed that the Services would withdraw labour from farming only as substitute labour became available.

¹ p. 94 *et seq.*

² p. 98.

³ p. 136 *et seq.*

Complete reservation of agricultural workers had been considered politically impossible. Finally, the introduction of peace-time conscription by the Military Training Act, 1939¹ and the intensive recruitment campaign in the spring of 1939 to enlarge the Regular and Territorial Armies, had opened up two new potential drains on the industry.

On the outbreak of war the age of reservation had been reduced to 21 for the most important classes of agricultural worker, but agriculture was faced with the immediate call-up of numbers of the Territorial Army, estimated at 20,000 in England and Wales, and with the danger that those who had registered for service in June and others who were to register in October, might also be withdrawn before the harvest was in and the autumn ploughing completed. The only compensating factor in sight was the formation of the Women's Land Army which had been sanctioned in the spring of 1939 and training for which had been started. Concessions were, however, made by the Services. Soldiers were made available for the harvest; a small number of 'key-men' – not exceeding 350 for Great Britain as a whole – were released from the Territorial Army upon recommendation by the Ministry of Agriculture; temporary releases for periods up to two months were sanctioned for a number limited to 1,000; the call-up of the June 1939 registration was postponed until November and the October registration until January 1940. Further concessions were subsequently made in the release or postponement of service of 'key-men' and for longer postponement of registration, but these were merely short-term improvisations that made it possible to get in the 1939 harvest and start the ploughing campaign of the autumn. Though there were shortages in certain regions and of certain types of labour, the general situation was not too serious until March or April. The bad weather had curtailed the demand for labour and in February there were as many as 50,000 registered unemployed agricultural workers; the Women's Land Army had some 1,400 trained workers for whom places could not be found, though some 3,200 were at work.

The underlying dangers became apparent as soon as discussions were initiated on what was to be done after the 1940 harvest. The Ministry of Agriculture claimed that by March 1940 agriculture had already lost since the outbreak of war, in England and Wales alone, some 50,000 workers (25-30,000 to the Territorial Army, 5,000 to National Service and about 15-20,000 to other occupations). Worse still, the majority of these – some 42,000 – were regular skilled workers. It had been estimated that the requirements of the plough-up campaign would necessitate an increase of 60,000 regular and 22,000 casual workers over the 1938-9 strength. There was, therefore, by

¹ 2 & 3 Geo. 6 Ch. 25.

March, a prospective deficit of 102,000 regular workers and 30,000 seasonal workers, which might well be increased before the end of the year by a further drift of perhaps 20,000 into other work unless something was done to stop this. Various sources were being considered for substitute workers, the Women's Land Army, gang labour, roadmen, conscientious objectors, refugees, industrial unemployed, schoolboys and so on but it was considered unlikely that these remedies would provide more than some 23,000 regular and 38,000 casual workers, most of them unskilled in agriculture. There was likely, therefore, to be a net deficit of some 80-100,000 regular workers and 10-20,000 casual workers by the end of the year, a deficiency that would be even greater if any further increase in production was called for in 1940-1. It was now claimed that both for 1939-40 and for succeeding years the supply of labour was likely to be the most important limiting factor in agricultural production. The Minister of Agriculture maintained that the skilled workers whom he needed most could be found in sufficient numbers from those who had left agriculture in the last decade. There lay the answer to his problem if the Minister of Labour could find them and induce, or compel, them to return to farming.

This situation was considered by the Food Policy Committee early in April 1940 and it was agreed that the first step must be to stop the increasing disappearance of agricultural labour into other employment such as the construction of camps, factories, aerodromes and such like in rural areas. This could only be done by improving wages and conditions in agriculture and by the introduction of measures to deter changes in occupation. Obviously the latter was politically impossible unless accompanied by the former. The decision to direct labour into agriculture or to prevent it from leaving entailed, therefore, two consequences - firstly, the raising of the agricultural wage and, secondly, in view of the Government's pledge to recoup farmers for substantial increases in their costs, a revision of agricultural prices.

During the first six months of the war, spasmodic increases in agricultural wages had taken place; by March 1940 all forty-seven County Wage Committees in England and Wales had increased their minimum wage rates and the average for the country had crept up from 34s. 9d. a week in September 1939 to 37s. 10d. But the wage for unskilled labour in other occupations was said to be already nearer 80s.; the situation was clearly untenable. The machinery for fixing minimum wages was cumbrous and uncertain and its results were often anomalous, especially for war-time conditions. Discussions had already been begun on the possibility that the Central Wages Board in England and Wales would establish a national minimum wage below which County Wages Committees could not fix rates without special sanction; already the fixation of national prices for

the more important agricultural products had removed one of the principal arguments against a national wage. It was agreed that legislation should be enacted as soon as possible.¹ Scotland had long had a different tradition of fixing wage rates from England and Wales and neither farmers nor workers there were in favour of the fixation of a national minimum. Legislation was now passed to enable the Scottish Agricultural Wages Board to direct County Committees to reconsider their minimum rates if the Board considered it desirable; if the reconsidered rate was still unacceptable, the Board was given powers to vary it.² In effect, this alternative system allowed greater latitude to take into account local differences in farming systems but it was correspondingly slower in action.³

It had been proposed that the minimum wage in England and Wales should be raised as soon as possible to 48s. a week, which represented an increase in workers' returns and farmers' costs estimated at that time to be about £13 million a year. Once the disparity of wage rates between agriculture and other rural industries had been narrowed and once the agreement of the Trade Unions had been obtained, the Minister of Labour was prepared to exercise powers to transfer workers back into agriculture from more highly paid occupations and to deter workers in agriculture from leaving it. The War Cabinet agreed on 31st May to the proposals and it was announced that the statutory minimum wage in England and Wales would be raised to 48s. from 30th June 1940,⁴ thus enabling the Minister of Labour to introduce conscription for agriculture. Employers in other trades were now prohibited from engaging male workers occupied in agriculture;⁵ thus an attempt had been made to stop one leak in the agricultural labour supply but the effect of this Order was not so inclusive as had been expected and further restrictions had to be imposed in 1941.⁶

Meanwhile proposals for military agricultural companies had been considered and turned down as impracticable. A scheme for using gangs of urban labour to be hired out to farmers at subsidised rates had also been dropped on account of the usual objections to sub-

¹ The Agricultural Wages (Regulation) Amendment Act, 1940, 3 & 4 Geo. 6, Ch. 17. (Royal Assent on 25th April). S.R. & O., 1940, No. 882, Order in Council amending Defence ((Agriculture and Fisheries) Regulations, 1939.

² Agricultural Wages (Regulation) (Scotland) Act, 1940, 3 & 4 Geo. 6, Ch. 27; S.R. & O., 1940, No. 1097 (S.48), Order in Council adding Part VIII (Agricultural Wages, Scotland) to Defence (Agriculture and Fisheries) Regulations, 1939.

³ In Northern Ireland, the Agricultural Wages (Regulation) Act (Northern Ireland), 1939, 2 & 3 Geo. 6, Ch. 25, had provided for the establishment of an Agricultural Wages Board which was responsible for the fixing of minimum rates of wages for agricultural workers. The Board consisted of six representatives of agricultural employers, six representatives of agricultural workers and three members appointed by the Minister, one of whom was chairman.

⁴ Agricultural Wages Board Orders Nos. 1090-1137.

⁵ Undertakings (Restriction on Engagements) Order, 1940, S.R. & O., No. 877.

⁶ p. 124.

sidising wages in any one industry. The Services could continue to give temporary relief by helping at harvest time and by postponing call-up, but they were, rightly, unable to make agriculture a completely reserved occupation. Thus it was difficult to see where the additional 100,000 workers were to come from if the earlier estimates of labour requirements for the 1940 harvest were correct.

In announcing the increase in minimum wages to 48s. at the beginning of June 1940 the Minister of Agriculture was authorised to state:

It is proposed to exercise control of labour in certain vital industries including agriculture in order to ensure that the labour requirements of those industries are met.

... The Government are prepared to give a firm undertaking that prices of staple agricultural products required by the nation will be adjusted so as to take full account of the increased costs resulting not only from this change but from other relevant factors.

... decisions on the new prices will be reached in consultation with producers' representatives and announced at the earliest possible date.

The 1940 June Census of agricultural workers gave an indication of what had happened during the first year of the war. The number of regular workers in the United Kingdom showed a net reduction of 7,000, a fall of 14,000 in male workers being offset by an increase of 7,000 women workers (Table 5). Casual workers had increased by 10,000, most of whom were women. In Northern Ireland there had actually been an increase in regular workers while the number of casual workers had declined. In Great Britain, however, the opposite had occurred; the regular workers had declined by 12,500 while the

Table 5. Numbers of Workers Employed on Agricultural Holdings in the United Kingdom in June 1936-8 to 1944

thousands

| | Regular Workers* | | | Casual Workers | | | All workers | | |
|--------|------------------|--------|-------|----------------|--------|-------|-------------|--------|-------|
| | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| 1936-8 | 615 | 80 | 695 | 88 | 42 | 130 | 703 | 122 | 825 |
| 1939 | 592 | 71 | 663 | 90 | 50 | 140 | 682 | 121 | 803 |
| 1940 | 578 | 78 | 656 | 91 | 59 | 150 | 669 | 137 | 806 |
| 1941 | 578 | 89 | 667 | 106 | 77 | 183 | 684 | 166 | 850 |
| 1942 | 578 | 130 | 708 | 115 | 92 | 207 | 693 | 222 | 915 |
| 1943 | 567 | 157 | 724 | 123 | 108 | 231 | 690 | 265 | 955 |
| 1944 | 597 | 173 | 770 | 120 | 85 | 205 | 717 | 258 | 975 |

* Including Women's Land Army and Prisoners of War.

casual workers had increased by about 13,500. If, as had been claimed, some 50,000 persons had left agriculture for the Services and other occupations, then approximately the same number must

have come into the industry. Apart from about 10,000 in the Women's Land Army, where had the others come from?¹ Some had undoubtedly come from local building and other rural industries, possibly to avoid conscription. Control of movement by the Ministry of Labour was not so effective in the country as in the towns.²

Though the statistical picture was blurred, the conclusions of the first year's experience were clear. Firstly, the heavy demands of the first campaign had been met largely by the fuller use of the existing labour force, by increased mechanisation and by the greater use of supplementary casual labour. Secondly, farmers would have to rely very much on their own initiative, overtime, volunteer labour, the greater use of machinery, better organisation and harder work all round, if the increased harvest of 1940 was successfully to be collected and if a further expansion of crop production was to be achieved in 1941.

MACHINERY

The increased reliance placed on agricultural machinery was perhaps one of the most notable developments in the first year of the war. This was necessitated not only by a shortage of labour but also by the need for faster work. The seasons within which certain cultivations can be carried out for certain crops are often strictly limited. Exhortation or compulsion to increase the arable area by 2 million acres, or over 20 per cent., does not lengthen the hours of daylight by 1½ hours nor the ploughing or sowing seasons by one-fifth. Mechanisation, permitting quicker work, was the only solution for most farmers.

It had been estimated that some 3,600-6,000 tractors with some ancillary implements would be required to supplement the 50,000 at work in 1939 if an additional 2 million acres were to be added to the arable area.³ The Ministry of Agriculture's acquisition of a reserve of 3,000 tractors had been sanctioned in April 1939 and orders had been placed with the Ford Motor Company. By October 1939, 1,500 Fordsons were in the hands of the Ministry and distributed in the following months to the County Committees; the balance were delivered by the end of the year. Fordsons were turning out tractors for agriculture at the rate of 100 a day from September 1939 until May 1940 when the armament speed-up caused a reduction in their output. Orders for tractor ploughs had been placed with British manufacturers and also in America, and these started to arrive in the New Year. There was a temporary shortage of tractor ploughs in

¹ While the Ministry of Agriculture's returns show little change between 1939 and 1940 in the total numbers employed in agriculture, the Ministry of Labour's returns of insured persons indicate a reduction of 25,000 during the year.

² See p. 124.

³ p. 56.

December 1939 but by February it was reported that the numbers of these and other tractor implements were adequate for the campaign. In the six months from the outbreak of war to February 1940 the trade had sold 10,000 tractors and 11,000 tractor ploughs compared with an annual sale of about 8,000 before the war. Fordsons sold in 1940 some 17,000 tractors compared with 4,000 in 1938. It is difficult to over-estimate the importance of this successful advance planning, which was largely the result of the initiative of the Ministry of Agriculture. The Government contract had enabled the manufacturers to achieve a high level of output before the flood of orders started to come from the farmers. Without this foresight the target could not have been reached.

As soon as the adequacy of the supply of tractors, ploughs and cultivating implements for spring cultivation was assured, attention was turned to harvesting equipment. By March the Ministry had purchased some 3,500 binders and 275 threshers to supplement those that would be sold direct by the trade. As with the tractors, these reserves ensured that the claims of areas that needed them most were fulfilled. Moreover, some of the County Committees were beginning to become directly responsible for the cultivation of land and were able to meet their machinery needs from these reserves. By June the Ministry was distributing the harvesting machinery and re-building its reserve of tractors for the following autumn ploughing. The movement towards mechanisation had accelerated. By the end of the first year the demand for machinery far exceeded the supply.

FERTILISERS

In general, there is little to be noted about the supply of fertilisers in 1939-40.¹ Supplies of nitrogenous fertilisers were ample to meet the demand which was about 30 per cent. above 1938-9; the bulk of the increase was met by an increase in the production of home-produced sulphate of ammonia. The supply of phosphates, however, was insufficient – though not greatly so in the first year – in relation to the increased demand resulting from the ploughing up of grassland; their use rose by about 15 per cent. compared with 1938-9. Basic slag was plentiful but the shortage of phosphate rock and the cessation of imports of guano began to make themselves felt in the second half of the year and there was anxiety about the 1941 prospects. Potash supplies were adequate for the first year of the war but the loss of French supplies after the occupation of France boded ill for the next year's programme; for the first year the consumption was 13 per cent. above pre-war. The use of lime had been greatly stimulated by the grants under the Agriculture Act, 1937; whereas the annual consumption in the United Kingdom had been about

¹ Table 22, p. 259.

3-400,000 tons a year, it had increased to some 1,738,000 tons by 1938-9.¹ Unfortunately, the production of lime fell in the first two years of war; an acute shortage of labour in the quarries, an increase in the industrial demand for quick lime, and heavy demands on inland transport combined to reduce the supply available to farming and deliveries of lime fell to 1,429,000 tons in 1939-40.

Part of the increase in the consumption of nitrogen, phosphorus and potassium from artificial fertilisers in the first and succeeding years of the war was needed to offset the decline in manurial residues caused by the cut in imported feedingstuffs. In 1938-9 as much as 41 per cent. of the nitrogen, 34 per cent. of the phosphorus and 46 per cent. of the potassium added to the land came from such residues.²

Though there was no formal rationing of fertilisers in the first year of the war, suggestions were made to the Executive Committees about ways of making the optimum use of such supplies as were available. These suggestions could be kept in mind in the issue of cropping directions to farmers. Basic slag would yield quicker results if used on land being ploughed for wheat rather than on the improvement of grassland; potash should be used only on potatoes, sugar beet, market garden crops and flax; salt in place of potash could be used on sugar beet and mangolds.³

PRICES AND PRICE POLICY

An Inter-Departmental Committee on Price Fixing had been set up at the end of 1938 which had recommended that a standing Inter-Departmental Committee on Food Prices should be established immediately on the outbreak of war but this Committee was not set up until November 1939. The pre-war Committee had also, in discussion, come to some tentative conclusions which were of subsequent significance. In general, it was considered that there need be no immediate increase in prices at the outbreak of war and plans were made for the issue of Orders to freeze prices at their existing levels. The Committee had also agreed that financial stimulus might be necessary to supplement the use of compulsory powers; indeed the Ministry of Agriculture had asserted that home production would be largely a matter of price inducements and particularly of the balance of prices for different products, a dictum that was apparently forgotten in the heat of the disputes that arose in 1939-40. After the initial period, the Committee thought, any increase in prices should be considered principally in relation to increases in cost and the need for increased production. Automatic price increases were impracticable owing to the undesirability of frequent changes, but periodic

¹ Table 22, p. 259.

² p. 259, footnote 1.

³ County Circular No. 315.

reviews should be possible; it might even be desirable temporarily to subsidise certain cost items, such as feedingstuffs, to avoid frequent adjustment. Finally the Committee recommended uniformity of farm prices throughout Great Britain, except for milk and potatoes.

Prices of most farm products were, in fact, stabilised on or soon after the outbreak of war and maximum selling prices were also prescribed for imported feedingstuffs¹ and for fertilisers.² Maximum prices of oats and barley remained, however, uncontrolled.

Within a month of the outbreak of war, farmers were becoming uneasy over the policy of price stabilisation and were claiming that it did not conform with the demand for increased output. They had, they said, neither the cash nor the credit to undertake the equipment of their farms for increased crop production or to undertake the improvement of soil fertility by the clearing of ditches, drainage, or the greater use of fertilisers. At the beginning of October the Minister of Agriculture assured farmers that it would not be long before the full scheme of price control was established and, in arriving at the price to be paid, all the factors that determined costs of production would be taken into consideration. A further attempt at reassurance was made by the Minister on 9th October:

The Government will be purchasing the whole of the staple crops grown for next year's harvest and sold off the farm at prices to be fixed in the light of prevailing circumstances. Farmers will therefore have a guaranteed market and prices for their principal products.³

The first change in individual commodity prices was made in October 1939 when the price of fat sheep was raised by 2d. per lb. to give an average of 1s. per lb. dressed carcass weight over the year. The reason for this isolated change was stated to be the Government's aim to increase meat production. Since no substantial increase in numbers of fat cattle could be expected within two or three years, it was held that the best means was an expansion of the sheep population, bearing in mind that sheep need not consume any appreciable quantity of imported feedingstuffs. Farmers were asked to increase their flocks by retaining old ewes and more ewe lambs for breeding. In so far as this price increase encouraged sheep production on hill lands, it was possibly beneficial; but this was not given as its primary purpose at the time and it appeared to some people to be misconceived and to conflict with the more urgent need to plough up more grassland, since for many farmers the choice lay between keeping their grass or reducing their flocks. Some years after an opposite

¹ Feedingstuffs (Provisional Prices) Order, 1939, S.R. & O., No. 1034. Feedingstuffs (Maximum Prices) Order, 1939, S.R. & O., No. 1324.

² Control of Fertilisers (No. 1) Order, 1939, S.R. & O., No. 1585. Control of Fertilisers (No. 2) Order, 1939, Direction No. 2, S.R. & O., No. 1868. Control of Fertilisers (No. 2) Order, 1939, S.R. & O., No. 1869.

³ H. of C. Deb., Vol. 352, Col. 7.

reason for this price increase was advanced – that it was a compensation payment to the arable sheep farmer to encourage him to reduce his flock and to plough up more grassland.

On 7th November the price for fat pigs was raised from 14s. per score which had been fixed on 13th October, to 15s. to take into account recent rises in feedingstuff prices. This was followed on the next day by an increase in the standard prices of both wheat and oats; the former was raised from 45s. to 49s. 6d. per qr. and the latter from 8s. to 9s. per cwt. (24s. to 27s. per qr.). These last two increases were of great importance and did much to allay the sense of frustration that had been growing among farmers during October; they were being asked to extend their farming operations and few had the means to do it.

The next issue of price policy arose from the costs of imported feedingstuffs purchased by the Ministry of Food, which were rising largely because of increased freight charges. The suggestion that the price to the farmer should be stabilised by subsidies, even if only temporarily, was not acceptable in the climate of November 1939, and as imported feedingstuffs were often indistinguishable from home-grown, the Ministry found it necessary to raise all its feedingstuff prices. A joint announcement was made on 11th November giving the new schedule of feedingstuff prices and the prices, adjusted to meet these increased costs, at which the Ministry would purchase fat cattle and sheep.

At this time the whole question of the control of livestock marketing and meat rationing was under consideration by the War Cabinet. A system of partial control had been instituted under the Maximum Price Orders whereby direct sales of fat cattle and sheep were prohibited and sales restricted to livestock markets.¹ Stock for which the scheduled maximum prices were offered were then allocated to buyers on the basis of their normal purchases. This system, which was never intended to be permanent, was now breaking down, partly as a result of difficulties on the home market and partly as a result of the deterioration in the prospective supply position. So far as the home market was concerned, prices were falling more than was normal at this time of year, the growing shortage of imported feedingstuffs was forcing sales by farmers, evasion of controls was widespread and black markets were being created. Farmers were requesting the earliest possible institution of what had been proposed before the war – Government purchase, guaranteed markets, and fixed prices. The Ministry of Food was not anxious to accept these liabilities until the principle of rationing was accepted, and the War Cabinet had only recently decided against meat rationing.

¹ *Fatstock (Provisional Prices) (No. 2) Order, 1939, S.R. & O., No. 1130.*

The breakdown in the existing system led to a reconsideration of this decision and it was decided on 6th December that, in view of the difficulties of controlling home-produced supplies without rationing of meat, the Ministry of Food's scheme for full control of livestock marketing should be brought into operation on 15th January and meat rationing not later than 5th February. In the meantime, the market had been freed on 1st December and prices had risen, with the Christmas trade, to well above the level of the earlier maximum price. The farmers considered that the schedule of 11th November was out of date in the light of altered circumstances – the increased cost of feedingstuffs, the irregularity of supplies and wage increases, either past or prospective.

The Ministry of Agriculture asked for an increase of 6s. 9d. per live cwt. over the November schedule of fat cattle prices; this was made up of three components, 2s. for the normal seasonal rise, 1s. 9d. to meet the revised prices for feedingstuffs, and 3s. for 'intangibles', (such as wage increases and the poor quality of feedingstuffs) and for an incentive to the higher output of beef. The Ministry of Food was prepared to accept the first two but the additional 3s. seemed to it both unnecessary and dangerous; it held that the November schedule already contained a margin for 'intangibles' and incentives and that such a rise in fat cattle prices would, on the 1935-9 price relationship, necessitate an increase of 3d.-3½d. per gallon on the pool prices of milk, if the output of milk was not to be endangered. It further claimed that the guaranteed market to be afforded by the full control scheme was in itself an incentive, the value of which should not be overlooked. The Minister of Agriculture maintained, however, that the Ministerial Committee on Food Policy and the War Cabinet had both accepted as reasonable price increases of the magnitude of 7½ per cent. to 15 per cent. above existing levels when they authorised him to make his statement in the House on 14th December. In this he had stated:¹

The Government recognise, therefore, that if the desired increase in home production is to be secured a higher level of prices will be necessary for agricultural products generally.

It was eventually agreed that the new schedule, which was to come into operation on 15th January, should show an increase of 6s. over the November price. Fat sheep prices were left at their November level, averaging 1s. per lb. dead weight for the year or 2d. per lb. above the September return. Pig prices were raised to 18s. per score. Judged by pre-war price relationships a serious disequilibrium had now been established between the prices for milk, wheat and potatoes, and those of fat stock, oats and barley. Compared with prices in

¹ H. of C. Deb., Vol. 355, Col. 1389.

January 1937-9, the following price changes had occurred by January 1940:

| | | | |
|------------|----------------|-----------|---------------|
| Oats | +100 per cent. | Milk | +24 per cent. |
| Barley | + 67 „ | Fat sheep | +12 „ |
| Fat pigs | + 32 „ | Wheat | +11 „ |
| Fat cattle | + 25 „ | Potatoes | - 19 „ |

The Ministry of Food was worried about the outlook for milk production; it had been warned that a decline in output of 10 per cent. might be expected as a result of the shortage of feedingstuffs and now there was in prospect an increase in the prices of fat cattle, which were strong competitors for the limited supply of feedingstuffs. On 14th December the Minister of Food announced in the House of Commons¹ that the Government would make a grant to the Milk Marketing Board sufficient to enable it to raise the pool price of milk paid to the farmer over the corresponding quarter of 1939 by 3d., 3d. and 2½d. per gallon for January, February and March 1940. The cost of this increase was to be carried temporarily by the Treasury pending the formulation of a definite policy for milk production and consumption. The Milk Marketing Board's contracts with the producers were due to be renewed at the end of March, so that some decision about future prices would be required before then.

Meantime the rise in the uncontrolled prices of barley and oats was creating a serious situation. The need for such control had been considered axiomatic in pre-war plans. But the necessary control Orders were not ready and the prevailing optimism about feedingstuff supplies led to procrastination. The risk that a prolonged scarcity of imported grain would create an undesirable rise in the price of home-grown grain was ignored. Indeed, in the case of barley, the fears were rather of depressed prices and discussion had centred on the question of establishing minimum rather than maximum prices. The Departments of Agriculture alone were not perturbed by the rise in oat and barley prices. They were well aware of the need of farmers for more cash or credit if they were to bring more land under cultivation and to intensify their crop production. They claimed that the official policy of restricting the rise in prices solely in accordance with the measurable increases in costs of production was inadequate. When it became clear that their point of view had little chance of general acceptance, they were compelled to become more interested in ensuring that more money came into the hands of the farmers than in the means whereby this was achieved.

Imports of feedingstuffs continued to decline and there was a startling, almost three-fold, rise in the market prices of oats and barley - from 5s. 10d. and 6s. 7d. per cwt. respectively in August 1939 to

¹ H. of C. Deb., Vol. 355, Col. 1359.

15s. 5d. and 17s. 10d. respectively in January 1940.¹ This trend and the uncertain deliveries of other feedingstuffs naturally encouraged farmers with surplus oats and barley to keep them off the market; from grassland farmers cultivating their newly ploughed fields came bitter complaints of the scarce supplies and high prices of seed for spring sowing; from Scotland came the more urgent plea of a shortage of oats for milling. Price control for oats which had been discussed in September 1939 on the basis of 7s. or 8s. per cwt. became a matter of the greatest urgency. Some reduction might be brought about by administrative action but an unrationed demand was inevitably the deciding factor in price policy. From 1st February a maximum price of 11s. per cwt. was imposed on the sale of oats for feeding and a higher price of 13s. per cwt. in February, reduced to 12s. per cwt. thereafter, for oats sold for milling;² the Ministry of Food was anxious to ensure an adequate supply of oats for human consumption and laid great emphasis on this premium. Prices of seed corn and of barley were, however, still left uncontrolled,³ though it was agreed that a maximum price of feeding barley, as opposed to malting barley, should be imposed before the 1940 harvest came on the market.

In February 1940 a further uncoordinated price revision was made when the prices for the new Milk Marketing Board contracts (covering the summer period, April-September 1940, and the winter period, October-March 1940-1) had to be decided. The Ministry of Food was prepared to allow an increase of 2d. per gallon over the summer period of 1939 for the summer months of 1940, even though it considered 1½d. adequate to cover increased costs; still worried about the future output and the relative level of fat cattle prices, the Ministry thought that the additional ½d. was a fair incentive. It was, however, ultimately agreed that the monthly pool prices should be raised by an average of 2½d. per gallon over the six summer months,⁴ in spite of the Treasury's objection to the 'incentive' element which was now estimated at about ¾d. per gallon. It proved impossible at that time to come to a decision about the next winter's price which was a serious handicap in itself to the dairy farmer, though assurances were given that a reasonable return would be forthcoming.

Two months later, the Ministry of Food again raised the question of the price of feedingstuffs; increased costs of imports, higher freight rates, higher prices for home-grown cereals and so on were all contributing to a trading loss, equivalent to about £5½ million a year. If prices were raised, this was estimated to cost the farmers about

¹ The index numbers (1927-9=100 and corrected for seasonal variation) of the three cereals in January 1940 were wheat 110, barley 159 and oats 169.

² Home Grown Oats (Control and Maximum Prices) Order, 1940, S.R. & O., No. 117.

³ *Food*, Vol. I, pp. 84-5.

⁴ H. of C. Deb., Vol. 358, Col. 1012, 12th March 1940.

£2 million for the four months, May to August, or about $1\frac{1}{2}$ per cent. of the cost of production of fat cattle and milk and 9 per cent. of the cost of pigs. The Minister of Food considered that this did not constitute 'any material change in circumstances' and consequently that it did not call for any revision of the existing price schedules for milk, cattle and sheep. In any case, he claimed, the element of 'incentive' included in existing prices covered amply these rises in costs. The Agricultural Departments, however, maintained that when taken into account with other ascertained cost increases, the proposed rise in costs called for an increase of prices. The Ministry of Food's view was eventually upheld after prolonged discussions though agreement was reached that the pig price should be raised from 18s. to 19s. a score. Feedingstuff prices were therefore raised without an increase in the prices for milk, cattle and sheep but assurances were given that this rise would be taken into account together with all other relevant factors when next the prices of livestock products were under consideration.

The next four months, from May until the end of August, were marked by almost continuous discussion between the Ministry of Food and the Ministry of Agriculture over producers' prices but out of this controversy there emerged a more coherent price policy and methods of price review which formed the basis of subsequent negotiations.

When the decision was taken at the end of May that the national agricultural minimum wage should be raised from 40s. to 48s. a week on 1st July 1940, the Ministry of Food was asked to put forward its proposals for the consequent adjustment in the prices of those agricultural products whose selling prices were determined or controlled by the Government. This task was passed to the Interdepartmental Committee on Food Prices which was instructed to have regard to the following considerations:

- (1) The new schedule of prices should be capable of reasonable proof that farmers in the aggregate would receive a return for the produce sold off the farm which would adequately compensate them for the extra expenditure on wages resulting from the proposed increase in wage rates and for any other increases in costs compared with the pre-war level, including the increased costs of feedingstuffs, which were being incurred.
- (2) At the same time the object should be to establish so far as possible the proper relationship between the prices of the different products.
- (3) Appropriate adjustments in the existing prices should come into operation as soon as possible after effect was given to the wage increase so that the farmer was provided with money to meet the increased cost. In the case of livestock it would be necessary to avoid abrupt steps in prices which would interfere with the normal rate of marketing; but in the case of crops it would be necessary to make the

full adjustments in the prices to be paid or guaranteed for the products of the 1940 harvest.

The report of this Committee gave the estimated changes in measurable costs that had occurred, since the three pre-war years 1936-7 to 1938-9, in labour, feedingstuffs, fertilisers, rent and miscellaneous items. These estimates could not, of course, take into account 'intangible' items of cost such as the lengthening of the feeding period, difficulties in obtaining labour, the reduced efficiency of less skilled workers and so on.

Estimates were also made of the aggregate increase in production costs of individual products, attributable to the rise in wages, prices of feedingstuffs, rents and so on, each factor being weighted in the proportion to which it entered into the cost of production of the product. Based on the expected sales off farms from the 1940 harvest and the 1940-1 livestock output, it was calculated that total farming costs had already risen in the aggregate by about £34.7 million compared with 1936-7 to 1938-9.¹ Against this was estimated the increase in the value of the output due to the rise in prices from their pre-war levels to the levels of June 1940, a total of £61.8 million. According to these estimates, farmers' returns from price schedules existing in June 1940 already exceeded the past rise in measurable costs by some £27 million, or by about 10 per cent. of the estimated total value of sales off farms.

The new proposed increase in agricultural wages, whereby the minimum wage was to be raised by 8s. a week to 48s., was estimated to add a further £14.9 million to farmers' costs.² How was this to be met? The Government might have maintained that it was already covered by the increase since the beginning of the war of £27 million between estimated returns and costs. This was, however, impractical; this 'incentive' item was, according to the Agricultural Departments, providing the farmer with the cash means to increase his output, to purchase machinery, equipment, fertilisers and seeds, to provide the necessarily greater working capital, to carry out drainage schemes and the like. The £27 million was not to be disturbed.

It soon became clear that the distribution of £14.9 million among the various products would be insufficient, without reducing some of the existing prices, to enable the Committee to fulfil the second of its terms of reference and raise the prices of potatoes, wheat, milk and

¹ Appendix Table VII, pp. 376-7. It was indicated in another part of the report that the increases in prices since pre-war relative to the increases in costs had been greatest for barley, hay, poultry and eggs, oats, pigs and fat cattle and least for potatoes, wheat, sheep and milk. If potatoes, wheat and milk, which were still the *desiderata* of the Ministry of Food, were to be put in a more favourable position than relatively more of the proposed increase in returns would have to be allocated to these products.

² This was probably an underestimate though subsequent claims by the Minister of Agriculture that it was greater firstly by about £2 million and later by £7 million (including a sum of £2 million as the additional cost to the farmer of unskilled substitute workers) were probably exaggerated. See p. 84.

sugar beet to the same level as those of oats, barley and fat pigs. Any such reduction would, it was considered at the time, be contrary to the assurances that had been given by Ministers to farmers. The Treasury agreed that an aggregate increase of £20 million should be distributed,¹ instead of only £14.9 million, in order to achieve relatively better prices for the products wanted by the Ministry of Food. This was, in effect, an addition of £5.1 million to the existing 'incentive' margin of £27 million. Two schedules of prices were then drawn up both of which purported to improve the price relationships between the various products in conformity with the Ministry of Food's requirements. One schedule was prepared by the Ministry of Food which entailed an increase of £20.33 million in producers' returns; the other, submitted by the Agricultural Departments, called for the distribution of an additional £20.66 million; the only major difference was in certain individual prices. Agreement seemed very close at hand.

The Agricultural Departments, however, unexpectedly rejected the report of the Inter-Departmental Committee, on which their representatives had served. They claimed that they could no longer approach the problem on a costing basis and that this method of considering the question was too academic. The whole food production campaign rested on the willingness of farmers to carry out the Government's policy:

If there is any serious doubt in the minds of the farmers as to their ability to pay the increased wages on the new schedule of prices they will undoubtedly attempt to economise in labour and the whole policy of improved efficiency and increased production will be stultified. . . . The situation is far too serious to permit of carefully balanced calculations.

They then suggested that the sum to be distributed should be raised to £34.54 million and produced a revised price schedule setting out how this should be distributed.² They argued that the actual wage increase was likely to be more than 8s. per week, that agriculture had been seriously depressed in 1936-7 to 1938-9, the basic years in the Committee's calculations, and that given the £34.54 million, distributed as the Departments wished it, the County Committees could carry out their task for 1940-1.

The Ministry of Food and the Treasury could not accept these arguments; they claimed that the new proposals added a further £13.85 million of 'incentive' to the previous £27 million, a total of almost £39 million over and above the payment of £49.6 million needed to meet the ascertained rise in farmers' costs. They asserted that the Agricultural Departments had produced no figures to show

¹ To include flax and wool.

² Appendix Table VII, pp. 376-7.

what increases were justified on grounds of pre-war unprofitability, nor had they rebutted the estimates of costs, prices and returns brought forward by the Inter-Departmental Committee. What was worse, they urged, the Agricultural Departments' new schedule perpetuated and even accentuated the distortions in the relative prices of the different products.

Agreement was out of the question and on 22nd June the issue was sent for decision to the Lord President's Committee which was now the most important of the War Cabinet's Committees concerned with economic policy.¹ The proposals of the Agricultural Departments for the distribution of £34.54 million were accepted as necessary to give effect to the undertakings about wages and other cost increases and to convince farmers that they would be in a financial position to meet the increased costs to be incurred in the 1940-1 campaign. It was, however, agreed that the assessment of farmers' income tax under Schedule B, a very favourable concession whereby tax was assessed on rental values, should cease, except in special circumstances, so that no farmer should make excessive profits out of the new prices.

The Lord President's Committee decided at the same time, however, that the Agricultural Departments' schedule should apply only to the 1939-40 season, that is to the crops from the 1940 harvest and the livestock products until the autumn of 1940. A new schedule for the 1940-1 season, based on the distribution of £34.54 million, was to be drawn up and issued as soon as possible in August; this second schedule must adjust the relative prices of the different products in such a manner as to ensure that effect was given to the principles laid down by the Food Policy Committee on 24th May. This new schedule would apply to the 1940-1 season, that is to the livestock products sold in 1940-1 and crops from the 1941 harvest.

As regards 1941, the Government reserves complete freedom to make such adjustments in the prices of agricultural products, *whether upwards or downwards*, as may seem desirable. . . . They will be based on a recognition that the relative prices of the agricultural products which are required by the nation should provide farmers with the incentive required to secure the fulfilment of the food production policy of the Government. As regards livestock, the first aim of that policy is to maintain milk production.

The Lord President's Committee also expressly stated that instructions were to be given to the County War Agricultural Executive Committees to make use of their compulsory powers of direction to secure the crops and other output needed to give effect to that policy.

Controversy started afresh on attempts to carry out the instructions of the Lord President's Committee – not on the question of the total sum to be redistributed but on the issue of relative prices.

¹ p. 312.

If the total to be distributed remained approximately the same, that is £34.54 million, then redistribution perforce entailed a reduction in some prices (feeding barley, oats, fat cattle, eggs, poultry and pigs) in order to enhance the prices of wheat, milk, sugar beet and potatoes. This was opposed by the Agricultural Departments once more on the grounds that a downward adjustment of fat cattle prices would have deplorable results.¹ The tide of opinion was, however, now running the other way, speeded by the fears of the Scientific Food Committee² about the inadequacy of milk prices, particularly for the winter period. The Treasury urged that the important question to be decided by the Committee was whether prices to be paid in 1940-1 and thereafter should, or should not, be based on a rational system of price inducements. They emphasised that the June price schedule had been agreed on the definite understanding that the schedule was to be radically reconstructed for the 1940-1 season. The Agricultural Departments, they said, were again attempting to 'fix' the existing pattern of British agriculture.

Once again the Food Policy Committee was unable to agree but this time it was left to the Agricultural Ministers, the Minister of Food and the Financial Secretary of the Treasury to try and arrive informally at some settlement. At the cost of a further £2 million, raising the total distribution to £36.58 million, and a modification of the seasonal variation in fat cattle prices between autumn and spring,³ a measure of agreement was reached on 22nd August. The prices of oats and feeding barley from the 1941 harvest and the prices of fat cattle and fat pigs were to be reduced from the June schedule level and additions were made to the prices of milk and potatoes.⁴ The price of the Minister of Agriculture's agreement was an undertaking that the price of maize would be stabilised throughout the year and that the prices of oilcake would be stabilised after their reduction to the level of July 1940. This was obviously a major issue of principle and the Minister of Food was unable to give such an undertaking without reference to the War Cabinet. The Minister of Food's price proposals were accepted and were announced on 30th August with the accompanying statement that the Government would review those prices in the event of any substantial change occurring in the cost of production and that in this connection it was considering the possibility of stabilising feedingstuff prices.⁵

¹ The price for fat cattle in the June schedule represented an increase of 15 per cent. over the previous prices, whereas the Ministry of Food's present proposals represented an increase of only 5 per cent.

² p. 109.

³ To ensure orderly marketing.

⁴ Appendix Table VII, pp. 376-7.

⁵ A policy of stabilising feedingstuff prices was adopted on 23rd September 1940. pp. 129-30.

The June schedule of prices was, on the whole, well received by farmers; even the new income tax policy which had come as a surprise was not condemned as unfair. Some farmers felt that a price of 16s. for wheat could have been justified, but the Minister of Agriculture was congratulated on maintaining the free market for malting barley. On the other hand, the August schedule met with violent attacks. The announcement of 30th August was found to be utterly perplexing and the Ministry of Food was blamed for having accepted the advice of committees of fossilised theorists and scientists. The National Farmers' Union announced from its headquarters that the new levels had not been fixed in agreement with representatives of the farmers and appealed to the Prime Minister. The Prime Minister's reply¹ claimed that the price levels had been fixed for the purpose of securing an increase in some types of production and a decline in others. 'But taken as a whole the price structure is believed to reconcile just treatment for the producer with the wide requirements of the nation.'

There was a full-dress debate in the House of Commons on 22nd October² in the course of which the Minister of Agriculture loyally defended the War Cabinet's decisions which, it was an open secret, did not embody his, or his Department's, views.

The story of the price negotiations during the first year of war is a long one but there is justification for recording it in such detail because the establishment of a rational price schedule and a rational means of arriving at it were of such great importance.

AGRICULTURAL REQUISITES ASSISTANCE SCHEME

The need for greater credit facilities was considered to be one of the obstacles to greater production and to the ploughing up of a greater area of grassland. A scheme to remove this obstacle was initiated in February 1940. Committees in England and Wales were authorised to supply farmers who could prove that they had exhausted their own resources and had no other sources of credit with machinery, fertilisers, seeds, or contractors' services against a promise to repay after the next harvest or soon thereafter; it was essentially a scheme for the provision of working capital. Loans were at first not to exceed £50 – soon raised to £100 – without previous consent of the Ministry of Agriculture and carried an interest rate of 5 per cent.³ This scheme lasted until it was merged in a wider arrangement, the Goods and Services Scheme, in September 1941,⁴ by which time £315,000 had been advanced, of which £280,000 had been repaid before the scheme

¹ *Farmer & Stock-Breeder*, 22nd October 1940, p. 2187.

² H. of C. Deb., Vol. 365, Cols. 951 *et seq.*

³ County Circular No. 285, 9th July 1940.

⁴ pp. 169–70. Agriculture (Miscellaneous War Provisions) Act, 1940, Section 25 (1).

ended. Only £4,000 had eventually been written off by the end of 1944. Considering the magnitude of the financial burdens undertaken during the first year of the war, the ploughing-up of so much land, the purchase of at least double the normal amount of machinery, the increased use of fertilisers and the like, the use by farmers of these new credit facilities was unexpectedly small – evidence, perhaps, of the generosity of the price settlements.

CONTROL OF SUPPLIES

The fixing of maximum prices for agricultural products raised inevitably the question of the control of their supplies. Maximum prices in themselves do nothing to equate a short supply to demand, and mal-distribution, evasion and black markets follow inevitably unless steps are taken to control supplies as well as prices. By the end of the first year of the war, such controls had extended widely, though they were still incomplete. For most important agricultural products the Minister of Food had become the sole buyer or had authorised merchants to work to his directions.

Guaranteed markets had also been provided for most of the principal products, in conformity with the Minister of Agriculture's pledge in October 1939.¹ Under the prevailing conditions of shortage and rising prices, there was no great liability involved in this undertaking, with the possible exception of potatoes² where the yield fluctuates very considerably from year to year and where the demand is relatively inelastic. By September 1940, there were guaranteed markets for wheat, fat cattle, sheep, pigs, milk, potatoes, and sugar beet; there were guaranteed prices for all these products, and, in addition, for barley and oats. Maximum prices were set for fertilisers and feedingstuffs and there was an assurance that farm prices would be revised to take into account any substantial changes in costs. The measure of security introduced into agricultural production was indeed very considerable.

The control of markets and supplies had not been achieved without friction, especially in the case of livestock. The reduction in the number of slaughter houses from 16,000 to a mere 600 and the forbidding of sales on farms called, in themselves, for an almost revolutionary change in farmers' marketing methods. Major irritants were the requirement of 12 days' notice by the farmer of his intention to sell – an arrangement that enabled the Ministry of Food to adjust local supplies to local demand; the Minister of Food's right to refuse acceptance of stock if local markets were glutted; the separation of the markets for store and fat cattle; changes in the methods of grading, especially sheep, and, later, the elimination in the interests

¹ p. 89.

² p. 136.

of economy in feedingstuffs of premiums on well-bred and well-finished beasts. But, on the whole, the farmers accepted these innovations as necessary evils, tempered, in the minds of many, by the benefits of guaranteed markets and prices.

CHAPTER V

THE SECOND YEAR OF WAR, 1940-1

(i)

Food Production in 1940-1

THE PREVIOUS chapter has described the development of the cropping programme for the 1940 harvest, from which was to come the home-produced food for consumption in the second year of the war. In summary, the crop production programme called for the ploughing-up during 1939-40 of 2 million acres of grassland; at first, farmers had been asked to devote as much as possible of this to growing wheat, then potatoes and, residually, fodder crops.¹ But the emphasis had subsequently shifted to the output of fodder crops. Though it was claimed at the time that the target figure had been exceeded, the actual decrease in the area of grass was eventually estimated to be 1,923,000 acres.²

The area of wheat and potatoes increased by 43,000 acres and 128,000 acres respectively, while the area of sugar beet had fallen by 15,000 acres. The area under other grains and fodder crops, on the other hand, had risen by 1,480,000 acres and 56,000 acres.

The summer was generally a hot and dry one and the yields of all cereals were above average though, with the exception of oats, not so good as those of the 1939 harvest.³ The potato crop was exceptionally heavy, averaging 7.7 tons per acre, the highest yield for many years. The hay crop was light, except for seed hay, and pastures were bare for a large part of the summer.

As a result of the acreage changes the total tonnage of the harvest had increased by over 5 million tons compared with pre-war or about 9 per cent. While the output of wheat was practically unchanged, the production of barley had risen by almost 350,000 tons and of oats by 950,000 tons. The potato crop had increased by almost 1,500,000 tons or 31 per cent.; such a crop could not have been harvested successfully without very special efforts and the use of school children and volunteers. Orders had been issued in July which prohibited the

¹ p. 73 *et seq.*

² Appendix Table IV, p. 373.

³ Appendix Table V, p. 374.

lifting of maincrop varieties (excepting Doon Star) before 1st August in order to ensure maximum possible crops.¹

Livestock numbers, as shown by the June 1940 census returns, showed unexpectedly few changes in spite of the low level of releases of feedingstuffs during the winter months, the variations in the types and qualities of the concentrates reaching the farmer, and the gloomy prognostications about the future of imported supplies. Imports of feedingstuffs for the June-May year, 1939-40, actually totalled

Table 6. The Output of Certain Farm Products in the United Kingdom in 1940-1, Compared with Pre-war and 1939-40

000 tons

| | Output | | Change | | | Output | | Change | |
|----------------|--------|--------|-------------------|---------------|-----------------|---------|--------|-------------------|------------------|
| | 1939 | 1940 | Pre-war* = 100 | 1939 = 100 | | 1939-40 | 1940-1 | Pre-war* = 100 | 1939-40 = 100 |
| Wheat . | 1,645 | 1,641 | 99 | 100 | Beef & veal | 574 | 560 | 97 | 98 |
| Barley . | 892 | 1,104 | 144 | 124 | Mutton & lamb . | 200 | 228 | 117 | 114 |
| Oats . | 2,003 | 2,892 | 149 | 144 | Pig meat . | 402 | 362 | 87 | 90 |
| Potatoes . | 5,218 | 6,405 | 131 | 123 | Offals . | 103 | 111 | 106 | 108 |
| Sugar beet | 3,529 | 3,176 | 116 | 90 | Total meat | 1,279 | 1,261 | 97 | 99 |
| Vegetables | 2,402 | 2,617 | 110 | 102 | Milk† . | 1,771 | 1,608 | 90 | 91 |
| Fodder & Hay . | 31,979 | 32,537 | 101 | 109 | Eggs‡ . | 3,793 | 3,552 | 90 | 92 |

* Average 1936-7 to 1938-9. † Million gallons. ‡ Million eggs.

7,248,000 tons compared with an annual average of 8,723,000 tons in the three pre-war years, a reduction of 17 per cent. The numbers of cattle in June 1940 had increased slightly, due mainly to larger numbers of heifers in calf for the first time and other cattle under one year old. Sheep numbers had dropped to a small extent, due to the decline in the area of grassland. Pigs had declined by only about 7 per cent. (though the reduction in breeding sows was almost twice as great) in spite of the warning that supplies of imported feedingstuffs for pigs and poultry might be cut by 33 1/3 per cent. below normal. Poultry had been reduced by about 4 per cent. in all, but the reduction in fowls under six months was about 14 per cent.

The estimated output of meat in 1940-1 was only about 1 per cent. less than in the first year of war. Beef output was reduced by 14,000 tons or about 2 per cent. but owing to the heavier slaughtering of breeding ewes, the amount of mutton and lamb increased by 28,000 tons; pigmeat declined by about 40,000 tons or 10 per cent., an increase in baconers being more than offset by a reduction in receipts of porkers.

The total milk output in 1940-1 was estimated at 1,608 million

¹ M.A.F. Circular No. 279. Potatoes (1940 Crop) (Control) Order, 1940, S.R. & O., No. 1384.

gallons, about 9 per cent. less than in 1939-40 though the number of cows had increased; the Ministry of Food's fears of a reduction in milk yields were being realised, the average yield per cow having dropped by about 60 gallons a year.¹ As, however, the amount of milk kept on the farm for feeding to stock and for manufacturing into butter or cheese was reduced greatly the sales through the Milk Marketing Schemes of milk for liquid consumption and for manufacture off the farm declined by only 4 per cent. Liquid milk consumption actually increased by 133 million gallons and was as much as 20 per cent. higher than in pre-war years.

One desideratum of the national food policy was being achieved – the maintenance or even the increase of liquid milk consumption. But the changes in livestock numbers and the output estimates suggested that the priorities laid down by Food Policy Committee in May 1940 were not being implemented.² Milk production had declined by 9 per cent. while that of meat had fallen by only 1 per cent., though it is fair to add that a proportion of the maintained meat output was attributable to the slaughtering of breeding ewes and cows.

One further feature of the livestock output during 1940-1 was the heavy marketing in the autumn of 1940 of fat cattle and sheep, due to the poor condition of the pastures, the prospects of reduced supplies of winter feedingstuffs, and possibly the seasonal variations in the price schedule announced in September 1940. Until that time, it had been the normal policy to use fresh meat as much as possible and to use imported meat to make up requirements. But congestion in cold storage facilities and delays in unloading refrigerated ships called for a reversal of this policy. Larger quantities of imported meat had to be put into consumption and home-slaughtering restricted just at a time when home offerings were particularly heavy. This situation necessitated an immediate temporary increase in the meat ration and it led a year later to a controversy on livestock policy.

(ii)

The Import Programme, 1940-1

Farmers had been advised in planning their cropping programmes for the 1940 harvest that the supplies of imported feedingstuffs were likely to be cut drastically in the second year of war and that they would therefore be well advised to aim at self-sufficiency in feedingstuffs. An important part of the industry still depended, however, on

¹ Table 23, p. 262.

² pp. 80-1.

imported feedingstuffs – dairy cows required oilcakes and some cereal concentrates, and pigs and poultry on specialist holdings required cereals. The scheme for the rationing of feedingstuffs which was brought into operation on 1st February 1941 depended for its success on a national pool of imported concentrates to supply supplementary rations for high yielding cows and other special classes of livestock.¹ Although agriculture was less dependent on imports than in the first year of war, the feedingstuffs import programme for 1940-1 was still of great significance.

During July and August 1940 the 35 million tons total import programme and thus the Ministry of Food's 15 million ton programme was, as we saw, buried.² In August the Ministry of Shipping estimated that dry-cargo imports during the second year of war should be between 38 and 42 million tons; the higher figure, later increased to 43 million tons, was generally believed to be the more likely one. The Minister of Food agreed with the Prime Minister that, on the 43 million tons assumption, his Department should programme for imports of 18.9 million tons, which was a reduction of over 3½ million tons compared with pre-war imports.

In the first quarter of the second year of war, however – that is from September to November 1940 – total dry-cargo imports only reached an annual rate of just over 35 million tons and they were still falling steadily. The Ministry of Food was particularly disturbed because not only were total imports falling but its share of the total was also in practice declining. If, under the Prime Minister's agreement of August, the Ministry of Food's share of a 43 million tons import total was 18.9 million tons, its share of a 35 million tons total should be 15½ million tons. During September, October and November however imports of food and feedingstuffs reached only an annual rate of 14 million tons.

Discussion about import programmes continued throughout the winter of 1940-1. In January 1941 the new Import Executive accepted 15.42 million tons as the Ministry of Food's share of total imports of 35 million tons and agreed that an equivalent proportion should be allotted to food if imports should fall below that total. The Ministry of Shipping was also instructed to arrange loadings to ensure that food got its full share of imports in the short as well as the long run.

By now, however, the prospect that imports would reach 35 million tons was very remote. In February 1941 imports reached an annual rate of only 27½ million tons and at this rate the share of the food and feedingstuffs programme would be only 13.2 million tons. At this stage, it appeared probable that there would be no imports of

¹ p. 136 *et seq.*

² p. 71.

feedingstuffs as such and that agriculture would have to make do with by-products of imported wheat and oil seeds. Such prospects led to a prolonged consideration of the possible consequences of these drastic cuts on livestock numbers and of the means of securing an orderly readjustment to the new situation.¹ In the month of March 1941 the release of imported cereal concentrates by the Ministry of Food had declined to 25 per cent. of pre-war.

At this point, however, there was a new move to improve food imports by changing once more the allocation of tonnage between the Ministry of Food and the Ministry of Supply. A memorandum by the Prime Minister, which was accepted by the War Cabinet on 31st March 1941, stipulated that, on the assumption that a total of 31 million tons of dry cargo was imported in 1941, the Ministry of Food should receive not less than 15 million tons; any deficit or excess on this total was to be shared by the Ministry of Supply and the Ministry of Food in proportion of 1 ton in Food to 2 tons in Supply.

The amount of feedingstuffs that could be included in such a programme still remained to be decided. The Minister of Food stated at the beginning of April that, for the year April 1941 to March 1942, feedingstuffs as such would only be imported after 13½ million tons of food for human consumption had been brought in and subsequent discussion implied that on a 14 million ton programme or a 15 million ton programme imports of feedingstuffs as such, excluding the incidental by-products of milling and oil seed crushing, would be ½ million tons or 1½ million tons respectively. The Ministry of Agriculture urged that an earlier 15 million ton programme had included 1,600,000 tons of feedingstuffs and claimed that, unless 1,500,000 tons were imported, the slaughter policy under discussion by the Livestock Policy Conference² would have to be even more severe than was contemplated at that time.

In July, however, the Food Policy Committee approved an import programme for the 18 month period March 1941 to August 1942 at the annual rate of 14 million tons 'priority' imports and a further 1 million tons of 'second priority' imports. The former included just over 600,000 tons of feedingstuffs a year and the latter an additional 300,000 tons. It was stated, however, that the supplementary programme was, in the light of experience, not likely to be realised. This proposed import of 600,000 tons compared with an annual average of 6,190,000 tons in the five pre-war years; moreover, if the flour extraction rate was raised to 85 per cent. from 73 per cent.—as seemed possible at that time³—there was the prospect that the annual supply of milling offals from imported wheat would be only about 825,000

¹ p. 117 *et seq.*

² *Ibid.*

³ It was not actually raised until March 1942.

tons against 1,400,000 tons before the war.¹ There was thus the probability that in the second half of 1941 and in the third year of the war, the livestock industry would face a reduction, compared with pre-war, of 6,165,000 tons a year in the supply of feedingstuffs derived from imports.

Total dry-cargo imports in the second year of the war were in the end only 31.5 million tons; the actual imports under the Ministry of Food's programme amounted to only 14,423,000 tons, compared with just over 20,689,000 tons in the first year and about 22,500,000 tons before the war. Losses at sea, of which almost two-thirds were feedingstuffs or the sources of feedingstuffs, had increased from 553,000 tons in the first year to 933,000 tons in the second.

The cut in imports had until now affected mainly the supply of feedingstuffs and livestock production but when the Ministry of Food's programme fell so low as 13½ million tons, the cropping programme in turn came to be determined more and more by the import programme. Increasing attention was turned to the increased output of human food from British agriculture – wheat, potatoes, vegetables – at the expense, if necessary, of the supply of feedingstuffs for livestock.²

(iii)

The Home Production Programme for 1940-1

THE CROPPING PROGRAMME FOR THE 1941 HARVEST

Preparations for the cropping programme for the 1941 harvest were started in good time, since it was clear from previous experience that the Government's wishes should be known about July 1940 and certainly not later than August. The Official Sub-Committee on Food Policy put forward in March 1940 its first considerations of what might be done and these were discussed by the Food Policy Committee on 15th April. There were two possible alternatives. With existing resources of labour, fertilisers and machinery, an additional ½-1 million acres of grassland in the United Kingdom might be ploughed up; the selection of this land would be made by the County War Agricultural Executive Committees. Such a programme could be carried out without detriment to the yields of existing arable land and, if 1 million acres were ploughed, would be equivalent to a net increase of 5 per cent. in food production. This programme assumed a continued import of feedingstuffs sufficient to maintain the dairy herds, beef cattle and sheep at something like pre-war levels and a much reduced pig and poultry population. The second alternative

¹ The supply of oilcakes from imported oil seeds would be about the same as before the war.

² p. 153 *et seq.*

was to plough up a further 2 million acres; this would certainly be more spectacular and less open to political criticism but it would demand substantial increases in the amount of resources available at that time. The labour position had been examined in detail,¹ and it was clear that to increase substantially the existing manpower or even to prevent its further decline would require drastic measures, such as the further raising of agricultural wages and the direct control, or even conscription, of agricultural workers. The more machinery and skilled mechanics that could be obtained the smaller would be the requirement for more workers. The main fertiliser needs would be increased supplies of phosphates and nitrogen. Finally, it would be necessary to provide possibly £20-£50 million for land improvement, for grants, for drainage, for cheap credit for long-term loans, for improvements to buildings, water supplies and the like, and for direct expenditure by the State on derelict land.

The Secretary of State for Scotland suggested that an additional 250,000 acres of arable land could be found in Scotland; much of this would, however, have to be taken from rotation pasture, with a consequent further reduction in breeding flocks of sheep. The Home Secretary, on behalf of the Minister of Agriculture for Northern Ireland, stated that he proposed to issue a further compulsory tillage Order,² requiring an additional 10 per cent. of the arable land under grass in Northern Ireland to be ploughed up and put under crop for the 1941 harvest; this measure should yield a further 200,000 acres of crop land. The view of the Minister of Agriculture for Northern Ireland was that a further addition of 2½ million acres to the arable land of the United Kingdom should be possible in 1941, an opinion that was hotly contested by the other Agricultural Ministers.

It was clear that the choice depended on the present and prospective resources in shipping and labour. It was also evident that the further advice of scientific experts would be of great value not only in framing policies but also in the execution of them and the assessment of their possible effects.³ At this stage of the war it was difficult to determine in which Ministry rested the greater responsibility and initiative in the formulation of the agricultural production programme. The Agricultural Departments claimed that it was for the Ministry of Food to say whether some radical departure from the predominant system of mixed farming was required such as a concentration on wheat and potatoes; the Minister of Food claimed that he wished to take as his starting point in planning imports the amount and type of food that the Minister of Agriculture and the farming industry considered could be best produced in this country.

¹ pp. 82-3.

² pp. 73-4.

³ p. 109.

What was really wanted was an answer to the question 'what will imports be in 1941-2?' but this could not be given.

On 9th April 1940, the Germans had invaded Denmark and Norway and within a month they had complete possession of these two countries. On 10th May, Germany invaded Holland, Belgium and Luxembourg; by 3rd June, the evacuation of 337,000 British and Allied troops had taken place and on 21st June the Franco-German armistice had been signed at Compiègne. Hitler was now in command of all the coastline, ports and airfields from the Bay of Biscay to Northern Norway.

It was not surprising that the possibilities of the lighter cropping programme began to recede. A postponement of a decision on agricultural policy for a month or two seemed justifiable; a final decision need not be given until August, when there might be a better idea of the results of the 1940 harvest and the possibilities of the import programme. In the meantime the new Minister of Agriculture, Mr R. S. Hudson, broadcast at the beginning of June a warning that heavier demands would be made in 1940-1.

In July 1940 a production programme was put forward by the Scientific Food Committee. This Committee had been appointed in May 1940, under the chairmanship of the President of the Royal Society, by the Lord Privy Seal:

to consider and advise upon problems of national food requirements and of home food production, with special regard to the shipping and foreign exchange likely to be available for imports of food and animal feedingstuffs, and the labour and other resources likely to be available for home production.

The first task that this Committee undertook was to draw up a list of foodstuffs to be included in an 'iron ration'. It had started its work soon after the evacuation of Norway and its first meeting almost coincided with the evacuation of the British Expeditionary Force from Dunkirk. During its first two weeks of deliberation, France had been overrun and the French had asked for an Armistice on 17th June. The Battle of Britain was imminent. It is not surprising that the Committee's first report, considered by the Food Policy Committee on 4th July, put forward proposals for a siege diet; what, among its premises, could have been more reasonable than its assumptions that supplies of shipping and foreign exchange might well be negligible and that manpower would be limited by more urgent claims to repel invasion? It calculated the nutritional needs of the nation, in terms of calories, proteins, minerals and vitamins; it proposed a *basal diet* of bread (85 per cent. flour extraction), milk, oatmeal, fats, potatoes and vegetables, which would be supplemented with cheese, pulses, bacon, meat and fish, sugar and dried fruit to provide additional energy for work - a *production diet*. The Scientific Food

Committee estimated that some wheat and fats would still have to be imported but that all the other foods in its list could be produced at home in sufficient quantities to meet the needs of the whole population. This would call for a 20 per cent. increase in milk production, 50 per cent. in the potato output, 100 per cent. in the production of vegetables and a tenfold increase in the quantity of oats to be made available for human consumption. The Committee recognised that such proposals 'would have very important repercussions on the economics of agriculture'.

The report was widely misunderstood and criticised by the harassed officials in both the Ministry of Food and the Ministry of Agriculture who were already working under great pressure and on whom fell the unenviable responsibility of having to decide what circumstances might be like in 1941 and 1942. Though the report was never put forward as a policy for immediate adoption but merely to meet the situation at its nadir, if and when this should occur, it was considered in some quarters as having been drawn up for immediate implementation; furthermore, a number of its conclusions were inconsistent and technically impracticable – for example, a tenfold increase in oatmeal consumption was advocated, a quantity far beyond the capacity of the oat mills. Such deficiencies gave immediate grounds for soft-peddalling the Committee's findings. The Ministries pointed out that the crops sown and planted in the second year of war, except potatoes and vegetables, would not be ready for consumption until the third year and that it was quite impossible to estimate what the position with regard to importing capacity, stocks, shipping, foreign exchange and manpower was likely to be in 1941-2. For this reason the Ministries were more attracted to plans for home production that would allow for maximum flexibility in meeting requirements either for human or for animal consumption.

The Agricultural Departments' policy was to keep livestock production going for as long as possible, and to use oats and barley for human consumption only if the food situation became sufficiently desperate. Dual purpose crops should be encouraged and the prerequisite for this was the ploughing up of more grassland which, being usable by livestock only, was so essentially single purpose. If conditions were such that the crops were needed for human consumption, they could be used for that purpose; if not then they could be used for feedingstuffs. Wheat and beans, as autumn sown crops, and potatoes as a spring crop, were given priority. The sugar beet acreage should be maintained at its 1939 level, and counties were circularised giving the 1939 county acreages. The County War Agricultural Executive Committees in selected areas were asked to do their best to secure an increase in the production of vegetables but as these had neither guaranteed prices nor assured markets, Direction Orders

were not to be used for the purpose. Otherwise farmers were to make themselves as self-sufficient as possible in feedingstuffs.

Shipping prospects began to deteriorate in June, July and August 1940 and foreign exchange problems loomed larger;¹ as the outlook for imports in 1940-1 became less optimistic, opinion moved towards the more drastic production programme.² The farm survey initiated by the Minister of Agriculture³ was still incomplete but was sufficiently advanced to give a rough estimate of the amount of grassland that could be ploughed up without undue difficulty in each county. At an informal meeting of Ministers on 8th August it was agreed that the Minister of Agriculture should, after consultation with the County War Agricultural Executive Committees, put forward for the War Cabinet's approval a programme for ploughing up between 1 and 2 million additional acres, subject to the possibility of providing the necessary fertilisers; it was, however, decided that no precise figure should be specified in the announcement.

The sub-division was as follows:

| | <i>Preliminary August 1940 acres</i> | <i>Final March 1941 acres</i> |
|-----------------------------|--|---------------------------------------|
| England and Wales | 1,333,000 | 1,700,000 |
| Scotland | 250,000 | 260,000 |
| Northern Ireland | 250,000 | 200,000 |
| Total | 1,783,000 | 2,160,000 |

The only specific reference to cropping was for potatoes, the area of which was to be increased by about 200,000 acres, to 1 million acres; of this increase, Scotland and Northern Ireland would each be responsible for 20,000 acres. This programme was approved by the War Cabinet on 27th August and announced.

In order to ensure the 1 million acres of potatoes required by the Ministry of Food, the precaution was taken of allocating county potato acreage quotas to the Executive Committees; these were based largely on an equal percentage increase of about 35 per cent. over the 1940 acreage. Direction Orders could then be served upon farmers in order to fill the quota.

But the revision of import programmes in November 1940 enforced a further reconsideration of the agricultural programme. It was clear that an expansion of home production even greater than that envisaged in August had now become essential. On the reasonable assumption that it would be impossible further to increase the arable area by more than 1½ million acres, it became imperative to increase

¹ p. 105.

² pp. 107-8.

³ pp. 328-9.

the yields of both arable and grassland. An increase of even 5 per cent. would be equivalent to ploughing up another 1 million acres.

The need for more extensive drainage was recognised; measures were introduced to stimulate action by Drainage Authorities¹ and a claim was put in for 10,000 additional workers to be employed in gangs by Drainage Authorities and County War Agricultural Executive Committees. More fertilisers would be needed, particularly phosphatic and nitrogenous, and an intervention by the Minister of Aircraft Production² demanding that 200,000 tons of phosphates should be imported immediately from the United States provided a dramatic note of urgency. More machinery and essential materials were also needed, much of which would also have to be imported.

The principal measures proposed, however, were firstly to impart in the minds of farmers greater confidence in the future and, secondly, to strengthen the powers of the County War Agricultural Executive Committees to deal with under-cultivated land.

It was felt that on at least three-quarters of the farms of the country the farmers were competent to increase their output further, if they were enabled to undertake adequate capital expenditure on such items as converting land into arable, drainage, machinery – expenditure that could only be recovered over a number of years. Higher prices had already enabled some farmers to reduce their indebtedness and even to increase their capital investment but any general improvement would come only if the farmer could see the way ahead more clearly.

The Minister of Agriculture, on 26th November 1940, made the following statement of policy:³

The Government has, by ensuring a guaranteed market at guaranteed prices for the principal agricultural products for a year ahead, helped to create more stable conditions up to the 1941 harvest. The Government has now decided to go further and to guarantee that the present system of fixed prices and an assured market will be maintained for the duration of hostilities and for at least one year thereafter. Prices will be subject to adjustment to the extent of any substantial changes in cost of production.

and the further assurance was given that:

The Government, representative as it is of all major political parties, recognises the importance of maintaining after the war a healthy and well-balanced agriculture as an essential and permanent feature of national policy. The guarantee now given is meant to secure that stability shall be maintained, not only during hostilities, but during a length of time thereafter sufficient to put into action a permanent post-war policy for home agriculture.

¹ Agriculture (Miscellaneous War Provision) (No. 2) Act, 1940, 3 & 4 Geo. 6, Ch. 50.

² The Rt Hon. Lord Beaverbrook.

³ H. of C. Deb., Vol. 367, Col. 92.

There were, however, many farmers who had neither the cash nor the credit nor the knowledge nor the initiative to make their farms more fully productive. At the same time the procedure in the hands of the County War Agricultural Executive Committees for insisting on a change of tenant or getting possession of a farm and letting it to another tenant was too slow owing to formalities connected with valuation, compensation, etc. Committees were now empowered to do the necessary work without necessarily being certain that they would be able to recover the full cost.¹

The general policy was accepted by the War Cabinet and announced in the House of Commons by the Minister of Agriculture on 28th November. The ploughing-up quota set for the counties of England and Wales was raised to 1,450,000 acres and for Scotland to 260,000 acres while the Northern Ireland target was reduced to 200,000 acres. Finally in March 1941 the England and Wales quota was raised again to 1,700,000 acres, making a total for the United Kingdom of 2,160,000 acres.

Specific quotas were set for mustard for seed, flax and sugar beet, 10,000 acres for the first² and 40,000 for the second.³ The sugar beet target for England and Wales was set at approximately 340,000 acres and voluntary county quotas were established; but by 11th January 1941, only 260,000 acres had been promised under contract. The difficulty lay not in the prices and conditions of the contracts but rather in a fear that there would not be sufficient workers to cultivate and harvest the crop. Committees were asked to give farmers all possible assurances that adequate labour would be made available. It was hoped that the county targets would be attained by voluntary means but the Minister was prepared to adopt more forceful measures if the Committees wished him to do so.⁴ The target was, however, reached without further Directions.

The feeling of frustration and disappointment that had followed the price announcement of August 1940 had been tempered by the Minister of Agriculture's defence of the Government's decisions and, even more markedly, by the urgency in the Prime Minister's speech in the House of Commons on 5th November 1940 in which he gave his grim and startling prognostication:

We have to look a long way ahead in this sphere of the war. We have to think of the years 1943 and 1944 and of the tonnage programmes which we shall be able to move and which we shall have to move across the oceans then. Every endeavour must be made to use the time available to produce the greatest volume of food of which this

¹ Agriculture (Miscellaneous War Provisions) (No. 2) Act, 1940.

² The growing of this crop (excluding mustard grown as a fodder crop or for ploughing in) was prohibited except under licence from the County War Agricultural Executive Committees. County Circular No. 354.

³ County Circular No. 451.

⁴ County Circulars Nos. 378 and 442.

fertile island is capable and so liberate our Navy and our merchant shipping for the movement of the considerable armies which will certainly be required in those years if the enemy do not surrender or collapse in the meanwhile.¹

Any sense of complacency that had survived the end of the 'phoney' war or the disasters of the summer of 1940 was exorcised by the stark realities which faced the country as preparations were made for the second harvest of the war.

The weather in September and October 1940 was good and autumn cultivations and sowings went well. At that time it was expected, on the basis of farmers' intentions to sow, that the area under winter wheat alone in England and Wales would be 2,315,000 acres compared with 1,809,000 acres of both winter and spring wheat in 1940. But as November was cold and wet, this proved impossible and other cultivations were also retarded. The ploughing of grassland was, however, going well. The weather was not too good in December and January, particularly in the North and West, but on the whole work was up to schedule and autumn-sown crops were healthy and vigorous. February and March brought changes for the worse; ploughing and sowing were delayed and there was an increasingly serious congestion of farm tasks to be carried out in the limited time available. The heavy demand for the services of the machinery at the disposal of the County War Agricultural Committees only served to throw into relief how essential machinery had become to enable the increased work to be carried out in the limited times set by the weather. April was better and arrears of work were wiped out except on the heavy soils.

In spite of the setback in November and in February and March, these difficult targets were reached; the increase in the area under crops in the United Kingdom compared with the 1940 harvest was 2,231,000 acres of which 1,970,000 acres came from the ploughing up of permanent pasture and 336,000 from temporary grass.

The individual achievements of the three countries were as follows:

| | <i>Increase in area under crops other than grass acres</i> | <i>Decrease in area of permanent grass acres</i> | <i>Decrease in area of temporary grass acres</i> |
|-----------------------------|--|--|--|
| England and Wales | 1,832,000 | 1,604,000 | 213,000 |
| Scotland | 261,000 | 225,000 | 91,000 |
| Northern Ireland | 138,000 | 141,000 | 32,000 |
| Total | 2,231,000 | 1,970,000 | 336,000 |

¹ H. of C. Deb., Vol. 365, Col. 1244.

The area under wheat had risen by 456,000 acres, under oats by 551,000 acres and under barley by 136,000 acres; the total area under cereals had increased by almost $1\frac{1}{2}$ million acres and was now about 60 per cent. above the pre-war level.¹ The important potato crop was increased by almost 300,000 acres and overshot the target figure of 1 million acres by 123,000 acres, while the sugar beet area was brought up to 351,000 acres.² Fodder crops increased in area by some 400,000 acres, while the area lying fallow was reduced by 87,000 acres.

LIVESTOCK POLICY

In May 1940 the Food Policy Committee had given a clear indication of the order of its priorities in livestock production.³ Apart from a warning for pig and poultry producers that they might have to curtail their output to about one-third of their pre-war level, there was as yet little indication of immediate trouble ahead for other livestock farmers, though the possibility of a reduction of feeding-stuff imports in the autumn had been recognised. But events were moving fast and in June 1940 the Minister of Agriculture appointed a Committee, with Lord Moyne as Chairman,

to advise on the formulation of a winter livestock policy, and of plans for a slaughter policy if that is needed, both questions to be considered in the light of the probable supply of feedingstuffs and the possibility of a state of siege necessitating the slaughter of our reserves of livestock on the hoof.

As indicated earlier⁴ the June 1940 census of livestock numbers had shown little change by the end of the first year of war. Dairy cattle and beef cattle numbers had both risen, sheep numbers had fallen slightly, pigs had declined by 7 per cent. and poultry by 4 per cent. The relative changes in the different age groups, taken in conjunction with the low rate of marketing in the early months of 1940, were a clear indication that the rate of fattening had been slowed down and that more livestock had been carried on for summer grazing. Would there be a heavy glut of marketings in the autumn? The Moyne Committee considered that, on the basis of prospective feedingstuff supplies, there should be no difficulty in carrying through the winter normal supplies of cattle and sheep, though not exceptional numbers. It thought, however, that farmers' apprehensions about feedingstuffs might lead to an autumn glut and suggested three methods of dealing

¹ Appendix Table IV, p. 373.

² The target sugar beet acreage was 340,000 acres, approximately the 1939 area. In January 1941 the area contracted had been still far short of the requirement and the County War Agricultural Executive Committee organisation was used to obtain further contracts or larger contracts in those counties where they were less than in 1939.

³ pp. 80-1.

⁴ p. 103.

with such an eventuality. Firstly, a seasonal rise in fat cattle prices of 10s. per cwt. from October 1940 to June 1941 should be instituted to encourage farmers to spread their marketings over the period; secondly, farmers should be asked, if necessary, to hold back a proportion of their offerings, depending on the feedingstuff position on the farm, with advance payments as part-compensation; and thirdly, the meat ration might be raised temporarily to absorb the glut if it occurred. The Committee also made recommendations designed to achieve economy in the use of feedingstuffs; price premiums for highly-finished beasts were reduced and the highest class of fat cattle, those with a killing-out percentage of 58 per cent., was abolished. In its answer to the problem of a slaughter policy, the Committee listed the following order of slaughter – pigs, beef cattle of two years of age and upwards, cast and unproductive cows, and lowland sheep.

The autumn glut occurred, as feared, even though the three suggestions of the Moyne Committee had been adopted. The feedingstuff import prospects were growing dimmer and the certainty of an extension of the ploughing campaign for 1940-1 was increasing; drought had reduced the carrying capacity of pastures; the announcement of the August price schedule, with its immediate reduction in pig prices, was a further factor that made farmers anxious to sell their stock. Fat cattle, sheep and pigs swamped the markets and bacon factories in unprecedented numbers in September, October and the first part of November; for the last week of September and the first week of October, 20 per cent. of the fat cattle and 40 per cent. of the sheep offered at the Ministry of Food's collecting centres could not be accepted; the nominal civilian meat ration had to be raised from 1s. 10d. to 2s. 2d. a week from the beginning of October until 16th December, and then it fell by two stages to 1s. 2d. a week on 13th January, a succession of changes that was most unwelcome in the Ministry of Food.¹ On the whole, the farmers did not experience serious difficulties in keeping on their rejected animals but the Ministry of Food acquired a complex on autumn gluts which caused considerable controversy on livestock policy a year later.

It was at this stage, perhaps, that the value of guaranteed prices and a guaranteed market first became apparent. In the first week after the drought, 76,000 cattle and 486,000 sheep entered the market, compared with a normal supply of 60,000 and 300,000 respectively, and they were all paid for at the price fixed in August.

A further step was taken in December 1940 in the formulation of a livestock policy. Throughout most of the discussions on prices in the first year of the war, it had become obvious that some special measure was necessary to help hill sheep farmers; the pressure for this had been

¹ A comparison of the actual issued value of the meat ration with the nominal value at this period is given in *Food*, Vol. I, pp. 174-5.

particularly strong from Scotland. The ploughing up of grassland had necessitated a reduction in sheep numbers on lowland pastures and the market for store sheep from the hill farms was fast disappearing. The lowland farmer had other sources of income, with guaranteed prices and markets, but the hill sheep farmer had virtually no alternative. Moreover, the price of wool, his only other source of income, had been pegged by the Ministry of Supply at a relatively low level.

It was therefore decided to make a payment in 1941 of 2s. 6d. per ewe returned on hill farms in the December 1940 livestock census; the subsidy was to be administered by the County War Agricultural Executive Committees.¹

The first six months of 1941 were marked by almost continuous consideration of the livestock policy to be followed for the remainder of the second year of the war and for the third year. The Food Policy Committee had agreed on 19th December 1940 that inter-departmental representatives and members of the Scientific Food Committee should join forces, under the title of the Livestock Policy Conference, and should discuss both the bearing of the proposed reduction of the meat ration upon slaughter policy and also the allocation of feedingstuffs between different classes of livestock. The terms of reference of the Conference were perhaps ambiguous because in subsequent discussion the two principal issues were constantly becoming confused. Firstly, there was the Ministry of Food's problem: how could the reserves of meat on the hoof be best utilised to maintain the meat ration at a reasonable level? Secondly, there was the Ministry of Agriculture's problem: what numbers of livestock, in the light of the reduced imports of feedingstuffs and of the loss of grazing by the ploughing up of grassland, could be retained on the farm? A third issue was, in a way, subsidiary to the second issue; this was the Ministry of Food's interest in the maintenance of milk production, should livestock numbers have to be reduced.

In its interim report in February 1941 the Conference divided the period which it had under consideration into three:

- (a) the three immediate winter months, February to April, 1941, during which the livestock were dependent on imported feedingstuffs (assumed to be 34 per cent. of normal from February to August) and stocks of home-grown feedingstuffs from the 1940 harvest,
- (b) the four months, May to August 1941 when most stock, except pigs and poultry, were on grass, and
- (c) the period from September 1941 onwards.

The Conference's attitude of mind was perhaps best indicated by the statement in its interim report that 'the problem was not in the main

¹ The Ministry of Supply also gave specially favourable prices for wool from hill breeds of sheep such as Black face, Swaledale, Welsh and Hardwick.

whether livestock should be slaughtered at an abnormal rate to add to the home supply of meat but whether supplies of feedingstuffs were likely to decline to such an extent as to make desirable a reduction in the numbers of livestock in the country¹.

The results of a statistical examination of the feedingstuff prospects for February to August 1941 were not encouraging, particularly for the later summer; on the other hand, the Ministry of Agriculture's contacts with farmers indicated no particular apprehension about their ability to carry their stock through to the summer grass period. The Conference concluded that it would be premature to introduce a sweeping slaughter policy in the first period, but that the farmer should be made fully cognisant of the probable future supply of imported feedingstuffs and reminded of the Government's desire that he should not try to maintain his former livestock numbers if this were to prejudice his output of milk and meat. For dairy cows, the Conference suggested that low yielders should be gradually culled – this would be to the advantage of the beef supply without harming the milk output. For beef cattle, it was recommended that the imports of cattle from Eire should be restricted¹ and that further price changes should be made to discourage excessive feeding of beef cattle. For sheep, the Conference felt that the necessary reduction in the number of lowland grassland sheep was, in fact, occurring; at the same time it was undesirable to see a reduction of hill sheep and arable farm sheep. For poultry and pigs, it was agreed that numbers were probably still too large in relation to feedingstuff prospects; but consideration of the means to deal with this problem was left for discussion in the second report.

The Conference's second report was made after the issue of the results of the December census of livestock numbers and feedingstuff supplies on farms. The accuracy of this census was however open to question; in view of the imminence of the feedingstuff rationing scheme and the assumptions on which it was worked out, it was not improbable that livestock numbers had been exaggerated and feedingstuff supplies minimised. The report recommended that pig numbers, which were shown by the December returns to be only 40 per cent. below pre-war, should be reduced to one-third, and doubts were thrown on the ability of the rationing scheme to achieve this:

Under the scheme, the diversion to pigs of rations issued for other livestock cannot be prevented and on mixed farms there may be a tendency for pig numbers to be maintained at the expense of fattening requirements of other stock. . . . The best way of achieving the desired end would be by a combination of propaganda and price adjustment.

¹ Imports were in any case banned from January to October 1941 on account of foot and mouth disease. Animals (Landing from Eire, Northern Ireland and Isle of Man) Orders and Amendment Orders, S.R. & O., 1941, Nos. 198, 1629 and 1831.

It was therefore proposed that prices for lighter weight pigs should be raised temporarily and that there should then be a gradual return to the original price schedule; memories of farmers' ideas of fair prices six months before were very fresh and a suggestion that farmers' representatives should be consulted in the determination of the price increase was not met with acclamation by the Treasury.

Most of the Conference's recommendations in its first two reports were adopted but they contained little in the way of fresh direct action to increase marketings and to reduce numbers for the first and second periods under review. The Minister of Food became more nervous that excessive numbers of cattle and sheep would be carried on through the grazing season, and that this would repeat the previous autumn's glut; he wished to see an immediate increase in receipts of stock on the market to enable him to increase the meat ration and to

Table 7. *Estimated Supplies of Feedingstuffs, in terms of Starch Equivalent, available in the United Kingdom in Pre-war Years and in 1941-2, assuming differing Flour Extraction Rates and differing Imports of Oilseeds*

| | Pre-war† | 1941-2 | | | |
|-------------------------------|----------------------------|----------------------------|----------------------|----------------------------|----------------------|
| | 000 tons starch equivalent | 'Favourable'* | | 'Unfavourable'* | |
| | | 000 tons starch equivalent | per cent. of pre-war | 000 tons starch equivalent | per cent. of pre-war |
| Concentrates | 7,973 | 3,627 | 46 | 2,633 | 33 |
| Roughage & grazings | 16,391 | 14,567 | 89 | 13,042 | 80 |
| Total | 24,364 | 18,194 | 75 | 15,675 | 64 |

* 'Favourable' - no imports of feedingstuffs as such, 73 per cent. flour extraction rate, 1,360,000 tons a year of oilcakes from imported oilseeds, and current usage of home-grown grain and roots. 'Unfavourable' - no imports of feedingstuffs as such, 85 per cent. flour extraction rate, 100,000 tons of oilcakes and some diversion of cereals and roots for human consumption.

† 1936-7 to 1938-9.

avoid congestion at the end of the summer. Other Ministers, particularly those who were interested in the shipping programme, felt that the general assumption that excessive numbers of stock were being maintained on the farm at the expense of the output of live-stock products must surely mean that more and more shipping space was being used 'merely to keep the beasts' bodies and souls together rather than to convert them into meat'. This was, of course, a dangerous over-simplification but it represented an important point of view at the time.

The third report of the Conference in March 1941 dealt with the

possible situation in the autumn and winter of 1941-2 and raised issues of real controversy.

Estimates were made of potential supplies of feedingstuffs in the third year of war based on 'favourable' and 'unfavourable' assumptions concerning the flour extraction rate and the supplies of oilcakes (Table 7). The Conference then calculated, on the 'favourable' assumptions that available supplies would be about 75 per cent. of normal, that the following reductions would be required to bring about a proper adjustment of livestock numbers to feedingstuff prospects:

| | |
|------------------------|--|
| Dairy cattle . . . | a reduction of 294,000 or 5 per cent. of the existing numbers. |
| Beef cattle . . . | a reduction of 607,000 or 20 per cent. of the existing numbers. |
| Sheep . . . | a reduction of 3,000,000, or 17 per cent. of the existing numbers. |
| Pigs and Poultry . . . | a reduction to 25 per cent. of pre-war numbers. |

On the basis of the 'unfavourable' assumptions, there would be no concentrates at all for beef cattle, sheep, poultry and pigs if full maintenance and production rations were to be given to cows and work horses.

The agricultural implications of even the lesser reduction were extremely serious and dominated the discussions of the next two months. The Minister of Food complained that the question of the meat ration was not securing adequate consideration. He argued that he was responsible for seeing that the food resources of the country were 'placed in a controlled manner at the service of the people of this country', and that for twenty months he had accepted practically everything that the farmer had cared to send in; he had tried to maintain a regular ration to the public by balancing his requirements with imports. Circumstances had now changed; imported supplies were deficient. Was the supply of home-produced meat to be regulated solely by the economic interests of the farmer? Was the Minister of Food, who had to honour a Government meat ration, to have no control over the nearest and largest source of supply? The current offerings of home-produced meat were 20 per cent. below his requirements; he wanted more meat and he wanted it in certain minimum quantities each week or each month.

But still the issues were debated mainly on agricultural considerations. It was argued by the Agricultural Departments that drastic reductions in livestock numbers would upset the balance of British farming; mixed farming was the basis of most systems in this country; soil fertility was dependent in most parts of the country on the close association of livestock and crop production; farms would be

under-stocked and there would be a wastage of the by-products of farming and of fodder crops for which no other use existed; years must elapse before livestock numbers, the 'capital' of the farmer, could be built up again. Within the Ministry of Food itself there was a divergence of views; the Meat and Livestock Division was well aware that the slaughtering of immature cattle was wasteful and was not convinced that it was necessary.

But on 13th March the Home Policy Committee accepted the recommendations of the Conference and decided that the slaughter policy, based on the favourable assumptions, should be carried out over the next six months.

A further report by the Conference in May stated that the plans for the reduction of sheep and pigs were proving effective; the numbers of breeding ewes and sows, as shown in the March livestock census, were declining at about the right rate. But it was unlikely that the programme for dairy cows and beef cattle would be achieved without the assumption of compulsory requisitioning powers.¹ Sheep and pigs were disappearing nicely so the issues narrowed down once again to dairy cows and beef cattle, the old antagonists. The Food Policy Committee then decided that compulsory powers for the *culling* of dairy cows should be assumed and exercised at once; that powers should also be assumed for the requisitioning of beef cattle and that the machinery to achieve this should be made ready by June. The Minister of Agriculture and the Secretary of State for Scotland devised their respective plans. The former intended to use the County War Agricultural Executive Committees who would work to a county quota; the criterion for the culling of dairy cows was to be low milk yields or the incidence of disease, and for beef cattle unthriftiness and inferior conformation. In Scotland, it was proposed to cull dairy cows according to the number in the herd.

Meanwhile complaints about the inadequacy of the meat ration had been growing. Efforts to obtain an early improvement in overseas supplies had been made and these had started to bear fruit. Ships had been diverted from the Dominions for the shorter haul to South America, empty refrigerated troop ships were permitted to return via the Plate, and sinkings of refrigerated ships had decreased. On 6th June 1941 the Ministry of War Transport produced its shipping programme for meat in the third year of war, and it was discovered to be at least 850,000 tons against a probable import of 940,000 tons in the second year. The Minister of Food's more pressing needs appeared to be satisfied, and the slaughter issue became more than ever an agricultural one. Throughout the discussions there had been a conflict in views; on the one hand, there was the statistical

¹ The Conference was unable to recommend any practicable measures to reduce poultry numbers except by further reductions in the feedingsuff ration.

evidence produced by the Minister of Agriculture's representatives on the Livestock Policy Conference, indicating that existing numbers of livestock could not possibly be maintained on the supplies of feedingstuffs that were, or would be, available, without causing a 'catastrophic' fall in milk and meat production in the winter and early spring of 1941-2. On the other hand, there was the Ministry of Agriculture's traditional dislike of taking extreme measures to reduce beef cattle numbers; other important factors in support of the non-slaughter school of thought were the belief that there were untapped grazing reserves in many parts of the country and the advice of those in the Ministry of Agriculture and the Ministry of Food, who were in contact with farmers, that they, the farmers, did not seem to be unduly worried by the prospects or even by the warning that imports of feedingstuffs as such might be eliminated entirely.

Certain of the safety of the meat ration and of its increase to 1s. 2d. at the end of August 1941, and assured by the Agricultural Ministers that there would be no autumn glut, the Minister of Food relaxed his pressure for an immediate slaughter policy. The Food Policy Committee chose to ignore the prospective drop of 10 per cent. in imported meat supplies in the third year of the war, as disclosed by the Ministry of War Transport's memorandum, and seized with relief the opportunity to reverse its decision of 13th March. It accepted gladly the sudden assurance of the Agricultural Departments that there would be no shortage of feedingstuffs in the coming winter and dropped its plans for the compulsory requisitioning of beef cattle. There need be no abnormal slaughtering of beef cattle until at least well into 1942 but the scheme for the culling of low yielding and diseased dairy cows which had been accepted as reasonable by all departments and by farmers themselves was retained.¹

The validity of the decision depended on whether the statisticians on the Livestock Policy Conference, or rather the statistics available to them, were sound or whether the farmers knew best. Time alone could tell. If the existing livestock population was in fact maintained in 1941-2, there could be only three interpretations of what had happened; either the experts had grossly under-estimated the productivity of grassland in the pre-war years and in 1941-2; or there had been a spectacular increase in grassland productivity during the war, or there had been considerable understocking and waste of grazing in the pre-war period. Probably all three were valid but the last was by far the most important.

In the meantime, the Minister of Agriculture had won his battle; the 'balance' of British farming had been preserved for at least another year.

¹ Livestock (Control) Order, 1941, S.R. & O., No. 795.

(iv)

Measures to Implement the Programme

MANPOWER

Estimates in the summer of 1940, when another 2 million acre plough-up campaign was first discussed, had indicated that this campaign would require an addition of some 60,000 regular and 22,000 casual workers over the 1938-9 strength.¹

The position by June 1941 was, however, far short of agricultural ambitions. The number of regular workers on farms in the United Kingdom was only 4,000 greater than in 1938-9; a decline of 14,000 males had been offset by an increase of 18,000 females.² The number of casual workers, however, had risen by almost 43,000 of whom some 16,000 were men and 27,000 were women.³ It was becoming clear by now that improvements in the labour situation would have to be sought by improvisation rather than by any big draft on to the land of labour from less essential occupations. Such additional labour would, in the main, be unskilled and much of it would probably have to be employed by the County War Agricultural Executive Committees.

The first task was to try and keep the workers already in the industry either from being called up or from going into other occupations. The Manpower Requirements Committee had reviewed the situation at the end of 1940 in the light of the military situation and the need of the Services for more men. This Committee recommended in February 1941 that some 22,000 men would be required from farming between October 1940 and October 1941 and in March the age of reservation for agricultural workers was raised to 25 and for agricultural subsidiary occupations, such as gardening and poultry-keeping, to 30 or 35. It was agreed, however, that the call-up of these men should be postponed until October 1941, that is after the harvest, and that the selection of the men to be taken should be left to the County War Agricultural Executive Committees, who were in the best position to identify those who could be most easily spared. There was little difficulty about the release of about 12,000 men in the subsidiary occupations,⁴ but as the summer wore on, representations were made that only about a further 3,000 of the other 10,000 due from the industry as a whole could be released without impairing

¹ pp. 82-3.

² Table 5, p. 85.

³ The June Census does not, of course, give a fair indication of agriculture's labour requirements or supplies at the peak periods of the year, that is at sowing and, particularly, at harvesting, when the number of casual workers employed rose greatly.

⁴ A number of these workers in the subsidiary occupations - specific figures are not available - remained reserved either by being transferred to the main agricultural occupations or by being incorporated into labour gangs under the control of the County War Agricultural Executive Committees.

the 1941-2 cropping programme. The Lord President's Committee agreed that the lateness of the harvest justified a further postponement of the call-up of these remaining 7,000 men until 1st December 1941 but felt that agriculture must make its contribution like other essential industries such as gas, electricity and transport. This view was eventually upheld by the War Cabinet on 10th December 1941 and further deferment was not permitted. Thus, during 1941 and the beginning of 1942, it is probable that about 20,000 men joined the 83,000 who were said to have left agriculture for the Services.

Attempts to attract or compel persons to take up farm work were not conspicuously successful. The national minimum agricultural wage had remained at 48s. a week in England and Wales throughout the second year of the war, though some fifteen County Agricultural Wages Committees out of forty-seven in England and Wales had raised their minimum above the basic figure by August 1941 and eleven more were preparing to do so. The disparity between the wages and amenities of agricultural workers and of those in other rural occupations was certainly no less, and probably greater, than when the minimum agricultural wage was raised to 48s. A request by the workers to the Wages Board in June for an increase in the national minimum wage from 48s. to 60s. had been considered but the Board had decided to postpone its judgement until November, after the harvest, when the conditions of the industry would be clearer.

Little resulted from the more direct labour control Orders to increase the numbers of regular workers though they undoubtedly helped to stem the drift out of the industry. The Undertakings (Restriction on Engagements) Order¹ which had come into force in June 1940 had prevented employers in other industries outside agriculture from taking on male workers from agriculture.² This measure, which was far from inclusive in its scope (for example it did not control movements from farm to farm or from farm into self-employment) was supplemented in 1941 by the Essential Work (General Provisions) Order.³ In effect, every agricultural male worker over 18 years old who left his employment now came automatically into the employment of the County War Agricultural Executive Committee unless he found other agricultural employment within fourteen days; in addition, a Committee could not discharge

¹ S.R. & O., 1940, No. 877.

² In Northern Ireland, the Undertakings (Restriction on Engagement) (Northern Ireland) Order, 1941 came into force on 14th April 1941. This Order did much to plug the leakage of labour into more remunerative occupations but it was found necessary to supplement it in 1942 by the Control of Employment (Agriculture) (Northern Ireland) Order, 1942 which was designed not only to ensure greater stability in the employment of agricultural labour but also to bring back into agriculture some of the workers who had left before the Restriction on Engagement Order was brought into force.

³ S.R. & O., 1941, Nos. 302 and 1051.

a worker, nor could a worker leave the employ of the Committee without consent of the Ministry of Labour.

In Scotland, the traditional methods of hiring agricultural workers were very different from those in England and Wales and it was customary for the worker to move from one farm to another almost every year, if not half-yearly; a much more stringent control was put into operation¹ which prohibited the termination of any contract between a farmer and a male worker except by permission of the National Service Officer and also prohibited a farmer from engaging such a worker without this permission. Thus at the end of the second year of war there was in Scotland fairly close control over the movement of all male farm workers in agriculture, while in England and Wales this control was virtually limited to those who wished to leave agriculture for other occupations and to those employed by the County War Agricultural Executive Committees.

As possibilities of adding much more to the arable area by the ploughing up of grassland diminished, the growing need to increase the arable area and to raise the fertility of the existing crop land led during 1940-1 to greater demands for gang labour for land reclamation, drainage, ditching, clearing of water courses and the like. Executive Committees had been empowered in March 1940 to employ gang labour for this work but progress had been slow, primarily owing to the shortage of such workers and to housing difficulties. During 1940-1 efforts were directed to speeding up this work. By the end of 1940, thirty Committees in England and Wales were employing gangs of workers and there was a demand for 3,000 more men. The War Cabinet, at the request of the Minister of Agriculture, agreed in January 1941 to the use of 2-3,000 Italian prisoners of war, but it was July before the first arrived in the country; some 2,400 were, however, at work on the harvest in August. In June it was agreed to raise the number of Italian prisoners of war to be brought over for agricultural work to 25,000. At first it was stipulated that these men must work in gangs, for security reasons, and this type of labour was not available, therefore, to help the small farmer; this restriction was, however, subsequently removed.

After undertaking in April to find 10,000 men for agriculture the Ministry of Labour was unable to fulfil this promise, part of the difficulty, without doubt, being the disparity between agricultural and other wages. There was a reluctance in spite of statutory authority to direct men into a lower paid industry, a scruple which some people felt was unduly sensitive in view of the position of men called to the Services. The suggestion was put forward that agricultural companies of the Military Pioneer Corps might be formed with conscripted men. This was turned down as being undesirable in principle but the

¹ Essential Work (Agriculture) (Scotland) Order, S.R. & O., 1941, No. 1557 (S.47).

Minister of Agriculture did succeed in February 1941 in borrowing from the War Office 3,000 men of the Corps for temporary work on land reclamation; a further 400 were loaned in April to the Thames Conservancy Board for drainage work.

As in the previous year, extensive schemes were drawn up in the early summer for supplementary harvest labour and again these were remarkably successful; children from elementary and secondary schools, university students, and voluntary workers from the cities volunteered in thousands. In 1940, some 249 camps, attended by 8,000 boys, had been formed in England and Wales; for the harvest of 1941, however, the numbers had been increased to 335 and 12,000 respectively.

The one continuous source of additional labour during 1940-1 was, however, the Women's Land Army. The initial prejudice against women workers had been overcome during the first year of war, firstly by the experience of farmers who had employed them and secondly by the increasing amount of work to be done and the inability to find men workers. There was a steady accretion to the Women's Land Army at the rate of about 1,500 a month and by August 1941 its strength stood at over 19,000. It also was providing gangs of workers for special purposes.

Progress was made in the provision of accommodation for the new labour being drafted into the countryside. In February the County War Agricultural Executive Committees were urged to provide hostel accommodation and six inspectors were appointed to assist and advise the Committees in their task; in April the Minister of Agriculture asked for priority for sixty hutments, each for fifty workers, by the end of May, sixty by the end of June and fifty by the beginning of August; soon some 250 sites were chosen and preparations were made to have accommodation for 11,000 workers by the end of July.

MACHINERY

The shortage of manpower in relation to the tasks that were being set by the Government led to an increasing demand for more machinery. Not only were individual farmers clamouring for tractors and implements but the requirements of the County War Agricultural Executive Committees increased as they took over more derelict land and assumed greater responsibilities for work which some farmers were unable to carry out on their own account. The combined demands rapidly out-stripped the productive capacity of the home manufacturers and the limited imports for which shipping space and foreign exchange could be found; a scramble for machinery ensued but it was not until the third year of the war that completely effective steps were taken to control its allocation.

Some idea of the rate of mechanisation can be obtained from

Appendix Table VIII¹ and from Table 25² and from the following miscellaneous statistics. For example, the output of Fordson tractors for the home market in 1940 was 19,000 against some 5,000 in 1938, while the monthly rate of their production in 1941 was increased to over 2,000; even at this rate, there were still three months' orders on the books. The home output of agricultural machinery was about twice the pre-war level while imports in the two years 1940 and 1941 totalled over 50,000 tons compared with 18,000 tons in the two pre-war years. The Ministry of Agriculture had made total purchases of machinery amounting to over £2½ million during the first fifteen months of war and had distributed to County War Agricultural Executive Committees some 3,000 tractors, 14,000 cultivating implements and 3,000 harvesting machines. Figures of such magnitude were completely foreign to the farming world of the pre-war days. The operation of the machinery on this scale was in itself an immense undertaking and the concomitant problems of financing its purchase, of training the workers who had to run it, and of making provision for its repair were by no means insignificant.

FERTILISERS

There was a big expansion in the use of fertilisers for the 1941 harvest compared with 1939-40. The consumption of nitrogenous fertilisers rose by 64 per cent. and of phosphatic by 19 per cent.; the available supply of potash was, however, 45 per cent. less than in 1939-40.³

Supplies of phosphatic and potash fertilisers were far short of requirements. As with other agricultural requisites, the shortage of supplies in the face of a growing demand, without any system of control of supplies, was leading to difficulties. The system of partial rationing by allocation to distributors on the basis of their pre-war sales was becoming outmoded by the changing pattern of British farming; in the Northern and Western districts of England, for example, which had formerly used little fertilisers, the need was now relatively great. Rationing of potash, the scarcest of the fertilisers, was brought into operation in the autumn of 1940⁴ and in 1941 the possibility of introducing a rationing scheme for phosphates was raised by the Ministry of Supply; the Ministry of Agriculture was, however, unwilling to place an additional strain on the County War Agricultural Executive Committees who were just at that time grappling with the complicated scheme for rationing feedingstuffs. It was finally agreed, however, that county reserves of phosphates

¹ p. 378.

² p. 274.

³ Table 22, p. 259.

⁴ p. 139.

should be established, to be sold to farmers against certificates of exceptional deficiency issued by the Executive Committees.

The Land Fertility Scheme¹ was due to end on 31st July 1941 and the opportunity was taken to remedy the anomaly that the use of basic slag was subsidised while the use of super-phosphates, for some purposes interchangeable with slag, was unsubsidised. It was therefore decided to discontinue the Scheme and to utilise the subsidy spent on basic slag for the benefit of all phosphatic fertilisers. The responsibility for the supply and distribution of basic slag passed to the Ministry of Supply which dealt with the other fertilisers. The subsidy on lime was, however, extended to July 1944, the Agricultural Ministers taking responsibility for its administration;² steps were also taken to increase the supply of lime which was seriously deficient, due to labour shortages and inadequate grinding plant.

DRAINAGE

Reference has already been made to the emphasis placed on land reclamation in the development of policy during 1940-1 and in the forefront of the proposals were those for extensive drainage. By the middle of 1940 the following Exchequer grants had been made available to different bodies under various enactments:

- (a) to Catchment Boards, grants of 15-75 per cent. for work on main rivers³ and of 50 per cent. for approved schemes⁴ on minor water courses and ditches outside areas under Drainage Boards,
- (b) to Drainage Authorities, grants of up to one-third⁵ of the cost of approved work on minor watercourses⁶ and
- (c) to Drainage Boards and County Councils, similar grants for work on minor watercourses and ditches, the balance to come from landowners who must have combined in a voluntary scheme.⁷

The farm surveys of 1940-1 had revealed a very great acreage of land, the output from which was limited by lack of drainage. The earlier measures were, therefore, supplemented towards the end of 1940 by measures empowering County War Agricultural Executive Committees to make grants of 50 per cent. on schemes submitted by individual owners or occupiers for ditching, mole drainage and tile drainage.⁸ The work by Catchment Boards and Drainage Boards on minor watercourses and ditches was handicapped because the Boards had to meet the cost until recouped by the Exchequer and the private owners. It was now decided that the whole cost should be advanced

¹ p. 53.

² Agriculture (Miscellaneous Provisions) Act, 1941, 4 & 5 Geo. 6, Ch. 50.

³ Land Drainage Act, 1930, 19 & 20 Geo. 5, Ch. 8.

⁴ Agriculture (Miscellaneous War Provisions) Act, 1940, 3 & 4 Geo. 6, Ch. 14.

⁵ Raised to one-half in December 1939.

⁶ Agriculture Act, 1937.

⁷ Agriculture (Miscellaneous War Provisions) (No. 2) Act, 1940.

⁸ *Ibid.*

by the Exchequer, leaving the Authorities to collect the contributions from the owners in due course. Authority was also given for the Executive Committees to carry out reclamation work such as clearing gorse bushes and taking water supplies to upland grass, to debit the farmer with the cost of the work and to recover the cost within a

Table 8. Numbers of Land Drainage Schemes Undertaken in England and Wales, 1940-4

| Number of | 1940 | 1941 | 1942 | 1943 | 1944 | Total |
|--|-------|--------|--------|--------|--------|---------|
| (a) Schemes under the Agriculture Act, 1937 | 2,045 | 1,442 | 850 | 687 | 708 | 5,732 |
| (b) Schemes under the Agriculture (Miscellaneous War Provisions) Act | 47 | 125 | 102 | 102 | 68 | 444 |
| (c) Farm Drainage Schemes | | | | | | |
| Mole | 2,224 | 4,081 | 3,836 | 3,773 | 2,147 | 16,061 |
| Tile | 1,706 | 8,205 | 8,159 | 8,033 | 7,453 | 33,556 |
| Ditches | 4,274 | 27,855 | 28,352 | 28,130 | 26,091 | 114,319 |
| Area improved under | | | | | | |
| (b) 000 acres | 37 | 99 | 65 | 42 | 26 | 270 |
| (c) 000 acres | 277 | 1,214 | 982 | 887 | 681 | 4,041 |

period of two to three years; these loans were thus of longer term than those under the Agricultural Requisites Scheme which were recoverable from the next crop. The consequent rapid increase in drainage works is shown in Table 8. In 1941 so many as 40,000 farm drainage schemes were approved, covering 1,214,000 acres, a remarkable step forward in one year. A further 1,900,000 were covered in the ensuing two years.

In Scotland, where natural drainage made artificial drainage less necessary than in England and Wales, efforts were concentrated on clearing the smaller rivers and minor watercourses mainly in Perthshire, the Lothians and Lanark. Special legislation was passed during the year to supplement the powers already in existence under pre-war legislation.¹

PRICES AND PRICE POLICY

Following the lengthy negotiations and discussions on prices at the end of the first year of war, there was a period of comparative stability during most of the second year of the war. It will be recalled that prices had been fixed in June 1940 for crops of the 1940 harvest and for livestock products until the autumn of 1940. The second price review in August 1940 had established prices for the 1941 harvest and for livestock products sold during 1940-1. At the same time it had been agreed in principle that prices of feedingstuffs and fertilisers

¹ Land Drainage (Scotland) Act 1941, 4 & 5 Geo. 6, Ch. 13.

should be stabilised at their existing levels for a year. As the national minimum wage was also maintained at 48s. throughout the second year of war, there was therefore no alteration in the farmers' three main sources of cost which could be called a 'substantial variation' in farm costs which would necessitate a general revision in farm prices.

The policy of stabilisation had obvious advantages. To the farmer it meant that he could plan ahead with greater confidence; he had experienced in the last war the phenomenon of rising costs with a lag in the compensating increase in the price of his product and the avoidance of this risk was no little benefit. The policy also helped the Government. The greater confidence of the farmer was important for the success of the ploughing-up campaign for 1940-1 which was just getting under way. Moreover, the policy saved both the time and tempers of numerous Committees in negotiation and discussion and, in the light of the previous year's experience, it undoubtedly resulted in savings to the Exchequer; the difficulty of assessing non-measurable costs and the necessary incentives, non-economic factors and political pressure were influences that inevitably brought the increase in cost to the consumer or to the Exchequer far above the estimate of the increase in costs to the farmer. The disadvantage was that uneconomically low prices of feedingstuffs discouraged the search for cheaper substitutes or led to waste in the use of feedingstuffs. But under the prevailing circumstances this fear was more academic than real.

The expenditure on these two subsidies, which were maintained throughout the war and for many years after, was as follows:

| <i>Financial Year</i> | <i>Subsidy on Feedingstuffs</i> | <i>Subsidy on Fertilisers</i> |
|-----------------------|-------------------------------------|-----------------------------------|
| | £ 000 | £ 000 |
| 1940-1 | not available | 1,585 |
| 1941-2 | 2,127 | 3,555 |
| 1942-3 | 2,790 | 4,287 |
| 1943-4 | 6,702 | 6,440 |
| 1944-5 | 10,319 | 5,310 |

The other important development in general price policy during 1940-1 was, of course, the Government's undertaking to farmers in November 1940, already mentioned, that both prices and markets for the main products of British agriculture would be guaranteed for the duration of the war and one year thereafter.¹

There was, however, one major deviation from the June price schedule for the 1940 crops - in the case of potatoes. The farmers' main interest, where the yield of a crop varies so much from season to season as does that of potatoes, is in his total returns per acre rather than in the price per ton; growers had therefore been guaranteed a return per acre of approximately 20 per cent. above the 1939

¹ p. 112.

level, which on a crop of average size entailed a price of around 120s. per ton. During subsequent discussions on the 1940 prices, however, it became evident that farmers' costs of growing potatoes had risen by more than 20 per cent. and a new complex schedule of potato prices – with its variations for varieties, size and quality – had been drawn up on the basis of a 7 ton per acre yield, to give a return of about $27\frac{1}{2}$ per cent. above 1939.¹ Since the yield turned out to be 7.7 tons per acre, the farmers' return actually turned out to be more nearly 35 per cent. over 1939 instead of the original 20 per cent. or the revised $27\frac{1}{2}$ per cent.

There were also two major changes from the August price schedule which determined the prices of livestock products for 1940–1 – for milk and for fat sheep. Farmers had been promised an average increase of $5\frac{1}{8}$ d. per gallon in the pool price of milk above the 1938–9 level and, as an encouragement to winter milk production, the prices for the winter months of 1940–1 were raised by 8d.-9d. per gallon while those of the summer months of 1941 were raised by 4d.-5d. per gallon. The summer increase was based on an average fall in yields of 12 per cent. By the spring of 1941 it was evident that a further incentive to winter milk production was required and, if the incentive was to be effective, the increase should be announced in good time. When the pool prices for the summer months of 1941 were announced, farmers were told that the average pool price for the following winter months, 1941–2, would be $11\frac{3}{8}$ d. over the base period. At the same time producers were promised by the Minister of Food that if, at the end of the summer or winter period, their average costs had risen more than their returns, as compared with the corresponding period of 1938–9, he would make an appropriate adjustment. A retrospective award of an additional $\frac{1}{2}$ d. per gallon was subsequently made in January 1942 for the 1941 summer period, on the grounds that average yields had fallen more than the 12 per cent. on which the summer price had been based.

Seven months after the initiation of a subsidy for hill sheep² in December 1940, there was a strong demand for help from arable sheep farmers. It was argued that the fertility of the lighter lands, such as those of the Cotswolds, the chalk Downs and the Wolds of Yorkshire, was dependent on folded sheep. Something must be done to halt the decline in arable sheep numbers. It was pointed out that this decline had been going on for decades and that there was little, if any, evidence of a decline in crop yields on these soils; it was further argued against acceding to this pressure that the price of barley was inordinately high and that the traditional combination of corn and folded sheep must already be profitable. At this stage of the discussion, the grassland sheep farmer put forward a plea for a higher

¹ Potatoes (1940 Crop) (Control) Order, 1940, S.R. & O., No. 1384.

² p. 117.

price for fat sheep on the ground that the arable sheep farmer, fattening the heavier breeds, had not been handicapped to the same extent as the grass farmer by the Ministry of Food's recent abolition of the premium paid for lighter breeds of sheep. In July 1941 the Government agreed to raise the price of all fat sheep by 1d. per lb. for the six months from November 1941 to May 1942. This was the last instance where an important change in price was made in isolation and without reference to general agricultural incomes, prices, and production policy as a related whole.

Other developments in the year were the raising of the maximum price of hay¹ in March by £2 per ton and the fixing of maximum prices of straw² in August – together with the licensing of traders – in an attempt to ensure adequate supplies of both hay and straw for intensive milk producers and for non-agricultural purposes at reasonable prices.

Alterations were also made in the seasonal prices and grades of fat stock based on the August 1940 schedule; these were designed to affect the rate of marketings and to economise in the use of feeding-stuffs by discouraging excessive 'finishing'. From 13th January to 8th March 1941 a temporary bonus of 2s. per live cwt. was given to bring forward fat cattle of a killing-out percentage of 53–56 per cent.; and in June 1941 the percentage standards for the different grades of cattle were reduced by 1 per cent. and the highest grade abolished to conform with the recommendations of the Livestock Policy Conference.³ Sheep prices remained unchanged but pig prices were raised temporarily, to encourage increased slaughtering, by 1s. 6d. per score on 3rd March and then reduced by 6d. on 28th April and a further 6d. on 16th June; lighter weight pigs were also made eligible for the top price in order to save the wasteful use of feedingstuffs in taking pigs to heavier weights.

There was one important negative decision on the price of milk which was of subsequent significance. The Perry Committee which had been appointed by the Minister of Food to consider the re-organisation of milk distribution had recommended in its report in October 1940 that a uniform retail price and a uniform distributor's margin should be determined for the country as a whole; this would have implied a uniform pool price to producers at a cost of £3½ million a year either to the Exchequer or to the consumer. But apart from the cost, the proposal seemed unjustifiable on economic grounds and was not accepted.⁴

¹ S.R. & O., 1941, No. 350.

² S.R. & O., 1941, No. 1216.

³ p. 118.

⁴ The work of the Perry Committee, together with other problems of controlling milk supplies will be discussed in the second volume of R. J. Hammond's *Food*.

CONTROL OF SUPPLIES AND GUARANTEED MARKETS

Efforts were made during the year to control the market supply of eggs; serious shortages were occurring in the towns and were the source of queues and grumbling. The successful control of egg production, prices and distribution had been an insoluble problem in the First World War and it promised to be as difficult in the Second. At the outbreak of war, maximum wholesale and retail prices had been established but they had been abandoned as supplies had been ample. Price control had been re-introduced after the loss of Danish and Dutch imports, but even the raising of these prices from time to time had not brought the eggs into the open markets. An attempt by the Ministry of Food to gain control of supplies by offering higher prices for eggs delivered at packing stations – prices which were increased twice – was unsuccessful. Price control without control of supplies was leading to widespread evasion of the price Orders and to unfair and uneven distribution. The Livestock Policy Conference had confirmed what officials had learned by experience – that the numbers of poultry were in themselves difficult to control, whether on commercial holdings, in back-yards or on general farms. The fixing of high maximum prices for poultry had failed to produce many birds for slaughter while the rationing of feedingstuffs was admittedly not expected to achieve much.

An opportunity to operate some measure of control was given by a decision in June 1941 to subsidise retail egg prices with the object of keeping down the Cost of Living Index – a decision that stemmed from the April 1941 budget. From 23rd June 1941, producers with 50 birds or more were legally compelled to send all their eggs, apart from their own requirements, to approved packing stations where a producer's price higher than the prevailing retail price was offered.¹ It was also proposed that rations of feedingstuffs to egg and poultry producers should be linked to deliveries to packing stations but the idea was abandoned until after the war.² 'Public eggs for public feedingstuffs' – the Prime Minister's dictum on this problem – would have been a fair exchange and it is unfortunate that the difficulties, which were subsequently overcome, in implementing this principle were not solved in 1940–41.³

The question of the control of home-grown produce became important twice in the year 1940–1. Mention has already been made

¹ Eggs (Control and Prices) Orders, 1941, S.R. & O., No. 888.

² It was claimed by the Ministry of Agriculture that there were sound reasons at that time against issuing rations of feedingstuffs against deliveries of eggs to packing stations; when supplies of feedingstuffs were acutely short, an unfair advantage would have been gained by producers who grew their own feedingstuffs; further, the position of poultry breeders would also have been jeopardised. But the same objections could have been raised for any other types of livestock.

³ The problems of controlling eggs will be fully discussed in the second volume of R. J. Hammond's *Food*.

of the Minister of Food's personal complaint that he was unable to obtain control of the largest and nearest supplies of meat while expected to maintain a reasonably steady meat ration.¹ The same difficulty arose again in the late spring of 1941 with oats. In March the first indications were given that millers were experiencing difficulty in obtaining oats to meet the demand for oatmeal which had risen by 50 per cent. compared with pre-war; by May they were obtaining oats sufficient only to provide an output of 1,900 tons of oatmeal a week against a requirement of over 3,000 tons and the mills were working on short time. In addition there was a growing shortage of oats for the feeding of pit ponies and horses in the towns. The Minister of Food said that he needed about 6,000 tons of oats a week for oatmeal for human consumption and 17,500 tons a month from June to September for horses on essential work and that he must be able to requisition this quantity off farms. He said that his only reason for embarking on a policy of requisitioning oats from farms was to obtain from the farmer the food necessary for the people. The alternative was to import oats or oatmeal and maize which involved the use both of shipping space, which would otherwise be available to bring in more valuable feedingstuffs, and of dollars. It was believed that the stocks of oats on farms could meet this requirement. It was proposed that farmers should be required to thresh all their remaining oats by 31st July and that the oats should be required to be sold to approved buyers, excluding the farmer's needs for his own working horses. It was argued that this would not reduce the rations for dairy cows and that other livestock were not legally supposed to be fed with oats during these months.

The Agricultural Departments opposed the suggestion on the grounds that farmers had been instructed to make themselves as self-sufficient in feedingstuffs as possible and would therefore regard requisitioning as a breach of faith on the part of the Government. They claimed, further, that a definite pledge had been given, in respect of the harvests both of 1940 and 1941, that farmers could retain their home-grown feedingstuffs, with the exception of wheat. This claim was accepted by the other Ministers. It was then left to the Agricultural Departments to try and induce farmers to part with some oats by any means other than a price premium. Requirements for oatmeal milling and for essential town and colliery horses were stated by the Ministry of Agriculture to be 600,000 tons, of which it was hoped to obtain about one-half from England and Wales and one-half from Scotland. Farmers were reminded in June 1941 that on 1st August the maximum price was due to fall by 1s. per cwt.² Executive Committees were instructed to sell to the Government any

¹ p. 120.

² County Circular No. 590.

surplus oats from the land being farmed by them. A scheme was also evolved whereby cereal and protein feedingstuff coupons were granted in return for oats sold to the Ministry of Food. By October some 190,000 tons had been received and the supplies of oatmeal, at least, were assured. The Ministry had, however, to import 64,000 tons of maize to meet the requirements of urban horses and pit ponies.

There was some substance in the argument that the advice to farmers to make themselves as independent as possible of purchased feedingstuffs was never a pledge not to take from farmers food that was needed for human consumption. The whole basis of agricultural policy from 1936 until 1939 was the preparation of agriculture to produce more food for human beings in the event of war; the two campaigns for ploughing up grassland, 2 million acres in the first year of war and 2½ million acres in the second, were designed to increase the supplies of human foodstuffs which would be available if required for human consumption at the expense of grass which could be only a livestock feedingstuff. The Minister of Agriculture's own arguments in favour of 'dual purpose' crops earlier in the year implied the prior claim of human foods over animal feedingstuffs¹ – a principle that was enunciated by him later in July of the same year.

Though the quantity of oats involved was relatively small, the issue was a large one. A suggestion that, even if the 1940 and 1941 harvests were untouchable by the Ministry of Food, farmers should be told, before entering into commitments for the 1942 crop, that the Government would have the right to what oats it required from the 1942 harvest, was not accepted; the tenet that farmers were free to do what they liked on their own farms with home-grown feedingstuffs was firmly established.² So late as July 1941 the Minister of Agriculture, during the debate in the House of Commons,³ assured farmers that they would be allowed to keep the feedingstuffs grown on their own farms for the purpose of feeding their own cattle. If the Minister of Food wanted oats for human consumption from the 1941 harvest, he must contract with growers who were ready to sell them. The Minister of Food's direct control of supplies, at least of meat and oats, did not extend to the farm; it started only at the farm gate.

Guaranteed markets were provided for two minor crops during 1940–1, for onions and carrots. The Ministry of Food was anxious to see a large increase in the output of these two vegetables – onions had been phenomenally scarce in the winter of 1939–40 and were likely to be so in 1940–1, while carrots were wanted for their vitamin

¹ p. 110.

² Excepting, of course, millable wheat, the feeding of which to livestock had been forbidden by Order in March 1941. Home Grown Wheat (Control) Order, 1941, S.R. & O., No. 319, Home Grown Wheat (Control and Prices) Order, 1941, S.R. & O., No. 1132.

³ H. of C. Deb., Vol. 373, Col. 1089.

content. In May 1941 the Ministry of Food undertook to purchase all onions grown on holdings of over 1 acre at a price of £25 a ton and also to take over and be sole purchaser of carrots for delivery after 1st November 1941 at a price of £6 per ton, rising to £9 in May.¹ The machinery proposed to carry out this undertaking was unusual owing to the need for greater quickness of decision in marketing vegetables and for greater freedom in appointing staff. A National Vegetable Marketing Company was formed as a registered company; its directors were appointed by the Minister of Food and it used existing trade channels. But the organisation was a failure and the Company was wound up after only one season.

Responsibility was assumed by the Ministry of Food during 1940-1 for the disposal of the potato crop. Originally, the Government had undertaken merely to accept any ultimate surplus at the end of the season but otherwise the grower had to find his own market. With a bumper crop of 6,405,000 tons to be disposed of and with large numbers of new growers with no trade connections, it became evident early in 1941 that the time was ripe for a change in policy. In March 1941 it was announced that the Government would relieve the farmer of the risk of being unable to find a market and that the Ministry of Food would purchase, at the appropriate minimum prices, all stocks of marketable ware potatoes offered by growers before 30th April 1941. With a return per acre 35 per cent. above 1939 and a guaranteed market, potato growers did well, a conclusion that was borne out by the remarkable expansion in the following year.

Rationing of Feedingstuffs. At the outbreak of war the Ministry of Food had put into operation a scheme for allocating and releasing feedingstuffs to merchants on the basis of their pre-war sales, the merchant then selling to farmers more or less on the same principle. The system worked reasonably well but it was not expected that it could continue to do so if there were considerable changes in farming systems and if the supply of feedingstuffs declined seriously. Nor could it be used satisfactorily to implement the Government's priorities for livestock output. It could only allocate supplies to the individual farm; it could not direct their use. In recognition of the inevitable need for a more comprehensive and flexible scheme, a committee had been appointed in August 1940 to consider a scheme for the controlled distribution of feedingstuffs either by rationing or alternative methods. The complexities in evolving a workable scheme were indeed frightening; the diversity in conditions of farms and in the requirements of different classes of livestock or of different animals within each class, the variations in the quantities and types of feedingstuffs produced on each farm, the seasonal difference, both in output

¹ County Circular Nos. 472 and 475.

and in supplies of home-grown feedingstuffs and grazing, between one part of the country and another, and many other such difficulties had led previous planners to consider that a solution was well-nigh impossible.

Nevertheless a scheme was produced which, after its initial teething troubles, worked remarkably well. The ration to be provided for any individual farm was determined by two factors, the quantity of feedingstuffs it produced itself and the numbers and types of livestock it carried. Rations were planned for 'maintenance' and for 'production', that is to keep the animal alive and to enable it to produce milk or meat or eggs.

In estimating the supply of home-grown feedingstuffs, the scheme took no account of bulky foods such as grazing; it was assumed that the farmer would have enough and no more than was necessary for the maintenance of his cattle, sheep and horses and to produce some small part of the meat and milk. Nor, in fairness to those farmers who had done their best to increase their self-sufficiency in feedingstuffs, were any increases in acreages of crops since 1939 taken into account in calculating rations.

The basis of the farm's total requirement of feedingstuffs was the number of stock on the holding, the average yield of milk and, for pigs and poultry, one-third of the number kept before the war. Basic and supplementary rations in the winter months of 1940-1 were established for the various livestock weighted in accordance with the Government's priority schedule. Dairy cows were allowed 3 lb. of concentrates a day to cover maintenance and the production of $1\frac{1}{2}$ gallons of milk, and a supplementary ration of $3\frac{1}{2}$ lb. for every additional gallon produced. Other cattle were allowed $1\frac{1}{2}$ lb. of concentrates a day with a supplementary $1\frac{1}{2}$ lb. a day for cattle over 1 year old being fattened. Sheep were allocated a basic $2\frac{3}{4}$ lb. a week. For the summer months of 1941, basic issues were made only for dairy cows ($\frac{3}{4}$ unit a month for each cow) and for pigs and poultry (one-sixth of the numbers kept before the war).

The quarterly census returns of livestock numbers were made available to the County War Agricultural Executive Committees who had to estimate

(a) the requirements of concentrates by stock on each farm

(b) the estimated production of all cereals and pulses on each farm, based on 1939 acreages and the current average yields for the county in which the farm lay.

If (b) was less than (a) then, unless this was due to sales off the farm of cereals or pulses, coupons representing a certain weight of feedingstuffs were issued entitling the farmer to allocations of concentrates from the Ministry of Food's supplies. Coupons were of two kinds, high protein coupons and low protein or cereal coupons; these were

issued on a quarterly basis but for monthly use. The value of the coupon, in terms of weight of feedingstuffs, could be varied to conform with the Ministry of Food's available supplies of feedingstuffs. Provisions were made for special classes of producers such as urban cow keepers, pig and poultry producers on holdings of one acre or less. Finally, reserves were placed in the hands of the Executive Committees to meet cases of hardship and emergency.

The scheme could obviously not afford complete justice to all producers but it did give a rough and ready means of ensuring that feedingstuffs were directed where the need was greatest. There were a number of anomalies; for example, a farm with crop yields lower than the county average suffered by an over-estimation of its supply of home-grown feedingstuffs and a consequent under-issue of coupons. The livestock census returns did not distinguish between dairy and beef cows; consequently some farmers with beef herds found themselves with too many coupons – not a source of complaint on their part.

The Minister of Food, fearing that the rations for milk cows did not give them sufficient priority, was prepared to support the scheme if he was assured that the dairy rations were sufficient and the Minister of Agriculture thereupon undertook the responsibility for maintaining the milk supply. The scheme was accepted in November and brought into operation in February 1941. Strenuous efforts were made, not unsuccessfully, to prepare its way; regional conferences were held with County War Agricultural Executive Committees to discuss difficulties and to secure uniformity in administration. Subsequent criticism of the scheme was largely attributable to misunderstanding and to the low value of the coupon which was due to the shortage of imported feedingstuffs. The principal difficulty was that of the 'surplus farmer' who had sold a large proportion of his cereals and pulses between the harvest and the start of the scheme; steps were, however, taken to meet this misfortune, at least in part, by providing advance supplies against coupons to be deposited later.

The scheme had the virtue of considerable flexibility to enable it to achieve its *raison d'être* – the implementation of the Government's requirements of milk first, beef cattle and sheep second, and pigs and poultry third. For example, the coupon was at first worth 1 cwt. of feedingstuffs but its value had to be halved in March; the effect of this curtailment on dairy cows and work horses was mitigated by the issue of supplementary coupons. Again, the lateness of the growth of grass in the spring of 1941 threatened the milk output so a supplementary ration of $\frac{1}{4}$ cwt. of concentrates for dairy cows was granted for May. The low value of the coupon was maintained throughout the summer pasture season when all classes of livestock except pigs, poultry and dairy cows in high-yielding levels were assumed to be

largely dependent on grazing. This was due partly to the general shortage and partly to the desire to build up reserves for the coming winter when requirements were expected to run at about 200,000 tons of cereals and 70,000 tons of protein concentrates a month.

Fertilisers. In view of the increasingly serious shortage of potash fertilisers, the informal scheme for their distribution, which had been instituted in the first year of the war, had to be strengthened. In October 1940 the Ministry of Supply issued instructions to merchants that potash fertilisers were to be sold solely for use on potatoes, market garden crops (onions, carrots and tomatoes), sugar beet and flax; farmers were to give written assurances that the fertiliser would be used only for the crops in question. The fertilisers could, however, be sold for use on other crops which were grown on soils certified by the County War Agricultural Executive Committees to be seriously deficient in potash. In June 1941 an Order was issued which removed sugar beet from the list of approved crops.¹ A month later a further Order was issued which prohibited the use of potash fertilisers on tomatoes² beyond 15th August 1941 and which limited the rate of application to the favoured crops in 1941-2 to a quantity not exceeding 1 cwt. per acre of muriate of potash (60 per cent. K_2O) or its equivalent in other potash fertilisers.³

In order to make sure that there would be supplies of phosphatic fertilisers where the need was outstanding, such as newly ploughed grassland which was seriously deficient in phosphates, arrangements were made in January 1941 for small county reserves.⁴ These were to be held by the trade and would be issued to farmers with certificates from the Executive Committee stating that the use of these phosphates was essential.

(v)

'The End of the Beginning'

By the end of the second year of the war, most of the serious problems in mobilising British agriculture had been encountered and resolved and the pattern of war-time farming had become clearer. The area of crops other than grass had been increased by $3\frac{1}{2}$ million acres, most of which had come from the ploughing up of permanent grassland. Compared with pre-war years, the area under grains had been increased by almost 3 million acres, of which about half was under

¹ Control of Fertilisers (No. 12) Order (Direction No. 1), S.R. & O., 1941, No. 509

² County Circular No. 648.

³ County Circular Nos. 370, 605 and 648.

⁴ County Circular No. 436.

oats. The potato acreage had risen by 400,000 acres to over 1 million acres. So far as livestock were concerned, the number of dairy cattle had been slightly increased, but owing to a drop in yields the total milk output had fallen about 10 per cent.; by cutting down the amounts used for making butter and cheese and used on the farms, sales of milk for human consumption had, however, actually been increased by about 20 per cent. The numbers of pigs and poultry had been reduced by about 45 per cent. and 25 per cent. respectively. The numbers of beef cattle had been maintained though the output of beef had fallen markedly, while the sheep population had fallen as the plough displaced the arable flocks. In general, the objectives established in the pre-war plans had been more than achieved. Though food and feedingstuff imports during 1941-2 were almost 10 million tons, or 44 per cent., less than in pre-war years, the output of home-produced food from the 1941 harvest and during 1941-2 was sufficient to maintain the nation in good health without recourse to a drastic slaughtering of livestock or the use of reserves. The period of most acute shortage of power, machinery and equipment was passing and measures for the controlled distribution of those requirements that were in short supply had been introduced where they were most necessary.

The machinery for the formulation of policy which had creaked ominously during the early stages of the war had, by the end of 1940, undergone some re-modelling and was working with greater smoothness.¹ The organisation for its execution, the County War Agricultural Executive Committees, had proved a triumphant success. It had come into action only on the outbreak of war and the achievement of a target of almost 2 million acres in the first ploughing-up campaign was the most convincing evidence of the Committees' effectiveness and efficiency. During the first two years, their responsibilities had been increased continuously as the control of farming was extended and the machinery for exercising it became more complex.²

The transformation in British farming would not have been so rapid or so successful if there had not been a marked change during the first two years of the war in the current thought on agricultural policy. Pre-war plans had, until a late stage, been influenced largely by experience in the First World War but the analogy of conditions in 1939 with those of 1914 was dangerous. There were two fundamental differences. Firstly, the state of the land in 1939 was not the same. There had been during the inter-war years a widespread deterioration in the condition and productivity of the land and the art and practice of arable cultivation had weakened. It was no longer a question, as in 1914, of switching from one productive use of the

¹ See pp. 311-5.

² See pp. 324-39.

land to another; it was now necessary to re-establish soil fertility in many parts of many farms and to re-equip them for arable cultivation. Secondly, the trend towards the production of livestock and livestock products over the past twenty years meant that a major part of farmers' capital was invested in livestock and that farmers were overwhelmingly dependent on the sale of livestock products for income. These two factors had financial implications which had been almost entirely lost sight of in the formulation of policy before the war and were only dimly apprehended outside the Agricultural Departments during the first year or so. They meant that a fresh flow of capital into farming was required and also that the transition must be gradual rather than sudden, if many farmers were not to become insolvent. These two needs were at the root of the main difficulties and disharmony in the formulation of production and price policies during the first two years of the war. By the end of that time both problems were well on their way to solution. The change in the pre-war emphasis on the production of more wheat and potatoes to more feedingstuffs – in so far as it was not caused by weather conditions in the first autumn of the war – had ensured a gradual transition with a minimum of financial disruption to the farmer and at the same time provided a good measure of flexibility to meet the uncertain and changing conditions of war. The increase in farm incomes which had resulted from the higher prices arrived at during the summer of 1940 and from the uncontrolled market for barley was greater than that called for by the rise in farmers' production costs and had assuredly provided the financial resources necessary to improve the condition of the land and to buy the tractors, machinery and equipment necessary for more extensive and intensive arable farming. Whether such raising of prices was the best, or possibly the only, way of increasing farm incomes or whether the money flowed to where it was needed most urgently is a matter of subsequent discussion.¹ The fact remains that by the summer of 1941 agriculture as a whole had been provided with the financial resources for the switch in output, the major changes had been achieved, the confidence and goodwill of farmers had been gained and the way had been paved for the peak effort in 1943 and 1944. The transitional period had passed during which large price increases were needed to enable farmers to effect the change from peace-time systems of farming to war-time production. It now became possible to establish the principle of periodic reviews of farming returns, based on estimated aggregate returns against aggregate costs, and of more rational relationships between the prices of different commodities.

¹ p. 279 *et seq.* and pp. 342-4.

PART III

The Peak Effort

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CHAPTER VI

THE THIRD YEAR OF WAR, 1941-2

(i)

Food Production in 1941-2

IT WILL BE recalled that the revised cropping programme for the 1941 harvest called for the further ploughing up of over 2 million acres of grassland in the United Kingdom; the only major individual cropping stipulations were an additional 200,000 acres of potatoes to bring the total acreage to 1 million acres in the United Kingdom and 340,000 acres of sugar beet in England and Wales. The Ministry of Supply had also asked for 40,000 acres of flax in Great Britain. Otherwise, the advice to farmers was to become as self-sufficient as possible in feedingstuffs for livestock. The target figure was exceeded both for tillage and for potatoes; 2,206,000 acres of grass were put under crops and the potato acreage was raised by 291,000 acres to 1,123,000 acres. The acreage of sugar beet in England and Wales was 340,000 acres and of flax in Great Britain 32,300 acres.

There had been a drought in late June and early July, but rain in the second part of July benefited all crops though it delayed the harvest in the Southern part of England. August was a month of unsettled weather; wind, rain and lack of sunshine retarded ripening and harvesting, though grass and root crops improved further. But September and the first half of October were fine and dry and good progress was made. Heavy dews, rain and frost in the second half of October handicapped those parts of the country where corn was still in the field and also held up potato and sugar beet lifting, which was already behindhand through a shortage of labour, but by the end of November most of the root crops had been lifted.

The yields of both wheat and barley were below normal and below those of 1940, but the yield of oats was about average.¹ Of the root crops, the yields of turnips and swedes and mangolds were well above average and better than in 1940. The potato yield was only 7.1 tons per acre against 7.7 tons in 1940 but was still higher than the pre-war ten-year average of 6.7 tons. The hay crop was about normal but better than in 1940.

¹ Appendix Table V, p. 374.

The output of the various principal crops is shown in Table 9. The grain harvest weighed 6,873,000 tons compared with 4,442,000 tons before the war, an increase of 2,431,000 tons or 55 per cent. There were 3,130,000 tons of additional potatoes while the fodder crops, excluding hay, had increased by 5,631,000 tons. In all, the

Table 9. The Output of Certain Farm Products in the United Kingdom in 1941-2, Compared with Pre-war and 1940-1

000 tons

| | Output | | Change from | | | Output | | Change from | |
|----------------|--------|--------|-------------------|---------------|-----------------|--------|--------|-------------------|-----------------|
| | 1940 | 1941 | Pre-war* = 100 | 1940 = 100 | | 1940-1 | 1941-2 | Pre-war* = 100 | 1940-1 = 100 |
| Wheat . | 1,641 | 2,018 | 122 | 123 | Beef & veal . | 560 | 424 | 73 | 76 |
| Barley . | 1,104 | 1,144 | 150 | 104 | Mutton & lamb . | 228 | 173 | 89 | 76 |
| Oats . | 2,892 | 3,247 | 167 | 112 | Pig meat . | 362 | 159 | 38 | 44 |
| Potatoes . | 6,405 | 8,004 | 164 | 125 | Offals . | 111 | 82 | 78 | 74 |
| Sugar beet | 3,176 | 3,226 | 118 | 102 | Total meat | 1,261 | 838 | 65 | 66 |
| Vegetables | 2,617 | 2,883 | 122 | 110 | Milk † | 1,608 | 1,564 | 88 | 97 |
| Fodder & hay . | 32,537 | 36,931 | 114 | 114 | Eggs ‡ | 3,472 | 2,860 | 75 | 82 |

* Average 1936-7 to 1938-9. † Million gallons. ‡ Million eggs.

weight and tale of the harvest, at 66.7 million tons, was almost 14 million tons greater than before the war. Apart from the small proportion eaten off by livestock, that was the increased load to be lifted from the 1941 harvest.

Livestock numbers in June 1941 had shown a slight increase in the number of cows and heifers as compared with the previous year but other cattle had declined by about 3 per cent., sheep by 16 per cent., pigs by 37 per cent. and poultry by 13 per cent. It was not surprising then that there was a decline during June 1941 to May 1942 in the output of home-killed meat but, in the light of the change in livestock numbers, a fall of one-third was unexpectedly heavy. The reduction in the beef output was so much as 25 per cent. while numbers of beef cattle, even if the June 1942 census figures are taken, had not dropped by more than 5 per cent. The worst of the decline occurred in the first four months of 1942 and the explanation lies partially in the cessation of imports of store cattle from Eire during the greater part of 1941, in the drive for increased milk production, in the delay in the announcement of fat stock prices at the beginning of 1942 and in the lengthening of the feeding period. There was also still the strong probability, put forward by the Livestock Policy Conference, that farmers were maintaining too many cattle at the expense of output. On the other hand, there had been no repetition of the embarrassing

glut of home-fed cattle or sheep as in September and October 1940; the Minister of Agriculture's assurance had been justified.¹

The output of milk for the June-May year, 1941-2, was 44 million gallons or 2½ per cent. less than in 1940-1; this meant that it was 12 per cent. less than before the war in spite of 125,000 more cows and continued exhortations that milk production must be maintained. On the other hand, there were indications that the worst period had passed; the fall in output during the winter period of 1941-2 had been very severe but there was a marked improvement in the spring of 1942, and production in April, May and June exceeded that of the corresponding period of 1941 by about 7 per cent. The average yield of milk per cow had dropped again² and the Scientific Food Policy Committee in its last report in November 1941 asserted that there was clear evidence that the shortage of protein feedingstuffs was one of the main causes; it would consequently welcome any arrangements for the special provision of proteins for dairy cows.

As might be expected from the shortage of feedingstuffs and their variability, the decline in the output of pigmeat and of eggs was a little greater than the reductions in the numbers of breeding sows and of poultry.

(ii)

The Import Programme, 1941-2

In July 1941 the Food Policy Committee had approved a food import programme for the eighteen months of March 1941 to August 1942 which represented a maximum annual rate of 15 million tons, of which 14 million tons consisted of 'first priority' foods, including about 600,000 tons of feedingstuffs; it was not expected that anything would come in under the 1 million 'second priority' programme. Actual imports on the Ministry of Food's programme in 1941 totalled 14.7 million tons out of total imports of 30.5 million tons but imports of animal feedingstuffs as such amounted to only 325,000 tons, excluding a small quantity of maize. It was now clear that agriculture was going to get very little change out of any food import programme that did not exceed 14 million tons, beyond the inevitable by-products of the milling of wheat and crushing of oilseeds. So long as the flour extraction rate remained at 75 per cent.,³ there would be adequate milling offals and oilcake, combined with some home-grown oats, to make certain the working of a modified feeding-

¹ p. 122. See also the article on the cattle industries by Joan Marley, *Journal of the Royal Statistical Society*, Vol. CX, Part III, 1947.

² Table 23, p. 262.

³ The pre-war rate of 70 per cent. had been raised to 73 per cent. in October 1939 and to 75 per cent. in April 1941.

stuffs rationing scheme, which was deemed essential to maintain milk production.

In the early autumn of 1941 shipping prospects seemed just slightly more hopeful; in October it was believed that total imports in 1942 might be 33 million tons. Even before Pearl Harbour, however, it seemed that competing claims on shipping would make such an import figure improbable. Pearl Harbour made it quite impossible.¹ At the end of December 1941 importing departments were told to assume that total loadings in the first quarter of 1942 would not exceed 7 million tons. The Ministry of Food's share would be only 3,250,000 tons as compared with the 3,750,000 tons on which it was basing its plans. It had already been claimed that even the latter figure would mean a reduction of wheat stocks to the danger level by March 1942 and some loss of variety in the national diet. The new figure would mean a much greater loss of variety and further reductions in stocks and it would be impossible to make full use of the vast stocks of lard, cheese, canned meat and evaporated milk that were now available for the lifting in the United States. But even the 7 million tons loading figure proved optimistic; by mid-January it was clear that loadings would be substantially less. Total imports in the first quarter were expected to be only 5½ million tons.²

In February 1942 when the outlook seemed so dark, estimates were made of the absolute minimum below which imports must not be allowed to fall. The nadir was set at 22½ million tons of which the Minister of Food's share would be 10½ million tons. This was accepted by him, subject to review in the light of the 1942 harvest, the raising of the flour extraction rate to 85 per cent. and his right to regard all home-grown crops and livestock products as available for human consumption without risk of charges of broken faith to farmers.

This new situation demanded drastic changes in policy. While imports of foods and feedingstuffs were declining by stages from some 20 million tons a year to about 14-15 million tons - mainly by reducing imported feedingstuffs as such - the British farmer had been increasing his supply of home-grown feedingstuffs to make good the deficiency, thus maintaining livestock numbers, with the notable exception of pigs and poultry. For a short period, when food imports were at an annual rate of 14-15 million tons, the import programme was almost a matter of no concern to British farming. But as the programme fell below this level, indifference was no longer possible. Firstly, it was clear that much of the increased harvest of 1942 would be required for direct human consumption. Secondly, a cut in wheat imports would become inevitable; the raising of the flour extraction

¹ The effects of Pearl Harbour on the shipping situation are fully discussed in *Merchant Shipping and the Demands of War* in this series (HMSO).

² They were actually 5.82 million tons.

rate to, say, 85 per cent. would cause a further immediate loss of feedingstuffs, from both imported and home-produced wheat.

Apart from political considerations, the psychological reactions of consumers, and nutritional merits, the raising of the wheat extraction rate would be of vital concern to agriculture. Since imports of feedingstuffs as such were now practically non-existent, supplies of the concentrates that were necessary for the successful working of the feedingstuffs rationing scheme were confined to the by-products of wheat milling, oilcakes from imported oil seeds, and such oats as the Minister of Food was able to purchase from British farmers; of these the supply of milling offals was by far the most important.

Prolonged discussion about the extraction rate started in February 1942. The raising of the rate to 85 per cent. would reduce the supplies of fine milling offals in the United Kingdom from 120,000 tons to 66,000 tons a month, an annual loss of about 650,000 tons. Rough estimates of the reduction in output that this would entail if the cut were borne entirely by dairy cows or pigs or poultry were as follows:

| | <i>Per cent. of 1940-1 output</i> | <i>Number of weeks' supply</i> |
|---------------------------------|---|--|
| Milk - 300 million galls. . . . | 25 per cent. | 13 weeks |
| Bacon - 60,000 tons | 37½ „ | 7½ „ |
| Eggs - 70,000 „ | 18 „ | 21 „ |

If the cut were shared equally between pigs and poultry alone then the consequent reduction in output would be 20,000 tons of bacon and 50,000 tons of eggs (670 million eggs); but poultry and pig farmers would then be getting only one-ninth of their pre-war supplies of imported feedingstuffs. The Minister of Food was not anxious to lose the bacon and the eggs, nor was he keen in February 1942, for political reasons, to raise the extraction rate. He stated that there were two possibilities open to him. Firstly, he might import some 480,000 tons of maize instead of the 650,000 tons of offals that were to be lost; the saving in imports would be then only 120,000 tons. The Minister of Agriculture maintained, however, that maize, with its lower protein content, was not a complete substitute for fine offals. Secondly, he might import 60,000 tons of eggs or 70,000 tons of bacon; the saving would then be 475,000 tons.¹ But neither the refrigerated tonnage required to ship the bacon nor the eggs were available. Both Ministers had argued against raising the wheat extraction rate, but the Minister of Food had subsequently withdrawn his opposition.

The issue went twice, on 19th February and 4th March, to the War Cabinet, who finally decided, in view of the immediate shipping

¹ Eggs and bacon are, ton for ton, less economical of shipping space than wheat (Table 3, p. 45).

difficulties, that the extraction rate should be raised to 85 per cent. on or about 1st April 1942. The Agriculture Ministers had meantime, in response to a request by the War Cabinet, calculated how the effect of the loss of wheat offals could be mitigated, on the understanding that no part of the loss should fall on the dairy herd. They reported that the loss of wheat offals required for the six summer months, April to September, would be about 115,000 tons. If it was desired to maintain the current rate of output of milk, eggs and bacon, this could be done by providing the feedingstuffs rationing scheme with 87,000 tons of maize. The Minister of Food was prepared to have his 100,000 tons reserve of maize depleted on the understanding that it would be made good by the end of September.

So far as the following six winter months were concerned, the Agricultural Ministers were not prepared to commit themselves. But the probability was that given average yields of fodder crops, the livestock output could be maintained from the larger acreages of the 1942 harvest. The operation of the feedingstuffs rationing scheme would be assured if (a) growers in Great Britain were willing to sell not less than 700,000 tons of oats to the Minister of Food, of which millers would require 315,000 tons and (b) dairy farmers provided from home-grown feedingstuffs the dairy cow's requirements for maintenance and the first $\frac{3}{4}$ gallon of milk per day, compared with maintenance and the first $\frac{1}{2}$ gallon which they were already supplying.

In May 1942 a new Shipping Committee of the War Cabinet was established and replaced the Import Executive; it was a fact-finding body rather than a policy maker as its predecessor had been. In June this Committee produced the first of its series of shipping reviews. This showed that the net rate of consumption¹ of imported food and raw materials for the eighteen months of 1942 and the first half of 1943 seemed likely to be 41.4 million tons against a probable rate of total imports of about 33 million tons. How could this gap of 8.4 million tons be closed? The only practicable possibilities seemed to be to run down stocks, to get increased shipping assistance from the United States, or to reduce the consumption of imports in this country. It seemed that imports must certainly be reduced further; if this happened agriculture would probably be the first to be affected.

Now that feedingstuffs as such had virtually disappeared from the Ministry of Food's import programmes, the next most hopeful source of further economies was the bulky importation of wheat. How could this be cut? It was suggested that the extraction rate should be raised still higher to 90 per cent. or even 95 per cent. The digestibility of this bread was, however, questioned and it was clear that it would be unpalatable for many people; other concentrated foods would be

¹ Total consumption less home-production and imports from Eire.

required to offset this difficulty and also the loss of livestock products caused by the reduction in the supply of feedingstuffs; the net saving in shipping would be inconsiderable.

Attention was next turned, in June 1942, to the possibility of saving wheat by adding other flour (from potatoes, oats, rye or barley) to wheat flour. This had been done extensively in other countries of Europe¹ and it seemed a promising solution. For technical reasons it was considered that potato flour could not be added beyond 2 per cent., and oat or rye flour beyond 5 per cent. At this time the use of barley was not considered since this would have entailed a reduction in beer output. If diluents were used to this maximum extent, the following quantities of crops would be required:

- (a) 2 per cent. potato flour – 500,000 tons of sound potatoes.
- (b) 5 per cent. oat or rye flour – 500,000 tons of oats or rye.
- (c) 2 per cent. potato and 3 per cent. oat flour – 500,000 tons of potatoes and 300,000 tons of oats.

A saving of 300,000 tons of wheat imports might be achieved in a full year of the 5 per cent. oat or rye scheme.

There were, however, only 20,000 tons of rye available. As for potatoes, the greatest nutritional value from these would be obtained by encouraging the consumption of potatoes as a vegetable rather than as flour while, technically, the low rate of admixture did not give rise to great economies of wheat.² The main source of diluents therefore seemed to be the oat crop, which was already earmarked to provide the oatmeal for human consumption and the needs of urban and colliery horses, and to make good the short-fall of milling offals, which the raising of the extraction rate to 85 per cent. had caused in the pool of feedingstuffs required for the operation of the rationing scheme. The Minister of Food was unwilling to embark on dilution with oats unless he could be assured of the quantities necessary to maintain the rate of dilution, since any deficiency could not be made good at short notice through increased imports. The Minister of Agriculture considered that it would be safe to count on 250-400,000 tons of oats from the 1942 crop for this purpose. The decision was taken therefore on 28th July 1942 to dilute the bread supply immediately to the maximum possible extent up to 5 per cent. using the Ministry's reserve of oats, amounting to some 80,000 tons, the 20,000 tons of rye, and some surplus oats from Scotland. This, it was hoped,

¹ For example the German loaf at that time consisted of 35 per cent. wheat flour (98 per cent. extraction), 45 per cent. rye and 20 per cent. barley; Danish bread, 60-70 per cent. rye and 40-30 per cent. barley; Norwegian bread, 10 per cent. wheat, 55 per cent. rye, 25 per cent. barley and 10 per cent. oats.

² At one time it was thought that the processing plant might be a limiting factor but the sugar beet factories were capable of being adapted, after dealing with the sugar beet crop, to produce a low grade potato flour.

would suffice until the arrival of the 1942 oat crop upon which so much depended.¹

Other proposals to economise in imports were also put forward in June 1942, including the use of the reserves of meat on the hoof and a reduction in fertiliser imports, but these did not receive any lengthy consideration.

While the raising of the extraction rate to 85 per cent. at the end of March 1942 was the only food economy measure that gave immediate shipping relief – it saved some 250,000 tons in the third year of war – the potential savings for 1942-3 from this and the other measures were very considerable indeed. Some 600,000 tons of food imports would be saved by raising the extraction rate, some 300,000 tons by diluting wheat flour and some 755,000 tons by selling a larger part of the increased output from the 1942 harvest for direct human consumption; the balance of the increase would be retained on the farm as feedingstuffs and fodder to make good the loss of milling offals occasioned by the higher extraction rate.

These were great expectations but then the need was great. The assumption of a 10 million ton food import programme, on which these plans were based, was only too accurate. For total non-tanker imports under departmental programmes in 1942-3 were to prove to be not much more than half of what they had been in the first year of the war, while the Ministry of Food's imports were as low as 10½ million tons. In 1941-2, the third year of the war, food imports were

*Table 10. Total Non-tanker Imports into the United Kingdom under Departmental Programmes and under the Ministry of Food's Programme, by War Years, 1939-40 to 1944-5**

| Year | Total Non-tanker imports | Ministry of Food imports | Year | Total Non-tanker imports | Ministry of Food imports |
|---------|--------------------------|--------------------------|--------|--------------------------|--------------------------|
| 1939-40 | 000 tons 44,169 | 000 tons 20,689 | 1942-3 | 000 tons 23,447 | 000 tons 10,288 |
| 1940-1 | 31,545 | 14,423 | 1943-4 | 26,759 | 11,514 |
| 1941-2 | 26,872 | 12,687 | 1944-5 | 25,954 | 11,607 |

* *Statistical Digest of the War*. Table 161. H.M.S.O. 1951.

12,687,000 tons compared with 22½ million tons in pre-war years, a saving of nearly 10 million tons of imports. Imports of feedingstuffs had been cut from 8.7 million tons in pre-war years to 2.3 million tons of which 1.7 million tons were the by-products of the milling and oil-seed crushing industries.²

¹ Owing to administrative delays and difficulties in obtaining oats, the scheme had to be modified greatly and did not come into operation until mid-January 1943 (p. 178.)

² Appendix Table XV, p. 385.

(iii)

The Home Production Programme for 1941 - 2

THE CROPPING PROGRAMME FOR THE 1942 HARVEST

The preliminary cropping programme for the 1941 harvest had not been issued until August 1940 and the final programme had not been determined until March 1941; but the programme for the 1942 harvest was prepared with greater speed and precision and was ready by June 1941. The food import programme at that time envisaged imports of not less than 15 million tons. With the worsening of the shipping position in the autumn, however, revision had to be made as late as November.

In the summer of 1941 the future was less obscure than it had been a year before in that it was now certain that the war would be longer than three years. The Prime Minister's speech in November 1940 had made this abundantly clear.¹ The Battle of Britain had been won, the danger of immediate invasion had passed, and Germany had attacked Russia; but, in spite of the vast supplies of food and war materials put at our disposal after the introduction of Lend-Lease in April 1941, the full weight and power of American aid were still withheld. There was no question but that shipping would again be the key consideration in 1942-3 and that British farming would therefore have to grow still more food for human consumption.

As for the first and second harvests of the war, the spearhead of the 1942 harvest campaign was again the further ploughing of permanent grassland. There was little discussion of the extent to which this should be undertaken and by June 1941 the goal had been set at a further 1,975,000 acres, a worthy successor to the 2 million programme for 1939-40 and the 2.2 million programme for 1940-1. The subdivision of this total was:

| | <i>acres</i> |
|-----------------------------|--------------|
| England and Wales | 1,675,000 |
| Scotland | 200,000 |
| Northern Ireland | 100,000 |
| | <hr/> |
| | 1,975,000 |
| | <hr/> |

By the middle of the second year of war, the division between a cropping programme and a livestock production programme, which had been so marked a feature of earlier discussions on policy, was much less sharp. The progressive reduction in imports of feedingstuffs and the increasing dependence on home-grown feedingstuffs had led to a clearer recognition of the inter-relationship of the two

¹ pp. 113-4.

programmes. The connection was made still closer by the discussions on 'slaughter policy' and by the Prime Minister's demand in March 1941, when the War Cabinet decided on the division of the import programme for 1941,¹ that the Minister of Food and the Agricultural Ministers should provide a forecast of all food supplies, from both home production and imports, for the eighteen-month period, January 1941 to August 1942. For the third and succeeding years of war the cropping programmes and livestock policy were closely integrated.

The Minister of Food, in June 1941, put forward his two principal requirements for the third year of war; firstly, a maintenance of the milk supply, both during the winter of 1941-2 and the summer of 1942, at not less than the previous year's level; secondly, increased acreages under crops for human consumption and, in particular, an expansion of the wheat acreage.

The Minister of Agriculture circularised the Executive Committees in England and Wales in July 1941 to the effect that, for the 1942 harvest:²

The first call on our arable acreage, taking the farms of the country as a whole, must be for crops for human consumption - wheat, potatoes, vegetables and sugar beet, together with some oats for sale off the farm for milling into oatmeal. On farms where dairying is carried out, however, the first call on the arable acreage must be the growing of feedingstuffs to make the dairy herd as self-sufficient as possible in winter as well as summer.

There could have been no clearer announcement of the Government's priorities. It was stated at the same time that county acreage quotas would later be set for potatoes and sugar beet.

It was agreed that wheat production should be encouraged so far as possible, short of compulsory directions. The acreage under wheat would be so dependent on the weather during the limited period in the late summer and autumn for ploughing, cultivating and sowing, that it was considered impracticable to lay down a target figure. Each county was informed what its wheat acreage had been on 4th March 1941 and was exhorted to exceed it.

Specific acreages were later established for different crops in conformity with the various departmental requirements. The potato acreage for the 1942 harvest in Great Britain was to be increased by 150,000 acres to 1,200,000 acres. County quotas were issued to the Committees on which they should, if necessary, issue compulsory Direction Orders. This increase of 15 per cent. could not be allocated equally throughout the country since an increase in the sugar beet area was also required; this expansion had to take precedence over

¹ p. 106.

² County Circular No. 626.

the potato crop in some of the main potato areas since, for reasons of transport costs, it was obviously desirable to have the new sugar beet acreage as close to the factories as possible. Consequently proportionately heavier potato quotas had to be allocated to the North and West of England where farmers had less experience of potato growing and yields per acre were usually lower.

The sugar beet area in Great Britain was to be raised from 350,000 acres in 1941 to 405,000 acres in 1942, of which 393,000 acres were to be found in England and Wales. County quotas were circulated to the Committees in August 1941, with instructions that they should take all possible steps to secure this acreage;¹ Direction Orders should be used if necessary. Contract terms were issued in November, prices being about 13s. 6d. per ton above the 1941 price. Results were satisfactory in many areas but a reminder had to be sent to a number of Committees in February when it became evident that only 277,400 acres had been contracted in England and Wales.²

The Ministry of Supply called for an increase of 12,000 acres in the area of flax to be grown for the 1942 harvest in Great Britain and of 30,000 acres in Northern Ireland.

A considerable increase in the permitted area of mustard for seed was also called for; the area of the 1941 crop had been restricted to 10,000 acres in England and Wales; but, owing to the probability that there would be a widespread pickling of vegetables in 1942-3, when a larger vegetable area was achieved, it was agreed that the area under contract should be allowed to rise to 25,000 acres. County targets were established and circulated to the Committees in August 1941.³

The Ministry of Food also laid considerable emphasis on the need for an increase in vegetable production; an increase of about 200,000 acres of carrots, onions, brussels sprouts and, mainly, peas was requested, a small part of which was to be gained at the expense of other vegetables. Since there were no guaranteed markets and prices for vegetables, except carrots and onions, Direction Orders were not to be used to secure these increased acreages.⁴ County target quotas were circulated in February 1942 for broccoli, cabbage, savoy and kale.

In January 1942, the Minister of Food gave a further indication of what he expected from the 1942 harvest; he wanted a net increase of all crops for human consumption equivalent to $\frac{1}{2}$ - $\frac{3}{4}$ million tons of wheat, compared with the 1941 harvest; this target was raised later to 840,000 tons.

¹ County Circular No. 681.

² County Circular Nos. 816A and B.

³ County Circular No. 680.

⁴ County Circular No. 689.

The autumn of 1941 was good from the point of view of preparing for the next harvest. The first half of October was fine and dry while the second half was variable with rain and frost; ploughing went well and autumn cultivations and the sowing of wheat and beans progressed. Further advances were made in November which was mild and not too wet; a great deal of ploughing was carried out and most of the intended autumn wheat was sown. December was good for ploughing except on the heavier lands, but January and February were severe with snow and keen frosts; work was at a standstill and all the gains of the autumn were lost by the beginning of March. A change occurred in the middle of March and the next six weeks were dry, though cold; arable cultivations were speeded up to try and overcome the arrears of work but the leeway was very great. Spring sowings were almost complete by the end of April though germination was slow on account of the cold.

The 1942 target figure for total tillage crops was not reached, the area of permanent grass being reduced by 1,408,000 acres¹ instead of 1,975,000 acres. The area under wheat had been expanded by a further 250,000 acres. The potato acreage had, however, risen by 181,000 acres, 31,000 acres more than the target, while the increase in sugar beet of 74,000 acres had also exceeded the target. The results for flax were disappointing; the area in Great Britain increased by 7,000 acres against the target of 12,000 acres, and the Northern Ireland area, instead of rising from 90,000 acres to 120,000 acres, dropped to 80,000 acres. There was, too, one significant reversal of the trends of the previous three years' cropping, namely an increase of about 313,000 acres of clover and rotation grasses, so that the net increase in the tillage area was only about 1,100,000 acres. There were evidently already areas where three years or more of continuous cropping were beginning to take their toll and where the County War Agricultural Executive Committees were convinced that re-seeding to grass was the most productive policy to adopt.

LIVESTOCK POLICY FOR 1941-2

While the cropping programme for the 1942 harvest was clearly defined, the livestock policy for 1941-2 was still a source of trouble. From the long discussions and doubts during the spring and summer of 1941 leading, first, to the acceptance of a slaughter policy and then to its abandonment, two important conclusions had emerged. Firstly, farm crops, with the exception of millable wheat, were not to be

| | |
|--|-----------------|
| ¹ England and Wales | 1,186,000 acres |
| Scotland | 129,000 acres |
| Northern Ireland | 93,000 acres |
| | <hr/> |
| | 1,408,000 acres |

See Appendix Table IV, p. 373.

requisitioned for the creation of a vast national pool of feedingstuffs from which all livestock would draw rations. Secondly, beef cattle and sheep would be entirely dependent on the farmer's own output of concentrates and fodder crops, and only dairy cows, pigs and poultry would draw on a more limited national pool of feedingstuffs, consisting of milling offals, oilcakes and home-grown oats attracted off farms; these oats were not to be requisitioned but either grown under contract or exchanged for low protein or cereal coupons.

When the Food Policy Committee had made its final decision on 3rd July 1941 and had expunged the picture of too many livestock chasing too few feedingstuffs, it had asked the Livestock Policy Conference to meet once again when the results of the 4th June returns of livestock numbers were available in order to advise it whether its policy appeared to be justified by experience. There was little to be learned from the census itself that was not already known but there was a wealth of information in the Conference's report of what was happening in the markets all over the country:

Dairy cattle - There is a continued strong demand for milking cows in all parts of the country at the present time.

Beef cattle - There is a continuing strong demand in all parts of the country for store beasts. . . . In certain parts of the country, particularly in Scotland, there is definite evidence of a shortage of cattle to eat the straw and roots that will be available.

Calves - The demand for store calves is strengthening.

Sheep - As with other classes of stock the demand for store sheep is strong. . . .

Pigs - In the past six months a strong demand has grown up for store pigs, partly on account of the rapid rise in the number of domestic pigkeepers. . . .

It was quite clear from such evidence that farmers themselves expected no difficulties in keeping through the winter, on feedingstuffs of their own growing and what was issued to them from the pool, the numbers of stock that were likely to be available. Whether or not this would be achieved at the expense of milk and meat output in 1942-3 remained to be seen.

In the meantime the precaution was taken of strengthening the hands of the Executive Committees in case it should become necessary drastically to reduce livestock production. The original Order under which Committees were expected to act was designed primarily to facilitate the culling of undesirable, diseased or unthrifty cattle from herds.¹ A new Order was passed in July 1942 to clarify and extend their powers.² It was now possible for the Committees to give directions to any farmer on the numbers of any type of livestock he should keep - whether under-stocked or over-stocked.

¹ Livestock (Control) Order, June 1941. S.R. & O., No. 795.

² Livestock (Control) Order, July 1942. S.R. & O., No. 1450.

In the ten months of its existence the Livestock Policy Conference had put in an immense amount of work and though its advice had not been accepted in the last resort a number of its interim recommendations had been put into operation, in particular those relating to the seasonal variation in the price schedules; this had helped to even out some of the extreme fluctuations in the market receipts of fat stock. That the Conference went astray in its main recommendation was due to an over-reliance on imperfect statistical information, and on theoretical conceptions of the nutritional value of pastures. It concluded in its final report in October 1941 that, having been advised by the Agricultural Departments that in their view no further changes of a major character in livestock policy were necessary at that time, 'the Conference has no major recommendations to make'.

Another incident of 1941-2 was the threat to pig and poultry production from the proposals in February 1942 to raise the flour extraction rate.¹ Had the effect of the consequent reduction in the supply of milling offals been confined to pigs and poultry, as it undoubtedly would have been, it would have entailed a further cut in their allocation of cereals under the feedingstuffs rationing scheme, from one-sixth to one-ninth of the pre-war level. This was, however, avoided by the delay in the raising of the extraction rate until the end of March and by the War Cabinet's decision to release 87,000 tons of maize from the Minister of Food's reserves for the national pool of feedingstuffs to bridge the gap until the 1942 harvest.

The decline in milk production which had gone on continuously since the outbreak of war had become an increasing source of dismay. Supplies for priority consumers were assured but in the winter of 1941-2 complaints about the inadequacy of the allocation for the ordinary consumer became widespread. A drive to ensure a greater output in 1942-3 was initiated in March 1942. An output target of 1,050,000 million gallons in 1942-3 was set up for England and Wales² and county quotas were circulated to the Executive Committees, as part of a general campaign.³

(iv)

Measures to Implement the Programme

MANPOWER

In June 1942 there were about 41,000 more regular workers than in June 1941, a small reduction in the numbers of men, which now included prisoners of war, having been more than balanced by an

¹ p. 149.

² County Circular No. 836.

³ p. 265 *et seq.*

increase of 42,000 in the number of permanent women workers, while the number of casual workers had increased by some 24,000, mainly women.¹ This additional manpower was in no way commensurate with the increased demands of the 1941 harvest or with the addition in 1941-2 of a further 1 million acres under crops other than grass. Labour difficulties were particularly prevalent in the autumn for the lifting of the potato and sugar beet crop. Extensive use of men lent by the Army and of schoolchildren eventually solved the former problem but the sugar beet harvest dragged on until December.

Improvisation went on as before. The decision in December 1941 to continue with the call-up of 10,000 agricultural workers under 25 who had been deferred to the end of the year made an awkward gap but a reduction of 10,000 from a labour force of over 1 million, including working farmers, hardly justified the Minister of Agriculture's warning to the Food Policy Committee in November that

if the men now liable for military service were taken out of the industry it was doubtful whether home production would reach the 1941 figure and it was most improbable that it would reach the present objective for 1942.

There was an increasing use of Italian prisoners of war and by the end of the third year of war there were some 20,000 of them at work, compared with 2,400 in August of the previous year. Most of them were working in gangs on drainage and other heavy work, living in camps and hostels, but concessions had been made by the Army in February 1942 to enable prisoners to work on individual farms and some 800 of them were now 'living in' and employed on general farm work. The Women's Land Army had reached 52,000 by September 1942; the rate of recruitment had been speeded up in January 1942 by the announcement of the Government's new manpower policy which made women liable to direction by the Ministry of Labour into forms of war work such as the women's Services or industrial employment².

Less help was available from the Services for the 1942 harvest but more voluntary labour had been organised by the County War Agricultural Executive Committees. Schoolboy camps had been phenomenally successful; financial and organisational difficulties had arisen in the previous summer but these had been straightened out by a central committee composed of representatives of the Ministry of Education, the County War Agricultural Executive Committees, headmasters and the Agricultural Departments; rates of payment were raised and the Ministry of Agriculture undertook to help with rents, railway fares, and the salaries of camp organisers. For the 1942 harvest, there were in England and Wales some 654 camps attended

¹ Table 5, p. 85.

² Employment of Women (Control of Engagement) Order, 1942, S.R. & O., No. 100.

by 31,000 children, a marked improvement over the previous year, when the number had reached only 12,000.¹

Legal controls were still having little success in securing the return of workers from other industries and as in the previous year the efforts of the Minister of Labour were practically fruitless. The main value in the use of compulsory powers was to prevent labour from leaving farms for other occupations. The passing of the Control of Employment Order in Northern Ireland 1942 brought that country into line with the arrangements in Great Britain.²

Earnings in industry were increasing more rapidly than in agriculture and this undoubtedly militated against the direction of men into the latter. Industrial earnings of men had risen on the average from 69s. od. a week in October 1938 to 99s. 5d. in July 1941³ while comparable figures collected by the Agricultural Economics Advisory Service indicated a rise in agricultural earnings from 42s. 3d. to 60s. 5d.; the industrial worker had started 27s. a week better off than the agricultural worker and had then increased his earnings by over 30s. whereas the agricultural worker's return had increased by only 18s. This growing disparity led the farm workers' unions to ask the Agricultural Wages Board in July 1941 for an increase in the national minimum agricultural wage from 48s. to 60s. a week. The Board had, however, deferred its decision until November, ostensibly to be in a better position after the harvest of 1941 to assess 'the conditions of the agricultural industry', one of the factors it was statutorily required to take into consideration. It is not improbable that the Government's policy on the stabilisation of prices and wages which had recently been defined in its White Paper⁴ had also influenced the Board's judgement. An accusation that the decision had been postponed owing to Government pressure was probably unwarranted since it had been expressly laid down in the White Paper that there should be no direct Government interference with existing wage fixing machinery in any industry. On 18th November 1941 the Agricultural Wages Board announced the new national minimum wage of 60s. a week, to come into effect on 28th December. The same decision was reached, by its different procedure, by the Scottish Agricultural Wages Board, which had been considering an increase to a range varying from 51s. to 54s. a week. Such a rise of 25 per cent. in the national minimum wage undoubtedly constituted a 'substantial rise' in farmers' costs and necessitated general revision of agricultural prices in conformity with the Government's undertaking of 30th August 1940.⁵

¹ p. 126.

² Control of Employment in Agriculture (Northern Ireland) Order, 1942, S.R. & O. of Northern Ireland, 1942, Nos. 32 and 87.

³ *The Ministry of Labour Gazette*, August 1945.

⁴ *Price Stabilisation and Industrial Policy*, Cmd. 6294, 1941.

⁵ p. 98.

MACHINERY

The beginning of the Lend-Lease programme at the beginning of 1941 encouraged hopes of more tractors and implements and the first shipments began to arrive in the autumn of 1941. At that time, home manufacture was concentrating on wheeled tractors, cultivating implements and hay mowers, but the total demand for tractors, ploughs, disc harrows and combine drills far exceeded the supply so that for the second half of 1941 the import programme consisted mainly of these.¹ Prospects of importing more machinery for the 1942 crops had been good; American output was increasing and there were fewer delays in shipping.

But the entry of America into the war on 8th December 1941 confused all production schedules, priorities and loadings, and the original machinery programme was unfulfilled. Of the 6,000 tractors ordered from the United States, only 4,200 arrived. When these came to hand, only 1,650 were of the much-needed track-laying type, and many did not, in fact, arrive until the spring of 1943. Much of the desperately needed help for the preparation of the 1942 crops was therefore not forthcoming until too late. It was clear, too, that as soon as the Allied armies started to equip themselves for the counter-attack on Germany and Japan, machinery imports would no longer be available in the great quantities of the first three years of war. Greater reliance would have to be placed on home-produced implements and closer control of both production and allocation was instituted in 1942.² In 1942 over 35,000 tractors were made available compared with about 8,500 in a normal pre-war year, while the number of cultivating and sowing implements was more than doubled. During the five years 1940-4, about 153,000 tractors and 586,000 implements and machines were added to British farm equipment.³

There is no doubt, too, that the available machinery and equipment were more fully used than before the war, not only on the individual farm but also by virtue of the use of machinery under the aegis of the Executive Committees. By the end of 1942 the Committees in England and Wales and the Department of Agriculture in Scotland were operating almost 8,000 tractors and 40,000 implements and harvesting machines.

FERTILISERS

The supply of nitrogenous fertilisers in 1941-2 was more than sufficient to meet the effective demand, but their use was still, in fact, considerably less than the optimum requirements. It was indeed only by virtue of the combined effect of stabilised prices and of intensive

¹ Appendix Table VIII, p. 378.

² p. 173.

³ Appendix Table VIII.

propaganda that farmers were induced in the early years of the war to use as much as they did. There was, however, a big increase during 1941-2 in the consumption of sulphate of ammonia - 636,000 tons as compared with 180,000 tons in 1938-9 - and towards the end of 1942 there were indications that demand, stimulated by advice from the County War Agricultural Executive Committees, the increase in farming profits, the favourable results experienced and by a growing concern with the maintenance of fertility, might soon outstrip the supply, which was determined mainly by the output of sulphate of ammonia; transport and labour shortage were beginning to limit further expansion. The total consumption of nitrogenous fertilisers for the June to May year 1941-2 was 168,000 tons, in terms of N, compared with 60,000 tons before the war, an increase of 180 per cent.¹

The transport of these larger quantities of sulphate of ammonia was still creating an embarrassing problem as the demand tended to be concentrated in the winter and early spring. To ease this, the early delivery rebate of 28s. per ton, which had been instituted in 1941 for July orders, was brought into operation again; this offer would last until the supplies earmarked for this purpose had been booked.²

The supply of phosphates was critical, particularly since their use became more necessary as inferior grassland was ploughed up. Propaganda was not needed to push the sales of phosphatic fertilisers; the farmers were well aware of their importance. Between 1938-9 and 1941-2 the use of phosphatic fertilisers, in terms of P_2O_5 , increased from 170,500 tons to 287,400 tons; the increase was mainly in the form of superphosphates, the use of which rose from 428,000 tons to 841,000 tons while basic slag increased from 387,000 tons to 551,000 tons. Some 59,000 tons of the new fertiliser, triple phosphate, were used in 1941-2.

The output of the superphosphate was entirely dependent on the imports of phosphate rock and the reduction in the import programme at the beginning of 1942 threatened these supplies directly. The tonnages required to meet the Agricultural Departments' requirements for the 1943 crop were 50,000 tons a month of phosphate rock and 8,000 tons a month of manufactured fertiliser. In the search for economies in the spring of 1942,³ these imports were very vulnerable but the Minister of Agriculture had pointed out that a first cut of, say, 126,000 tons of rock (36,000 tons P_2O_5) would mean a loss in home-grown food of about 2.9 times the shipping space occupied by the phosphate rock. Progressive cuts would, of course, increase this loss to about 3 or 4 times the shipping space saved. This suggestion was,

¹ pp. 258-9.

² County Circular No. 958.

³ p. 148 *et seq.*

therefore, dropped and the 1942-3 fertiliser programme remained intact.

Unfortunately the supplies of phosphates could not be increased greatly as the demand and the need for them grew stronger; the output of basic slag was limited by the amount of steel manufactured, the output of superphosphates by the imports of phosphate rock, and the output of triple phosphate by the pressure of American farmers' own demands on American output. In the face, therefore, of growing competition for the limited supplies a measure of supply control had to be introduced in 1942.¹

The supply of potash in 1941-2 was equivalent to 72,900 tons, in terms of K_2O .² This was 15,800 tons more than in the previous year but the increase merely brought the supply back to the pre-war level while the area of crops other than grass had increased by almost 5 million acres. Control of distribution was more necessary than ever.³

The use of lime was also increasing⁴ and the concentrated demand in the autumn and winter months was giving rise to considerable transport difficulties. Accordingly an incentive to off-season purchase was given in 1942 by raising the 50 per cent. subsidy to 75 per cent. for the summer months of May to August. This bounty was over-estimated and led to a switch in the transport congestion from the winter to the summer, but an improved balance was obtained in 1943 by lowering the summer subsidy to 60 per cent.

PRICES AND PRICE POLICY

Following the August 1940 price settlement which covered live-stock products sold throughout 1940-1 and the crops harvested in 1940, there was a period of relative price stability. The major deviations from the August schedule were for potatoes from the 1940 crop, milk and fat sheep, the reasons for which have already been mentioned.⁵ The only other major change was for potatoes from the 1941 crop, for which the August schedule had envisaged a return per acre about 30 per cent above that of 1939. As in 1940-1, growers were again able to show that costs of production had risen by a greater percentage and the detailed price schedule was manipulated to give an average price of about 149s. per ton, or a return per acre of approximately 50 per cent. over the 1939 level.

Apart from these major changes, there had been a number of minor increases - for fat cattle (temporary), pigs (temporary), eggs, hay and straw - for particular reasons, such as the necessity temporarily to encourage marketings of beef cattle or pigs, to attract eggs

¹ pp. 172-3.

² Table 22, p. 259.

³ p. 139.

⁴ Table 22.

⁵ p. 130 *et seq.*

into the collecting and packing stations, and to obtain hay or straw for urban and industrial uses.

Further changes were made during 1941-2.¹ The monthly prices of wheat and oats were varied in order to discourage the heavy marketings of these cereals soon after harvest and to encourage farmers to hold their grain either threshed or in stack. In December 1941 the maximum price of wheat was increased from 14s. 6d. to 14s. 9d. per cwt. and a further 3d. was added in each succeeding month up to a ceiling of 15s. 9d. In addition, to speed up the sale of wheat in the early months of the year, the maximum price of wheat was raised by a further 6d. per cwt. in January. Similar seasonal 3d. increases were given to the maximum price for oats up to 14s. 6d. but not the additional 6d. per cwt. in January. The resultant prices per cwt. throughout 1941-2 were:

| | Aug.- Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
|---------------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. |
| Millable wheat† | 14 6 | 14 6 | 14 9 | 15 6 | 15 9 | 15 9 | 15 9 | 15 9 | 15 0 | 15 0 |
| Non-millable wheat* | 13 0 | 13 0 | 13 0 | 13 0 | 13 0 | 13 0 | 13 0 | 13 0 | 13 0 | 13 0 |
| Milling oats* | 13 9 | 14 0 | 14 3 | 14 6 | 14 9 | 15 0 | 15 0 | 15 0 | 15 0 | 14 6 |
| Feeding oats* | 13 6 | 13 9 | 14 0 | 14 3 | 14 6 | 14 9 | 14 9 | 14 9 | 14 9 | 14 6 |

† Fixed price. * Maximum price.

At last the decision to control malting barley prices was taken. It was announced on 17th March 1942² that a maximum price of 35s. per cwt.³ - it had reached 57s. 6d. in February - for malting or milling barley or other barley used for human consumption would be established on 15th July 1942 for the 1942 crop.

The decision taken in November 1941 to raise the national minimum agricultural wage in England and Wales from 48s. a week to 60s. as from 28th December necessitated a general review of agricultural prices. The period of relative price stability, following the stabilisation of feedingstuff and fertiliser prices at the end of 1940, had come to an end. Such a revision was agreed to be necessary to conform with the pledge given by the Minister of Agriculture in November 1940,⁴ and reiterated by him in his discussions with farmers during the summer of 1941. At first glance the problem seemed a relatively simple one. It was estimated by the Agricultural Departments that the increase of 12s. a week represented an increase

¹ Home Grown Wheat (Control and Prices) Orders, 1941, S.R. & O., Nos. 1132, 1698 and 2085.

² County Circular No. 850.

³ The maximum price for feeding barley had been fixed at 14s. 6d. per cwt. on 1st August 1940 and then lowered to 13s. 6d. on 1st August 1941, where it remained until July 1942 when it was increased to 14s. 6d.

⁴ p. 112.

in labour costs for the industry as a whole, including an equivalent rise in the value of the farmer's time and that of his wife, of about £30½ million in a full year; it would be relatively easy to revise the August 1940 price schedule, distributing this amount among the commodities the prices of which were either fixed or subject to maximum price Orders, according to the amount of labour involved in their production. This appeared to the Agricultural Departments to be a straightforward interpretation of the November pledge. The Government was not, however, prepared to accept this simple solution and the third prolonged discussion on prices was begun.

In the first place, the Government had reason to believe that farming returns in general had been much in excess of those expected when the June 1940 schedule was agreed, partly owing to a serious under-estimation of the agricultural output of 1940-1 and partly owing to the subsequent increases in prices of certain products. The Central Statistical Office had reckoned that the total agricultural *net* income from all products had increased by £59½ million between 1939-40 and 1940-1 or perhaps £44 million on the more limited range of controlled commodities, if it is assumed that these represented about 75 per cent. of the total output.¹ Moreover, the increase in farmers' profits was said to be out of line with those in other occupations; as compared with 1938-9, the estimated net national income in 1941-2 had risen by 35 per cent., weekly earnings in manufacturing industries by 42 per cent., the agricultural wages bill (at 48s.) by 61 per cent. and farmers' net incomes by 207² per cent.

It was argued, even, by some that farmers' returns from the existing price schedule provided a more than sufficient margin to cover the proposed new increase of £30½ million in wages.

The Government was therefore unwilling to take June 1940 as a starting point; the calculations might be questioned in minor detail, but the general conclusion was still clear that farmers had profited more than had been expected during the past two years, and some recognition of this should be made in arriving at the new price schedule. Returns should be taken into consideration as well as costs.

The Government decided, moreover, that the pledge to farmers was to reimburse them for increases in total expenditure and this did not involve raising the prices of every price-controlled commodity indiscriminately according to the particular increase in its cost of production. Some re-distribution of the global sum should be permitted to conform with the Government's priorities for the 1942 harvest and 1942-3 programme.

¹ Subsequent estimates revised the figure of the increase in total net income to £75½ million (Appendix Table IX).

² The year 1938-9 was one of abnormally low agricultural returns; if allowance is made for this then the increase in farmers' net income would be only about 104 per cent., which was still appreciably higher than the other increases.

On the supposition that the increase in wages would be 12s. a week,¹ and not 9s. 2d. a week (the difference between the average of the county minimum wages and 60s.) and that only those products whose prices were fixed or subject to maximum price Orders were to come under consideration, it was estimated by the Central Statistical Office that the increase in farmers' costs due to the rise in the national minimum wage was about £20 million, and this figure was accepted by the War Cabinet. It was assumed, at the same time, that the rises in the prices of various products since June 1940 had probably met any increase in costs other than labour that had occurred in the intervening period.

A price schedule was accordingly drawn up in January 1942 for livestock and livestock products from January onwards and for the 1942 harvest by virtue of which the amount to be distributed was £20,314,000. But the task of allocation to the various products was not an easy one. Flax and sugar beet, the prices of which had already been announced, absorbed £1.3 million; an increase of 1½d. per gallon in milk took £8½ million; 5s. a ton on potatoes, £1½ million; 1s. 6d. per cwt. on wheat and 1s. per cwt. on oats and rye, about £3½ million; leaving about £5½ million for fat stock and eggs. Fat sheep were to get 1½d. per lb. and fat cattle 5s. per live cwt. Nothing was left for pigs and poultry. The Minister of Food was dissatisfied with the proposed prices for milk and potatoes for which he wanted increases of 2d. per gallon and 10s. per ton respectively, while the Minister of Agriculture disliked the proposals for fat cattle, pigs and eggs.

The Minister of Agriculture was instructed by the War Cabinet to discuss these proposals with the farmers' representatives, who were expecting a compensatory increase in returns of some £50 million. He was also instructed to inform them of the bases on which the Government had drawn up their proposals:

- (a) that substantial profits had been made by farmers as a whole over the past three years,
- (b) that the Government felt free to adjust the prices of individual products up or down so long as the global sum of these adjustments resulted in a fair balance between increased prices and increased costs,
- (c) that the Government was entitled to look at total receipts as well as total costs in respect of controlled commodities and to consider both sides of the account,
- (d) that the pledge operated on a continuous basis, taking into account production costs and receipts over the whole period and not merely the period since the last general review.

¹ It was assumed that wages would rise proportionately to the minimum wage, i.e., 25 per cent. and not by an absolute amount of 12s. a week.

The National Farmers' Unions for England and Wales and Scotland considered the proposals for four days and rejected them on the grounds that they did not implement the Government's pledge of 26th November 1940. Reconsideration by the Government and agreement by the Chancellor of the Exchequer to increase the dividend by a further £3½ million gave a further 1s. 6d. for fat cattle, 1s. per score for fat pigs and 10d. per 120 for eggs. Honours were easy. On 19th February the Minister of Agriculture reported that a settlement had now been reached with the Unions which was accepted by them as complete fulfilment of the Government's pledge, except in regard to milk.¹ It was subsequently decided in March 1942 that milk prices should be raised by 2d. per gallon, and not merely 1½d., necessitating the use of the extra £1½ million.² Thus the total amount distributed among the controlled products to compensate for the increase in wages was £25 million.

The Lord President of the Council saw the representatives of the National Farmers' Union on 18th February 1942 about the Government's interpretation of the pledge. He said that

The pledge was a continuing pledge running from the date in 1940 when the system of fixed prices was first introduced. On the occasion of each general review of prices it was permissible to consider the whole course of farmers' costs and receipts from that date up to the time of the review. The pledge . . . did not mean that the price of each and every agricultural product would be raised in proportion to increases in the costs of producing that commodity. . . . The Government had always taken the view that there was nothing in the pledge to prevent the prices of particular commodities being adjusted, up or down, according to the requirements of food production policy. The price mechanism could be used to further Government policy in promoting or discouraging the production of such commodities.

The results of what may be called the third price review were greeted with strong criticism by the farmers. There had been earlier leakages in the farming press which gave some indication of the stresses and strains which were present during the negotiations. Delays in the publication of the prices only served to multiply the rumours. It was said that the Minister of Agriculture had sent in his resignation and that a political crisis had been averted at the last minute. The branches of the National Farmers' Union spoke of

¹ Settlement of milk prices might entail, it was agreed, a contingent claim for an additional £1½ million (½d. per gallon) over and above the figure of £3½ million (1½d. per gallon) included in the schedule.

² While the general review of prices had been under discussion, it had been agreed in January 1942 that the Minister of Food should announce an interim payment of 1½d. per gallon of milk on all milk sold through the Milk Marketing Boards during the winter period, October 1941-March 1942, in fulfilment of his pledge of the previous February. It was, however, made clear that this interim payment would be merged in any price for these months covered by the new price schedule to be announced in the near future.

betrayal. But the Headquarters of the Union maintained that the charge that the Government had failed to implement its pledge was unfounded. They said

the cost to farmers of the wages increase and other increased outgoings had necessarily to be estimated but on any reasonable computation it can be stated that the price adjustments announced by Mr Hudson do actually recoup the industry's increased production costs.

But the criticism, if it had been widespread, was shortlived. Within a few days, the Minister spoke to farmers in Devon. He defended the new price schedule but did not apologise for it. 'But', as the farming press said, 'if the attitude of his audience was any guide, no apology was needed'.

There was one particularly important innovation during 1941-2 in the method of payments to producers. It has already been noted that, in the allocation of county potato acreage quotas, relatively large quotas had to be assigned to Northern and Western regions in order to permit the necessary increase of the sugar beet acreage in the Eastern Counties, which were also the high yielding potato areas. For various reasons - climate, soil, inexperience of potato growing, lack of machinery and fertilisers, and so on - yields were lower in these new regions¹ and consequently costs per ton were higher. The ingenious solution was put forward to pay part of the producers' price for the 1941 crop in the form of an acreage grant of £10 for every acre planted and to reduce the schedule price by 30s. per ton (£10 divided by the average national yield of 6.7 tons per acre) in three successive steps of 10s., beginning on 1st October 1941. It was announced in July 1941 that this payment of £10 an acre would be maintained for the 1942 crop. While providing a higher return per acre to the inexperienced grower or the grower with land less suited to potato growing than would be achieved by a fixed price, the system also had the advantage, if the acreage payment was made promptly, of providing ready cash for growers whose crops might not be marketed until the spring.

Inducements to increase the production of flax were also instituted for the 1942 crop. A deficiency payment was made equivalent to the difference between the average yield of straw per acre in any factory area and a standard yield of 2 tons per acre. In addition the Ministry of Supply made an advance of £3 per acre to the farmer at the date of sowing, to be deducted from the price paid for the crop when purchased for tow. If the crop was not accepted for scutching, then the advance payment was regarded as a bonus.

¹ For example, the average 1940 yield in Hampshire was only 5.2 tons per acre compared with 9.9 tons per acre in the Holland Division, one of the best potato areas. By 1944 the Hampshire area under potatoes had increased fivefold.

There was a side-issue from the Ministerial discussions which was of subsequent importance. The realisation was growing that the policy of raising prices to stimulate the high-cost or marginal producer was extremely expensive, entailing undue profits to the supra-marginal farmer which, owing to the fact that many farmers did not keep accounts, were not soaked up by income tax. In 1940 the possibility of giving more direct assistance to marginal producers had been considered but the difficulties of principle and administration had seemed too great to make it worth while pursuing the matter further. The War Cabinet decided in January 1942 that further examination of this problem of reimbursing farmers for the additional cost of cultivating marginal land otherwise than through prices which applied to all farms should be undertaken – by independent investigators, if necessary. The Farmers' Unions were informed that if such an alternative means were found, the existing pledge and price structure might have to be reviewed *de novo*.

On instructions from the Lord President's Committee a committee was appointed to examine the possibility of finding some means other than higher prices to reimburse the higher costs of marginal producers without giving undue profits to supra-marginal producers. This committee, consisting of representatives of the Departments concerned together with a number of competent independent persons, went into the problem very thoroughly and came to very much the same conclusions as their predecessors. It was unable to recommend, as a means of assisting marginal production, either yield or bonus payments or general acreage payments, such as those instituted for potatoes, except for specific crops where substantial increases were required. For marginal farms, it recommended a scheme of grants which would not normally be cash grants but would take the form of the supply of part of the seeds, fertilisers, contract services, etc., needed for production.¹

THE GOODS AND SERVICES SCHEME

This scheme was started in September 1941 in a further attempt to ease the financial stringency affecting some of the smaller farmers.² It was designed primarily to provide credit for farmers who could not readily get it from the banks or their merchants; and, secondly, to encourage the use of the services of the County War Agricultural Executive Committees and the purchase of requisites by the farmer for his own use. Again, like the Requisites Assistance Scheme, it was worked through the Executive Committees themselves, who appointed Sub-Committees specifically to deal with its day-to-day working. The services were of two types (i) short-term: ploughing, cultivating,

¹ p. 296 *et seq.*

² p. 99.

harvesting, threshing, pest destruction, bracken cutting, hiring of implements and (ii) long term: bush clearing, mending of field walls, draining, ditching and the reclaiming of semi-derelict land; the availability of these services was restricted to farmers who could show their own resources of machines or men to be inadequate or their agricultural experience insufficient. The goods which could be purchased through the Executive Committees under the scheme included tractors, implements, machines, seeds and fertilisers. Interest was charged at 5 per cent. except on short-term services and repayment terms varied according to the class of goods or services from 'on demand' to after the next harvest or even after an interval of 2-3 years; repayment could be made either in cash or by deductions from Government payments, such as the ploughing-up and drainage grants or, later, the acreage payments or hill sheep and cattle subsidies. This scheme was used more fully than the Requisites Scheme as its terms were more liberal and more easily available. Between September 1941 and June 1944, some £13,400,000 credit had been advanced of which £11,550,000 had been repaid; final losses were infinitesimal.

CONTROL OF SUPPLIES

Crops and Livestock Products. A further move was made in the summer of 1942 to strengthen the control of supplies of cereals by the closing of an obvious gap; by Order of 5th June, sales of standing or unthreshed crops of wheat, barley or oats were forbidden except to approved buyers unless a licence had been granted by the local wheat committee.¹ By July 1942 maximum prices were in force for all cereals; sales of wheat, oats and feeding barley off farms were restricted to approved buyers;² and the feeding of millable wheat to livestock was forbidden.

During the year a change was made in the relationship between the Ministry of Food and the English Milk Marketing Board. It will be recalled that the Milk and Hops Marketing Boards were the only pre-war Marketing Boards to retain their individuality and functions.³ Milk production had been falling while the consumption for liquid milk had been rising to a point where demand exceeded supply; the disequilibrium was worse in some areas than in others. This was causing acute difficulties for the Ministry which was responsible for ensuring that priority demands were met everywhere in full and the balance distributed as equitably as possible. The existing system whereby producers and dealers entered into individual contracts,

¹ Corn (Sale of Standing Crops and Unthreshed Corn) Order, 1942, S.R. & O., No. 1092.

² With certain exceptions for seed.

³ p. 61.

with the Milk Marketing Board as a third party, for sale and purchase was thought to be no longer suitable. The Ministry of Food had to have greater control of supplies to enable it to prevent breakdowns in distribution and consequent heavy wastage. Arrangements were therefore made whereby the Milk Marketing Board became the sole purchaser from producers, except for milk distributed by producer-retailers; the Ministry would purchase the milk from the Board and simultaneously sell to distributors or manufacturers in the light of requirements. The Ministry would pay the Board at prescribed prices but this left the Board free, as before, to determine the basis of payment to individual producers – to fix either a uniform price throughout England and Wales or prices subject to regional or other variations. The Scottish Milk Marketing Boards were not affected by this reorganisation. Approval was granted by the War Cabinet on 1st June and the new arrangement was brought into operation on 1st October 1942. Producers were henceforward paid on the basis of delivery at collecting centres instead of, as previously, at consuming centres.

Rationing of Feedingstuffs. As was mentioned previously, there was considerable modification of the working of the feedingstuffs rationing scheme following the decision in July 1941 that there would be no requisitioning of crops off farms, excepting millable wheat, no all-inclusive national pool of feedingstuffs and no allocation of rations to all farms on the basis of the types and numbers of livestock carried. With the recognition that farmers were entitled to the use of the feedingstuffs which they had grown went their complete responsibility for the feeding of all beef cattle, sheep and young stock. Rations from the national pool – now to consist solely of oilcakes from imported oilseeds, milling offals, at an 85 per cent. extraction rate, from imported and home-grown wheat, such little maize as was imported and such oats as could be attracted off farms – were issued solely for work horses, dairy cows, pigs and poultry. Rations for pigs and poultry were still fixed at sufficient for only one-sixth of the pre-war numbers on each holding (less one pig and two birds for every two acres in the holding), while rations for horses were issued on proof of the farmer's inability to provide sufficient of his own grain.

The rationing of dairy cows was still the most difficult problem. From their home production of feedingstuffs, farmers were expected to provide the calculated maintenance ration for their dairy cows and the cereal part of the production ration for the first $\frac{1}{2}$ gallon of milk sold per cow per day. For the additional output, rations were issued at the rate of $\frac{1}{4}$ lb. (1 lb. of protein to 3 lb. of cereals) for each gallon of milk produced but these rations were subject to a deduction of $\frac{1}{2}$ cwt. per cow per month, representing the equivalent of $\frac{1}{2}$ gallon of milk per cow per day. This deduction was designed to stimulate the

producer to furnish from his own feedingstuff resources the first half-gallon per cow per day. As before, the number of cows on a holding was taken from the quarterly census while the output of milk was now assessed on the Milk Marketing Board invoices for the two previous months. Various additional arrangements were made to meet, so far as possible, the differing circumstances from farm to farm. Rations were also provided for calves under six months of age to encourage the maximum sale of milk.

To meet these requirements it was estimated that, for Great Britain, some 1,280,000 tons of cereals and 357,000 tons of oilcake would be needed for the winter months of 1941-2, whereas potential supplies were likely to be about 800,000 tons and 500,000 tons respectively. Some 500,000 tons of cereals were therefore needed to complete the pool requirements and arrangements were made to encourage sales of cereals off farms by offering a bonus of one ton of protein feed for every five tons of grain and wheat feed coupons in the ratio of three tons for every five tons of grain¹ sold off farms after 1st August. By the end of the season nearly 720,000 tons had been collected which was adequate to meet all requirements, including some 300,000 tons of oats for oatmeal, until the 1942 crops were harvested. Arrangements for the summer period of 1942 were similar in many respects to those of the previous summer; no basic issue was made for dairy cows but coupons for this class of stock were issued on the basis of milk output in the ration of 1 cwt. of protein to 1 cwt. of cereals. The actual tonnages of feedingstuffs represented by the coupons issued in Great Britain in 1941-2 are given in Table 29.² Annual requirements of the national feedingstuffs pool for 1941-2 were some 2,217,000 tons of cereals and 761,000 tons of protein feed.

Fertilisers. The control of fertilisers was tightened during the year. Orders had already been passed towards the end of 1940-1 whereby the use of potash fertilisers was limited to certain crops and the rate of their application had also been prescribed.³ In October 1941 an Order was passed to enable potash fertilisers to be applied to sugar beet, root and other vegetable crops at the rate per acre of $\frac{1}{2}$ cwt. of muriate of potash.⁴ Subsequently, in December, the rate for sugar beet was raised to $\frac{3}{4}$ cwt. as supplies of potash became less scarce.⁵

For phosphates, as for potash, a system of county reserves had been established from which allocations were made against certificates of exceptional deficiency by the Executive Committees. In the autumn

¹ This latter offer was embarrassingly popular and had to be withdrawn in November.

² p. 305.

³ p. 127. Control of Fertilisers (No. 3) Order, 1940, S.R. & O., No. 21 and County Circular No. 315.

⁴ Control of Fertilisers (No. 12) Order, 1941, Direction No. 2, S.R. & O., No. 1490 and County Circular No. 717.

⁵ County Circular No. 783.

of 1941, the Executive Committees for Norfolk and East Suffolk, dissatisfied with the partial control of phosphates, obtained permission from the Ministry of Agriculture, backed by Orders from the Ministry of Supply, to impose local rationing schemes.¹ The Norfolk scheme, which was the more successful, was based on a thorough supervision of the farm cropping plans for the 1942 harvest; farmers were issued with permits which had to be deposited with their merchants within fourteen days to avoid congestion of orders.

In December 1941 the outbreak of the war in the Pacific and the temporary suspension of imports of phosphate rock made stricter control necessary. Farmers were not permitted in 1942 to use phosphates on any grassland, except for fields scheduled for ploughing in 1942 or reserved for the production of clover seed, without permission of the Executive Committees.² The successful Norfolk experiment was adopted for the 1943 crop for the whole of England and Wales and certificates of both phosphatic and potash fertilisers were issued on the basis of the individual farmer's cropping programme. Scotland continued to rely on merchants for a fair distribution of available supplies; this difficult task appears to have been carried out with equity and freedom from any serious complaints.

Tractors and Implements. The increasing demand for all machinery and implements and the need to reassure the United States, after the arrival of large quantities of Lend-Lease material, that their contributions were being used to the maximum advantage, led to the institution of control over machinery supplies. In October 1941 partial control was instituted over imported tractors and farm implements from North America, in February 1942 over all tractors and in March 1943 over tractor ploughs and threshing machines. In May 1942 a system of county allocations of track-laying tractors was introduced by the Ministry of Agriculture, and later extended to imported wheeled tractors.³ Further control was exerted by the passing of an Order in July 1942 establishing maximum prices for secondhand tractors and for certain items of agricultural machinery and implements.⁴ Priority schemes for other scarce materials such as steel, cement, timber, wire, and the like, worked through the Executive Committees, had been put into operation in 1940-1.

¹ Direction No. 1 under S.R. & O., 1941, No. 1738.

² County Circular No. 783.

³ County Circular Nos. 913 and 1196.

⁴ County Circular No. 974. Secondhand Plant (Control of Prices) (No. 1) Order, 1942, S.R. & O., No. 1163.

CHAPTER VII
THE FOURTH YEAR OF WAR,
1942-3

(i)

Food Production in 1942-3

THE CROPPING programme for the 1942 harvest had been formulated originally in June 1941 but had had to be revised as the shipping situation deteriorated in the autumn and winter of 1941-2. It had been announced at an early date that the Government wished for a further reduction of 1,975,000 acres in permanent grassland and for as large an acreage of wheat as was possible in the limited autumn season for ploughing, cultivating and sowing.¹ Specific increases were asked for potatoes, sugar beet, flax and for certain minor crops. The plough-up campaign failed to reach its target; but the wheat area had been increased by a further 250,000 acres, and the desired potato and sugar beet areas had been exceeded. Only the plans for increased flax production had gone wrong.

During June 1942 weather conditions were generally favourable to haymaking in England and Wales but were less so in Scotland owing to lack of sunshine. Unsettled weather in most parts of the United Kingdom gave promise of a late harvest, which was confirmed by wet weather and lack of sunshine in August. September did not help at all as continued unfavourable weather delayed work still further and in some areas crops were damaged. Fine weather in the first part of October favoured those areas of late harvesting but this was followed by rain which caused serious delays in the lifting of potatoes and sugar beet. On the whole, it was an unfortunate season; the bad weather combined with a shortage of labour to make the collection of so large a harvest a task that might well have discouraged further efforts.

The yields of cereal crops and potatoes were well above average as were those of fodder root crops.² The sugar beet crop was also heavy but the sugar content was below average in England and Wales. Grassland was not very productive in August but improved later;

¹ p. 153.

² Appendix Table V, p. 374.

good grazing was found as late as November, and fodder supplies were generally sufficient for requirements.

The total weight of the harvest was just short of 75 million tons, compared with about 53 million tons before the war and 67 million from the 1941 harvest. The total weight of grain was over 8 million tons or 3½ million tons greater than pre-war; the potato crop, at 9,390,000 tons, was practically double (93 per cent. greater than) that of pre-war, while the sugar beet crop had risen by 43 per cent. (Table 11). The output of vegetables, including those of gardens and allotments, had increased by over 1,300,000 tons.

Table 11. The Output of Certain Farm Products in the United Kingdom in 1942-3, Compared with Pre-war and 1941-2

000 tons

| | Output | | Change from | | | Output | | Change from | |
|----------------|--------|--------|------------------|--------------|-----------------|--------|--------|------------------|----------------|
| | 1941 | 1942 | Pre-war* =100 | 1941 =100 | | 1941-2 | 1942-3 | Pre-war* =100 | 1941-2 =100 |
| Wheat . | 2,018 | 2,567 | 155 | 127 | Beef & veal | 424 | 482 | 83 | 114 |
| Barley . | 1,144 | 1,446 | 176 | 126 | Mutton & lamb . | 173 | 173 | 89 | 100 |
| Oats . | 3,247 | 3,553 | 183 | 109 | Pig meat . | 159 | 145 | 35 | 91 |
| Potatoes . | 8,004 | 9,393 | 193 | 117 | Offals . | 82 | 91 | 87 | 111 |
| Sugar beet | 3,226 | 3,923 | 143 | 122 | Total meat | 838 | 891 | 69 | 106 |
| Vegetables | 2,883 | 3,690 | 156 | 128 | Milk† | 1,564 | 1,657 | 93 | 106 |
| Fodder & hay . | 36,931 | 39,590 | 122 | 108 | Eggs‡ | 2,860 | 2,182 | 57 | 76 |

*Average 1936-7 to 1938-9. † Million gallons. ‡ Million eggs.

Livestock numbers in the June 1942 census showed one or two unexpected changes. Firstly, the number of dairy cattle had increased by 210,000 compared with the previous year; the rise was almost entirely due to an increase in the number of heifers in calf for the first time and, though it could not be said with certainty, this was taken to indicate a probable increase of milk production in the following winter rather than an eventual expansion of the beef output. The numbers of other cattle were practically unchanged. Secondly, the numbers of sheep had continued to decline, but the fall was not so great as in 1940-1 and the reduction had again been confined almost entirely to lowland flocks; the number of hill ewes for breeding had been maintained. Thirdly, the reduction in the number of breeding sows had stopped and there were some indications that, if the supplies of feedingstuffs could be maintained, there might be some slight increase in the output of pigmeat. Poultry numbers had dropped by a further 7 per cent.

The output of meat was actually greater in 1942-3 than in the

previous year, due mainly to increased killings of cattle imported from Eire. The most satisfactory feature was the increase, for the first time since 1939, in the milk output. The number of cows in milk had increased by about 100,000, and for the first time since the outbreak of war the downward trend in yields had been reversed.¹ The total milk output rose by almost 100 million gallons, or by 6 per cent., compared with 1941-2.² The drive to raise milk production³ which had been undertaken by the Ministry of Agriculture, following an expert enquiry in the summer of 1942 into the reasons for the decline in yields, had yielded high dividends, though part of the improvement may be attributed to other factors, such as favourable weather. The results were immediately evident in the increased sales of milk for liquid consumption which reached 1,154 million gallons, an increase of 329 million gallons or 40 per cent. over the pre-war level.

The Minister of Food in January 1942 had asked for the equivalent of an additional 840,000 tons of wheat from the 1942 harvest as compared with 1941 and he had been prepared to accept a drop in the output of eggs and poultry, and possibly of mutton and lamb, in order to achieve this. His expectations had been more than met. The actual increase in the sale of crops for non-farm use during 1942-3 was equivalent to almost 1½ million tons of wheat⁴—a triumphant response by the farmers to the Minister of Food's appeal and the Minister of Agriculture's policy and drive. Nor was this achieved at any cost in the output of livestock products in 1942-3 as the net output of these increased as compared with the previous year.

(ii)

The Import Programme 1942 - 3

The net consumption of imported food and materials in the eighteen-month period January 1942 to June 1943 had been estimated in June 1942 as 41.4 million tons whereas it seemed that actual imports were not likely to be more than 33 million tons.⁵ The deficit of 8.4 million tons, subsequently re-calculated at 7.4 million, was to be made good by economics in United Kingdom import consumption, by running down stocks and by American shipping assistance. In view of the

¹ p. 262.

² Appendix Table VI, p. 375.

³ p. 265 *et seq.*

⁴ Excluding molasses and the sale of potatoes for allotment seed.

⁵ If 'munitions and miscellaneous' imports were included total imports in the eighteen months were expected to be 35 million tons (25.5 in 1942 and 9.5 in the first half of 1943).

strategic situation and the possibility of unforeseen military requirements, the War Cabinet felt that only about 4 million tons of the deficit could be covered from reserves. And the economies in consumption that the War Cabinet was prepared to tolerate would only save 1½ million tons of imports in the period. The rest of the gap must therefore be closed by American help. Even in the first three quarters of 1942 imports of food and materials had been at an annual rate of only 23.9 million tons – a little more than half a million tons lower than the Shipping Committee's estimate of imports in 1942. And the prospect for the last quarter of 1942 when operation 'Torch', the attack on North Africa, was to be launched was much darker. The War Cabinet was convinced that it was essential for Britain's war effort that imports of 27 million tons should reach the United Kingdom in 1943. In the autumn of 1942, therefore, the President of the United States was asked to transfer 2½ million deadweight tons of shipping to the British to ensure that the import programme was fulfilled. The President would not contemplate the actual transfer of shipping but, in effect, he said that the United States would give the help that was needed to fulfil the 27 million ton programme. On this basis the War Cabinet approved the following import allocations for 1943:

| | <i>million tons</i> |
|-------------------------|----------------------------|
| Food | 10.5 |
| Materials | 14.0 |
| Munitions, etc. | 2.5 |
| | <hr style="width: 100%;"/> |
| | 27.0 |
| | <hr style="width: 100%;"/> |

The long term outlook seemed to have improved but the immediate outlook was very grave. 'Torch' was much more expensive in shipping for a longer time than was expected and American help with the United Kingdom import programme in the winter months of 1942-3 was very small. Total non-tanker imports in the last quarter of 1942 were at an annual rate of only 18 million tons and it seemed that, without additional American assistance, imports in the first half of 1943 would be only 8½ million tons. Indeed food imports in January 1943 were down to a mere 531,000 tons, the lowest figure of the war. It now seemed that the immediate gap between consumption and imports could be closed neither by economies in consumption nor by de-stocking nor by American help. The Shipping Committee reported in January:

There is now no margin for a further net reduction in the nation's diet without adverse effects on national health and the output of workers.

The Prime Minister took drastic action; he directed in January 1943 that sailings of ships to the Middle East and India in the next six months should be cut by over half; this was expected to provide in the period an additional 2 million tons of imports.

In the spring of 1943 shipping prospects improved enormously. Doubts about American help were cleared; in March came a firm offer to carry 7 million tons of imports in American ships to the United Kingdom in 1943 and then in May President Roosevelt agreed that there should be a monthly transfer of ships to the British under bareboat charter.¹ Under the existing calculations of probable imports this American help was sufficient to make a 26 million ton import programme possible in 1943 – with 10.5 million tons for the Ministry of Food – and the British accepted this figure.

Apart from these assurances of American help the shipping anxieties were less acute for May 1943 was the great month of victory over the U-boat; from that time onwards even the British non-tanker ocean fleet, after a long decline, began slowly to increase. Moreover, there was the prospect that the Mediterranean would be reopened for shipping, and American shipbuilding was reaching its phenomenal peak.

In the end total imports in 1942-3, the fourth year of war, proved to be 23,447,000 tons; food imports were only 10,288,000 tons.²

The extreme concern about shipping prospects throughout 1942 and the first months of 1943 brought a still greater sense of urgency to home agriculture and to the execution of the cropping programme for the 1943 harvest. It also affected greatly the drawing up of plans for the 1944 harvest.

While the crisis was at its height there was also greater need than ever to find some way of reducing still further imports of bulky commodities. Plans to economise in wheat imports by the dilution of wheat flour with oats, rye, and possibly potatoes had been agreed in June 1942. They had been dependent, in the main, on the Minister of Agriculture's expectation that there would be some 250,000-400,000 tons of oats from the 1942 harvest surplus to the other non-farm uses, oatmeal milling and the feeding of urban and colliery horses and to the needs of the feedingstuff rationing scheme. Unfortunately, revised estimates in September 1942 proved that the surplus would probably be only 76,000 tons,³ which together with the Minister of Food's reserves of 80,000 tons of oats would allow only a 1½ per cent. dilution. This was a negligible saving. The requirements for a 5 per cent. dilution were 500,000 tons of oats or about 420,000

¹ These transfers were to be set against the sailings of United States ships that were necessary to carry the promised 7 million tons of imports.

² Table 10, p. 152.

³ Later the 76,000 tons estimate was raised to 100,000 tons.

tons of barley. There was talk in September 1942 of raising the wheat extraction rate to 87 per cent. which would bring a gross saving of 8,500 tons of wheat a month but this suggestion was tabled pending an examination of the possibilities of using barley for dilution. The 1942 barley crop, at 1,446,000 tons, was some 300,000 tons greater than in 1941; moreover, barley flour could be used for dilution, according to the millers, up to 10 per cent. If the feeding of barley to livestock could be stopped and if the sales to brewers, distillers and other manufacturers could be curtailed, some 267,000 tons of barley could be found for dilution. Brewers were asked to surrender some of their stocks of barley and, later, to purchase oats on the open market as a substitute for barley; they eventually did this to the extent of 33,000 tons.

These potential supplies of barley, to which might be added possibly 100,000 tons of oats available after the needs of millers, horses and the feedingstuffs rationing scheme had been met, together with the Minister of Food's reserve of oats from the 1941 crop, were considered adequate to provide the equivalent of 300,000 tons of wheat and the supplies necessary to undertake flour dilution up to 5 per cent. The desired saving in imports would be achieved. The proposals were approved in October 1942 and eventually brought into effect in the middle of January 1943. Steps were taken to control the use and sale of barley,¹ but oats were left to be bought on the market by the Minister of Food as and when they were offered by the farmer. By January supplies of both oats and barley were coming in so well that the Minister of Food was authorised to raise the dilution rate to not more than 10 per cent. as supplies permitted. By the time that the dilution policy ended on 30th November 1943, some 420,000 tons of barley, 49,000 tons of oats and 8,000 tons of rye had been used for this purpose; this was equivalent to a saving of about 350,000 tons of wheat in 10½ months.

As we have seen, import prospects were less grave from the late spring of 1943. But still the outlook held out no hope of any remission of pressure on British agriculture. No increase in imports would be possible without curtailing military requirements, American military demands, supplies to Russia, or imports to Commonwealth and Allied countries, many of whose economies were already overstrained. Nor was it desirable to run down stocks prematurely, since the time was not far off when the full military offensive against the enemy, with its consequent calls on shipping, might leave us dependent on our own resources and our stocks. In fact, the 'siege' diet which was drawn up in 1940 came nearer to being a reality

¹ p. 196. Barley (Control and Maximum Prices) (Great Britain) Order, 1942, S.R. & O., No. 1354.

in the days of approaching victory than when our backs were to the wall.

(iii)

The Home Production Programme for 1942 - 3

THE CROPPING PROGRAMME FOR THE 1943 HARVEST

During the discussions on the formulation of the cropping plans for the 1943 harvest, the shortage of shipping dominated everything. Never in the earlier years of the war or in the subsequent period did the Allied supply of ships appear to be so inadequate in relation to the demands upon them. It was now clear that the demand for ships for military purposes would increase throughout 1943 and 1944. Now was the time for the maximum effort from British farming. The heavy crops of 1942 had ensured for 1942-3 a great increase in the supplies of food for direct human consumption and of feedingstuffs for the maintenance of the output of milk and possibly of beef, mutton and lamb. The planning of the 1943 harvest was based on a further intensification of the programme of the previous year.

As early as January 1942, the Minister of Food had given an indication of what he wanted from the 1943 harvest - not less than the 1,200,000 acres of potatoes and the 405,000 acres of sugar beet which he had requested from the 1942 harvest and an increase in acreage of vegetables, particularly winter greens. For cereals, however, he made one poor prognostication, 'we are unlikely to find ourselves unable to import as much wheat as we require and I therefore place cereals last in my order of preference'. He still asked the Agricultural Departments, however, to secure the maximum practicable area under wheat.

When the Ministry of Food's import programme was reduced in February 1942 to the rate of 10½ million tons a year, a more drastic policy was called for; in particular more wheat and other cereals were needed from home production as a substitute for the bulky wheat imports. This would have the additional advantage of enabling the use of a small amount of shipping to import varied foodstuffs such as canned meat, dried eggs, bacon and fats, which were available under Lend-Lease and which involved a relatively short haul. The Minister of Food's needs were now greater than in January 1942 and they were different. When the cropping programme for 1943 was finally drafted in May 1942, he asked for 1-1¼ million tons of food, in terms of wheat equivalent, above the 1942 harvest. For this he suggested a further 500,000 acres of wheat, 300,000 acres of potatoes and 110,000 acres of vegetables above the 1942 level. If this could not be done he would be content with a further 150,000 acres of potatoes,

55,000 acres of vegetables and anything up to 705,000 acres more wheat:

| | 1941 area | 1942 area | 1943 programme | |
|----------------------|--------------|--------------|----------------|----------------|
| | | | 1st preference | 2nd preference |
| | 000 acres | 000 acres | 000 acres | 000 acres |
| Wheat | 2,265 | 2,516 | 3,016 | 3,221 (max.) |
| Potatoes | 1,123 | 1,304 | 1,604 | 1,454 |
| Vegetables | 375 | 422 | 532 | 477 |

This was a tall order. There was no question but that this was physically possible, but what additional resources would be required to fulfil it? The Ministry of Agriculture stated that manpower problems for the 1942 harvest were already serious enough; this fear was justified when it was reported later that ricks had been left unthatched while potatoes and sugar beet were still in the ground in some parts so late as the end of December. The addition of 300,000 acres of potatoes would add an almost impossible burden at the already congested peak season of the year. There would be drastic disturbances in rotations on all wheat or potential wheat farms with a consequent reduction in yields for possibly three successive years. The determining factor, however, would be the weather in the summer and autumn. If $1\frac{1}{4}$ million tons of wheat equivalent was the target, then the second preference was less impracticable than the first. Even so it would need 10-20,000 more workers on the land, some 4-5,000 more men for drainage and prompt and certain supplies of additional tractors and implements from the United States and Canada. Such a programme would require the ploughing up of a further $\frac{1}{2}$ - $\frac{3}{4}$ million acres of grassland and it would probably cause a reduction in the area sown to barley.¹ It was subsequently decided to aim at ploughing up about $\frac{1}{2}$ million acres of grassland and at increasing the autumn wheat area by some 300-400,000 acres; the spring cropping programme could be determined later in the light of what had happened in the autumn.

In the spring of 1942, the Ministry of Agriculture developed a new and most successful method of informing farmers of the current position. It issued a comprehensive statement of policy which came to be known as 'The Green Book'.² The demand for it was immense and it reached the hands of the majority of farmers. By bringing home to them in the plainest of language the realities of the situation

¹ It had been estimated that even after the 1942 cropping programme, there would still be about 12 million acres of poor permanent grass in England and Wales of which possibly one-third lay on easily ploughable land. Technical Development Committee Report No. 1, County Circular No. 809.

² *Notes on Agricultural Policy for those Directing the Food Production Campaign*, issued by the Ministry of Agriculture, Spring 1942. Reproduced in Appendix, pp. 355-69.

and the reasons underlying the steps that they were being asked to take, it had a very real influence on the 1943 cropping programme and on the livestock output of 1943-4.

The County War Agricultural Executive Committees were informed in June 1942 that the further 500,000 acres of grassland would have to be ploughed up for the 1943 harvest; in August the Minister of Agriculture asked for 600,000 acres more winter wheat, a 10 per cent. increase in potatoes, more vegetables, as much sugar beet as in 1942, and more and more milk.

The decision taken in October 1942 to use barley as a diluent implied a greater acreage under barley in the 1943 crop programme – possibly an additional 200,000 acres – and this had also to be taken into consideration when the final plans for the spring cropping were drawn up in January 1943.

The subsequent decisions on the allocation of these increased requirements showed that the strain was beginning to tell in some parts of the country and that the limits of expansion were being reached for a number of crops. In Scotland there was stated to be little more grassland fit to plough up – possibly no more than 60,000 acres – and in most counties all that could be asked was that farmers should attempt to maintain their 1942 tillage areas or make up the deficiencies in them; a target of an additional 40,000 acres of potatoes had to be lowered to 35,000 acres in order to relax the demands in the main dairying districts. In Northern Ireland the new targets for potatoes and flax meant that one-third of the plough-land would be under two crops, both of which conflicted in harvest labour requirements; moreover, American troops were replacing British and would not be available at harvest time. In England and Wales further efforts were made and the area of grass to be ploughed was raised to 800,000 acres to meet the barley requirements, but grave doubts were expressed whether it would be possible to achieve the full results for potatoes, sugar beet and vegetables, the labour requirements of which were so competitive; assurances could not be given that crops of such size could be lifted and stored in good condition. The following were the final additional commitments over the 1942 acreages:

| | England & Wales | Scotland | Northern Ireland | United Kingdom |
|-----------------------------------|--------------------|-----------|---------------------|-------------------|
| | 000 acres | 000 acres | 000 acres | 000 acres |
| Grassland to be ploughed . . . | 800 | 60 | 100 | 960 |
| Wheat . . . | 600 | 20-60 | — | 620-660 |
| Barley . . . | 200 | 95 | — | 295 |
| Rye . . . | 67 | — | — | 67 |
| Potatoes . . . | 80 | 35 | 10 | 125 |
| Vegetables . . . | 55 | — | — | 55 |
| Flax . . . | — | — | 30 | 30 |

At the same time, the areas of sugar beet and flax in Great Britain were to be maintained. Oats appeared to be the crop most likely to be displaced by the new requirements in so far as they were not met by the ploughing of grassland.

Special efforts were made in July 1942 to obtain from the 1943 harvest increased acreages of rye and vegetables and not less than the 1942 acreages of flax and sugar beet. More rye was wanted from the lighter soils that were not suitable for wheat and the Ministry of Agriculture circularised the Executive Committees to say that it was hoped that the 1942 area of 56,000 acres would be trebled in 1943.¹ National quotas were set for most of the important vegetables, calling for a big expansion of turnips and swedes, broccoli and beetroot; the only important reduction, due to transport difficulties in 1942, was for spring cabbage.² Committees were advised, as in previous years, that Direction Orders should not be issued for vegetables. Quotas were set for flax for areas as near as possible within 20 miles of the factories; the Minister hoped that the full acreage would be obtained voluntarily but he instructed the Executive Committees to use Orders if necessary.³ County quotas were also established for potatoes, sugar beet,⁴ mustard for seed⁵ and, in Scotland, barley.

Warnings were given that a cropping programme of this magnitude, coupled with the increasing diversion of grain for human consumption, would inevitably affect adversely the output of livestock products. The production of bacon and eggs would be curtailed further while the output of beef, mutton and even milk might be affected.

On the assumption that average yields would be obtained, every acre of this programme was needed. Unless it was achieved, the Minister of Food, who was now contemplating the possibility of an import programme of only 9 million tons, would be faced with a deficit of about 1 million tons of food for human consumption. It might yet be necessary compulsorily to acquire crops off farms; assurances, either explicit or implicit, such as had been granted in regard to the 1941 and 1942 crops, that there would be no requisitioning of crops, other than wheat, were withheld for the 1943 harvest.

Executive Committees and farmers had been told that 1943 was the crisis year and that they must put forward their maximum effort without regard to the effect on the crops obtainable in 1944 or subsequent years. The response was magnificent.

The area under permanent grass had been further reduced by the

¹ County Circular No. 1000.

² County Circular No. 985.

³ County Circular No. 991.

⁴ In January the England and Wales quota was raised from 395,000 acres to 406,000 acres in view of the shipping situation and it was hoped that this addition could be found in the Southern Counties.

⁵ The maximum national area was limited to 25,000 acres.

almost incredible amount of 1,376,000 acres.¹ Though some 146,000 acres of land had been lost to agriculture during the year,² the area of arable land had been increased by 1,230,000 acres. Of this 874,000 acres had been put under crops other than grass and 356,000 acres had been seeded to short-term leys.

The effort had gone where it was most needed. The Minister of Food had asked for more bread grains and the area of these had been increased by 1,271,000 acres. Some 948,000 additional acres of wheat had been sown in the autumn of 1942 in spite of all the difficulties and the area was now 1,608,000 acres greater than before the war; the wheat target had been exceeded by some 290-330,000 acres. It was not surprising therefore that the acreages of barley and potatoes barely reached their quotas. The area under barley rose by 258,000 acres against a target of 295,000 acres, while the potato area increased by 87,000 acres instead of 125,000 acres. As expected, the area of oats declined by about 447,000 acres. More land had been sown to wheat and barley than most people outside the Ministry of Agriculture had imagined to be possible.

Fine weather in early October had allowed good progress with autumn cultivations in the East and South-East where the harvest was over. Later in the month rain held up work and delayed potato and sugar beet lifting; cultivations were held up badly by the protracted harvests. Exceptionally mild weather prevailed throughout December, January and February, and conditions were generally favourable for preparation for sowing, though heavy rains and lack of frost in some areas made the heavy lands difficult to work. Good progress was made with field work in the next three months, but cold winds and lack of rain retarded growth. Crops were, however, well forward by July and the harvest was expected to start about two weeks earlier than usual.

The crop acreages were the largest in the history of this country; and the yield from them now depended on the harvest weather.

LIVESTOCK POLICY FOR 1942-3

The flour extraction rate had been raised at the end of March 1942, but the effect of the consequent reduction in the supply of milling offals in April 1942 on pig and poultry production had been offset temporarily by the War Cabinet's decision to release 87,000 tons of maize to bridge the gap until the 1942 harvest was ready. It was evident soon afterwards that, in view of higher priority demands, the available supplies of cereal feedingstuffs from imported wheat and from the 1942 crops would not permit a continuation of rations for pigs and poultry on the existing scale based on one-sixth of pre-war

¹ Appendix Table IV, p. 373.

² Making a total of 621,000 acres since the outbreak of war.

numbers. A further cut had to be made in September 1942 and the rations for pigs and poultry for the winter period October 1942 to March 1943 were reduced to a basis of only one-eighth of the pre-war numbers and the acreage deductions were increased.¹

Apart from this, there were no further changes in livestock policy during the fourth year of war. Milk production remained the first priority, with a residual claim by cattle and sheep for such home-grown feedingstuffs and forage as were not required for milk production. In January 1942 the Minister of Food had given notice that he would want 1,400,000 million gallons of milk in 1942-3 and 1943-4 but in June he lowered the target to 1,300,000 million gallons in view of his heavier demands for crops for human consumption.

In the spring of 1943, however, there appeared a growing uneasiness about the future outlook for livestock production. The current position as indicated by the March 1943 census and the market receipts of fat stock in the first five months of 1943 was satisfactory but the continued decline in the younger age groups of cattle and in the numbers of sows was giving cause for concern. There was a lack of demand for male yearlings which gave rise to apprehensions about the beef supply in 1944 and there was an even greater lack of interest in beef calves. The reasons were not far to seek – the reduction in the area of pasture for rearing and fattening, the shortage of concentrates for beef cattle, the emphasis by the Government and the County War Agricultural Executive Committees on milk production and, possibly, the relative prices for milk and fat cattle – and the Agricultural Departments gave warning that, if action were not taken, the decline might go too far. Already there were indications that some forage crops, straw and pastures were not being fully utilised, nor could these be utilised more fully by dairy cows without some further supplies of cereal concentrates and protein feedingstuffs. Still more cogent arguments for preventing a further decline in cattle and sheep numbers were provided by the prospective changes in the cropping programme to follow the climactic 1943 harvest.

It was by now becoming fairly certain that the level of the output of essential human food crops would have to be maintained beyond the 1943 harvest, possibly for three or four years, but in many parts of the country, the arable land was becoming exhausted after consecutive cropping over an abnormal number of years. The only solution was, in the words of the Minister of Agriculture, to 'take the plough round the farm' – to plough up new areas of grassland and to seed the worn-out arable land to short-term leys. Given adequate dressings of phosphates, the land would regain its fertility and at the same time yield better pasture, hay or silage than the old grazing to

¹ p. 171.

be ploughed up. There would therefore be increasing quantities of such fodder over the next few years which could, for the most part, be utilised only by cattle and sheep. The close association between the production of crops for human consumption and the breeding and rearing of stock for meat production necessitated some slowing down of the rate of killing of beef calves. It was therefore proposed and agreed that County War Agricultural Executive Committees should do what had already been started successfully by the Devon Executive Committee; they should purchase calves suitable for rearing from farmers who were unable to rear them on their own farms and either re-distribute them to farmers who could do so or place them on the farms which the Committees were farming themselves. At the same time steps were to be taken to discourage an increasing number of farmers, on farms which were unsuited to milk production, from entering milk production and to encourage them to revert to their original function of rearing calves for future milk and beef production.

The other cause for concern was the heavy slaughtering of breeding sows, indicated by the March 1943 census returns. In this instance, it was felt that the reduction had gone so far as to endanger the possibilities of any rapid increase in pig production if and when feeding-stuff supplies increased.¹

There was one further question directly affecting the Government's livestock policy which came under consideration during 1942-3. The Government had had under review all the problems and measures relating to the quality of the milk supply. The most important factor was, of course, the breeding and the health of the dairy herd itself and in this connection Executive Committees were already giving advice and, where necessary, directions on the culling of unthrifty or diseased cows. A programme for the gradual grading up of dairy herds by more enlightened breeding was under consideration but had still to be completed. But the need for an immediate effort to improve the standards of cleanliness of the milk sold for liquid consumption had been emphasised by the Minister of Food's schemes for the rationalisation of milk distribution which he had introduced in 1942.² By the middle of 1943, these schemes had been put into effect in 504 areas in England and Wales; they covered 75 per cent. of the total population and saved some 18 per cent. in manpower and one million gallons of petrol a year. In these areas, consumers had been deprived of their freedom to choose their supplier and often were unable to obtain the grade of milk to which they were accustomed. This placed an obligation on the Government to ensure, so far as possible, that all milk in these areas should have attained a reasonable standard of cleanliness and safety. Accordingly the

¹ pp. 208 and 218.

² *Memorandum on Milk Policy*, Cmd. 6362, 1942.

Minister now proposed to schedule those areas where facilities were adequate, and to prohibit the sale of milk which had not been heat-treated, excluding T.T. milk or Accredited milk sold by a retailer selling the output of a single herd.¹ It was estimated that for the country as a whole some 57 per cent. of the milk would be thus treated, rising as high as 100 per cent. in some of the larger cities and towns.

At the same time, the Government also put forward proposals for the closer inspection of dairy herds and of the conditions under which milk was produced on the farm. Herds producing T.T. milk were already subject to a periodic tuberculin test and to a general veterinary inspection twice a year, while herds producing Accredited milk were subject to inspection once in three months. Though eligible for inspection, about half of the ordinary dairy herds were probably never inspected at all. Since the transfer in 1938 of the veterinary functions of the Local Authorities to the State Veterinary Service,² there had been a little improvement but it was now proposed that Accredited herds should be visited only once where the milk was heat-treated and that all herds producing non-designated milk should be visited once a year where the milk was heat-treated and twice when not so treated. Further, it was proposed that, so soon as possible, the responsibility for inspecting the conditions under which the milk was produced – the state of the buildings and the methods of handling the milk – should pass from the Local Authorities to the Ministry of Agriculture; this would make possible a greater uniformity and a progressive raising of standards. In Scotland, where 33 per cent. of the milk was of T.T. or higher standard as against 6 per cent. in England and Wales, the situation appeared to warrant the leaving of the inspection of dairy farms in the hands of the Local Authorities.

The opportunity was also taken to encourage the consumption of T.T. milk, much of which was being 'wasted'. Under existing arrangements the producer received a premium of 2½d. per gallon for T.T. milk and a further 2d. if his milk was consumed as such; the higher retail price entailed by this premium was curtailing consumption and, in March 1942, only 2 million gallons out of the total production of 5 million gallons of T.T. milk in England and Wales were sold as such, the greater part being bulked with the ordinary milk. In Scotland the corresponding figures were 450,000 gallons out of 3,500,000 gallons. It was now decided that the producer of T.T. milk should receive a composite bonus of 4d. a gallon from October 1943 onwards, whether his milk was sold for liquid consumption or not. The Ministry of Food would also endeavour to ensure that T.T. milk was consumed as such, particularly through the milk-in-schools

¹ *Measures to Improve the Quality of the Nation's Milk Supply*, Cmd. 6454, 1943.

² p. 37.

scheme, the retail price of such milk being subsidised to bring it more closely into line with that of ordinary milk; the cost of this concession was estimated at £500,000 a year. The draft White Paper was approved by the War Cabinet on 29th June 1943 and subsequently by Parliament.¹

(iv)

Measures to Implement the Programme

MANPOWER

The census returns of the number of agricultural workers in June 1943 showed a net increase in the number of regular workers of about 16,000; a decrease in male labour of about 10,500 was offset by an increase of 26,500 in female workers. The number of casual workers in the June census showed an increase of over 24,000, about 15,000 of them being women. There was still a steady off-take of younger men and this was increased by the reduction of the minimum call-up age from 18½ to 18 in October 1942. Attempts were made to arrange for the deferment of this group until after the completion of the 1942 harvest but the needs of the Services made it impossible.

The collection of the harvest of 1942 had presented an immense task and had it not been for the great force of casual workers, the losses would have been infinitely heavier than they were. In England and Wales alone, an average of some 50,000 troops were employed daily in September on the harvest, reaching a peak of 80,000, and even as late as November the average was still over 35,000; in addition some 250,000 school children and some 100,000 adult part-time workers gave their assistance.

The only two reliable sources of additional regular workers now open to agriculture were the Women's Land Army and prisoners of war. At the beginning of the fourth year of war, the strength of the former was 52,000 in Great Britain and it rose steadily following the extension of compulsory national service to women, until it had reached a peak of about 87,000 in August 1943. It had been hoped to attain a figure of over 100,000 as the demand for the Women's Land Army's services was far from satisfied; women were badly needed especially as milkers. On 29th July, however, the Government decided that further recruitment had to be suspended temporarily in order to meet the urgent needs of the aircraft industry.

In September 1942 some 20,000 prisoners of war had been allocated to agricultural work; most of them were employed as gang

¹ Cmd. 6454.

labour working on drainage schemes but some 800 were working on individual farms. By July 1943 the number had risen to about 37,000 and a further 8,000 were expected by the beginning of the harvest; the number of those billeted with farmers and working on these farms had risen to about 7,000.

There was no change during the year in the national minimum agricultural wage for men workers of 60s.¹ which had been fixed in November 1941, though there was a radical change in the procedure for its determination. Before the last increase from 48s. to 60s., some of the County Agricultural Wages Committees had been raising the county rate above the minimum adding a rider that they considered that these increases should be met by higher prices for farm produce. Such pressure was obviously undesirable in principle and in practice. This development could have been discouraged in three ways: firstly, when agricultural prices were revised, by calculating the increase in wages as the difference between the enhanced minimum wage and the new national minimum, but this would have borne harshly on the poorer counties where the wage had remained on the minimum level; secondly, by transferring the powers of fixing the minimum rate from the County Committee to the Central Agricultural Wages Board, but this would certainly have involved great political controversy; or thirdly, by adopting some system akin to that in Scotland where the central authority had the powers to direct a County Committee to reconsider its decision. The Government finally decided to give the Central Agricultural Wages Board powers to review and, after consultation with the County Committee, to fix all district rates and the hours for which the rates were payable; it was understood that these powers were granted for only so long as the system of nationally fixed agricultural prices and of guaranteed markets was in force. A Defence Regulation² to give effect to this decision was issued on 24th November 1942. It was also made clear at the same time to both farmers and workers that

in any discussions on costs of production labour costs would be assessed by reference to the national minimum wage, any excess of district rates over the national minimum to be borne out of the current proceeds of the industry; if the national minimum wage was again raised, there would be no automatic general increase in prices, but the position would be considered on its merits, having regard to the current level of prices and profitability in the industry.

During the year, the Board made use of its new powers and made certain alterations in rates of pay; the most important of these were the establishment of a guaranteed weekly minimum wage for female workers and an increase in overtime rates.

¹ There was an increase in the minimum rate for women workers in June 1943 and also in the rates of overtime pay.

² S.R. & O., 1942, No. 2404.

MACHINERY AND FERTILISERS

Details of the increases in the supplies of machinery during 1943 were given in the previous chapter and there is little to add, except that the demand for tractors and implements outstripped the supply by an even greater margin than in 1942. With the increasing concentration of American resources upon the production of munitions, the import programme for the 1942-3 season was far from fulfilled. The Minister of Agriculture had stipulated in May 1942 that the 1942-3 cropping programmes depended on the provision of some 115 heavy, 400 medium and 2,500 small track-laying tractors in addition to the existing orders; few of these, however, arrived in time for the spring preparations. Possibly the most providential order by the Ministry of Agriculture had been for the manufacture and importation of potato lifters in 1942 and 1943. During these two years some 21,000 were delivered against about 3,000 in the two pre-war years.¹

Particulars of the consumption of nitrogenous and phosphatic fertilisers during 1942-3 were also given in the preceding chapter. As in the previous two seasons, a distribution allowance was given for sulphate of ammonia on all July orders to diminish transport congestion in the winter; but the July 1943 allowance was only 15s. per ton compared with 28s. in earlier years.²

So far as the supply of phosphates for the 1943 crops was concerned, it was feared that it would be far short of the programme but the import of some 90,000 tons of triple-phosphates from America and the opening up of North African supplies following the Allied victory in Tunis on 13th May 1943, coupled with a short-lived improvement in the availability of shipping from North African ports, enabled all commitments to be met at the last possible moment. The supplies of potash actually improved for the fourth year of war but not sufficiently to justify the relaxation of the regulations restricting their use to certain crops.

The most spectacular increase in the treatment of the land during the 1942-3 season was in the application of lime. Its use had first been encouraged under the Agriculture Act, 1937, by a grant to the farmer of 50 per cent. of its cost; consumption had jumped from an estimated 300,000-400,000 tons a year to 1,738,000 tons in 1938-9. This scheme had been continued under the Agriculture (Miscellaneous War Provisions) Act, 1940. Difficulties in transportation and in providing manpower for the production of lime, together with a shortage of grinding plant, had prevented an even greater use. A departmental committee had been set up in 1941 whose principal recommendations were a widespread campaign stressing the importance of lime for

¹ Appendix Table VIII, p. 378.

² County Circular No. 1050.

crop growth, special prices for summer deliveries, and financial grants for new grinding plants.¹ The success of these measures is shown in the accompanying table; in 1942-3 the consumption of lime was more than doubled and exceeded 4 million tons.

Table 12. Estimated Utilisation of Lime for Agricultural Purposes in the United Kingdom in 1935-6 and 1938-9 to 1943-4

| | Tonnage | Subsidy |
|---------------|----------|---------|
| | 000 tons | £ 000 |
| 1935-6 . . . | 350 | — |
| 1938-9 . . . | 1,738 | 1,323 |
| 1939-40 . . . | 1,429 | 1,154 |
| 1940-1 . . . | 1,450 | 1,322 |
| 1941-2 . . . | 1,824 | 1,505 |
| 1942-3 . . . | 4,105 | 2,904 |
| 1943-4 . . . | 4,563 | 3,669 |

A proposal made in December 1942 that manufacturers should be promised that the Government would continue the subsidy for at least five years after 1944 met with little support; such binding undertakings were considered undesirable in principle.

PRICES AND PRICE POLICY

From February 1942 until December 1943, there were no major upheavals in the agricultural price structure. The minimum wage rate remained unchanged, except for unsubstantial modifications in May 1943, while the prices of feedingstuffs and fertilisers were still stabilised by the Ministry of Food; the situation therefore remained relatively calm. There were only two occasions during the fourth year of war when the boat was rocked slightly; both concerned milk prices but in each case equilibrium was quickly restored.

Firstly, in June 1943 the Milk Marketing Board put in a claim for an increase of .68d. per gallon in the price paid by the Ministry of Food on the grounds that the Agricultural Wages Board had recently raised the level of wages of women workers and of overtime pay. But it was held that the increase was not a 'substantial' one and must await consideration in any general price review.

Secondly, in September 1942 Scottish milk producers put forward a request for prices on a parity with the higher pool prices paid by the Milk Marketing Board in England and Wales. The disparity of less than 1d. per gallon was a long-standing one due in part to lower retail prices in Scotland than in England and in part to the higher proportion of 'surplus' milk used for manufacturing purposes which

¹ The Government provided financial assistance to lime producers who were willing to install new grinding plants but who were unable to do so, a scheme which increased the output by about 1 million tons.

commanded a lower return than that used for liquid consumption. The situation had now changed and Scotland was now a deficit area, at least in the winter months. The cost of raising the Scottish returns to the level of the English average would be about £300,000 a year, most of which could be obtained by making the retail price uniform with that in England and Wales. To accede to the request, for which there seemed to be some basis in equity, would, however, raise the same issue in England and Wales where differential regional prices still existed; the far West and Welsh regions were in exactly the same position as Scotland. The Minister of Agriculture had quite recently resisted inter-regional claims for parity on the grounds that the March 1942 award of 2d. a gallon was a settlement which could not be reopened. For the same reason the Scottish claim was denied.

Prices of livestock remained unchanged during 1942-3 though there were minor modifications in the seasonal variations of prices or grades for fat pigs (January 1943) and for fat cattle and sheep (June 1943). Changes were also made in the seasonal variation of maximum prices of millable wheat and of oats; the premiums were altered to encourage a more even marketing of milling wheat and oats throughout 1942-3:

| | Aug.- Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
|------------------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. |
| Millable wheat† | 16 0 | 16 2 | 16 4 | 16 6 | 16 10 | 17 2 | 17 6 | 17 6 | 17 8 | 17 2 |
| Non-millable wheat* | 14 0 | 14 0 | 14 0 | 14 0 | 14 0 | 14 0 | 14 0 | 14 0 | 14 0 | 14 0 |
| Malting barley* | 35 0 | 35 0 | 35 0 | 35 0 | 35 0 | 35 0 | 35 0 | 35 0 | 35 0 | 35 0 |
| Feeding barley* | 14 6 | 14 6 | 14 6 | 14 6 | 14 6 | 14 6 | 14 6 | 14 6 | 14 6 | 14 6 |
| Milling oats* | 14 9 | 14 11 | 15 1 | 15 5 | 15 9 | 15 9 | 16 3 | 16 3 | 16 3 | 16 3 |
| Feeding oats* | 14 6 | 14 8 | 14 10 | 15 2 | 15 6 | 15 6 | 16 0 | 16 0 | 16 0 | 16 0 |
| All oats‡ | 14 0 | 14 0 | 14 2 | 14 6 | 14 10 | 14 10 | 15 4 | 15 4 | 15 4 | 15 4 |

† Fixed price. * Maximum price. ‡ Minimum price.

Alterations were made to the rates of subsidy on hill sheep and hill cattle.¹ On hill sheep the subsidy had originally been established in December 1940 at 2s. 6d. for each ewe but at the end of the year it was raised to 7s. 6d. in view of the cumulative effect of two bad winters and springs. In 1943 the subsidy was increased further to 8s. owing to a further deterioration in the economic position of hill sheep farmers; the number of sheep in Great Britain that qualified for the payment was about 4,200,000 and payments in 1943 amounted to about £1,700,000.²

The hill cattle subsidy scheme had been introduced in May 1941

¹ p. 117.

² Appendix Table XIV, p. 384.

when cows of certain breeds, kept under specified conditions, were entitled to a payment of £2 per cow. This rate of subsidy had been maintained for two years but in 1943 the scheme was extended to encourage breeding on upland farms; the conditions were made less rigorous and extended to cover heifers and bullocks, and the subsidy was raised to £3 per head. The amount spent under this subsidy in Great Britain in 1943 was £487,000.¹

A new grant was introduced in March 1943. The Government decided to make a payment to flower growers of £20 an acre for land which had been freed from flower crops since 4th June 1942 and subsequently planted to a food crop. This subsidy was designed to assist these growers, mostly small producers with but a few acres, to meet the expense of converting their land to food production.²

Towards the end of the year arrangements were made, similar to those in 1941-2 for potatoes, to give part of the wheat and rye price in the form of an acreage payment. The situation was analogous; the Government's need for an extraordinary expansion of wheat production had entailed a wide encroachment on to land less well suited for wheat production than that in normal wheat growing areas or less suited for wheat than for, say, barley or oats. Consequently yields per acre were lower and costs were higher, a hardship which could be mitigated to some extent by a fixed acreage payment. The payment of a flat rate per acre increased the return per cwt. to those whose land yielded less, without unduly increasing the return from better land. Accordingly in August 1943 it was decided to make a payment of £3 per acre for every acre of wheat or rye grown for the 1943 harvest,³ while the price of millable wheat was reduced from a maximum price of 16s. od. per cwt. to a fixed price of 14s. 6d., and of millable rye from a maximum of 15s. 6d. to a fixed price of 14s. od.⁴

Towards the end of the fourth year, in July 1943, the Agricultural Wages Board received a claim for a further increase in the national minimum wage for an adult male worker from 6os. a week to 8os.⁵ It was clear that a rise of this magnitude would entail a new review of prices in general. The Government, without wishing to interfere with the machinery of wage negotiation, was naturally anxious that its earlier pledges should be clearly understood by all concerned. It was not a little disturbed to find that the Lord President's interpretation of the pledge, which had been given to the National Farmers'

¹ Appendix Table XIV, p. 384.

² County Circular No. 1210.

³ Growers were entitled to receive acreage payments if they occupied more than an acre of land and had a minimum area of 1 acre of wheat or rye or 1/10th acre of potatoes.

⁴ Acreage payments at the rate of £10 per acre for the 1943 and 1944 crops and £5 per acre for the 1945 crop were instituted to encourage the production of flax in Northern Ireland. The payments were applicable to all flax which was dam retted and to green flax which was grown under contract.

⁵ See p. 211.

Union on 18th February 1942,¹ had not been made public. Both farmers' and workers' representatives had, however, been informed of it during the discussions on alternative methods of fixing wages² and the fact that the Government would not contemplate an automatic general increase in prices to cover the cost of any increase in the national minimum wage was once more emphasised in an answer to a question in the House of Commons on 8th July.³

MARGINAL PRODUCTION SCHEME

It will be recalled that the Committee which had been asked to advise the Lord President's Committee on the possibility of meeting the higher costs of marginal production otherwise than through increases in prices had not only recommended acreage payments for crops, the output of which required to be increased, but also a system of *ad hoc* assistance to marginal farms.⁴ The report of the Committee had been accepted and authority had been given for the expenditure of up to £1 million for the country as a whole. The sum was provisionally allocated by departmental agreement as follows:

| | |
|-----------------------------|---------|
| | £ |
| England and Wales | 675,000 |
| Scotland | 250,000 |
| Northern Ireland | 75,000 |

The difficult task of drawing up a detailed code for the guidance of County War Agricultural Executive Committees was left to the Agricultural Departments.

The three countries adopted the general criteria that the Committees could grant assistance only if (a) food production would be increased immediately and (b) the occupier was unable to carry out the operation from his own unaided resources without making his farm enterprise *as a whole* uneconomic. The scheme was not to apply to areas of marginal land on better class farms, where the profitability of the farm as a whole did not justify such assistance. The grants were to be between 25 per cent. and 50 per cent. of the cost, and up to 75 per cent. in very exceptional circumstances. The specific qualifications for assistance differed in the three countries.

In England and Wales the scheme was drawn up as an extension of the existing Goods and Services Scheme and the first draft of instructions to the Committees proposed a considerable number of conditions likely to constitute 'marginality' ranging from lack of experience on the part of the farmer to inaccessibility of the farm itself, uneconomic size, loss on crops due to the weather, and even to the loss of

¹ p. 167.

² p. 189.

³ H. of C. Deb., Vol. 390, Col. 2252.

⁴ p. 169.

retail milk rounds or luxury lines of output. This scope was obviously too wide; if taken literally it now empowered the Committees to give free grants to farmers to do many of the things, the failure to do which under compulsory direction had hitherto led to the dispossession of a number of farmers from their farms. This would constitute a dangerous reversal of Government policy under which losses arising from changes in production through war-time Government Orders could not be admitted as bases of claims for compensation. Moreover, the need for wide assistance had been narrowed down by the good yields of the 1942 harvest, the announcement of special assistance to hill farmers under the hill sheep and hill cattle subsidies, and by the shortage of phosphates which had limited the amount of grassland that could be ploughed up. The scheme was therefore reduced in scope and the Committees were authorised to make payments only within certain clearly defined classes of holding such as marginal upland farms in Wales which did not qualify for assistance from the hill sheep and cattle subsidies,¹ and East Lancashire grassland dairy farms where methods of production had been seriously dislocated by the cut in imported feedingstuffs.

The application of the scheme in Scotland, where there was no Goods and Services Scheme, took a much wider form. Whereas in England and Wales the initiative lay with the Executive Committees to suggest suitable schemes and individual producers were discouraged from making applications for assistance, in Scotland each Committee was given for distribution an allocation of the total Scottish grant together with very wide discretion in its use. Assistance was granted towards the purchase of a wide range of goods, fertilisers, seeds, machinery, implements, livestock vaccines, and sera, and towards the provision of services such as ploughing, cultivating, threshing, pest destruction, fencing and even, subject to approval by the Department of Agriculture for Scotland, for drainage, bracken-cutting and liming for which other measures already existed. Moreover, applications from individual farmers were invited. In the opinion of the Scottish Department of Agriculture and of leading agriculturists in Scotland, the scheme was an undoubted success. The discretion which made it available to individual farmers was an important factor in making it so. The scheme was adjudged to be a very useful and by no means extravagant means of making the most of marginal land.

In Northern Ireland the grants normally took the form of assistance towards the cost of cultivation operations, e.g., the payment of labour, fees of contractors, hire of implements, cost of fertilisers and the like.

As a result of its relative flexibility, the Scottish scheme, which came into operation on 1st January 1943, was used more extensively

¹ This limitation was removed subsequently as it was too restrictive.

than that in England and Wales. The following are the figures for the first two years, 1943 and 1944:

| | <i>Acreage covered acres</i> | <i>Grants paid £</i> | <i>Grants approved £</i> |
|------------------|--------------------------------------|------------------------------|----------------------------------|
| England | 11,434 | 23,982 | 47,106 |
| Wales | 15,830 | 21,705 | 41,652 |
| Scotland | 343,889 | 350,654 | — |

The largest scheme in England was in East Lancashire where authority was given for expenditure up to £20,000 on grants towards the cost of re-seeding 6,000 acres of small upland farms and for similar work, but on a smaller scale, in the West and North Ridings of Yorkshire. These were largely areas of small farms, mainly grassland, producing milk and, before the war, pigs and poultry; the heavily stocked pastures on poor soil were kept in fair condition on manurial residues of purchased feedingstuffs, the source of which had now dried up. Wales and Cornwall were the only other two regions to use the scheme to any great extent. On the whole, the scheme was a failure in England and Wales, but it is more than doubtful if any definition of 'marginality' could have been devised at that time which was not so narrow as to vitiate the scheme or so wide as to result in its abuse.¹

CONTROL OF SUPPLIES

Barley. Control of the supplies of the principal agricultural products after they had left the farm was fairly complete by the end of the second and third years of the war, with the notable exception of malting barley. In pre-war years about 500,000 tons, or two-thirds, of the barley crop had been used for malting and a good sample was always sure of a good premium over the price of feeding barley. It was regarded as a special isolated market and malting barley had remained uncontrolled either in price or supply when regulations were made for the other cereal crops at the outbreak of war. From time to time attention had been called to the increase in the price of malting barley to a point completely out of line with the prices of other products. The absence of a maximum price was embarrassing for the Minister of Food who had to determine prices for barley products such as pearl or pot barley. In the Press notice announcing the new prices for agricultural products in March 1942, reference had been made to an impending maximum price Order for malting barley and this was brought into operation in July 1942; the maximum price was set at 35s. per cwt., feeding barley being 14s. 6d. per cwt. at that time.² The urgent need to obtain barley from the 1942

¹ A wider scheme was started satisfactorily in England and Wales in 1947.

² Barley (Control and Maximum Prices) (Great Britain) Order, 1942, S.R. & O., No. 1354.

crop for the dilution of wheat flour led to the decision to control its supply. On 27th November 1942 an Order was passed prohibiting the feeding of barley to livestock except by permission of the Executive Committees,¹ while, later, further Orders were passed which limited the sale by merchants of certain categories of barley except to the Minister of Food.² From January 1943 onwards merchants were required to offer to the Minister one-third of the total quantities of barley purchased by them in the preceding month.³ In July 1943 the maximum price of milling barley was fixed at 27s. 6d. per cwt., with a minimum price of 26s. 3d.

Rationing of Feedingstuffs. There were no alterations in the principles of the feedingstuffs rationing scheme during 1942-3 but there were some changes in detail. These were generally based on the assumption that farmers would be more self-sufficient in regard to feedingstuffs after the 1942 harvest and that consequently reductions could be made in the scale of the rations issued from the national pool, which were still restricted to dairy cows, calves, working horses, pigs and poultry.

For the winter period, dairy cow rations were reduced by making the farmer responsible for finding, from home-grown feedingstuffs, the cow's requirements for maintenance and the first $\frac{7}{8}$ gallon of milk per cow per day as against $\frac{1}{2}$ gallon in the previous winter rationing period. Provision was, however, made for the issue of additional coupons where this standard of self-sufficiency could not be attained. Minor changes were made in the allowances for calves and milk for household consumption. Rations for pigs and poultry were based on one-eighth of pre-war numbers instead of one-sixth as formerly, while the acreage deductions were raised by 50 per cent.; the ratio of protein coupons to cereal coupons was raised from 1 : 7 to 1 : 5. In an attempt to prevent the decrease in the numbers of sows from falling too far, a new additional allowance of $\frac{1}{4}$ unit of protein and $1\frac{1}{4}$ unit of cereal was granted on application for sows or gilts about to farrow up to a maximum of 25 per cent. of the number of breeding sows on the farm in June 1939. Domestic pig producers received a heavier cut than the commercial feeder, the allowance of $\frac{1}{2}$ unit of cereal being limited to one pig only instead of two as in 1941-2.

For the summer period, rations were very similar to those of the

¹ Exceptions were made to allow growers to retain as screenings for feeding up to 10 per cent. of each threshing and any barley certified as unsuitable for malting and milling. This percentage was reduced to 5 per cent. for the 1943 crop but restored to 10 per cent. for the 1944 crop. Barley (Control and Maximum Prices) (Great Britain) Order, 1942, S.R. & O., No. 2359.

² Barley (Control and Maximum Prices) (Great Britain) Directions Order, 1942, S.R. & O., No. 2456.

³ Home Grown Grains (Barley) (Great Britain) Order, 1943, S.R. & O., No. 14, amending Directions made under Barley (Control and Maximum Prices) (Great Britain) Order, 1942.

summer period of 1941-2, except for the cut suffered by pigs and poultry; the ration for sows was increased to 3 units in May 1943.

It had been estimated that, on these rations, requirements for the seven months, October 1942-April 1943, would total about 957,000 tons of cereals and 475,000 tons of protein feed; against these requirements visible supplies were expected to be 970,000 tons of the former and 514,000 tons of the latter, which did not allow a comfortable margin if unfavourable weather conditions were to reduce grazing and pasture yields. But the autumn of 1942 was mild and the grazing season prolonged while yields of fodder crops had been higher than expected; in fact, the farmer was self-supporting beyond expectation. The off-take of cereals and proteins was only 730,000 tons (plus the cereals in 204,000 tons of compound feedingstuffs) and 337,000 tons respectively. The Ministry of Food's storage space was filled to capacity and additional rations had to be issued to dairy cows, breeding poultry and farrowing sows in order to prevent the further accumulation of milling offals.

Fertilisers. The modified control system for rationing phosphatic and potash fertilisers which had been in operation in 1941-2 was altered further in 1942-3. Bulk allocations of phosphate for the 1943 crops were made to each County War Agricultural Executive Committee based on anticipated cropping plus a small allowance for soils known to be deficient. Farmers were required to furnish forecasts of their cropping and it was left to Committees to issue permits based on allowances for each individual crop, or groups of crops, or at a flat rate according to the tillage acreage of each farm; the application of phosphate to permanent grassland was prohibited by Order,¹ but Committees were advised that they should generally give permission for the use of phosphates on grassland which would be ploughed within the next twelve months or which was to produce wild white clover seed.

Potash allocations to counties were made on the basis of the area of priority crops,² plus allowances for acutely deficient soils.

Lime supplies were not controlled in England and Wales except for voluntary schemes instituted by one or two Executive Committees, which made allocations on the basis of soil tests. In Scotland an Order³ for the control of agricultural lime supplies was made in February 1943, but it was in operation for only two months as the increase in supplies had made this scheme redundant. There was little doubt that in some parts of the country, undue dressings were

¹ Phosphatic Fertilisers Order, 1942, S.R. & O., No. 1790.

² Potatoes, sugar beet, onions, carrots, flax, tomatoes, and root and vegetable crops grown for seed.

³ Control of Agricultural Lime (Scotland) (No. 1) Order, 1943, S.R. & O., No. 357 (S.8). Control of Agricultural Lime (Scotland) (No. 1), 1943, Direction No. 1, S.R. & O., No. 358 (S.9.)

being applied but the only safeguard against misuse would have been a very great extension of soil testing which was impracticable under the circumstances.

Machinery. In May 1943 an Order was passed to enable the Agricultural Departments to control more closely the manufacture and distribution of farm machinery. From 31st July 1943 all manufacturers of and dealers in farm machinery had to work under licence from the Ministry. The Order gave the Ministers power to regulate production and prices of farm machinery and also gave legal authority to the distributive schemes which had hitherto been run on a voluntary basis.¹

¹ *Farm Machinery (Control of Manufacture and Supply) Order, 1943, S. R. & O., No. 693. County Circular No. 1273.*

CHAPTER VIII
THE LAST YEARS OF WAR,
1943-4 and 1944-5

(i)

Food Production in 1943-4

THE MAIN features of the 1943 food production programme had finally emerged as the ploughing up of a further million acres of permanent grassland, an expansion of up to 660,000 acres in the wheat area, the maintenance of sugar beet production, an additional 295,000 acres of barley and another 125,000 acres of potatoes. The area under permanent grass fell by 1,376,000 acres;¹ the wheat area rose by 948,000 acres; the crops of barley and potato increased by 258,000 acres and 87,000 acres respectively; sugar beet was within 8,000 acres of the target. Bad weather could, however, frustrate these good intentions.

Conditions in England and Wales were good during June and July 1943, though bad weather in Scotland in June retarded field work. On the whole, haymaking was carried out under good conditions. Crops ripened early in most parts of the country and cutting started early. August and September were most uneven; in the East, North-East and Midlands of England, the weather was fine and warm and good progress was made with the corn harvest, though the lack of rain harmed potatoes, roots and pastures. But unfortunately it was most unsettled over other parts of the country and much grain was damaged in the rest of England and in Scotland. October and November were much the same; in Eastern England and the Midlands, potatoes were fairly sound and dry when clamped, but in the North and West some tubers were rotten and the keeping quality in general threatened to be poor. The sugar beet harvest was lifted in good order though the sugar content was below average. Root crops were small but sound.

In most parts of the country, however, the condition and quality of the crops were good in spite of the weather. The yields of all the bread cereals were well above the pre-war ten-year average, as was

¹ Appendix Table IV, p. 373.

also the yield of oats. The potato crop, with a yield of 7.1 tons per acre, was practically the same as in 1942 and well above the pre-war yield of 6.7 tons per acre.¹ Fodder crops were, on the whole, lighter than in 1942 but still above average.

The total output of grain reached the amazing figure of 8,645,000 tons, practically double that of the pre-war years. The output of wheat, in particular, was unprecedented, being more than twice (an

Table 13. *The Output of Certain Farm Products in the United Kingdom in 1943-4, Compared with Pre-war and 1942-3*

000 tons

| | Output | | Change from | | | Output | | Change from | |
|----------------|--------|--------|-------------------|---------------|-----------------|--------|--------|-------------------|-----------------|
| | 1942 | 1943 | Pre-war* = 100 | 1942 = 100 | | 1942-3 | 1943-4 | Pre-war* = 100 | 1942-3 = 100 |
| Wheat . | 2,567 | 3,447 | 209 | 134 | Beef & veal | 482 | 480 | 83 | 100 |
| Barley . | 1,446 | 1,645 | 215 | 114 | Mutton & lamb . | 173 | 154 | 79 | 89 |
| Oats . | 3,553 | 3,064 | 158 | 86 | Pig meat . | 145 | 134 | 32 | 92 |
| Potatoes . | 9,393 | 9,822 | 202 | 105 | Offals . | 91 | 89 | 85 | 109 |
| Sugar beet | 3,923 | 3,760 | 137 | 96 | Total meat | 891 | 857 | 66 | 96 |
| Vegetables | 3,690 | 3,143 | 133 | 85 | Milk† | 1,657 | 1,712 | 96 | 103 |
| Fodder & hay . | 39,590 | 38,395 | 119 | 96 | Eggs‡ | 2,182 | 1,942 | 51 | 89 |

* Average 1936-7 to 1938-9. † Million gallons. ‡ Million eggs.

increase of 109 per cent.) that of the average of the three pre-war years and over 2½ million tons more than that of 1932 when the Wheat Act first came into operation. The output of barley was also more than double (an increase of 115 per cent.) the pre-war figure, while potatoes had increased by about 5 million tons (an increase of 102 per cent.). The Minister of Food had asked in May 1942 that British farming should provide from the 1943 harvest the equivalent of 1-1½ million tons of wheat more than from the 1942 harvest, which entailed a cumulative increase of 1¼-2 million tons over the 1941 harvest. This challenge, which must be regarded as one of the most important standards of achievement, since it reflected directly the saving in shipping, was met just as that for the previous year had been. The weight of crops from the 1943 harvest for non-farm uses² was in fact 1½ million tons more, in terms of wheat equivalent, than that from the 1942 harvest and practically 3 million tons over 1941.

Livestock numbers in the June 1943 census showed signs of recovery. The numbers of dairy cattle had risen by 124,000 compared with June 1942; the numbers of other cattle had also increased,

¹ Appendix Table V, p. 374.

² e.g., direct human consumption, the dilution of wheat flour and the feeding of non-farm livestock such as urban and colliery horses, domestic pigs and poultry.

though primarily in those over one year and under two which gave promise of more beef in 1944-5 rather than in 1943-4. Sheep numbers continued to decline as the area under grass shrank. Pig numbers had dropped a further 15 per cent. and the changes in the number of breeding sows gave little hope as yet of any future improvement. Poultry had also fallen in numbers by some 12 per cent.

As might be expected from the changes in the numbers of different classes of livestock between June 1942 and June 1943, there was a continued decline in the output of all livestock products, except milk. The greater number of cows and heifers in milk combined with a small increase in the yield¹ resulted in an increase of some 55 million gallons (3 per cent.). An important feature of this expansion was the improvement in winter milk supplies. Whereas the total sales of milk for the year had increased by 57 million gallons or 4 per cent., compared with 1942-3, sales in the winter period had risen by 50 million gallons or 11 per cent. It was, however, still found necessary to reduce the 'ration' for non-priority consumers from 4 pints a week to which it had been raised on 7th May 1944 to 3 pints on 18th June and, later, to 2½ pints on 7th July in order to increase the reserves of milk products for the winter period of 1944-5.

(ii)

The Import Programme, 1943-4

In the early summer of 1943, as we saw, the worst anxieties that military operations or the British war effort might have to be curtailed for lack of shipping were over. From that time onwards the fleet of non-tanker merchant ships at the disposal of the United Nations grew prodigiously and even the British fleet began to show a small increase. Nevertheless this change in shipping fortunes could only show results gradually. Meanwhile military demands for shipping multiplied. As far as the British merchant fleet was concerned there is no doubt that it could not possibly perform unaided all the tasks that faced it. Help was needed from the United States. But even to the Americans shipping continued to seem, right to the end of the war, extremely scarce. How far the scarcity was real is a point that will be discussed fully in the Shipping History in this series. For this book the important point is that until the end of the war there was no prospect of a dramatic increase in imports and thus of a substantial easing of the demands on home agriculture.

At the Washington Conference between the Prime Minister and

¹ Table 23, p. 262.

President Roosevelt in May 1943 the military and shipping requirements for the ever-widening offensive had been discussed in detail. At this meeting 26 million tons had again been accepted as the figure for the United Kingdom's import programme in 1943. At the Conference between the Prime Minister and the President at Cairo at the end of 1943, the British hoped that a figure of 26 million tons would also be accepted for the United Kingdom's 1944 import programme. But by now there were grave doubts whether the United Kingdom's ports and inland transport in the months when D-day operations were being planned and executed could in fact handle imports at this level. For the moment for shipping purposes 12½ million tons was accepted for the United Kingdom import programme for the first half of the year. But the American representatives at the Conference admitted a 26 million ton programme for the year only on the clear understanding that the possibility of a substantial reduction would be closely and urgently studied. After the Conference it was considered provident to draw up an alternative import programme in case imports were no more than 24½ million tons in 1944:

| | (1) | (2) |
|-----------------|--------------|--------------|
| | million tons | million tons |
| Food . . . | 11.25 | 10.50 |
| Materials . . . | 12.00 | 11.25 |
| Munitions . . . | 2.75 | 2.75 |
| | 26.00 | 24.50 |

This new programme forced the Ministry of Food to abandon any hope of increasing its reserves – even if it had available further storage capacity – to meet imminent demands¹ and entailed the exclusion of 300,000 tons of animal feedingstuffs which had been included in the 26 million ton programme for the purpose of increasing the home production of milk, bacon and eggs. The rate of imports during the first quarter of the year 1944, however, gave rise to greater optimism and the programme was revised upwards to 25 million tons, though it was still tempered by warnings that the military preparations for the invasion of Europe might make such demands on port facilities and inland transport that it might not be possible:

| | |
|-------------------------|---------------------|
| | <i>million tons</i> |
| Food | 10.85 |
| Materials | 11.65 |
| Munitions, etc. | 2.50 |
| | 25.00 |

¹ There was a commitment to provide over 600,000 tons of foodstuffs to meet the requirements of the civilian population following military operations in Europe.

Hopes were raised that the 300,000 tons of animal feedingstuffs might find their way back into the programme but the Ministry of Food had other plans for the additional 350,000 tons of imports. There might be an additional 50,000 tons of oilcake but it appeared possible that the balance might be used to bring in cereals to permit a reduction in the flour extraction rate from 85 per cent. to 80 per cent., though this in itself would increase, though to a lesser extent, the supply of feedingstuffs.¹

The final programme for 1944 may be taken as 25 million tons, of which the Ministry of Food might have expected approximately 10½ million tons. Total imports in the fifth year of war were 26.8 million tons and food imports just over 11.5 million tons.² For the calendar year 1944, they were 25.1 million tons and 11.0 million tons respectively.

Even after D-day on 6th June 1944, it seemed there was no respite for the British from shipping difficulties. For they were still dependent on American help and at the Anglo-American Conferences in the autumn of 1944 and the beginning of 1945 the American Services begrudged the diversion for civil uses of any ships that could be used in the Pacific war. Partly owing to an insufficiency of military cargoes to fill the ships for the Pacific and partly because of an improvement in the use of shipping by the American Services, American offers of help to the British in the first half of 1945 were nevertheless very large. Total imports in the first half of 1945 were, however, at an annual rate of only 24.8 million tons. For now there were not enough cargoes to go into the ships. Indeed, the programme for home agriculture for 1945 was governed less by the shipping shortage than by fears of a world shortage of food; it was becoming recognised that world supplies of food might not be adequate to meet the needs which would arise on the liberation of European and other territories occupied by the enemy.

(iii)

The Home Production Programme for 1943 - 4

THE CROPPING PROGRAMME FOR THE 1944 HARVEST

The formulation of the cropping programme for the 1944 harvest was begun in the spring of 1943 and the background to it was sombre.

¹ Though the extraction rate could not yet be reduced as hoped - it was lowered by stages from 85 per cent. to 80 per cent. in October 1944 - the dilution of wheat flour with barley was abandoned in November 1943 with a consequent increase in the available supply of home-grown feedingstuffs. See p. 207.

² Table 10, p. 152.

Attention was turning to the problem of food for the liberated countries and to post-war supplies and the estimations were not encouraging. In March 1943 the quarterly survey of the general economic position had concluded with the following words:

In the last two years we have moved imperceptibly from a world of surpluses to a world of scarcity and, at the present time, there is a real danger of universal shortage of certain important foods. We must face the prospect that even if the war were to end this year and the shipping shortage were to be remedied, there would still not be enough to go round. . . . On the most optimistic estimate concerning the end of the war, the prospects of any speedy relaxation of present anxieties regarding food are small.

The world was faced with an acute shortage of food and also of transport, fertilisers and machinery. Agriculture would have to remain mobilised for a period after the war which as the Minister of Agriculture himself said was 'more likely to be counted in years rather than in months or weeks'. A year previously County War Agricultural Executive Committees had been told that 1943 was the crisis year; they were now to be told that the crisis continued and that there could be no relaxation, at least in 1944. Every effort was to be made to secure a still further increase in the acreage of bread grains; the sugar beet acreage was to be maintained and the Executive Committees were asked to find a further 70,000 acres of potatoes; the acreage of vegetables was to be brought up to the 1942 level. As in previous years, county quotas were set for the main crops, wheat, potatoes, sugar beet, certain vegetables,¹ flax and edible peas. For the first time, permission was given to Executive Committees to serve Direction Orders for a vegetable - carrots.

The maintenance of soil fertility had been a source of anxiety in some parts of the country as early as 1941 and the increase in acreages of clover and rotation grasses in 1942 was evidence of this. Land that was becoming exhausted after three or four corn crops had to be re-seeded to short-term leys and the area of permanent pasture would therefore have to be reduced still further if the acreage of crops other than grass was to be maintained. The Minister of Agriculture called for the ploughing up of a further 700,000 acres of permanent grassland; this was a bold bid but the risk had to be taken. In the autumn of 1943, a critical period in the preparation for the 1944 harvest, the farmer was still struggling under the weight of the 1943 crops. Labour, especially for milking and dairy work, was scarcer than ever, following the stoppage of recruitment for the Women's Land Army, and there was no certainty that the supply of machinery and of fertilisers

¹ Quotas were established for the first time for cabbage grown for dehydration and green peas for canning.

— particularly of phosphates which were so essential both for the regeneration of the exhausted arable land and for the newly-ploughed grassland — could be increased to an adequate extent. Objections were forthcoming from the Executive Committees and farmers in those areas where weather damage to the 1943 crops had been most severe, but on the whole the new programme was accepted with good grace.

The area under permanent grass was reduced by over 600,000 acres in Great Britain but there was a very slight increase in Northern Ireland.¹ The arable area had now been increased by about 6,200,000 acres, compared with pre-war, for the fifth harvest of the war; almost two out of every three acres of the agricultural area of the United Kingdom were now under arable cultivation. The area under bread grains had declined by some 48,000 acres for an increase in barley failed to compensate for a big drop in the wheat acreage from 3,464,000 acres in 1943 to 3,220,000 acres in 1944. The area under potatoes, however, rose by a further 26,000 acres and reached a record of 1,417,000 acres, while the area of sugar beet reached 431,000 acres, which was greater than at any time since this subsidy was introduced in 1924. The biggest change was the expected increase of about 506,000 acres in the area of rotational grassland. By and large, the area under the plough had been maintained, and even increased, as desired, but the limit of bread grain production had been reached in 1943 and the rate of increase in potato production was slowing down to a standstill. The land itself, if not those working it, was certainly showing signs of exhaustion after five years of intensive cropping.

During the three months from September to November 1943, the weather was sufficiently open to allow good progress with autumn cultivation and the sowing of winter wheat. December and January were mild but cold wind, frosts and snow occurred towards the end of February, with heavy rainfall in the West and North of England and in Scotland; on the whole, however, cultivations were not unduly delayed, and any back-log of work was made up in good weather in the spring. Lack of rain retarded growth of the spring-sown crops in the Eastern and Midland regions of England while frost and later cold winds affected potatoes, and other root crops and fruits. Pests were seriously troublesome in some parts of the country, particularly eel worm in spring oats and fly in the root crops. Hay prospects were poor. In general, the 1944 harvest promised to be a late one and yields below average.

¹ The Tillage Order for 1944 in Northern Ireland conceded that the land was in danger of losing productive power and made it compulsory to sow down to grass all land which had already borne three successive crops of cereals or flax and would have borne a similar crop in the fourth year.

LIVESTOCK POLICY FOR 1943-4

The Minister of Agriculture in the House of Commons on 28th July 1943 had claimed that, in view of the shortage of labour, machinery and fertilisers, the limit of what was possible had now been reached and that a new stage of the food production campaign had arrived:

During this second phase our chief aim must be to maintain the progress we have made and to maintain production at the present high level. . . . How can we do this? I think we can achieve it by adopting a policy of re-seeding that portion of our arable land which has already carried a number of crops and ploughing up a corresponding area of permanent grassland for the production of crops for direct human consumption. . . . The second great plank in our four-year plan is the increase of our livestock, and, above all, an improvement in its quality.¹

The first step towards such a policy had been taken by some farmers themselves in 1942 when they started to lay down some of the arable land to short leys; the second phase depended largely on the future imports of feedingstuffs or, alternatively, of bread grains which would release more home-grown grain for feedingstuffs. Concern had already been voiced at the reduction in the numbers of breeding pigs and poultry to a point from which recovery might be seriously handicapped, and in June 1943 the Government had agreed that increased rations for pig-keepers should be a first charge on any increased supply of feedingstuffs. The first glimmer of hope arose six months later.

In November 1943 it had been decided to discontinue the use of barley and rye flour as diluents and to return to wheat flour alone. Some 473,000 tons of barley had been earmarked for dilution during 1943-4 and of this only 140,000 tons would be required to maintain dilution up to 30th November. It looked as if there would at last be some surplus concentrates with which to revive the pig and poultry industries. But 198,000 tons of this barley were required to reimburse the brewers who had given up their stocks of oats – they had earlier reluctantly agreed to use oats in order to release barley for the loaf – to make good a shortage in the supplies needed for the feedingstuffs rationing scheme. In addition, it was considered wise to put into reserve some 75,000 tons of barley for use in the North and West where the 1943 harvest had been particularly bad. Thus the net 'saving' in barley was now only 60,000 tons. The Minister of Food wished to use this to increase the output of beer but the Lord President's Committee turned down this suggestion and adhered to an earlier decision that any additional supplies of feedingstuffs

¹ H. of C. Deb., Vol. 391, Col. 1622.

resulting from the cessation of the use of diluents should be used for the greater output of bacon and of eggs. The Minister of Agriculture's hopes were raised in November 1943 when he was asked what extra bacon and eggs could be secured with 'an additional, say, 250,000 tons of feedingstuffs'. Trusting that, at last, some help was at hand, the mythical feedingstuffs were transformed into 20-25,000 tons of bacon and 250-300 million eggs,¹ an increase of 7 per cent. and 25 per cent. respectively on the current rations. Unfortunately this arithmetical exercise proved to be merely academic - there were still no feedingstuffs to spare. The possibility that some 300,000 tons of imported feedingstuffs might be found if a 26 million ton import programme were feasible disappeared again on the adoption of the alternative 24½ million ton programme in January 1944.² Disappointed in the hopes of getting barley, the Minister was encouraged to do another sum based on the possibility of increased supplies of wheat feed early in 1944, but these, too, failed to materialise. Relief was still only in the distance but such small quantities of cereal concentrates as were found from economies in the feedingstuffs rationing scheme and from odd sources were used to increase the rations for farrowing sows and for foundation poultry breeding stock and chick rearing.³

The year as a whole was marked by a big change in thought on the subject of agricultural policy. Emphasis began to shift in 1943-4 towards an expansion of livestock production and a return towards the pre-war character of British farming for there was a superabundance of straw and it seemed possible that fodder crops and the by-products of arable farming might be wasted. This reconsideration was stimulated, too, by the need to re-seed out-worn arable land, which would lead to an increase in grazing or hay, and, finally, by the growing awareness that the post-war world was not to be one of plenty; such foods as dairy products, meat and fats would be particularly scarce. The course of the discussions on prices during the year 1943-4 brought out clearly the increasing concern of the Government over this matter. The desire to give to the farmer assured markets for as many years as possible had its origin in the wish to expand the output of milk and meat and only milk, fat cattle and sheep were finally given guaranteed minimum prices over the period of transition to follow the war; farmers were indeed warned that there would have to be reductions in the prices of cereals, potatoes and sugar beet in the post-war period. The ability of this country to return at the end of the war to pre-war standards of food consumption, in quality if not in quantity, was as yet unquestioned.

¹ Assuming that they were divided equally between pigs and poultry.

² pp. 203-4.

³ p. 218.

(iv)

Measures to Implement the Programme

MANPOWER

The June 1944 census returns showed that the total number of regular and casual workers on agricultural holdings in the United Kingdom had reached a total of 975,000, an increase of 20,000 compared with the previous year.¹ The principal changes were an increase of about 46,000 in the number of regular workers due to greater numbers of women and of prisoners of war than in the previous June, and a reduction of some 26,000 in the number of casual workers. It is unfortunate that complete statistics are not available to show the immense contribution made by voluntary workers to the successful collection of the great crops of 1942 and 1943. In the latter year, there were in Great Britain over 1,050 camps housing some 63,000 school boys and girls; there were also countless children who helped, particularly with potato-lifting, from their own homes. In addition some 90,000 adult volunteers were also accommodated in camps to assist with the 1943 crops. The burden of the organisation of these camps, the appointment of wardens, the allocation of volunteers to farms, the day to day administration of the camps, the arrangements for transport and so on fell on the County War Agricultural Executive Committees and the measure of their efficiency was the increasing number of the volunteers recruited for each successive harvest.

While the peak labour requirements at harvest time were met to some extent by this voluntary effort, the main burden for the year lay on the regular and casual workers. There was a continual struggle to try to increase their numbers but the general manpower shortage in 1943 and 1944 was too severe to allow any considerable allocation to agriculture. Of the two sources of additional labour on which agriculture had relied in the first four years of the war, the more important one, the Women's Land Army, had been cut off in July 1943 in the interest of recruitment for the aircraft industry and the 'ceiling' strength of the Army had been reduced to 80,000.

The increasing labour difficulties of these later years may be clearly seen in the experience of 1943-4. The production programme had called for an additional 69,400 workers to achieve the ploughing up of a further 700,000 acres, to reclaim and drain wasteland, to provide additional milkers and relieve the heavy burden on the dairy industry, to replace the younger workers who were being called up (some 3,500 in 1944) and to make good the cumulative deficiency in the labour force from the previous years. The Minister

¹ Table 5, p. 85.

of Agriculture had asked the Ministerial Committee on Manpower for an addition of 46,400 to the Women's Land Army, 20,000 prisoners of war and 3,000 labourers from Eire. In February 1944 the Committee had intimated that the manpower situation was such that the allocation to the group of industries which contained agriculture could only be 48,000 against stated requirements of 160,000; consequently the allocation to agriculture could only be 5,000 in response to the Minister's request for 46,400 workers for the Women's Land Army. Subsequently in July, the total allocation to this group of industries had to be reduced by a further 10,000 to 38,000 and the larger part of this cut had to be borne by agriculture and the food industries, for the needs of coal mining and the merchant navy had priority within the group.

The sole remaining hope was therefore the greater use of prisoners of war and the Minister made a new bid in January 1944; his earlier request for 20,000 was raised to 36,000 to make good in part the deficit in the Women's Land Army. There were 32,500 Italians in the Middle East and Mediterranean area and a further 40,500 in East and South Africa; but the Minister was allocated only 8,600 of the 32,500 Italians who might arrive between February and May and 19,750 if the other 40,500 from East and South Africa could be brought to this country. What was the net effect of these persistent efforts? By the end of June the enrolled strength of the Women's Land Army had risen by 2,000 but was still 3,000 below the 'ceiling' figure of 85,000 and the number of prisoners of war at work had increased by 3,400 to 50,600. The Minister of Agriculture had warned the Government in January 1944 that the targets for the 1944 harvest would not be reached unless 5,000 members of the Women's Land Army and 36,000 prisoners of war were added to the agricultural labour force. These numbers were eventually forthcoming but not until very late in the season; the burden of preparation for and collection of the 1944 harvest had fallen on the labour force which the Minister had considered to be so inadequate.

PRICES AND PRICE POLICY

A third attempt to break away from the price schedule of February 1942 and to obtain revision for a single commodity was resisted during 1943-4. Potato growers in Northern Ireland complained in October that their prices were far below those obtained by growers in Great Britain, as indeed they were and as they had been before the war. They claimed that their agricultural wages had risen more than those in England and also that it was inequitable to base their price on the very small proportion of their crop that was now marketed in Great Britain. Various other arguments, both good and bad, were advanced by the Home Secretary and various solutions were

suggested, such as abolishing the acreage subsidy and raising the price but none was adopted. There was more than an element of reason in the claim but general fears that any deviation from the accepted price schedule would inevitably lead to concomitant demands from growers in Great Britain led to its rejection in January 1944.

Flax prices also came in for reconsideration during 1943-4. Flax was grown for the Ministry of Supply and contract prices had been established for the 1943 and 1944 crops, the prices being 'subject to revision upwards or downwards in accordance with any statutory changes in costs'. Minimum wage rates had risen in Northern Ireland. The pledge was far more explicit than the one that had been given to other producers in the United Kingdom and it caused considerable embarrassment to the Government which was at that time arguing that there need be no automatic rise in prices consequent upon a statutory change in costs. But there was no course other than to raise flax prices for the 1944 crop as called for by the contract, even though it was realised that they were already too high. Negotiations in October 1944 for the 1945 crop, however, succeeded in both bringing the price down and eliminating the undertaking in relation to statutory changes in cost.

The major issue in the year was, however, the question of revising the general level of prices to take account of a further increase in the minimum agricultural wage. In June 1943 the Agricultural Wages Board, under its new powers, had raised the minimum wages of women workers and also the rates of overtime pay and this was quickly followed by a claim from the Farm Workers' Union for an increase of the men's minimum wage, which had been fixed at 60s. in November 1941, to 80s. This proposal was rejected but an amended claim for an increase of 5s. for men and 3s. for women was accepted and the new minimum wage of 65s. and 48s. a week for male and female workers respectively came into effect on 12th December 1943. Overtime rates were raised by a further 1d. an hour.¹ Such increases raised immediately the question of a general revision of agricultural prices, for the June and November wage adjustments had resulted in an estimated increase in farmers' costs of £15 million in a full year. The issue came at a critical time; farmers were being asked to maintain the peak level of output achieved from the 1943 harvest, the prices for the 1944 harvest had not yet been determined and a new annual contract for milk prices was due in March 1944.

Farmers' representatives were informed that, in view of the information available on the general financial condition of the industry taken as a whole, the Government was not prepared to

¹ The corresponding change in the minimum rate in Scotland did not take effect until May 1944.

make any general change in agricultural price levels to take account of the increase in labour costs. Such a decision raised a storm of protest which culminated in a full dress debate in the House of Commons on 26th January 1944.¹ The rank and file of the farmers still interpreted the pledge of 26th November 1940 – ‘Prices will be subject to adjustment to the extent of any substantial changes in the cost of production’² – as meaning an automatic increase in all prices to compensate for any increase in their costs of production, though the leaders of the National Farmers’ Union had accepted the Lord President’s interpretation of the pledge in February 1942.³

The Government had already emphasised in its earlier discussions and statements on prices that it regarded the industry as one national farm and the ‘information available on the general financial condition of the industry as a whole’ was the following computation by the Central Statistical Office of the agricultural net income of the United Kingdom:

| | £ million | | | | | |
|-------------------------|-----------|--------|---------|--------|--------|-------------------------|
| | 1937-8 | 1938-9 | 1939-40 | 1940-1 | 1941-2 | 1942-3 (provisional) |
| Total income . . . | 292 | 290 | 346 | 415½ | 483½ | 545 |
| Total expenditure . . . | 236 | 237 | 250 | 281 | 307½ | 339 |
| Net income . . . | 56 | 53 | 96 | 134½ | 176 | 206 |

These figures which were subsequently revised upwards⁴ indicated that gross income in 1942-3 was likely to be some £62 million bigger than in 1941-2. Of this some £25-35 million could be attributed to the higher yields of the 1942 harvest compared with 1941, but even after allowance for this, the gross income following the price award of February 1942 was still £27-37 million higher than had been expected and more than ample to cover the subsequent increase in costs. If the Government’s claim were accepted that the cumulative result over the whole period since 1940 – when the system of fixed prices was first introduced – should be the criterion and not the changes between one price review and the next, then these figures of net income, showing a cumulative increase of some £500 million since 1939-40, proved conclusively that farming as a whole could carry this additional burden of £15 million. This was so even if generous allowances were made for the very considerable capital expenditure by farmers on machinery and equipment during these years.⁵

¹ H. of C. Deb. Vol. 396, Cols. 710-818.

² H. of C. Deb., Vol. 367, Col. 92.

³ p. 167.

⁴ Appendix Table IX, p. 379.

⁵ A rough estimate of the expenditure on farm machinery during the five years 1939-40 to 1943-44 had put it as high as £105 million.

The danger of taking aggregate figures, as the farmers' representatives rightly stressed, was that they concealed differences between classes of farmers and types of farming. Disparities had undoubtedly arisen, as a result partly of deliberate policy, partly of changing conditions, and partly of practical administrative difficulties in controlling prices and supplies in an industry so diverse as farming. It was common knowledge that larger farms growing cash crops, such as cereals, potatoes, fruit and vegetables, had done extremely well while smaller farmers, perhaps with a few dairy cows, pigs or poultry and with little or no arable land on which to grow feedingstuffs, had received only moderate increases in returns. It was dangerous to generalise but on the whole cash crop producers had done better than livestock farmers and this was recognised by the Government in certain price adjustments and in the framing of its subsequent policy.

Though it was decided that the general level of prices should be left unchanged, that is global returns to agriculture were to remain approximately the same, there were four adjustments in the fourth price schedule of the war which was issued in November 1943. Increases of about 1d. per gallon in milk prices¹ (of which 0.7d. was used to remove transport anomalies) and of 5s. per live cwt. in the price of dairy cows were offset by a reduction of 2s. 6d. per cwt. in the maximum price of barley,² and minor reductions in the price of early potatoes and some vegetables from the 1944 crops. At the same time the position of the marginal producer was strengthened by an increase in the acreage payments on wheat and rye from £3 to £4, with a corresponding reduction in their prices. The maximum price of millable wheat was reduced from 14s. 6d. to 13s. 6d. per cwt. while an adjustment was also made to the seasonal changes; the initial price was dropped by 6d. in August and September and compensatory increases were given later in the year. The price of millable rye was reduced from 14s. od. to 13s. od. The determination of livestock prices, apart from those for fat cows, was reserved for subsequent consideration but it was intimated that there would not be any change in these before the end of June.

Meantime the Minister of Agriculture had been pressing for permission to discuss with the farmers' representatives the question of post-war policy. The Government was, however, nervous about committing itself at this stage, in part because the future was still too uncertain to undertake commitments which would satisfy the farmers and in part because it feared similar requests from other industries. The Minister of Agriculture was also urging that farmers, if they were to maintain and even increase their output for the 1944 and 1945 harvests, should now be given some greater measure of security than

¹ Representing an increase in milk returns of about £5½ million.

² Estimated to entail a reduction of £3½ million in barley growers' returns.

that afforded by the undertaking of November 1940 to maintain the system of fixed prices and an assured market for the duration of hostilities and for at least one year thereafter. In October 1943 the War Cabinet authorised him, when discussing the question of wages and prices with the farmers' representatives, to announce that arrangements were being made for consultations on agricultural policy in both the transitional period immediately after the end of hostilities and the later post-war period; he was also authorised to extend the guaranteed period to not less than two years after the end of the war with Germany. The Minister of Agriculture was not, however, satisfied with this concession and, on the eve of the House of Commons debate of 26th January 1944, he obtained the sanction of the War Cabinet to discuss with the farmers the possibility of extending the existing system of fixed prices and an assured market until 1947, that is, covering the harvest of 1947; his further request that the actual minimum prices for livestock should be fixed at that time for the period of the guarantee was not, however, granted.

The Minister of Agriculture's explanation in the House of Commons on 26th January and his defence of the Government's decision about the general level of agricultural prices following the increase in wages did much to soothe the bitterness and ill-feeling that abounded; he justified rather than excused the action and at the same time gave promise of better understanding in the future. Firstly, he offered to discuss with the farmers' representatives three questions:

- (1) the collection of economic data which would be acceptable both to the Government and the Unions as a basis of price discussion,
- (2) the procedure for using the data, and
- (3) the means of relating the system of fixed prices and assured markets to the four-year production plan, including the harvest of 1947.

If some agreement could be reached on these issues then the suspicions of the farmers regarding the information in the hands of the Government might be allayed and the course of future price negotiations eased.

Secondly, the Minister promised the earliest possible change in emphasis from the production of crops for direct human consumption to an increase in livestock and livestock products – a gradual return to the traditional pattern of production to which farmers had long been accustomed.

Thirdly, the Minister promised immediate help to the small milk producers, whose special difficulties were widely recognised; they produced about a quarter of the milk and this output was essential during the war. The Government therefore proposed a temporary bonus to milk producers, from 1st January 1944 to 31st March 1945,

of 1½d. per gallon on their first 400 gallons per month sold in the winter months and ½d. per gallon on the first 500 gallons per month in the summer, which would provide an estimated increase in returns to dairy farmers of £2½ million a year; out of a total of some 170,000 farms selling milk, about 97,000 produced less than 400 gallons per month in the winter. It was hoped that by March 1945 the war with Germany would have been won and that soon thereafter many of these farmers would be able to return to their 'proper job of calf-rearing and not producing liquid milk for sale, for which the conditions are unsuitable'.¹

The consequent discussions initiated by the debate proved most fruitful and by the end of the year a solid foundation had been established on which the whole of the post-war agricultural policy was built. The need to decide the prices to be paid for fat cattle and sheep for the twelve months July 1944 to June 1945 set a useful time limit to part of the discussions.

The immediate prices for livestock were quickly settled since there was general agreement, firstly, that the output of beef and mutton and lamb should be stimulated in view of the world shortage of meat and the increasing stock-feeding capacity of our grassland, and, secondly, that a greater incentive for quality production should be re-introduced. In July the average price of fat cattle was raised by 2s. per live cwt., the 58 per cent. killing-out grade was established throughout the year instead of for only a few months and a new higher grade, 59 per cent., was introduced for July and August. The general level of fat sheep and lamb prices was raised by an average of 1d. per lb. deadweight and a premium of ¾d. per lb. was paid on the first grades as compared with the previous year.² These price changes represented an increase in farmers' returns of £2.4 million in a full year, though this was less than the increase in costs, which were estimated at £3½ million, since the prices of fat cattle and sheep had been fixed in February 1942. Pig and poultry prices were left unchanged; the expansion of their numbers was largely dependent on the supply of cereal feedingstuffs, rather than grass, and here the outlook was still obscure, owing to uncertainty about shipping and about the availability of grain in overseas countries.

There remained the question of guaranteed prices. The climate was favourable for the Minister of Agriculture's persistent desire to obtain some measure of security and stability for the livestock producer; he had, admittedly, been promised an assured market but no guarantee of minimum prices. A four-year contract for Canadian bacon was imminent and discussions about a meat contract had begun with the Southern Dominions; it was almost impossible to resist a

¹ H. of C. Deb., Vol. 396, Col. 725.

² Wool prices were to remain unchanged.

claim from home-producers for more definite terms for them. There was still some unwillingness on the part of the Government to determine the prices of individual products without regard to the level of farming profits as a whole and to the prices fixed for other commodities; the scars of the price battles of June-August 1940, February 1942 and the previous November had not yet healed and there was no desire to sacrifice the hard-won principles that had been established. Provided the principle – that prices should be reviewed in the light of farming profits as a whole – could be re-affirmed, there was little danger of its being vitiated by the present proposal. For prices of wheat, barley, oats and potatoes were now high relative to those of cattle and sheep; while the former might well be reduced in the transition period, the gap was so wide that it was unlikely to be closed in this way and some increase in milk and livestock prices would undoubtedly be required at the next general price review. The War Cabinet, on 29th April 1944, finally agreed that the Minister should offer to producers of milk, fat cattle and sheep a four-year guarantee, up to the summer of 1948, of price levels not less than those prevailing at the time. It was, however, stipulated that the National Farmers' Union should be told of the special reasons which had led to this particular guarantee, that the Government would not make similar offers in respect of other agricultural commodities, and that it did not commit itself to any given standard of profitability for farmers as a whole until it had had an opportunity to consider comprehensive proposals supported by full statistical data. The Union was also to be informed that during the course of the next four years there would almost certainly have to be some reductions in the prices of certain products such as cereals and potatoes. There was to be no commitment on fat pigs or eggs for the present.

The final additions to this structure were made in November 1944. The discussions with the farmers' representatives had been very fruitful and agreement had been reached on the basic data to be used in the periodic reviews of agricultural prices and on the procedure to be followed.¹

The economic data were to be based on the financial accounts relating to different types of farming and sizes of farm and on statistical material relating to costs of production collected by means acceptable to the Government and the industry; these 'means' were assumed to be, in Great Britain, the Provincial Agricultural Economics Service attached to the Universities, whose independence was highly valued by the farmers, and the Department of Agriculture in Northern Ireland.

In February of each year, there would be a review, by the Agricultural Departments and the farmers' representatives, of the general

¹ H. of C. Deb., Vol. 406, Cols. 365-368, 5th December 1944.

financial position of agriculture in the United Kingdom in the light of the foregoing economic and financial data and any other relevant statistical material. The Government would then make its decisions which would apply

- (a) for crops, to the prices of crops from the harvest of the following calendar year
- (b) for milk, to the prices from 1st October of the current calendar year
- (c) for livestock and eggs, to the prices from 1st July of the current calendar year.

Provision was also made for special reviews in the event of any important change in the situation such as might arise from a sudden or substantial change in costs. Assurances were made at the same time that farmers and traders would be consulted if any modifications of these arrangements or of the marketing machinery were necessitated by changing circumstances.

The Government at the same time offered assured markets throughout the four-year period for all fat pigs, eggs, cereals, main crop potatoes and sugar beet. The prices of these were to be considered at each annual February review and subsequently fixed by the Government; there were, however, no long-term guaranteed minimum prices for these products.

Finally, the Government took the opportunity to re-affirm the main principles on which it would work. There would be no automatic adjustment of prices; all relevant data would be taken into account and the prices of all the above products could be subject to adjustment upwards or downwards except that there could be no downward adjustment of the prices of milk, cattle and sheep in view of their fixed minimum prices. Account could also be taken of any changes that might be required during the four-year period in the character of the agricultural output – a reduction in the prices of cereals and potatoes was mentioned particularly.

Thus, by dint of eleven months of intensive discussion, was evolved an agreed basis of price negotiation, assured markets for the principal agricultural products¹ and guaranteed minimum prices of milk, fat cattle and sheep for a period of four years and an unequivocal enunciation of the principles on which the Ministry of Agriculture proposed to make its future price decisions.

CONTROL OF SUPPLIES

The year was marked by an absence of any new control schemes

¹ Milk, fat cattle, sheep, pigs, eggs, wheat, barley, oats, potatoes and sugar beet, which together represented 73 per cent. of the total value of sales off farms in the United Kingdom in 1943-4.

and by only a few modifications of the existing ones. One crop – onions – was decontrolled except for a maximum price.¹

Rationing of Feedingstuffs. In March 1943 there had been the gloomiest prognostications of the feedingstuff prospects for the winter of 1943-4 and it was debated whether a warning should not be given to pig and poultry farmers that their rations might have to be cut still further, even to one-twentieth of the pre-war level. However, the decision to wait until nearer the time before making any announcement was a prudent one, since the supplies of feedingstuffs proved to be greater than expected due to the ending of wheat flour dilution and particularly to the under-estimation of the 1943 harvest. The most serious feature was the shortage of protein feeds, the output of oilcake being consistently below estimates. The net result was that rations were maintained more or less on the same basis as in the previous winter, although the proportion of protein to cereal was reduced. The slight improvement in supplies provided a long awaited opportunity to make certain additional allowances, firstly to pig and poultry producers and secondly to calf rearers. This concession was in line with the shift in emphasis in general policy which has already been noted.² In December 1943 the rations for farrowing sows were raised from 3 units to 6 units and an extra ration of $\frac{1}{4}$ unit per 18 birds was given to poultry rearers from January until April; in February 1944 an allowance was made for the milk used for calves under one month old being reared for milk and beef. Arrangements for the summer period of 1944 were substantially the same as in the previous summer.

The year 1944-5 brought with it considerable problems as the result of the bad weather conditions during the 1944 harvest; in particular, supplies of home-grown fodder in many parts of the country were low, causing a heavy drain on the feedingstuff reserves held by the County War Agricultural Executive Committees, particularly during January to April of 1945. Cereal feedingstuffs fortunately became more plentiful and during the year the basic rations for pigs and poultry were increased steadily.

Fertilisers. The system of allocation of phosphatic fertilisers was altered for the 1943-4 season. Instead of a bulk allocation being made to each county as in 1942-3 with discretion to County War Agricultural Executive Committees as to the rate at which this was to be divided amongst the various crops, it was decided that phosphates should be made available at standard rates for each crop. A bulk allocation was made, however, to each Committee to meet the requirements of acutely deficient soils. The general prohibition on the application of phosphates to permanent grassland was retained

¹ Onions (Control of Cultivation) Order, 1943, S.R. & O., No. 1062.

² p. 208.

but a concession was made for their use on dairy pastures. The full control scheme proved to be impracticable in Scotland where climatic and soil conditions showed such variation as to make nonsense of standard rates for individual crops and a simplified scheme of priority deliveries, endorsed by the Executive Committees, was substituted in 1944.

In the summer of 1943 an Order¹ was made which prohibited the application of nitrogenous fertilisers to any land, excepting market gardens, during the months of September to December when the risk of loss of value of these fertilisers through leaching is unduly great; this Order lasted for only one season and it was rescinded in June 1944 when the supplies of nitrogenous fertilisers improved.²

The schemes for the control of both phosphatic and potassic fertilisers were continued on the same basis for 1944-5. Greater supplies of phosphates, however, led to permission to use them more widely than before; Executive Committees were told not to discourage their use on grassland in the spring or on three-year leys to be sown in 1944, while basic slag might be permitted more readily for use on dairy pastures.

(v)

Food Production in 1944 and 1945

The record of these six years would be incomplete without some reference to the harvests of 1944 and 1945, the last to be gathered and the last to be planned during the Second World War, and to the consequences, in terms of food production, of the policies determined in 1943-4.

The Agricultural Departments had called for the ploughing up of a further 700,000 acres of permanent pasture for the 1944 harvest; the actual achievement was 595,000 acres.³ During the year, however, the area of land seeded to temporary grass increased yet again – by 506,000 acres compared with 310,000 in 1942 and 356,000 acres in 1943. The principal cropping changes in the 1944 harvest were a reduction of 244,000 acres of wheat accompanied by an increase of almost 200,000 acres of barley. The potato area rose by 26,000 acres, sugar beet by 14,000 acres and vegetables by about 80,000 acres, an increase in the sources of foods for human consumption which went part of the way to make up for the drop in the wheat area.

The weather for the 1944 harvest was bad. Cold dry weather in

¹ Nitrogenous Fertilisers Order, 1943, S.R. & O., No. 899.

² Nitrogenous Fertilisers (Revocation) Order, 1944, S.R. & O., No. 737.

³ Appendix Table IV, p. 373.

June had retarded the growth of crops while rain and lack of sunshine in July made it certain that the harvest would be abnormally late. Dry and warm weather in the first three weeks of August brought on the corn crops and enabled a certain amount of cutting to be done in the East and South of England. From the last week of August onwards, however, the weather was wet and unsettled, the harvest was difficult and protracted, and in many areas extensive damage was caused to cereal crops. Both October and November were also wet months and the collection of the tail-end of the corn crops and the lifting of potatoes and sugar beet were carried out under extremely difficult conditions; though disease was not widespread, the keeping quality of the potato crop was poor since it had to be clamped in a wet and dirty state. In Northern Ireland, matters were even worse; storms and torrential rains brought harvesting to a stop in many areas and many fields of grain had to be abandoned entirely.

Table 14. The Output of Certain Farm Products in the United Kingdom in 1944-5 and 1945-6, Compared with Pre-war

| | Output | | Change | | | Output | | Change | |
|-------------------|--------|--------|------------------|------|--------------------|--------|--------|------------------|--------|
| | 1944 | 1945 | Pre-war* =100 | | | 1944-5 | 1945-6 | Pre-war* =100 | |
| | | | 1944 | 1945 | | | | 1944-5 | 1945-6 |
| | | | | | | | | | |
| Wheat . | 3,138 | 2,176 | 190 | 132 | Beef & veal | 504 | 536 | 87 | 93 |
| Barley . | 1,752 | 2,108 | 229 | 276 | Mutton & lamb . | 140 | 135 | 72 | 69 |
| Oats . | 2,953 | 3,245 | 152 | 167 | Pig meat . | 145 | 161 | 35 | 39 |
| Potatoes . | 9,096 | 9,791 | 187 | 201 | Offals . | 89 | 91 | 85 | 87 |
| Sugar beet | 3,267 | 3,886 | 119 | 141 | Total meat | 878 | 923 | 68 | 71 |
| Vegetables | 3,422 | 3,242 | 144 | 137 | Milk† | 1,727 | 1,789 | 97 | 100 |
| Fodder & hay . | 31,063 | 38,183 | 114 | 124 | Eggs‡ | 2,075 | 2,401 | 54 | 63 |

* Average 1936-7 to 1938-9. † Million gallons. ‡ Million eggs.

In spite of the poor season, yields of wheat and barley were well above normal, but the yield of oats was merely average.¹ The yield of potatoes, 6.4 tons per acre, was the lowest for almost ten years while sugar beet was low both in yield and sugar content. Fodder crops were a little above normal but the hay crop was light as well as poor in quality.

The high yield per acre of wheat was not sufficient to offset the big drop in acreage and the total output dropped by about 309,000 tons (9 per cent.) compared with the 1943 harvest; the increase in barley was more than offset by the decline in the output of oats, while the production of mixed corn and of rye declined by 45,000 tons and

¹ Appendix Table V, p. 374.

7,000 tons respectively. The net output of all grains had therefore declined by some 365,000 tons from the peak achieved in the 1943 harvest. The potato crop, in spite of an increase in area of 26,000 acres was 726,000 tons (7 per cent.) lighter than in the previous year and the keeping quality was much poorer.

On the other hand, the change in emphasis towards livestock production which was embodied in the policies adopted in 1943-4 showed its effect in 1944-5. The June 1945 census showed an increase in beef cattle numbers while the numbers of breeding ewes increased slightly for the first time since the war. Shortages of feedingstuffs still prevented an increase in the numbers of breeding sows but more pigs were being fattened and poultry numbers showed a recovery of 12 per cent. The output of livestock products in 1944-5 reflected these changes; there was an increase in all products except mutton and lamb.¹

The output of foodstuffs from British agriculture in 1944-5, the sixth year of the war, was the first to show any relaxation from meeting the arduous demands of war and any prospect of a less rigorous diet. But even these slight concessions could be attributed more to natural causes rather than to weakness of the human will or human flesh. Reserves of soil fertility built up before the war had been consumed; continuous cropping was leading not only to soil exhaustion but also to deterioration of the soil structure; and the disruption of normal rotations in many parts of the country was bringing in its train serious trouble from weeds, disease and pests. Ley farming was the remedy and more grass, hay or ensilage entailed more livestock to consume it and, thereby, more milk and dairy produce, beef and mutton - a not unwelcome prospect to a starch-wearied people.

The cropping programme for the 1945 harvest was designed to maintain the *status quo* reached in 1944. The area under crops other than grass should, if possible, be maintained, more arable land might be re-seeded to temporary grass leys but this should be compensated by the further ploughing up of permanent pasture. For individual crops, there was a slight relaxation in the demands for wheat in favour of oats and barley and the total of the county wheat quotas for England and Wales was lowered from the 3,063,000 acres sown for the 1944 harvest to 2,807,000 acres for the 1945 crop; the Scottish wheat target was 135,400 acres compared with 152,400 acres in 1944. But the potato and sugar beet targets were left at practically the same level as those for the 1944 harvests. Emphasis was still laid on the need for vegetables but growers were warned that the supply of cabbages, savoy, etc., had exceeded requirements in the autumn of 1944; they should therefore plan for a higher proportion of their output in the

¹ Appendix Table VI, p. 375.

January-March period. Again, the output of tomatoes grown out-of-doors had exceeded requirements but there was still an unsatisfied market for parsnips, beetroots and roots.

The acreages of crops actually harvested in 1945 diverged considerably from these desiderata. The actual area under the plough was very similar to that in 1944 and the area under permanent grass was only slightly higher. But there was an increase of 800,000 acres of arable land in the area of temporary grassland. Farmers were evidently convinced that some further relaxation from the high proportions of tillage crops was necessary if soil fertility was to be maintained or restored. With the increased emphasis on livestock, there was a widespread development of ley farming.

The Minister of Agriculture had informed the chairmen of the Executive Committees in April 1944 that the world supply of wheat in 1945 would be barely sufficient for current needs and that prospects of obtaining more feedingstuffs over the next few years were remote. He had asked therefore for the maintenance of a high area of tillage with an emphasis on wheat, potatoes and sugar beet. There was, however, a heavy fall in the acreage of wheat due in part to the unfavourable weather in the autumn of 1944, and in part to the relatively more favourable prices for barley. The increase in the area under barley and oats increased, but not sufficiently to prevent a fall in the area under all grains of some 625,000 acres. The acreage of potatoes was well maintained but the area of sugar beet fell by about 14,000 acres. The tillage area in the sixth year of war was 55 per cent. greater than in pre-war years, compared with 63 per cent. in the peak harvests of 1943 and 1944.

The yields per acre of crops were much better than in the previous year and were all above normal (Appendix Table V). In particular, the potato yield had recovered to 7 tons per acre and in consequence the output of potatoes was about 700,000 tons higher than in 1944. The barley yield was also exceptionally high with the result that the total yield of all grains was only 4 per cent. less than in 1944 while the area had declined by about 7 per cent.

Changes in the numbers of livestock in the June 1945 census again gave promise of a future increase in the output of livestock products and the 1945-6 meat production was 35,000 tons higher than in 1944-5,¹ though still 29 per cent. below the pre-war output. The output of milk had risen by a further 62 million gallons and had recovered to just over the pre-war level of 1,781 million gallons.

The early months of 1945 gave evidence of fresh labour problems. Firstly, the Agricultural Departments again claimed that the industry was grossly undermanned. They estimated that between 1939 and

¹ Appendix Table VI.

1944, the changes in the acreages of crops and in dairy cattle numbers warranted an increase in the labour force of some 259,000 men, though the decline in the numbers of other livestock had reduced the need by some 69,000 men. The net increase in requirements of 190,000 men had been met by the Women's Land Army to an extent equivalent to about 64,000 men, leaving a deficiency of 126,000 men. Against this the farmers had only some 36,000 prisoners of war who were considered to be equivalent to 27,000 regular workers. The gap had been met during the war by increased mechanisation, the deferment of retirement, volunteer part-time labour and overtime. The prospects of still further mechanisation for the 1945 harvest were not good and it was anticipated that there would be an inevitable reduction in the amount of overtime and of volunteer labour as the war drew to a close. Farmers were extremely apprehensive about the prospects of help and this was no doubt one of the causes which led to an unexpectedly large increase in the amount of land put down to temporary grass.

Secondly, there was a demand for higher wages which, it was again claimed, were necessary to bring agricultural wages into line with those in other rural occupations, such as roadmen and railway workers. The Agricultural Wages Board decided to increase the minimum wage of male workers only from 65s. to 70s. from 4th March 1945.

This increase was estimated to represent a rise in total costs to the farmer of some £7½ million. A general price review, which used, for the first time, the machinery which had been established in January 1944, was undertaken in February 1945 and new increased prices were established for milk, potatoes and sugar beet – all of them were products with heavy labour requirements and still high in the Ministry of Food's priority list. The Government at the same time re-affirmed its intention to shift the emphasis from crops to livestock production. Potatoes would be made less profitable for the 1946 harvest, either by lowering the price by 10s. per ton or reducing the acreage payments by a corresponding amount; compulsory Direction Orders would not be used in 1945–6 for wheat, potatoes or sugar beet; the minimum price for barley would be reduced to bring it further into line with those of other cereals. In the meantime, milk was still the first priority – hence the increase in milk prices – while the expansion of pig and poultry production awaited an increase in supplies of feedingstuffs.¹ By the time that the war in Europe ended on 8th May 1945, the pattern proposed for British farming in the post-war years had become clearer and it was more in accordance with tradition.

Prices for fatstock and eggs were raised from July 1945.

PART IV

Retrospect

CHAPTER IX

PRODUCTION POLICY AND ACHIEVEMENT

(i)

Programmes and Performance

THE FIRST war-time production policy, which was evolved in April 1936, was based largely on the experience of the 1914-8 war - it assumed that shipping was likely to be the main consideration and that, therefore, the main agricultural effort in this country must be directed to replacing bulky imports, notably imports of wheat for direct human consumption and imports of animal feedingstuffs. But many of the premises on which this plan was established were altered almost immediately and only a few of its main features were carried forward into the next series of discussions.

The second set of proposals, which was framed in January 1937, was influenced by the general assumption that there would be a total and uniform decrease of 25 per cent. in imports of food - and feedingstuffs - for the duration of the war; the resulting programme called for, firstly the ploughing up of 1,285,500 acres of grassland upon the outbreak of war and, secondly, a reduction of 45 per cent. and 33½ per cent. in the number of pigs and poultry respectively as a consequence of the decline in the supply of imported feedingstuffs.

Following the appointment of Mr. W. S. Morrison as Minister of Agriculture in 1936, a complementary policy was adopted and attention was turned to the immediate improvement of the soil in this country. This was an important decision and one that was to bear good dividends. The subsidising of lime and slag under the Land Fertility Scheme was later claimed by one expert to be 'the wisest thing done by a Minister of Agriculture in the past fifty years'. Since the Government had decided that agriculture should not be put on a war-time basis in anticipation of war, the alternative policy was to put the land in sufficiently good heart to be able to meet the demands of war when these arose.

A comparison with the years preceding 1914 showed clearly how great was the difference between the state of the land in 1914

compared with 1936. The loss of nearly 2½ million acres of farming land in Great Britain and the reversion of some 1½ million acres to permanent grass – resulting in a total decrease of 4 million acres of crops other than grass – were not the only two factors in the deterioration. Almost as serious was the loss of the art of arable farming in many parts of the country; in some areas both farmers and farm workers lacked experience of arable cultivation and the necessary horse power and implements were no longer available on many farms; a higher proportion of farmers were making their living not by producing food from the soil but by feeding livestock on cheap imported feedingstuffs.¹ Moreover, the condition of grassland had deteriorated during the years of agricultural depression between the wars though this decline may not have been so general throughout the country as some people feared.

In 1914 most of the land of the country had been farmed under strict tenancy agreements designed to ensure the maintenance of a high level of fertility; landowners had not only the legal rights but, because of the prosperity of agriculture, also the power to enforce these rights under the tenancy agreements. Legislation in the inter-war years had practically deprived the landlord of his rights to enforce the conditions of the tenancy agreements and many farmers were not in a position to carry out these even if they had been required to do so. By 1936 grassland was understocked in many parts of the country, while, in others, it was used merely as 'exercising grounds' for cows. The aim of the Agriculture Act, 1937, was to restore some of the lost soil fertility. In April 1939 further steps had been taken in the same direction and the Agricultural Development Act, 1939 was devoted to the further improvement of grassland and to making preparations to increase the area under the plough.

During the same time, however, there was a change in cropping plans. Preoccupation with the condition of the land also involved the question of livestock. The Agricultural Departments argued that to maintain as many livestock as possible for as long as possible, subject to the maximum ploughing up of grassland, was to promote greater soil fertility. This had been achieved by the consumption of large amounts of imported feedingstuffs which were unlikely to be available in war-time. While the 1936 cropping proposals had concentrated attention on increasing the output of bulky foods for human consumption, attention was now directed towards an increase in the home output of animal feedingstuffs; the price supports for barley and oats were the outcome of this shift in policy. This change of

¹ The study of milk production costs in England and Wales, which is quoted on p. 263, showed that as high a proportion as 96 per cent. of the concentrates fed to dairy cows in pre-war years were purchased; the bulk of these were imported. Only 4 per cent. were grown on the farms where the cows were kept.

emphasis by the Agricultural Departments was probably not obvious to the other Departments and, in particular, to the Food (Defence Plans) Department which assumed that the problems and objectives were still much the same as in 1914-8. This divergence of views led, as has been seen, to considerable misunderstanding in the formulation of policy during the early years of the war.

The cropping and livestock programmes throughout the war were determined, and continuously amended, by changes in the shipping position. As this got worse, the need to put more land under the plough and to grow more food for direct human consumption in preference to feedingstuffs became greater. The reduction in the Ministry of Food's import programmes from a pre-war level of about 22½ million tons has been described in the earlier chapters. During the first year of the war, they were cut to about 20½ million tons but during the second year, they were reduced to only about 14½ million tons. Thereafter the situation got steadily worse and food imports for the last quarter of 1942 totalled only 1.8 million tons; the lowest point was reached in January 1943 when that month's Ministry of Food imports amounted to only 531,000 tons, representing an annual rate of just over 6 million tons.

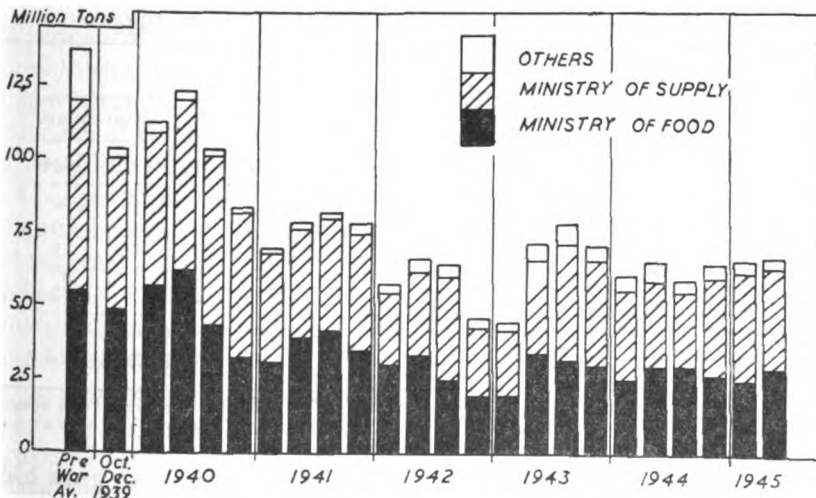


FIGURE 3. Non-tanker Imports into the United Kingdom under Departmental Programmes, by Quarters, September 1939 to August 1945.

The keystone to the food production programme was the amount of grassland that could be ploughed up. The pre-war target figure of 1.3 million acres to be ploughed in the first year of war was raised to 2 million. Preliminary plans for the 1941 harvest had included a proposal for the ploughing up of a further ½ million acres of grassland

but the prospect in June 1940 of a cut in the Ministry of Food's import programme from a rate of 20.6 million tons to one of 15 million tons made a higher target necessary and it was successively raised to 1.8 million, 1.9 million and, finally, 2.2 million acres. Again, plans for the 1943 harvest, when first discussed in January 1942, had envisaged the ploughing up of a further 500,000 acres but the decline in the Ministry of Food's import programme in the spring of 1942 to a rate of about 10 million tons a year resulted in the raising of the target to almost 1 million acres. It had been hoped that 1943-4 would see some easing of the shipping situation and a consequent lessening of the need to carry the plough-up campaign into the fifth year of the war but D-day and the prosecution of the war in the Pacific made impossible any such relaxation. Plans for the 1944 harvest called for the ploughing of a further 700,000 acres of permanent grass. Nor did the 1945 harvest programme allow any slackening of effort; the shipping situation had eased greatly but its place as a determining factor had been taken by the prospective world shortage of food.

Table 15. Numbers of Counties in Great Britain Grouped according to the Proportion which the Arable Acreage Formed of the Total Acreage of Crops and Grass in 1939 and 1944

| Percentage of total crops and grass under the plough | Number of Counties* | | | | | | | |
|--|---------------------|------|-------|------|----------|------|---------------|------|
| | England | | Wales | | Scotland | | Great Britain | |
| | 1939 | 1944 | 1939 | 1944 | 1939 | 1944 | 1939 | 1944 |
| Under 30.0 . | 19 | — | 12 | — | — | — | 31 | — |
| 30.1 to 45.0 . | 13 | 4 | 1 | 5 | 9 | — | 23 | 9 |
| 45.1 to 60.0 . | 6 | 15 | — | 8 | 9 | 4 | 15 | 27 |
| 60.1 to 75.0 . | 4 | 16 | — | — | 7 | 14 | 11 | 30 |
| Over 75.0 . | 3 | 10 | — | — | 8 | 15 | 11 | 25 |
| Average percentage . | 38.3 | 61.2 | 19.9 | 48.4 | 64.4 | 76.2 | 40.7 | 62.4 |

* The three divisions of Lincolnshire, East and West Suffolk, East and West Sussex and the three Ridings of Yorkshire were each reckoned as a 'county'.

Between 1939 and 1941 the area of crops other than grass had increased by almost 4 million acres; this was an outstanding achievement which accomplished in two years about twice as much as had been achieved in four years in the First World War. By 1944 the tillage area had increased by a further $1\frac{3}{4}$ million acres, bringing the total area of crops other than grass to 14,548,000 acres, $5\frac{3}{4}$ million acres greater than in 1939 and probably higher than ever before in the history of this country.

The increase in the area of land under the plough was even more striking since by 1944 the area of land under temporary grass had

increased by some 500,000 acres, from about 4.2 million acres in 1936-8 to 4.7 million acres. By 1944, 62 per cent. of the total area under crops and grass in Great Britain had become arable land compared with 41 per cent. in 1939. In 1918 the proportion had reached only 50 per cent.¹ The change in the proportion of arable land is shown in Figure 4 for both England and Wales and for Scotland, and in Table 15. In 1939, 38 per cent. of the agricultural area of England was under the plough, 20 per cent. in Wales and 64 per cent. in Scotland where a high proportion of the grassland was made up of rotation grass. By 1944 these proportions had become 61 per cent., 48 per cent. and 76 per cent. respectively. The increase was general throughout the country. In England, 26 counties in 1944 had more than 60 acres of arable land per 100 acres of crops and grass compared with only 7 counties before the war; in Scotland the number had increased from 15 to 29. The highest intensity was reached in Kincardineshire where 96 acres out of every 100 acres were under the plough.

The first serious warnings that the increase in the arable area was reaching its limits, owing to physical, biological and economic factors, were noted in the third year of the war when the 1942 census of crop acreages showed that the ploughing up of a further 1.4 million acres of permanent grass had been accompanied by the laying down of an additional 300,000 acres of temporary grass. In the following year almost identical changes took place while, for the 1944 harvest, a reduction of 600,000 acres in the area of permanent grass was offset by an additional area of 506,000 acres of temporary grass.

Changes in the import programmes also determined the individual crops to be grown. The plans for the 1940 harvest called for more wheat, potatoes and fodder crops; it has been shown how the emphasis shifted to fodder crops and in the light of the shipping position at the time the change was not unreasonable. The Minister of Agriculture's plea for latitude and flexibility in cropping plans was intended to achieve this and the acreage changes for the 1940 harvest showed a big swing in favour of oats and barley, the acreages of which rose by 1,300,000 acres; this compared with an increase of 43,000 acres for wheat, the greater expansion of which, it was claimed, was prevented by the lateness in the season of the declaration of war and by adverse weather conditions.

The early emphasis on the greater production of feedingstuffs grew less as imports declined and the cropping programmes for both the 1941 and 1942 harvests were more certain in their proposals for more wheat, potatoes and vegetables. The immediate influence of the shipping position was again seen in the plans for the 1943 harvest.

¹ Appendix Table II, p. 371.

FIGURE 4

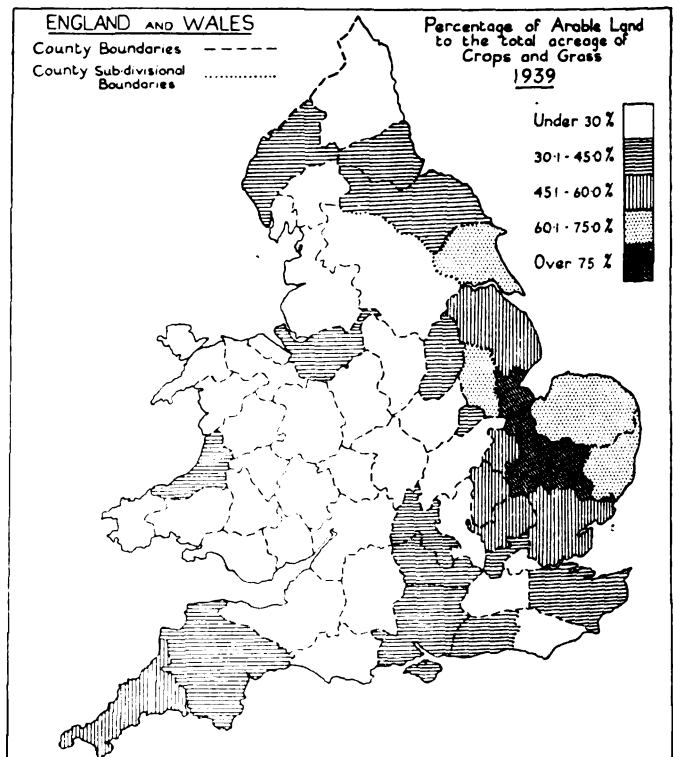
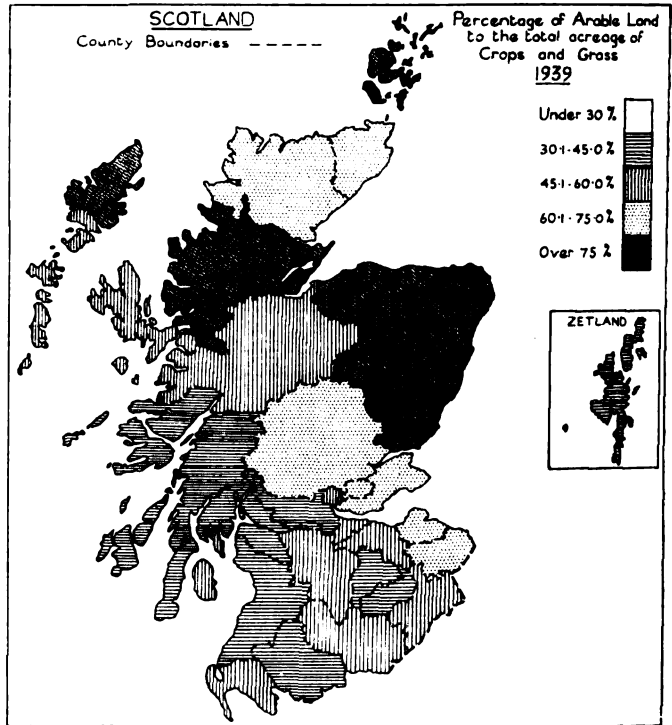
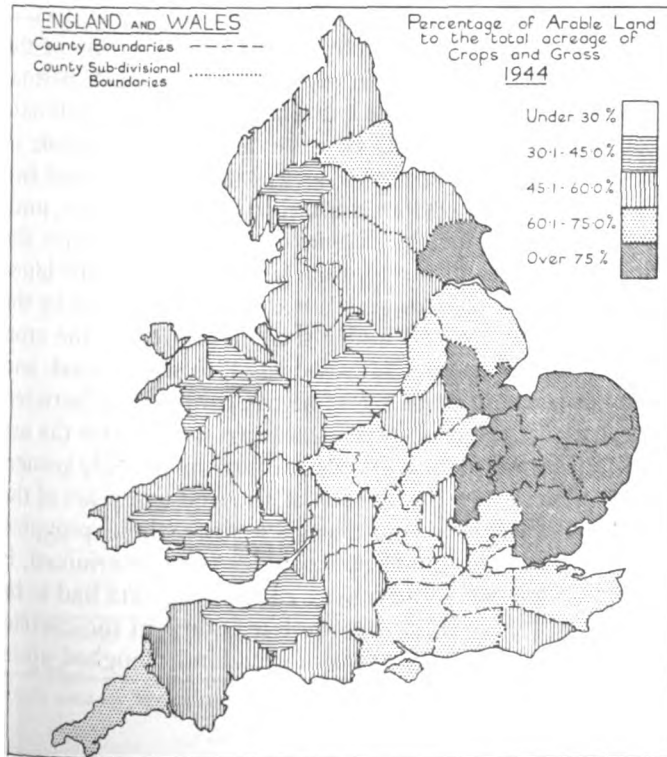
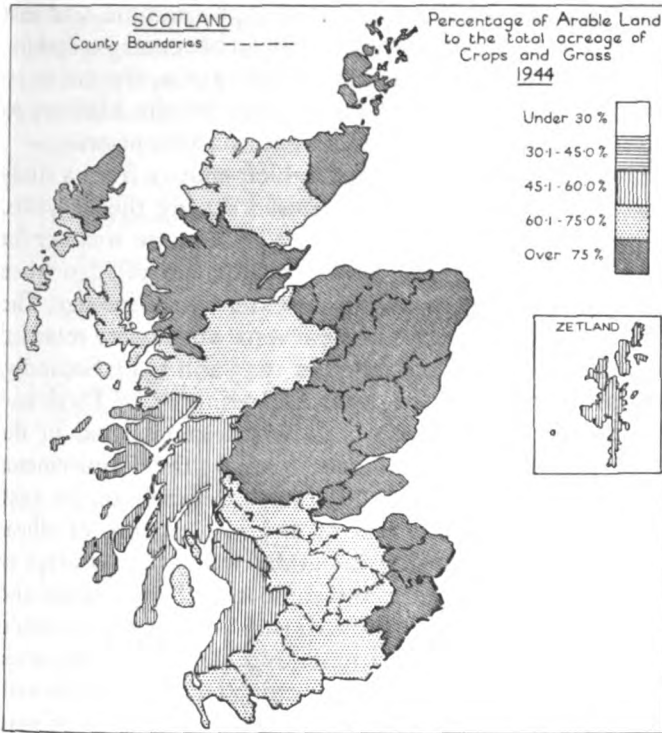


FIGURE 4
(continued)



The Ministry of Food's priorities, when the programme was first drawn up in January 1942, were potatoes, sugar beet and vegetables, with cereals as a secondary consideration; but, again, the cut in its import tonnage allocation in the spring of 1942 led the Ministry to remodel its programme and to restore wheat as a first priority.

There are some further general points which emerge from a study of the series of cropping programmes devised during the six years. Firstly, they were only once seriously upset by adverse weather for sowing or planting, the exception being the autumn of 1940 when rain in November held up the sowing of a greater wheat acreage. The same could not, however, be said of the harvests which were retarded in 1941 and 1942 and seriously damaged in 1943 and 1944. Secondly, by the third and fourth years of war, the Ministry of Food had become much more explicit both in its requirements and in the method of their presentation, and consequently the requirements were easier to fulfil. For example, the Ministry's demands on the 1942 harvest were for the food equivalent of $\frac{1}{2}$ – $\frac{3}{4}$ million tons of wheat above the 1941 harvest, including an additional 150,000 acres of potatoes, 55,000 acres of sugar beet, and some more beans, pulses and vegetables. Presented in this way, the Ministry's requirements could be transformed into practical programmes and allocated to the areas chosen for their production. Thirdly, as planning technique improved, the timing of the programmes improved. After the harvests of 1940 and 1941, planning for subsequent harvests started about eighteen to twenty months in advance of each harvest. By June or July of the previous year, it was possible, first, to announce how much permanent grass had to be ploughed up thus enabling the farmer to estimate his grazing potential and, second, to give a clear intimation in reasonable time of the desired winter wheat acreage; after these two issues had been settled, there was a reasonable interval of time, until as late as the January before the harvest in question, before the spring cropping had to be determined finally in the light of the latest shipping situation. This sort of time-table was best exemplified by the preparations for the 1943 crop.¹ Finally the integration of the crop and livestock production programmes became closer as food and feedingstuff supplies became scarcer and as the competition between humans and livestock for the dual-purpose crops – indeed, for the use to which arable land should be put – became correspondingly keener.

The chapters relating to events in each of the first five years of the war included many contemporary statistics since these provided bases on which decisions were made and policies were determined. It is readily understandable that under war conditions, data had to be collected hurriedly and were often incomplete. Some of the current estimates, such as those about the areas of grassland ploughed up in

¹ p. 180 *et seq.*

each year, were sometimes optimistic. The following summary¹ brings together the more important cropping targets set up for each of the first five harvests of the war and indicates the hits and misses using the revised statistics included in Appendix Table IV:²

| <i>Target</i> | <i>Achievement</i> |
|---|--|
| <i>The 1940 harvest</i> | |
| (i) Some 2 million acres of grassland to be ploughed up, compared with 1939: | the area of permanent grass was reduced by 1,700,000 acres, and of temporary grass by 230,000 acres, and the total area of crops other than grass was increased by 1,674,000 acres. ³ |
| (ii) More wheat, potatoes and fodder crops, including oats and barley (an increase not specified): | the wheat increase was disappointing (43,000 acres) due in part to the poor autumn, but the increase in potatoes was sufficient to meet the country's requirements in 1940-1 and the area of fodder crops, including oats and barley, rose by 1,355,000 acres. |
| <i>The 1941 harvest</i> | |
| (i) A further 2.2 million acres of grassland to be ploughed up: | the area under permanent grass was reduced by 1,970,000 acres and of temporary grass by 336,000 acres, a total of 2,206,000 acres. |
| (ii) An increase of 200,000 acres of potatoes to bring the total to 1 million acres: | the actual increase was 291,000 acres. |
| (iii) 340,000 acres of sugar beet in England and Wales: | the actual area achieved was 340,000 acres. |
| (iv) 40,000 acres of flax in England and Wales: | some 32,500 acres were grown, as against 15,400 acres in 1940. |
| <i>The 1942 harvest</i> | |
| (i) A reduction in the area of permanent grass by 1,975,000 acres: | the area of permanent grass was reduced by a further 1,408,000 acres but that of temporary grass increased by 310,000 acres. |
| (ii) An additional 150,000 acres of potatoes, 55,000 acres of sugar beet, 42,000 acres of flax, and unspecified increase in beans, pulses and vegetables: | the actual increases were 181,000 acres and 74,000 acres respectively of potatoes and sugar beet, but the acreage of flax declined by 10,000 acres, an increase of 7,000 acres in Great Britain being offset by a decline of 17,000 acres in Northern Ireland. |
| (iii) A net increase equivalent to $\frac{1}{2}$ - $\frac{3}{4}$ million tons of wheat compared with the 1941 harvest: | the actual increase was equivalent to almost $1\frac{1}{2}$ million tons of wheat. |

¹ Statistics relate to the United Kingdom unless otherwise stated.

² p. 373.

³ There was a net decrease between 1939 and 1940 of 240,000 acres in the area of land used for agriculture; much of this was taken for use by the Services.

| <i>Target</i> | <i>Achievement</i> |
|--|--|
| <i>The 1943 harvest</i> | |
| (i) A further 960,000 acres of grass-land to be ploughed up: | 1,376,000 acres of permanent grass were ploughed up but 356,000 acres were added to the area under rotation grasses, a net decrease of over 1 million acres in grassland. |
| (ii) A further 620—660,000 acres of wheat, 295,000 acres of barley, 125,000 acres of potatoes and small increases in rye, vegetables and flax: | the increases in the first three amounted to 948,000 acres, 258,000 acres and 87,000 acres respectively. |
| (iii) An increase of 1—1½ million tons of wheat equivalent above the 1942 harvest or 1¾—2 million tons over the 1941 harvest: | the result was an increase of 1½ million tons – 3 million tons more than from the 1941 harvest. |
| <i>The 1944 harvest</i> | |
| (i) 700,000 acres of grass to be ploughed up: | the area of permanent grass was reduced by another 595,000 acres, but a further 506,000 acres of arable land was sown to temporary grass, so that the area under crops other than grass remained much the same as in 1943. |
| (ii) A further 70,000 acres of potatoes, the maintenance of the sugar beet acreage, the area under vegetables to be 422,000 acres, and a further unspecified increase in bread corn (wheat, barley and rye): | the area under potatoes increased by 26,000 acres and that under sugar beet by 14,000 acres; the vegetable acreage increased to 504,000 acres, the area of bread grains declined by 66,000 acres. |

The Government must have been well satisfied with such achievements; the only serious divergence from its plans did not occur until 1944–5 when the tillage area and the acreage of wheat both fell short of their target. But during the war years, the most important objectives were in general attained, if not exceeded; the production of human food – bread grains, potatoes and sugar beet – usually came up to the Ministry of Food's requirements, even in 1943–4 when its demands were heaviest.

The percentage increases in the acreages and the output of different crops are given in Table 16. By 1943, the peak harvest of the war, the acreages of potatoes, barley and wheat had almost doubled, those of oats and vegetables had been increased by a half, and the area of fodder crops had risen by a third. The area of sugar beet, limited to a great extent by factory capacity, had increased by over one-third. For the two harvests of 1943 and 1944, farmers had increased the total area of crops other than grass by 63 per cent.; the

Table 16. Index Numbers of the Acreages, Livestock Numbers and Output of the Principal Agricultural Products in the United Kingdom, 1940-5 (1936-7 to 1938-9=100)

| Crops | Acreages (June Census) | | | | | Crops | Harvest Output | | | | | | |
|--------------------------------------|------------------------|------|------|------|------|-------|------------------------|------|------|------|------|------|------|
| | 1940 | 1941 | 1942 | 1943 | 1944 | | 1945 | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 |
| Wheat | 97 | 122 | 136 | 187 | 173 | 123 | Wheat | 99 | 122 | 155 | 209 | 190 | 132 |
| Barley | 144 | 159 | 164 | 192 | 212 | 238 | Barley | 144 | 150 | 189 | 215 | 229 | 276 |
| Oats | 141 | 164 | 172 | 153 | 152 | 136 | Oats | 149 | 167 | 183 | 158 | 152 | 167 |
| All Grains | 129 | 156 | 166 | 180 | 177 | 165 | All Grains | 132 | 155 | 182 | 195 | 186 | 179 |
| Potatoes | 115 | 156 | 180 | 192 | 196 | 193 | Potatoes | 131 | 164 | 193 | 202 | 187 | 201 |
| Sugar beet | 98 | 105 | 127 | 124 | 129 | 124 | Sugar beet | 116 | 118 | 143 | 137 | 119 | 141 |
| Vegetables | 109 | 135 | 152 | 152 | 181 | 164 | Vegetables | 110 | 122 | 156 | 133 | 144 | 137 |
| Fodder crops | 98 | 127 | 133 | 135 | 140 | 132 | Fodder crops | 98 | 127 | 133 | 135 | 140 | 132 |
| All crops other than grass | 116 | 142 | 153 | 163 | 163 | 155 | — | — | — | — | — | — | — |
| Rotation grass | 93 | 85 | 92 | 100 | 113 | 128 | — | — | — | — | — | — | — |
| Permanent grass | 91 | 81 | 73 | 66 | 63 | 63 | — | — | — | — | — | — | — |
| All grass | 91 | 81 | 77 | 72 | 72 | 75 | — | — | — | — | — | — | — |

| Livestock | Numbers (June Census) | | | | | Livestock | Output (June-May) | | | | | | |
|--------------------------------|-----------------------|------|------|------|------|-----------|-----------------------------|--------|--------|--------|--------|--------|--------|
| | 1940 | 1941 | 1942 | 1943 | 1944 | | 1945 | 1940-1 | 1941-2 | 1942-3 | 1943-4 | 1944-5 | 1945-6 |
| Cattle, dairy | 100 | 101 | 106 | 110 | 111 | 110 | Milk | 90 | 88 | 93 | 96 | 97 | 100 |
| Other | 109 | 105 | 103 | 104 | 108 | 111 | Liquid milk sales | (121) | (129) | (140) | (144) | (148) | (158) |
| Sheep, breeding ewes | 98 | 85 | 81 | 75 | 74 | 75 | Beef and Veal | 97 | 73 | 83 | 83 | 92 | 93 |
| Other | 105 | 88 | 85 | 82 | 81 | 80 | Mutton and Lamb | 108 | 89 | 89 | 79 | 72 | 69 |
| Pigs, breeding sows | 86 | 45 | 46 | 34 | 47 | 45 | Pigmeat | 87 | 38 | 35 | 32 | 35 | 38 |
| Other | 93 | 59 | 48 | 42 | 41 | 49 | Eggs | 90 | 75 | 57 | 51 | 54 | 63 |
| Poultry | 93 | 81 | 76 | 66 | 72 | 82 | | | | | | | |

acreage of grain had been increased by 79 per cent., potatoes by 94 per cent., sugar beet by 27 per cent., and vegetables by 67 per cent. compared with pre-war. The increases in output were very similar though they reflected to a greater extent than the changes in acreage the influence of the weather; the output of grain in 1943 and 1944 averaged 91 per cent. higher than before the war, potatoes 95 per cent., sugar beet 28 per cent. and vegetables 39 per cent.

Part of the increase in crop production was required for livestock production to make good the decline in imported feedingstuffs and the reduction in grazing and hay; but in spite of this the amount of home produced human food that came from the arable land far exceeded the pre-war contribution. The increase in the supplies of food for direct human consumption from the six war-time harvests over this pre-war level was as follows:

| | <i>million tons</i> |
|--------------------|---------------------|
| Wheat | 5.4 |
| Barley | 2.1 |
| Oats | 1.1 |
| Rye | .2 |
| Potatoes | 8.9 |
| Raw sugar | .4 |
| Vegetables | 3.9 |

They totalled 22 million tons, a very appreciable contribution to the national efforts to save shipping.¹

Table 17. Supplies of Imported Feedingstuffs in the United Kingdom, June-May Years, Pre-war to 1944-5.

| | 1936-7 to 1938-9 | 1939-40 | 1940-1 | 1941-2 | 1942-3 | 1943-4 | 1944-5 |
|--|------------------------|---------|--------|--------|--------|--------|--------|
| Cereals and cereal products | 5,007 | 3,580 | 1,852 | 421 | 69 | 62 | 236 |
| Oilcakes and meals | 635 | 520 | 294 | 113 | — | 4 | 99 |
| Others | 588 | 617 | 286 | 153 | 78 | 90 | 86 |
| Total feedingstuffs imported as such | 6,230 | 4,717 | 2,432 | 687 | 147 | 156 | 421 |
| By-products from imported wheat | 1,426 | 1,540 | 1,471 | 847 | 485 | 405 | 540 |
| By-products from imported oilseeds | 1,067 | 991 | 655 | 832 | 713 | 764 | 702 |
| Total | 8,723 | 7,248 | 4,558 | 2,366 | 1,345 | 1,325 | 1,663 |

The changes in livestock production were, both directly and indirectly, the result of changes in the shipping situation. Firstly,

¹ This gross increase in the output of crops for human food was, of course, offset to some extent by the reduction in the gross output of livestock and livestock products.

there was the direct cut in imports of animal feedingstuffs, wheat and oilseeds whereby the total imported supplies of feedingstuffs were reduced from an average of 8.7 million tons in the three pre-war years to 1.3 million tons in 1943-4 (Table 17). Feedingstuffs imported as such were reduced from 6.2 million tons to a mere 156,000 tons in 1943-4, while the by-products from imported wheat and oilseeds fell from 2.5 million tons to 1.2 million tons. Subsequently, the raising of the flour extraction rate from 76 per cent. to 85 per cent. in April 1942 and the decision to dilute wheat flour with flour from other grains between January and November 1943 in order to achieve further shipping economies made further inroads into the diminishing supplies of feedingstuffs. By the fourth summer of the war, the area of permanent grass had fallen by 33 per cent. though that of rotation grass had recovered to its pre-war level. This net reduction of 28 per cent. in grazing, accompanied by a decline of 14 per cent. in the hay output, also had a serious effect on livestock production.

Though there was an increase in supplies of home-grown barley, oats, potatoes, fodder crops, and seed hay which were available for livestock, this was barely sufficient to offset the reduction in wheat available for livestock feeding, the meadow hay and the grazing from both permanent and rotation grassland. The total available supply of feedingstuffs, in terms of starch equivalent, probably fell by some 25-30 per cent. between the pre-war years and 1943-4, the reduction in concentrates being possibly as much as 50 per cent. and in fodder crops, hay and grazing about 20 per cent.

Under these circumstances it is not surprising that the output of livestock products declined during the war years and that the reductions in pigmeat and eggs were the most severe. The output of milk in 1943-4 was 4 per cent. below pre-war, of beef and veal 17 per cent., mutton and lamb 21 per cent., eggs 49 per cent. and pigmeat 65 per cent.¹ That the fall was not greater must be attributed to greater economy in the use of concentrates and fodder and to the better management and utilisation of the diminished area of grassland.

These relative changes were not unexpected. The general livestock policy had always been to encourage the production of livestock and livestock products until a shortage of feedingstuffs impelled a cut in output. The maintenance of the milk output was to receive the highest priority, since the cow was the most economical converter of vegetable foods into livestock products and since milk had a high nutritional value, particularly for children, at a time when other protein foods were so scarce; cattle and sheep, in view of their close relationship with soil fertility and their ability to live on grass and to utilise the by-products of arable farming, were to be kept in so far

¹ Table 16, p. 237.

as feedingstuffs were available after the requirements for milk production had been met. The full impact of the reduction in feedingstuffs was to fall on pigs and poultry; they were consumers of grain that, for the most part, could be used directly by human beings and they could not eat grass, the principal home-grown feedingstuff. These orders of preference varied slightly from time to time but were, in fact, observed throughout the war with one defect – the failure to maintain the total output of milk; by 1941–2, production had fallen by 12 per cent. and though it recovered thereafter, it was still in 1944–5 below the pre-war level. Fortunately, from the point of view of the Ministry of Food, this failure was not so serious as it might have been, since a reduction in the amount of milk fed to stock on the farm or manufactured into milk products more than compensated for the declining output; consequently the sales of milk for human consumption off the farm became greater, until, in 1944–5, they were 48 per cent. above the level of sales before the war.

It will be noted from the figures in Table 16¹ that in general the output of livestock products fell further than the numbers of livestock during the war years. There is probably some justification for the criticism that too much stock was being carried and that more stringent culling might have resulted in a greater output of product for the same quantity of feedingstuffs; but this argument was oversimplified and the ‘wastage’ which would result from such a situation was probably exaggerated. In the first place, it was desirable to maintain a minimum level of breeding stock, particularly of pigs and poultry; in the second place – and this applied especially in the case of dairy cattle – it was by no means certain that the low yielding animals might not be more economic under certain conditions than high yielders; finally the shortage of concentrated feedingstuffs in general and of particular types of feedingstuffs inevitably led to a lengthening of the feeding period which automatically lowered the ratio of output to numbers of livestock carried.

(ii)

Measurements of the Achievement

There are a number of ways in which the great increase in crop production and the decrease in the output of livestock and livestock products can be measured. The choice of method used to give this aggregate picture of the changes in the output of British farming depends to some extent on which aspects of the achievement are to be emphasised. What savings in shipping were achieved by the

¹ p. 237.

expansion of British farming? What was the total increase in home food production? What was the increase in gross output? How much of this increase was due to this country's own efforts and how much was due to help from overseas farmers in the form of feedingstuffs, store-stock and seeds? What was the increase in net output due to the industry's own efforts without the help of other industries in this country and others by the provision of machinery, fertilisers and the like?

Estimates of the amount of shipping saved must be an extremely vague standard; a comparison of the tonnage of imports during the war compared with pre-war gives only a rough indication of the economies achieved; it does not indicate what saving is to be credited to the consumer who during the war is prepared to eat less¹ or to consume more wheat and potatoes and fewer imported livestock products, a change which in itself brings about a considerable saving of shipping space. The pre-war average diet derived about 36-37 per cent. of its energy from livestock products, whereas the proportion had fallen to about 30 per cent. at the end of the war. This in itself might save as much as 20 per cent. in the acreage required to provide the civilian diet.² The general policy of the Government and later of the Combined Food Board was to increase in this country the production of the relatively bulky foods of high food value (in terms of calories) and to use the reduced shipping space to import those complementary foods which economised in shipping such as dried milk and eggs, or foods of low food value such as meat.

If, however, a rough measure is required it can be obtained from the decline in the total imports of foods and feedingstuffs. Over the six years, 1940 to 1945, the total imports amounted to 80 million tons; had it been necessary to continue imports at the pre-war level of 22½ million tons a year, less possibly some 2 million tons of pre-war imports which might be classed as luxury or semi-luxury goods, then some 123 million tons of imports might have been necessary. On this basis there was a saving of imports over the six years amounting to 43 million tons.

¹ The level of civilian food consumption dropped as much as 8 per cent. in 1940 but had recovered to within 2 per cent. of the pre-war level by 1944:—

| | Calories per head per day |
|-------------------|------------------------------|
| Pre-war | 2,984 |
| 1940 | 2,772 |
| 1941 | 2,795 |
| 1942 | 2,864 |
| 1943 | 2,827 |
| 1944 | 2,923 |

Food Consumption Levels in the United States, Canada and the United Kingdom, First and Second Reports by the Combined Food Board; 1944. *The Impact of the War on Civilian Consumption*, H.M.S.O., 1945.

² 'Supplies and Prices: Notes and Statistics'. *The Farm Economist*, Vol. VII, No. 2, p. 87, Agricultural Economics Research Institute, 1952.

Another yardstick of achievement is the increase in the amount of food produced at home, in terms of either calories or proteins. Before the war the annual output of British farming represented some 18.7 milliard calories; by 1943-4 it had reached 29.0 milliard calories, an increase of 55 per cent. (Table 18). But this calculation of the gross output of calories underestimates the contribution of British agriculture; whereas some 4 milliard calories of the pre-war output were dependent on imported feedingstuffs, livestock and seeds, less than 1 milliard calories of the war-time output were derived from imported resources. The net output of British farm products may, therefore, be assumed to have risen from 14.7 milliard to 28.1 milliard calories, an increase of 91 per cent.

Table 18. Gross and Net Output of Calories from British Agriculture, 1938-9 to 1943-4

| Year | Gross output | Output dependent on imported feedingstuffs | Net output | Index numbers | |
|---------|--------------|--|------------|---------------|------|
| | | | | Gross | Net |
| | | | | 1938-9 | 18.7 |
| 1939-40 | 19.7 | 3.3 | 16.4 | 105 | 110 |
| 1940-1 | 20.6 | 2.1 | 18.5 | 110 | 125 |
| 1941-2 | 21.5 | 1.5 | 20.0 | 115 | 136 |
| 1942-3 | 25.6 | .8 | 24.8 | 137 | 168 |
| 1943-4* | 29.0 | .9 | 28.1 | 155 | 191 |

* Unofficial estimate.

Before the war, some 30 per cent. of the United Kingdom's annual requirements of calories were home-produced; at the peak of the war effort in 1943-4 this figure had risen to 40 per cent.¹

If similar calculations are made for the output of proteins, the percentage increases in the gross output of these are almost identical to those of calories. But owing to the relatively greater reduction in the protein content of imported feedingstuffs, the increase in the net home output of proteins was greater than that of calories; it was approximately 82 per cent. in 1942-3 and about 106 per cent. in 1943-4.

Changes in the value of the sales off farms in the United Kingdom are a further measure of changes in output. The gross value of such sales averaged £302 million in the two pre-war years and £619 million in 1943-4, an increase of 105 per cent. This reflects a change in prices more than a change in output and adjustment can be made by using constant prices in estimating the value of total sales. If this

¹ 'Supplies and Prices: Notes and Statistics'. *The Farm Economist*, Vol. VI, No. 10, p. 329, Agricultural Economics Research Institute, 1951.

is done at, say, 1945-6 prices, the increase in gross output is reduced to 5 per cent. But the same objections can be raised to the use of gross figures as in the case of the caloric output. Estimates of net output are therefore needed. The Ministry of Agriculture's official index of net output makes allowance for imported feedingstuffs, store-stock and seed, and gives one measure of the changes in the physical output or the quantum of Britain's home agricultural industry. According to this index, the net output in the peak year 1943-4 rises to 25 per cent. above the pre-war level. In other words, one of the most notable achievements of British farming was to increase its output while making good the reduction of 85 per cent. in the imports of feedingstuffs and the cut in imports of store-stock and seeds.

The Ministry of Agriculture's index of net output makes allowance for only a restricted range of import items derived from overseas farming - imported feedingstuffs, store-stock and seed. The revised measure of net output in Table 19 takes into account an additional

Table 19. Index Numbers of the Value (at constant 1945-6 prices) of the Gross and Net Output of Agriculture in the United Kingdom (1936-7 to 1938-9=100)

| | Pre-war | 1939-40 | 1940-1 | 1941-2 | 1942-3 | 1943-4 | 1944-5 |
|------------------------------------|---------|---------|--------|--------|--------|------------------|--------|
| Gross output ¹ . . . | 100 | 105 | 99 | 92 | 103 | 105 ⁴ | 102 |
| Net output ² . . . | 100 | 108 | 111 | 105 | 120 | 125 ⁴ | 120 |
| (Ministry of Agriculture index) | | | | | | | |
| Net output ³ . . . | 100 | 104 | 106 | 98 | 111 | 115 | 108 |
| (Revised) | | | | | | | |

category of items such as the use of machinery, fuel, fertilisers and lime which are the products of other industries; this second measurement of net output is therefore a more accurate measure of the changes in economic productivity due to the unassisted efforts of the agricultural industry itself. The comparison in the above table between the Ministry of Agriculture index and this revised index shows that much of the increase in agricultural output can be attributed to the increased use of machinery, fertilisers and lime. If allowance is made for the assistance of all these outside factors, then the residual increase in net output must be credited to the additional effort of farmers and agricultural workers and to their willingness and

¹ *Agricultural Statistics: United Kingdom. Part II, 1939-40 to 1945-6*, p. 30, H.M.S.O., 1949.

² H. of C. Deb., Vol. 484, Col. 2292, 1st March 1951.

³ H. T. Williams, 'Changes in the Productivity of Labour in British Agriculture', *Journal of the Agricultural Economics Society*, Vol. X, No. 4, March 1954, p. 338.

⁴ The increase in the output of Scottish agriculture was more than twice as great as in the rest of the country. In 1943-4, the index numbers of gross output and net output were 112 and 142 respectively, compared with 105 and 125 for the United Kingdom. O. J. Beilby, 'The Agricultural Output of Scotland', *Scottish Agricultural Economics*, Vol. II, p. 10, 1951.

ability to adopt new systems and techniques of farming.¹ According to this revised index the true net output in 1943-4 was 15 per cent. above the pre-war level. It must be remembered that this increase in agricultural output was achieved in spite of a loss of almost 800,000 acres of agricultural land between the three pre-war years and 1943-4.² Moreover, both measures of net output underestimate the increase in food output since the war-time changes required an increase in the lower-valued foods such as grains and potatoes at the expense of the higher-valued meat, eggs, dairy products, luxury fruits and vegetables, and the like; but they do not underestimate the achievement so much as the calculations of calorie or protein output overestimate it.

A comparison of achievements in the First and Second World Wars brings out the remarkable change that had taken place in the organisation and technique of crop production. In spite of the fact that the agricultural area in Great Britain and Northern Ireland in 1943-4 was $3\frac{1}{4}$ million acres (10 per cent.) less than in 1918, the output in 1943 was greater than in 1918 by the following amounts:

| | <i>000 tons</i> |
|----------------------------------|-----------------|
| Wheat, barley and oats | 1,002 |
| Potatoes | 3,281 |
| Vegetables | 1,207 |
| Fodder roots | 5,538 |
| Sugar beet | 3,760 |

a total in 1943-4 of 14.8 million tons more than in 1918. These crop results were accompanied, too, by a substantially higher production of milk as reflected in the comparative figures of dairy herds; the number of dairy cattle in 1944 was about 33 per cent. higher than in 1918. These increases were due not so much to higher crop yields per acre as to the greater proportion of the area that was under crops other than grass or fallow. Moreover, the intensified effort was maintained for over six years whereas it was probable that it could not have lasted more than two years in the First World War. Such results were a testimony to the advance between the two wars in the knowledge of methods of maintaining soil fertility and in farm management, as well as to the more successful formulation and implementation of agricultural policy during the Second World War.

By 1918-9, the peak of the effort resulting from the First World War, the net output of calories had been increased by about 24 per cent., compared with the years before the war; in the Second World War, the same increase had been achieved by the second harvest of the war and by 1943-4 this increase had been quadrupled.

¹ The fluctuations from one year to another in the net output index reflect markedly the goodness or badness of yields due to such factors as weather, disease, etc.

² Before the war, the three Service Departments held about 140,000 acres of agricultural land; by July 1942 this had been increased to 903,000 acres.

(iii)

Domestic Food Production during the War

The account of the changes in food production during the war would be incomplete if it did not refer to the remarkable expansion in domestic food production that took place at the same time; allotments and gardens, backyard poultry, pig clubs and the like all made their contribution. The organisation of domestic food producers had been achieved by voluntary bodies in the pre-war years; but the need to increase their activities and to finance their growing responsibilities led to a closer association between the Ministry of Agriculture and the existing organisations and to the institution of new ones.

In August 1939 the Minister of Agriculture launched the 'Grow More Food Campaign' which eventually became better known by its sub-title of 'Dig for Victory'. From the beginning the Minister used the National Allotments Society to assist in this scheme, for the Society had affiliated to it numerous organised bodies of allotment holders in urban and, to a lesser extent, rural areas. At the beginning of 1941, the Minister organised the Small Pig Keepers' Council to encourage the keeping of pigs by householders and cottagers and to encourage the utilisation of household and garden waste for pig-feeding. Two months later the Minister established the Domestic Food Producers' Council to stimulate allotment and garden production and other forms of domestic food production; this organisation in turn recommended in September 1940 the setting up of a Domestic Poultry Keepers' Council,¹ as a parallel to the Small Pig Keepers' Council. Having shed itself of responsibility for smaller livestock, the Food Producers' Council became the Allotments and Gardens Council.

Organisation for rural and semi-rural areas presented special problems on account of the wide dispersal of producers and their different requirements. At the request of the Minister of Food, the National Federation of Women's Institutes made arrangements for the movement of surplus fruits and vegetables from rural areas to urban centres; this scheme, which had involved the formation of a large number of County Garden Produce Committees, lost some of its point after the evacuation of urban dwellers into the country districts which in itself remedied the problem of surpluses in many areas but it continued to perform its valuable services in many parts of the country. Responsibility for these Produce Committees was later transferred to the Minister of Agriculture who entrusted to them the task of achieving greater domestic production in rural areas, and their number was increased under the aegis of interested organisations

¹ To become responsible later for domestic rabbit production.

such as the National Federation of Women's Institutes, the National Council of Social Service and the National Allotments Society. An advisory committee, the County Garden Produce Central Committee, under the chairmanship of Lord Bingley, was set up in March 1941 to supervise and co-ordinate the work. Village Produce Associations were formed as the ultimate link with the producer where no comparable organisation existed already; these Associations covered all forms of domestic production, though poultry and rabbit keepers and pig keepers continued to look for specialist advice to their respective Councils. Thus was established an administrative and advisory network throughout both urban and rural areas by means of which the policy of the Ministry of Agriculture and the Central Committee could be made effective and through which the Dig for Victory campaign could be put into practice.

Meantime Local Authorities had been given powers by virtue of the Cultivation of Land (Allotment) Orders, 1939¹ and 1941,² to take possession of any unoccupied land which could conveniently be used as allotments. In addition, under Defence Regulation 62A, they were permitted to use for allotment purposes any land in their own occupation, such as parks and open spaces, without regard to restrictive agreements.

Finally, the most intensive propaganda campaign was inaugurated to induce the will to dig. The Ministry of Agriculture had been assiduous in its dispersal of information, advice and encouragement in the launching of many of its schemes, e.g., the feedingstuffs rationing scheme of 1941 and the intensive milk production drive of 1942, but it surpassed itself in the Dig for Victory Campaign. In the four months after Mr. Hudson launched the main drive at the Mansion House on 10th September 1940, 7,600 demands for publicity material were received from Local Authorities. Five million publications including 'stickers' posters, propaganda leaflets and even 'Some Notes for Sermons' were issued during the year in response to widespread demands. From 1941 onwards no single medium was neglected; regional meetings were organised; about 1,000 Dig for Victory Weeks were held throughout the country;³ three million leaflets on advice on growing vegetables all the year round, ten million instructional leaflets (in 1942 alone) and two million cropping charts were distributed; Brains Trusts and radio talks by radio personalities were used widely; shows, demonstration plots, and every conceivable form of exhibition were organised throughout the country. Nothing was left undone which ought to have been done.

¹ S.R. & O., 1939, No. 1316; S.R. & O., 1939, No. 1651 (S. 118).

² S.R. & O., 1941, No. 1431; S.R. & O., 1941, No. 783 (S. 27).

³ As late as 1946, Britons were still avidly and hopefully digging for victory, but in 1947 the slogan was altered to 'Dig for Plenty' and the scheme was brought to an end in 1951.

DOMESTIC FOOD PRODUCTION DURING THE WAR 247

The results can be seen in the growth in the number of allotments:

| Year | Number | Acreage |
|----------|-----------|---------|
| 1939 . . | 814,917 | 95,700 |
| 1940 . . | 1,044,829 | 116,877 |
| 1941 . . | 1,365,740 | 138,096 |
| 1942 . . | 1,451,888 | 142,808 |
| 1943 . . | 1,399,935 | 136,820 |

It is impossible accurately to assess the amount of food grown by these Victory diggers but it is estimated that in England and Wales alone some 2½ to 3 million tons of food were produced from allotments and gardens.

The schemes to encourage the keeping of domestic pigs, poultry and rabbits – to avoid the loss of kitchen and garden waste – were also successful and, at times, embarrassingly so in the light of the subsequent shortage of cereal feedingstuffs. The number of clubs registered with the Small Pig Keepers' Council increased steadily from the date of its foundation in 1941 to 6,900 in 1945, representing the ownership of 142,000 pigs; it was estimated that there were also about 50 per cent. more domestic pigs being fed outside the scheme.

Table 20. Estimated Numbers of Fowls in Domestic Flocks and the Number of Pigs Slaughtered on Holdings of less than One Acre in the United Kingdom, † in Pre-war Years and from 1939-40 to 1944-5 ‡*

| | Pre-war | 1939-40 | 1940-1 | 1941-2 | 1942-3 | 1943-4 | 1944-5 |
|------------------------------------|---------|---------|--------|--------|--------|--------|--------|
| Number of fowls (000's) | 5,212 | 6,470 | 8,371 | 10,041 | 9,266 | 8,808 | 10,772 |
| Egg output (millions) | 650 | 727 | 800 | 917 | 829 | 791 | 970 |
| Number of pigs slaughtered (000's) | 272 | 234 | 260 | 307 | 318 | 353 | 323 |

* Pigs kept by self-suppliers on holdings of more than 1 acre are included in Appendix Table IV.

† Under ½ acre in Northern Ireland.

‡ *Agricultural Statistics: United Kingdom*, Part II, pp. 46 and 51, H.M.S.O., 1949.

The Domestic Poultry Keepers' Council had some 791,000 members at the end of its first year of existence, and by 1945 this number increased to 1,369,000 members owning some 12 million birds; a further million birds were included in two smaller organisations. In 1943-4 the egg output from domestic flocks was 69 per cent. above the pre-war level and formed about 25 per cent. of the total number of eggs produced in the whole country. The output of pigs had increased by 30 per cent. – at not too great an expense in purchased feedingstuffs – while the output from commercial farms had fallen by 74 per cent. There is little doubt that the output of domestic pigs and poultry would have been even greater if the raising

of the flour extraction rate in April 1942 and its dilution with barley in January 1943 had not necessitated a severe cut in rations for these backyard pigs and poultry. In July 1942 the issue of 'balancer' meal for domestic poultry keepers was restricted by limiting it to the supply for one hen in return for each egg coupon surrendered from a ration book; and in September rations for domestic pigs were halved.

By whatever units of measurement are used, the increase in the output of British farming was very remarkable, both in the rapidity with which it was achieved and in its amount. The limitation in the resources available to the farmer have already been emphasised – that is, the loss of some 800,000 acres of arable land for aerodromes, factories and other non-farming uses between 1939 and 1945, the decline in the numbers of regular male workers, and the shortages of feedingstuffs, machinery and fertilisers. Moreover, farming had just emerged from many years of severe depression. In the light of these circumstances, an increase in the net output of farming whether it be taken as 91 per cent., the nation's effort in terms of food, or as 15 per cent., the farmers' unaided efforts in terms of economic productivity, was no mean achievement, both in itself and in comparison with what had happened twenty-five years earlier.

CHAPTER X

CHANGES IN THE STRUCTURE AND TECHNIQUE OF FARMING

NONE OF the 355,000 regular farmers in the United Kingdom and few, if any, of the other 190,000 farmers to whom farming was not a full-time occupation can have carried on with their pre-war system of farming or persisted in their habitual farming methods. Each must have adapted his farm, in his individual way, to meet the new circumstances dictated by the war. This chapter can cover only some of the major changes in the structure of British farming, the resultants of millions of adjustments undertaken by over half a million farmers. Similarly, it can merely note a few of the many changes in the technique of farming, the alterations in the ways in which farmers carried out the day to day operations on the farm. These adjustments have been grouped for purposes of description into three main categories:

1. Changes in crop production,
2. Changes in livestock production,
3. Changes in the use of labour and machinery.

The main changes in land utilisation and in the nature of the agricultural output have already been outlined. Firstly, there was the increase of over 5½ million acres of tillage crops, 4 million additional acres of grain and 1½ million of fodder crops, as the result of ploughing up some 7 million acres of permanent grass. Secondly, there was the reduction in the output of livestock products and the increase in the output of crops, so that the farming income from livestock products fell from 71 per cent. of the total in pre-war years to 50 per cent. in 1943-4, while that from crops rose from 15 per cent. to 30 per cent.

(i)

Crop Production

The most significant war-time change in British farming was the use of grassland. At the beginning of the war there were some 22.8 million acres of grassland in the United Kingdom of which 82 per

cent. was permanent grass and only 18 per cent. was in rotation grass.¹ By 1943-4 there were 6.3 million acres less grassland, the reduction being entirely at the expense of permanent grass. At first, all this land went into crop production but, by the end of the war, land was being laid down to grass at almost the same rate as grassland was being ploughed up.

The grassland campaign was characterised by three distinct phases; first, there was the period of 1939 and 1940 when tillage was increased mainly at the expense of old pasture; the second phase saw further encroachment on the permanent grassland but this now tended to be 'pivoted' round ley or rotation grassland. The third phase began in the 1942 harvest when it became evident that some areas were becoming exhausted after three years of continuous cropping; under war-time conditions the re-seeding of the land to short-term leys appeared to offer the best solution to the problem of impoverished soils and much land was sown with rotation grasses and clovers; between 1941 and 1945 the area of temporary pastures rose from 3.8 million acres to 5.3 million acres. The foundations were being laid for the extension of alternate husbandry – the wider adoption of ley farming and the greater use of rotation or temporary grasses. This development, which promised to be so significant for post-war farming, called for fundamental changes in three of the main types of farming in the country – the arable, the mixed and the grassland farming areas.

Alternate husbandry had been practised in many parts of Britain before the war. In Scotland, particularly, clover and rotation grasses were very common and constituted just about one-half of the total area of grassland; rotation grass, too, comprised about one-half of all the arable land. In England and Wales, however, the proportions were only 12 per cent. and 22 per cent. respectively. In some areas, a strict rotation including temporary leys was followed all round the farm, and in other areas only part of the farm followed a strict rotation while certain fields, close in or peripheral, were worked under a modified rotation, including one-year or longer leys. The principal advantages of the system in war-time were the higher productivity of temporary as against permanent grassland; the maintenance of a high level of humus content and a good soil texture while permitting a higher proportion of arable crops into the rotation; a lower incidence of crop and stock disease and of losses from pests; a reduced loss of animal manurial residues through pasturing of livestock directly on the land; and a higher output per unit of labour employed. It also offered the highest degree of flexibility to meet changing circumstances. On the other hand, it undoubtedly called for a high measure

¹ The proportion of rotation grass to the total area of grass was 12 per cent. in England and Wales, 47 per cent. in Scotland and 35 per cent. in Northern Ireland.

of farming skill as well as a higher capital investment. The farmer required additional working capital for heavier stocking and for establishing the leys; additional funds were needed for water supplies, fencing, special implements and the adaptation of buildings, all of which amounted possibly to so much as £10 per acre.

The years of depression had been met in these regions primarily by lengthening the period of the ley and only a few of the heaviest or marginal fields had been laid down to permanent grass. The war-time adaptation in those areas where ley farming was already prevalent was generally to shorten the duration of the ley from, say, 4-5 years to 2-3 years, or even to 1 year.

In the principal arable farming areas soil fertility and texture had been maintained by the close association between the keeping of livestock and the output of arable crops such as wheat, barley, potatoes and sugar beet; fodder crops and the by-products of arable farming such as straw or sugar beet tops had been fed to yard cattle or to sheep and the manure returned to the land. As the numbers of livestock diminished during the war, increasing reliance had to be placed on the use of short-term leys. From the point of view of human food production, the shorter the ley the better; a one-year ley with a predominance of legumes was the ideal but the length had, in fact, to be determined by a multiplicity of factors, such as the type of soil, the numbers of livestock carried, the availability of labour, field water supplies, credit facilities and so on. One-year leys might be adequate in the intensive arable districts where sufficient livestock were available to utilise the by-products as in the Fen districts. But longer leys – a higher proportion of the arable area under rotation grasses – might be necessary to maintain soil fertility and structure on the lighter and less heavily stocked lands as in the barley-growing areas of Norfolk, Suffolk, the Wolds and Cotswolds, and on the medium loams of Shropshire, Hereford, West Sussex and the Lothians.

In the mixed farming areas, which constituted the largest aggregate acreage of farming land in England, the proportions of permanent pasture and arable had been fairly static. It was in these areas that so much of the grassland was 'ploughable' and had in fact been arable land which had been abandoned during the depressions of the 1920's and 1930's; and it was in these mixed farms that a large proportion of the additional 7 million acres of grassland originally considered to be capable of being put under the plough in war-time was to be found. Even after the 1942 campaign, there was still said to be a further 4½ million acres of easily ploughable land in England and Wales and a further 1 million acres in Scotland.

The all-grass farms were, as might be expected, the ones where the greatest difficulties had to be overcome. Typical areas were those in North Staffordshire, the Dales of Yorkshire and Durham, the Wealds

of Kent, Surrey and Sussex, parts of Leicester and Northampton, South Warwickshire and the Blackmore Vale of Dorset. The soils were inherently difficult to cultivate, the farms were ill-equipped for arable cultivation and the knowledge of the technique of arable farming had often died out.

Though the increased use of temporary leys developed to a greater or lesser extent in all parts of the country, the most marked substitution of alternate husbandry occurred in the arable and mixed farming systems.

By the fifth year of the war, a new point of equilibrium appeared to have been reached at which the area of grassland was becoming constant – the laying down of arable land to rotation grasses was keeping pace with the ploughing up of permanent grass. The area of arable land under crops other than grass was consequently well established and capable of being maintained at that level without undue loss of fertility. The wide adoption of ley farming had made this a probability rather than a mere possibility. By the end of the war it had become recognised through most parts of the United Kingdom that leys of varying duration could be introduced into all rotations – even on the heavier clay soils – that they raised the productivity of the farm, and that soil fertility and structure could be maintained thereby, even if the numbers of cattle and sheep declined further.

In practice the ploughing of permanent grassland for crop production and the establishment of temporary leys did not prove as difficult as had been feared and many of the expected troubles failed to materialise. Infestation by wireworm was the cause of crop failures in some districts but in many parts it was now discovered that what was formerly attributed to wireworm was due in the main to other faults such as deficiencies in lime or phosphates; cases were on record of excellent crops of cereals grown on soils with wireworm counts of over a million per acre. In other instances failures could be attributed to lateness in the season and bad cultivations; thus on the heavy Midland clays, it was essential to plough not later than the first week in June if a good seed bed was required for autumn sowing; in the early years this often proved unattainable because either the next year's cropping programme was delayed or there was a natural aversion on the part of farmers to plough up productive grazing so early in the season and when alternative feedingstuffs were so scarce.

Similarly, the establishment of leys was found in practice to be more certain than expected, provided soil deficiencies were corrected, a good seed bed was prepared and the seeds were drilled sufficiently early in the season.

One of the most unexpected features of war-time farming was the increase in the carrying capacity of grassland. The total area of permanent and temporary grassland in the United Kingdom had

been reduced by $6\frac{1}{2}$ million acres, or 28 per cent., between 1936-8 and 1944 but the numbers of grass-consuming stock had fallen by only 1 per cent.:

| | 1936-8 | 1939 | 1940 | 1941 | 1942 | 1943 | 1944 |
|--|--------|------|------|------|------|------|------|
| Area of grassland (million acres) | 22.9 | 22.9 | 21.0 | 18.7 | 17.6 | 16.5 | 16.4 |
| Index | 100 | 100 | 91 | 82 | 77 | 72 | 72 |
| Cattle, sheep and horses (million animal units)* | 10.6 | 10.8 | 10.9 | 10.4 | 10.4 | 10.4 | 10.5 |
| Index | 100 | 102 | 102 | 98 | 98 | 98 | 99 |

* 1 cow, 1.5 other cattle, 1 horse, 7 breeding sheep or 14 other sheep were taken as equivalent to one animal unit.

The area of grassland required per unit of stock had fallen by 30 per cent., from 2.1 acres to 1.5 acres, in spite of a reduction in ancillary feedingstuffs during a large part of the summer grazing season. While pastures in many parts of the country were not carrying stock to their full capacity in pre-war years – a symptom of agricultural depression and a shortage of capital – it is difficult to believe that they were understocked to the extent of 30 per cent., and there is general agreement that there was a marked improvement during the war in the productivity of grassland.

This may be attributed to a number of changes in grassland management. There was the increased proportion of temporary leys which were generally more productive than permanent grassland; improved strains of grasses and clovers were used more widely; seed mixtures, either special-purpose or general-purpose, became simpler and seedings became lighter; better drainage, liming and the greater use of fertilisers lengthened the grazing season and improved grass yields; and the manuring of grassland became commoner. The reduction in the area of grassland led to greater care in its management; strip grazing and the conservation of seasonal surpluses as silage, dried grass or *good* hay, improved the feeding value of grassland; heavier grazing in itself had a beneficial effect on grassland. The laying-on of water supplies, stimulated since 1941-2 by a grant of up to 50 per cent. of the cost of approved work, increased the grazing area on most farms and thereby increased their fertility. The poorer area grazings were often the first to be ploughed. Finally the introduction of better tractors and machinery and implements for the cultivation of grassland was also an important factor, particularly on the heavier soils. There was, however, a frequent claim that a greater and wiser use of phosphates and possibly of nitrogen, if they had been available, would have increased the productivity of grassland still further.

There was one further development during the war that was significant – the growth of direct re-seeding of grassland. Traditionally, grass was generally sown with a nurse crop but successful experiments had shown that grass seed could be sown alone. This was not a favoured practice in peace-time but it proved useful in war as a rapid means of getting a higher production from some fields so that others might be ploughed for arable cropping.

There were few innovations in the types of crops grown during the war years; the principal one was the growth of flax in areas where it had been unknown. The fibre was required by the Ministry of Supply and the extension of flax growing formed a small but important part of the production programmes; subsequently as the supplies of protein feedingstuffs became smaller, attention was turned to the production of linseed. The total area of flax for fibre and linseed in the United Kingdom was raised from 65,000 acres in 1939 to 198,000 acres in 1944:

| | 1939 | 1942 | 1943 | 1944 | 1945 |
|-------------------|-----------|-----------|-----------|-----------|-----------|
| | 000 acres | 000 acres | 000 acres | 000 acres | 000 acres |
| England and Wales | 4.4 | 67.8 | 59.7 | 64.8 | 48.8 |
| Scotland | .1 | 6.9 | 7.7 | 9.1 | 6.4 |
| Northern Ireland | 21.2 | 72.9 | 93.4 | 124.5 | 80.3 |
| United Kingdom | 25.7 | 147.6 | 160.8 | 198.4 | 135.5 |

Though grown under contract to the Ministry of Supply, it was not a popular crop in Great Britain whether grown for fibre or for linseed. It required too much labour at an awkward season of the year and the disposal of the straw proved difficult. However, with the assistance of acreage payments and, in Scotland, of county quotas, the target acreages were reached in 1944 and 1945 but the acreage declined again soon after the war in spite of efforts to get a further expansion. Even in Northern Ireland, where flax for fibre had long been a standard crop, expansion of the area proved difficult and target acreages were not achieved until 1944. By 1941 the area had reached 90,000 acres, compared with 21,000 acres in 1939; but in the following year it declined to 73,000 acres in spite of the target having been set at 120,000 acres. Following this disappointment an acreage payment of £10 per acre of flax was instituted for the 1943 crop and the acreage rose immediately. Crop quotas, without adequate financial returns, were insufficient to achieve the production programme.

A number of fodder crops gained in popularity, on account of either their lesser demands for labour or their higher protein content. Kale took the place of roots in many parts of the country, especially for dairy cows. Beans, peas and linseed displaced some cereal concentrates. Dredge corn, consisting of a mixture of oats and barley – with

or without beans or peas – became more widely grown as restrictions on the feeding of wheat and barley to livestock became more stringent.

If there were not many new crops adopted during the war, there were numerous introductions of new varieties. One of the most important of these was the greater use of spring-sown wheats. The extension of wheat production from 1.8 million to 3.5 million acres created several problems for the farmer, particularly that of completing the necessary cultivations in a period of two or three months in the autumn when wet weather caused delays and frustration in many years. The war years, however, saw the introduction of spring wheats, such as *Bersée* and *Atlé*; these varieties were strong-strawed and early-ripening, and they were, in many parts of the country, as heavy yielders as the traditional autumn wheats. By the end of the war, their reputation was well-established and their adoption permitted an extension of the wheat area beyond the previous limits set by the shortness of the autumn season and the vagaries of the autumn weather. Shorter-strawed oats and stronger-strawed wheat, such as *Holdfast* and some French varieties, were widely adopted in various parts of the country, since they stood up to heavier dressings of nitrogen.

Another marked feature of war-time farming was the widespread development of potato growing. Potatoes, with wheat and milk, were one of the major demands of the Ministry of Food. As food imports fell so the need for potatoes became more urgent; their bulk gave an apparent satiety to the diet and their vitamin C was an important consideration. Harvest after harvest, the acreage target had been raised and by 1944 it had reached some 1,400,000 acres, compared with a pre-war average of about 700,000 acres, and this was actually exceeded.

The obstacles in the way of this objective were manifold, and were both economic and technical. The means of meeting the economic problems and the institution of acreage payments have already been outlined in earlier chapters. The technical difficulties were as great and not the least of these were the finding of the increased area on which the additional potatoes were to be grown, the supply of seed, the shortage of fertilisers, the labour force required for planting and lifting, and the fear of disease and pests.

There was no attempt to guide production for the 1940 harvest but for 1941 each county was given a target based on an all-round percentage increase over the 1940 area. The 1942 harvest had to be planned differently; a larger acreage of sugar beet had to be found in proximity to the beet sugar factories, which were situated to a great extent in the main potato growing areas of the Eastern counties. After 1941 the additional potato areas had therefore to be allocated

elsewhere than in the Eastern counties, mainly in the North, West and South West of England; this change in the location of production also helped to avoid many transport problems which would have arisen in supplying the heavily populated Western Midland areas from the Eastern Counties. The 1942 county quotas were weighted accordingly, and the change in the location of potato production was one of the most marked features in the structure of farming in England and Wales during the war.

By 1944 the potato acreage in England, Scotland and Northern Ireland had increased by 92 per cent., 79 per cent. and 56 per cent. respectively. But one of the most spectacular features was the distribution of the increase; in 1939, six regions, consisting of the Holland and Lindsey divisions of Lincolnshire, Ely, Norfolk, the West Riding of Yorkshire and Lancashire had included about one-half of the total

Table 21. Changes in the Distribution of the Potato Acreage in England between 1939 and 1944

| Distribution of potato acreage by counties in 1939 | | 1939 | | | 1944 | | | |
|--|--------------------|--|------------|------------------------------|--|------------|------------------------------|------------------------------|
| Acres | Number of counties | Total potato acreage of counties in column 2 000 acres | % of total | Average per county 000 acres | Total potato acreage of counties in column 2 000 acres | % of total | Average per county 000 acres | Increase over 1939 000 acres |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Under 5,000 | 30 | 78.3 | 17.6 | 2.6 | 300.5 | 32.9 | 10.0 | 222.2 |
| 5,000-20,000 | 12 | 147.3 | 33.2 | 12.3 | 309.7 | 33.9 | 25.8 | 162.4 |
| Over 20,000 | 6 | 219.4 | 49.2 | 36.6 | 302.4 | 33.2 | 50.4 | 83.0 |
| | 48* | 445.0 | 100.0 | — | 912.6 | 100.0 | — | 467.6 |

* The three divisions of Lincolnshire, the three Ridings of Yorkshire, the Isle of Ely, the Soke of Peterborough, the Isle of Wight and the two parts of Suffolk and Sussex were considered as separate regions.

English acreage; twelve counties contained about one-quarter; while thirty counties yielded the remaining sixth. By 1944, the thirty 'small' counties had increased their potato acreage almost four-fold and were providing about one-third of the total acreage; of the increase of 467,600 acres, some 222,000 acres were achieved in the areas where potatoes had been relatively unimportant. Success, on this occasion at least, was due to the many rather than to the few.

The expansion of the area under potatoes, not only on farms but also in gardens and allotments, created another problem, both of

quantity and quality.¹ It was estimated that some 770,000 tons of seed potatoes had been used annually in pre-war years; by 1944, the need had increased to some 1,530,000 tons. The fact that the actual potato acreage planted exceeded the target in every year of the war, excepting the last, is an indication of the success of the measures taken by Departments to ensure an adequate supply of seed. As early as November 1940 the Ministry of Food, by means of a price premium for seed potatoes, the importation of seed from Eire and Northern Ireland, and the prescription of larger riddles,² had enabled the Ministry of Agriculture to meet a threatened shortage of seed for the 1941 crop. The high yield of the 1940 crop fortunately enabled this to be done without having to limit the human consumption of potatoes.

There was inevitably a reduction in the quality of seed used in the earlier years but this was remedied in the later years. Before the war, much Scottish seed had been certified as being true to type and also free from virus disease, but in 1939 certificates for seed potatoes, issued by the Ministry of Agriculture in England and Wales, guaranteed only trueness to type; under the stimulus of the war-time demand for good seed, the certification of freedom from disease was included in the Ministry's scheme from 1943 onwards. In Scotland, the area inspected and certified increased from 60,000 acres to 132,000 acres during the war.

In general, there was no marked increase in the amount of seed-borne virus disease, though there were occasional complaints in 1943 and 1944 about the poor condition of seed on arrival. This could, however, be attributed to labour difficulties in sorting and clamping, to delays in transport, and, for the 1941 crop, to poor harvest weather rather than to disease. Eel-worm was the only pest that threatened seriously the potato production programme but this danger did not reach the proportions that occurred in the First World War, though it was probably worse in the Eastern counties than was thought at the time. A survey in 1943 showed the infestation to be reaching serious proportions in parts of Lincoln, the Isle of Ely, Lancashire, Norfolk and a few parishes in Devon, on land where potatoes had been grown too frequently. By careful allocation of quotas for the 1944 crop within these counties, in order to rest the land, the danger was averted and it was only in the Holland division of Lincolnshire that part of the county's 1944 quota had to be transferred elsewhere.

The strain on the limited supplies of labour which resulted from the need to double the acreage of potatoes was accepted by the farmer but it was extremely heavy. Increased mechanisation of

¹ Potato problems as they affected the Ministry of Food will be discussed in R. J. Hammond's *Food*, Vol. II.

² Increasing the size of riddle over which potatoes are sorted, decreases the quantity of the larger potatoes which are sold for human consumption and increases the quantity of the smaller potatoes which are withheld for seed.

planting and lifting had provided some relief but the burden had to be met largely by human effort; this was provided for the most part by the employment of school children at the two peak periods of the year. Differences in the attitudes of Local Education Authorities towards farm labour for children at planting or lifting time resulted in 1942 in the passing of an Order¹ under the Defence Regulations laying down uniform conditions for the employment on agricultural work of school children over 12 years of age. It would have been impossible to plant and lift over 1 million acres of potatoes if children had not been permitted and willing to assist in the busy periods before 1944 when prisoner of war labour became relatively plentiful.

The main changes in potato growing which were initiated during the war can be summarised as a much wider dispersion of production, a marked improvement in the quality of seed used, and the increased mechanisation of planting and lifting. The farmer had perforce also learned more about the use of potatoes as a feedingstuff; but they remained unpopular, though the amounts so used in 1942-3 exceeded 2 million tons, compared with about 600,000 tons in the pre-war years.

A further marked change in the technique of arable farming during the war was the greater use of fertilisers. Pre-war surveys had pointed to serious deficiencies of lime and phosphates particularly in the grassland of the high rainfall areas in the West and North and of potash mainly in the sand and chalk soils of the East and South. Much of the failure of many farmers to maintain an adequate standard of soil fertility can be attributed to their straitened finances during the early 'thirties though some must also be attributed to an indifference or ignorance of the potentialities of artificial fertilisers. Under war conditions, these inhibitions disappeared. Money for increased expenditure became available; propaganda, demonstrations, and Direction Orders led to the greater appreciation and application of fertilisers. The shortage of phosphates and potash and the consequent control of their distribution had the psychological effect of stimulating farmers who had never used fertilisers to do so. The system of supplementary fertiliser permits which were issued by the Executive Committees on the basis of soil analyses also had a useful secondary effect in stimulating the taking of soil samples.² Nitrogenous fertilisers were in excess of demand during the first two years and steps had to be taken to encourage their use. Phosphate supplies were inadequate to meet the new demands occasioned by the turning of so much grassland under arable cultivation while potash

¹ Ministry of Education Circular 1588. Order in Council adding Part 12 to the Defence (Agriculture and Fisheries) Regulations, 1939, S.R. & O., 1942, No. 802.

² The number of soil samples taken annually by the Advisory Service increased from about 3,000 before the war to 171,000 in 1949.

fertilisers were cut to under two-thirds in the second year of war following the deprivation of shipments from Germany and France. The means whereby those fertilisers in short supply were allocated to ensure their use where most needed have been outlined in earlier chapters.

Table 22. Quantities of Fertilisers and Lime Used by Farmers in the United Kingdom, June-May, Years 1938-9 to 1945-6

| | 000 tons | | | |
|---------|-------------|-------------------------------|------------------|-------|
| | In terms of | | | |
| | N | P ₂ O ₅ | K ₂ O | CaO |
| 1938-9 | 60.0 | 170.5 | 75.0 | 1,298 |
| 1939-40 | 77.1 | 195.5 | 85.0 | 999 |
| 1940-1 | 127.7 | 232.7 | 47.1 | 1,064 |
| 1941-2 | 168.0 | 287.4 | 72.9 | 1,264 |
| 1942-3 | 171.0 | 302.6 | 103.7 | 1,764 |
| 1943-4 | 181.5 | 343.6 | 114.7 | 2,043 |
| 1944-5 | 172.1 | 345.5 | 111.2 | 1,858 |
| 1945-6 | 164.6 | 358.7 | 107.2 | 1,965 |

By 1943-4, however, the use of nitrogenous fertilisers had more than tripled while that of phosphates had doubled. The use of potash and lime had increased by about 50 per cent. (Table 22.) The farmers' expenditure on fertilisers, which had amounted to some £8,440,000 a year before the war had increased to £27,960,000.

Against the increased use of fertilisers and home-grown feeding-stuffs must be placed the loss of manurial residues from imported feedingstuffs; in pre-war years these had amounted to between one-half and one-third of the fertiliser constituents applied to the soil. The cut in imported feedingstuffs from over 8,700,000 tons to 1,345,000 tons in 1942-3 reduced manurial residues by annual amounts equivalent to 33,000 tons of nitrogen, 77,000 tons of phosphoric acid and 45,000 tons of potash.¹

¹ ESTIMATED SUPPLIES OF NITROGEN, PHOSPHATE AND POTASH DERIVED FROM ARTIFICIAL FERTILISERS OR FROM MANURIAL RESIDUES OF IMPORTED FEEDS, 1938-9 TO 1942-3

| | N | | P ₂ O ₅ | | K ₂ O | |
|---------|---|---------------------------------|---|---------------------------------|---|---------------------------------|
| | from artificial fertilisers 000 tons | from imported feeds 000 tons | from artificial fertilisers 000 tons | from imported feeds 000 tons | from artificial fertilisers 000 tons | from imported feeds 000 tons |
| 1938-9 | 60.0 | 43.6* | 170.5 | 87.0* | 75.0 | 56.0* |
| 1939-40 | 77.1 | 37.8 | 195.5 | 74.0 | 85.0 | 51.0 |
| 1940-1 | 127.1 | 27.1 | 232.7 | 51.0 | 47.1 | 33.0 |
| 1941-2 | 168.0 | 19.7 | 287.4 | 31.0 | 72.9 | 22.0 |
| 1942-3 | 171.0 | 10.7 | 302.6 | 10.0 | 103.7 | 11.0 |

* 1936-7 to 1938-9.

War-time conditions were responsible for improvements in the form in which fertilisers were prepared for use by the farmer. Manufacture had to be undertaken throughout the year instead of seasonally as in pre-war years; stocks of fertilisers had to be held on farms where dry storage was seldom available. Setting and caking of such fertilisers made it difficult to spread them by means of the fertiliser drill or, more particularly, by means of the combine drill which was becoming increasingly popular. This led to increased interest in granular compound fertilisers which not only made them suitable for drilling equipment but also more beneficial, by reason of their slower and steadier solubility, as a source of seed nutrients.

Other new features in crop production which were either introduced or became more widespread during the war, included the discing of grassland, ploughing in June with cross-ploughing in July for autumn wheat, attention to the placement of fertilisers, the use of fertility mixtures such as trefoil clovers, green crops and the like to be ploughed in after the corn harvest, the extension of the practice of seed dressing – already fairly general for wheat – to barley and oats, the control of weeds by selective weed killers, the treatment of potato blight. Such a list is not exhaustive but is intended merely to indicate the wide range of these developments.

(ii)

Livestock Production

The most important change in the production of livestock and livestock products was in dairying. The general course of milk production during the war years has been described already. The numbers of dairy cattle increased steadily between 1939 and 1945, except during the period between January and October 1941 when Irish cattle imports were suspended; the output of milk, however, declined during the first three years of war, until the spring of 1942, and it was not until 1945–6 that the output returned to its pre-war level.

One of the most marked features of the dairying industry had long been the diversity of the systems followed, primarily in the source of feedingstuffs, the seasonality of production, the methods of herd replacement and the means of disposal of the output. At the one extreme were the producer-retailers in the vicinity of large towns as in Lancashire, who, apart from a small quantity of summer grazing, purchased all their feedingstuffs, bought either in-calf or freshly calved cows for winter milk production, and sold their whole output as liquid milk. At the other extreme were the farms in the far West and upland valleys, which reared their own cows, produced milk

mainly during the summer off their grassland, and sold it mainly in the form of cheese or butter. In between could be found every possible combination of these variations. Under such circumstances, the changing conditions of war, particularly the reduction in purchased feedingstuffs and the alterations in relative prices, affected farmers in different ways; some had to reduce their herds while others were able to turn to the sale of liquid milk instead of butter and cheese or to stock rearing.

Three aspects of the changes in milk production call for particular note – the increase in the number of farmers selling milk, the shift in the areas of production, and the decline in milk yields.

The number of producers who registered for the first time with the Milk Marketing Board in England and Wales, in order to be able to sell milk at wholesale, rose by some 24,000 during the first three years of the war, while the number of producer-retailers remained comparatively stable. Between 1942 and 1945 there was a further increase of about 11,700 in the former but much of this increase could be attributed to a decline of some 9,000 in the number of producer-retailers.

| | <i>Registered producers selling milk at wholesale</i> | <i>Licensed producer- retailers</i> |
|------------|---|---|
| 1939 . . . | 95,412 | 61,956 |
| 1942 . . . | 119,588 | 62,221 |
| 1945 . . . | 131,254 | 53,480 |

The changes in sales between the regions give some indication of the shifts in production that occurred during these early years of the war. Milk selling increased in the far-Western region, Wales and the Northern region, by 27 per cent., 10 per cent. and 3 per cent. respectively; these were areas which had been too far distant from the markets for liquid milk and which had either sold milk products or used the milk for rearing livestock. On the other hand there was a decline in milk sales in the East Midlands where the reduction in the area of pasture had entailed a reduction in the number of cows kept; in the North Western region which included Lancashire, the centre of small intensive grassland holdings dependent on purchased feedingstuffs; and in the South Eastern region where some of the increase in arable farming was achieved at the cost of milk production. Though the Minister of Agriculture, at a later stage of the war, appeared to decry the entrance into the liquid milk market of the milk producers from the upper valleys and hills of the West,¹ their arrival was looked upon in a more kindly light by the Minister of Food in the years when production was declining elsewhere.

¹ pp. 214-5.

The decline of 12 per cent. in milk production during the first three years of the war was the most disturbing feature of the wartime food production programme. All authorities had agreed, before the war and after its outbreak, that the maintenance of the milk output was essential. The fact that the threatened shortage of liquid milk for human consumption was averted by reducing the amounts retained for use or manufacture on the farm and the amounts manufactured off the farm into milk products should not conceal this failure which might well have had very wide repercussions (Table 23).

Table 23. *Production and Utilisation of Milk in the United Kingdom, Pre-war to 1944-5.* (June-May year)*

| | Pre-war | 1939-40 | 1940-1 | 1941-2 | 1942-3 | 1943-4 | 1944-5 |
|---|---------|---------|--------|--------|--------|--------|--------|
| Number of yielding cows and heifers (000s). | 3,283 | 3,330 | 3,418 | 3,408 | 3,503 | 3,576 | 3,534 |
| Average gross yield per cow (galls.) | 542 | 532 | 470 | 459 | 473 | 479 | 485 |
| Gross production (million galls.) | 1,781 | 1,771 | 1,608 | 1,564 | 1,657 | 1,712 | 1,727 |
| Used on farm, household consumption, livestock, waste, etc. | 318 | 327 | 278 | 271 | 266 | 263 | 265 |
| Manufactured on farm or sold liquid Sales through Marketing Schemes | 252 | 168 | 103 | 68 | 68 | 69 | 68 |
| For liquid consumption | 825 | 869 | 1,002 | 1,063 | 1,154 | 1,188 | 1,218 |
| For manufacture | 386 | 407 | 225 | 162 | 169 | 192 | 176 |

* *Agricultural Statistics: United Kingdom. Part II, H.M.S.O., 1949.*

The decline in the sales during the winter months was more serious than that in the summer, though it was, in fact, relatively smaller.¹ The requirements of the liquid market during the winter months soon absorbed any surplus, especially as the demand for liquid milk rose rapidly due to full employment, higher wages, the shortage of other foods and the inauguration in July 1940 of the National Milk Scheme which made available cheap milk at 2d. per pint to expectant or nursing mothers and children under school age. By the winter of 1941-2 the situation had become extremely serious.

Various reasons have been advanced for the failure to maintain the output of milk in these early years. The primary cause of the decline was not in the total numbers of dairy cattle - which, in fact, rose during the war - but in the fall in milk yields; by 1941-2 the average yield per cow was estimated to have fallen by about 14 per

¹ Appendix Table X, p. 380.

cent. compared with pre-war. The shortage of concentrates and the enforced departure from normal feeding practices was by far the most important cause. Three severe winters also affected the milk output but, on the whole, the war-time weather was helpful. The disequilibrium in the price of milk relative to the prices of certain crops and livestock products and the maladjustment of winter milk prices to those of the summer months were also further factors. Finally, the vital importance of maintaining milk yields was not stressed sufficiently until the beginning of 1942.

A study of milk production costs in England and Wales shows clearly the changes that took place in feeding practices.¹

| Food consumption per gallon | 1938-9 | 1941-2 |
|--|--------|--------|
| | cwt. | cwt. |
| Food consumption per cow (excluding grazing) | | |
| Concentrates, purchased | 22.4 | 10.1 |
| home-grown | 1.0 | 4.7 |
| Total | 23.4 | 14.8 |
| Hay | 19.0 | 17.8 |
| Silage | — | 5.6 |
| Straw | 2.6 | 5.9 |
| Roots, etc. | 30.0 | 53.7 |
| Total | 75.0 | 97.8 |
| Food consumption per gallon (excluding grazing) | lb. | lb. |
| | 13.0 | 19.6 |

Firstly, the weight of food to be digested by the dairy cow increased by some 30 per cent. Concentrates decreased from 23.4 cwt. to 14.8 cwt. and were replaced by an increase in bulky foodstuffs from 75.0 cwt. to 97.8 cwt.; consequently the dairy cow had to expend more energy on digesting these feedingstuffs and correspondingly less on producing milk. Secondly, the nutritive value of the new feedingstuffs was less, particularly in the summer:

| Per cow in herd | Winter | | | Summer | | |
|---------------------|----------------|---------------|----------------------|-------------|-------------|----------------------|
| | 1939-40 lb. | 1941-2 lb. | Percentage change | 1940 lb. | 1942 lb. | Percentage change |
| Protein equivalent* | 361 | 292 | -20 | 227 | 114 | -50 |
| Starch equivalent* | 1,772 | 1,824 | +6 | 867 | 671 | -23 |

* Excluding grazing.

¹ *Costs of Milk Production in England and Wales*, Interim Report No. 8, Agricultural Economics Research Institute, 1943.

Moreover, the decline in protein was far greater than that in starch equivalent. This was particularly harmful to milk yields; not only was there a severe shortage of protein but the diet was also less well balanced. The summer ratio of protein to starch equivalent worsened from 1 : 3.9 to 1 : 5.9 while the winter ratio deteriorated from 1 : 4.8 to 1 : 6.3. The scarcity of concentrates may also have induced a natural shortening of the lactation period as well as a deliberate drying-off of cows; the proportion of dry cows in the herd rose from 18.1 per cent. in 1938-9 to 22.4 per cent. in 1941-2. Under such circumstances it is not surprising that the milk yield per cow during these three years fell by some 90 gallons a year, or 14 per cent.¹

The disequilibrium between the prices of certain crops and those for milk is emphasised in another chapter. There was evidence that, while small dairy farmers had perforce to increase their sales of milk as they lost their profitable side lines in pigs and poultry, the output of larger milk-producers with sales of more than 2,000 gallons a month declined substantially. These were the farms where corn, sugar beet and potatoes were relatively more profitable, took less labour and were less trouble generally.

A further contributory price factor in the early years was the delay in the announcement of future milk prices; for example, the prices for the winter of 1940-1 were not announced until September 1940. There was, however, a marked improvement as time went on in the earlier announcement of prices, until finally they were often known, with fair certainty, as much as eighteen months in advance of the time of sale.

Apart from this handicap of uncertainty about future prices, winter milk prices were not raised sufficiently in the first two years of the war. A comparison of the movements in prices and costs during the winter and summer periods of 1939-40 and 1940-1 indicates clearly that the increase in winter prices in these years lagged behind the rise in costs. The absolute amount of the 'margin' between prices and costs must not be taken as representing profits but the relative movements in the 'margins' are indicative of this deterioration in the position of the winter milk producer, if it is assumed that the 1938-9

1

| | Yield per cow in herd | | |
|---------|-----------------------|---------|---------|
| | Winter | Summer | Year |
| | gallons | gallons | gallons |
| 1938-9 | 288 | 358 | 646 |
| 1939-40 | 272 | 317 | 589 |
| 1940-1 | 250 | 305 | 555 |
| 1941-2 | 248 | 308 | 556 |
| 1942-3 | 250 | 312 | 562 |
| 1943-4 | 260 | 313 | 573 |

ratios were not abnormal. The 'margins' between prices and costs in the winters of 1939-40 and 1940-1 were actually lower than in 1938-9 and much lower than in the summer periods (Table 24).

Table 24. Comparative Changes in Milk Prices and Net Farm Costs per Gallon of Milk During the Summer and Winter Periods in England and Wales, 1938-9 to 1942-3

| | October-March | | | April-September | | |
|---------|--------------------|------------------------|----------|--------------------|--------------------|----------|
| | Average pool price | Average net farm cost* | 'Margin' | Average pool price | Average farm cost* | 'Margin' |
| | d. | d. | d. | d. | d. | d. |
| 1938-9 | 14.82 | 10.97 | 3.85 | 11.62 | 6.50 | 5.12 |
| 1939-40 | 16.28 | 13.70 | 2.58 | 14.87 | 8.73 | 6.14 |
| 1940-1 | 22.16 | 20.17 | 1.99 | 16.62 | 9.33 | 7.29 |
| 1941-2 | 27.24 | 20.01 | 7.23 | 17.48 | 10.13 | 7.35 |
| 1942-3 | 29.36 | 20.30 | 9.06 | 17.48 | 10.39 | 7.09 |

* *Interim Reports on Costs of Milk Production in England and Wales*, Agricultural Economics Research Institute, Oxford.

Further evidence of the worsening financial returns for milk production was given in a letter from the Chairman of the Milk Marketing Board to the Minister of Food during the winter of 1940-1:

The milk producers' financial position at the end of the first year of war is worse than in the preceding year. The average gross increase of income per cow for the year has been £2 over the pre-war year – but the increased cost of production per cow for food, wages, transport, etc., has exceeded this sum by at least another £1 per cow.¹

In January 1941 the first appeals were made to reverse the declining trends in milk production but it was not until a year later that the full significance of the situation became widely appreciated and constructive measures were adopted to remedy the position:

I have never minced words with you and I tell you frankly that we are facing one of the gravest situations in the whole of this war to date – perhaps the gravest . . . nothing can make the prospect of our food situation next winter anything but graver than it was this winter. The men in the fighting line and in the factories and the women and children need every drop of milk you can produce. It may mean life or death. Every gallon counts.²

The problem was attacked on a broad front and recommendations were made in the spring of 1942 to get more milk in the winters of 1942-3 and 1943-4. A Milk Investigation Sub-Committee of the Technical Development Committee recommended (1) an effective

¹ *The Home Farmer*, Vol. 8, No. 1, p. 8, January 1941.

² Extract from a speech by the Minister of Agriculture at Exeter on 27th February 1942.

publicity campaign to emphasise the importance of winter milk production (2) an increase in the proportion of autumn calvers and (3) a closer supervision by the Executive Committees of the cropping programmes of dairy farms and of the numbers and types of livestock which they carried.

The propaganda drive centred on a personal letter from the Minister of Agriculture, which emphasised the importance of milk production. A competition was also organised among counties to achieve the greatest increase in milk output during 1942-3, compared with the output in 1941-2; the competition was varied in the subsequent year specifically to encourage winter milk production - the winning county was to be that which showed the greatest increase during the winter months of 1943-4 over the established county quotas.¹ The move to encourage autumn calving was less effective. Spring calvers were shown to give on the average about 110 gallons between December and February while the average yield of autumn calvers for the same three months was about 390 gallons; as a means of increasing the winter milk supply, a change in the calving period would obviously be of great importance. But difficulties in obtaining winter feeds and the traditional desire to make full use of the spring flush of grass weighed heavily with the farmer and the swing to autumn calving was not as great as was desired. Later in the war, as the ratio of winter milk prices to summer prices improved, there was a relative increase in autumn calving.

As part of the campaign, the Executive Committees established Milk Production Sub-Committees to exercise closer supervision over dairy farmers and to give them specialist advice. The powers that the Committees already had to control the cropping and stocking of farms were further strengthened in the summer of 1942.² Cropping programmes were modified to improve the output of feedingstuffs more suited for dairy cows, particularly for consumption in the winter months. Advice given by the Cultivations Officers could be enforced by compulsory direction if necessary. The shortage of protein feedingstuffs stimulated grass-drying; the production of high protein silage, better quality hay, linseed, beans, beans and oats, vetches and rye or oats were increased among the autumn-sown crops; dredge corn, mixtures of peas and oats for silage, kale and linseed were encouraged for spring-sowing. These changes did not, however, achieve much reduction in the bulkiness of the rations fed to cows - and only a slight improvement in the protein:starch equivalent ratio - and, in consequence, interest continued to be shown in many parts of the country, contrary to the advice of the Livestock Policy Conference, in the 400-gallon cow which was considered by many to be

¹ p. 267.

² Control of Livestock Order, 1942, S.R. & O., No. 1450.

an uneconomic producer. The advice to cull dairy herds of their low yielders was not accepted generally throughout the country so long as there was such a shortage of concentrates.

In the spring of 1942 county milk production targets were allotted to each county, based on an overall increase of 10 per cent. for the year 1942-3; these were sub-divided into targets for districts or even for individual farms by the Executive Committees. Early price announcements made it possible for farmers to plan well ahead; preparations for production in the winter of 1943-4 were made as early as July 1942. Moreover, the price review of February 1942 had achieved for the first time a relative improvement in milk prices, particularly for the winter months.

All these factors called for changes in the technique of milk production but possibly the most important steps taken to improve production methods during these war years were those designed to eliminate disease, to improve the quality of the milk, to relate the feeding of cows more closely to their yield and to encourage the breeding of better cows. These developments resulted not only in an immediate increase in output but laid the foundations for permanent improvements in the efficiency of milk production.

On 1st May 1942 a voluntary scheme was brought into operation in England and Wales to reduce the incidence of mastitis, contagious abortion, sterility and Johne's disease, which were calculated to cost the country about 50 million gallons of milk and much meat each year. Dairymen could call on the services of a veterinary officer as required in return for a small annual charge per cow; they were guaranteed annually a minimum of four visits of inspection. Though handicapped at first by a shortage of qualified veterinary officers, the system spread rapidly; by 1943, 4,367 farmers, representing 180,000 cows, had joined the Panel Scheme and by the end of 1944 some 7,225 herds with nearly 300,000 cows were included in it.

An outstanding advance, which it is difficult to exaggerate, was the general adoption in 1940 of Strain 19 for the vaccination of young dairy cattle against contagious abortion.

In October 1942 a milk-testing scheme was initiated. During the hot summer of 1941 a great deal of milk had been lost by souring and in the spring of 1942 the Ministry of Agriculture decided to develop a national system of milk testing and to set up a National Milk-Testing Advisory Committee. The aim of the scheme was to test, at points of first delivery and at fortnightly intervals, supplies from every farm, whether sold at wholesale or producer-retailed and, subsequently, to introduce a system of differential prices according to the cleanliness of the milk. Reports of unsatisfactory samples were made available to the Milk Production Sub-Committees of the County War Agricultural Executive Committees who then took the necessary

action. The necessary staff of bacteriologists and laboratory accommodation and equipment were gradually built up and by January 1944 the milk of some 70–80 per cent. of producers was being tested regularly. Souring of milk in transit never reached the scale attained in the summer of 1941 and there was a gradual decline in the number of poor samples. The introduction of differential prices was not, however, achieved during the war.

A further stimulus to the production of cleaner milk was afforded by the Government's decision to substitute on 1st October 1943 an assured premium of 4d. per gallon for Tuberculin Tested milk for an uncertain premium of 2½d. per gallon, whether the milk was sold as such or not.¹ The effectiveness of this campaign may be judged from Scottish data. Before the war, 401 producers out of some 8,200 were licensed to produce graded milk; by 1945 there were 3,472 producers out of 7,900 who produced either Certified or Tuberculin Tested milk; the output of tubercle-free milk had increased from 33½ million gallons to 66 million gallons.

Finally, possibly the most important new factor was the introduction on 1st January 1943 of a National Milk Recording Scheme. Milk Recording Societies had been in existence for many years before the war, but their membership had barely exceeded 4,000. An advisory panel was set up consisting of representatives of the Ministry of Agriculture, the Central Council of Milk Recording Societies, the National Farmers' Union and the Breed Societies, and the responsibility for the working of the scheme was placed upon the Milk Marketing Board. Two categories were established for producers, a Senior Scheme for those who kept weekly or daily records and a Junior Scheme for those who weighed their output once per month. Visits to the herds were made from time to time by Milk Recorders and a nominal fee was charged according to membership in the Senior or Junior Scheme; the balance of the cost of the Scheme was divided between the Ministry of Agriculture and the Board. By March 1945 the voluntary response to the Scheme had been so successful that some 16,700 herds had been enrolled, of which 13,300 were in the Senior Scheme and 3,400 in the Junior, compared with a total of 4,000 before the scheme began in January 1943. The formidable administrative task had been tackled and a staff of some 750 persons had been engaged and trained by the Board. In April 1944 the Milk Marketing Board announced that the production per cow on recorded farms was about 25 per cent. higher than the national average. If this did not prove that milk recording itself accounted for this superiority, it at least showed that the better farmers saw the value of milk recording.

¹ p 187.

As a result of all these measures, the output of milk increased steadily, in both the summer and winter periods, from the spring of 1942 until the end of the war. The average yield per cow had risen by nearly 26 gallons a year and the number of cows in milk had increased by about 130,000. It is worthy of note that the yield per cow had risen although the quantity of concentrates fed per cow had not increased materially; the ration had not decreased in bulk; the protein:starch equivalent ration had not improved greatly; and labour was still relatively as scarce as ever. Such recovery was eloquent testimony to the increased efficiency and improved management of the dairy herd.

By the sixth year of war, milk production in the United Kingdom had recovered to 97 per cent. of the pre-war output and the market for liquid milk had been expanded by almost 400 million gallons a year or 50 per cent., a phenomenon of immense importance to post-war agriculture.

One further development in milk production originated during the war years. The first steps in the development of an artificial insemination service were taken at the beginning of 1944. Discussions were held between the Milk Marketing Board, the National Farmers' Union and the National Cattle Breeders' Association when it was agreed that the artificial insemination centres should be controlled as a national service and that licences for such centres should be granted in future only to organisations controlled and financed by producers. Powers were given to the Board, under the Milk Marketing Board (Extension of Powers) Order, 1945,¹ to make the service available for the benefit of all cattle owners, including owners of beef herds, and the Board was protected against any financial loss occurring during the first five years of the operation of the centres. In October a Central Advisory Committee was formed consisting of four representatives each of the Milk Marketing Board, the National Farmers' Union and the Cattle Breed Societies, eight members appointed by the Minister and a chairman, the Duke of Norfolk. This Committee advised the Ministry on the economic aspects of the control and development of the centres; all applications by the Board for licences to open new centres had to be approved by it. By the end of the year, sites for the first seven centres had been selected and the Milk Marketing Board, with whom the executive responsibility lay, had taken over the centre that had belonged to the North Suffolk Cattle Breeders' Association at Beccles. The development programme drawn up in 1945 provided for the opening of about 25 centres in the following four years. Even in the early stages of this work, however, it became clear that this experiment, undertaken

¹ Order dated 22nd February, 1945, issued under Regulation 55 of the Defence (General) Regulations, 1939.

during these years of difficulty, would be successful and its results of great value to the farming industry and the nation as a whole.

Compared with the changes in the organisation and methods of milk production, the changes in the methods of production of other livestock and livestock products were relatively small. The necessary reduction in the number of pigs and poultry affected different types of producers in different ways; the specialist pigkeeper or poultryman was affected by the shortage of feedingstuffs more than the producer on a mixed farm and the grassland farmer.

The other marked difference in the effect of war-time conditions was found in sheep farming, where the decline in numbers was much more marked for arable than for grassland flocks. Between 1939 and 1944, flocks in England and Wales were reduced by 30 per cent.; in seven counties of England associated with arable sheep, the reduction was as much as 42 per cent. while in three counties associated with grass sheep in England and in Wales the declines were only 22 per cent. and 15 per cent. respectively. The reduction of pasture on arable farms and the increased profitability of the sale of farm crops resulted not only in less fattening of sheep on the lowlands but also in a serious loss of markets for the breeders of store sheep on hill farms.

Relatively minor changes occurred in the fattening of cattle, sheep and pigs. After the first winter of the war there were no longer sufficient supplies of concentrates to bring the animals into such good condition as formerly. Carcase grades and prices were established, and varied from time to time, to ensure that the maximum weights of meat were attained with the minimum consumption of feedingstuffs. Quantity rather than quality became the standard for payment.

The feedingstuffs rationing scheme had some indirect effects that were of permanent benefit to farming. It had a marked educational value in emphasising the difference between proteins and non-proteins and the importance of 'balanced' rations. Moreover, the issue of supplementary rations in the later years of the war to specialist pig and poultry producers encouraged the keeping of pedigree stock; for example, the additional rations for Accredited Poultry Breeding Stations increased the popularity of the scheme and encouraged more breeders to apply to be accredited producers. In fact, some breeders became accredited merely to qualify for extra rations of feedingstuffs and the standard of their stock remained low.

Two unsuccessful early war-time experiments connected with the feeding of livestock are worthy of note. Firstly, there was the attempt to introduce the straw pulp process in 1941, whereby straw was treated with caustic soda to convert it into a digestible starchy food, less fibrous and more like a concentrate, to replace sugar beet pulp and roots. In spite of propaganda to the effect that one ton of treated straw pulp might be considered to be equivalent to one ton of good

hay, 10½ cwt. of crushed oats or 4½ tons of roots, and in spite of the installation of demonstration troughs on some 230 farms in England and Wales, the process did not meet with approbation. Secondly, there was the intensive campaign in the same year aimed at persuading farmers to make some 3 million tons of silage in 1941. In May the Ministry of Agriculture entered into agreement with a commercial firm to secure a sufficient number of silos for sale to farmers. Component parts sufficient for 20,000 concrete silos were to be ready by the end of October 1941, while the Ministry guaranteed to pay manufacturers at the rate of £12 1s. 9d. for any silos remaining unsold by the end of October. In September, however, when parts for 5,500 silos had been made and only 700 had been sold, the target was reduced to 12,000 and subsequently to 10,000, and the period was extended to 30th April 1942. In addition to the arrangements for these concrete silos, the Ministry in August placed orders for some 6,500 steel silos at a cost of £43,000 to be sold to farmers at £9 per silo. In the end, some 8,000 out of the 9,790 concrete silos and 5,500 out of the 6,500 steel silos remained unsold, involving a loss of some £125,000. Subsequent events in the post-war years now show that if the originators of the silage campaign had advocated the making of silage in pits or clamps instead of in silos, this expenditure of money and materials might have been saved.¹ But there was no clear indication at the time that pit or clamp silage would prove satisfactory and the two great incentives to the use of pit silage – the difficulties and relatively high labour cost of tower silage and the high cost of feedingstuffs – had not become so great as in the post-war years.

(iii)

Manpower and Machinery

The third group of important changes in agriculture during the war include the problems of manpower and of mechanisation. Little had been done in preparation for war to ensure an adequate supply of labour for food production. Between 1936, when the first plans were made, and 1939 the drift of workers from the land had continued at the annual rate of about 15,000; it was known that the Territorial Army would drain some 20–30,000 of its members from farming as soon as war was declared; the Military Training Act would affect

¹ The following estimates of the use of silage show that there was a temporary increase:—

| | | | |
|------|--------------|------|--------------|
| 1940 | 190,000 tons | 1943 | 297,000 tons |
| 1941 | 463,000 tons | 1944 | 260,000 tons |
| 1942 | 404,000 tons | 1945 | 196,000 tons |

a further 30,000 workers in the youngest age groups; and no provision had been made to control the exodus of agricultural workers either into urban industries or into other war-time occupations in the country, such as the building of camps and aerodromes, where wages and other conditions of employment were so much better than in agriculture.

There were only two measures to offset these adverse factors – the reservation from military service of agricultural workers over a certain age and provision for the organisation and training of a Women's Land Army. The net prospects confronting the British farmer were not bright.

As had been expected, there was a heavy loss of labour to the Services and – as had not been anticipated – to occupations other than agriculture before the leakages were stopped by the Undertakings (Restriction on Engagement) Order.¹ By June 1940 the number of regular male workers employed on agricultural holdings in the United Kingdom was almost 37,000, or 6 per cent., less than in the three pre-war years 1936–8. Admittedly this was a small reduction compared with that of 16 per cent. in the first six months of the First World War – ultimately a reduction of 33 per cent. – but it weighed heavily in the minds of farmers who were being asked immediately for an unprecedented increase in the output of food such as was not demanded in 1914–5.

The Minister of Agriculture made numerous representations to his colleagues in attempts to obtain more labour for the industry. Exaggerated estimates of the labour deficits and the probable effects of these were put before the War Cabinet in the earlier years of the war but little was gained beyond palliatives; it was clearly politically impossible, even if not strategically undesirable, to accord special treatment to farmers. The only alternative important sources of regular workers proved to be the Women's Land Army and prisoners of war, supplemented by casual and volunteer labour at harvest time.

The changes in the estimated numbers of male and female, regular and casual workers between June of each year have already been outlined.² The times of year, June and December, when enumerations are made do not allow a complete representation of the amount of labour employed, particularly at the peak periods of the farming year, seed-time and harvest. Nor does the total number of workers give a fair picture of the quantities of labour available to the farmer since there were obviously important differences between the various categories of workers. A comprehensive index of the quantum of agricultural labour has been calculated³ which, though admittedly arbitrary in its

¹ S.R. & O., 1940, No. 877.

² Table 5, p. 85.

³ H. T. Williams, 'Changes in the Productivity of Labour in British Agriculture', *Journal of the Agricultural Economics Society*, Vol. X, No. 4, March 1954, p. 334.

assessment of the relative efficiency of the different classes of worker,¹ gives a reasonable picture of changes in the general level of the labour supply during the war years:

| <i>Index of agricultural employment in terms of man years</i> | | |
|---|-------|-----|
| 1937-9 | . . . | 100 |
| 1939-40 | . . . | 99 |
| 1940-1 | . . . | 101 |
| 1941-2 | . . . | 103 |
| 1942-3 | . . . | 107 |
| 1943-4 | . . . | 108 |
| 1944-5 | . . . | 109 |

In terms of man years, the amount of labour available to the farmer in the first year of the war was slightly less than in the pre-war years, a little more in 1940-1, rising to 9 per cent. above pre-war in 1944-5 as the numbers of prisoners of war increased. In the year of peak production 1943-4, it was only 8 per cent. above the 1937-9 level.

This index of agricultural employment may be compared with the index numbers of output given in Chapter IX. In 1943-4 labour supplies were only 8 per cent. above pre-war whereas the Ministry of Agriculture's index of net agricultural output was 25 per cent. greater. Even if the lower index of net output, which makes allowance for the help of machinery and fertilisers, is used, the increase in net output of 15 per cent. is almost twice as great as the increase in the supply of labour. The increase in labour efficiency is considered to have amounted to about 5-6 per cent. Only in 1941-2, when the output of milk was at its lowest and cereal yields were poor, and in 1944-5, when harvest yields were so badly affected by the weather, did the second index of output fall below the index of employment.

Some surprise may be expressed that the increase in output in relation to labour input was not greater. But it must be remembered that the index of output is heavily weighted by milk production and the decline in the average yield per cow, due to difficulties in the quantity and quality of feedingsuffs, had a very depressing effect on the index; the influence of this factor was later shown by a marked jump of 14 per cent in the output index between 1947-8 and 1948-9

1

| <i>Class of worker</i> | <i>Conversion factor</i> |
|---|------------------------------|
| Regular males, 21 and over . . . | 1.00 |
| Regular males, under 21 . . . | 0.63 |
| Regular females and W.L.A. . . . | 0.66 |
| Casual and part-time males, 21 and over . . . | 0.70 |
| Casual and part-time males, under 21 . . . | 0.46 |
| Casual and part-time females . . . | 0.50 |
| Prisoners of war, billeted . . . | 0.65 |
| Prisoners of war, not billeted . . . | 0.40 |

when the average yield per cow started for the first time to exceed the pre-war average.

As we have seen, a not unfair alternative indication of agriculture's contribution to the war effort is the remarkable increase in net output when calculated in terms of calories; by 1943-4 this had increased by 91 per cent. above the pre-war level against an increase of only 8 per cent. in the amount of labour employed.

It was indicated earlier that the greater use of machinery and fertilisers was responsible for a very considerable part of the war-time increase in agricultural output. Much the more important of these two was the greater mechanisation of farming operations, for a fair proportion of the increase in the use of artificial fertilisers was merely a substitute for the reduction in the manurial residues from imported feedingstuffs.

The stimulus to a greater use of mechanical power had been noticeable since about 1925 as the divergence between wages and agricultural prices increased (Figure 1)¹ and as workers left the land, attracted by the higher wages and the apparently greater amenities of urban life; the need for economy in the use of labour became an overriding consideration. The principal changes in the sources of farm power before and during the war are shown in Table 25. Between 1925 and 1939, the stationary power used on farms increased by about 184,000 h.p. or 30 per cent., due mainly to the increased use of petrol and oil engines. During the war, there was a further increase of about 60,000 h.p., the principal expansion being in the use of electric motors, an increase of about 130,000 h.p. from these offsetting a decline of some 70,000 h.p. from steam engines, wind and water power.

Table 25. Changes in Farm Power Supplies in Great Britain, 1925-46²

| | Stationary power 000 h.p. | Motor tractors | | Horses for farm purposes | | Total power 000 h.p. | Index 1939= 100 |
|------|------------------------------|----------------|----------|--------------------------|----------|-------------------------|-----------------------|
| | | No. (000) | 000 h.p. | No. (000) | 000 h.p. | | |
| 1925 | 630 | 20.3 | 368 | 910 | 910 | 1,278 | 74 |
| 1931 | 695 | 22.0 | 400 | 784 | 784 | 1,184 | 69 |
| 1937 | 820 | 49.8 | 906 | 663 | 663 | 1,569 | 91 |
| 1939 | 854 | 56.2 | 1,075 | 649 | 649 | 1,724 | 100 |
| 1942 | 871 | 116.8 | 2,293 | 642 | 642 | 2,935 | 170 |
| 1944 | 847 | 173.4 | 3,388 | 577 | 577 | 3,995 | 230 |
| 1946 | 911 | 203.4 | 3,935 | 520 | 520 | 4,455 | 258 |

The greater change, however, was in draught power, the decline in the number of horses being accompanied by a remarkable increase in tractor power. Between 1931 and 1937, the tractor surpassed the

¹ p. 19.

² D. K. Britton and I. F. Keith, 'A Note on the Statistics of Farm Power Supplies in Great Britain', *The Farm Economist*, Vol. VI, No. 6, 1950.

horse as a source of power and by 1939 accounted for almost two-thirds of the total draught power used on farms. The war-time change was even more striking; the number of tractors rose from 56,200 to 203,400, an increase of 262 per cent. The power represented by these tractors increased from 1,075,000 h.p. to 3,935,000 h.p. while the power yielded by horses fell by a mere 129,000 h.p. By 1946 almost 90 per cent. of the draught power on farms was supplied by tractors.

While manpower had increased by about 8-9 per cent. during the six years of war, mechanical power had risen by 158 per cent. Even this figure underestimates the increase in the use of power by farmers since these years saw a growing number of lorries, vans and cars used for farm purposes.

This was a change of revolutionary consequence to systems and techniques of farming, not only during the war but in the succeeding years as farm workers continued to leave the land, as the number of working hours in the week was reduced and as the rise in agricultural wages continued to outstrip the rise in agricultural prices.¹ It is estimated that the use of mechanical draught power increased a further 70 per cent. in the next six years.

Underlying these bare statistics are concealed the efforts and ingenuity exerted on hundreds of thousands of farms all over the country. Without such an increase in tractor power it would have been impossible to carry out the task of increasing the arable area by some 6 million acres. The time for ploughing and preparing the land, both in the autumn and spring, was far too limited to have permitted such an expansion even if horses had been available. The tractor's ability to cover the ground faster and, given relays of drivers, to work ceaselessly day and night was essential. Moreover there were many jobs, such as ditch digging, land clearing, levelling and deep ploughing which could not have been tackled by horse labour.

The expansion of the land under the plough, especially in those regions where there had been little or no cultivation for many years, necessitated a great increase in the supply of ancillary implements while the substitution of the tractor for the horse called also for many changes in their types. The extent to which these were made available is shown in Appendix Table VIII;² a comparison between the supplies, both home-produced and imported, in pre-war years and in 1943 indicates the main changes; the annual intake of ploughs had increased from 13,600 to over 31,300, of disc harrows and cultivators from 6,297 to 23,200 and of corn and fertiliser drills from 7,491 to 21,587.

By the end of the war, British farming was claimed to be the most highly mechanised in the world. Though this assertion might require

¹ Figure 1, p. 19.

² p. 378.

some qualification, it is certainly true that there had been yet another agricultural transformation; what was achieved within a period of six years of war might well have taken decades in time of peace. The accompanying table shows some of the major changes in the machinery equipment on farms in Great Britain between 1942, 1944 and 1946, when the greatest expansion got under way, though as Appendix Table VIII shows, the numbers of many types of machines on farms had already more than doubled by 1942.

Table 26. Increase in the Use of Certain Types of Agricultural Machinery on Farms in Great Britain between 1942, 1944 and 1946

| | May 1942 | April 1944 | June 1946 |
|---------------------------------------|----------|------------|-----------|
| Tractors, track layers | 5,600 | 9,090 | 12,350 |
| others | 111,230 | 164,280 | 191,070 |
| total | 116,830 | 173,370 | 203,420 |
| Ploughs | 464,450 | 482,190 | 466,860 |
| Harrows, cultivators, and grubbers | 195,530* | 250,270* | 1,477,160 |
| Corn and fertiliser drills | 161,830 | 164,620 | 179,930 |
| Combine drills | 7,930 | 12,720 | 17,040 |
| Binders | 131,600 | 144,040 | 149,040 |
| Hay and straw balers | 2,760 | 3,810 | 6,680 |
| Combine harvesters | 1,000 | 2,500 | 3,460 |
| Potato spinners and diggers | 37,980 | 56,630 | 64,620 |
| Milking machines | 29,510 | 37,790 | 48,280 |

* including disc harrows only

Possibly the most marked relative increases, apart from the tractors, were in the number of harrows and cultivators, combine drills, hay and straw balers, combine harvesters and potato planting and lifting equipment for the 1942 and subsequent harvests.¹ The combine grain and fertiliser drill was one of the greatest labour savers; if it had not been possible to drill the seed and to spread fertiliser simultaneously, large areas of land, particularly on the phosphate deficient soils, could never have been got ready in time. The combine drill also achieved valuable economies in the use of fertilisers by the placing of seed and fertiliser in close proximity.

The increase in the number of implements is an inadequate measure of the dependence of the extension of the arable area on

¹ The subsequent development in the post-war years is indicated by the following data:

| | England and Wales | | | | Scotland | |
|------------------------------|-------------------|--------|--------|-------|----------|--------|
| | 1942 | 1946 | 1950 | | 1942 | 1946 |
| Combine drills | 7,230 | 16,100 | 24,000 | 700 | 810 | 2,580 |
| Combine harvesters | 940 | 3,250 | 10,000 | 60 | 100 | 780 |
| Milking machines | 23,860 | 40,400 | 69,000 | 5,650 | 7,230 | 10,200 |

mechanisation, since steps were taken at the same time to encourage the fuller working of machines. The Executive Committees, through their Technical Development Sub-Committees, organised demonstrations and courses in the proper maintenance of machines; the Rural Industries Bureau offered courses for blacksmiths and others in welding and machinery repairing. Farmers formed groups either on their own initiative or under the aegis of *ad hoc* committees for the co-operative use of implements owned by individual farmers. This successful development was taken to a further stage by the creation of informal pools of machinery acquired, owned and managed by groups of farmers for their own use. Some of the Executive Committees adopted the idea of parish pools and appointed organisers to encourage their formation; a network of such pools was established in Buckingham, Carmarthen, the East Riding of Yorkshire and Pembroke. Finally, the Committees themselves in England and Wales and the Department of Agriculture for Scotland owned large quantities of tractors and equipment which they either hired out to farmers or with which they carried out work for farmers under contract. By 1944 the Committees owned some 10,660 tractors and the Department some 1,200, with their ancillary cultivating equipment, as well as combine harvesters, threshing machines and other harvesting machinery.

One further war-time change of a very different nature but which was claimed to have an ultimate indirect effect on production was the removal in 1940, except under limited circumstances, of the concession whereby farmers were assessed for income tax under Schedule B – that is, on the basis of rental. This alteration led to an increased interest in farm accounts and, as a result of their closer examination, to improvements in management.

The previous three sections have dealt solely with the changes in cropping and livestock practice and in the use of manpower and machinery since these changes appeared to be the most far-reaching from the point of view both of the war years and the subsequent period and from the point of view of farming as a whole. Lack of space prevents reference to the many other changes in production methods which were devised by individual farmers to suit the needs of their particular farms and which in the aggregate helped to bring about the remarkable increase in the home output of food. Many of these innovations found their way from experiment into practice in response to the urgent demands of war and were to become established features of British farming in the post-war years.

CHAPTER XI

THE CONTROL AND DIRECTION OF PRODUCTION

IN PRE-WAR years the free play of the market price system was relied upon, in the main, to guide or direct production to meet consumers' needs. The market prices of some of the products had been supplemented or guaranteed from Government funds to stimulate the production of specific products; but only in one instance, hops, was there a definite bar to increased production although in one other – potatoes – there was a moderate disincentive to an expansion of output by means of a levy on increased acreage. Apart from the influence of prices there was little in the way of direct financial inducement to guide production except the indirect encouragement to greater output provided by the lime and basic slag subsidy and the £2 an acre subsidy for the ploughing up of permanent grassland.

With the outbreak of war and the appearance of shortages, the price system had to be supplemented by other measures of control in order, firstly, to stimulate a general expansion of food production and, secondly, to ensure a priority for the products most urgently required by the nation. Three main categories of control may be distinguished, financial, physical and psychological.

In the first group may be included the fixing of individual commodity prices, direct financial assistance for either general or specific purposes, and special grants for marginal producers. The second group includes the direct control of production by means of Orders to produce certain products and also the controlled distribution or allocation of those factors of production that became scarce in war-time; the most important of these were manpower, feeding-stuffs and fertilisers. The third category includes those intangible factors, which proved to be of great importance, such as propaganda, persuasion and the sense of security that was afforded by guaranteed prices, assured markets and some degree of price stability.

It is impossible to assess the part that each method played and the credit due to each for the expansion of food production from the soil of this country; it is possible only to indicate under what circumstances and in what direction each was used.

There was a wide divergence of opinion between the Agricultural Departments and most of the other competent Departments in their

approach to the problems of production control in the earlier years of the war. The former maintained that, for most purposes, physical controls and Direction Orders were adequate to guide production in conformity with the Government's programme so long as the prices of the staple farm products were all raised to a level that gave farmers the prospect of good total returns. The other Departments held firstly that such controls could not be complete and, secondly, that when the resources required for production were limited the aim could not be more of everything but more of some things and less of others; under such circumstances the indiscriminate raising of all prices would be both wasteful and ineffective.

(i)

Prices and Price Control

Experience of price changes in the First World War and in the two subsequent years, followed by a catastrophic fall in values, had left a vivid impression not only on the minds of farmers but also on those of administrators. As early as 1929 consideration had been given to the problem of combating the inevitable inflationary pressure if war should break out. Control of prices, wages, profits, imports and rationing were all under examination with a view to achieving some measure of price stability; plans were prepared for the freezing of the prices of agricultural produce and requisites at their existing levels on the declaration of war. There was little or no evidence, however, in the pre-war plans of any general recognition that the pressure for higher agricultural prices at an early date might be almost irresistible. The Inter-departmental Committee on Price Fixing had come to two main conclusions.¹ Firstly, price adjustments need be made only to meet increased costs; since price standstills were the basis of the Government's policy, there would be no immediate rise in costs, though the Agricultural Departments had held, with justification, that existing farm prices were too low to support a big expansion of production from the soil. Secondly, haphazard and sporadic increases in the prices of individual commodities should be avoided in favour of periodic general reviews of all agricultural prices.

As has been indicated in previous chapters both of these conclusions were soon abandoned when war started. Prices of imports in general, and of feedingstuffs in particular, rose rapidly as a result of a fall in the value of sterling, of a marked increase in freight rates

¹ p. 88 *et seq.*

and of the higher cost of insurance against war risks.¹ By December 1939 import prices were 29 per cent. above those of August. Moreover, as might have been foreseen, there was an early demand for higher agricultural prices at home when farmers were asked to put an additional 2 million acres under crops for the 1940 harvest on a grant of a mere £2 an acre.

The first crack in the standstill price arrangements appeared in October 1939 when increases were announced for fat sheep and in the standard prices of wheat and oats. In November followed the increase in fat cattle prices and the revised level contained the new element of cost to cover 'intangibles' and 'incentives'. This rise led to an immediate and inevitable demand for higher prices for milk, a commodity which was as much, if not more, affected as fat cattle by the rise in feedingstuff prices and which was known to be higher in the Ministry of Food's list of priorities. Prices of a few important products such as barley and oats had been left uncontrolled and, under conditions of increasing scarcity, rose spectacularly.² So developed the pattern of price changes that characterised the first nine months of the war and which many consider to have been haphazard and irrational. By January 1940 agricultural prices in general had risen to 20 per cent. above their pre-war level and by June 1940, after nine months of war, they had risen by 30 per cent., an increase which, in spite of the plans made in advance of the war and the controls instituted on its outbreak, exactly paralleled the increase in the first nine months of the First World War.

The earliest attempt at a coherent, co-ordinated schedule of prices was thrust upon the Government by its decision to raise the minimum agricultural wage to 48s. a week from 1st July 1940. This attempt marked a very great advance in price control technique. Up till that time the problem had been over-simplified by the old illusion that there was such a thing as a cost of production for any commodity which could be determined with exactitude. It was not generally appreciated that the methods in use were not designed to, and never could, measure absolute costs but only changes in costs from a datum period over relatively short periods of time. The new approach, which aimed at calculating on a national basis the total increase in costs occasioned by the rise in wages, in the prices of feedingstuffs and fertilisers, in rents and other factors of cost, gave a guide to the total compensation necessary for the industry as a whole and to its distribution among the products in such a way as

¹ The higher costs of home-produced feedingstuffs may be seen from the following instance: in 1939 it cost about £12 to grow 12 tons of turnips in this country, equivalent in feeding value to 1 ton of maize, which could be imported at a cost of £6-7.

² Maximum prices for milling and feeding oats were established in February 1940 and for feeding barley in August 1940 but it was not until July 1942 that a maximum price was instituted for malting barley.

to compensate for the increased costs and to give incentive where desirable in the light of the nation's general food policy. Emphasis was laid on the total returns to farming as a whole and to certain types of farming rather than on estimated costs of production of individual products. It was recognised that, in many respects, this new method was still crude but it was an improvement which turned out to be of great significance in subsequent years as statistical difficulties were gradually overcome or mitigated.

The principal weaknesses of the method worked against the interests of the farmer in some respects and in his favour in others. The basic data related to pre-war conditions but the proportions in which farmers used the different factors of production changed markedly during the war. For example, a decreasing proportion of livestock production costs was expended on purchased feedingstuffs and consequently any rise in the price of imported feedingstuffs tended to overestimate the increase in production costs. On the other hand, the substitution of home-grown feedingstuffs, produced largely by additional labour, for imported feedingstuffs probably underestimated the effect of increased wages upon costs of livestock production.

Nor did the method take into account changes in technique designed to lead to war-time economies in production costs such as the greater use of machinery, the more intensive grazing of fields, the better organisation of labour and the closer rationing of livestock; on the other hand, the method did not make allowance for inevitably higher costs due to such items as the employment of less efficient labour, poorer quality feedingstuffs, inexperience in growing new crops, the use of sub-marginal land and so on.

The undoubted difficulties of arriving at a satisfactory price schedule were aggravated by the division of responsibilities between Departments, principally the Agricultural Departments, the Ministry of Food and the Treasury, and by a lack of strength during the first year of the war in the co-ordinating body, the Food Policy Committee. There was, too, the basic weakness that there was as yet no established, clear-cut Government policy about finance and prices generally – that is, no framework into which could be fitted an agricultural price policy. Fundamentally, there was inevitably a cleavage of interests between the Ministers of Food and Agriculture. The former, who was responsible for the control of food prices, was not unnaturally interested in keeping prices low to the consumer in conformity with the nebulous idea of avoiding inflation; the latter, responsible for agricultural policy and the food production policy, was well aware of the need for increasing farmers' returns and injecting fresh capital into the industry.

The prolonged discussions between June and August 1940 have

been described in detail in an earlier chapter but their length and vehemence bring out the disparity of the views held by the various departments. Those of the Treasury and the Ministry of Food were simple to understand. It was felt firstly that the method of calculating farmers' costs, which were based on pre-war data, exaggerated their increase; secondly, that payment of the higher prices for crops harvested and livestock products marketed in the summer of 1940 to meet a rise in wages which had taken place only in July was over-generous in that most production costs had been incurred at a lower level of wages; thirdly, that the calculated increase in farmers' returns (£98.38 million) far exceeded the calculated increase in their costs (£49.6 million), even if allowances were made for an increase in costs which were not capable of quantitative assessment and for accumulating fresh working capital, and that the payments by way of incentive were therefore excessively great; and, fourthly, that the provision of guaranteed prices and assured markets for the most important products had removed one of the greatest hazards in the farming business.

On the other hand, the problem of the Agricultural Departments was undoubtedly complex. The Ministry of Food's 'shopping-list' approach—more wheat, potatoes and milk and, therefore, price increases confined to these products—seemed simple and logical but it was claimed to be agriculturally unsound. In the first place, the Agricultural Departments argued, such a policy would fail to touch the large areas of agricultural land in the United Kingdom that were capable of growing only grass and that, for one reason or another, could not be ploughed; such areas produced large numbers of beef cattle and sheep. In the second place, much of the land that was under grass but capable of being ploughed would give its maximum production only if put into an arable rotation which combined crop production with livestock farming. Barley and oats were capable of a far greater increase in production than wheat. Potatoes made excessive demands on labour and tended to compete with sugar beet for both land and labour. An increase in milk production would be dependent first on increasing the number of heifer calves whereas an increase in beef and mutton output could be achieved more rapidly. Under these circumstances, it was considered that it would be unwise to concentrate the price increases on wheat, potatoes and milk; they would be more effective in securing a general increase in production if spread more widely. The Agricultural Departments were concerned mainly to raise the prices of the staple products of mixed rotational farming. These conflicts in view crystallised themselves in three major price issues, wheat *or* oats and barley, potatoes *or* sugar beet, milk *or* fat cattle, which underlay the policy and price discussions throughout the first half of the war.

So much for the question of relative price increases. There was then the divergence of view as to how much more in the aggregate should be paid to the farmers. The Agricultural Departments' justification for the growing spread between total farm income and total farm expenditure was the need to provide farmers with adequate cash to undertake either more extensive or more intensive production, to provide a reasonable return on the additional capital required and to cover the additional risks involved. It was maintained that the pre-war years did not offer a sound datum period for comparative purposes. Prices and costs may have been in equilibrium by the end of the 'thirties – though this was not admitted – but only for peace-time circumstances. The situation had been changed radically by the outbreak of the war. Whereas livestock production had been built up on a supply of cheap imported feedingstuffs, the British farmer was now being asked not merely to substitute more costly home-grown feedingstuffs for those previously imported but also to go further than this. Whatever validity the results of surveys which reported that farming profits were adequate in pre-war years¹ may have had in relation to pre-war conditions, they were no longer applicable. The Departments claimed that it was wrong to rely merely on price incentives to encourage or discourage particular products; they preferred to rely on compulsory directions. Their policy was to put the farmers on the County War Agricultural Executive Committees and the District Committees in a position to say to the individual farmer who had ploughed up his grassland that since remunerative prices had been fixed for all the staple products, he must grow or produce what was wanted in the national interest, having regard to the soil and other particular circumstances on his farm. In the words of an official of the Ministry of Agriculture:

The policy of the Ministry was to get a substantial increase in prices of all staple products and we were not at that time so much concerned about the relative prices of different products. If we could make farming the land pay we felt that we could get farmers to produce what the nation required.

The two 1940 price reviews had four effects which went further than the immediate establishment of agricultural price schedules. The need for a proper relationship between the prices of the different products which conformed with the Government's priorities was established in the second price review of August 1940. The advantages of occasional general reviews in the place of a continuing series of haphazard individual price adjustments was also recognised. The Government learned how costly could be the system of compensating producers with higher prices to meet increasing costs and consequently gave weight to the arguments in favour of some form of

¹ p. 63.

price stabilisation. Attempts were also begun to find ways other than by increasing prices to help sub-marginal farming.

Though the Treasury had been reconciled in December 1939 to a temporary subsidy to stabilise the price of milk, it had not at that time welcomed the idea of permanent subsidies. But by August 1940, the War Cabinet had agreed to a policy of subsidising essential foods 'in order to restrain a rise in the cost-of-living index and to prevent wages rising'. Later in the same year, the prices of feedingstuffs and fertilisers, important elements in farmers' production costs, were stabilised at the expense of the Government. Finally in the spring of 1941 the Government committed itself to maintaining the cost-of-living index, embracing not merely food but also clothing, fuel and light, rent and rates, within the current range of 125-130 (September 1939 = 100).¹

The third general price review took place at the end of 1941 on the occasion of the second rise in the minimum agricultural wage, from 48s. to 60s. a week from December. This increase, it will be remembered, was claimed to add some £20 million a year to the industry's wage bill. By this time, the responsibility of the Agricultural Departments and the Ministry of Food had become more clearly defined; agreement on their new spheres of influence had been facilitated by the divorce of agricultural and retail food prices. As the burden of higher agricultural prices was thrown on the Exchequer rather than on the consumer, the Minister of Food's direct interest in farm prices waned. Except on one or two subsequent occasions, he was now prepared to leave questions of price policy to the Treasury and the Agricultural Departments so long as he was assured of the supplies of home-produced foods on which he was relying. The task of calculating farm incomes and expenditure, which had been a dual function of the Ministries of Food and Agriculture, passed to the Ministry of Agriculture in consultation with the Central Statistical Office in the War Cabinet Offices.

This third review took even longer than the first. The new calculations of farmers' net incomes appeared to indicate that farming returns from the 1940 price schedules had been considerably larger than anticipated, because actual agricultural output from the 1940 and 1941 harvests had exceeded the estimates made when the price schedules were determined. The Government was now more inclined to withstand excessive claims for further incentive payments and the schedule of prices, which was eventually agreed with the Farmers' Unions, increased farmers' returns by only an estimated £25 million a year against the increased costs amounting to £20 million.

¹ H. of C. Deb., Vol. 370, Cols. 1320-1322, 7th April 1941.

The fourth price review occurred two years later in December 1943 when the third increase in the minimum agricultural wage raised it from 60s. to 65s. for men and from 45s. to 48s. for women workers. This was claimed to cause a rise of £15 million in farmers' costs. On this occasion the Government maintained that, on the basis of the official estimates, net farming incomes had exceeded expectations, largely owing to a repeated underestimation of farmers' receipts, and that the existing price schedule more than covered the £15 million. The final price schedule did not therefore add to estimated total returns but merely redistributed them by raising the prices of milk and fat cows at the expense of a reduction in the barley price.

The price reviews after the first two years appear in retrospect to be more reasonable than their predecessors, both in the increases in aggregate returns to farming and in the distribution of these increments. But they also make clear two weaknesses in the methods of calculation and estimation which subsequent refinement might remedy. In the first place, the aggregate net incomes in the later reviews always exceeded expectations; for example the first estimates of net incomes for 1940-1 and 1941-2 were £134½ million and £176 million, but later revisions raised these to £188 million and £208 million respectively. There were four possible causes of this consistent underestimation of net income:

- (1) the effect of income from the uncontrolled commodities had been underestimated
- (2) increases in output usually exceeded expectation, either as a result of abnormally good yields or an underestimation of the farmers' abilities
- (3) the high level of output reduced overhead costs more than was expected
- (4) changes in technique and improvements in farming efficiency were greater than expected, especially for crops and large farms.

In the second place, these changes in net incomes concealed serious disparities between different types of farming. It is certain that the increase in productive efficiency during the war was greater on cereal growing farms where the full economies of greater mechanisation could be achieved than on, say, dairy farms where the possibilities of mechanisation were less and where the shortages and changes in feedingstuffs inevitably lowered production efficiency. Such changes in relative efficiency might well not be recognised statistically by the new system and called for relatively generous treatment for milk. It is probable that any rule-of-thumb allowances for such a factor would have been difficult to estimate and even more difficult to substantiate, but they were necessary.

The course of prices in general and of agricultural prices in particular throughout the war years are summarised in Table 27. The change in the cost-of-living index, which rose by some 30 per cent. during the first two years of the war and then entered a period of remarkable stability for the next four years, reflects the Government's general price policy. The index of retail food prices showed

Table 27. Index Numbers of the Cost of Living, Retail Food Prices, Wholesale Prices, and of Agricultural Prices, 1939-45
(1936-8=100)

| | Cost of Living | Retail Food Prices | Wholesale Prices | Agricultural Prices |
|------|----------------|--------------------|------------------|---------------------|
| 1939 | 104 | 103 | 101 | 103 |
| 1940 | 121 | 120 | 135 | 143 |
| 1941 | 130 | 123 | 150 | 172 |
| 1942 | 131 | 116 | 157 | 183 |
| 1943 | 130 | 121 | 160 | 186 |
| 1944 | 132 | 123 | 164 | 190 |
| 1945 | 133 | 125 | 167 | 196 |

the same trends – a rapid rise followed by a period of stability – but the introduction of the principle of food subsidies in August 1940 resulted in the maintenance of a lower level of prices for food than for other items in the cost-of-living index.

Wholesale prices rose by 50 per cent. between 1939 and 1941 but thereafter rose by only 11 per cent. during the remaining four years. Agricultural prices followed the same trend but the increase in the first two years was more rapid and more pronounced, amounting to 67 per cent. between 1939 and 1941 and only 14 per cent. in the following years – a reflection of the histories of the five general price reviews.

The relative movements in the prices of individual commodities and of groups of commodities during the course of the war are shown by the index numbers in Appendix Table XI.¹ If it is assumed that the pre-war price relationships were more or less correct, the changes resulting from the controls exerted on prices did, on the whole, conform with the desiderata after the first year of war, though it must be remembered that price changes are not always synonymous with changes in farmers' returns. Prices of cereals, even when barley is excluded, rose more rapidly than those of livestock and livestock products, a proper relationship in view of the emphasis put on crop production. In 1942-3 the price index² for livestock and livestock products was 174 while that of farm crops was 199.³ Again, after 1939-40 milk prices rose more than those of fat stock – their respective

¹ p. 381.

² 1936-7 to 1938-9=100.

³ Including acreage payments.

price indices in 1942-3 being 178 and 159 – a logical recognition of the priority attributed to milk production. There were, however, two marked divergences from the desired pattern. Firstly, there were the uncontrolled changes in oats and barley prices to which reference has already been made. Secondly, the increase in potato prices was not so great as that of other products¹ and certainly not as great as might have been expected in view of the relatively heavy labour requirements for potatoes. But fortunately these relatively low prices for potatoes were compensated by abnormally good yields from the first five crops of the war which helped to make this crop a profitable one; moreover, the guaranteed market meant a sale for all the farmer's marketable potatoes whereas in pre-war years some of the crop was often left unsold on his hands.

It may be of interest to compare the course of agricultural prices during the Second World War and in the years following it with that of the First World War. Farmers' fears during the earlier years of the

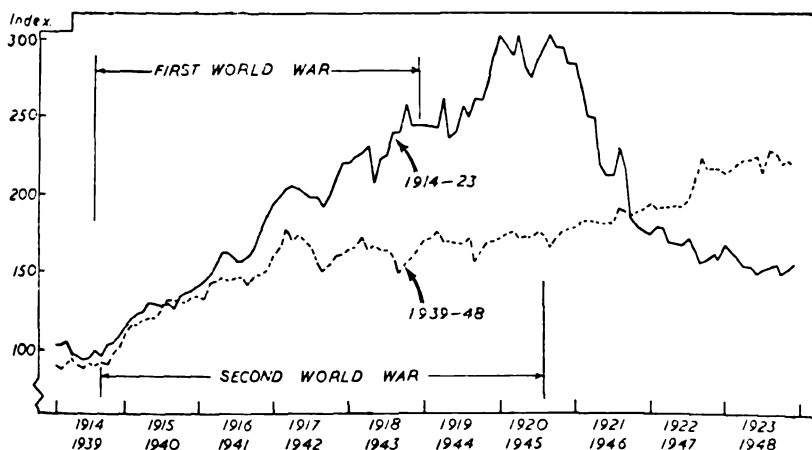


FIGURE 5. Index Numbers of Agricultural Prices, 1914-23 and 1939-48.

Second War were that, if they incurred heavy capital expenditure and increased their output, they might be left in the same predicament that they or their fathers had experienced after the First World War. Prices had then risen steeply during the war and had continued to do so until 1920. Then came the disastrous crash in 1920 and 1921. The continued existence of this fear had, in fact, been used by Ministers in the first two years of the Second World War in urging moderation by farmers in their demands for higher prices.

In the first twenty-four months of the First World War, agricultural prices rose by about 60 per cent., by about 100 per cent. by

¹ It must be recalled, however, that the potato crop was one of the profitable branches of production in the pre-war years.

the end of the third year and by the time of the Armistice they were about 150 per cent. above the pre-war level; at the corresponding periods of the Second World War, they had reached 53 per cent., 60 per cent. and 100 per cent. respectively. It was in the immediate post-war period, however, that the difference became more marked. The two years following the Armistice in November 1918 were characterised by further rapid inflation until in September 1920 prices were over 200 per cent. above the pre-war level; then followed the three catastrophic years during which prices were halved. Prices in the Second World War rose much more slowly both during the war and in the first two years after the Armistice; they then continued to rise until, six years later, they were about 40 per cent. higher than at the end of hostilities.¹

(ii)

Farm Incomes

Movements in prices are not always a safe guide to changes in farmers' incomes though they are, of course, closely correlated. They do not show the effect of changes in the quantities sold – an important factor when the volume of sales at fixed prices is increasing – or in changes in production costs which may move quite differently from prices of farm products.

Information on farmers' incomes and expenditure in England and Wales had been collected from 1,000 farms before the war for the Farm Management Survey conducted by the Agricultural Economics Advisory Service. Similar data were available in Scotland. The price reviews of 1940 had, however, shown the inadequacy of these data and the Ministry of Agriculture began at the end of 1941 to make plans for the improvement of both the data available and the methods of estimation. Arrangements were made to extend the investigation to cover an additional 1,000 farms, covering a wider range of products, thus making the total sample more representative of the main types of farming found in the United Kingdom. The object was to obtain more detailed and more accurate estimates of aggregate gross and net farm incomes, as well as information on the variations in incomes between the different types of farming.

Estimates of farmers' or agricultural net income² had been cited

¹ Figure 1, p. 19.

² Net farm income is more satisfactory than gross farm income as a measure of the financial results of farming as a business, either on an individual or national scale. It is the balance of income over expenditure adjusted for differences between opening and closing valuations. Net farm income therefore represents the return to the farmer for his own labour and that of his wife, the return for his management and the return on his own capital invested in the farm. It is also probably the best measure for comparison with earnings of those occupied in other industries and professions.

as early as January 1942 in connection with the price negotiations in progress at that time;¹ subsequent refinement in method and details and the use of the fuller data led to the production of a new series of calculations for the consideration of the Lord President's Committee in February 1943. The calculation of net income has been continued since that time and earlier estimates have been revised in the light of subsequent research and amplification of earlier data. A recently revised series prepared by the Ministry of Agriculture² showing global farm receipts and expenditure for the two years before the war and for the six years of war ending with the 1944-5 output is given in Appendix Table IX.³

There are, of course, deficiencies even in these latest calculations. For example, it might be argued that some of the items under the heading 'valuation differences' might be considered as capital appreciation (e.g. breeding stock) rather than profit; no allowance is made for depletion of capital through decreases in soil fertility or for any contingent liability to reinstate ploughed-up pastures. But the figures represent the best financial picture of agriculture as a whole during the war years. These changes are not, of course, representative of income changes for different types of farming to which reference will be made in a subsequent section.

Gross farm receipts are estimated to have risen from an average of £299 million in the two pre-war years to £596 million in 1943-4.⁴ Expenditure on labour, rent, interest, machinery depreciation, feedingstuffs, fertilisers and other agricultural requisites and services rose from about £245 million to £388 million in the same period; of this expenditure, labour accounted for 39 per cent. compared with 27 per cent. before the war, while expenditure on purchased feedingstuffs fell from 30 per cent. to 18 per cent. of the total. After allowance for changes in valuation, net farming income rose from £57½ million to £230½ million, an increase of 303 per cent. In 1944-5, however, the poor crop yields resulted in a drop in

¹ Estimates of net farm income in the United Kingdom.

| Year ending 31st May | Total net income £ million |
|-------------------------|----------------------------------|
| 1938-9 | 59½ |
| 1939-40 | 98½ |
| 1940-1 | 158 |
| 1941-2 | 182½* |

* Assuming prices and wages remained at their December 1941 level.

² The validity of these Departmental estimates is confirmed by comparison with calculations based directly on the independent financial accounts collected by the Advisory Economists. Even in the two years 1937-8 and 1941-2, when the margin of difference between the two series is greatest it does not exceed 2½ per cent. in any one year.

³ p. 379.

⁴ Appendix Table IX.

receipts without any corresponding decrease in expenditure with the result that net income declined to £188 million or 229 per cent. above pre-war.¹

This rate of increase was more than that of the national income as a whole and between 1938-9 and 1944-5, the farmers' share of the national income increased from 1.2 per cent. to 2.4 per cent.² Farmers claimed that part of the increase of net income was due to them in respect of an increase in volume of output but net agricultural income rose more rapidly and further than wages, salaries, professional earnings or company profits. It must be recalled, however, that the level of farm incomes was claimed by the Agricultural Departments and by farming interest to be unduly low before the war. Consideration could also justifiably be paid to the heavy out-goings which had to be met from these increased net incomes - capital expenditure on new machinery, increased working capital and the repayment of past indebtedness to banks, merchants and others.

Some of the changes in net incomes were, it must also be remembered, fortuitous in that they were due to weather conditions. The good yields from the 1942 harvest³ resulted in an increase in gross income of some £25-35 million while the subnormal yields of 1944⁴ were estimated to result in a drop in the net income from farming of as much as £27 million. But even if allowances were made for such items, the *increase* in farmers' incomes was relatively high, particularly during the first three years of the war.⁵

As mentioned previously, these estimates of changes in farm income for farming in the United Kingdom as a whole are confirmed by the results of the farm management surveys in England and Wales and in Scotland.⁵ Unfortunately, the standards of measurement -

¹ A comparison of the index of net farm income with the index of agricultural prices (Appendix Table XI) shows how greatly the movement in the latter underestimates the changes in farm incomes.

² *Statistical Digest of the War*, Table 180, p. 200.

³ pp. 174-5 and 374.

⁴ pp. 220 and 374.

| Year | England and Wales | | | Scotland | | |
|--------|-------------------|-----------------------------------|-------|-----------------|-------------------------------------|-------|
| | Number of farms | Average cash net income per farm* | Index | Number of farms | Average earned net income per farm* | Index |
| 1936-7 | 1,382 | £ 221 | 100 | 274 | £ 548 | 100 |
| 1937-8 | 1,780 | 233 | | 347 | 353 | |
| 1938-9 | 2,068 | 193 | | 336 | 202 | |
| 1941-2 | 1,792 | 758 | 351 | 376 | 1,406 | 382 |

* Cash net income per farm represents the difference on a cash basis between gross income and expenditure per farm; earned net income is the cash net income adjusted for changes in valuations between the beginning and end of each year.

average cash net income per farm in England and Wales and average earned net income per farm in Scotland – are not directly comparable and the Scottish series is possibly unduly weighted by dairying and arable stock farming. But the changes from pre-war may be compared. In England and Wales, income per farm had increased in 1941–2 by 251 per cent. and in Scotland by 282 per cent. compared with the three pre-war years. The figure for the United Kingdom for 1941–2 which is given in Appendix Table IX was 263 per cent.

It was not to be expected that incomes should be the same on all types of farms even in pre-war days. For one thing, different types of farms tended to be of different acreage or size of business. Again, with relative changes in the prices of the various farm products, different types of farms showed different changes in incomes.

Estimates of net income for different types of farms in England and Wales and in Scotland are given in Appendix Tables XII and XIII, for the periods 1936–7 to 1940–1 and 1940–1 to 1944–5 respectively. Again the two series are not directly comparable owing to differences in the definition of net income in the first period and in the grouping of farms in the two periods. But the results do give a rough indication of the changes in fortune of different types of farming during the war years.

In pre-war years the lowest incomes in England and Wales were found, firstly, in arable farming, particularly on heavy soil and on the light soils, which were dependent on barley and sheep for which prices were low, and, secondly, on grassland farms without any dairying, which were mainly on the higher ground of North-West England and of the South-West and Wales. An average net cash income of about £200–£250 a year represented a return of about £4–£5 a week to the farmer for his own labour and that of his wife, for his managerial enterprise and compensation for the use of his own capital; the claim that farming returns in the year before the war were, in many parts of the country, unduly low is not therefore surprising. The higher incomes were associated with dairying, whether on predominantly grass farms or on mixed farming land. After two years of war, returns on all arable land had multiplied many times due largely to the phenomenally high prices of barley and oats and, on average, exceeded those obtained from grassland or mixed farming.

In Scotland the picture was very similar. The lowest incomes in 1938–9 were found on hill sheep farms and on arable farms carrying stock, while dairy farms showed the best returns. By the end of 1940–1 the incomes from arable farming had increased many times while the incomes from dairying had risen to a comparatively modest extent.

Changes in net income per farm indicated that farm incomes in general rose in 1941–2 and in 1942–3 and then showed a decline in

1943-4 which was continued in 1944-5.¹ Once again the rate of increase was most marked for arable farming, particularly on the lighter barley lands, the Yorkshire and Lincolnshire Wolds, Lincoln Limestone, Nottingham Sand and South Cambridge Chalk, and on the heavy soils such as those of North Essex and Holderness. The intermediate types also showed further increases, especially on the corn, sheep and dairy lands of the Wiltshire and Southern Chalks. On the other hand, net incomes of grass farming declined after 1941-2 in the areas of mixed farming with grassland dairying in North-West Lancashire, North Cheshire and Shropshire, South-East England, Buckingham and the Thames Valley, as well as in the principal grassland dairying areas. Market gardening, and particularly the hops, fruit and vegetable areas of Kent, showed further increased returns until 1942-3.

In Scotland changes in net income moved rather differently, the peak being reached in 1942-3 rather than in 1941-2; but as in England and Wales, incomes from dairying remained relatively stable while those of stock feeding and of arable farming combined with stock feeding increased very greatly. Incomes from hill sheep farming continued to rise throughout the whole period of the war.

The decreases in incomes between 1942-3 and 1944-5 tended to be greater where labour formed a higher proportion of total expenses. For example, the heavy land arable type, with labour accounting for some 34 per cent. of the total farm expenditure, suffered a 54 per cent. fall in net incomes; mixed farming with substantial dairying 28 per cent. and 31 per cent. respectively; mixed livestock on grass 26 per cent. and 16 per cent. respectively. This was not surprising in view of the stabilisation of some of the farmers' important items of cost, such as feedingstuffs and fertilisers, while agricultural wages continued to be raised accompanied by less generous increases in prices to meet increased labour costs.

(iii)

Financial Assistance through Grants and Subsidies

Farmers' returns were not, however, dependent solely on the quantities of products sold and the prices received for them. Nor were the prices paid by the Ministry of Food and the Ministry of Supply for farm products the only expenditure incurred by the State in increasing the home production of food. Various measures of financial

¹ The peak year in Appendix Table IX is shown as 1943-4. The difference can probably be attributed to deficiencies in sampling and to faulty weighting of the various farming types in Appendix Tables XII and XIII, rather than in the calculations of the net income on a national basis in Appendix Table IX.

assistance, both direct and indirect, had been introduced before the war and, though most of these disappeared after September 1939, others were introduced as changing circumstances demanded. In so far as they affected returns or reduced production costs, they exerted a very considerable influence on farmers' production programmes.

They may be considered in three classes:

- (a) Measures of direct assistance
- (b) Measures of indirect assistance
- (c) Measures designed to assist marginal production.

The extent of the assistance provided by the most important of these measures is shown in Appendix Table XIV;¹ it should be noted that the years to which the figures apply are financial years, April to March and do not therefore correspond with the harvest years or the years of the war.²

The most important direct measure affecting arable farming was the subsidy of £2 per acre for the ploughing of grassland; payments reached a maximum of about £4.2 million in the financial year 1941-2, declining to £1.7 million in 1944-5. Coupled with Direction Orders issued by the County War Agricultural Executive Committees based on county quotas, the subsidy proved a greater stimulus than might be expected from £2 an acre. At the beginning of the war the cost of ploughing, cultivation, subsidised lime and fertilisers averaged about £5 an acre so that, with a subsidy of £2, the net cost was about £3 an acre, which was an expenditure that might be readily recouped in a rotation, or sooner if the expected rise in agricultural prices took place. Over the six years 1939-40 to 1944-5, the total payments amounted to £16,777,000, representing the ploughing of over 8 million acres, only a very small proportion of which was immediately re-seeded to grass.

The principal measures of indirect assistance were the grants made for disease eradication and the improvement of livestock, for drainage and for the increased use of lime. They cannot be classed wholly as the cause of immediate increases in farmers' receipts since many of them were only a partial reimbursement for special expenditure. The first group, which rose to a peak expenditure of £1,623,000 in 1942-3, included bonus payments to T.T. milk producers in Great Britain, totalling over £600,000 in 1940-1. The drainage grants which varied from £300,000 to over £1,100,000 a year were of indirect assistance in increasing the farm output even though they were, for the most part, paid directly to Drainage Boards and Local Authorities. The effectiveness of the subsidy to the farmer of 50 per

¹ p. 384.

² Much of the assistance which is shown as received in 1939-40 - to sugar beet, wheat and fat cattle - was paid on the balance of the 1938 harvests or livestock products sold before the outbreak of the war.

cent. on the cost of lime is proved by the increase in its use which rose from less than $\frac{1}{2}$ million tons a year before the subsidy to a peak of $4\frac{1}{2}$ million tons in 1943-4. Apart from these grants, there were numerous other indirect ways in which help was given, apart from the services provided by the County War Agricultural Executive Committees, such as grants for the extermination of rabbits and rats, the improvement of water supplies, the destruction of bracken and the like, but they did not amount to a heavy expenditure in terms of money.

The grants towards the erection of cottages, amounting to £385,000 in the last two years of the war deserve recording since they are not noted in any other section. Early in 1943, in response to urgent representations from the Agricultural Departments which were continuously trying to help the farmers' manpower difficulties, the Government gave authority for 3,000 houses to be erected in selected rural areas. The houses were to be provided by Local Authorities who were already empowered under the Housing (Financial Provisions) Act, 1938,¹ to receive contributions from the Exchequer of £10 per annum for 40 years. As an additional encouragement and in recognition of the rise in building costs, the Treasury now agreed to pay a further grant of £150 per cottage in England and Wales and £200 in Scotland. During the three years 1943-4 to 1946-7, the additional subsidies were paid on over 2,600 cottages in England and Wales and some 80 cottages in Scotland.

(iv)

The Problem of Marginal Output

The third category of measures of financial assistance consists of those grants paid specifically to assist marginal production, of which the most important were the acreage payments on certain crops and the grants on hill sheep and cattle. The origin of these payments for marginal output and their development are of importance. The experience gained by the Government in June 1940 had led it to institute a search for less expensive ways of raising farming returns than by the general raising of prices.² The indiscriminate increase in the incomes of all farmers, supra-marginal as well as marginal, appeared likely to be excessively costly, even if a larger part than formerly of farming profits was to be recovered through higher taxation. Alarmed at the thought of what might happen in future

¹ 1 & 2 Geo. 6, Ch. 16.

² p. 169.

price negotiations, the Lord President's Committee had invited the Minister without Portfolio to investigate the practicability of an alternative scheme by which:

- (i) the prices of agricultural products would be fixed at substantially lower levels than those authorised for 1939-40, the criterion to be adopted being the cost of production on land which, prior to the outbreak of the war, it was profitable to farm;
- (ii) some special form of incentive would be provided to ensure the utilisation of the marginal or sub-marginal lands required to be brought into production in order to secure the carrying through of the Government's war-time food production policy.

The conclusion of this examination was that it would be undesirable on grounds both of administration and of policy to introduce a scheme for a lower general level of prices coupled with incentives for high-cost producers. Administratively, it might be possible to distinguish marginal land – that which had been ploughed up to meet war-time needs – but it was presumably an incentive to marginal *production* and not merely marginal *land* that was desired; the difficulties of defining marginality in livestock farming were proclaimed to be almost insurmountable. Further, to distinguish between different farms on the basis of different costs of production presented an insoluble problem.

But the chief objections to discriminatory incentives were based on their deficiencies as an instrument of policy. Firstly, they were said to be too restricted in their effect; it was as necessary to encourage production on supra-marginal land as on sub-marginal. Secondly, the policy might be definitely harmful in that it might cause shifts from intensive to extensive cultivation. Such objections could not be overcome by more stringent and detailed Direction Orders issued by War Agricultural Executive Committees.

In spite of this apparently unfavourable decision in August 1940, three measures were introduced which were designed specifically to assist marginal and sub-marginal producers. In December 1940 the subsidy to breeding ewe stocks of hill sheep was initiated,¹ followed in May 1941 by a subsidy to breeding cows of certain types of cattle on hill grazings.² Later in the same year there came the decision to pay an acreage grant to growers of potatoes for the 1941 crop, accompanied by a reduction in the price per ton.³

A further inter-departmental enquiry into the possibility of alternative methods of re-couping farmers for additional costs had been initiated when it became apparent in the autumn of 1941 that the impending rise in agricultural wages would involve a further

¹ p. 117.

² pp. 192-3.

³ p. 168.

substantial rise in costs of production and, consequently, a fresh review of agricultural prices. The Lord President's Committee in January 1942 had asked that the Agricultural Departments

should again review the possibilities of meeting the extra cost of marginal production otherwise than through prices.

Apart from a brief reference to the possibility of making payments to farmers in proportion to their rents—a proposal which was regarded as impracticable owing to the administrative difficulties in collecting the necessary rental data—the enquiry had centred on the question of a system of acreage payments.

The advantages of a system of such payments were clear. Many embarrassments would be avoided—consultations with farmers, commodity by commodity, on price increases; an increasing gulf between producers' and consumers' prices; complications in price negotiations with overseas producers or Governments; rises in the cost-of-living index due to increases in food prices. But in spite of these arguments in favour of subsidies on an acreage or any other basis, the Agricultural Departments came again to their earlier conclusion that such payments were neither politically nor administratively practicable.

It was said that farmers would claim that such payments would not implement the original pledge of 26th November 1940 that agricultural prices would be subject to adjustment to the extent of any substantial changes in costs of production—a pledge that had been reaffirmed by the Minister of Agriculture to a deputation from the National Farmers' Union on 8th October and again in a speech at Norwich on 18th October 1941. The administrative and practical difficulties were also emphasised; the acreage subsidies might well result in undue emphasis on crops as against livestock products to the detriment of a sound balanced agriculture; the Agricultural Departments would have to contend with a new and troublesome factor in controlling the composition of the agricultural output; an acreage subsidy would to some extent diminish farmers' incentive to strive for higher yields, thus impeding one of the main tasks of the Executive Committees. Particular emphasis was laid on the anomalies that would be created between different types of producers; firstly, because the payments were indefensible in themselves and secondly, because they were unnecessary as compared with the more obvious and generally expected course of recompensing all farmers by means of price increases.

The Lord President's Committee cannot have felt that the enquiry had been exhaustive or entirely objective because it persisted that yet a third examination should be made without delay and that independent experts should be associated with the Departments in

it. This Committee on Marginal Production had virtually the same terms of reference as the earlier Departmental Committee – ‘to enquire into the possibility of devising methods of re-couping the extra costs of marginal production other than by prices’.

This Committee reported in June 1942 and reached broadly the same conclusions as the Minister without Portfolio and the Departmental Committee. But, by its clarification of the various issues and by its placing of the practical and administrative difficulties into better perspective in relation to the advantages to be gained by marginal assistance, the Committee had a very marked influence on the subsequent development of agricultural policy, not only in the war years but in the post-war era.

It distinguished three conceptions of marginal output. Firstly, there was the conception of marginal yields on existing land, whether on good or poor land. Secondly, marginal output could be interpreted by reference to the marginal character of the land, by reason of low yields or high costs in relation to the type of production required on such land under war-time conditions. Thirdly, there was the conception of output from marginal farms. A marginal farm might be a farm comprising marginal land such as that envisaged in the second category but there was a wider class of farms in which the limiting factor might be some factor other than the quality of the land such as uneconomic size or inaccessibility; insufficient acreage or lack of equipment or experience for the cultivation of a particular kind of crop; dislocation of farm organisation due to the restricted supplies of purchased feedingstuffs, the loss of a retail milk round or a luxury line of output. Bearing in mind the origin of its instructions, the Committee felt that its main problem was to seek a means of *re-distributing* existing payments to farmers to encourage marginal producers rather than to encourage marginal production by an increase of all farmers’ returns. It considered in particular four means of payment as alternatives to normal price incentives:

- (a) Bonus payments for increased yields
- (b) Acreage payments on total crop acreage
- (c) Acreage payments on individual crops
- (d) *Ad hoc* assistance for marginal farms.

Of these, the Committee dismissed the first two. Bonuses for increased yields per acre were considered to be administratively impracticable whether in relation to actual yields or ‘notional’ yields (whether on a national or regional basis) in a datum period. Moreover, yields were subject to fluctuations with the weather and other uncontrollable factors which might more than outweigh other efforts to obtain higher yields. Finally, yield bonus payments would do nothing to make marginal land more remunerative and might

even discourage production on marginal land to the extent that increases in yield might be more difficult to achieve on such land.¹

Payments on the basis of a farmer's acreage of arable land or tillage, at the expense of the ordinary or basic prices, would probably increase receipts on low-yielding land, much of which would be marginal. Such acreage payments, as against price payments, appeared therefore at first sight to be an answer to the problem. But there were four serious objections. In the first place they would not necessarily afford a stimulus to marginal livestock production; to reduce milk prices in alignment with acreage payments on the dairy farmers' crops would be too complex an adjustment to contemplate. In the second place, such payments would benefit farmers mainly in proportion to the lowness of their yields and they would not therefore benefit producers on marginal land whose difficulty was not so much one of low yields per acre as of high costs per acre due to some factor such as uneconomic size. In the third place, they might have a deterrent effect on yields on better class land, in that the payments would be made irrespective of the farmers' attempts to secure high yields. Finally, acreage payments might encourage farmers to retain crops for stock-feeding on the farm instead of selling them.

The Committee considered that these justifiable criticisms did not preclude the possibility of acreage payments on specific crops, an expanded output of which was required by means of an increased acreage; the more the acreage had to be increased, the greater was the need for the compensation of low yields on marginal lands. Moreover, it was felt that where a considerable expansion of a crop was required, the acreage payments need not involve a *pro tanto* reduction in the existing prices of that crop. A warning was, however, added that it would be unwise to make the acreage payment too high a proportion of the farmers' total returns lest it discourage farming for high yields or tend towards too great a use of excessively unsuitable land for that particular crop.

The Committee specifically recommended a system of acreage payments for wheat, flax and winter green vegetables, for all of which increased acreages were desired. On the other hand, it was held that there were insuperable objections to an acreage payment on oats, a crop which was generally retained on the farm for stock-feeding. A worthwhile acreage payment for this crop would therefore involve either too heavy a deduction from the price of the relatively small

¹ The possibility of bonuses on increased milk output, particularly in the winter period, or on a payment per cow or heifer calving in the autumn or winter had been mooted on an earlier occasion but had been abandoned on the grounds that the bonuses would not be a help to producers on marginal land and might merely result in a shift in production.

proportion of the crop that entered the market or a price reduction for milk and other livestock products derived from oats.

For farms in the third concept of marginality, the Committee recommended *ad hoc* assistance at the discretion of the local War Agricultural Executive Committees, who should be in the best position to know the special circumstances on such individual farms or groups of farms. Such assistance was not normally to take the form of cash grants but rather of help towards the costs of seeds, fertilisers, contract services, cultivation, control of disease, pest destruction, bush clearing and the like.

The Committee concluded that these two forms of assistance – acreage payments on specific crops and *ad hoc* grants – would be less costly than reliance on prices alone to secure an expansion of production on marginal land. It also considered that such payments would be preferable to further price increases in the event of any further substantial general increase in costs of production as well as in the event of a need to achieve substantial acreage increases. The report of the Committee was accepted by the Government and an initial sum of £1 million was allocated for the *ad hoc* schemes recommended by it.

An acreage payment for potatoes had been paid for the 1942 potato crop before the issue of this report; this was now given an aura of respectability and the system was extended to the wheat and rye of the 1943 harvest.¹ The recommendations for *ad hoc* assistance were subsequently embodied in the Marginal Production Scheme but the disbursements under this Scheme, especially in England and Wales, were not heavy.² The acreage payments and the subsidies to hill sheep and cattle, however, involved much heavier expenditure which increased from £12.4 million in 1941-2 to £31.0 million in 1944-5.³ Since acreage payments involved a corresponding reduction in the price of these particular products, they cannot be considered as an absolute augmentation of farming returns.

It is clear that, while the general agricultural price structure remained relatively stable during the later years of the war, increasing use was made of marginal payments as a method of increasing the returns of specific groups of farmers.

¹ Acreage payments for wheat and potatoes were maintained as an integral part of post-war policy. During the war, they were paid at the following rates:

| | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 |
|------------|------|------|------|------|------|------|------|
| Wheat . | £ — | £ — | £ — | £ 3 | £ 4 | £ 4 | £ 2 |
| Rye . | — | — | — | 3 | 4 | 4 | 2 |
| Potatoes . | — | 10 | 10 | 10 | 10 | 10 | 10 |

² pp. 194-6.

³ Appendix Table XIV, p. 384.

(v)

Direction of Production

Powers were delegated to the War Agricultural Executive Committees in England and Wales¹ and in Scotland² under the Defence (General) Regulations

- (1) to give directions with respect to the cultivation, management or use of agricultural land and
- (2) with the consent of the Minister concerned, to take possession of land or to terminate the tenancy of the land.

There were other powers delegated to the Committees but these two, in particular, embodied the real sanctions to enforce a production policy. More specific powers to control livestock production were granted in July 1942.³ It was explained to the Committees that these powers were given to them to secure increased cultivation and production of crops; to enable them to control the distribution of fertilisers, feedingstuffs, machinery and implements and other agricultural requisites; and to deal with manpower questions. These powers were extended or supplemented as circumstances demanded and by the middle of the second year of the war the Committees could control in detail the cropping and stocking of any farm, the cultivation and fertilising of its land and the allocation of feedingstuffs for its livestock; they had the powers, in the event of disregard of their instructions or on grounds of inefficient farming, to remove the farmer from his holding and either to let another farmer manage it or to farm it themselves.

The powers of the Committees were indeed formidable. But their existence seemed to be a sufficient sanction and recourse to their compulsory application was very infrequent. There was no hesitancy on the part of the Minister of Agriculture, after he was satisfied that the farmers had adequate financial resources to carry out their instructions, to recommend the use of these powers. In a letter to the chairmen of County Committees in April 1941, which was reproduced in the 'Green Book',⁴ he said:

I have delegated to the Committees wide powers and I wish them to use these to the full in all cases where the ignorance, the apathy or the opposition of an individual makes this necessary in the interests of the national food campaign.

The first task delegated to the Committees was to secure the ploughing up of permanent grass and to certify the amount of the

¹ Cultivation of Lands Order, 1939, S.R. & O., No. 1078.

² Cultivation of Lands (Scotland) Order, 1939, S.R. & O., No. 1650 (S. 117).

³ p. 157. Control of Livestock Order, 1942, S.R. & O., No. 1450.

⁴ Appendix, pp. 355-69.

grant of £2 per acre to be paid to the farmer. For legal reasons, formal Direction Orders were served whether the land to be ploughed had been offered voluntarily or not; few, indeed, were the cases where compulsion was necessary.

The success of this machinery and procedure led to their continuation in subsequent years both in England and Wales and in Scotland. County quotas were also established for the 1941 potato crop and in subsequent years the list of the principal crops for which acreage targets were set was gradually lengthened.¹ County quotas were also set for various minor crops such as onions, carrots, various green vegetables and mustard for seed. These county quotas were then subdivided by the Executive Committees and it was left to the District and Parish Committees to see that these requirements were fulfilled. The existence of county quotas was not in itself an indication that Direction Orders could be used. For instance, Executive Committees were not allowed to use Direction Orders for vegetables since these did not have assured markets; carrots were the only exception to this ruling and in their case the Ministry of Food had undertaken to accept any marketable surplus. But Direction Orders could be issued for the major crops if the Committees considered that they were necessary.

By 1942 a more or less routine system had been developed under which Committees asked in June of each year for schedules of the farmers' proposed cropping, field by field, for the next crop year, together with the proposed cultivations and manurial treatment. These schedules were then discussed between Committee and farmer in the light of the national requirements for specific crops or livestock products. The revised schedule was then made the basis for the issue of Direction Orders where they were considered necessary.

It is unfortunately impossible to ascertain the extent to which compulsion had to be used in implementing the Direction Orders that were issued by the Committees. Orders were, in most cases, issued for the protection of the farmer; for example to make him eligible for the ploughing-up grant, to certify him for a subsidy or

1

| Allocation of County Targets for:— | England and Wales | | | | | | Scotland | | | | | |
|--|-------------------|------|------|------|------|------|----------|------|------|------|------|------|
| | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 |
| Ploughing up of grassland . . . | x | x | x | x | x | x | x | x | x | . | x | . |
| Potatoes . . . | . | x | x | x | x | x | . | . | x | x | x | x |
| Sugar beet . . . | . | . | x | x | x | x | . | . | x | x | x | x |
| Wheat . . . | . | . | . | x | x | x | . | . | x | x | x | x |
| Barley . . . | . | . | . | . | . | . | . | . | x | x | x | x |
| Flax . . . | . | . | . | x | x | x | . | . | x | x | x | x |
| Oats . . . | . | . | . | . | . | . | . | . | . | . | . | x |

acreage payment, or to protect him against complaints or claims by a landlord for departing from the cropping terms of his tenancy agreement. The general consensus of opinion among those who worked on the Committees and Sub-Committees was that the percentage of cases where Orders were needed to ensure the carrying out of the Committees' instructions, was very small indeed and that the eminently successful results were achieved by a willingness on the part of most farmers readily to accept the calls made upon them or by a recognition by the rest that the Committees possessed the necessary powers of compulsion should a voluntary response not be forthcoming.

(vi)

Dispossession and the Termination of Tenancies

The ultimate sanction in the control of production was, logically, the power of the Ministers concerned to terminate a tenancy or to take possession of the land. Agricultural tenancies could be terminated and arrangements made for re-letting under Defence Regulation 62 for one of three reasons,

- (i) the land was not being cultivated at all, or
- (ii) it was not being cultivated according to the rules of good husbandry, or
- (iii) the tenant's failure to comply with the Directions issued by a War County Agricultural Executive Committee.

These powers could be exercised only with the written consent of the appropriate Minister.

Table 28. Acreages of Land Taken into Possession and Tenancies Terminated in England and Wales, 1940-5

| Position at 31st December | Total acres taken into possession since 1939 | | Acres retained in possession | | Termination of tenancies | |
|------------------------------|--|------------------------------|---------------------------------|------------------------------|-----------------------------|---------|
| | | | | | No. of cases | Acres |
| 1940 . . . | 84,338 | | 84,338 | | 700 | 65,448 |
| 1941 . . . | 201,636 | | 201,636 | | 1,517 | 137,399 |
| 1942 . . . | 328,426 | | 328,426 | | 2,401 | 216,059 |
| 1943 . . . | 378,284 | | 378,284 | | 2,771 | 241,724 |
| 1944 . . . | 388,094 | | 388,094 | | 2,897 | 248,826 |
| | agri- cultural land | non- agricultural land | agri- cultural land | non- agricultural land | | |
| 1945 . . . | 355,942 | 102,665 | 286,632 | 93,095 | 2,742 | 228,172 |

The requisition of land was empowered by Defence Regulation 51 where the County War Agricultural Executive Committees felt it to be necessary in order to promote or increase food production. The extent to which these powers were invoked is indicated in Table 28. These statistics may, however, be misleading if two qualifications are not borne in mind. Firstly, much of the land taken into possession was non-agricultural land such as common land, derelict building sites, playing fields, moorland and marsh; this was not distinguished statistically until 1945. Secondly, the figures include many instances where land was requisitioned with the consent of the occupier because he was unable, rather than unwilling, to undertake the type of cultivation demanded by war-time needs; for example, many grass-land farmers who lacked the experience or equipment for arable farming readily surrendered their land.

The powers of dispossession were the cause of considerable misgiving and more warmly disputed than the exercise of any other single power. There was continuous pressure for some sort of independent assessment of the decision to turn a farmer out of his home and business. The Minister of Agriculture stated at a meeting of the Council of Agriculture in December 1942 at which these points were raised: 'I have still to find one case of injustice. Hardship, yes; but we could not carry on a totalitarian war without hardships'. But, in fact, the figures in Table 28 exaggerate the risk of such hardship. According to a statement in Parliament, less than one-tenth of the 10,000 cases of dispossession involved a farmer having to leave his house and complete holding; most of the cases concerned non-resident occupiers, parts of holdings, derelict land or land used for sport or even empty houses. Of the tenancies terminated almost half involved only accommodation land.¹ Of the acreage requisitioned in England and Wales, about half was farmed by the Committees themselves and the remainder let to tenants. In Scotland the powers were used even more sparingly. By 1944 possession had been taken of some 79 arable and mixed farms (20,000 acres), 5 sheep farms (49,000 acres) and 8 deer forests (170,000 acres); of the arable and mixed farms, 49 were later farmed by the County War Agricultural Executive Committees, 3 by the Department for drainage reclamation and 27 were let to new tenants. As in England and Wales, the termination of tenancies gave rise to intense criticism in Scotland but in fact the use of these powers was exercised only in 73 cases.

¹ H. of C. Deb., Vol. 409, Cols. 1560-1, 29th March 1945.

(vii)

Control and Rationing of the Supplies of Labour and Agricultural Requisites

The measures taken to control labour supplies have been outlined in previous sections and there is no need once more to emphasise their importance. Firstly, in contradistinction to 1914, there was the reservation from military service of workers above a certain age, followed by legislation to prevent those remaining on farms from moving to other industries and then to slow down the movement of workers from farm to farm. Secondly, there was the organisation of the Women's Land Army, of prisoners of war and of holiday and school child labour to make up for the loss of the younger workers and to meet the additional labour requirements demanded for the big expansion in output. Not only was the supply of labour controlled but to an increasing extent its availability and mobility came under the control of the County War Agricultural Executive Committees. In December 1941 the Committees in England and Wales were employing some 8,600 workers while two years later the number had risen to about 36,000; their expenditure on gang labour increased from £800,000 in 1941-2 to over £5,757,000 in 1943-4. On the other hand, plans which were put forward from time to time to move regular agricultural workers from some districts to others where the needs were greater proved to be too difficult to be brought into operation.

Other direct measures to guide the production of crops were the controlled distribution of fertilisers and of machinery. The first scheme for the rationing of fertilisers was an informal one which was worked through trade channels on the basis of pre-war sales. But as supplies firstly of potash and subsequently of phosphates became scarcer, administrative methods changed and a tighter control was initiated, based on a new order of crop priorities.

Similar changes took place in the control of agricultural machinery. The voluntary scheme worked through the trade gave place to closer control by the County Committees. Further, as with labour, the supplies under the control of the Committees themselves increased greatly.

The arrangements for the allocation of feedingstuffs to farmers on the outbreak of war were also, like those for fertilisers, more or less informal; supplies were issued to merchants on the basis of their pre-war sales. This method was superseded in February 1941 by the intricate scheme which has been described earlier.¹ Modifications later in the same year restricted the contents of the feedingstuffs pool

¹ p. 136 *et seq.* and p. 171 *et seq.*

and also restricted its allocation to dairy cows, to essential work horses, both on the land and in towns, to pigs and to poultry.

The problem of making sure that the controlled supplies of feedingstuffs were actually consumed by the types of livestock for which they were intended was indeed a complex one. To be 100 per cent. successful, supervision would have had to be maintained on every individual farm. Such close control was obviously impractical. It was therefore essential to control and fix prices in such a way as to make most profitable the production of those products that were required most urgently. Otherwise there would be no inducement other than sheer patriotism to devote home-grown feedingstuffs to milk production rather than to beef or mutton or, in the case of cereal concentrates, to pigs or poultry; but the efficiency of price control was in turn dependent, for 100 per cent success, upon the efficiency of supply control and the absence of black markets.

The next step in control was to allocate the supply of feedingstuffs, so far as possible, on the basis of the output of the desired products, such as milk sales. This relation of the issue of concentrates to output was one of the scheme's most fundamental principles. It was considered at one time that rations for poultry might be issued on the basis of eggs delivered to the Government's packing stations, but this was not adopted until after the war.

The tonnages of cereal and protein concentrates issued under the rationing scheme and their distribution among the different classes of livestock are shown in Table 29. The table indicates clearly the

Table 29. Distribution of Cereal and Protein Feedingstuffs Coupon Entitlements among Different Classes of Livestock under the Rationing Scheme, October-September Years

| | 1941* | 1941-2 | 1942-3 | 1943-4 | 1944-5 |
|----------------------------|--------|--------|--------|--------|--------|
| <i>Cereals</i> 000 tons | 2133.3 | 2217.2 | 1630.5 | 1935.6 | 2324.6 |
| Percentage to | | | | | |
| Dairy cows, and calves . | — | 33 | 34 | 37 | 33 |
| Horses† | — | 16 | 19 | 15 | 12 |
| Pigs and Poultry‡ . | — | 40 | 33 | 37 | 45 |
| Reserves and miscellaneous | — | 11 | 14 | 11 | 10 |
| <i>Proteins</i> 000 tons | 514.8 | 761.5 | 582.2 | 545.6 | 688.3 |
| Percentage to | | | | | |
| Dairy cows, and calves . | — | 55 | 61 | 64 | 59 |
| Pigs and Poultry‡ . | — | 15 | 16 | 18 | 20 |
| Reserves and miscellaneous | — | 30 | 23 | 18 | 21 |

* February-September only.

† Rural and urban horses.

‡ Including domestic pigs and poultry.

rapid deterioration in the supply of controlled feedingstuffs in 1942-3, following the serious decline in imports, the raising of the extraction

rate of wheat flour and the dilution of bread flour with barley; the supply of cereal and protein concentrates dropped by 25 per cent. and 24 per cent. respectively compared with the previous year. The proportion of cereals allocated to dairy cows and calves during the four full years averaged just over 33 per cent. and of proteins about 52 per cent. of the total though these may be underestimates since a large proportion of the reserves was subsequently devoted to the feeding of dairy cows. About 65 per cent. of the feedingstuffs were issued during the seven winter months and 35 per cent. in the five summer months. Of the 3,203,000 tons of cereal concentrates distributed to pigs and poultry over the four years, 694,000 tons or 22 per cent. went to domestic poultry and 103,000 tons or 3 per cent. to domestic pig production.

(viii)

Propaganda and Persuasion

Prices, financial assistance, compulsion and control of supplies had to be supplemented by exhortation and persuasion. Within two days of the outbreak of war the Minister of Agriculture appointed a Publicity Advisory Committee to advise him 'on matters affecting publicity and intelligence in connection with the Government's campaign to increase home food production'; this was a recognition of the importance of supplying adequate information to the farmer and the general public at the right time and in the right form. There is no doubt of the success with which this work was carried on during the next five years; it must not be overlooked, however, that propaganda and persuasion would have been of little avail if the farmers' willingness to meet the nation's need had not provided a fertile soil in which they could take root. No medium was neglected—News Services, Ministerial meetings, Press conferences, advertising, films, broadcasts, competitions, exhibits, leaflets, lectures and speeches were directed to bring to the farmers' attention the changing phases of the Government's production plans. The first year was characterised by drives for increased food output on allotments and for the keeping of domestic pigs and poultry as well as for the increased ploughing up of grassland. In later years came particular campaigns for self-sufficiency in feedingstuffs for dairy farmers, for grassland improvement, the encouragement of the early purchase of fertilisers, the use of catch crops, silage, the urgent need for greater winter milk production, the maximum sales off farms, the disposal of oats under contract, the culling of dairy herds, cereal seed dressing, tractor fuel economy, schoolboy harvest camps and the like.

A Weekly News Service was issued by the Ministry to some 350

provincial papers while the *Dig for Victory News* was circulated to thousands of allotment holders and gardeners. Large sums were spent on advertising in the farming and general press; major campaigns in 1939-40 urged ploughing by day and night, silage from spring grass and aftermath; in 1940-1 the theme was the encouragement of self-sufficiency with the 'Grow more food for man and beast' drive; a year later came the emphasis on milk production, livestock improvement and the use and care of machinery; finally, in 1944, the main points of the press advertisement campaign, costing some £118,000, were the importance of 'not letting up', a greater drive for winter milk, greater efficiency in livestock production and the country's continued need for potatoes.

Leaflets littered the countryside; 1½ million 'Grow more' leaflets were issued in the first four months of 1941, while nearly ½ million on 'Early bite', 'Nitrogen - the way to higher yields' and 'Kale for winter feed' were issued in the same period; 4 million 'Dig for Victory' leaflets were distributed in 1943. Stalls were set up in markets; teams visited 1,350 markets in 1942 and some 1,600 in 1943.

Films on varied topics were produced either by the Ministry of Information or in association with commercial firms and were shown throughout the country; on methods of ploughing, hedging, ditching, and thatching; the care of tractors; soil fertility, drainage, liming, manuring, and cultivation; sheep parasites, mastitis, contagious abortion and other animal diseases; potato blight; the destruction of rats and other vermin. The usefulness of films was, however, a subject of considerable controversy and, according to many, they were not universally acceptable and there was said to be a rising tide of opinion against official 'talkies'. On the other hand the eleven 'Dig for Victory' films produced in 1943 seemed to be widely acclaimed.

Films designed to inform the general public of the part being played by farming in the war effort did much to promote a better understanding of the farmers' difficulties at a time when misconceptions might easily have arisen.

Broadcasting played an important part in the explanation of official policy. From the outbreak of war, the successive Ministers of Agriculture were able to explain quickly and personally the changing situations as they arose, the needs of the moment, the reasons for the Government's decisions on prices and production and the plans for the future. Equally important, too, were the technical talks given by experts, both practical and academic; the only unsuccessful venture was the broadcasting to organised listening groups.

Of the competitions, the most famous was possibly the contest for a gold cup and six miniature silver churns presented by the Royal Agricultural Society to encourage the increased output of milk. The cup was gained in the first year by Pembrokeshire whose milk

production during 1942-3 was raised by so much as 128 per cent. compared with that of the previous year; the six churns were gained by Pembroke, Huntingdon, the North Riding of Yorkshire, Northampton, the Isle of Wight and Cornwall. Only eight of the sixty-one counties in the competition failed to show increases; fifteen counties showed an increase of more than 50 per cent. and thirty-four 25 per cent. or more. Some two thousand farmers gained certificates for increases of 10 per cent. or 20 per cent. In the following year the conditions of the competition were altered. Milk targets were set for each county for the winter period October 1943 to March 1944, and the gold cup and churns were gained by the counties showing the greatest increase over their target figures. Certificates of Merit were given to individual farmers who showed either an increase of 10 per cent. or more over their sales in the winter of 1942-3 or average milk sales per herd of 2 gallons or over per cow per day throughout the winter period. Glamorgan won the gold cup with a surplus of 18 per cent. above the county target and the six regional winners of silver churns were Glamorgan, the East Riding of Yorkshire, Monmouth, Peterborough, Buckingham and Wiltshire. Some five thousand farmers qualified for certificates.

Much of the drive came from the Minister of Agriculture, Mr. Hudson, himself. During his arduous years of office he made frequent visits to County Committees and spoke at mass meetings of farmers throughout the country. These experiences enabled him not only to explain the Government's policy but also to gain at first hand the views of the farming community. The reactions were not always favourable, but he faced his critics with a degree of sincerity and courage that compelled admiration, if not always agreement, wherever he went.

Those concerned with the planning of the production policies, however, willingly acknowledge and give due credit to the lead given in persuasion by the thousands of members of the County War Agricultural Executive Committees and their Sub-Committees. That these men should be trusted by their fellow-farmers and that their advice should be followed was an essential part of the war-time plans; the measure of their success was the increase that was achieved with a minimum of compulsion. County quotas were worked out largely on the basis of what the members of the Committees thought to be possible, adjusted subsequently by the central authorities. Production programmes for individual farms, and even for individual fields, were worked out between the farmers and the committee members and a balance was struck between the needs of the country and the practical consideration of the circumstances of each farm and farmer. As has been stated earlier, the instances where the ultimate sanctions of compulsion were necessary were infinitesimal

in number compared with the number of changes in cropping and livestock production that were brought about by the generous advice and persuasive powers of the farming members of the Executive, District and Parish Committees. They often accomplished what could not have been done by the expectation of higher returns, compulsion or the withholding of supplies. Understanding, experience, patience, confidence and goodwill were required for this work and they were not lacking.

(ix)

Guaranteed Prices and Assured Markets

A reduction in the risks inherent in peace-time farming was essential for an expansion of agricultural production. By the time that the war started, there was already a substantial measure of price support for British farming; guaranteed minimum prices had been instituted for the main products of the farm,¹ but there was no certainty of a market for the products at these prices, other than an indeterminate policy of 'holding the ring' for the home producer by means of restrictions on competitive imports. On the contrary, the farmer had clear indications from the later pre-war legislation that the Government was not prepared to face an unlimited liability in regard to its guaranteed minimum prices, some of which would be reduced if production exceeded certain specified levels.

Within a month of the outbreak of war, it was evident that firmer guarantees would be needed; 'cash, credit and confidence' were needed by the farmers if the desired response was to be forthcoming. On 9th October 1939, the Minister of Agriculture affirmed:

the Government will be purchasing the whole of the staple crops grown for next year's harvest and sold off the farm at prices to be fixed in the light of prevailing circumstances. Farmers will therefore have a guaranteed market and prices for their principal products.²

A few days later he was authorised by the Government to state that the prices to be fixed would ensure a reasonable return to the farmer. It was soon clear that anxiety on the part of the farmer about markets for his produce was justified only for one or two commodities such as potatoes, the area of which was to be expanded so greatly and the yields of which in favourable seasons could be embarrassingly heavy. But by the second year of the war the Ministry of Food had gone beyond its original promise to take only the farmers' surplus and was prepared to take all marketable potatoes offered by the growers.

¹ See p. 39.

² H. of C. Deb., Vol. 352, Col. 7. See also p. 89.

In the end, only fruits, flowers and vegetables, excluding potatoes, carrots and onions, were devoid of guaranteed markets and prices but the general shortage of these was usually sufficient to dispel fears of unsold products.

A further undertaking, designed to create a greater feeling of security for the farmer, was given in the House of Commons on 26th November 1940 when the Government promised to guarantee prices up to the end of the war and for at least one year thereafter.¹ This undertaking held good until towards the end of 1943 by which time the tide of war had turned and post-war policy discussions were in the air. The Government was pressing for greater output from the harvests of 1944 and 1945, but uncertainty about markets that might prove to be post-war markets, was growing. The Minister of Agriculture was pressing for an extension of the period of guarantee and in October 1943 the War Cabinet was prepared to go so far as 'not less than two years after the end of the war with Germany'; its hesitancy was, of course, due to a fear that guarantees to one industry would certainly lead to similar demands from others, such as the aircraft industry. But by 26th January 1944 the Minister had obtained War Cabinet approval for an extension of the system of fixed prices and assured markets for the next four harvests.²

Credit must also be given to the policy adopted in the autumn of 1940 of stabilising the prices of those two important elements in farming costs, feedingstuffs and fertilisers. Even though the risk of fluctuations in farm prices had been reduced by adjusting the prices of farm products to meet changes in costs, the stabilisation of these prices reduced the frequency of price reviews and the distractions and doubts to which these gave rise.

This survey of the means whereby agricultural production was stimulated and directed has covered financial inducements; measures of direct control by regulations and Orders; the rationing or allocation of manpower and other factors of production; and, finally, the less tangible factors such as advice, propaganda and exhortation and a reduction in the risks inevitable in farming. It was only by the employment of all such methods that production was guided in conformity with the Government's policy, and it would be fruitless to attempt to evaluate the part played by each. There were – and there remain – divergent views about the relative merits of each, particularly concerning the control of production through prices and through Direction Orders, but in fact all were necessary; their effectiveness varied from farmer to farmer, from commodity to commodity, and according to the circumstances found on individual farms.

¹ p. 112.

² By the end of this period, the provisions of the Agriculture Act 1947 (10 & 11 Geo. 6, Ch. 48) had come into operation, embodying the war-time principles of guaranteed prices and assured markets.

CHAPTER XII

THE FORMULATION AND EXECUTION OF POLICY

(i)

The Formulation of Policy

RESPONSIBILITY for the formulation of a food policy in anticipation of the war had rested primarily with the Committee of Imperial Defence's Sub-Committee on Food Supply in Time of War; the executive initiative in problems of production lay with the Agricultural Departments and in those of manufacture, distribution and consumption with the Food (Defence Plans) Department. On the outbreak of war, however, responsibility for agricultural policy passed to the Home Policy Committee which in November 1939 appointed a Ministerial Sub-Committee on Food Policy 'to keep under continuous and close review the broader aspects of food policy'; the Chairman was the Lord Privy Seal and its membership included the Secretaries of State for the Colonies and Scotland, the Ministers of Agriculture, Food, Health and Shipping and the Financial Secretary of the Treasury.¹ The Ministerial Sub-Committee reported to the Home Policy Committee and matters of disagreement were referred to the War Cabinet. The first act of this Sub-Committee was to appoint an Official Sub-Committee representing their Departments, under the Chairmanship of the Permanent Secretary of the Treasury, which prepared and submitted reports to enable the Ministerial Sub-Committee to carry out its terms of reference. At the same time, an Inter-departmental Committee on Food Prices, with a Sub-Committee on Agricultural Prices, was also established to advise the Ministers on price policy.

In April 1940 the Ministerial Sub-Committee became the Food Policy Committee and a month later the Official Sub-Committee disappeared as the Departmental officials became more directly identified with the work of the Ministerial Committee. A study of the papers and minutes of both the Ministerial and Official Sub-Committees during the six months of their separate existences suggests that many of the problems were considered exhaustively at

¹ The President of the Board of Trade and the Lord President of the Council were added at later dates.

two levels where consideration by a single sub-committee or a joint committee would have saved both time and effort. The change in April 1940 was a much needed one.

The general machinery for the formulation of economic policy – and food policy could not be considered successfully except in this wider setting – which had consisted of a Home Policy Committee and an Economic Policy Committee, was overhauled when Mr. Churchill became Prime Minister in May 1940.¹

The new structure consisted of four main Committees, a Home Policy Committee and a Food Policy Committee,² with the Lord Privy Seal, Mr. Attlee, as Chairman of both, and an Economic Policy Committee and a Production Council under the Minister without Portfolio, Mr. Arthur Greenwood. The terms of reference of the Food Policy Committee were to ‘deal with problems of food including food production.’³ The work of the four committees was co-ordinated by a new body, the Lord President’s Committee which, in fact, thus became responsible for home and economic policy. The Lord President – Mr. Neville Chamberlain until October 1940 and then Sir John Anderson (now Lord Waverley) – was authorised to give binding decisions on matters referred to his Committee so long as they did not involve finance in which case the matter had to be referred to the full Committee. As before, disagreement was resolved by the War Cabinet.

(ii)

Executive Responsibility

Executive authority was in theory divided primarily between the Ministry of Food and the Agricultural Departments, though the Ministry of Supply was responsible for the importation of fertilisers or the raw materials for their manufacture and, on the advice of the Agricultural Departments, for their distribution and prices. The Ministry of Food was responsible for food and feedingstuff import programmes and, with the passing of the Defence Act, it became the formal authority for controlling the sales, prices and distribution of agricultural products, excepting wool and flax which were the responsibility of the Ministry of Supply. The Agricultural Departments were responsible for translating policy into practical and detailed plans and for taking the administrative action necessary for the plans’ fulfilment.

¹ For a fuller discussion of these changes see W. K. Hancock and M. M. Gowing, *British War Economy*, pp. 93–94.

² Formed, as a full Committee of the War Cabinet, from the Food Policy Committee established in April 1940.

³ H. of C. Deb., Vol. 361, Col. 769, 4th June 1940.

Towards the end of the second year of the war there was a much needed clarification of the responsibilities of the Minister of Food and the Minister of Agriculture in regard to home-produced food supplies. It was inevitable that there should be overlapping where production shaded off so indefinitely into distribution and conflict when the Minister of Food wished to keep food prices down and yet, paradoxically, had to pay more to producers in order to meet rising costs and to obtain increased output. There had been more than the ordinary 'cut and thrust' of debate in the discussions between the officials of the two Ministries and between the Ministers in Committees. Relations had become strained during the price negotiations in the summer of 1940,¹ and the tension had by no means been eased by the controversy over 'slaughter policy' during the first six months of 1941² and over the Minister of Food's claim to have a right to human foodstuffs grown on the farms as raised by the question of oats.³ Relief was provided through a personal statement to the Food Policy Committee by the Minister of Food in July 1941. Stressing that the Committee existed to ensure that the Ministries of Agriculture and of Food pursued a common policy, he emphasised that it was then the responsibility of the Ministers, and not of the Committee, to administer that policy. The Committee had established the priority of milk before meat and it was within the competence of the Minister of Agriculture to decide how to fulfil this priority; he, the Minister of Agriculture, administered the feedingstuffs rationing scheme and it was his responsibility to see that it was used to effect the Committee's policy. The Minister of Food said that he now left it to the Agricultural Ministers to control the numbers of livestock offered for slaughter but reserved the right to take in any one week and at the price ruling at that week only the numbers of home cattle that he could slaughter and utilise. In regard to crops for human consumption, he was not prepared to accept the proposition that only the wheat crop should be grown for public use; he must have the right to call upon farmers to deliver oats, by contract or otherwise.

The Agricultural Ministers agreed to accept the responsibility for meeting the Minister of Food's requirements of oats if he would state them and the Minister of Agriculture himself now stated that

it had always been made clear to farmers that priority must be allowed to the use of crops for human consumption. The only undertaking implicit in the advice given to farmers to make themselves self-sufficient was that there should be no requisitioning of crops (other than wheat) from one farm for use as feedingstuffs on another.

The Agricultural Ministers also accepted the responsibility for the

¹ p. 94 *et seq.*
² p. 117 *et seq.*
³ p. 134.

maintenance of the milk supply, so far as this depended on a satisfactory distribution of the available supplies of feedingstuffs and on a sufficient supply of oil cakes. Clarification of the division of responsibility had been achieved in at least two respects.

The third year of the war saw a further simplification of the means of formulating policy. From its foundation in May 1940, the part played by the Lord President's Committee had increased in influence and scope. One material factor in this emergence had been the establishment early in 1941 of an Economic Section in the offices of the War Cabinet, which became, in effect, the economic staff of the Committee; it was thereby provided with the services of its own secretariat and experts whereas the Food Policy Committee had had to work on the almost inevitably *ex parte* memoranda provided by the experts of often antagonistic Departments.

The Lord President's Committee had established itself so firmly by January 1942 that the Food Policy Committee had become redundant and had petered out altogether; thereafter the determination of food policy rested with the Lord President's Committee:

The Food Policy Committee found that the main issues with which it had to deal were either ones on which it was difficult to get agreement and which therefore tended to get referred to the Lord President's Committee or ones which raised large general issues of economic policy and were therefore more properly within the terms of reference of the other Committee.¹

The Food Policy Committee had functioned during a period of great difficulty, due primarily to uncertainty about the length and intensity of the war. Initial disruption, followed by a period of false security, and then disaster upon disaster had made it impossible even to formulate a policy, far less to stick to it. It may be on this account that the discussions and controversies of the first two years now appear so often to have been arid and fruitless. Yet the impression grows, particularly in the light of subsequent experience, that much of the disagreement was unnecessarily prolonged and that either stronger leadership within the Committee or greater support from outside it would have eliminated a great deal of unnecessary argumentation.

The concordat between the Minister of Food and the Minister of Agriculture in July 1941, with its clearer definition of their respective responsibilities, combined with the greater authority of the Lord President's Committee under Sir John Anderson undoubtedly made for the quicker and more effective co-ordination of policy. During 1941-2, only four major agricultural issues reached the War Cabinet;

¹ *Lessons of the British War Economy*, edited by D. N. Chester, p. 9. Cambridge University Press, 1951.

(i) the continued deferment of 10,000 workers in December 1941, (ii) the raising of agricultural wages, (iii) the determination of the price schedule in January and February 1942, and (iv) the questions of the wheat flour extraction rate and the use of diluents. Most of the major decisions had been taken by the Lord President's Committee and, in fact, the bulk of them were now agreed inter-departmentally.

The committee structure which was finally evolved was efficient and comparatively speedy; its success lay in the clear recognition, overlooked in the complex committee organisation of the first year of war, that food policy cannot be considered in isolation – it could not be divorced from economic or shipping policy, even in the earlier stages of formulation by officials or committees. It was the lack of such a comprehensive approach that had resulted in so many unnecessary wrangles at unnecessarily high levels. Perhaps, too, much of the malaise in the earlier years could have been avoided if the normal working of the constitution had been kept in mind whereby it is the responsibility of the competent Minister of the Crown, with his Department, to formulate policy. The experience of 1940 and 1941, when attempts were made to transfer this responsibility to Committees which had no responsibility for the execution of these policies, serves to emphasise the wisdom of this tradition. But the success of this system depends on the ability of the department concerned to withstand the pressure of sectional interests. There were, admittedly, occasions in the early years of the war when it was felt by some that the views of certain groups of agricultural producers received undue weight – a danger that was possibly inherent in so empirical a policy as that of the years 1939 to 1942.

The place of ancillary councils and committees in the formulation of policy would require a separate study and only a brief reference can be made to some of the more important of them. Within the Departments themselves were the formal inter-departmental committees such as that on Food Prices, with its Sub-Committee on Agricultural Prices – the arena for most of the wrangles between the Ministries of Food and of Agriculture until it was superseded by the Lord President's Committee in 1941–2. More informal were the continuous meetings between the officials of the Ministries and the regular consultations between the Minister of Agriculture and representatives of the National Farmers' Union in the early years of the war which, by the exchange of views, promoted a mutual confidence and understanding without which formulation and execution of policy would have been infinitely more difficult and less effective.

Most of the *ad hoc* bodies were extremely successful. Reference has already been made to the work of the Domestic Food Producers' Council, the Small Pig Keepers' Council and the Allotments and Gardens Council. They had clear objectives in front of them and,

while they were not executive in function,¹ they made available to the Departments their experience and knowledge in their specialist fields upon which sound policies could be framed; they were particularly useful, too, as a channel through which these specialist producers could be informed of the whys and wherefores of official decisions and actions.

Another successful war-time organisation was the Technical Development Committee. In June 1941 the Minister of Agriculture and the Secretary of State for Scotland had appointed Agricultural Improvement Councils, one in England and Wales and the other in Scotland, which were charged with the duty of devising methods whereby promising results of research were brought as rapidly as possible into farming practice; they were also asked to advise on agricultural problems that seemed to require scientific investigation. This Council, which included officials, practical farmers and scientists, continued its advisory functions throughout the war and became a permanent part of the post-war organisation. In December of the same year, the Minister of Agriculture, who considered that further progress in food production demanded increasing attention to educational and advisory work among farmers, established a Technical Development Committee the main functions of which were

to keep under review those aspects of the food production programme on which it is considered that Executive Committees may desire to carry out educational campaigns from time to time and to furnish notes and suggestions on the lines on which such campaigns might be conducted in the light of the local circumstances of the county and of the position regarding supplies.

To ensure complementary action in the counties the Minister suggested that the County War Agricultural Executive Committees should set up Demonstration Sub-Committees,² the members of which should represent all the technical, educational, practical and propagandist help available in the region.³

The Committee had an unfortunate start since its first enthusiasm happened to be the ill-fated scheme to encourage the erection of silos,⁴ but its subsequent recommendations covered, even if they did not always initiate, most of the major technical developments that took place during the war, such as the problems connected with the ploughing up of grassland, the promotion of ley farming, the improvement of grassland, the means of increasing milk production,

¹ The Small Pig Keepers' Council was, however, responsible for operating the feedingstuffs rationing scheme for domestic pig producers who were members of pig clubs.

² Subsequently known as Technical Development Sub-Committees.

³ Circular Letter Serial No. 809, T.P.Y. 4190, Ministry of Agriculture and Fisheries, 23rd January 1942.

⁴ p. 271.

the treatment of crop pests and diseases, the control of weeds, the rectification of mineral deficiencies, seed-dressing and improved seed production, the care and use of agricultural machinery, milk recording, and the management and use of labour.

The activities of this Committee soon impinged on the functions of the Agricultural Improvement Council in England and Wales and, to avoid overlapping, it was made a Sub-Committee of the Council. But a defect in this new arrangement soon became apparent; the Council was purely advisory while the Sub-Committee acted to a large extent in an executive capacity in securing the adoption by the County Committees of improvements in farming technique. Such action incurred a risk of involving the Council in matters well outside its terms of reference. The Technical Development Committee was once again made a separate entity in August 1944 and continued to carry out valuable work until February 1947 by which time the National Agricultural Advisory Service had been formally established and had taken over the responsibility for fostering technical progress.

Advisory bodies were also established to help with the numerous problems involved in the control of feedingstuffs, machinery and fertilisers.

The Committee on the Rationing of Animal Feedingstuffs was another body, in this instance comprising both officials and outside experts, which was pre-eminently successful in its particular and limited task. Appointed in August 1940, it was specifically required 'to consider schemes of controlled distribution of animal feedingstuffs to farms in Great Britain by rationing or alternative methods, including any special arrangements that might be necessary in the event of siege arising'. Not only did this Committee produce, contrary to the expectation of many experts, the successful scheme that came into operation on 1st February 1941 and the principles of which have already been described, but it also gave continuous advice on the modifications necessary to meet the changes in the quantities and qualities of feedingstuffs and in the Government's livestock policies – the reduction in the numbers of pigs and poultry, the reversal of the trends in milk production, and the maintenance of adequate breeding stock for the regeneration of pig and poultry production at the end of the war.

An organisation that played a very considerable part in advising on policy was the Agricultural Machinery Development Board. One of the earliest recommendations of the Agricultural Improvement Council had been the creation of a central institute of agricultural engineering and the Minister announced in January 1942 the establishment of a Board consisting of seventeen members – seven farmers, four manufacturers, an engineering scientist, three education

experts and two labour representatives under the chairmanship of Lord Radnor. Its duties were to supervise any such institute and also to arrange for the adequate testing of machinery and implements, the standardisation of parts, the provision of an educational and advisory service, the designing of new types of machinery and 'generally to consider and report on any matters relating to the mechanical development of agriculture which it considered should be brought to the notice of the appointing Ministers'.¹ The scope of the Board's responsibilities remained unchanged until 1945 when its terms of reference were widened to include horticulture and the National Institute of Agricultural Engineering, which had been in existence for many years before the war, was placed under its supervision. At the same time a palpable weakness was corrected by the establishment of a Consultative Panel of twelve machinery experts.²

Problems connected with the supply of fertilisers were dealt with by a Joint Advisory Committee established in November 1939 which included representatives of the Agricultural Departments, the Ministry of Supply, the farming community and the fertiliser industry. Its duties were to advise the Fertiliser Controller in carrying out his responsibilities for maintaining the home production of fertilisers, importing raw materials and fertilisers, and distributing all fertiliser supplies and to advise on the control of prices. Many of the notable improvements in the use of fertilisers such as the improved top dressing of corn and the early manuring of grassland, the better packaging of fertilisers and the institution of price variations to discourage transport congestion resulting from concentrated seasonal deliveries, were originated by this Committee.

Perhaps the least happy of the advisory bodies was the Scientific Food Committee.³ Though composed of the most distinguished scientists, its findings never appeared to carry the weight that might have been expected. Its principal handicaps arose from two sources, its terms of reference and its remoteness from day to day problems during a particularly difficult period of the war. No single external committee should ever have been asked to advise on national policies of both consumption and production when it existed in practical isolation from the Departments that dealt with shipping, foreign exchange, labour supplies, financial policy and other fundamental considerations. The problems were too complex for this kind of approach. Since the Committee worked in comparative seclusion and lacked adequate information, its findings had an

¹ The Committee was one of the few that served Great Britain and not only England and Wales.

² In January 1949 the supervision of the National Institute of Agricultural Engineering was returned to the Agricultural Research Council and a separate Agricultural Machinery Advisory Committee was appointed.

³ p. 109.

academic unreality and a pontifical delivery which irritated officials. The cool reception of its recommendations in turn gave rise to feelings of frustration on the part of the Committee. The result was exasperation on both sides until finally the Lord President's Committee and its staff attained a position in the third year of the war that made redundant not only the Scientific Food Committee but also the Inter-departmental Committee on Food Prices.¹

In general, the most successful central advisory bodies were those that were small in size and single in purpose, whose membership consisted of outside experts and departmental advisers, with perhaps one or two administrative officials, and whose terms of reference were narrow in objective and clear in definition.

(iii)

The Role of the Agricultural Departments

There was a marked difference between the parts played by the Ministry of Agriculture in England and Wales and those played by the Department of Agriculture in Scotland and the Ministry of Agriculture in Northern Ireland;² the following account deals mainly with the execution of policy in England and Wales.

The inter-departmental committee that was set up in 1935 to work out plans for food production in time of war had advocated the establishment of either a Food Production Department under a Director-General who would be responsible to the Minister of Agriculture or a separate department within the Ministry itself. But the development of agricultural policy in the next five years changed very greatly the role of the Ministry of Agriculture and by the time the war came its function had changed to such an extent that only minor adjustments were required to turn the whole Ministry into an effective food production department. The inter-departmental committee had also issued the further precept, following the experience gained in the 1914-18 war, that it was essential that there should be a high degree of decentralisation of executive responsibility for the carrying out of any production policy. This was a particularly sound conclusion owing to the exceptional variety of the geographical conditions of soil, rainfall and topography in England and

¹ Advice on nutritional problems was then provided by the Standing Committee on Medical and Nutritional Problems.

² The Northern Ireland Government had, under the Government of Ireland Act, 1920, no direct responsibility for matters arising from a state of war, such as the increased food production campaign, the purchase of the farm output or the sale of agricultural requisites. These matters were dealt with under the Defence Regulations of the Imperial Parliament. Many of the powers under these Regulations were however delegated by the Ministry of Agriculture and Fisheries to the Northern Ireland Ministry of Agriculture, which also acted as agent for the Ministry of Food.

Wales, to the variations in size and layout of farms and in the aptitudes of individual farmers, and to the differences in economic factors such as proximity to markets, availability of labour supplies and the like. It was not possible for any central authority to lay down and execute plans for wide areas. What could be done in pursuance of some general policy had to be decided farm by farm and even – over wide parts of the country – field by field.

It followed that the task of any central authority should be limited to:

(a) formulating *general* policies and objectives and gaining their acceptance by other departments

(b) deciding what legal powers and other means of directing production should be employed to achieve these objectives

(c) arranging for the broad allocation of the various production targets to the different agricultural regions of the country

(d) organising the necessary supplies and the distribution of manpower, seeds, machinery, fertilisers, feedingstuffs and other requisites in short supply

(e) ensuring, by publicity and propaganda, that the agricultural community was kept informed of the nation's requirements and that it was stimulated to its maximum effort

(f) planning, selecting and supervising the local organisations necessary to execute the policies planned by the central authority and accepted by the Government

(g) co-ordinating the work of the local organisations and keeping them adequately informed of the whys and wherefores of changes in policy.

These were functions that the Ministry of Agriculture, as it had developed by 1939, was competent to undertake. There was no need to set up a special Food Production Department without, or within, the Ministry as had been done in the First World War. The Ministry's responsibilities had widened during the inter-war years and now included research and education, land settlement and land drainage, the control of and eradication of pests and diseases, the maintenance of animal health, livestock improvement, labour and wages, marketing and, above all, the planning, administration and supervision of commodity subsidies and price insurance schemes. These responsibilities had brought the various divisions of the Ministry into close contact with most sections of the agricultural community and with their representatives, such as the National Farmers' Union, the Central Landowners' Association, the Land Agents' Society, the Marketing Boards and the Trade Unions. There was within the Ministry, therefore, a nucleus of administrators who had a more practical knowledge of, and more personal contacts

with, the industry with which it was concerned than had most Government departments. Moreover, many of these officials had had planning and executive experience. By reducing its efforts in certain directions, such as agricultural marketing and agricultural institutional education, and by putting on a care and maintenance basis every peace-time activity that was not required for the food production campaign the Ministry had the personnel and the aptitude to become a Food Production Department as a whole. The necessary reorganisation of the headquarters of the Ministry was carried out on the day when war was declared and the new organisation continued to work with only minor modifications until the end of the war. Little additional staff was needed at headquarters beyond a Chief Agricultural Adviser who was appointed in 1939, twelve liaison officers who were appointed in June 1940, a public relations officer, and an adviser with business experience to assist in the arrangements for the placing of contracts, both at home and abroad, for the purchase of agricultural machinery.

An organisation, to be effective, must have a clear definition of its functions and a clear chain of responsibility. The history of food production in the First World War had shown clearly the diffusion and confusion of responsibility and the friction entailed in a dyarchy. There is no doubt that the clear delineation of responsibility through a single organisation produced a more effective central planning and executive authority in the Second World War than in the First.

The central authority owed much of its great success to its determined adoption of the principle of decentralisation which permeated all its work. It confined itself to laying down the general lines of what was wanted and left the County War Agricultural Executive Committees to carry it out. Restraint was exercised in issuing advice and instructions on how things should be done. Specialists were attached to the local organisation rather than to headquarters. Further, the high degree of decentralisation and the system of liaison officers avoided the need for an intermediate regional organisation which had been found essential in the First World War and which most other Departments found necessary in the Second; the agricultural organisation was therefore unique. Only once, in May 1940, was the principle of decentralisation challenged but fortunately the views of its advocates prevailed. The difficulties and misunderstandings that might have been expected by direct dealing from Headquarters with sixty-one County War Agricultural Executive Committees were surprisingly few.

In this instance it must be admitted that a good measure of the success of this type of organisation must be attributed to the personalities involved. In the first place, the maintenance of the peace-time staff, with little dilution by importation from outside, had the

great advantage that comes when a body of men is accustomed to working together and has a clear understanding of the organisation and environment in which it is working. Secondly, this staff had good leadership; there is little need to enlarge on this beyond a quotation from one objective study of the organisation of government during the war:

When you get a good Minister and a good Permanent Secretary working closely and enthusiastically together, as was the case at the Ministry of Agriculture during the War, then the department and the interests which it handles are very fortunate.¹

The machinery for carrying out production policies in Scotland was of different design; there was in general a far greater degree of centralised control in Scotland than in England and Wales, a greater dependence on officials appointed by the Department, and less initiative permitted to the local organisation. This had certain merits in that greater uniformity was achieved among the counties in the execution of policy. But it is probable that the peace-time organisation lent itself to such closer central control; the country was smaller and the diversity of farming less than South of the Border. Many of the services such as those dealing with education, research and land settlement had not been organised on a county basis as in the South. Others, such as those for the formation and operation of the Government tractor scheme or the machinery pools, the distribution of feedingstuffs and land drainage, which were run by the County War Agricultural Executive Committees in England and Wales, remained the responsibility of the Agricultural Department in Scotland. Further, geographical and other factors in many areas militated against organisation by counties. Some counties had to be divided between two, three or even four Committees. But so far as the execution of the cropping and livestock production programmes was concerned, the initiative lay, as in England and Wales, with the forty County Committees.

In Northern Ireland, circumstances were again very different and the agricultural area was sufficiently small to enable the Ministry of Agriculture itself, with the advice of a few Committees and the members and staffs of the various Marketing Boards, to retain almost complete responsibility for the execution of its policies.

It is difficult adequately to describe the growth in the responsibilities of the Agricultural Departments. But some indication of its magnitude may be afforded by the figures of the Ministry of Agriculture's gross expenditure at various periods, an increase that had its counterpart in Scotland and Northern Ireland. The Ministry's normal peace-time functions involved an expenditure of only

¹ *Lessons of the British War Economy*, p. 29.

£387,000 in 1912-3 compared with £3,577,000 in 1938-9 (excluding partial responsibility for the distribution of some £8,020,000 in subsidy payments). By 1944-5 its gross expenditure had reached almost £61,500,000, of which some £4,850,000 was for normal activities and £56,600,000 for War Services,¹ a sum which alone was one hundred times greater than the Ministry's gross expenditure in 1918-9. Even after allowance for changes in the value of money, these figures suggest a phenomenal increase in twenty-five years in the part played in the organisation of the agricultural industry by the Government Department concerned.

Table 30. Gross Expenditure by the Board or Ministry of Agriculture in 1912-3, 1918-9, 1938-9 and 1944-5

| | £000 | | | |
|---|------------|------------|---------------|---------------|
| | 1912-3 | 1918-9 | 1938-9 | 1944-5 |
| General services | 162 | 265 | 905 | 1,594 |
| Education and research | 32 | 70 | 746 | 824 |
| Livestock, diseases | 103 | 42 | 673 | 658 |
| improvement | 28 | 58 | 66 | 60 |
| Land settlement: | | | | |
| cultivation, etc. | 51 | 70 | 839 | 806 |
| drainage | — | — | 254 | 765 |
| Agricultural wages regulation | — | 50 | 15 | 20 |
| Marketing and credit | 7 | — | 74 | 101 |
| Miscellaneous | 4 | 3 | 5 | 25 |
| Total* | 387 | 558 | 3,577 | 4,853 |
| Subsidy payments, etc. | — | — | 8,020 | — |
| War Services (gross) | — | 44 | — | 56,634 |
| Total expenditures | 387 | 602 | 11,597 | 61,487 |

* Excluding expenditure on fisheries, forestry, Kew Gardens.

From time to time it was suggested that the functions of the Ministry of Agriculture and Fisheries and of the Ministry of Food might be brought together into one Ministry. This idea had an attractive and simple logic about it—the procurement of food supplies from overseas, the home production of food, and the distribution of both would all appear to be part of the single main problem of ensuring an adequate supply of food for the people of this country. At least, they obviously called for close integration. But there is a strong case for separate administrative institutions, especially in time of war when the State becomes the principal food trader. Firstly, the problems of the agricultural industry are sufficiently great and complex to require the attention of one Ministry;

¹ Including expenditure on purchase and storage of machinery, grants for ploughing up, County War Agricultural Executive Committees, Women's Land Army, land drainage, subsidies to hill sheep and cattle, lime subsidy, crop acreage payments, purchase and storage of seeds, contributions to the building of cottages and the like.

secondly, they are completely different from those of overseas buying and of distribution and consumer rationing, which were the war-time duties of the Ministry of Food, and they call for a different approach and different qualifications in both administrative and technical staff; thirdly – and possibly the most important – the inherently divergent views of producers and consumers, at least in the short term, really require separate presentation of the views of the industry and assessment of the practicability of the Government's policy. No one suggested that the Ministry of Supply was an illogical solution to the problem of providing the Service Departments with their material requirements. The relationship between the Ministry of Food and the Ministry of Agriculture appears analogous, at least under war conditions.

(iv)

The Local Organisation

It had been agreed before the war that control and direction of production from the central organisation, whether a Food Production Department or the Ministry of Agriculture itself, should be avoided and that powers must be delegated to *ad hoc* local committees organised on a county basis, both in England and Wales and in Scotland. This recommendation had been accepted and a provisional selection of the chairmen, executive officers and secretaries for the County Committees in England and Wales and in Scotland, which eventually numbered sixty-one in the former and forty-three in the latter, had been made as early as 1936.¹ In general, an Executive Committee consisted of from eight to twelve persons, each of whom was appointed by the competent Minister; the Chairman and Executive Officer were also appointed by him. Each Committee had a number of Sub-Committees, sometimes as many as seventeen, dealing with such matters as Cultivations, Labour, Machinery, Land Drainage, Livestock, Horticulture, Goods and Services, Technical Development, Feedingstuffs, Insects and Pests, War Damage, Finance and General Purposes, etc. Further decentralisation was effected by the appointment of District Committees within each County. But only the Executive Committee could exercise the powers delegated by the Minister. The total membership of the Executive Committees in England and Wales alone amounted to 582 while the membership of the District Committees, of which there were 476, exceeded 5,000. Added to these were numerous supplementary members and parish representatives.

¹ p. 49.

All gave an enormous amount of time and effort without remuneration; their practical knowledge and experience were necessary to link the whole organisation and were essential to its success.

Apart from the Executive Officer and the administrative and clerical staff, the staff of a Committee usually included a variable number of District and Assistant District Officers, Machinery Officers, Labour Officers, Drainage Officers, Pest Officers, Feeding-stuffs Officers, Finance Officers and such other Technical Officers (Grasslands, Potato, Horticulture) and assistants as local requirements necessitated. The sources from which the principal members of the staff were drawn have been noted in Chapter III. To each Executive Committee was attached one of the Ministry's Land Commissioners to guide it in the exercise of the legal powers delegated to it by the Minister.

There was one extremely important difference between the local organisation in 1939 compared with that which was instituted in the 1914-8 War. The Executive Committees to which the Food Production Department delegated its powers in January 1917 had been drawn from County Committees appointed by the County Councils. In the Second World War the members of the Executive Committees were, as has been stated already, appointed as individuals to act as the Minister's agents. They were not representatives of any organisation; no organisations, not even the County Councils, were consulted about their appointment except in the case of agricultural workers on the Committee where consultation with the Trade Unions was inevitable. The result was that the Executive Committees owed loyalty to the Ministry and to the Ministry alone.

The Executive Committees had no legal existence until the passing of the Emergency Powers (Defence) Act of 24th August 1939,¹ which was followed on the next day by the Defence (General) Regulations which empowered the Minister of Agriculture and the Secretary of State for Scotland to bring the 'shadow' committees into being.² After the experience of the first few months of the war, it is reasonable to question whether the Government might not have been well advised to incur some expenditure on its local organisation in advance of the war and to bring into being at least a skeleton organisation. Much of the preliminary work such as the earmarking of office accommodation and staff, collection of the necessary Ordnance Survey maps, the initiating of parish surveys and even the preliminary allocation of ploughing-up quotas might well have been undertaken – at little expense and with greater success – before the storm broke.

The Defence Regulations gave competent authorities general powers to take possession of any land and to do, or to give any

¹ 3 & 4 Geo. 6, Ch. 20.

² Cultivation of Lands Order, 1939, S.R. & O., No. 1078.

direction to do, such action in connection with such land, as appeared expedient (52: 1, 2, 3); to requisition any property and to obtain information on holdings or stocks of any commodity (53); and to enter upon and inspect land (85). They also gave specific powers to the Agricultural Ministers to direct that land used as agricultural land should not, without permission, be used otherwise (61: 1); to direct the cultivation or use of any agricultural land, and to terminate tenancies of land in respect of which such directions had not been obeyed (62: 1); to take possession and to terminate tenancies of any land not cultivated in accordance with the rules of good husbandry (62: 2, 3, 4, 5); and to destroy rabbits, vermin, deer, etc.

The powers under these five regulations were, by Orders,¹ delegated to the County Committees, provided only that the consent of the competent Minister in writing was obtained before any Committee could take possession or terminate the tenancy of any land. The same Orders also laid down the formal organisation and procedure of the Committees. As time went on the Regulations were amended or amplified to meet changing conditions; for example, Regulation 61 was strengthened to enable Executive Committees to give directions about the number of cattle that could be kept on agricultural land, and, if necessary, to require the disposal of particular animals by slaughter or otherwise (55); similar directions could be given in respect of sheep, pigs and poultry, but only subject to the Minister's consent. But in general the chief powers of the Committees stemmed from these original Regulations, especially from Regulation 62; it was under this Regulation that farmers could be required to plough up grassland, grow specified crops, apply fertilisers, clean ditches and drains, spray crops, thatch stacks, carry out essential repairs to buildings, road, and fences, supervise farmers engaged in the production of livestock and the like. By February 1941, when a further amendment to Regulation 62² made it possible to eject a person who had not complied with directions to give up possession of land or farm buildings, the powers of the Committees were extremely comprehensive.

The speed and efficiency with which the whole organisation started to work were a source of amazement even to those who had been optimistic about its potentialities. Offices, clerical staff and equipment were hastily acquired, District Committees organised, County and parish statistics and maps distributed, and executive and technical staffs recruited. By the autumn the Committees were heavily engaged in certifying grassland for the £2 an acre subsidy and in starting to allocate the county ploughing quotas; and in

¹ Cultivation of Lands Order, 1939, S.R. & O., No. 1078, and Cultivation of Lands (Scotland) Order, 1939, S.R. & O., No. 1650 (S. 117).

² S.R. & O., 1941, No. 115.

dealing with the deferment of workers from National Service, the release of Territorials, the distribution of tractors and machinery, the organisation of the Government's machinery reserve, the shortage of feedingstuffs, and so on. The rapid gearing of this elaborate machine to traverse the gap between Whitehall and about half a million different agricultural holdings was a magnificent achievement.

Further responsibilities were placed on the Committees during the first year. Under Section 14 of the Agriculture (Miscellaneous War Provisions) Act, 1940, the Executive Committees were enabled to stimulate the undertaking of drainage schemes by Local Drainage Boards or Catchment Boards. In January mole drainage schemes became eligible for grants or aid provided they were supervised and inspected by an Executive Committee; and later, in July, a new scheme was introduced whereby grants could be made to owners or occupiers of land for reconditioning field drains and ditches, without the formalities of submitting schemes through a Drainage Authority, provided they were approved by the appropriate Executive Committee. The Committees were also authorised to take over derelict or semi-derelict land and to undertake cultivation on behalf of farmers unable to finance the initial outlay; they were to recoup themselves from the proceeds of the sale of the crops.

In March 1940 the Minister authorised Executive Committees to organise and employ mobile gangs of workers who could be hired out to individual farmers; Committees were, however, warned to avoid taking farm workers already working on the land. Though not restricted as to the type of work that they could do, it was expected that these mobile gangs would be used mainly for drainage and ditching schemes.¹

Such additional burdens fell heavily on Committee members during these initial months when the scheduling of land to be ploughed up and cropping programmes might well have been considered a full-time job. In June 1940 steps were taken to strengthen the Committees by adding more technical staff and in some cases, by altering their composition. In England and Wales the Minister decided to close the Agricultural Colleges and Farm Institutes and to take over the educational staffs of the County Councils, thus putting trained personnel at the disposal of the Committees for advisory work.

In the same month, twelve liaison officers, under the leadership of the Minister's Agricultural Adviser who became also Chief Liaison Officer, were appointed as personal representatives of the Minister of Agriculture to maintain closer contact between the

¹ County Circular No. 156.

Committees and Whitehall; each was responsible for four or five counties. This was an investment that bore a rich dividend.

These officers attended the County Committee meetings in their counties and reported all matters of interest or difficulty and complaints or delays to the Chief Agricultural Adviser. Many of the matters referred to him, whilst causing trouble to the Committees, were in themselves trivial, such as delays in correspondence, and were easily righted by personal contact with the head of the Division concerned.

This direct link between the Committees and the Chief Agricultural Adviser could, of course, only function effectively with the active co-operation of the Permanent Secretary and the whole body of officials. It seems that this co-operation was freely given and no instance of friction is known to have occurred throughout the war.

The Minister held Liaison Officers' Conferences every month at which were also present the Permanent and Deputy Secretaries, the Head of the Local Organisation Division and the Parliamentary Secretaries. At this meeting the Minister set forth fully the national position at the moment, discussed any proposed new developments of policy, and learnt of the reactions likely to be met with in every part of the country. Liaison Officers on their part reported the state of affairs in their respective districts and put forward any suggestions that occurred to them on general policy or on special problems or difficulties they were meeting. Crop targets were discussed and indeed formulated at these meetings.

Thus not only did the team of Liaison Officers provide a two-way channel of information between the Ministry and the Committees, but the monthly Liaison Officers' Conferences gave the Minister an opportunity of discussing major and minor proposals of policy with a body of men who between them knew thoroughly every part of the country and every branch of farming. Moreover, when it came to putting across policy to the Committees these men were well-known and respected throughout the farming world and their opinion carried great weight.

In May 1940 the Committees were asked to undertake, before the end of July, a survey of all the farms in the country.¹ The main purpose of this work was to provide a basis for planning the increased output from the 1941 harvest. For the guidance of the Executive Committees the Ministry indicated the kind of information to be sought—the area of each farm that needed drainage, lime or fertilisers; the amount of extra labour required, whether farms were good, bad or indifferent in themselves; and whether they fell into categories A, B or C according to their standards of farming. This

¹ County Circular No. 227.

first attempt revealed wide divergences between counties in the standards adopted but the results were sufficiently valuable to extend the scheme into a National Farm Survey, to be carried out between 1941 and 1943. This survey—known as the ‘Second Domesday’ survey—gave a comprehensive record of conditions of every farm, together with a plan of the farm showing its fields and boundaries, which proved invaluable not only for war-time purposes but for long-term advisory work in the post-war years. The Survey in Scotland was run on rather different lines; it was carried out in the winter of 1941–2 and was based on a sample of about 13 per cent. of the holdings over 5 acres in size and 19 per cent. of the agricultural area, but it gave very similar information to that in England and Wales. Both Surveys were published after the war,¹ and they must be regarded as reasonably successful for a first attempt, though there were grounds for criticism of the qualitative judgments resulting from the Survey; for example, one District Committee returned 98 per cent. of its farmers in the ‘A’ category. As a result the Executive Committees had for the first time reasonably accurate information on the needs and potentialities of farms and they could go ahead with advice, persuasion or compulsion with greater confidence. Moreover, the Survey brought the technical staffs recruited from the Colleges and Institutes, who had carried out much of the work for it, into contact with farmers who needed assistance more than those farmers—mostly the best ones—with whom they tended to work in the pre-war years.

Yet another use was made of the Executive Committees in the first year of the war when the Minister asked them in February 1940 to operate the Agricultural Requisites Assistance Scheme which was designed to prevent a shortage of cash or credit on the part of some farmers from impeding the carrying out of Direction Orders.²

Little alteration was made in 1940–1 to the structure of the local machinery, but the tasks that were assigned to it multiplied rapidly. During 1940–1 the Executive Committees were asked to undertake cultivation on behalf of farmers who were unable to do it themselves, to ensure that the sugar beet acreage came up to the target figure, to deal with the release of agricultural workers for the Services and the control of movement of workers within the industry, to carry out the orders for the culling of dairy cows, to extend the farm survey initiated in 1940, to promote further schemes for land reclamation and drainage, and the like. The executive and technical staff were increased again, but the Committee membership itself required remarkably little strengthening to meet these new demands.

¹ *National Farm Survey of England and Wales, 1941–1943, A Summary Report*; H.M.S.O., 1946 and *Agricultural Survey of England*, H.M.S.O., 1946.

² p. 99.

The organisation in the counties survived one of its biggest tests during 1940-1—the introduction of the feedingstuffs rationing scheme in February 1941. The preliminary work in assessing each farm's entitlement to feedingstuffs had been in itself a forbidding task, but the inevitable flood of individual grievances—farmers who had received no coupons because their holdings had not been included in the census returns, farmers who had received too few coupons according to their own calculations, farmers who had sold their grain either before the scheme started or had failed to send in their sale certificates and farmers whose particular system of farming differed greatly from those on which the scheme was based and who were accordingly 'hardship' cases—might well have disintegrated a less willing and well-constructed organisation. By the end of February the scheme was in full swing, the flow of feedingstuffs had scarcely been checked and calm had been restored.

Just as the peak of the production effort had not been reached by the end of the second year of the war, so the scope of the Executive Committees' work continued to grow during the third year, 1941-2; the rationing of fertilisers, the allocation of tractors and implements, the use of the discretionary reserves of feedingstuffs and of phosphatic and potash fertilisers, the distribution of controlled supplies of steel, timber, wire, and petrol for use in agriculture, the administration of the subsidies on hill sheep and hill cattle and of acreage payments for potatoes, the provision of accommodation for the Women's Land Army and other gang labour and the supervision of increasing numbers of prisoners of war, were some of the additions to their responsibilities. Though still desperately short of staff, and particularly of technicians, the Committees somehow managed to keep the machine running.

Table 31. Numbers of Staff Employed by County War Agricultural Executive Committees in Great Britain in March 1942, 1943 and 1945

| | England and Wales | | Scotland | | Great Britain |
|------|-------------------|------------------------------|----------|------------------------------|---------------|
| | Clerical | Technical and Administrative | Clerical | Technical and Administrative | Total |
| 1942 | 3,600 | 2,200 | 151* | 152* | 6,103 |
| 1943 | 4,900 | 3,200 | 197* | 186* | 8,483 |
| 1945 | 6,300 | 4,400 | 327 | 242 | 11,269 |

* January.

The numbers on the staffs of the Executive Committees are shown in Table 31. Perhaps the most striking feature of these data is the difference in staffing between England and Wales on the one hand

and Scotland on the other. Even after allowing for differences in area, numbers of farms, or output, the Scottish system appears to have been more economical in manpower. Nor can an explanation be attributed to the greater degree of centralised control retained by the Scottish Department; its clerical staff increased between 1939 and 1945 by not more than 450 and its technical staff by only about 150.

Two aspects of the Executive Committees' work call for further discussion; their role as farm labour employers and, in England and Wales, as machinery operators.

The need for a labour force to be employed by the Executive Committees became apparent early in the war. It first arose from their work on drainage and land reclamation. Some of this work could be, and was, undertaken by farmers or contractors but many of the schemes had to be executed by the Committees themselves; they had therefore to build up their own staff of labourers and, in areas where the Drainage Boards were unable to help, of engineers and foremen. Added to this was the manpower needed to farm the hundreds of thousands of acres of which the Committees had taken possession, and to carry out work on contract for farmers who were unable to undertake it themselves. By the end of 1943, the numbers of farm workers employed directly by Executive Committees in England and Wales had reached 35,500 and in Scotland over 2,200.

Table 32. Number of Farm Workers Employed by Executive Committees in Great Britain in December, 1941-4

| | England and Wales | | Scotland | | Great Britain |
|------|-------------------|-------------------|----------|-------------------|---------------|
| | Men | Women's Land Army | Men | Women's Land Army | Total |
| 1941 | 4,800 | 3,800 | 336 | 91 | 9,027 |
| 1942 | 8,300 | 14,200 | 437 | 868 | 23,805 |
| 1943 | 11,000 | 24,500 | 260 | 1,969 | 37,729 |
| 1944 | 9,700 | 22,200 | 314 | 1,744 | 33,958 |

There were, of course, great differences between the counties in the employment of such labour, varying from less than 50 workers in some of the Welsh counties to over 2,000 in Essex. The introduction of such 'gang' labour was almost a novelty in British farming and the problems connected with it tried sorely the patience of many Committees. Firstly, there were the difficulties of recruitment; the Committees, for obvious reasons, hesitated to compete with farmers for the diminishing supply of regular and casual agricultural workers, and at first they were dependent on workers from urban and non-

agricultural rural trades. Most of their employees lacked experience of agricultural work – and of the weather and other conditions under which it had to be done – and they had no knowledge of its techniques. Moreover, the personal relationship between employer and worker, which is such a feature of agricultural work and which mitigates so many of its particular difficulties, was missing in employment by the Executive Committee. Secondly, there was the difficulty of finding sufficient and efficient foremen to look after the squads of workers and to train newcomers. This was a particularly great difficulty in the grassland areas where existing agricultural workers had little or no experience of the techniques required for arable farming; attempts to persuade experienced workers to migrate from, say, the Eastern Counties to the Midlands barely touched the fringe of the problem. Thirdly, apart from the low standard of the labour itself and the lack of supervisors, the nature of the work on widely scattered pieces of land – often the worst in the area and fields which no farmer was prepared to tackle – resulted in a low level of achievement at a high level of cost and this was the subject of considerable criticism of the Committees by the agricultural community. Finally, administrative problems increased as the scope of the Committees' direct work widened. Conditions of employment – wages, hours worked, holidays, sick pay, lost time, travelling time – became increasingly divergent, not only within the jurisdiction of a single Committee but between one county and another. To a certain extent this was overcome by transforming a number of wage inspectors into Regional Labour Advisory Officers and by setting up a Standing Advisory Committee on the conditions of work of Executive Committees' employees, but the problem remained an intransigent one and a constant worry to the Executive Committees.

In Scotland, where most of the drainage work remained the responsibility of the Department and where relatively little arable land was taken over by the Committees, the employment of gang labour did not become so prevalent. Most of the Committees' employees were occupied mainly on contract work for farmers, such as potato planting, lifting and dressing, root singling, harvesting and threshing. Further, the greater proportion of the workers belonged to the Women's Land Army and the headaches associated with the employment of conscientious objectors, the militarily unfit, casual Irish labour and prisoners of war were correspondingly less severe.

The role of the Executive Committees in England and Wales in the mechanisation of farming was, in a way, complementary to their part as labour employers. It was perhaps one of their most valuable services to food production. As early as 25th August 1939, the Minister of Agriculture in his circular letter to Chairmen-Designate

of the Executive Committees had outlined the duties of a Machinery Sub-Committee to include the organisation in the county of the supply and use of agricultural machinery, tractors and implements in order to carry out the programme of increased food production. To ensure that existing tractors were utilised to the full the Minister stated that he would not hesitate to support the Executive Committees in all reasonable cases where they found it necessary to use powers of requisitioning. At one time, even, there was a proposal for a large scale transfer of equipment for arable farming from the Eastern counties to the Midlands but fortunately the idea of this compulsory re-allocation was abandoned.

Only when local resources of tractors and equipment were fully utilised¹ was the Government's pre-war reserve of machinery distributed for use to the Committees. It was originally intended that this machinery should be worked directly by the Committees themselves,² but the manifest lack of skilled workers and repair depots, apart from the overwhelming load of other duties which the Committees accepted in September 1939, led to a reconsideration of this proposal. Committees were therefore given a choice of (a) operating the machinery on contract work with their own labour, or (b) hiring it to contractors at a management fee of 10 per cent. of gross takings or at prescribed charges to be operated on their own account. Tractors were not to be loaned to farmers but individual implements might be leased on short-term loan to them. At the end of 1940, six Committees hired out all their machinery to contractors, ten employed contractors as their managing agents and thirty-eight operated all or most of their machinery themselves; a few employed more than one system. As time went on, the Committees often changed their systems to meet changes in the nature of the work demanded of them; the trend, however, was in the direction of self-employment. This flexibility was an essential feature of the scheme; where contractors already existed, their help, on prescribed terms, was obviously desirable; but where contractors were non-existent, as in the predominantly grassland farming areas, direct use by Committees was the only alternative. Hiring the machinery to farmers would not have ensured its full employment.

In July 1940 a further important step towards greater control was taken whereby every agricultural contractor was bound to register with the County War Agricultural Executive Committee, to give the Committee particulars of the area in which he usually worked and of his machinery and equipment, and to comply with any directions which the Committee gave him concerning the

¹ Including those in the possession of contractors.

² County Circular No. 18.

operation of his equipment.¹ This measure gave the Committees a better opportunity to organise the operation of the machinery within their counties to secure its fullest possible use. A similar Order was made in Scotland in 1941.²

Direct farming by the Committees became of increasing importance and in view of the labour shortage and the increasing concentration of work into limited periods, the Committees' need for more machinery grew. By the end of 1941 the land in the possession of the Committees in England and Wales had risen to some 325,000 acres, of which they were farming directly about two-thirds. The number of tractors in the hands of the Committees was 6,760. By 1944, the Committees had possession of about 390,000 acres and their tractors numbered 10,660.

All the English and Welsh Executive Committees had established Machinery Departments by the end of the war, ranging in size from about a dozen tractors, together with the appropriate implements, to a fleet of over 800. Where the bulk of the machinery was used on lands in the possession of the Committee, its control was usually vested in a central office from which it was allocated to contract work on individual farms; this happened, for example, in Kent, Devon and Norfolk. Where most of the work was by contract on individual farms, its operation, housing and maintenance were usually decentralised among the District Committees, subject to the control of the Machinery Officer.

The housing of vast quantities of machinery presented problems for which solutions had to be improvised rapidly—brick works, timber yards, disused markets and the like were taken into use and, in many areas, new buildings had to be erected. Servicing and repair facilities had also to be organised and most Committees found that the only satisfactory solution was to provide their own since most commercial firms were fully occupied in maintaining the equipment of individual farmers. Of 38 English and Welsh Committees for which information is available, about 16 were equipped by 1943 to undertake all repair work while 22 had workshops capable of performing normal repairs. The Rural Industries Bureaux performed a specially valuable service in the training of blacksmiths throughout the country to deal with repairs and to make spare parts for modern types of farm machinery.

The expenditure of the Executive Committees on these services was from time to time called in question as being excessively costly. It is impossible to assess the actual cost of the work but the fact that

¹ Agricultural Contractors (Registration and Control) Order 1940, S.R. & O., No. 1333.

² Registration and Control of Agricultural Contractors (Scotland) Order, 1941, S.R. & O., No. 1555 (S. 46).

losses were incurred in many instances is not surprising. It must be recalled that these machinery pools were, in principle, to be regarded as supplementary to the machinery in private or commercial hands, to be used to supplement it at periods of peak demands; it follows from this that it was more likely to have longer periods of idleness at non-peak periods. Again, farmers tended to ask the Committees to do the work that they themselves or commercial contractors found unprofitable or too difficult. Moreover, much time was necessarily lost in the coming and going between the scattered areas taken over by the Committees or between the farms where contract work had to be carried out.

It is difficult to generalise on the type of organisation that proved to be the most effective; a choice was, in itself, a merit and it would have been a mistake, in view of the very wide diversity of circumstances throughout the country, to adhere rigidly to one system. In general, the advantages of the direct system outweighed both its disadvantages and also the advantages of the system of leasing to contractors. Direct control of the machinery pool enabled it to be used in closer conformity with the cropping programmes; in addition the availability of machinery in the hands of the Committee strengthened its persuasive powers. Payment for contract work could be withheld from subsidies and grants due to farmers. The need for additional machinery in any area could be readily assessed by the Committee from the pressure of the demands for its services. The range of ancillary equipment in the hands of a Committee was likely to be wider than that belonging to a contractor, thus ensuring a fuller use of the available tractor power throughout the year. Moreover, Committees could be more impartial and less suspect of favouritism than contractors. Single responsibility was in general more efficient than the dual responsibility involved in the use of the Committees' machinery by contractors.

There were few, by the end of the war, who were prepared to support strongly the system of hiring to individual farmers adopted in a few counties. It possessed all the disadvantages with none of the advantages of the other two systems.

The Scottish Department of Agriculture tried a different system from that in England and Wales; as in other matters, control was more centralised. A Motor Tractor Section, under a Controller,¹ was established on the outbreak of war which was responsible for the supervision of all the Department's tractor outfits, the provision of labour, the maintenance and repair of the machinery, and the accounting of all receipts and expenditure. A number of engineering agents throughout the country, who had been agents for machinery

¹ In September 1941, the control of the Section was transferred to the Supply and Finance Division of the Department.

manufacturers and who had technical qualifications and repair shops, were appointed to supervise the operation and maintenance of the outfits. These agents were paid commission on a prescribed scale. By the end of 1941 there were 40 agents operating the scheme and only three more were added in the next three years. The Executive Committees, as in England and Wales, set up Machinery Sub-Committees but their main duty was to assess, on the basis of their local knowledge, the farmers' requests for contract work and to establish priority lists.¹ The system had very considerable merits; responsibility and supervision were clearly allocated and control was much closer; it also assured greater uniformity in conditions of work; and it provided detailed comparable accounts of income and expenditure which enabled operations to be assessed on established standards of efficiency. Farmers were charged on a per acre basis for contract work, the farmer on difficult land benefiting at the expense of farmers on easier land.

The whole system worked extremely well; such criticisms as were made complained of the lack of supervision in the field, due in part to the shortage of experienced foremen. There were also complaints that the dual responsibility led to overlapping and friction. In June 1943 a Tractor Service Advisory Committee investigated the complaints about the service; its principal recommendation was that Committees should be given the option of continuing the existing system or of assuming direct responsibility for supervision and organisation. Only three Committees adopted the second option, a worthy testimony to the effectiveness of the 'agency' system. By the end of 1944 the Department's machinery pool included over 1,200 tractors, with their cultivating equipment, 1,000 binders and 140 threshing machines.

The success of the Scottish system makes it worth considering whether the advantages of its strongest feature could not have been incorporated in the English system. The appointment of the representatives of machinery manufacturers and agricultural engineers, with their servicing, repair and storage facilities, as agents of the controlling authority has a simple reasonableness. There would be even fewer areas in England and Wales than in Scotland where a lack of such agents would have necessitated an alternative system. On the other hand, the greater area in England and Wales and the greater diversity of farming systems would have made difficult and undesirable complete centralisation of control in the Ministry of Agriculture; but it is possible that this obstacle could have been overcome by the appointment of a few Regional Supervisors, responsible to the Ministry. In general, one of the strongest points

¹ Only in the Islands, where there were no agents, did the Executive Committees take direct charge of the machinery.

of the Ministry's wartime organisation was its ability to dispense with a regional organisation, but an exception might well have been made for the control of agricultural machinery. There is little doubt that machinery control in England and Wales was too loose and the lack of uniformity in its administration militated against the optimum distribution and utilisation of machinery.

Between September 1939 and June 1945, some 1,900 Circulars were sent out by the Ministry of Agriculture to the County War Agricultural Executive Committees in England and Wales; these dealt with more than three hundred topics. The largest number on any single topic dealt, as might have been expected, with administrative questions such as finance and accounts, but the frequency of the issue of instructions and suggestions on other subjects may be some indication of the magnitude of the various problems:

| Subject | Number of circulars | Subject | Number of circulars |
|---|---------------------|--------------------------------------|---------------------|
| Finance and accounts . . . | 296 | Ploughing of grassland . . . | 68 |
| Machinery | 222 | Pigs and poultry producers | 61 |
| Feedingstuffs | 188 | Land Drainage | 60 |
| Labour | 148 | Petrol | 56 |
| Tractors | 107 | Fertilisers | 55 |
| Reservation from military service | 106 | Potatoes | 53 |
| Livestock | 85 | Poultry | 53 |
| Grants | 75 | Seeds | 50 |
| Grassland | 73 | Cows | 46 |
| Technical Development Committee | 70 | Accommodation | 44 |

But these major considerations do not give any idea of the scope of the work of the Committees. Apart from the detailed control of crop and livestock production, the Committees were responsible for innumerable requisites that were scarce and that could be spared only for essential needs – requisites such as rubber boots, tyres, sacks, trusser and binder twine, wire, cartridges, udder cloths, coal and coke. They had to concern themselves with a diversity of problems from alarm clocks and black-out to golf links, herbs, open cast mining and even unexploded practice bombs.

It is impossible to state categorically what was the cost of the Committee system. But some indication may be obtained from the Public Accounts for the war years. In England and Wales the cost to the Ministry of Agriculture of administering the Committees averaged £1,350,000 in 1943-4 and 1944-5, which were the two years of greatest activity; the corresponding figure for Scotland was £117,000.

The expenditures by the English and Welsh Committees themselves in the same two years averaged £18,660,000 while their

receipts averaged £10,490,000.¹ The major sources of expenditure and income were:

| <i>Expenditure</i> | £ 000 | <i>Income</i> | £ 000 |
|-------------------------|---------|--------------------|---------|
| Administrative expenses | 3,014 | Goods and services | |
| Machinery operations | 4,431 | to farmers | 7,272 |
| Gang labour | 6,102 | Land in possession | 2,968 |
| Lands in possession | 3,275 | Other items | 250 |
| Other items | 1,838 | | |
| | <hr/> | | <hr/> |
| Total | £18,660 | | £10,490 |
| | <hr/> | | <hr/> |

During the five years, 1940-1 to 1944-5, the Committees' expenditure exceeded their receipts by £27 million.

The figures for Scotland are not given in comparable form but it is notable that the margin between income and expenditure was not so great; it must be remembered, however, that the functions and responsibilities of the Committees were very different from those in England and Wales. The expenditure on land cultivations averaged £227,000 against income of £148,000 while the expenditure on the machinery and implement services averaged £543,000 against receipts of £423,000.

The emphasis that has been placed from time to time on the work done by Sub-Committees of the Executive Committees which dealt with labour, machinery, feedingstuffs and technical development must not be allowed to overshadow the work of the Cultivations Sub-Committees. Their responsibilities included the receiving of district recommendations for the scheduling of grassland for ploughing; the investigation of appeals against cropping orders; the initiation of schemes for reclaiming derelict land; receipt and consideration of recommendations to terminate tenancies and to take possession of lands; the supervision of the cultivation of B and C grade farms; the approval of the cropping and livestock programme for every farm in their county; the issue of instructions and Direction Orders; the co-ordination of the cropping and fertiliser programmes; and countless other duties which, though often unspectacular, might well have proved the weak links between policy and practice if these particular Sub-Committees had not consisted of highly-respected, progressive and experienced farmers.

This chapter has attempted to give a general picture of the organisation responsible for the formulation and execution of agricultural policy. So far as the former is concerned, the first three years were a period of trial and error but out of this was evolved a

¹ This figure does not include moneys owed but not recovered until later.

mechanism for the development of policy that was both speedy and efficient.

But the greatest triumph was the success of the local organisation. It was deliberately designed to make the fullest use of one great asset which agriculture possessed over other industries – an almost crusading enthusiasm to bring about a renaissance in British farming; this applied not merely to landlords and farmers but also to educationalists, research workers, and administrators connected with agriculture. Whereas in many other industries the war often entailed the sacrifice of peace-time plans and ambitions, in agriculture it offered an opportunity such as it could never have been given in peace-time to apply new knowledge and to revive the productivity of the land. Not only was there present the greatest of incentives—the nation's need—but capital was there for investment to the limit of the physical and material resources that could be spared for agriculture. An immense amount of voluntary service and enthusiasm was brought into this local organisation; progressive influences that had lain dormant and frustrated in the inter-war years became active. Only by a policy of decentralisation could the best possible use have been made of this potential effort. It was the industry itself – or, preferably, the agricultural community itself – that in each county and district transformed the face of the countryside and brought to fruition the remarkable increase in production from the soil of this country which was in fact achieved.

The keymen were the progressive leading tenant farmers and farming landowners on the County and District Committees. It is impossible adequately to describe the devotion behind the long hours spent in visiting farms, field by field, by day and by night, in all seasons of the year; the infinite patience required in cajoling reluctant farmers to change their systems, and, often, in surmounting the suspicions and criticisms with which some farmers greeted the advice of their neighbours; the determination required to overcome the tedium of committee work and the weariness of form-filling and report-writing added to the continuous labour of running their own businesses. The reward to these men, who persisted in their work over so many years, was often only the sense of having fulfilled their duty and the knowledge that the ordinary farmer in the early years of the war would never have accepted directions or advice from anyone who was not himself facing the new problems and who had not himself made a success of farming.

CHAPTER XIII

CONCLUSION

THIS HISTORY should be, without question, a 'success story' – successful far beyond the calculations and estimates of the pre-war planners. Their maximum demands from British agriculture were based on the assumptions of a three years' war and the making good of a total reduction in imports of 25 per cent. In fact, these demands had to be increased to meet an eventual reduction in food imports of 55 per cent. – and even 75 per cent. at the worst point in January 1943 – and a war that taxed agricultural resources for six years. Two salient points have emerged; the food necessary to maintain the civil population in health and vigour was forthcoming for the six years and the organisation designed to produce this worked successfully. But two questions must be asked. Could it have been done better? Could it have been done more cheaply?

In the light of the course that the war actually took – and this was very different from that which had been envisaged in the pre-war years – the principal foundations of the agricultural programme were sound: to plough up as much grassland as possible; to maintain flexibility in cropping so long as food imports permitted this; to shift to the production of food for human consumption and to curtail the output of livestock products as food imports declined; to encourage the seeding of rotation grasses, at the further expense of permanent grassland, when the soil showed signs of exhaustion.

The planning and progress of the ploughing-up campaign, which was the most essential feature of the war-time policy, may well be considered to be beyond criticism. Some might argue that the grant of £2 per acre was inadequate and that a higher subsidy would have either increased the amount or speeded up the transition. But there were technical difficulties which might well be held to have made either impossible. There were limiting factors to the rate at which mechanisation could take place, the principal one being the scarcity of tractors and implements; the skill to use machinery and the knowledge to maintain it in running order required time to be acquired; time was needed also to train instructors; the opportunities for ploughing and cultivating in the late summer and autumn were strictly limited by the hours of daylight,¹ the weather and by the magnitude of the current harvests; the supply of regular workers

¹ Valiant but only partly successful efforts were made to surmount this obstacle by the fixing of headlights to tractors and by working night shifts.

upon whom the use of tractors and implements was almost entirely dependent would not have permitted more rapid mechanisation.

There appear to be four main points where criticism might justifiably be expected:

- (1) failure to maintain the output of milk,
- (2) agricultural price policy in the first two years of the war,
- (3) the control of agricultural output, and
- (4) the machinery for the formulation of policy in 1939-40.

Reference has been made to these in the earlier chapters but they call for some final assessment at this stage.

Could the fall in milk production have been prevented? Two natural factors worked against the maintenance of output. Firstly, there were exceptionally severe winters and dry springs in 1939-40 and 1940-1 which made comparison unfavourable with the exceptionally good season of 1938-9. Secondly, changes in the qualities and quantities of feedingstuffs and in the feeding habits of cows inevitably depressed the milk yields per cow; the big increase in the bulkiness of dairy rations, the decline in protein content and the novelty of some of the substitute feedingstuffs caused difficulties that only time and experiment were able to solve. There is evidence that dairy rations in 1939-40 were not materially below pre-war and it is probable that the unfavourable weather accounts for a considerable part of the decline in the first year of the war.

What of 1940-1 and 1941-2? The fall in dairy rations in the summer of 1941 was very severe - to less than one-third of pre-war - which would account in part for the lower yields in the summer of 1941 and the poor condition of cows at the start of the 1941-2 winter period. The feedingstuffs rationing scheme had come into operation in February 1941 and it might have been possible to allocate a greater proportion of the feedingstuffs pool to dairy cows. But this would have entailed the virtual elimination in the summer of 1941 of cereal concentrates from the pool for pigs and poultry - a drastic step that the Government was unwilling to take at that particular time.

There were, however, other controllable factors which militated against milk production. Firstly, there was the inconsistency in the Government policy which, on the one hand, made milk a first priority and which implied the maintenance of full pre-war rations regardless of what happened to other livestock and which, on the other hand, assured farmers in these early years that they could keep all and any type of livestock for which they were able to grow their own feedingstuffs. Secondly, the increasing profitability of arable cultivation and the sale of crops undoubtedly detracted attention from milk production on larger farms. There is ample evidence that the smaller farms were forced to increase their milk output and sales

as a result of the loss of their pre-war profitable side lines while the sales of the large-scale producers, who found corn, sugar beet or potatoes more profitable and less trouble, declined appreciably. There are also grounds for criticism in the relative prices of milk and of livestock and livestock products in these particular years, and particularly in the relationship of winter and summer milk prices.

Subsequent developments also suggest that part at least of the decline in output could have been avoided by earlier counter-measures. Among these were the restoration of parity in milk prices and – possibly the most important – the sense of the priority of milk production which was instilled by the allocation of county targets and the intense propaganda drive which began in 1942. The recovery of lost output was inevitably slow but it might have been started sooner and before so much had been lost.

The earlier discussions on general price policy have emphasised the difficulties caused by the absence of any clear Government price policy in general and by the divergent schools of thought on agricultural price policy in particular. These difficulties would not have been nearly so acute if there had been a clear-cut financial policy for the country as a whole. Once the Government decided, in the spring of 1941, to try and prevent further substantial increases in prices, the determination of a coherent agricultural price policy was greatly simplified. The hope, too, that an expansion of agricultural production could be achieved at current price levels was doomed to early disappointment; for the costs of increased output were bound to rise – a phenomenon that had long been recognised by orthodox economists when they cited agriculture as the prime illustration of the law of diminishing returns – even if the Government had stabilised agricultural wages and the prices of feedingstuffs and fertilisers. It was inevitable, too, that some means had to be found of supplying farmers with the cash or credit with which to purchase the machinery, fertilisers, seeds and other resources necessary for the ploughing up of grassland and for the extension of arable farming.

Was the increase in farming incomes during the first two years of the war unduly great? It was claimed by the Ministry of Food and the Treasury that the indiscriminate and uncorrelated increases in individual commodity prices during the first year of the war raised farming returns by a far greater amount than costs had risen. Revised estimates show that the former had risen by £54½ million against an increase in expenditure of £20 million. In the second year, when crop prices were still based on the Agricultural Departments' hypotheses, returns rose by a further £105½ million against a further increased expenditure of £41 million (Appendix Table IX).¹ Thus in two years the surplus of income over expenditure

¹ p. 379.

which was to provide the working capital to finance new production and to provide incentive to further effort amounted to almost £100 million. This may seem at first sight to be generous treatment, but there is now no doubt that generosity was prudent during these two years and subsequent events justified this policy.

This rate of increase of net income was certainly much more rapid than that of the national income as a whole and of salaries and profits in other industries. If, however, this had not been so in some measure, then it is very probable that the further increase in output would not have been forthcoming unless there had been some other acceptable means of advancing money to farmers. It is questionable whether, at that stage of the war, the Treasury would have agreed to any scheme which would provide so large a sum for loans to farmers or that farmers would have been willing to increase, under such schemes as the Agricultural Requisites Assistance Scheme, their indebtedness which was still a considerable legacy from pre-war days. A large part of the £100 million was therefore probably necessary to finance the further expansion of output, to buy the machinery necessary to increase arable farming, to pay for the clearing of ditches and drains and to provide the greater working capital that the greater production entailed. By the time these needs were met, the 'incentive' element which was so sternly disallowed in most other businesses and industries, became small and much of that came back to the State through the changes made in the methods of assessing farmers' income tax and through the Excess Profits Tax.

It is more questionable, however, whether the distribution of this additional income was as well-directed as it might have been. The argument of the Agricultural Departments was that the greatest need for more working capital was to finance the transition from grassland to arable farming. There were, of course, other important secondary needs, such as the compensation of farmers for losses owing to the disappearance of their normal outlets, e.g. store cattle and sheep, or help to barley growers who had been badly hit by the particular slump in barley prices just before the outbreak of war. But the major need was that of the farmer who had greatly to increase his tillage area. If these arguments were sound then a relatively greater share of the £100 million should have gone to the mixed farming regions, the predominantly grassland areas and to hill farming areas. The evidence afforded by the farm management surveys in England and Wales and in Scotland suggests that the share received by arable farmers was unduly great. Much of it went into those areas that had received most of the subsidies under the Beet Sugar Subsidy and the Wheat Act which had both been defended as measures to keep arable farming in a state of readiness

in case of war. Critics maintain – and probably rightly – that the uncoordinated fixing of individual commodity prices in the first year, the maintenance of a free market for malting barley until July 1942, and the mal-distribution of the £34.54 million in the June 1940 price review, were responsible for a disequilibrium in prices which was detrimental to the campaign for more wheat and milk. It is easy to be wise after the event but many would now agree that if the price review machinery which was built up during the war had been in operation in 1939, the distribution of the global return to farming would have been very different. Subsequent experience also suggests that greater help for marginal producers, such as that given by the hill sheep and cattle subsidies, the acreage payments and the payments to small milk producers, if introduced earlier, would have resulted in a more equitable and justifiable distribution of incentives. But here again, the lesson was learned by experience. One further criticism which has considerable point concerns the amount of the subsidy to encourage the ploughing up of grassland. The conception of £2 an acre was much less generous than some of the subsequent bounty; it is true that the ploughing-up campaign lent itself better than any other to achievement by Direction Orders, but these did not provide the cash which grassland farmers were reputed to require and a larger payment of say £3-4 – if the Treasury had been prepared to agree to it – would have brought more money where it was most needed.

In the light of the experience and knowledge gained during the war and afterwards and particularly in the working of the various schemes of direct assistance to different types of farming, there are probably few who would advocate, in the event of another war, a repetition of the price policy followed during 1939-40 and 1940-1. The lesson was a costly one but it might be argued that a less generous policy might have been more costly still.

The third major point of criticism centres on the control of the output of agriculture once it was produced. Reference was made in the earlier chapters to the difficulties which had confronted the Minister of Food in two particular instances – the rate of marketing of fat stock and the supplies of cereals for off-farm consumption. The second was the more serious breach of principle for it had been accepted that the requirements of human beings should take precedence over the needs of farm livestock. In March 1941 the Minister of Food had found that millers had insufficient oats for oatmeal and subsequently that there was a growing shortage of oats for the feeding of pit ponies and urban horses.¹ His wish to requisition supplies had been resisted strongly by the Agricultural Departments on the

¹ p. 134.

grounds that it would be a breach of faith to take from farmers the feedingstuffs which they had grown in response to the Minister of Agriculture's early advice to make themselves self-sufficient in their requirements of feedingstuffs. Such a pledge, if it was in fact ever given, should never have been given so unconditionally; it might well have been limited to farms producing milk or, as the Minister of Agriculture subsequently agreed, to an undertaking that supplies would not be requisitioned from one farm for use as feedingstuffs on another. This first failure in the summer of 1941 to control the output of cereals¹ cost the country the shipping required for 64,000 tons of maize.

Worse was to come. The deterioration in shipping in 1942 had led to the need to find some way of reducing still further the importation of bulky foodstuffs. Economies in the use of wheat became necessary and plans for the dilution of wheat flour by the use of flour from other cereals or potatoes had been agreed in June 1942; but difficulties in getting control of these supplies postponed the introduction of dilution until January 1943. It will be recalled that the most serious shipping stringency occurred in the last quarter of 1942 and the Prime Minister had been forced, in the emergency, to decree that sailings of ships to the Middle East and India should be halved.

The fourth year of the war, 1942-3, was the most critical from the point of view of shipping and imported food supplies. Compared with 1941-2, food imports had been reduced by 2.4 million tons to 10.3 million tons. When import programmes had been expected to provide some 14 million tons of imported foodstuffs the Minister of Food had asked for an additional 500-750,000 tons of wheat, or its equivalent in other foodstuffs from the 1942 harvest, as agriculture's contribution; in fact the response had far exceeded the Minister's request and had mounted to 1,475,000 tons of wheat equivalent. With closer control of farm output a further 200,000 tons of imports might have been saved at this most critical period; but this would undoubtedly have necessitated some sacrifice of livestock. It may seem captious to suggest such a relatively small addition to what was a remarkable achievement but if every ton of shipping was a vital consideration at that particular period of the war, then it is a fair comment. It would have been impossible for numerous reasons to have reached a year earlier, when the need was greatest, the level of output that was finally attained in 1943-4, but this lag might have been mitigated to a small extent if the extra amount of human foodstuffs had been obtained from British farming in 1942-3.

Finally there is the criticism of the means by which policy was

¹ Apart from wheat, the feeding of which to livestock was forbidden.

formulated in the first two years of the war. This difficulty, which originated in the lack of a clear financial policy, was not cleared up until the policy of price stabilisation was firmly established. Until that time, the divergent interests of the Minister of Agriculture and the Minister of Food inevitably led to conflict in the formulation of policy and to blurring of the lines of demarcation between their respective responsibilities. By July 1941 the machinery had been overhauled and it worked more or less smoothly for the remaining four years of the war.

There are numerous minor matters which might attract criticism but they were often the results of inexperience and one of the best features of the development and execution of policy during the war was the speed with which weaknesses were remedied.

This assessment of the strength and weaknesses of agricultural policy has been made in relation to the course of the war as it actually developed. It would perhaps be of little value to consider what might have happened if the war had taken a different course. It is possible that the general policy was sufficiently flexible to permit adaptation to different circumstances as it had been adapted to the actual turn of events. Two causes of doubt, however, come to mind, neither of which can be given a complete answer but which deserve brief consideration.

If the shipping position had grown worse either earlier or to a greater extent than actually occurred and if it had been necessary to adopt a slaughter policy such as that envisaged in March 1941, what would have been the effect on soil fertility and consequently on the ability to sustain agricultural output—mainly wheat, potatoes, sugar beet, milk, barley and oats—at the required level over the following years? Could it have been maintained by the wider adoption of short-term leys, the ploughing in of such by-products of arable farming as were not utilised by the diminished numbers of livestock, and by a greater use of artificial fertilisers? An attempt dogmatically to answer this question would raise the whole passionate controversy about 'the balance' of farming. As occurs so often with agricultural questions there is probably no one answer and solutions will differ according to the different regional types of farming and systems of rotation. But the issue is one to which it would be well to have some solution for future guidance. So fundamental a question requires an exhaustive investigation into the economics of temporary grass in some of the more important systems of farming. The scientist and the agricultural economist may have the answers but they will not be accepted readily by farmers unless demonstrated to be successful in practice.

The second major doubt is concerned with the supply of labour. The Agricultural Departments may have overplayed their hands in

submitting to the War Cabinet their estimates of the industry's manpower requirements; the cry of 'wolf' had perhaps been raised too often. But whatever the reason there seemed to be a lack of appreciation outside the Agricultural Departments of the dangerously narrow margin of safety in the supplies of manpower available to farmers, particularly at harvest time. The gathering of the 1942 harvest was the first critical point. In England and Wales, it had been met in part by the supplementary efforts of some 50,000 British soldiers, 100,000 adult part-time workers and 250,000 children. What would have happened to the 1942 harvest – and the farmers' intentions for the 1943 harvest – if General Wavell's successful campaign in Libya in the opening months of 1942 had not resulted in the capture of over 133,000 prisoners, of whom some 20,000 were allocated for agricultural work in the United Kingdom in time for the harvest?

So far this book has dealt with agriculture during the six years of war. What of the future? In what condition was the industry to face the years of peace?

Thought for the future had begun in the first year of the war. The risks of premature planning are, however, exceedingly great. The following forecast of post-war Britain was printed in the farming press by a politician as early as February 1940 :¹

Millions of people (in Great Britain) will be unemployed. Half the working class may be receiving half, and may be less than half, their present wages. . . . What will be the effect on agricultural prices? I suggest that unless exhaustive preparations have been made the bottom will be completely knocked out of the market. Tragedy will face our farming. But that is not all. The Dominions will demand complete freedom of entry to the British market for their agricultural products. . . . Moreover, there will be a universal outcry for the breaking down – if not the abolition – of all international barriers and restrictions. . . . British agriculture would have to face the competition of food-stuffs from all parts of the world.

Fortunately, 'exhaustive preparations' were not made on such assumptions and the course of the war had become clearer before the next attempts were made. Two years before the end of the war it had become evident that there would be little relaxation in the demands for food in the first few years after the war. A global war entailed global shortages – not only in Europe as in 1918 but throughout many parts of the Middle East and most of the Far East where so much productive capacity had been wiped out. Moreover, there were many countries where consumption levels had risen as a result of either adventitious profits from war-time expenditure by

¹ *Farmer & Stockbreeder*, 27th February, 1940

belligerents or a loss of their peace-time export markets. These improvements in internal nutritional standards would not be given up readily. The United Kingdom, which was the principal market of foodstuffs in the days of peace, would no longer be able to import on its pre-war scale as a result of the loss of the vast sums of foreign investment that had been used to pay for the current requirements of war. Finally, the growth of nationalism and the desire for autarchy made it probable that there would be less and not more freedom in international trade in the immediate post-war world.

The Government had announced in November 1940 that it recognised the importance of maintaining after the war a healthy and well-balanced agriculture as an essential feature of national policy.¹ The Ministry of Agriculture began immediately to consider the manifold problems that were inherent in this apparently simple undertaking. Based on certain vital suppositions concerning politics – the existence of a three-party Government – and post-war export trade, the resulting memorandum was considered by various Departments and, in confidence, by a small number of persons of influence in the agricultural world. Subsequently, in July 1942, the foundations of a post-war policy were laid down by the Government which stipulated:

- (1) that all reasonably good agricultural land should be maintained in a state of fertility and productivity, and
- (2) that any policy must secure to the utmost practical extent proper standards of up-keep of the farm and farm buildings, proper standards of farming, and economic stability for the industry.

The main features of post-war legislation are clearly identifiable in these embryonic considerations. The acceptance of even these vague principles was not obtained without a great amount of discussion and manœuvre, but at any rate a start had been made. The plan in question proposed a moderate increase in the scale of agricultural production to an extent that would reduce imports to this country by not more than 10 per cent. of their pre-war volume and value. The spectre of a depressing flood of food imports had not been exorcised by the middle of 1942. The subsequent course of these proposals was an unhappy one. They appeared to circulate between Departments and Committees, including the Cabinet Committee on Reconstruction Problems, without achieving any marked progress. The War Cabinet itself was less than tepid in its reception of the idea, far less of the detailed proposals, and in April 1943, the question became side-tracked by the inability of the Reconstruction Committee to deal effectively with the technical problems which

¹ p. 112.

were involved. A speech by the Prime Minister on 21st March 1943¹ had, however, reaffirmed meantime the Government's realisation that agricultural production after the war would have to be maintained at a higher level than before 1939.

Events were now moving faster than the inter-departmental circulation and consideration of papers. The World Food Conference was held at Hot Springs in May and June 1943. The suggestion by the American Government in March to hold a Conference had been received with marked coolness by the War Cabinet lest the Conference should detract from the importance and urgency of the post-war relief work which was then being planned. The Agricultural Departments were also perturbed lest the enthusiasms of the nutritionists should be allowed to run riot and raise issues that would cut across the lines of their policy which were in process of being accepted by the Government. But the British Mission to the Conference, which proved to be so outstandingly effective, was instructed to work in conformity with the thesis that some form of organisation would be required to consider consumption needs on a world basis and advise on the means whereby agricultural production could be geared to meet them.

The report of the Conference, which was passed unanimously by forty-four states, approached the problem from a nutritional angle; it urged a progressive and balanced expansion of production and consumption throughout the world. By the end of 1944 the constitution of the international association – The Food and Agriculture Organisation – which was designed to execute the Conference's conclusions had been accepted by the British Government, though only on the understanding that it did not confer on the new organisation executive powers to control the supply of individual commodities; it was not to be concerned with the allocation of food surpluses and it 'could not therefore in any way interfere with the nation's food supplies'. This apparently cynical rider was designed to preserve the functions of the Combined Food Board which was still working so successfully in the rationing of food on an international scale.

Meantime, too, agricultural and political interests in this country were pressing for discussion of post-war policy. By August 1943 the Government's shyness and reluctance to discuss the future had become embarrassing. The War Cabinet approved a new draft policy in October 1943 and authorised the Agricultural Departments to open discussions with the industry. The limits within which these should roam were, however, laid down in a carefully drawn directive which was passed by the War Cabinet on 27th October, 1943.²

¹ *The Times*, 22nd March 1943.

² p. 214.

The year 1942 had seen the publication of two reports relating to post-war policy.¹ These were followed by a plethora of opinions from political parties and agricultural interests.² All of these accepted the Prime Minister's premise that a larger proportion of our food would have to be grown at home though there was naturally disagreement on the amount. Recommendations about the future size and structure of the industry varied from a programme that gave absolute minimum output figures for the staple products of the country to one that made only vague generalisations and aspirations.

The time-honoured controversy between Industry and Agriculture broke out in 1944 following the Beveridge Report on Full Employment. The Minister of Agriculture in Newcastle on 1st October 1944 had set the ball rolling by claiming that the time had come to abandon the theory that it was always economically desirable and profitable to buy food in the cheapest possible market, without any regard to the result of such policy on the fortunes of the primary producers of the world – and, in particular, of the farmers of the United Kingdom. An editorial in *The Economist* of 21st October 1944 replied:

Cheap food is the foundation of Britain's wealth. Together with cheap raw materials it has enabled this small and poorly endowed island to enjoy the second highest standard of living in the world. A British worker can produce far more wealth for himself and the community in industry than in agriculture.

Time, however, mellowed the conflict and by March 1945, *The Economist* found itself able to go so far as to subscribe to the view that some form of financial assistance for British Agriculture was warranted; an agricultural policy should provide a decent living for those engaged in the industry even at some cost to the State – though not to food consumers.

In the same month the Prime Minister declared that agriculture

¹ *Report of the Committee on Land Utilisation in Rural Areas*, Cmd. 6378, 1942 (The Scott Report); *Agricultural Policy after the War*, Central Landowners' Association, June 1942.

² *Post-war Reconstruction*, Interim report of the Co-operative Party, February 1943; *Report of a Special Committee of the Royal Agricultural Society*, February 1943; *Plan for Post-War Farming by a Group of Peers*, February 1943; *Agriculture and the Nation*, National Farmers' Union, March 1943; *Proposals for a Post-War Agricultural Policy*, Ulster Farmers' Union, March 1943; *Looking Ahead*, Report of the Sub-Committee on Agriculture of the Conservative Committee on Post-War Reconstruction, April 1943; *Report on the Principles and Objectives of Long-Term Agricultural Policy*, Council of Agriculture for England, June 1943; *Food and Agriculture*, Report and Summary of the Liberal Food and Agriculture Sub-Committee, June 1943; *Agricultural Reconstruction, The Land and its Equipment*, Report of the Land Union, November 1943; *Post-War Agricultural Policy*, A Statement and Plan by the National Farmers' Union and the Chamber of Agriculture for Scotland, November 1943; *The Husbandman Waiteth*, A Statement by Three Members of Parliament, March 1944; *Agriculture and Parliament*, Address by the Chairman of the All-Party Agricultural Policy Committee of the House of Commons, May 1944; *Our Food and Our Farms*, Report of the Liberal National Agricultural Committee, November 1944; *The Farming Front*, *Report on British Agriculture in War and Peace*, Fabian Society, June 1945.

must be Britain's first industry and that it would be madness to cast away the increased food production which had been achieved during the war.¹

The prospects for the maintenance of the Four Year Plan which had been announced by the Minister of Agriculture on 26th January 1944² appeared to be bright in that there was wide agreement on its principles. Pledges from the Government and the published promise of so many political parties would make improbable a betrayal of the farmers' hopes such as had occurred after the First World War.

The Government had promised assured markets for cereals, main-crop potatoes, sugar beet, milk, fat cattle, sheep, lambs, calves, fat pigs and eggs. The prices of these were to be considered every February, or on special occasions, when the Government would decide on crop prices for the harvest of the next calendar year, for milk during the next October–September year and for livestock and eggs during the next July–June year. There were fixed minimum prices for milk, cattle, and sheep for the period of the four-year plan which gave added security for those products the output of which takes time to vary. Farmers had, too, an agreed basis for price fixing. Finally, during the transition from war to peace, they had been promised some relaxation from the production of crops for human consumption—wheat, potatoes and sugar beet—and a gradual return to pre-war traditional farming.³

Was agriculture in a fit state to take advantage of this situation? Soil fertility had declined in certain areas owing to continuous cropping and plant diseases, and pests, particularly eel-worm and the soil-borne diseases of cereals such as eye-spot and take-all of wheat, were becoming limiting factors in some districts. Breeding stocks of pigs and poultry were just above their minimum. On the other hand,

¹ *Victory, War Speeches by the Right Hon. Winston S. Churchill, 1945, Cassell & Co. Ltd., p. 82.*

² p. 214.

³ These general trends were maintained when a five-year policy for farming was established and the targets for 1952–3 were set in 1947:—

| | Index numbers of crop acreages | | | Index numbers of livestock output | | | | |
|--------------------|--------------------------------|----------|------------|-----------------------------------|---------------|-----------------|----------|------|
| | Wheat | Potatoes | Sugar beet | Milk | Beef and veal | Mutton and lamb | Pig-meat | Eggs |
| 1936–7 to 1938–9 . | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1943–4 (actual) . | 187 | 192 | 124 | 96 | 83 | 79 | 32 | 51 |
| 1952–3 (target) . | 148 | 152 | 119 | 123 | 110 | 83 | 92 | 131 |

the knowledge and experience were available quickly to counteract these adverse factors. More ley farming, increased livestock numbers, more plentiful fertilisers and a return to some modified form of rotational farming would soon have a telling effect. Much would depend, however, on world supplies of feedingstuffs; if these became again more easily available, the recovery in livestock numbers and output might well be rapid.

In some ways, the state of farms in the United Kingdom had improved during the war. Ditches and water courses had been cleaned and widened, field drains had been cleared or laid afresh, and mole-draining had been carried out extensively. A start had been made with the more general laying-on of water supplies to fields and buildings. An immense amount needed to be done, however, to bring farm plant up to date. Dilapidated buildings needed repair or replacement, farm roads required attention. More machinery would be needed not only for the expansion of output but also to make good the inevitable reduction in the supply of labour in the post-war years; there were some 130,000 prisoners of war in agricultural employment in the immediate post-war period, of whom at least one-half were regular workers. A few might volunteer to remain in this country and some foreign labour might be attracted among the Poles or other European displaced persons. The Women's Land Army, which had performed such wonderful service, was to be disbanded. The solution to the labour problem for most farmers would undoubtedly be further mechanisation. Some idea of the magnitude of the shortage of capital investment may be obtained from the estimates for the 1947-52 plan. About £450 million was estimated to be required for the five years; £100 million would be needed for farm buildings and £225 million for farm machinery; the balance would be needed for further work on water courses, field drainage (2½ million acres), piped water supplies (1-1½ million acres) and the like. It was announced in 1947 that a 20 per cent. increase in agricultural production was desired by 1952 and it was hoped that farming efficiency might be raised by 2 per cent. per annum. In this way half of the required addition to output would be achieved without addition to costs. If this was to be done the capital investment programme was an urgent need.

The landlord was in no position to meet this bill. Rents had risen to an insignificant extent during the war;¹ by 1944-5, the landlords' gross rents had risen by only 11 per cent., compared with a rise of 55 per cent. in wage payments and 129 per cent. in farmers' net income. His share of the social income² from farming had fallen from

¹ Appendix Table IX, p. 379.

² Social income consists of the payments distributed to landlords, farmers and farm workers. The figures used in these estimates are those in Appendix Table IX.

24 per cent. before the war to 11 per cent. in 1944-5. The farm workers' share at the end of the war was practically the same as at the start - 42 per cent. - while the farmers' share had risen from 35 per cent. to 47 per cent.

The agricultural workers' position had changed materially during the six years. Before the war, the statutory minimum wages in England and Wales, which were fixed, except for a brief period in 1917 and 1918, on a county basis, averaged about 34s. 6d. a week. In July 1940 a *national* minimum wage of 48s. had been put into effect and this had been raised to 65s. in December 1943, and 70s. in March 1945. The gap between agricultural wages and those in other rural industries and those of unskilled workers in building, engineering and railway industries had been lessened. The increase in the amount of machinery on the farm had increased the proportion of higher paid workers in the industry and at the same time had reduced some of the more physically arduous work on the farm and some of the tedium of certain jobs. But it was still doubtful whether these improvements would be sufficient to outweigh the fact that virtually nothing had been achieved to improve the amenities of rural life; better housing, laid-on water supplies, electrification, better rural schools and the like were still things of the future and their immediate provision seemed unlikely. It would not be surprising to many in the industry if the pre-war drift from the land was continued in the post-war period, though possibly not so rapidly as formerly.

Finally, there was the farmer himself. Would he be able to achieve the increase in efficiency which the new programme called for? He had shown an ability to meet the changes which were called for under war-time production policy to an extent that must have surprised even those who knew the industry well. Some of the changes had been rapid; some, such as the improvement in the feeding of dairy stock, took longer to achieve. Most farmers now had cash or credit resources to finance any readjustment in production programmes which might be called for - even for a very much heavier investment in agricultural machinery. There would be little or none of the 1918-20 rush by tenants to purchase their farms, driving up the prices of land and tying up their working capital. Memories were too vivid and painful for this to happen twice in a generation. But, above all, the farmer had acquired a flexibility of outlook, born of his war-time experience, which augured well for the future.

The relations between science and practice in pre-war years had often been distant and, sometimes, even strained. In some few counties, where a high rate fund and enlightened leadership co-existed, satisfactory provision had been made for agricultural education and

advisory services. Here and there, too, a county organiser of exceptional ability had accomplished a great deal with small resources. Elsewhere, science had very little impact on the industry. But the six years of war had led to closer association. In the first place, sheer necessity had driven the farmer to seek advice and the urgency of the situation had brought the scientist face to face with practical problems – the academic approach was a luxury which had to be surrendered with so many others. Contacts between farmers, teachers and research workers became widespread and frequent after 1940, when the staffs of the higher teaching institutions were seconded to work with the County War Agricultural Executive Committees.¹ There was a marked levelling up in the numbers and quality of technical staff as between county and county. These men had the active support and counsel of the most progressive farmers who were so often the members of the County Committees and Sub-Committees and of the District Committees. To these members, however, must go much of the credit for the widespread application of new ideas and acceptance of advice. They knew, in a way which no laboratory worker or lecturer could acquire, the problems and idiosyncrasies of the individual farmer and even of the fields of his farm. They were the agents through whom 'C' farmers changed to 'B' farmers and 'B's became 'A's. Their advice was accepted with greater confidence since it came from a practical farmer and, often, a neighbour. They were the men who knew all the circumstances and who were trusted and respected by the agricultural community.

It is fitting that the final lines of this history should pay further tribute to the work of the five or six thousand members of the County Committees on whom the success of the Government's policy in the field rested. No other industry was entrusted with such a measure of self-control as was agriculture – and the trust was not misplaced.

¹ The relationship became even closer after the National Agricultural Advisory Service was established under the Agriculture (Miscellaneous War Provisions) Act, 1944, 7 & 8 Geo. 6, Ch. 28. The Ministry of Agriculture assumed the pre-war responsibilities of the County Agricultural Committees for advisory services – though not educational work – to farmers. Finally, when the Government decided in 1945 to keep in existence the County Agricultural Executive Committees, though in a modified form, the National Agricultural Advisory Service was attached to these County Committees.

Appendix
and Appendix Tables

APPENDIX

'NOTES ON AGRICULTURAL POLICY FOR THOSE DIRECTING THE FOOD PRODUCTION CAMPAIGN'

Issued by the Ministry of Agriculture, Spring 1942

The General Position

Shipping space must be saved. The life-line of Britain at war is her shipping. On this she depends for the necessary imports of raw materials, food and munitions of all kinds; on this she depends for the active prosecution of operations overseas which alone will lead to final victory. The extension of the war makes an ever increasing call upon her ships. The contribution that agriculture has hitherto been called upon to make to the total war effort has been a straightforward one – to save every ton of shipping space that is possible.

With the recent developments of the war a new and more difficult situation arises. Not only have we to continue saving all the shipping that we can, which means growing crops for direct human food, but milk and meat now assume added importance. These two demands, on the one hand to save shipping space and on the other to produce more milk and meat are, to some extent, contradictory and we will consider each separately in the following pages.

The present position of food stocks in this country and until now our comparatively good fortune with shipments of feeding stuffs, which has enabled us to issue rations to dairy farmers and others must not blind us for one moment to the situation as it presents itself to-day for the winter of 1942-43.

We are faced with possibilities that demand all-out endeavours by everyone concerned with food production in this country.

How can Shipping Space be Saved?

In times of peace we imported about 16 million tons of human food and 7 million tons of animal feeding stuffs. Both these imports have been drastically curtailed. Agriculture has to fill the gap by growing as much human food as possible, and practically all the animal feeding stuffs. There are three ways, and three ways only, of attacking this problem – three potential reserves as it were which we can draw on to increase the output of our land and fill the gap:

- (1) By ploughing up grassland, i.e., increasing the arable acreage.
- (2) By better farming, i.e., increasing the yield of crops and output from livestock.
- (3) By livestock adjustment, i.e., substituting human food crops for animal food crops.

(1) PLOUGHING UP GRASSLAND

Reasons for the policy. Even now the ploughing-up policy comes in for some uninformed criticism, and it is very important that it should be thoroughly understood. The first point to note is that one acre of average arable crops feeds far more human beings or animals than one acre of average grassland, whilst one acre of average wheat saves at least as much shipping space as seven acres of the best grass in England.

When people say they don't believe in ploughing up grassland they usually mean they don't believe in turning good grass into bad arable crops. All of us must do our best to see that crops are not bad, but half a crop on newly ploughed land is worth having for the country's sake, even though it leaves little financial return to the individual, provided, of course, that the spreading of the farmer's resources over the larger area does not reduce by one-half the crop on a corresponding area of his old arable land. In practice this is seldom likely to occur.

There must come a time, of course, when, with the limited resources that are available, we cannot increase further the arable acreage¹ and still achieve a net gain, but this time is further away than is often suggested.

The broad results of a bold policy have more than justified that insistence on ploughing which has sometimes been criticised. The past two years have brought countless examples of farmers who 'did not see how they could possibly handle an expanded arable acreage with less labour' but who somehow or other managed to do so – countless examples of ploughing up quotas which districts considered unreasonable or impossible but which nevertheless they achieved.

War is ever a matter of hazards: no commander is assured of victory when he launches his attack. We cannot be assured in advance of the labour and machinery to handle the extra crops or to gather the harvest, yet it is well to reflect that as the emergency increases so are we the more likely to attract emergency help. Experience has already proved this. At no time since the outbreak of war has agriculture had adequate resources or assurances, yet somehow the job in the main has been done.

The call on stored fertility in grassland. The next point to note is that grass and clovers are a restorative crop. They store up humus and fertility in the soil and the better the sward the more stored-up fertility is there likely to be. Even in peace time it is probably uneconomic to leave this fertility under the grass for an indefinite time and modern practice is more and more towards alternating arable crops with short leys. But in war time, when we have to choose between storing up more fertility in the soil and getting enough food to eat, the choice can only go one way.

We must use this fertility now and at the same time, if needs be, take steps to restore the fertility of other land that has already paid its contribution to the war needs.

We have no right to expect to get through the war with all our reserve resources, whether in the land or in the bank, unimpaired.

Modern Methods. Another point which frequently causes discussion is the class of land suitable for ploughing. It is not yet sufficiently realised

¹ The term 'arable acreage' includes seeds and temporary grass and leys: when these are excluded the term 'tillage acreage' is used.

that recent advances in our knowledge of fertilizers and machinery make it possible to tackle certain types of land which would have been quite out of the question a few years ago. So much is this the case that knowledge and experience of what happened in the ploughing campaign of the last war has on the whole proved a disadvantage rather than an advantage to those guiding operations in this war, unless they have kept themselves very fully acquainted with the developments that have occurred in the intervening years.

Two main classes of land are affected, heavy land and land with soil deficiencies. With regard to heavy land, track-laying tractors, giving both power and speed, together with modern implements, particularly heavy disc harrows, have revolutionised its cultivation. Fears based on past experience with horse labour need have no weight to-day. It is true that most of the crop failures in 1940 and 1941 arose on the heavy clays, but when these failures have been investigated more than 75 per cent. of them have been found to be primarily due to faulty cultivation.

Too often the District Officer or Member has been able to do no more than give the direction to plough. Guidance and help to the inexperienced in the subsequent cultivation must be one of the main items in the programme of work for 1942.

Secondly, there is land that is deficient in lime, or phosphates, or both. There are extensive stretches of it which have earned the reputation of being poor and not worth ploughing. In the last two years much of it has surprised everyone by growing excellent crops when the deficiencies have been corrected.

Limit of arable is not yet reached. In spite of the achievements already behind us, we must continue to increase the arable area to the utmost limit of our resources. In many districts the actual tillage area can also be increased, i.e., the arable crops other than seeds.

Some of the remaining grassland requires drainage before the plough goes in, some is undrainable or too steep and inaccessible ever to be suited for arable cropping and fencing is sometimes a difficulty. But this still leaves thousands of acres, particularly in some districts, that are ploughable, and that must be ploughed, for as the war proceeds so does the country's need become the greater.

And in this connexion we must dispose once and for all of any idea of equality of task as between one individual and another. The national interests alone must be considered.

It is useful perhaps to recall what has happened in industry. All factories are at the complete disposal of the Government. The maker of tin-tacks may be told to make shells and there is no compensation for him if he loses money at the new job. The restriction of supplies has deprived thousands of traders and small shopkeepers of their whole means of livelihood: thousands more have been forced by the call-up to abandon the businesses or professional careers which they have devoted their lives to building up. Farmers on the other hand have been left in the occupation of their land and by price adjustments the Government has seen to it that their operations in the main are reasonably remunerative.

But this continued occupation must be as trustee for the nation. The

land, like the factory, must be at the full disposal of the Government to be used in the way that is best for the war effort. This may not always be the way that the occupier thinks best, or that he is used to: it may sometimes mean hardship and loss. Just as one factory or shop is ruined and another flourishes, just as one man is called up and another is left, just as one brother earns high wages and another makes the supreme sacrifice, so one farmer may be called upon to plough up most of his farm or revolutionise his whole method of farming, with possible loss to himself, whilst his neighbour engaged in mixed arable farming continues relatively undisturbed with increased profits. These are the fortunes of war which it is difficult and often impossible to avoid.

(2) BETTER FARMING

Increased production. Having considered the first method of saving shipping, namely, by increasing the arable acreage, we now come to the second method which is by increasing the yield per acre, both of crops and grass, and by better management of livestock.

This is by far the more difficult task, but it is one which we cannot avoid when we consider that if the average yield of all our cultivated land could be raised by 5 per cent. thus getting the same grass and crops off 5 per cent less land and if the land thus set free were used for growing wheat, then another 1,500,000 tons of shipping could be saved. Five per cent. is not a lot – 31½ bushels of wheat per acre instead of 30, or keeping the same stock on 19 acres instead of 20. In many cases, as all practical men know, far larger increases are possible. Moreover, a sudden spurt is not enough: production must be kept up by planning for several years ahead.

Farming standards must be raised. All Committees may not have exactly the same standards for classifying farmers as 'A', 'B' and 'C', but all have found large numbers in the two latter classes whose standards of efficiency and production are far lower than they should be. In some districts the 'C' farmers have very nearly disappeared. New tenants have been found, or the existing ones, when showing any promise, helped on to a higher standard. But in other districts where there are large numbers of small farmers on poor land progress has necessarily been much slower.

The time has come when Committees must regard the supervision of the management and production of the farming of their county as their main task. It will, of course, devolve primarily on District Committees and require systematic organisation by them. They will already possess lists of 'B' and 'C' farmers, and the first step will be to apportion these amongst the District Officers, District Members and suitable Parish Representatives according to the time which each of them is prepared to devote to supervisory visits, which should be monthly in the case of 'C' farmers and at appropriate intervals for 'B' farmers.

The submission of written reports of visits has been found to be of great assistance. Endeavours will probably have to be made to enlist the help of many other good farmers in the county to supervise farms in their immediate neighbourhood.

Classifications must be raised. The time has also come when the nation must demand new standards of efficiency and production from all those

occupying land at this critical period of our history. Class 'A' farmers in 1942 must be better than Class 'A' farmers of 1939: those whom we were content to leave in possession in the earlier years may have to go now. In fact it is doubtful if any farmer should be left in the 'B' class for more than one year. This is long enough to enable him to show whether he is capable of rising to Class 'A': if not then he should be classified as 'C' and subject either to dispossession or very strict supervision.

It is suggested that farmers generally of all classes would be stimulated to further efforts if Committees informed them now of the Class to which they had been adjudged, and this they are at liberty to do if they think fit.

The directions in which supervision will require to be exercised will vary with each farm and cover the whole range of farming operations. Sometimes it will be the occupier himself, his policy and management that calls for improvement: at other times he will have to be persuaded to accept credit for necessary developments. Or he will need guidance on fertilizers, cultivations, conserving farmyard manure, grassland improvements and drainage, or on better use of labour and machinery.

The numbers of livestock, their feeding and management for maximum output of milk and meat, often require as much supervision as the land, and much more attention must in future be paid to this side of production. Frequently help will be needed on getting the land into a proper rotation and striking a balance between crops, livestock and grassland.

A dozen points, and there will be many others, each difficult, each requiring thought to answer. Yet all can be summed up as farm arrangement. To intervene in the management of other people's farms may seem an invidious as well as a difficult task to impose upon anyone. Yet by what better means can it be done than by asking the best farmers in the country to guide and assist their less efficient or less experienced neighbours to higher production?

District Members must accept responsibility. Let us hear no more of the difficulty or reluctance of farmers reporting on their neighbours' farms. Those who raise this objection clearly do not appreciate the seriousness of the position. All farmers to-day occupy land on trust for the nation, to produce from it to the utmost, and certain of them have been placed in authority to see that trust fulfilled. They must exercise their authority, just as the others must accept it, as a national duty.

Similar circumstances arise in most other branches of the war effort. If those concerned make their visits not as dictators imbued with a brief authority, but as friends and helpers of all those who are genuinely prepared to join in a mutual effort towards meeting the country's needs then they need to be resented by no one except by the bad farmers and those who are not pulling their weight, and such persons would resent interference from whatever source it came.

(3) LIVESTOCK ADJUSTMENT

We have now dealt with two methods of saving shipping (1) by ploughing grassland, i.e., increasing the acreage under crops for both animals and human foods, and (2) by better farming, i.e., increasing the output all round. The third and last way by which it is possible to save further

shipping space would be by reducing our livestock and using the land for growing human food such as wheat and potatoes instead of animal feeding stuffs.

When we pass crops through animals we only recover about 30 per cent. in the milk and about 10 per cent. in the beef that we eat, and it takes anything from 5 to 15 acres under animal feeding stuffs to save as much shipping space as one acre under human food crops. Thus looked at from this aspect alone, the more animal feeding stuffs we grow the less we can strengthen the shipping position. Why not then a drastic reduction in our number of livestock?

The answer is that this is not the only aspect: others equally as important have to be taken into account in determining national policy:

1. We want all the milk we can get for the nation's health. Owing to shortage of refrigerated tonnage we must rely to an increasing extent on home supplies of meat. But we cannot spare ships to import feeding stuffs; we must grow them for these purposes.

2. In any case we already have to grow roots and temporary leys to restore the cleanliness and fertility of the land. We also have available for livestock the by-products of human food crops (e.g., straw, sugar-beet tops, tail corn) as well as rough grazings and some permanent grass which cannot be ploughed. These roughages make up a large part of the diet of cattle and sheep: it would be wasteful not to grow the little extra concentrated food which enables them to be utilised to the full.

3. Lastly, livestock play an important part in maintaining soil fertility. Whatever reservations have to be made in war-time, the folding of roots and the treading of straw remain the standard methods of maintaining the condition of the land. Moreover, the production of mutton and beef forms the co-ordinated basis of the production of wheat, sugar-beet, barley and potatoes over large parts of the arable districts and a reduction in livestock if taken too far, would have repercussions on the total output of human food crops.

National policy has therefore to take account of these conflicting demands, viz., (1) the demand to save shipping space by growing more direct human food, (2) the demand for health foods, primarily milk, which means growing more and not less animal feeding stuffs, and (3) the demand to maintain meat supplies which again means more animal feeding stuffs, although both milk and meat are in part produced, as a corollary to keeping up the cleanliness and fertility of the land, by the consumption of the products of the farm grown for that purpose.

A Balanced National Policy

Only the Government can decide on the proper balance at any given time between these conflicting demands, and the Minister has laid down the policy for 1942.

He requires the greatest possible production of milk, particularly in the winter and regards this task as having first priority on the industry as a whole.

He considers that the reduction in livestock numbers has gone far enough, and as regards sheep, perhaps too far, aggravated as it has been by two disastrous lambing seasons in the hill flocks. Farm poultry and pigs should not fall below the 1941 level: but attention must centre on the efficiency of laying flocks and the regular replacements by pullets of good type, while the pig industry should be based on the fullest use of farm by-products and kitchen waste.

We must aim at producing as much more beef and mutton as does not conflict with the greatest possible supply of milk.

We must maintain the 1942 harvest acreage of wheat, together with the required quotas of potatoes, beet, flax and certain vegetables.

We must see that the necessary quantity of seed, particularly roots, vegetables, clovers and grasses, are grown.

It is intended to require farmers to submit their proposed 1943 cropping with their quarterly returns of 4th September 1942.

Let us set down this policy clearly in six points under three main headings:

I. DIRECT HUMAN FOODS - PRIORITY CROP PRODUCTION

1. To grow potatoes, sugar beet and certain vegetables up to the acreages asked for.
2. To maintain the 1942 acreage of wheat.

II. INDIRECT HUMAN FOODS - LIVESTOCK PRODUCTION

3. To produce all the milk possible as the first priority call on the industry.
4. Consistent with this, to keep as much other livestock as we can by improved management and by utilising to the full:
 - (a) The by-products of the human food crops (e.g., straw, beet-tops and tail corn).
 - (b) The crops grown on the farm to maintain fertility and cleanliness (e.g., roots, green crops, temporary leys).
 - (c) Permanent grassland unsuited for arable crops or dairying.
 - (d) Crops for livestock grown on land available after the needs of priority crops and maximum milk production are met.

III. ALL CROPS - INCREASED PRODUCTION

5. To increase the arable acreage to the limit of our resources by ploughing all available grassland.
6. To raise the average yield per acre of all crops and grassland.

Translation of Policy to Individual Farms

With this general policy in mind, which of course refers to the country as a whole, let us turn to the real task before us all, which is to translate it on to the individual farm - to interpret it in a practical manner and with common sense in the light of varying conditions.

These conditions differ on each farm not only as regards climate, soil

and type of farming, but as regards facilities available, capabilities of the occupier and condition of the land: it is the problems arising from these minor variations that are usually the more difficult to solve. Moreover, no standard set of rules can be formulated: the policy for each farm can only be determined on the spot by a practical man in consultation with the occupier. It may, however, be helpful to sketch a general line of approach as an indication of the main points which are likely to arise.

The mixed dairy farm. If the occupier is a dairy farmer, first priority must go to milk. If he is a winter or all-the-year-round producer, he will already have a fair acreage of arable land and the first step will be to determine the area necessary to make the herd self-supporting, say $\frac{1}{2}$ acre per head for roots, kale, oats, beans, peas or dredge corn, $\frac{1}{2}$ acre of seeds for hay and/or silage.

The acreage necessary for summer grazing will vary widely according to soil and climate. It will often, however, be possible to make do with much less by substituting grazing leys for permanent pasture, by feeding more oat straw, by the general improvement of the permanent sward, by the use of top-dressings for 'early bite' and by the adoption of a better-controlled system of grazing.

Only if the land is unploughable or during the period of transition should any permanent grass be allotted for hay, since higher yields can almost invariably be obtained from seeds and temporary leys. Hay itself can be largely eliminated by substituting oat straw for it in the ration of all dry cows and forward heifers and of milking cows except the very highest yielders. The area of arable and grass required for the young stock in a fully-self-contained herd will be about one-third of that required by the cows.

Having settled the dairy acreage, the balance of grass and arable should produce the maximum proportion of priority food crops that can be worked into a sound rotation for the farm as a whole, having regard to the nature and condition of the land.

The grass dairy farm. The grassland dairy farm which concentrated on summer milk and depended on hay and the cake merchant for winter feeding presents a different problem. The provision of food for the winter is the prior need, and sufficient land must be ploughed and a system of cropping adopted to provide for the full needs of the herd. Speaking generally, the maintenance of the milk supply is of more importance in the winter than in the summer. As in the mixed dairy farm, the area of permanent grass allotted for hay and grazing can generally be reduced.

The overstocked dairy farm. Other cases are more difficult in that grassland is already too highly stocked and the greatest shortage occurs in summer grazing, which would be aggravated by ploughing up. The position on such farms was alleviated in 1941-42 by the allowance of an additional 2 lb. of concentrates per cow per day under the rationing scheme, but there can be no guarantee that this allowance will be continued. Sometimes hay and straw, and possibly roots, can be purchased in the neighbourhood. Otherwise it is essential that the existing grass be improved if land is to be set free to grow roots, kale, oats and seeds hay for winter needs.

The quickest means to this end may be to plough up and reseed immediately to temporary leys either under a crop of oats or without a nurse-crop. In the former case oats and oat straw will be available during the first winter, and seeds hay in the second. In the latter, land reseeded direct in the spring will be available for heavy grazing in July. The plough can thus be taken round the farm very quickly, and the double object of better grass and more winter feed attained.

These overstocked farms seldom rear their own cattle, but dry cows, and heifers (if any) can perhaps be sent away on agistment. Ensilage and top-dressing for early bite are other possibilities.

In the last resort, however, the occupier may have to face a reduction in the number of cows in order to get the farm on to a permanent basis of security. It may be many years before we shall again have abundant supplies of imported feeding stuffs, and the overstocked dairy farmers who rely on them and whose land has become little more than an exercising ground for the cows will be well advised to adjust themselves without any further delay to the changed conditions.

Mixed farms. On general mixed farms the Priority Crops must be the first consideration – the required acreage of potatoes and sugar-beet in the root break (also certain vegetables, root seeds or flax in appropriate districts), and all the wheat possible (with the country's total up to the 1942 acreage) in the cereal break.

The general cleanliness and fertility of the arable land must then be considered. Are the potatoes and beet sufficient to maintain it or should the root break be increased? In this case are there enough sheep and/or cattle to deal with them?

Could a pig or two or a few chickens be maintained largely on the waste and by-products of the farm with little purchased feeding stuffs?

How can the farm be brought under a proper crop rotation field by field with such an area of seeds as is strictly necessary to keep up fertility?

What grassland then remains for conversion into arable? What crops should first be grown and how should it ultimately be brought into the general farm rotation?

General considerations. In all these considerations particularly regarding the smaller farmers, what type of farming is the occupier himself best suited for by aptitude and experience. If he is a 'B' or 'C' farmer, can he tackle the new programme? As an alternative to dispossession, will he be likely to respond to direction and regular supervision?

He may refuse to borrow money for the necessary development. Memory of past periods of depression has given him a horror of 'getting into debt'. This independence compels respect, but reluctance to accept credit must not stand in the way of food production. It is the duty of such a man to accept, as trustee for the nation, the credit facilities now provided by the Banks or by the Goods and Services Scheme and thus use his land to its utmost productivity. If he is not considered capable of utilising credit he cannot be worthy of remaining in occupation of the land.

Directions and guidance will very often have to include the use of lime and fertilizers. Wise manuring may easily raise yields by 25 per cent. or

more. The serving of directions is often the shortest cut to education, particularly if accompanied by the suggestion of leaving one drill-width in every field without fertilizer.

The limited supply of all fertilizers makes it imperative that they should be used to the very best advantage, and both inadequate and extravagant use must be prevented. The top-dressing of cereals in all but exceptional cases should be insisted upon.

The care of farmyard manure has now become a matter of real national importance. Here again the serving of directions on a large scale may be necessary.

Labour and machinery. Cultivations, however, and keeping up to date with the work will without doubt be the main needs for supervision. Experienced Members and Officers of District Committees know the common failings so well that it is unnecessary to describe them here. The supply of labour and machinery are, of course, the ruling factors, as they are in every other war industry, and all available sources of labour must be drawn upon and all machinery, including that in private hands, kept in full and constant use.

Increasing reliance must be placed on unskilled workers, and more trouble taken by employers in initiating and training them in their tasks.

The use of women and of the Women's Land Army, has been particularly neglected, especially in liberating men from milking for heavier outside work. Other industries and the Services are rapidly increasing their employment of women labour, and it is essential for farmers to acquire the full numbers they can use before the supplies of suitable women are otherwise taken up.

Last year's experience, especially at corn and root harvests, made two matters plain. First, that Committees should, by gangs or otherwise, take up and keep always employed every available man or woman. Secondly, that farmers tend to take no steps about additional labour until the last moment, when they may suddenly present a demand for immediate help. Earlier notification by farmers of probable requirements is essential.

One of the commonest features of the bad 'C' farm is waste of labour, whether of the occupier himself or of men working for him, through bad organization, failure to plan ahead and inability to understand the relative importance of the different jobs requiring to be done within a certain period. In some cases such wastage of labour may be a sufficiently strong reason for the Committee recommending a change in the management of the farm.

It must be admitted that on a certain number of the inefficiently worked farms the most obvious labour need is for the occupier to take his own coat off. The instances are few but bring discredit on the industry and should be firmly dealt with.

Expecting too much from Committees. Some District Committees have to deal with the tendency of farmers, especially on holdings formerly all grass, to expect the Committee to do all the work for them from the original breaking up through all stages to final harvest and thatching of the stacks. This is one symptom of the tendency of some former grass farmers to treat the broken fields as an entirely separate part of the farm. The time has

now come when District Committees must encourage and in suitable cases insist on men in this position standing on their own feet.

Small dairy, pig and poultry farms. In districts consisting largely of small dairy farmers with subsidiary pig and poultry activities that have suffered eclipse, this supervision of cultivations will undoubtedly be a task of the first magnitude requiring a reorganisation or an additional organisation on the part of the Committee. Some such farmers, unskilled in working their heavy land and hampered by rising expenses of labour and dairy replacements are in a worse financial position than before the war.

The introduction of arable on to the farm, the substitution of straw for hay, the substitution of good temporary for some of the bad permanent grass, the improvement by drainage or other means of the remainder may enable additional cows to be kept if buildings are available, or more heifers to be raised or calves reared or a small flock of grass sheep introduced. Often it will be necessary for the Committee to conduct all the cultivations.

In some districts the time has come when Committees must organise co-operative use of machinery and labour among adjoining occupiers.

Large grazing farms. Quite a different problem is presented by the larger farms given up to grazing before the war and now diverted to arable farming. The land is more promising and often lends itself to large-scale potato and wheat growing, but implements, buildings, yards and skilled management are all lacking, and for the time being much of the cultivations have been carried out by Committees. The grassland has been ploughed in blocks of varying size in each year of the war and has mostly carried a succession of white straw crops. Some of it is due for laying back to seeds, but the area laid back and the length of ley should depend not only on the amount of new permanent grass to be broken and the number of white straw crops taken, but also on a co-ordinated programme over the next few years.

The tendency that has to be overcome on such farms is to regard corn-growing on the ploughed-up fields as a separate job - to be abandoned at the first opportunity and quite unconnected with the remaining grass. In the first years of war this was understandable but now the aim should be to take the plough round the farm and work arable grass and livestock efficiently together and so lay the foundation of a properly balanced mixed farm. In districts where arable husbandry is unfamiliar, Committees must be prepared to recommend rotations suitable for the soil, livestock and other circumstances.

Large arable farms. On holdings that have always been largely arable, the problems will be those of practical farming rather than policy. Can more priority crops be grown, more livestock kept, or higher yields obtained?

Certain points are always worth watching:— Could the permanent grass be ploughed or improved? Do the cereals normally receive a top-dressing? Are the most suitable varieties being grown? Is there scope or advantage in silage making? Is the farm suitable (by reason of water supply) for the new caustic soda treatment of straw? Is the feeding of livestock under war conditions understood? Are all possible steps being taken to make sheep as independent as possible of concentrated food, especially by lambing

late? Is permanent grass being unnecessarily used for hay? Can more oat straw take its place? Is there any marginal land or rough grazings that could be tackled?

The foregoing paragraphs may indeed seem a formidable catalogue of suggestions to put before those whose task it is to interpret policy on to individual farms. But practical men will realise how interlocked are the considerations involved and how much more difficult it is to set them out on paper than to grasp the essentials on the farm itself. As already mentioned, it is quite impossible to formulate any general rules – all that has been attempted is to outline the general lines of policy which should be in the back of our minds when arriving at practical conclusions.

Ley Farming

A few remarks might perhaps be added on 'taking the plough round the farm', to which reference has already been made.

Conferences have recently been held at the instance of the Agricultural Improvement Council at which representatives of every County Committee have discussed the part that seeds and temporary leys should take in their own county in getting the land ploughed up since the war into a balanced farm rotation. It was pointed out that only some 27 per cent. of the permanent grassland of England and Wales had been ploughed up by the end of 1941, and that there still remained, at that date, about 4½ million acres of easily ploughable permanent grass.

There is still, therefore, wide scope for ploughing up as the preliminary to ley farming, and certainly no grounds for permitting any fall in the area under tillage crops.¹ At least an acre ploughed for every acre laid down must still be the guiding rule.

Methods vary to suit local conditions. The whole question is one which varies fundamentally as we pass from one part of the country to another. In the North and West, where temporary grass covers half or more of the arable land, present circumstances call for a considerable shortening of the ley and a larger cropping area. In the highly fertile arable areas, on the other hand, less than 10 per cent. is under seeds and this satisfies all requirements, since other restorative crops can more usefully take their place.

On ordinary good arable land, the one-year seeds ley meets the case, and although its area has fallen somewhat since the war, this tendency is correcting itself as far as needs be and such land can for the most part stand an extra corn crop or two slipped into the Norfolk rotation.

On the less fertile arable land, however, where there has been cross-cropping, the extension of seeds, either in proportionate area or in length of ley, may be advisable and this refers both to the lighter lands where labour and other resources may not suffice for an extension of other green crops such as beet and potatoes, and to the very heavy land where the acreage of beans – almost the only alternative – cannot be indefinitely extended.

¹ By tillage crops is meant all arable crops exclusive of seeds and temporary grasses.

On all classes of land the proper cropping of newly-ploughed grass will vary profoundly from the old feeding pastures that will stand 3, 4 or even 5 white straw crops (where the first crop has often to be potatoes to avoid lodged cereals) to the poor pasture requiring phosphates to grow even one cereal, where the first crop has to be rape or other feeding crop in order to get some fertility into the land before sowing cereals at all.

But in our anxiety to consider – and rightly so – the maintenance of fertility of the land, we must not for a moment forget the overriding war needs of the moment. An acre of seeds fed through stock produces but little human food, so that the seeds area must be no greater than is absolutely necessary for good farming.

We can reconcile these two considerations if we ensure, except in unusual circumstances, that for every piece of old arable rested under leys an equal amount of old permanent grass is broken up, so that the effective food-producing area – the ship saving crops – are kept up at full acreage. The yield from new leys is usually so much greater that it is possible to break a larger acreage of grass than the new leys necessary to take its place.

Committees would be well advised still to insist that their permission is obtained for laying down land to leys of more than one year's duration, not because this is not in many cases highly desirable, but so that they may keep control of the position.

The longer leys – say three to seven years – are always desirable if they definitely enable a larger area of inferior permanent grassland to be ploughed. Thus when the area that can be kept under arable crops is small compared to the area of inferior grass on the same farm that demands improvement, then obviously the longer the ley the more quickly will the improvement proceed.

Taking the plough round the farm. The principle of steadily restoring old arable by leys whilst at the same time re-making old pasture by ploughing, cropping for a time and then re-seeding (i.e., taking the plough round the farm and abandoning the old water-tight compartments of permanent arable and permanent grass) is a principle which is suited not only for war but for peace as a permanent improvement to British Agriculture. By following it we can turn millions of second and third rate permanent pastures into good temporary leys; on the best grass we can utilise for human food the stored-up plant food lying beneath it in the soil and now making but a minor contribution to the war requirements; and we can maintain in better condition the arable land.

Improving grass by direct re-seeding. It will sometimes be advisable to plough grass for re-seeding again without first taking a cereal or other crop. This will arise when the land is unsuited for arable cropping, such as remote upland areas where the raising of store stock on grass must remain the chief form of farming. Everywhere there are individual fields which are better left in grass, e.g., through lack of drainage or fencing, steepness of slope, size, inaccessibility or need to maintain the grass acreage of a particular farm. In other words, ploughing and re-seeding should here be undertaken as the best means of grassland improvement – which it generally is.

Successful re-seeding, however, is dependent on applying lime and

phosphates where necessary, and on being able to get suitable seed. Much new knowledge and experience regarding this has become available during the last few years and everyone connected with the food production campaign should make themselves familiar with the subject through either the Committee's technical officers or the Ministry's Grassland Improvement Station, Dodwell, Stratford-on-Avon. Individual or joint visits of District Committees to this Station will gladly be arranged.

Livestock

Fundamental policy. The basis of a permanent policy for livestock in time of war must be a proper relationship between numbers of stock and the amount of food likely to be available for them.

To have more stock than can be fed properly is to reduce and not to increase the output of meat and milk, since an undue proportion of the food is then diverted from the production to the maintenance ration. It is reported that even now these conditions are arising in certain countries on the Continent.

Whatever the policy, however, the normal process of nature cannot be speeded, and in sheep and cattle at any rate no quick changes can be made. On the other hand, the fortunes of war affect the feedingstuffs situation from month to month, and indeed from day to day. It is well that this should be borne in mind by those who urge that no attempts should have been made to adjust the numbers of livestock to the supply position by the reduction in pigs and poultry which largely depend on imports, and by the culling of unthrifty stock which are not worth their keep in wartime.

The only safe long-term policy must therefore be one which depends on home-grown feeding stuffs. Any other course would be unfair to the farmer and disastrous to the country: unfair to induce the farmer to breed and rear livestock with no assurance of bringing them to maturity, and disastrous to the country to risk the sudden slaughter of immature stock – always a wasteful procedure.

It must be our aim to make the best use of the increased home-grown feeding stuffs which we are able to produce and by economic feeding methods, by the avoidance of waste, by culling unthrifty animals, by full utilization of grazing and by care of stock, do all we can to raise the output first of milk and then of meat and eggs.

Committees, Their Work and Organisation

In the foregoing pages an attempt has been made to outline the fundamental issues involved in war-time food production – the background, as it were, against which District Members and Officers have to interpret policy and translate it on to individual farms. We have endeavoured to sum up this policy under three main headings:

- I. Priority crops: maintenance of acreage.
- II. Livestock: maximum milk and all other sheep and cattle possible after satisfying claims of milk.
- III. Improved management.

Hitherto, Committees have been mostly concerned with the arable acreage: they are now called upon to bring into their survey the livestock policy of each farmer: to suggest to one that more stock should be kept to make full use of the grass, straw and by-products or to increase the fertility: to another, where the fertility is high, that more priority crops might be grown.

It is idle to assume that either this or increased production is a simple or an easy task. An immense amount of time, trouble and skill is called for – and, most of all perhaps, tact, for in effect we are asking District Members and Officers to criticise and correct their neighbours' management. There are few, if any, farmers who do not consider that they are the best managers of their own farm. Yet it is a task that must be faced, and on the manner with which it is undertaken will depend not only its success but the place of the War Agricultural Committees in the future structure of British Agriculture.

It is generally agreed that if Agriculture is to receive any assistance from the State after the war to enable it to take its rightful place in national life, some measure of State control is inevitable to ensure that the assistance is properly and efficiently used to the benefit of the State.

Every member of a County or District Committee and every official has to-day an immense responsibility – not only to see that the powers which he now possesses are used without fear or favour to the benefit of the country, but that they are so exercised that the farming community generally regards him not as one of the necessary evils of war-time control but as an adviser and guide. These notes cannot close better than with the words of the Minister in his letter to County Chairmen of 2nd April 1941:

As you are aware, it has been my consistent policy to support in every possible way my Committees, and to avoid intervening in their decisions to the utmost possible extent. It is the more necessary, therefore, that Committees should spare no pains to safeguard their good relationship with the general body of farmers in their county. I have delegated to the Committees wide powers, and I wish them to use these to the full in all cases where the ignorance, the apathy, or the opposition of an individual makes this necessary in the interests of the national food campaign. I equally wish them, however, as I know they would wish, to be regarded as the leaders and helpers of the agricultural community in their county and to this end to maintain and strengthen the reputation which they have so well earned for the just and reasonable exercise of their powers.

APPENDIX TABLES
APPENDIX TABLE I

Crop Acreages and Livestock Numbers on Agricultural Holdings in the United Kingdom 1875 and 1914-9

| | millions | | | | | | |
|--|----------|-------|-------|-------|-------|-------|-------|
| | 1875 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 |
| Wheat | 3.51 | 1.91 | 2.33 | 2.05 | 2.11 | 2.80 | 2.37 |
| Barley | 2.75 | 1.87 | 1.52 | 1.65 | 1.80 | 1.91 | 1.87 |
| Oats | 4.18 | 3.90 | 4.18 | 4.17 | 4.79 | 5.71 | 5.14 |
| Potatoes | 1.43 | 1.21 | 1.21 | 1.12 | 1.38 | 1.51 | 1.23 |
| Turnips, etc. | 2.89 | 2.28 | 2.13 | 2.08 | 2.17 | 2.11 | 2.16 |
| Fallow | .57 | .35 | .32 | .43 | .36 | .41 | .66 |
| Others | 1.87 | 1.28 | 1.20 | 1.24 | 1.10 | 1.25 | 1.47 |
| Total crops other than grass | 17.20 | 12.80 | 12.89 | 12.74 | 13.71 | 15.70 | 15.90 |
| Temporary grass | 6.34 | 6.61 | 6.46 | 6.76 | 6.04 | 5.52 | † |
| Total arable | 23.54 | 19.41 | 19.35 | 19.50 | 19.75 | 21.22 | † |
| Permanent grass | 23.77 | 27.35 | 27.33 | 27.19 | 26.59 | 25.05 | † |
| Total agricultural area | 47.31 | 46.76 | 46.67 | 46.69 | 46.34 | 46.27 | 46.33 |
| <hr/> | | | | | | | |
| Cows and heifers in milk or calf | 3.84* | 4.59 | 4.49 | 4.50 | 4.51 | 4.60 | 4.59 |
| Other cattle | 6.32* | 7.59 | 7.66 | 7.95 | 7.87 | 7.71 | 7.90 |
| Sheep | 33.49 | 27.96 | 28.28 | 28.85 | 27.87 | 27.07 | 25.12 |
| Pigs | 3.50 | 3.95 | 3.80 | 3.62 | 3.01 | 2.81 | 2.92 |
| Poultry | — | — | — | — | — | — | — |

* Total number of cattle for 1875 divided in proportions of dairy cattle to other cattle of 1876.

† Not available for Ireland.

APPENDIX TABLE II

Crop Acreages and Livestock Numbers on Agricultural Holdings in Great Britain, 1875, 1914, 1918, 1932 and 1939-45

| | millions | | | | | | | | | | |
|--|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1875 | 1914 | 1918 | 1932 | 1939 | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 |
| Wheat . . . | 3.34 | 1.87 | 2.64 | 1.34 | 1.76 | 1.80 | 2.25 | 2.50 | 3.45 | 3.22 | 2.27 |
| Barley . . . | 2.51 | 1.70 | 1.65 | 1.03 | 1.01 | 1.32 | 1.45 | 1.51 | 1.77 | 1.96 | 2.20 |
| Oats . . . | 2.66 | 2.85 | 4.02 | 2.45 | 2.14 | 3.00 | 3.50 | 3.66 | 3.21 | 3.22 | 3.31 |
| Potatoes . . . | .52 | .61 | .80 | .65 | .59 | .70 | .97 | 1.12 | 1.19 | 1.22 | 1.21 |
| Turnips, etc. . . | 2.50 | 1.91 | 1.71 | 1.16 | .92 | .97 | 1.07 | 1.10 | 1.09 | 1.10 | 1.10 |
| Fallow . . . | .56 | .35 | .41 | .44 | .37 | .31 | .22 | .28 | .24 | .23 | .34 |
| Other crops . . . | 1.67 | 1.14 | 1.17 | 1.42 | 1.52 | 1.70 | 2.43 | 2.64 | 2.71 | 2.76 | 2.64 |
| Total crops other than grass . . . | 13.76 | 10.43 | 12.40 | 8.49 | 8.31 | 9.80 | 11.89 | 12.81 | 13.66 | 13.71 | 13.07 |
| Temporary grass . . . | 4.35 | 3.86 | 3.45 | 3.92 | 3.56 | 3.41 | 3.10 | 3.37 | 3.73 | 4.23 | 4.80 |
| Total arable . . . | 18.11 | 14.29 | 15.85 | 12.41 | 11.87 | 13.20 | 14.99 | 16.18 | 17.39 | 17.94 | 17.87 |
| Permanent grass . . . | 13.31 | 17.61 | 15.89 | 17.42 | 17.33 | 15.90 | 14.07 | 12.75 | 11.42 | 10.81 | 10.89 |
| Total agricultural area . . . | 31.42 | 31.90 | 31.75 | 29.83 | 29.20 | 29.10 | 29.06 | 28.93 | 28.81 | 28.75 | 28.76 |
| Cows and heifers in milk or calf . . . | 2.25 | 2.94 | 3.03 | 3.34 | 3.62 | 3.70 | 3.71 | 3.88 | 4.00 | 4.04 | 4.00 |
| Other cattle . . . | 3.76 | 4.15 | 4.38 | 4.25 | 4.50 | 4.66 | 4.44 | 4.37 | 4.43 | 4.58 | 4.70 |
| Sheep . . . | 29.17 | 24.29 | 23.35 | 26.41 | 25.99 | 25.47 | 21.45 | 20.76 | 19.70 | 19.44 | 19.50 |
| Pigs . . . | 2.23 | 2.63 | 1.82 | 3.35 | 3.77 | 3.63 | 2.21 | 1.87 | 1.57 | 1.63 | 1.90 |
| Poultry . . . | — | — | — | 73.83 | 64.14 | 62.12 | 49.13 | 43.21 | 35.30 | 38.48 | 44.67 |

APPENDIX TABLE III

Subsidy and Price Insurance Payments, 1924-5 to 1938-9†

| | £000 | | | | | | | | | |
|------------------------------------|---------------------|--------|--------|--------|--------|--------|--------|--------|---------|--|
| | 1924-5 to 1931-2 | 1932-3 | 1933-4 | 1934-5 | 1935-6 | 1936-7 | 1937-8 | 1938-9 | Total | |
| Sugar beet subsidy* | 24,335 | 2,356 | 3,333 | 4,450 | 2,286 | 2,981 | 1,218 | 1,753 | 42,712 | |
| Revenue abatement* | 5,807 | 1,678 | 2,164 | 3,090 | 2,440 | 2,680 | 1,970 | 1,450 | 21,279 | |
| Wheat deficiency payments† | — | 4,511 | 7,180 | 6,813 | 5,637 | 1,340 | 1,935 | 9,293 | 36,709 | |
| Fat cattle payments† | — | — | — | 2,017 | 3,883 | 3,982 | 2,077 | 4,291 | 16,850 | |
| Milk for manufacturing† | — | — | — | — | 1,363 | 519 | 149 | 35 | 3,278 | |
| Improving milk quality† | — | — | — | — | 4 | 19 | 83 | 29 | 135 | |
| Increasing demand for milk† | — | — | — | 174 | 431 | 440 | 474 | 529 | 2,048 | |
| Lime and basic slag† | — | — | — | — | — | — | 698 | 1,323 | 1,961 | |
| Oats and barley subsidy* | — | — | — | — | — | — | — | 164 | 164 | |
| Bacon pigs* | — | — | — | — | — | — | — | — | — | |
| Total, including revenue abatement | 30,142 | 8,545 | 12,677 | 17,756 | 16,044 | 11,961 | 9,144 | 18,867 | 125,136 | |
| Total, excluding revenue abatement | 24,335 | 6,867 | 10,513 | 14,666 | 13,604 | 9,281 | 7,174 | 17,417 | 103,857 | |

* Great Britain.

† United Kingdom.

‡ By financial years, April to March.

APPENDIX TABLE IV

Crop Acreages and Livestock Numbers on Agricultural Holdings in the United Kingdom, Pre-war and 1939-40 to 1945, in June of each year

thousands

| | Pre-war* | 1939 | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 |
|--|----------|--------|--------|--------|--------|--------|--------|--------|
| Wheat | 1,856 | 1,766 | 1,809 | 2,265 | 2,516 | 3,464 | 3,220 | 2,274 |
| Barley | 929 | 1,013 | 1,339 | 1,475 | 1,528 | 1,786 | 1,973 | 2,215 |
| Oats | 2,403 | 2,427 | 3,400 | 3,951 | 4,133 | 3,680 | 3,656 | 3,753 |
| All grains | 5,301 | 5,305 | 6,827 | 8,276 | 8,782 | 9,560 | 9,393 | 8,765 |
| Potatoes | 723 | 704 | 832 | 1,123 | 1,304 | 1,391 | 1,417 | 1,397 |
| Sugar beet | 335 | 344 | 329 | 351 | 425 | 417 | 431 | 417 |
| Turnips and swedes | 782 | 712 | 746 | 837 | 858 | 830 | 820 | 814 |
| Mangolds | 227 | 216 | 231 | 267 | 269 | 286 | 308 | 308 |
| Other fodder crops† | 422 | 425 | 432 | 716 | 778 | 819 | 872 | 763 |
| Flax for fibre | 23 | 23 | 65 | 128 | 118 | 145 | 184 | 124 |
| Vegetables | 278 | 291 | 304 | 375 | 422 | 425 | 504 | 512 |
| Other crops | 395 | 387 | 383 | 394 | 399 | 398 | 388 | 402 |
| Fallow | 422 | 374 | 306 | 219 | 280 | 240 | 231 | 347 |
| Total crops other than grass | 8,907 | 8,781 | 10,455 | 12,686 | 13,635 | 14,509 | 14,548 | 13,849 |
| Temporary grass | 4,181 | 4,125 | 3,891 | 3,553 | 3,863 | 4,219 | 4,725 | 5,334 |
| Total arable | 13,088 | 12,906 | 14,346 | 16,239 | 17,498 | 18,728 | 19,273 | 19,183 |
| Permanent grass | 18,750 | 18,773 | 17,084 | 15,114 | 13,766 | 12,330 | 11,735 | 11,840 |
| Total agricultural area | 31,838 | 31,679 | 31,430 | 31,353 | 31,264 | 31,058 | 31,008 | 31,023 |
| Rough Grazings | 16,476 | 16,539 | 16,639 | 17,003 | 16,959 | 17,119 | 17,034 | 17,229 |
| Cattle, dairy | 3,943 | 3,885 | 3,957 | 3,988 | 4,199 | 4,323 | 4,373 | 4,343 |
| other cattle | 4,732 | 4,987 | 5,136 | 4,952 | 4,876 | 4,936 | 5,128 | 5,273 |
| Sheep, breeding ewes | 10,907 | 10,975 | 10,687 | 9,228 | 8,852 | 8,201 | 8,211 | 8,211 |
| other sheep | 14,878 | 15,912 | 15,632 | 13,029 | 12,654 | 12,182 | 11,987 | 11,939 |
| Pigs, breeding sows | 544 | 542 | 468 | 245 | 250 | 186 | 253 | 246 |
| other pigs | 3,922 | 3,852 | 3,638 | 2,313 | 1,893 | 1,643 | 1,614 | 1,966 |
| Poultry | 76,236 | 74,357 | 71,243 | 62,059 | 57,813 | 50,729 | 55,127 | 62,136 |

* Average 1936-7 to 1938-9.

† Cabbage and rape, vetches, rye cut green, linseed, peas and beans.

APPENDIX TABLE V
Estimated Yield Per Acre of the Principal Crops in the United Kingdom for 1929-38, and 1939 to 1945

| | Per acre | 1929-38* | 1939 | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 |
|--------------------|----------|----------|------|------|------|------|------|------|------|
| Wheat | cwt. | 18.0 | 18.6 | 18.1 | 17.8 | 20.4 | 19.9 | 19.5 | 19.1 |
| Barley | cwt. | 16.4 | 17.6 | 16.5 | 15.5 | 18.9 | 18.4 | 17.8 | 19.0 |
| Oats | cwt. | 16.2 | 16.5 | 17.0 | 16.4 | 17.2 | 16.7 | 16.2 | 17.3 |
| Potatoes | tons | 6.7 | 7.4 | 7.7 | 7.1 | 7.2 | 7.1 | 6.4 | 7.0 |
| Sugar Beet | tons | 8.6 | 10.3 | 9.7 | 9.3 | 9.3 | 9.1 | 7.7 | 9.4 |
| Turnips and Swedes | tons | 13.2 | 14.2 | 14.5 | 14.4 | 15.4 | 14.5 | 14.8 | 15.1 |
| Mangolds | tons | 18.3 | 18.9 | 18.5 | 19.3 | 20.2 | 20.3 | 18.1 | 21.3 |
| Seeds hay | cwt. | 28.2 | 27.2 | 27.8 | 28.1 | 29.1 | 29.5 | 26.0 | 29.6 |
| Meadow hay | cwt. | 20.6 | 20.8 | 18.9 | 20.5 | 20.4 | 21.6 | 18.8 | 22.2 |

* 10 year average. Yields in heavier type were above the 10 year average.

APPENDIX TABLE VI
 Estimated Output of Products from Agricultural Holdings in the United Kingdom, Pre-war and 1939-40 to 1945-6

| Crops | Unit | Pre-war* | 1939 | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 |
|---------------------|--------------|----------|---------|--------|--------|--------|--------|--------|--------|
| | | | 1939-40 | 1940-1 | 1941-2 | 1942-3 | 1943-4 | 1944-5 | 1945-6 |
| Wheat | 000 tons | 1,951 | 1,645 | 1,641 | 2,018 | 2,567 | 3,447 | 3,138 | 2,176 |
| Barley | 000 tons | 765 | 892 | 1,104 | 1,144 | 1,446 | 1,645 | 1,752 | 2,108 |
| Oats | 000 tons | 1,940 | 2,003 | 2,892 | 3,247 | 3,553 | 3,064 | 2,953 | 3,245 |
| Total grain | 000 tons | 4,442 | 4,623 | 5,874 | 6,873 | 8,074 | 8,645 | 8,280 | 7,960 |
| Potatoes | 000 tons | 4,973 | 5,218 | 6,405 | 8,004 | 9,393 | 9,822 | 9,096 | 9,791 |
| Sugar beet | 000 tons | 2,741 | 3,529 | 3,176 | 3,226 | 3,923 | 3,760 | 3,267 | 3,866 |
| Turnips and Swedes | 000 tons | 10,985 | 10,076 | 10,804 | 12,026 | 13,214 | 11,991 | 12,129 | 12,274 |
| Mangolds | 000 tons | 4,082 | 4,069 | 4,258 | 5,120 | 5,426 | 5,805 | 5,560 | 6,524 |
| Green crops† | 000 tons | 3,368 | 3,204 | 3,830 | 5,921 | 5,998 | 6,073 | 6,041 | 6,048 |
| Total fodder crops | 000 tons | 24,588 | 24,094 | 25,433 | 30,219 | 32,834 | 31,726 | 31,063 | 32,991 |
| Straw | 000 tons | 5,514 | 5,561 | 6,512 | 8,146 | 9,120 | 9,536 | 8,950 | 8,427 |
| Vegetables | 000 tons | 2,370 | 2,402 | 2,617 | 2,883 | 3,690 | 3,143 | 3,422 | 3,242 |
| Hay | 000 tons | 7,777 | 7,885 | 7,104 | 6,712 | 6,756 | 6,669 | 5,690 | 7,192 |
| Livestock Products‡ | | | | | | | | | |
| Meat | | | | | | | | | |
| Beef | 000 tons | 554 | 551 | 532 | 399 | 451 | 449 | 471 | 504 |
| Veal | 000 tons | 24 | 23 | 28 | 25 | 31 | 31 | 33 | 32 |
| Mutton and lamb | 000 tons | 195 | 200 | 228 | 173 | 173 | 154 | 140 | 135 |
| Pork | 000 tons | 171 | 187 | 115 | 29 | 24 | 17 | 28 | 22 |
| Bacon, pigmeat | 000 tons | 246 | 215 | 247 | 130 | 121 | 117 | 117 | 139 |
| Offals | 000 tons | 105 | 103 | 111 | 82 | 91 | 89 | 89 | 91 |
| Total | 000 tons | 1,295 | 1,279 | 1,261 | 838 | 891 | 857 | 878 | 923 |
| Milk | mill. galls. | 1,781 | 1,771 | 1,608 | 1,564 | 1,657 | 1,712 | 1,727 | 1,789 |
| Poultry | 000 tons | 78 | 72 | 66 | 56 | 53 | 46 | 51 | 57 |
| Eggs | mill. eggs | 3,837 | 3,793 | 3,472 | 2,860 | 2,182 | 1,942 | 2,075 | 2,401 |

* Average 1936-7 to 1938-9.

† Cabbage, rape, vetches, rye cut green, linseed and mustard.

‡ June-May year.

*Estimates of Increased Costs and Returns for Various Agricultural Products
Prices in May, 1940*

| Product | Estimated increases in costs, 1936-7 to 1938-9 to June 1940 | | | | | | Estimated increase in value of sales from farms over the same period |
|----------------------------------|--|-------------------------|----------------------|-------------|---|---|---|
| | Increase in costs attributable to rise in | | | | Further wage increase of 8s. £m | Total esti- mated rise in costs £m | |
| | Existing wages £m | Feeding stuffs £m | Other items £m | Total £m | | | |
| Wheat . . . | .5 | .4 | 1.4 | 2.3 | 1.1 | 3.4 | 1.6 |
| Barley, feeding . . . | .2 | .2 | .6 | 1.0 | .4 | 1.4 | 4.5 |
| Oats, milling feeding } . . . | .2 | .1 | .6 | .9 | .4 | 1.3 | 2.6 |
| Potatoes . . . | 1.1 | .8 | 1.3 | 3.2 | 2.0 | 5.2 | 1.9 |
| Sugar beet . . . | .3 | .1 | .6 | 1.0 | .7 | 1.7 | 1.9 |
| Hay, clover meadow } . . . | .1 | — | .1 | .2 | .2 | .4 | 1.4 |
| Total crops . . . | 2.4 | 1.6 | 4.6 | 8.6 | 4.8 | 13.4 | 11.9 |
| Cattle . . . | 1.4 | 1.5 | 1.5 | 4.4 | 2.6 | 7.0 | 9.0 |
| Cows . . . | .2 | .3 | .3 | .8 | .5 | 1.3 | 2.4 |
| Fat Cattle . . . | 1.6 | 1.8 | 1.8 | 5.2 | 3.1 | 8.3 | 11.4 |
| Sheep . . . | .2 | .3 | .3 | .8 | .4 | 1.2 | 1.0 |
| Ewes . . . | .1 | .2 | .2 | .5 | .2 | .7 | .7 |
| Lambs . . . | .4 | .6 | .5 | 1.5 | .9 | 2.4 | 2.0 |
| Sheep . . . | .7 | 1.1 | 1.0 | 2.8 | 1.5 | 4.3 | 3.7 |
| Baconers . . . | | 2.1 | | | .2 | 2.5 | 4.7 |
| Porkers . . . | .1 | 1.2 | .2 | 3.9 | .1 | 1.4 | 1.9 |
| Sows . . . | | .3 | | | .1 | .4 | .8 |
| Pigs . . . | .1 | 3.6 | .2 | 3.9 | .4 | 4.3 | 7.4 |
| Milk . . . | 2.0 | 6.4 | 2.4 | 10.8 | 4.4 | 15.2 | 17.7 |
| Fowls . . . | | .7 | | | | 1.0 | 1.4 |
| Other poultry . . . | .4 | .1 | .2 | 4.4 | .7 | 3.0 | 3.0 |
| Eggs . . . | | 2.0 | | | | | 8.1 |
| Poultry and eggs | .4 | 2.8 | .2 | 4.4 | .7 | 4.1 | 9.7 |
| Total Livestock . . . | 4.8 | 15.7 | 5.6 | 26.1 | 10.1 | 36.2 | 49.9 |
| Grand Total . . . | 7.2 | 17.3 | 10.2 | 34.7 | 14.9 | 49.6 | 61.8 |

a Value of estimated 1940-1 output.

b Assuming average crop, i.e., returns per acre for 1940 crop to be 20 per cent. above 1939 prices and 30 per cent. above for 1941 crop.

c Maximum prices.

d Declining by 13. per score on 1st October.

TABLE VII

in the Pre-war Years and June 1940, and the Schedules of Agricultural August 1940

| Prices prevailing in May 1940h | June Schedule | | August Schedule | Product |
|--------------------------------|--|---|---|------------------------|
| | Ministry of Food's recommendations on distribution of £20.31 million | Ministry of Agriculture's accepted distribution of £34.54 million | Ministry of Food's distribution of £36.58 million for 1941 crops and 1940-1 livestock | |
| s. d. | s. d. | s. d. | s. d. | |
| cwt. 11 0 | 12 2 | 14 6 | 14 6 | Wheat . . . |
| " 17 8 | 11 0 | 14 6c | 13 6c | Barley, feeding . . . |
| " 11 0 | 12 0 | 14 6c | 13 6cc | Oats, milling } . . . |
| " 11 0 | 11 0 | 14 6c | 13 6c | feeding } . . . |
| ton 100 0 | 125 0 | 120 0b | 130 0b | Potatoes . . . |
| " 55 4 | 59 1 | 59 1 | 66 10 | Sugar beet . . . |
| " 144 0 | 144 0 | — | — | Hay, clover } . . . |
| " 130 0 | 130 0 | — | — | meadow } . . . |
| | | | | Total crops . . . |
| live cwt. 57 9 | about 5% over June level | about 15% above June level | about 8% above June level | Cattle . . . |
| " " 36 0 | | | | Cows . . . |
| | | | | Fat Cattle . . . |
| lb. 12 | 13 | 14 | 14 | Sheep . . . |
| " 7½ | 8½ | 11 | 11 | Ewes . . . |
| " 13½ | 14½ | 15½ | 15½ | Lambs . . . |
| | | | | Sheep . . . |
| score 19 0 | 19 0 | 21 0d | 19 6 | Baconers . . . |
| " 19 0 | 19 0 | 21 0d | 18 0 | Porkers . . . |
| " 15 0 | 15 0 | 17 0d | 15 0 | Sows . . . |
| | | | | Pigs . . . |
| gallon 16 5 | 18 0 | 4½f | 5½fg | Milk . . . |
| head 5 0 | 5 0 | 5 0 | 5 0 | Fowls . . . |
| 120 27 1 | 27 1 | 27 1 | 27 1 | Other poultry . . . |
| | | | | Eggs . . . |
| | | | | Poultry and Eggs . . . |
| | | | | Total Livestock . . . |
| | | | | Grand Total . . . |

Standard price to be raised to 12s. 6d.
 Average over 1938-9 level.
 4d.-5d. in the summer of 1941, 8d. in December 1940 and January 1941, and 7d. in the other winter months.
 Estimated annual equivalent of the May price.

APPENDIX TABLE VIII

Numbers of the More Important Home-produced and Imported Agricultural Implements Made Available Annually in the United Kingdom, 1937-9 to 1944

| | 1937-9 | 1940 | 1941 | 1942 | 1943 | 1944 |
|--------------------------------------|---------|--------|--------|--------|--------|--------|
| HOME PRODUCED | | | | | | |
| Tractors, track-layers | 229 | 346 | 339 | 459 | 527 | 690 |
| others | 14,711 | 18,790 | 24,062 | 26,597 | 24,532 | 22,332 |
| total | 14,940* | 19,316 | 24,401 | 27,056 | 25,059 | 23,022 |
| Ploughs, horse drawn | 3,867 | 14,492 | 14,162 | 12,485 | 10,939 | 13,963 |
| tractor-drawn | 5,539 | 8,680 | 10,495 | 8,929 | 8,307 | 9,738 |
| Disc harrows | 921 | 3,645 | 5,496 | 8,026 | 9,628 | 8,416 |
| Cultivators | 3,954 | 7,367 | 11,540 | 9,851 | 11,485 | 10,647 |
| Tool bars | 1,313 | 2,296 | 3,417 | 4,358 | 5,144 | 7,244 |
| Corn and fertiliser drills | 4,121 | 7,217 | 9,436 | 11,543 | 14,620 | 13,907 |
| Binders | 581 | 926 | 1,010 | 798 | 1,567 | 2,957 |
| Threshers | 355 | 842 | 998 | 1,129 | 1,117 | 1,095 |
| Combine harvesters | — | — | — | — | 4 | 1 |
| Hay and straw balers | 314 | 411 | 534 | 646 | 799 | 944 |
| Potato planters | 143 | 134 | 2,860 | 918 | 1,649 | 665 |
| Potato lifters | 1,327 | 2,108 | 5,221 | 8,719 | 10,151 | 7,834 |
| IMPORTED | | | | | | |
| Tractors, track-layers | 474 | 1,123 | 1,473 | 1,397 | 268 | 484 |
| others | 3,536 | 4,837 | 7,204 | 6,606 | 6,010 | 5,619 |
| total | 4,010 | 5,960 | 8,677 | 8,003 | 6,278 | 6,103 |
| Ploughs, horse-drawn | 464 | 321 | 200 | — | — | — |
| tractor-drawn | 3,749 | 14,529 | 18,424 | 13,751 | 12,090 | 6,423 |
| Disc harrows | 794 | 5,892 | 4,608 | 2,840 | 44 | — |
| Cultivators | 628 | 717 | 1,779 | 1,559 | 1,631 | 1,395 |
| Tool bars | 180 | 208 | 630 | — | 495 | 550 |
| Corn and fertiliser drills | 3,370 | 6,885 | 5,010 | 5,297 | 6,967 | 5,222 |
| Binders | 2,192 | 8,279 | 5,261 | 6,695 | 9,470 | 3,630 |
| Threshers | 11 | 40 | 45 | 160 | 53 | 100 |
| Combine harvesters | 28 | 162 | 262 | 470 | 562 | 930 |
| Hay and straw balers | 124 | 399 | 447 | 291 | 186 | 191 |
| Potato planters | 35 | 30 | 50 | 92 | — | 1 |
| Potato lifters | 126 | 214 | 247 | 671 | 1,512 | 465 |

* A large part of the home production of tractors in the pre-war years was exported and it has been estimated that only about 8,500 of the 18,950 home-produced and imported tractors in 1937-9 found their way on to farms in the United Kingdom.

APPENDIX TABLE IX

Agricultural Net Income for the United Kingdom, 1937-8 to 1944-5

£ million

| | 1937-8 | 1938-9 | 1939-40 | 1940-1 | 1941-2 | 1942-3 | 1943-4 | 1944-5 |
|--------------------------------------|--------|--------|---------|--------|--------|--------|--------|--------|
| <i>Receipts</i> | | | | | | | | |
| Value of output ¹ | 293 | 294½ | 347 | 451½ | 489 | 552½ | 585½ | 575 |
| Adjustment for unsold output | +½ | — | — | -2 | -2 | — | -½ | +1½ |
| Net sale receipts | 293½ | 294½ | 347 | 449½ | 487 | 552½ | 585 | 576½ |
| Grants, subsidies, etc. | ½ | ½ | 2 | 5 | 7 | 6 | 6 | 5 |
| Sundry receipts | 4½ | 4½ | 5 | 5 | 5 | 5 | 5½ | 6½ |
| Total receipts | 298½ | 299½ | 354 | 459½ | 499 | 563½ | 596½ | 588 |
| <i>Expenses</i> | | | | | | | | |
| Labour ² | 66 | 66 | 72½ | 99 | 119½ | 141½ | 154½ | 168 |
| Rent and interest ³ | 42½ | 43 | 44½ | 45½ | 45½ | 45 | 45½ | 46 |
| Machinery ⁴ | 15 | 15½ | 18½ | 26 | 33½ | 40½ | 44½ | 47½ |
| Feedingstuffs ⁵ | 78 | 68½ | 66½ | 61 | 41 | 28½ | 31 | 32 |
| Seeds ⁶ | 4 | 4½ | 6½ | 8½ | 14½ | 15½ | 17½ | 18 |
| Fertilisers | 8½ | 9 | 12½ | 17½ | 22½ | 26 | 29½ | 28½ |
| Imported livestock ⁷ | 14½ | 15½ | 17½ | 14½ | 14 | 21 | 20½ | 20½ |
| Machinery services | 2½ | 3 | 3 | 5 | 6½ | 9 | 11 | 11 |
| Miscellaneous expenses | 17½ | 17½ | 21½ | 27½ | 31 | 34½ | 37 | 38 |
| Total expenses | 248½ | 243 | 263 | 304½ | 328 | 361½ | 391 | 409½ |
| Less capital expenses included above | 1 | 1 | 1 | 1½ | 2 | 2 | 2½ | 3 |
| Total farming expenses | 247½ | 242 | 262 | 303 | 326 | 359½ | 388½ | 406½ |
| <i>Valuation differences</i> | | | | | | | | |
| Crops | +1½ | -1½ | +16 | +32 | +24½ | +12½ | +11 | — |
| Livestock | +4½ | +2½ | +7½ | +1½ | +7½ | +6½ | +9½ | +10 |
| Others | +2 | -3 | -3 | -2 | +3 | -½ | +2 | -3½ |
| Total | (+8) | (-2) | (+20½) | (+31½) | (+35) | (+18½) | (+22½) | (+6½) |
| Net Income ⁸ | 59 | 55½ | 112½ | 188 | 208 | 222½ | 230½ | 188 |
| Index (1937-8 to 1938-9=100) | 103 | 97 | 196 | 328 | 363 | 389 | 403 | 329 |

Notes:—

¹ Includes farmhouse consumption and receipts from retailing.² Includes value of family labour, other than that of the farmer and his wife.³ Rent of land and buildings only and interest of short-term debt only.⁴ Depreciation, fuel, repairs, etc.⁵ Cost of imported feedingstuffs to farmer and of merchandising and transport charges on home-grown.⁶ Cost of imported seeds to farmer and of merchandising and transport charges on home-grown.⁷ Imported livestock and market expenses of inter-farm sales of livestock.⁸ Includes net income from retailing farm produce and from manual work of the farmer and his wife on the farm but does not include any income from landownership.

APPENDIX TABLES
APPENDIX TABLE X

*Sales of Milk by the Milk Marketing Boards of Great Britain, 1938-9
to 1944-5*

million gallons

| | Winter (October-March) | | | Summer (April-September) | | | Year |
|---------|----------------------------|-------------------------|-------|-----------------------------|-------------------------|-------|-------|
| | Liquid con- sumption | For manu- facture | Total | Liquid con- sumption | For manu- facture | Total | |
| 1938-9 | 418* | 139* | 557* | 436 | 300 | 736 | 1,293 |
| 1939-40 | 429 | 120 | 549 | 468 | 229 | 697 | 1,246 |
| 1940-1 | 512 | 26 | 538 | 541 | 143 | 684 | 1,222 |
| 1941-2 | 509 | 20 | 529 | 593 | 137 | 730 | 1,259 |
| 1942-3 | 544 | 19 | 563 | 613 | 154 | 767 | 1,330 |
| 1943-4 | 571 | 32 | 603 | 627 | 141 | 768 | 1,371 |
| 1944-5 | 584 | 31 | 615 | 646 | 146 | 792 | 1,407 |

* Estimate.

APPENDIX TABLE XI

*Index Numbers of the Prices of Agricultural Products in England and Wales,
by Harvest Years, 1939-40 to 1944-5* (1936-7 to 1938-9=100)*

| | 1939-40 | 1940-1 | 1941-2 | 1942-3 | 1943-4 | 1944-5 |
|--|---------|--------|--------|--------|--------|--------|
| Wheat† | 111 | 148 | 154 | 171 | 189 | 198 |
| Barley | 141 | 201 | 352 | 323 | 264 | 241 |
| Oats | 159 | 195 | 195 | 208 | 211 | 224 |
| Potatoes‡ | 93 | 131 | 149 | 148 | 148 | 152 |
| Sugar beet | 118 | 154 | 161 | 204 | 201 | 192 |
| Fruit | 106 | 201 | 218 | 196 | 196 | 196 |
| Vegetables | 141 | 177 | 226 | 243 | 259 | 246 |
| Fat cattle | 125 | 138 | 145 | 154 | 154 | 159 |
| Fat cows | 136 | 149 | 149 | 143 | 156 | 157 |
| Fat sheep | 116 | 134 | 147 | 157 | 158 | 171 |
| Fat ewes | 124 | 166 | 170 | 170 | 170 | 170 |
| Fat lambs | 108 | 125 | 136 | 141 | 144 | 156 |
| Bacon pigs | 140 | 159 | 183 | 190 | 190 | 191 |
| Pork pigs | 130 | 130 | 150 | 154 | 154 | 155 |
| Sows | 150 | 160 | 159 | 159 | 159 | 159 |
| Milk | 120 | 154 | 173 | 180 | 188 | 193 |
| Butter | 115 | 118 | 118 | 120 | 120 | 122 |
| Cheese | 138 | 153 | 185 | 188 | 190 | — |
| Eggs | 137 | 186 | 216 | 204 | 204 | 205 |
| Wool | 110 | 133 | 149 | 149 | 149 | 149 |
| Cereals | 129 | 174 | 230 | 230 | 220 | 216 |
| Cereals, excl. barley | 123 | 160 | 160 | 175 | 192 | 201 |
| Potatoes and sugar beet | 104 | 140 | 154 | 169 | 167 | 166 |
| Fruit, vegetables and glasshouse products | 126 | 201 | 223 | 215 | 222 | 217 |
| Fat stock | 128 | 144 | 154 | 159 | 160 | 165 |
| Milk and milk products | 120 | 152 | 170 | 178 | 186 | 190 |
| Cereals and farm crops | 115 | 154 | 188 | 199 | 195 | 195 |
| Livestock and livestock products | 126 | 153 | 170 | 174 | 178 | 185 |
| All products | 123 | 159 | 178 | 182 | 185 | 188 |

* Taking account of Exchequer payments but excluding subsidies on the 1937 and 1938 crops of barley and oats under the Agriculture Act, 1937 and the Agricultural Development Act, 1939.

† Including acreage payments, 1943 onwards.

‡ Including acreage payments, 1941 onwards.

APPENDIX TABLE XII

Changes in Net Income per Farm by Type of Farming Groups in England and Wales and in Scotland, 1936-7 to 1940-1

| | 1936-7 | 1937-8 | 1938-9 | 1939-40 | 1940-1 |
|--|-----------------------------|------------|-------------|--------------|--------------|
| ENGLAND AND WALES | | | | | |
| | Cash net income per farm† | | | | |
| | £ | £ | £ | £ | £ |
| Grass Farming Types: | | | | | |
| (a) Mainly dairying | 281 | 222 | 259 | 353 | 574 |
| (b) Dairying and mixed | 256 | 250 | 349 | 532 | 700 |
| (c) Mixed livestock | 127 | 139 | 92 | 211 | 353 |
| Average | 188 | 196 | 229 | 344 | 532 |
| Mixed Farming Types: | | | | | |
| (a) Mixed farming with substantial dairying | 210 | 286 | 246 | 413 | 621 |
| (b) General mixed farming | 188 | 240 | 159 | 350 | 561 |
| (c) Corn, sheep and dairying | 312 | 288 | 352 | 374 | 690 |
| (d) Mixed farming with substantial arable or grazing | 228 | 204 | 231 | 355 | 829 |
| Average | 233 | 252 | 242 | 375 | 673 |
| Arable Farming Types: | | | | | |
| (a) Heavy land arable | 173 | 149 | 183 | 416 | 653 |
| (b) Light land arable | 255 | 389 | -2 | 383 | 1,122 |
| (c) Arable and mixed farming, alluvial | 362 | 236 | 152 | 454 | 935 |
| Average | 282 | 285 | 72 | 410 | 985 |
| Average of all types | 221 | 233 | 193 | 369 | 681 |
| SCOTLAND | | | | | |
| | Earned net income per farm† | | | | |
| | £ | £ | £ | £ | £ |
| Dairy | 593 | 491 | 570 | 1,151 | 1,421 |
| Dairy smallholdings | 197 | 235 | 227 | 364 | 520 |
| Cattle | 474 | 381 | 172 | 737 | 1,302 |
| Arable-stock | 667 | 143 | 106 | 1,119 | 1,706 |
| Arable sheep | 611 | 236 | 41 | 847 | 1,467 |
| Hill sheep | 243 | 368 | -120 | -30 | 138‡ |
| Average of all types | 548 | 353 | 202 | 1,103 | 1,207 |

† Net cash income represents the difference on a cash basis between gross income and gross expenditure; unlike earned net income it does not include adjustments for valuation differences between the beginning and end of the year.

‡ Including the hill sheep subsidy.

APPENDIX TABLE XIII

Changes in Net Income Per Farm by Type of Farming Groups in England and Wales and in Scotland, 1940-1 to 1944-5*

| | 1940-1 | 1941-2 | 1942-3 | 1943-4 | 1944-5 |
|--|--------|--------|--------|--------|--------|
| ENGLAND AND WALES | | | | | |
| | £ | £ | £ | £ | £ |
| Grass types: | | | | | |
| Mainly dairying | 753 | 817 | 679 | 699 | 597 |
| Dairy and mixed | 961 | 1,024 | 829 | 833 | 633 |
| Mixed livestock, upland | 524 | 598 | 510 | 507 | 428 |
| All grass types | 729 | 797 | 661 | 661 | 534 |
| Intermediate types: | | | | | |
| Mixed farming with substantial dairying | 974 | 1,161 | 1,206 | 1,083 | 831 |
| General mixed farming | 921 | 1,149 | 1,202 | 1,188 | 632 |
| Corn, sheep and dairying | 1,411 | 1,917 | 1,906 | 1,762 | 822 |
| Mixed farming with substantial arable or grazing | 987 | 1,119 | 1,142 | 781 | 673 |
| All intermediate types | 1,017 | 1,231 | 1,264 | 1,086 | 719 |
| Arable types: | | | | | |
| Heavy land | 919 | 1,122 | 1,590 | 1,461 | 726 |
| Light land | 1,122 | 1,700 | 2,128 | 1,877 | 678 |
| Arable and mixed farming, with alluvial arable | 1,071 | 1,156 | 1,206 | 1,132 | 799 |
| All arable types | 1,073 | 1,425 | 1,717 | 1,545 | 731 |
| Specialist types | 812 | 1,502 | 2,070 | 1,262 | 1,216 |
| All types | 885 | 1,063 | 1,045 | 952 | 641 |
| All types, excluding specialist | 886 | 1,054 | 1,028 | 931 | 621 |
| SCOTLAND | | | | | |
| Dairy | 1,441 | 1,358 | 1,421 | 1,546 | 1,298 |
| Stock rearing | 931 | 1,397 | 1,432 | 956 | 617 |
| Stock rearing and feeding | 1,304 | 1,817 | 2,182 | 1,290 | 972 |
| Arable with livestock feeding | 1,770 | 1,878 | 2,063 | 1,743 | 1,133 |
| Hill sheep | 65 | 439 | 649 | 760 | 787 |
| All types | 1,221 | 1,424 | 1,599 | 1,355 | 1,063 |

* Earned net income both for England and Wales and for Scotland.

APPENDIX TABLE XIV

*Exchequer Grants and Subsidies of Direct and Indirect Assistance to British Farming by Financial Years 1939-40 to 1944-5**

| | £000 | | | | | |
|---|---------|--------|--------|--------|--------|--------|
| | 1939-40 | 1940-1 | 1941-2 | 1942-3 | 1943-4 | 1944-5 |
| Ploughing-up subsidy† | 868 | 3,749 | 4,201 | 3,328 | 2,840 | 1,691 |
| Fat cattle payments† | 3,958 | 15 | — | — | — | — |
| Beet sugar subsidy‡ | 2,652 | — | — | — | — | — |
| Milk† | 3,050 | 1,956 | — | — | — | — |
| Oats and barley subsidy† | 3,747 | — | — | — | — | — |
| Bacon† | 193 | — | — | — | — | — |
| Wheat deficiency payments† | 6,109 | — | — | — | — | — |
| Disease of animals and livestock improvement† | 1,109 | 1,306 | 1,094 | 1,623 | 553 | 753 |
| Drainage grants‡ | 333 | 377 | 668 | 910 | 972 | 1,119 |
| Lime subsidy† | 1,154 | 1,322 | 1,505 | 2,904 | 3,669 | 2,809 |
| Contributions towards the erection of cottages† | — | — | — | — | 29 | 295 |
| Destruction of pests† | 9 | 8 | 11 | 24 | 29 | 52 |
| Supply of water to agricultural lands§ | — | — | — | 2 | — | 19 |
| Bracken destruction§ | — | — | 4 | 12 | 19 | 18 |
| Acreage payments, potatoes† | — | — | 11,103 | 12,666 | 13,690 | 13,883 |
| wheat† | — | — | — | — | 10,440 | 12,998 |
| rye† | — | — | — | — | 395 | 488 |
| flax† | — | — | — | — | 925 | 1,228 |
| Hill sheep† | — | — | 1,336 | 836 | 1,752 | 1,346 |
| Hill cattle† | — | — | 3 | 12 | 487 | 1,052 |
| Marginal productivity scheme† | — | — | — | — | 143 | 246 |

* Civil Appropriation Accounts, House of Commons Papers, 1940-1 to 1946-7.

† United Kingdom.

‡ Great Britain.

§ Scotland.

APPENDIX TABLE XV
Estimated Supplies of Imported Feedingstuffs in the United Kingdom, June-May Years, Pre-war to 1944-5

| | Pre-war* | 1939-40 | 1940-1 | 1941-2 | 1942-3 | 1943-4 | 1944-5 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 000 tons | | | | | | | |
| Cereals and cereal products | | | | | | | |
| Wheat fed as grain | 140 | — | — | — | — | 21 | 41 |
| Barley | 656 | 425 | 236 | 21 | — | — | — |
| Oats | 82 | 90 | 20 | — | — | — | 15 |
| Maize | 2,904 | 2,000 | 863 | 285 | 17 | 4 | 139 |
| Maize meal | 162 | 232 | 337 | 15 | 1 | 3 | — |
| Bran and pollard | 438 | 320 | 160 | 10 | — | — | — |
| Sharps and middlings | 207 | 120 | 40 | 1 | — | — | — |
| Offals from imported wheat | 1,426 | 1,540 | 1,471 | 847 | 485 | 405 | 540 |
| Others | 418 | 393 | 196 | 89 | 51 | 34 | 41 |
| Total cereals and cereal products | (6,433) | (5,120) | (3,323) | (1,268) | (554) | (467) | (776) |
| Oilseed Cake and Meal | | | | | | | |
| (1) Imported as such | | | | | | | |
| Cotton seed cake and meal | 236 | 190 | 22 | 5 | — | 4 | 37 |
| Groundnut cake and meal | 265 | 230 | 214 | 95 | — | — | 5 |
| Others | 134 | 100 | 58 | 13 | — | — | 57 |
| Total | (635) | (520) | (294) | (113) | — | (4) | (99) |
| (2) Expressed from imported seeds and nuts | | | | | | | |
| Cotton | 519 | 353 | 100 | 83 | 37 | 11 | — |
| Linseed | 193 | 233 | 131 | 175 | 175 | 278 | 221 |
| Ground nuts | 145 | 159 | 197 | 280 | 259 | 188 | 247 |
| Copra | 38 | 50 | 43 | 29 | 14 | 29 | 11 |
| Soya beans | 69 | 26 | 4 | — | — | — | — |
| Palm kernels | 75 | 125 | 155 | 221 | 197 | 230 | 186 |
| Others | 28 | 45 | 25 | 59 | 31 | 28 | 37 |
| Total | (1,067) | (991) | (655) | (832) | (713) | (764) | (702) |
| Other Feedingstuffs | | | | | | | |
| Brewers' grains | 58 | 37 | 25 | — | — | — | — |
| Molasses | 156 | 346 | 130 | 100 | 71 | 71 | 61 |
| Locust beans | 53 | 30 | 11 | — | — | — | — |
| Miscellaneous | 321 | 204 | 120 | 53 | 7 | 19 | 25 |
| Total | (588) | (617) | (286) | (153) | (78) | (90) | (86) |
| Grand Total | 8,723 | 7,248 | 4,558 | 2,366 | 1,345 | 1,325 | 1,663 |

* 1936-7 to 1938-9.

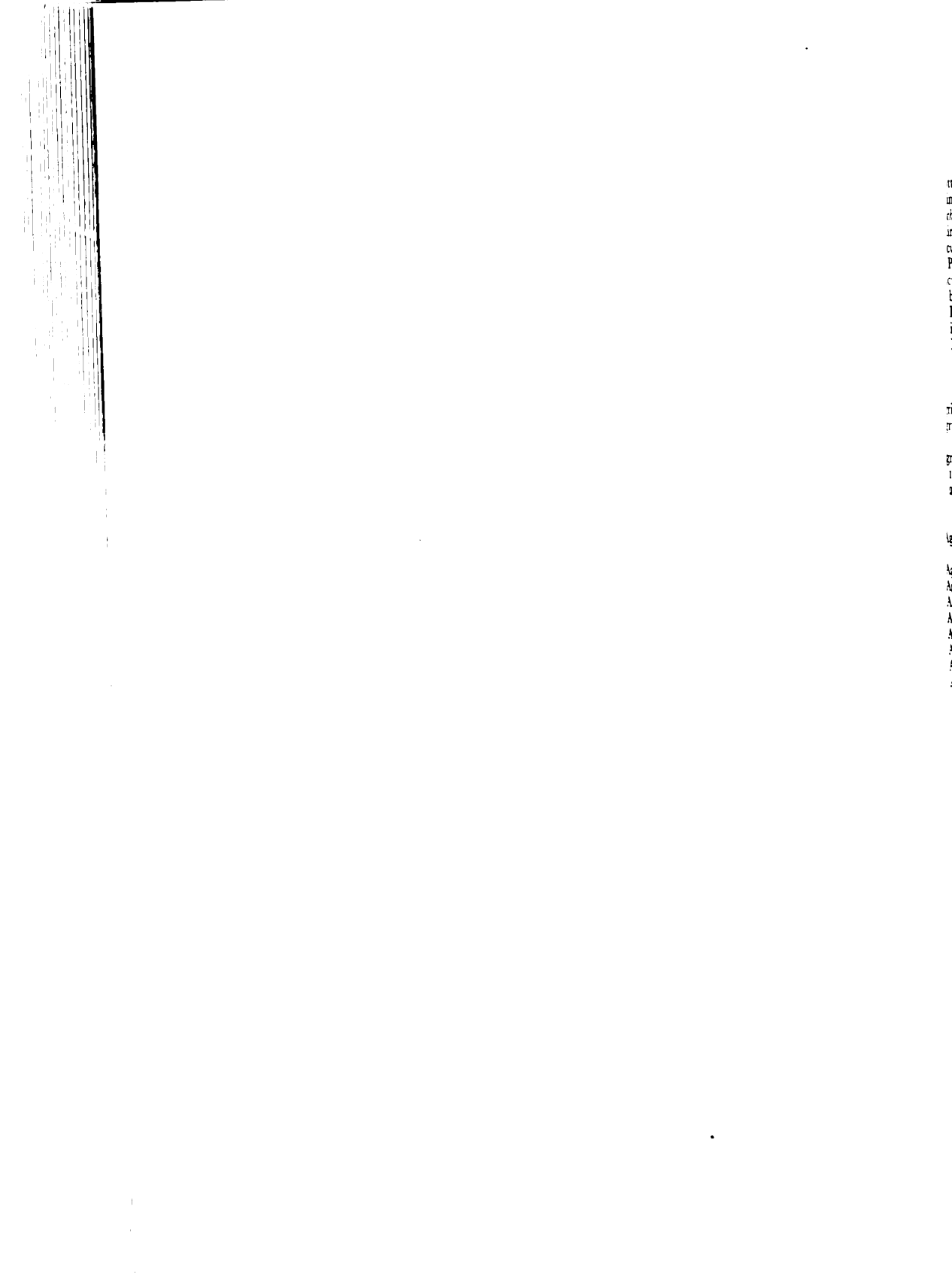
APPENDIX TABLE XVI
Utilisation of the Principal Food Crops in the United Kingdom, Pre-war to 1945-6

| | Wheat | | | Barley | | | Oats | | | Potatoes | | | Sugar Beet | | | |
|-------------------|------------|-----------------|-------------------------|------------|-----------------|-------------------------|------------|-----------------|-------------------------|------------|-----------------|-------|-------------------------|-------------------------|------------------------------|-------------------------|
| | Human food | Farm live-stock | Other uses ¹ | Human food | Farm live-stock | Other uses ¹ | Human food | Farm live-stock | Other uses ² | Human food | Farm live-stock | Seed | Other uses ³ | Human food ⁴ | Farm live-stock ⁵ | Other uses ⁶ |
| Pre-war | 730 | 659 | 262 | 521 | 172 | 72 | 118 | 1,282 | 540 | 3,092 | 585 | 719 | 477 | 428 | 62 | 34 |
| 1939-40 | 624 | 812 | 209 | 595 | 199 | 98 | 141 | 1,252 | 610 | 3,126 | 669 | 869 | 554 | 520 | 78 | 46 |
| 1940-1 | 873 | 557 | 211 | 690 | 301 | 113 | 175 | 2,061 | 656 | 3,690 | 1,087 | 1,154 | 474 | 513 | 65 | 53 |
| 1941-2 | 1,427 | 355 | 236 | 771 | 257 | 116 | 325 | 2,248 | 674 | 4,242 | 1,432 | 1,339 | 991 | 497 | 33 | 92 |
| 1942-3 | 1,866 | 383 | 318 | 1,142 | 170 | 134 | 513 | 2,363 | 673 | 4,836 | 2,046 | 1,443 | 1,068 | 555 | 63 | 102 |
| 1943-4 | 2,778 | 353 | 316 | 1,006 | 465 | 174 | 386 | 2,103 | 575 | 5,895 | 1,466 | 1,471 | 990 | 529 | 49 | 124 |
| 1944-5 | 2,234 | 651 | 253 | 983 | 563 | 206 | 278 | 2,110 | 565 | 5,698 | 865 | 1,446 | 1,087 | 417 | 32 | 123 |
| 1945-6 | 1,401 | 574 | 201 | 1,062 | 687 | 359 | 391 | 2,269 | 585 | 5,738 | 1,218 | 1,469 | 1,366 | 541 | 39 | 133 |

000 tons

¹ Mainly seed.² Non-farm livestock and seed.³ Mainly waste.⁴ Raw sugar.⁵ Molasses for livestock.⁶ Molasses for industry.

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INDEX

(The suffix letter 'n' denotes a footnote)

- Abbott, 25
Administrative machinery—*See County War Agricultural Executive Committees; Government machinery and administration*
Admiralty, 55
Agricultural Advisory Service, 317, 354n
 Provincial Advisory Centres, 24
Agricultural area
 before First World War, 4
 First World War, 370
 inter-war years, 22, 23n, 38, 39
 First and Second World Wars compared, 244
 First World War, inter-war years and Second World War, 371, 373
 losses of land to non-agricultural purposes, 39, 78, 184, 228, 235n, 244, 248
 requisitioning for defence, 78, 244n
Agricultural Colleges, 24, 60, 327, 329
Agricultural Credits Act, 1928, 27
 See Agriculture, financial condition of: credit facilities and requirements
Agricultural Departments, 25, 29, 49, 51, 53, 61, 62, 75, 92, 94, 96, 97, 98, 108, 110, 120, 122, 134, 141, 158, 159, 164, 180, 185, 199, 217, 219, 228, 229, 278, 279, 281, 282, 283, 284, 290, 294, 295, 296, 311, 312, 318, 319–324, 343, 346, 349
 —*See also Agricultural Ministers; Ministry of Agriculture; Northern Ireland: Ministry of Agriculture; Scotland: Department of Agriculture*
Agricultural Development Act, 1939, 34, 36n, 51, 54, 57, 58, 72, 228
 —*See also Pre-war planning*
Agricultural Economics Advisory Service, 160, 288
Agricultural Economics Service (Provincial), 216
Agricultural Economics Research Institute, 31n, 263n
Agricultural economists, 25, 346
Agricultural education, 15, 25, 37, 320, 323, 354
Agricultural Improvement Council, 316, 317, 366
Agricultural income—*See Agriculture, financial condition of; National income*
Agricultural Marketing Acts, 1928, 1931, and 1933, 27, 28, 29, 30, 32
 —*See also Marketing Schemes, peacetime*
Agricultural Ministers, 98, 108, 122, 128, 150, 154, 199, 313
 —*See also Minister of Agriculture; Northern Ireland, Minister of Agriculture; Secretary of State for Home Affairs; Secretary of State for Scotland*
Agricultural output
 before First World War, 4
 First World War, 6, 7, 8, 9, 10, 11, 13, 15, 48, 52, 62
 inter-war years, 17, 19, 21, 22, 23, 38, 39, 40, 48, 63, 175
 1939–40 (including 1939 harvest), 67, 68, 103
 1940–41 (including 1940 harvest), 102, 103, 104, 146, 284
 1939–41, 139–40
 1941–42 (including 1941 harvest), 146, 147, 175, 284
 1942–43 (including 1942 harvest), 174–176, 201, 235, 345
 1943–44 (including 1943 harvest), 200–202, 236
 1944–46 (including 1944 and 1945 harvests), 206, 219–222
 war years compared, 236, 237, 238
 First and Second World Wars compared, 244
 output compared with volume of manpower, 273, 274
 output in terms of calories or proteins, 11, 242, 244, 248, 274
 output in terms of sales off farms (gross and net output) pre-war and war years, 23, 242–244, 248, 273, 379
 output in terms of shipping saved, 201, 241
 excess of increase in output over expectations, 285
 influence of price changes on (general), 18, 19, 20, 38
 —*See also Prices, agricultural: as incentive (a): increased production generally (b): relative price levels*
 proportion of United Kingdom needs met by home output, 4, 5, 11, 39, 40, 48, 242
 —*For the output of individual crops and livestock products see the appropriate heading*
 —*See also Production, control of*
Agricultural Rates Acts, 1923 and 1928, 26
Agricultural research, 15, 24, 25, 37, 316, 320, 323, 346, 354

- Agricultural science, 3, 15, 37, 108, 316, 346, 354
 Agricultural technique, Chapter X generally, also, 3, 15, 17, 21-26, 37, 38, 285, 316, 317
 —See also *Farm management and efficiency; Farming systems*
- Agricultural Wages (Regulation) Act, 1924, 27
 —See also *Wages, agricultural*
- Agricultural Progress*, 43n, 44n
The Agricultural Register, 28n
Agricultural Statistics, 243n
- Agricultural workers, 25, 27, 59
 effect of war on, 353
 measurement of wartime effort of, 243
 share of farm incomes going to, 353
 trade unions, 25, 84, 194, 211, 320, 325
 —See also *Manpower, agricultural; Wages, agricultural*
- Agriculture Act, 1920, 17
 Agriculture Act, 1937, 34, 37, 38, 53, 72, 87, 190, 228
 —See also *Pre-war Planning*
- Agriculture Act, 1947, 310n
 —See also *Post-war planning*
- Agriculture, financial condition of
 before First World War, 15
 inter-war years, 18, 19, 20, 25, 26-38, 63, 64, 96, 97, 141, 212, 258, 283, 290, 379
 at outbreak of war, 89, 90, 141, 212
 1939-40, 74, 75, 76, 95, 96, 97, 100, 141, 212, 281, 282, 342-343, 379
 1940-41, 112, 113, 141, 212, 342, 379
 1941-42, 162, 165, 166, 167, 168, 212, 284, 379
 1942-43, 212, 379
 1943-45, 211-213, 215, 285, 379
 war years generally, 258, 288-292, 379
 capital expenditure and requirements, 20, 42, 63, 64, 99, 141, 212, 251, 281, 282,
 283, 290, 342, 343, 344, 352
 costs of production, 18, 19, 20, 38, 42, 80, 88, 89, 90, 91, 92, 93, 94, 95, 97, 98,
 130, 131, 141, 164, 165, 166, 191, 211, 212, 215, 223, 280, 282, 284, 285, 289-292,
 342, 376, 379
 methods of calculating, 281, 282, 285, 288-289
 —See also *Feedingstuffs: prices; Fertilisers: prices; Wages, agricultural*
- credit facilities and requirements, 27, 37, 74, 89, 99, 100, 112, 113, 251, 342, 343,
 363
- Agricultural Requisites Assistance Scheme, 99-100, 343
 Goods and Services Scheme, 99, 169, 363
 government expenditure on, 323
- data and methods of calculating, 281, 282, 285, 288-289
- debts, 18, 26, 112, 290, 343, 363
- different farming systems compared, 25, 26, 37, 213, 264-265, 285, 288, 291, 292,
 341-342, 343, 344, 365, 382, 383
- effects of harvest yields on, 290
- effects of import restrictions on, 31, 36
- effects of marketing schemes on, 28
- effects of measures to increase efficiency on, 37
- effects of subsidies and price insurance schemes on, 36, 37
- England and Wales compared with Scotland, 291, 292
- farm incomes and profits, 20, 26, 28, 31, 36, 63, 64, 95, 96, 97, 141, 162, 165, 166,
 167, 169, 212, 213, 215, 281, 282, 283, 284, 285, 288-292, 342-343, 376-377, 379
- farm incomes and agricultural prices compared, 290n
- farm profits compared with profits of other occupations, 165, 290, 343
- division of farming income between farmers, landlords and farm workers, 352,
 353
 —See also *Farm accounts*
- Agriculture, financial structure of, 18-20
- Agriculture (Miscellaneous War Provisions) Act, 1940, 190
- Air attack, 41, 50, 55, 71
- Alley brothers, 25
- Allotments, 48, 245, 246, 247, 306
 Allotments and Gardens Council, 315
 food produced by, 247
 National Allotments Society, 245, 246
 number of, 247
 —See also *Domestic Food Production*

Alternate husbandry—*See under Farming systems*

Anderson, Sir John (now Lord Waverley)

—*See Lord President of the Council; Secretary of State for Home Affairs*

Arable area

condition of in 1930s, 57, 140

—*See also Soil fertility*

extent of,

before First World War, 4, 15

First World War, 5, 6, 7, 8, 9, 10, 11, 15, 370

inter-war years, 22, 23, 33, 37, 38, 39, 46, 59n, 64, 72, 228, 230, 371

Second World War

1939-40, 77, 78, 102, 235

1940-41, 114, 139, 145, 235

1939-41, 230

1941-42, 163, 235

1942-43, 184, 236

1943-44, 206, 230

1944-45, 222, 236

war years generally, 230, 249, 371

First World War, inter-war years and Second World War, 371, 373

production of energy food per acre compared with grassland, 4, 5, 6, 43, 44, 45, 356

productivity of, drive to increase, 112, 125, 140, 141

—*See also Agricultural technique; Farming management and efficiency*

proportion of arable acreage to total acreage of crops and grass, 230, 231, 232, 233

—*See also Farming systems; Ploughing up campaign*

Argentine, Wheat Agreement and, 30

Artificial insemination, 269-270

Asquith, Mr. (later Earl of Oxford and Asquith)

—*See Prime Minister*

Attlee, Mr.

—*See Lord Privy Seal*

Australia

food production in, 7

international regulation of supplies and, 30, 31

Wheat Agreement and, 30

wheat from, 10

Bacon

Bacon Development Board, 29

Bacon Industry Act, 1938, 28, 29n, 35n

control of supplies and distribution in First World War, 13

cost of imports in terms of energy value and shipping, 45, 46, 149n

deficiency payments, 35, 36, 384

income from sale of, inter-war years, 21

imports, 149

imports, peacetime regulation of, 29, 30

marketing schemes, peacetime, 28, 29

output, 149, 150, 183, 208, 375

storage difficulties, 52, 55

—*See also Livestock; Livestock products; Pigs; Pigmeat*

Baltic, imports from, 40

Barley

acreage

First World War, 6, 10, 370

1939-40, 78, 231, 235, 237

1940-41, 115, 237

1941-42, 237

1942-43, 182, 184, 200, 236, 237

1943-45, 206, 219, 222, 237

First World War, inter-war years and Second World War, 371, 373

control of supplies and distribution, 13, 93, 170, 179, 196, 197

county quotas for, 183, 301n

deficiency payments, 33, 34, 37, 39, 51, 53n, 58, 61n, 228

cost of, 372, 384

dilution of flour with, 52, 151, 179, 182, 196, 197, 204n, 207, 306, 345

Barley, contd.

- fertiliser requirements of, 44
 - imports, 22, 48
 - income from sale of, inter-war years, 21
 - levy, 58
 - malting barley, 58, 70, 93, 99, 164, 179, 196, 280n, 344
 - output
 - inter-war years, 58n, 68
 - 1939 harvest, 68, 103
 - 1940 harvest, 102, 103, 146, 237
 - 1941 harvest, 146, 175, 237
 - 1942 harvest, 175, 179, 201, 237
 - 1943 harvest, 201, 237
 - 1944 harvest, 220, 237
 - 1945 harvest, 220, 222, 237
 - pre-war and Second World War generally, 375
 - yields, 67, 102, 145, 174, 200, 220, 222, 374
 - pre-Second World War planning and, 48, 52, 56, 58
 - prices
 - control over, 89, 92, 93, 99, 147, 164, 196, 280, 287, 344
 - guaranteed, 100
 - level of
 - First World War, 6
 - inter-war years, 291, 343
 - 1939-40, 91, 92, 93, 95, 96, 98, 141, 280, 377
 - 1940-41, 131
 - 1941-42, 164, 196
 - 1942-43, 197
 - 1943-45, 213, 216
 - war years generally, 282, 287, 381
 - post-war, 216, 223
 - seasonal variations in, 192
 - production programmes
 - pre-war, 48, 52, 56
 - 1940 harvest, 73, 75, 76, 235
 - 1943 harvest, 181, 182, 200, 236
 - 1944 harvest, 236
 - 1945 harvest, 221
 - seed supplies, 93
 - use of home-grown barley encouraged, 58
 - utilisation of, 386
 - for feedingstuffs, 385, 386
 - for human consumption, 110, 238, 386
 - See also Barley: dilution of flour with*
 - for distilling and malting, 70, 179, 196, 197, 207
- Basic slag
—*See under Fertilisers*
- Baylis, 25
- Beans and pulses, 26, 73, 75, 109, 110, 137, 234, 235, 255, 266, 366
—*See also Fodder crops*
- Beaverbrook, Lord
—*See Minister of Aircraft Production*
- Beef and veal
 - cost of imports in terms of energy value and shipping, 45, 46
 - Empire Beef Council, 30, 31
 - import regulation, peacetime, 29, 30
 - International Beef conference, 30
 - output
 - 1939-40, 68, 103
 - 1940-41, 103, 140, 146, 237
 - 1941-42, 146, 175, 237
 - 1942-43, 175, 180, 201, 237
 - 1943-44, 183, 201, 237, 239
 - 1944-46, 202, 215, 220, 237
 - pre-war and Second World War generally, 375
 - pre-Second World War planning and, 48, 52
 - See also Cattle, beef; Livestock; Meat*
- Beer and brewing, 70, 207

- See also *Barley: (a) malting: (b) utilisation of: for distilling and malting*
- Behrens, C. B. A., 41n, 148n
- Beilby, O. J., article in *Scottish Agricultural Economics*, 243n
- Beveridge, Sir W. (now Lord), *British Food Control*, 13n
- Bevin, Mr.
—See *Minister of Labour*
- Bingley, Lord, 246
- Board of Agriculture and Fisheries, 5, 6, 7, 8
Food Production Department, 7, 9, 10, 12, 13, 320, 325
President of, 5
(Lord Selborne), 6
—See also *Minister of Agriculture; Ministry of Agriculture*
- Bomfords, 25
- Boyd, D. A., article in *Agricultural Progress*, 43n, 44n
- Bracken destruction, 384
- Britton, D. K., article in *The Farm Economist*, 274n
- Brown, Mr. E.
—See *Minister of Labour*
- Budget, April 1941, 133
—See also *Financial policy, general*
- Butter
control of supplies and distribution, First World War, 13
cost of imports in terms of energy value and shipping space, 45
home output as proportion of peacetime requirements, 39
imports, wartime, 41
prices, First World War, 13
—See also *Livestock products; Milk: sales for manufacture*
- Cabinet, 9, 47, 53, 54, 62, 70
—See also *War Cabinet*
- Cairo Conference, 1943, 203
- Calories
agricultural output in terms of, 11, 242, 244, 248, 274
caloric value of certain imported foods per cubic foot of shipping space, 45
cost of certain imported foods per 100,000 calories, 45
output of different crops in terms of, 43
- Canada
food production in, First World War, 7
international regulation of supplies and, 29, 30
Wheat Agreement and, 30
- Carrots, 135-6, 139, 155, 205, 301, 310
- Cattle, beef
demand for in markets, 157, 185
efficiency as converters of feedingstuffs into human food, 44
earlier slaughtering of, peacetime, 24
feedingstuff supplies for, 44, 52, 107, 157, 185, 186, 218, 239
rationing scheme and, 137, 138, 156, 171
imports from Eire, 118, 146, 176
lengthening of feeding period, 146
manpower required for, 44
market guaranteed, war-time, 100
post-war, 208, 351
marketing
control over, war-time, 90, 91, 100
rate of, 163, 344
autumn gluts, 104, 116, 119, 146
- numbers
1875-1914, 4, 371
First World War, 11, 370
inter-war years, 22
June 1939, 67
June 1940, 103, 115, 237
1939-1941, 140
June 1941, 146, 237
June 1942, 146, 175, 237
June 1943, 201, 202, 237

Cattle, beef, numbers, *contd.*

- June 1944, 237
- June 1945, 221, 237
- First World War, inter-war years and Second World War, 371, 373
- effect of emphasis on milk production, 185
- meat output compared with, 119, 140, 146
- need to prevent further decline of, 1943, 185, 186
- policy towards, 79, 80, 89, 116, 118, 120, 121, 122, 157, 239
- prices
 - First World War, 13
 - 1939-40, 76, 90, 91, 92, 94, 98, 280, 376-377
 - 1940-41, 163
 - 1941-42, 146, 166, 167
 - 1942-43, 192
 - 1943-45, 213, 215, 216
 - war years generally, 282, 286, 287, 381
 - guaranteed prices, war-time, 100, 116
 - post-war, 208, 216, 217, 351
 - premiums on well-bred or well-finished beasts, 100, 101, 116, 118, 132, 215, 270
 - seasonal variations in, 98, 104, 116, 132, 192
- subsidy on, pre-war, 32, 39, 61
 - cost of, 372, 384

—See also *Beef and veal; Livestock; Meat*

Cattle, dairy

- autumn calving encouraged, 266
- demand for in markets, 157
- diseases combated, 267
- dry cows, 264
- efficiency of cows as converters of feedingstuffs into human food, 44, 239
- feedingstuff supplies for, 13, 44, 52, 70, 79, 80, 81, 105, 107, 134, 149, 150, 154, 157, 171, 172, 197, 198, 203, 218, 240, 254, 260, 266, 305, 306, 360, 362, 363
 - effect on milk yields, 262, 263
 - rationing scheme and, 137, 138
- feeding practices, 262, 263, 264, 267, 269, 362
- grading up of herds, 186
- improved breeding of, 267
- inspection of, 187
- management of, 269
- manpower required for, 44
- numbers
 - 1875-1914, 4, 371
 - First World War, 11, 244, 370
 - inter-war years, 22
 - June 1939, 67
 - June 1940, 103, 104, 115, 237
 - 1939-41, 140
 - June 1941, 146, 147, 237
 - June 1942, 175, 176, 237
 - June 1943, 201, 237
 - June 1944, 237, 244
 - June 1945, 237
 - war years generally, 260, 262, 269
 - First World War, inter-war years and Second World War, 371, 373
 - First World War and Second World War compared, 244
- slaughter policy and culling of bad yielders, 116, 118, 120, 121, 122, 157, 240, 267, 306, 368
- yield per cow, 104, 131, 140, 147, 176, 202, 262, 263, 264, 269, 273, 274, 341

—See also *Livestock; Milk*

Cattle, hill

- subsidy on, 192-193, 195, 294, 295, 299, 344, 384
- Cattle Industry (Emergency Provisions) Act, 32
- Central Statistical Office, 165, 166, 212, 284

Cereals

- area, 115, 180
- market guarantees, 217, 351
- prices, 13, 14, 208, 215, 216, 217, 286
- production programme, 54, 180, 234

- yields, 45, 102, 174, 200
 —*For individual cereals see appropriate heading*
- Chamberlain, Mr. Neville
 —*See Lord President of the Council*
- Chancellor of the Exchequer, Sir Kingsley Wood, 167
- Cheese, 13, 34, 55
 cost of imports in terms of energy value and shipping space, 45, 46
 —*See Livestock products; Milk*
- Churchill, Mr. (now Sir Winston)
 —*See Prime Minister*
- Combined Food Board, 241, 349
- Committee on Food Production in Time of War, 48
 —*See Pre-war planning*
- Committee of Imperial Defence, 47
 Food Supply Sub-Committee, 49, 50, 52, 54, 59, 311
 pre-war shipping plans, 68
 —*See Pre-war planning*
- Consumers, 12, 13, 28
 —*See also Food: consumption of; Nutrition*
- Control of production
 —*See under Production, control of*
- Control of supplies of agricultural products, 13, 15, 16, 63, 100, 133-135, 148, 170, 183, 196, 305, 313, 344, 345
 departmental responsibility for, 312
 —*See also Barley: control of supplies and distribution; Eggs: control of supplies of; Marketing Schemes; Oats: control of supplies; Wheat: utilisation of*
- Corn Production Act, 1917, 12, 14, 18
 —*See also Ploughing-up campaign: First World War*
- Cost of living
 First World War, 12
- Cost of living index
 stabilisation of, 133, 284, 286
 war-time movement of, 286
 —*See Financial policy, general*
- County Agricultural Committees, inter-war, 18
- County Councils, 8, 325
 agricultural staff of, 60, 327
- County Garden Produce Committees, 245, 246
 —*See Domestic Food production*
- County War Agricultural Executive Committees, 64, 154, 205, 206, 321, 324-339
 advisory work 60, 327
 agricultural machinery and, 8, 86, 87, 114, 126, 127, 161, 277, 304, 322, 327, 330, 333-337, 338
 Agricultural Requisites Assistance Scheme, 99-100, 129, 329
 composition of, 59, 60, 325, 327, 329
 cost of, 337-338
 cultivation of land by, 87, 135, 300, 303, 327, 329, 331-332, 334, 338, 365
 direction, powers of, 8, 97, 111, 113, 154, 155, 183, 205, 223, 266, 283, 293, 295, 299-302, 308, 310, 324, 326, 338, 344, 363, 364
 extent of use of, 74, 110, 183, 300, 301, 302, 308
 District Committees, 78, 324, 326, 334, 339, 358, 364, 365
 drainage and, 128, 322, 327, 329, 331
 England and Wales compared with Scotland, 330
 feedingstuffs and, 197, 327
 rationing scheme, 137, 138, 300, 322, 330
 reserves of, 218
 farming technique and, 156, 277, 316, 317, 354
 fertilisers and, 88, 127, 128, 139, 162, 172, 173, 198, 218, 219, 300, 330, 363
 First World War, 7n, 8, 9, 325
 Goods and Services Scheme and, 169-170, 194, 338
 hill sheep and cattle subsidies and, 117, 330
 hostel accommodation and, 126
 land reclamation and, 129, 338
 legal powers delegated to, 326
 liaison officers with Ministry of Agriculture, 327-328
 livestock numbers, control of, 121, 157, 300, 326
 culling of dairy herds, 121, 157, 186, 329
 livestock, supervision of farming, 309

County War Agricultural Executive, Committees, *contd.*

- manpower
 - agricultural workers and the Services, 123, 327, 329
 - direct employment of labour by County Committees, 112, 123, 124, 125, 304, 327, 330, 331-332, 338, 364
 - manpower controls and County Committees, 329
 - prisoners-of-war supervised by, 330
 - voluntary labour and County Committees, 159-160
 - agricultural camps, 209
- marginal production schemes and, 194, 195, 298, 299
- milk output drive and, 158, 266, 267
 - quality of milk, 267
- Ministry of Agriculture circulars to County Committee analysed, 337
- national farm survey by, 128, 328, 329
- Northern Ireland, Committees in, 60, 73
- ploughing-up campaign and, 9, 73, 75, 77, 78, 107, 111, 140, 182, 293, 300, 326
- potato acreage payments and, 330
- pre-Second World War planning for, 49, 59, 60, 62, 319-320, 324, 325
- priority schemes for scarce goods and materials and, 173, 337
- provision of services by, 169-170, 194, 294, 338
- quotas and targets for specific crops, 77, 111, 113, 154, 155, 182, 183, 205, 221, 293, 301, 308
- rearing of calves and, 186
- Scotland, Committees in, 60, 330
- staff of, 325, 327, 329, 330, 331, 354
- sub-committees of, 8, 59, 277, 316, 324, 338
- success of, 140, 183, 308, 309, 326, 339, 354
- supervision of cultivation by, 8, 338, 357, 358, 359, 363, 364, 365
- termination of tenancies and dispossession of farmers by, 9, 113, 194, 300, 302, 326, 338, 363
- under-cultivated and badly farmed land, powers to deal with, 9, 112, 113, 126, 300, 338
- weaknesses, 77-78
 - Devon C.W.A.E.C., 186, 334
 - East Suffolk C.W.A.E.C., 172
 - Kent C.W.A.E.C., 334
 - Norfolk C.W.A.E.C., 172, 173, 334
- Crops generally
 - caloric output of various crops compared, 43, 44, 75
 - dual purpose crops, 110, 135, 234
 - emphasis on human consumption, 4, 54, 55, 71, 73, 75, 107, 110, 135, 148, 152, 153, 154, 155, 180, 183, 185, 214, 219, 228, 229, 234, 236, 238, 313, 344, 345, 351, 355, 356, 360
 - income derived from, 21, 249
 - prices, 6, 11, 12, 21, 75, 286
 - compared with livestock prices, 213, 216, 286, 341, 381
 - types and varieties, innovations in, 24, 254-255
 - yields, 10, 24, 58, 67, 77, 131, 145, 212, 220, 222, 374
 - effect of heavy croppings on, 181
 - local variations, 44
 - For individual crops see appropriate heading*
- Dairy products
 - international regulation of, 31
 - levy-subsidy proposal, 33
 - See also Butter; Cheese; Livestock products; Milk*
- Denmark
 - dilution of wheat flour in, 151n
 - imports from, 40
- Dilution of flour
 - See under Wheat*
- Direction Orders, 8, 9, 10, 13, 16, 63, 74, 97, 110, 111, 113, 154, 155, 183, 205, 223, 266, 278, 279, 283, 293, 295, 299-302, 308, 310, 324, 326, 338, 344, 363, 364
- Diseases
 - alternate husbandry and, 250
 - animals, 7, 24, 37, 53, 267, 320, 323

- grants for elimination of, 293, 384
- crops, 7, 24, 37, 43, 220, 221, 257, 317, 320, 351
- Dispossession
 - See *Tenancies, termination of*
- Domestic food production, 245–248
 - Domestic Food Producers' Council, 245, 315
 - 'Grow More Food' and 'Dig for Victory' campaigns, 245, 306, 307
 - Village Produce Associations, 246
 - See also *Allotments; Pigs: domestic pig keepers; Poultry: domestic production; Rabbits*
- Dorman-Smith, Sir Reginald
 - See *Minister of Agriculture*
- Drainage, 20, 26, 38, 53, 57, 64, 89, 95, 108, 112, 128–129, 189, 195, 209, 253, 320, 322, 327, 329, 331, 352, 357, 359
 - Land Drainage Act, 1930, 26, 53
 - number of schemes undertaken, 129
 - summary of grants for, 128–129, 293, 323, 384
- Economic Policy Committee, 71, 312
- Economist, The*, 350
- Eggs
 - control of supplies of, 13, 133, 164
 - cost of imports in terms of energy value and shipping, 45, 46, 149n
 - imports, 41, 133, 149
 - income from sale of, inter-war years, 21
 - market guaranteed, post-war, 217, 351
 - output
 - inter-war years, 38, 375
 - 1939–40, 68, 103
 - 1940–41, 103, 146, 237
 - 1941–42, 146, 175, 237
 - 1942–43, 175, 201, 220, 237
 - 1943–44, 183, 201, 237, 239
 - 1944–46, 220, 237
 - war years generally, 239, 375
 - effect of reduction of wheat extraction rate on, 149
 - effect of increased imports of feedingstuffs on, 208
 - output from domestic flocks, 247
 - output recording, 24
 - pre-war planning and, 41, 48
 - prices and price control, 98, 133, 163, 167, 217, 376–377, 381
 - post-war, 216
 - subsidy on, 133
 - See also *Livestock; Livestock products; Poultry*
- Eire
 - cattle imports from, 118, 146, 176, 260
 - manpower from, 210
 - seed potatoes from, 257
 - See also *Ireland*
- Elliot, Mr. Walter
 - See *Minister of Agriculture*
- Empire
 - British Empire Producers' Conference, 31
 - regulation of imports from, 29, 30, 31
 - share of British food market, 31
- Ernie, Lord, 9n, 15
- Essential Commodities Reserve Act, 1938, 51, 56
- Excess Profits Tax, 343
 - See also *Income Tax*
- Export quotas, 30
- Export trade, 47

- Fallow acreage, 6, 26, 43, 76, 77, 78, 115, 370, 371, 373
- Farm accounts, 25, 277
- Farm buildings, 15, 20, 26, 64, 75, 108, 251, 252
- Farm Economist, The*, 241n, 242n, 274n
- Farm Institutes, 327, 329

- Farm management and farming efficiency generally, 23, 25, 38, 42, 244, 277, 285, 353, 354, 355, 357, 358, 359, 369
 farm management surveys, 288, 343
 —See also *Agricultural technique; Farming systems; Grassland: management and utilisation of; Livestock: quality and technique*
- Farm surveys, 111, 128, 328, 329
- Farms, number of, 42
- Farmer & Stockbreeder, 99n, 347n
- Farmers
 capabilities of, 42, 113, 353
 'confidence' of, 15, 17, 18, 48, 74, 90, 96, 112, 130, 141, 287, 309
 farmers' unions, 25, 99, 166, 167, 168, 169, 193, 212, 213, 216, 268, 269, 284, 296
 315, 320
 —See also *National Farmers' Union*
 number of, 249
 service on County Committees, 60, 339, 354, 359, 369
 share of national income, 290, 343
 —See also *Agriculture, financial condition of*
 war-time effort, measurement of, 243
- Farming systems, 4, 6, 15, 20, 21n, 22, 23, 24, 25, 38, 42, 46, 56, 63, 64, 75, 120, 122, 228, Chapter X generally
 war-time changes in pattern of, 127, 136, 181, 208, 244
 effect of mechanisation, 275
 alternate husbandry, 156, 184, 185, 205, 207, 208, 221, 222, 231, 236, 250-253, 293, 340, 356, 362, 363, 366-368
 capital required for, 251
 length of ley, 251
 manpower required for, 250, 251
 productivity of ley, 253
- arable farming, 15, 42, 56, 140, 228, 252
 arable sheepfarming, 26, 118, 131-132, 140, 270
 financial condition of, 25, 26, 213, 291, 292, 341-342, 343, 382, 383
 large arable farms, 365
 —See also *Arable area; Ploughing-up campaign. For individual crops, see appropriate heading*
- dairy farming, 25, 260-269, 362, 363
 diversity of method, 260-261
 East Lancashire grassland dairy farms, 195, 196
 efficiency of, 269
 financial condition of, 264-265, 291, 292, 341, 342, 365, 382, 383
 —See also *Cattle, dairy; Milk*
- grassland farming
 all-grass farming, 251, 252
 extension of, inter-war years, 4, 21
 financial condition of, 291, 292, 343, 382, 383
 grassland sheep farming, 132, 270
 large grazing farms, 365
 —See also *Cattle, beef; Cattle dairy; Grassland; Livestock; Sheep*
- hill farming
 cattle farming, 192-193, 195, 294, 295, 299, 344
 sheep farming, 26, 89, 116, 117, 118, 175, 192, 270, 382, 383
 financial condition of, 26, 291, 292, 343, 382, 383
 subsidies, 117, 131, 192-193, 195, 294, 295, 299, 344, 384
- mixed farming, 25, 46, 108, 120, 122, 251, 252, 282, 363
 financial condition of, 291, 292, 343, 382, 383
 mixed dairy farming, 362
- pig and poultry farming
 financial condition of, 365
 —See also *Pigs; Poultry*
- Feedingstuffs
 allocation between different classes of livestock, 52, 79, 92, 103, 117, 120, 134, 137, 138, 150, 158, 184, 207, 208, 239, 240, 314, 341
 distribution of, generally, 7, 13, 42, 61
 distribution scheme through merchants, 80, 136, 304
 rationing scheme, 13, 80, 81, 105, 118, 127, 136-139, 171-172, 278, 304, 313, 317
 anomalies, 138
 complexities of, 136-137

- distribution of coupons, figures for war years, 305, 306
- diversion of rations to wrong classes of animals, 118, 305
- economies in, 208
- effectiveness of in reducing poultry, 133
- egg control and, 133
- exchange of coupons for sale of cereals off farms, 135, 157, 172
- indirect benefits of, 270
- livestock priorities and, 136, 137, 138
- maintenance of milk output dependent on, 147
- method of operation, 137, 138, 171-172
- rations confined to cows, horses, pigs and poultry, 157, 171, 197, 305
- source of supplies for, 149, 150, 157, 158, 171, 172, 184, 198, 207
- expenditure on in pre-war and war years compared, 289, 379
- feeding practices and economies in use of feedingstuffs, 24, 52, 80, 116, 130, 146, 228n, 239, 240, 262, 263, 264, 267, 269, 362, 365, 368
- food value received from feedingstuff crops, 43, 44
- home output of, generally
 - inter-war years, 38, 39, 46
 - pre-war plans for increasing, 34, 49, 55, 56, 58, 70, 228
 - war years, 71, 73, 75, 79, 102, 104, 107, 135, 141, 148, 150, 152, 180, 231, 235
 - farmers to be self sufficient in feedingstuffs, 75, 76, 79, 104, 111, 134, 135, 137, 145, 148, 154, 197, 198, 306, 307, 313, 341, 345, 368
 - farmers' right to keep feedingstuffs grown on their own farms, 134-135, 156, 157, 171, 313, 341, 345
 - See also *Barley; Fodder crops; Oats; Wheat: utilisation of*
- imports
 - cheap peacetime imports, 4, 13, 22, 23, 27, 38, 39, 64, 228, 283
 - degree of dependence of British farming on, 39, 40
 - cost of feedingstuff imports in terms of shipping space compared with imports of livestock products, 45, 46
 - level of
 - inter-war years, 67, 68, 69, 70, 72, 103, 106, 140, 152, 238, 239, 385
 - pre-war assumptions about, 41, 48, 52, 55, 69, 70, 92, 227
 - 1939-40, 67, 68, 69, 70, 71, 79, 80, 81, 88, 103, 148, 238, 385
 - 1940-41, 104, 105, 106, 107, 115, 116, 117, 138, 140, 148, 238, 385
 - 1941-42, 122, 145, 148, 150, 152, 153, 238, 305, 385
 - 1942-43, 238, 305, 385
 - 1943-45, 203, 204, 207, 208, 238, 239, 385
 - war years generally, 259, 385
 - manurial residues and, 88, 196, 259, 274
 - See also *Food: imports: (a) level of: (b) programmes*
- prices, 11, 12, 13, 90, 91, 92, 93, 94, 95, 279, 280, 376
 - control of, 61, 89, 100
 - stabilisation of, 42, 89, 90, 98, 120-130, 164, 191, 284, 292, 310
 - See also *Agriculture, financial condition of: costs of production*
- quality, war-time, 80, 91, 103, 262, 263, 264, 267, 269
 - varieties needed by different animals, 44
 - See also *Feedingstuffs: feeding practices*
- stocks
 - pre-war accumulation of reserves, 51, 52, 53, 55, 58, 62
 - first year of war, 81
 - County Committees' reserve, 138, 139
- supplies generally
 - First World War, 11, 13, 15
 - pre-war planning assumptions, 52
 - 1939-40, 74, 79, 80, 93, 103
 - 1940-41, 106, 107, 115, 117, 118, 119, 122
 - 1941-42, 120, 122, 136, 157
 - 1942-43, 198, 305
 - 1943-45, 207, 208, 218
 - war years generally, 238, 239
 - post-war, 352
- varieties
 - by-products of arable farming, 43, 121, 157, 185, 208, 239, 251, 346, 360, 361, 363
 - cereals and cereal concentrates, 44, 51, 72, 75, 80, 81, 105, 139, 172, 184, 185, 198, 208, 215, 218, 238, 254, 305, 306, 341, 385
 - See also *Barley; Feedingstuffs: varieties: (a) concentrates generally: (b) maize: (c) milling offals; Oats*

- Feedingstuffs, varieties, *contd.*
 concentrates generally, 22, 23, 79, 80, 103, 105, 106, 119, 120, 137, 149, 207, 208, 239, 263, 264, 267, 385
 maize, 22, 23n, 48, 55, 70, 80, 98, 135, 149, 150, 158, 171, 184, 385
 milling offals, 22, 23n, 48, 51, 52, 70, 72, 106, 147, 148, 149, 150, 151, 152, 157, 158, 171, 184, 198, 204, 238, 239, 385
 —*See also Wheat: dilution of flour*
 oilseeds and oilcake, 22, 23n, 48, 51, 52, 53, 55, 70, 72, 80, 98, 105, 106, 107, 119, 120, 147, 149, 152, 157, 171, 204, 218, 238, 239, 385
 potatoes as feedingstuff, 258, 386
 roughage and grazing, 22, 23, 119, 121, 122, 137, 139, 175, 185, 186, 198, 208, 221, 234, 238, 239, 360, 362, 363, 375
 —*See also Fodder crops; Grazing; Hay; Silage; Straw*
- Fences and ditches, 15, 20, 64, 195
- Fertilisers
 allocation and rationing scheme, 7, 13, 42, 61, 88, 127, 128, 139, 163, 172-173, 198, 218, 219, 258, 259, 278, 304, 318
 county reserves, 127, 128, 139, 172-173
 crops' relative requirements of, 44
 demand for, 87, 88, 100, 108, 112, 127-128, 161-163, 190, 191, 258-259, 363, 364
 propaganda to increase, 258
 Direction Orders and, 258
 effect on crop yields of, 46, 363
 expenditure on, 259, 379
 imports
 peacetime, 4, 40
 war-time, 41, 87, 112, 152, 162, 163, 190, 318
 loss of supplies, 40, 87, 259
 increase in agricultural output through increased use of, 243, 274
 inland transport and, 88, 162, 163, 190, 318
 marginal production scheme and, 169, 175
 methods of preparing and using, 260, 276, 318
 Ministry of Supply's responsibility for, 61, 312, 318
 pre-war planning and, 41, 42, 43, 49, 56, 57
 accumulation of reserves, 15, 51, 56, 57, 62, 63
 —*See also Subsidies: lime and basic slag*
 prices, 4, 11, 12, 280
 control of, 89, 100, 318
 stabilisation of, 129-130, 164, 191, 284, 292, 310
 restoration of fertility to exhausted land, 185
 supplies generally
 First World War, 7, 8, 10, 11, 13, 15
 inter-war years, 23
 Second World War, 87, 88, 127, 161-163, 205, 206, 259
 control of, 61
 world shortage, 205
 varieties
 basic slag, 24, 38, 53, 62, 72, 87, 88, 128, 162, 163, 219, 227, 278, 372
 guano, 87
 manurial residues, 88, 250, 259, 274
 nitrogenous, 87, 108, 127, 161, 190, 219, 253, 255, 258, 259
 sulphate of ammonia, 87, 162, 190
 phosphates, 51, 56, 57, 87, 108, 112, 127, 128, 139, 162, 163, 172, 173, 185, 190, 198, 206, 218, 219, 253, 259, 304, 367
 potash, 40, 51, 56, 87, 88, 127, 139, 163, 172, 173, 190, 198, 258, 259, 304
 —*See also Lime*
- Financial policy, general, 63, 160, 279, 281, 286, 342
 First World War, 5-14, 40, 42, 43, 48, 50, 57, 59, 62, 140, 227, 229, 230, 319, 321, 370, 371
 pre-war planning for, 14, 15, 227
 post-war planning, 14
- Flax and linseed
 acreage of, 78, 145, 155, 156, 174, 182, 183, 235, 236, 254, 373
 county quotas for, 113, 205, 254, 301n
 fertilisers for, 88, 139
 growth in new areas, 254
 linseed encouraged, 266
 manpower requirements of, 254

- prices, 166, 211, 312
- acreage and special inducement payments, 168, 193n, 254, 298, 384
- Flower growers
 - subsidy to, 193
- Fodder crops (other than oats and barley)
 - acreage, 6, 78, 102, 115, 235, 236, 237, 370, 371, 373
 - calories produced per acre by crops, 43
 - changes in popularity of certain crops, 254, 255
 - fertilisers for, 172
 - output and output plans
 - 1939 harvest, 67, 68, 103
 - 1940 harvest, 75, 102, 103, 146, 231, 235, 237
 - 1941 harvest, 146, 175, 237
 - 1942 harvest, 175, 198, 201, 237
 - 1943 harvest, 201, 208, 237
 - 1944 and 1945 harvests, 220, 237
 - war years generally, 237, 249, 375
 - First and Second World Wars compared, 244
 - yields, 145, 150, 174, 198, 201, 220, 374
 - See also Feedingstuffs*
- Food
 - consumption, war-time, 241, 347, 348
 - See also Nutrition*
 - imports (including feedingstuffs)
 - before First World War, 4, 27
 - control of, peace-time, 25, 27, 28, 29-39
 - import duties, 29, 30, 33, 36
 - quantitative regulation, 29-31, 36, 39
 - effect on farm incomes, 31, 36
 - cost of different imported food in terms of shipping and energy value, 45, 46
 - dependence of United Kingdom on, 4, 5, 11, 14, 27, 39, 40
 - elasticity of demand for, 31, 36
 - First World War, 5, 7, 10, 12, 13
 - imports necessitated by inadequate control over oats, 135
 - imports to offset raising of extraction rate, 149, 150
 - level of
 - inter-war years, 27, 33, 39, 40, 69, 72, 107, 140, 152, 241, 355
 - pre-Second World War assumptions about, 40-41, 48, 50, 52, 55, 68-69, 227, 340
 - 1939-40, 67, 69, 72, 78, 107, 152
 - 1940-41, 105, 107, 140, 152
 - 1941, 147
 - 1941-42, 148, 152, 177, 345
 - 1942-43, 152, 177, 178, 345
 - 1943-45, 204
 - war years generally, 241, 340
 - war years and pre-war years compared, 229
 - levies on, 33
 - post-war policy, 348
 - prices, peace-time, 20, 21
 - programmes
 - 1939-40, 70, 71, 72, 230
 - 1940-41, 105, 106, 107
 - 1941-42, 147-152, 153, 230, 345
 - 1942-43, 177, 178, 180, 183, 345
 - 1943-44, 203, 204, 208
 - departmental responsibility for, 312
 - source of supplies of, 40, 41
 - search for economies in, 1942, 150-152, 162, 177, 178, 179, 345
 - prices, retail figures for war years, 286
 - stocks
 - First World War, 5
 - pre-Second World War policy, 50, 51, 55, 56
 - war-time level, 148, 150, 176, 177, 179
 - subsidies, war-time, 92
 - world shortage of, 204, 205, 208, 230, 347
 - See also Minister of Food; Ministry of Food. For individual commodities see appropriate headings*

- Food and Agriculture Organisation, 349
 Food Controller (First World War), 12, 13
 Food (Defence Plans) Department, 61, 69, 229, 311
 — *See also Ministry of Food; Pre-war planning*
 Food Policy Committee, 80, 81, 83, 91, 97, 98, 104, 106, 107, 109, 115, 117, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134
 composition of, 311
 Ford Motor Company, 86, 87, 127
 — *See Machinery*
 Foreign exchange shortage
 First World War, 5
 pre-Second World War planning and, 40, 41, 48, 55
 Second World War, 75, 109, 111, 126
 post-war, 348
 Fruit, 4, 21, 31, 41, 67
 cost of dried fruit imports in terms of shipping space and energy value, 45, 46
 prices, 381
- Germany, 47, 49, 53, 54
 dilution of flour in, 151n
 Goods and Services Scheme
 — *See under County War Agricultural Executive Committees*
 Government machinery and administration
 First World War, 15, 16
 machinery for formulation of agricultural policy, 62, 140, 244, 311-312, 314-315, 319, 345-346
 division of responsibility between Departments, 281-282, 284, 312, 313, 314, 346
 machinery for execution of agricultural policy, 59, 60, 74, 140, 244, 312-319, 320-339
 decentralisation
 regional organisation, 8, 321, 336, 337
 — *See County War Agricultural Executive Committees; Ministry of Agriculture; Ministry of Food*
 Government assistance to agriculture
 inter-war years, 3, 20, 26-39, 53, 128, 292, 372
 distribution of assistance between different areas, 37
 subsidies and grants in war-time, 292-294, 384
 — *See also Agriculture, financial condition of; Prices, agricultural; Subsidies*
 Grain generally
 acreage, 102, 139, 140, 206, 222, 236, 237, 238, 249, 373
 output, 146, 175, 184, 201, 205, 221, 222, 237, 238
 Grass drying, 266
 Grassland
 acreage, total grassland
 before First World War, 4
 First World War, 5, 6, 8, 9, 10
 inter-war years, 22, 23, 39, 72
 Second World War, 77, 102, 114, 253
 acreage, permanent grassland
 First World War, 9, 10, 370
 inter-war years, 22, 23, 39, 228
 outbreak of Second World War, 249, 250
 1939-40, 77, 235, 237
 1940-41, 114, 139, 235, 237
 1941-42, 156, 174, 183, 200, 235, 237
 1942-43, 183, 184, 236, 237, 239
 1943-44, 205, 206, 219, 237, 250
 1944-45, 222, 231, 237
 war years generally, 249
 First World War, inter-war years and Second World War, 371, 373
 acreage, temporary grassland
 First World War, 6, 9, 10, 370
 inter-war years, 22, 23, 39, 231
 outbreak of Second World War, 250
 1939-40, 75, 76, 77, 235, 237
 1940-41, 114, 235, 237

- 1941-42, 156, 231, 235, 237
 1942-43, 231, 236, 237, 239
 1943-44, 205, 206, 219, 231, 236, 237
 1939-44, 231
 1944-45, 222, 237
 war years generally, 250
 First World War, inter-war years and Second World War, 371, 373
 fertilisers for, 24, 88, 139, 162, 173, 198, 253, 258
 management and utilisation of, 24, 239, 253, 306, 316, 359, 362, 365, 366, 367
 direct re-seeding, 254
 discing, 260
 improved strains of grass, 24, 253
 seeds, 253
 neglected condition of in 1930s, 56, 57, 62, 228
 production of energy food per acre compared with arable, 4, 6, 15, 43, 44, 45, 356
 productivity and carrying capacity of, 112, 116, 122, 174, 215, 250, 252, 253, 362
 understocking, 64, 121, 122, 228, 253
 proportion of feedingstuff requirements met by, 22, 23
 proportion of grassland occupied by rotation grasses, 250
 —See also *Farming systems*: (a) *alternate husbandry*; (b) *grassland farming*; *Ploughing-up campaign*
- Greenwood, Mr. A.
 —See *Minister without Portfolio*
- Hammond, R. J., *Food*, 39n, 50n, 55n, 60n, 93n, 116n, 132n, 133n, 257n
 Hancock, W. K. and Gowing, M. M., *British War Economy*, 312n
- Hay
 area, 362, 366
 consumption by cows of, 263
 output
 1939 harvest, 67, 68, 103
 1940 harvest, 102, 103, 146
 1941 harvest, 145, 146, 175
 1942 harvest, 175, 201
 1943 harvest, 201, 208
 1944 and 1945 harvests, 220
 pre-war and Second World War, 375
 yields, 67, 374
 prices, 95n, 132, 163, 376-377
 quality, 253, 266, 362
 supplies, 23, 238, 239
- Home Farmer, The*, 265n
 Home Policy Committee, 121, 311, 312
 Hops, marketing scheme, 61, 73, 170, 278
 Horses, 8, 15, 120, 274, 275
 feedingstuffs for, 134, 135, 137, 138, 151, 171, 178, 179, 197, 305
 Hosier, 25
 Hot Springs Conference, 349
 Housing
 —See under *Manpower*
- Hudson, Mr. R. S. (now Lord Hudson)
 —See *Minister of Agriculture*
- Import duties
 —See under *Food: imports*
- Import Duties Act, 29
 Import Executive, 105, 150
 Imports (total)
 level of
 inter-war years, 68, 69
 assumptions about in pre-Second World War planning, 40-41, 48, 50, 52,
 55, 68-69, 227
 1939-40, 69, 72, 107, 152
 1940-41, 105, 107, 152
 1941, 147
 1941-42, 148, 152, 177

- Imports, (total) level of, *contd.*
 1942-43, 152, 177, 178
 1943-45, 204
 war years generally compared with pre-war, 229
 programmes
 1939-40, 70-72
 1940-41, 104-107, 109, 111
 1941-42, 147-152, 153, 154, 162, 176
 1942-43, 177, 178
 1943-44, 202-204, 208
 savings achieved by dilution of flour, 152, 179, 345
 savings achieved by increase in home agricultural output, 11, 76, 201, 238, 241
 savings achieved by increase in wheat extraction rate, 149, 152
 —See also *Food: imports; Shipping*
- Income tax
 farmers and, 97, 99, 169, 277, 343
 —See also *Agriculture: financial condition of; Excess Profits Tax*
- India 10
- Inland transport, 67, 88, 155, 162, 183, 203, 256
- International agreements for regulation of supplies, inter-war, 30
- Ireland, First World War
 arable area, 8n, 9
 compulsory tillage, 8n
 food production, 9
 —See also *Eire; Northern Ireland*
- Italy, imports from, 41
- Journal of the Royal Agricultural Society of England*, 6n
- Keith, I. F., article in *The Farm Economist*, 274n
- Land, condition of, 15, 140
- Land Fertility Scheme—See under *Soil fertility*
- Land, improvement of
 grants for, 108
 —See also *Drainage*
- Land, losses to non-agricultural purposes—See under *Agricultural area*
- Land, reclamation of, 128, 209, 329, 338
- Land settlement, 320, 322, 323
- Land, supply of, 20, 43
- Land Agents' Society, 320
- Landlords and landowners, 5, 9, 13, 25, 60, 228, 352, 353
 Central Landowners' Association, 320
 share of income from farming, 352, 353
 work on County Committees, 339
 —See also *Rent*
- Lend-lease supplies, 148, 153, 161, 180
Lessons of the British War Economy, ed. D. N. Chester, 314n, 322n
- Levies, 33, 58
- Ley farming—See *Farming systems: alternate husbandry*
- Lime
 demand and supplies, 87, 88, 128, 163, 190, 191, 198, 243, 258, 259, 293, 367
 subsidies on, 38, 53, 87, 128, 163, 190, 293, 384
- Linseed—See *Flax*
- Livestock
 earlier peace-time slaughtering, 24
 efficiency (relative) of different animals as converters of feedingstuffs, 44
 feeding practices, 24, 52, 116, 130, 228n, 239, 240, 262, 263, 264, 267, 269, 362, 365, 368
 importance of livestock in British farming, inter-war years, 21, 56, 64, 141, 228
 imports, 23, 379
 marketing
 control (war-time) over, 90, 91, 100
 guaranteed market
 war-time, 100
 post-war, 208, 215, 351

- pre-war system, 29, 32
- rate of
 - autumn gluts, 104, 115, 116, 119, 146, 158
 - price adjustments to avoid, 132
- numbers
 - pre-First World War, 4
 - First World War, 7, 9, 11
 - inter-war years, 22, 39, 64, 373
 - 1939-40 (June to May), 67, 68, 69, 373
 - 1940-41 (June to May), 103, 104, 115, 373
 - 1939-41, 140
 - 1941-42 (June to May), 146, 157, 373
 - 1939-42, 148
 - 1942-43 (June to May), 175, 185, 373
 - June 1943, 201
 - June 1944 and 1945, 221, 222, 373
 - war years generally, 373
 - numbers compared with output of livestock products, 146-7, 157, 240
 - numbers compared with the area of grassland, 253
- output of food from livestock compared with crops for human consumption, 43, 45, 46, 360
- policy towards
 - pre-Second World War planning, 42, 43, 48, 49, 52, 69, 228
 - 1939-40, 52, 70, 78-81, 89, 97, 104
 - 1940-41, 71, 106, 110, 115-123
 - Moyné Committee, 115-116
 - Livestock Policy Conference, 106, 117-122, 132, 133, 146, 157, 158, 266
 - reports of, 117-118, 119-121, 157, 158
 - 'slaughter' policy, 106, 115, 116, 117, 118, 119, 120, 121, 140, 154, 156, 313, 346
 - 1941-42, 153, 154, 156-158, 361
 - 1942-43, 184, 188, 345
 - 1943-45, 207-208, 215, 221, 223
 - re-expansion of production, 208, 214, 215, 221, 223
 - war years generally, 239-240, 360, 368
 - post-war, 208
- prices, 81, 166, 192, 213, 215, 256, 376-377, 381
 - guaranteed
 - post-war, 214, 215, 216
 - premiums for quality, 100, 101, 116, 118, 132, 215, 270
 - procedure for fixing, 217
 - seasonal variations, 158
- quality and technique, improvements in, 24, 37, 207, 293, 307, 320, 323, 359
 - grants for, 384
- soil fertility and, 43, 46, 49, 75, 79, 120, 131, 228, 239, 251, 252, 253, 346, 352, 360
 - See also *Cattle, beef*; *Cattle, dairy*; *Pigs*; *Poultry*; *Sheep*
- Livestock Commission, 29, 32, 60
- Livestock Industry Act, 29n, 30, 32
- Livestock products, 4
 - imports
 - cost of imports of livestock products in terms of shipping space compared with feedingstuffs, 45, 46
 - pre-Second World War assumptions about, 55
 - income from sale of, 21, 26, 141, 249
 - output
 - inter-war years, 38, 64, 375
 - pre-Second World War planning, 48, 52, 55, 56
 - 1939-40 (June to May) 67, 68, 103
 - 1940-41 (June to May), 103, 104, 146, 175
 - 1941-42 (June to May), 146, 147, 175
 - 1942-43 (June to May), 175, 176
 - 1943-44 (June to May), 183, 201, 202
 - 1944-46 (June to May), 220, 221, 222
 - war years generally, 239, 375
 - output compared with livestock numbers, 240
 - prices, 6, 11, 12, 21, 286, 381
 - See also *Bacon*; *Beef and veal*; *Butter*; *Cheese*; *Eggs*; *Meat*; *Milk*; *Mutton and lamb*
- Lloyd, E. M. H., *Experiments in State Control*, 13n

- Lloyd-George, Mr. (later Lord)—*See Prime Minister*
 Lord President of the Council, Mr. Neville Chamberlain, 312
 Sir John Anderson, 167, 193, 212, 312, 314
 Lord President's Committee, 97, 124, 169, 194, 207, 289, 294, 295, 296, 312, 314, 315,
 319
 Lord Privy Seal
 Sir Samuel Hoare, 311
 Mr. Attlee, 109, 312

Machinery, agricultural

- Agricultural Machinery Development Board, 317, 318
 care and use of, 317
 condition at outbreak of war, 64
 contractors, control over, 333-334
 distribution of
 control over, 7, 126, 161, 173, 199, 304
 expenditure on, 212, 379
 exports, 378
 First World War shortages, 13
 fuller working of, 277, 333
 housing of, 334
 imports, 86, 112, 126, 127, 161, 181, 190, 378
 increased demand for and use of, 8, 23, 24, 25, 86-87, 100, 108, 112, 114, 126, 127,
 140, 161, 181, 190, 205, 223, 243, 253, 274, 275, 276, 352
 different types of farming and, 285
 limiting factors on rate of mechanisation, 340
 lend-lease supplies, 161, 173
 marginal production scheme and, 195
 Ministry of Agriculture's stock, 51, 57, 63, 86, 87, 114, 127, 161, 277, 321, 333-337
 National Institute of Agricultural Engineering, 318
 output, 86, 87, 126, 127, 161, 378
 control over, 199
 pools of machinery, 277
 pre-Second World War planning and, 42, 49, 51, 56, 57, 62, 63, 86
 price control, 199
 requisitioning of, 333
 second-hand, control over, 173
 servicing and repairs, 334
 world shortage, 205
 types of machinery
 figures for main types, 276, 378
 drills, 24, 260, 276, 378
 harvesting equipment, 25, 87, 127, 161, 276, 378
 potato machinery, 190, 276, 378
 tractors, 8, 24, 51, 56, 57, 86, 87, 126, 127, 161, 190, 274, 275, 276, 333, 334,
 357, 378
 —*See also County War Agricultural Executive Committees: machinery and; Ford
 Motor Company*

- Maize—*See Feedingstuffs: varieties*
 use by brewers forbidden, 70

Manpower, agricultural

- casual labour, 85, 86, 123, 188, 209, 272
 chief limiting factor on production, 83, 159
 economies in use of, and productivity of, 4, 8, 15, 21, 22, 23, 24, 38, 63, 86, 250, 274
 enlistment in Services, 6, 7, 10, 15, 17, 56, 58, 59, 81, 82, 85, 123, 124, 159, 188,
 209, 271, 272
 age of reservation, 82, 123, 188, 272, 304
 postponement of call-up, 82, 85, 123, 159, 188, 315
 expenditure on manpower in war years compared with pre-war, 289
 farm incomes compared with manpower costs, 292
 First World War, 6, 7, 10, 15, 17
 from Eire, 210
 gang labour, 83, 84, 123n, 125, 126, 159, 189, 304, 331-332
 harder work, 86, 223
 harvesting difficulties with potatoes, sugar beet, vegetables and flax, 102, 113, 145,
 181, 182

- hours of work. regulation of, 27
- housing difficulties, 125, 126, 294, 353
 - erection of cottages, 294, 384
- legal restrictions on, 83, 84, 108, 124, 125, 160, 272, 304
 - Essential Work Order, 124, 125, 160, 304
 - restriction on engagement, 84, 124, 160, 272, 304
- losses to other occupations, 6, 7, 15, 22, 38, 82, 83, 85, 124, 160, 271, 272, 274, 353
- management and use of, 317
- military agricultural companies, 84, 125
- milkers, shortage of, 188, 205, 209
- numbers employed
 - 1875-1914, 4
 - First World War, 6, 7, 8, 9, 10, 11, 13
 - inter-war years, 17, 22, 38, 81, 272
 - outbreak of Second World War, 81
 - 1939-40, 85, 86n
 - June 1940, 272
 - June 1941, 123
 - June 1942, 158
 - June 1943, 188
 - June 1944, 209
- pre-Second World War planning and, 42, 43, 49, 56, 58, 59, 62, 81, 271
- prisoners of war, 15, 125, 158, 159, 188, 189, 209, 210, 223, 258, 272, 304, 347, 352
- proportion of family to hired labour, 19
- quantum of agricultural labour compared with agricultural output, 272-274
 - productivity generally, 22, 23, 24, 63, 250
- recruitment of, 83, 86, 125, 126, 159, 188, 209, 223
- relative manpower requirements of different crops, animals and products, 44, 265
- release of agricultural workers from Services, 8, 82
- requirements of, 82, 85, 86, 108, 125, 159, 181, 182, 209, 210, 222-223, 347
- retirements deferred, 223
- return of ex-agricultural workers to agriculture, 83, 84, 160
- shortages, 77, 78, 82, 83, 108, 109, 159, 174, 181, 205, 207, 210, 223, 347, 352
- Services' help, 82, 85, 126, 159, 182, 188, 347
- unemployment, 82
- voluntary help, 126, 159, 188, 209, 223, 272, 304, 347
 - schoolchildren, 83, 102, 126, 159, 160, 188, 209, 258, 304, 347
- wastage of, 364
- women generally, 15, 85, 123, 126, 159, 188, 209, 364
 - Women's Land Army, 59, 82, 83, 126, 159, 188, 205, 209, 210, 223, 272, 304, 330, 331, 332, 352, 364
 - See also *Agricultural workers; Wages, agricultural*
- Manpower Committee, 210
- Manpower Requirements Committee, 123
- Manpower for drainage, etc., 112, 125, 126, 181, 189, 331
- Manpower for lime quarries, 88, 128, 190
- Marginal production, direct assistance to, 169, 194-196, 278, 284, 294-299
 - acreage payments, 169, 193, 194, 213, 223, 294, 295, 296, 297, 298, 299, 344, 384
 - ad hoc assistance, 169, 194, 195, 297, 298, 299
 - criteria for grants, 194, 195, 196
 - expenditure on, 194, 196, 299, 384
 - bonus payments for increased yields, 297
 - definition of marginal production, 297
 - See also *Agriculture, financial condition of*
- Marketing schemes, peacetime, 25, 27, 28-29, 39, 60, 320, 323
 - value to war-time control, 29, 60
 - war-time position of Marketing Boards and Schemes, 60, 61, 170
- Markets, guaranteed
 - First World War, 13
 - established at outbreak of Second World War, 89, 90, 91, 100, 101, 110, 112, 117, 135, 155, 278, 282, 309
 - promised for post-war period, 112, 130, 214, 215, 217, 310, 351
- Market gardening, 292
 - See also *Flowergrowers; Fruit; Vegetables*
- Meat
 - cold storage facilities, 104
 - First World War, 13
 - imports

Meat, imports, *contd.*

- control of in peace-time, 29, 30
- war-time level, 41, 55, 120, 121, 122
- income from sale of, 21
- nutrition and, 41
- output
 - First World War, 11
 - inter-war years 30, 38, 175
 - 1939-40, 68, 103
 - 1940-41, 103, 104, 146, 237
 - 1941-42, 146, 175, 237
 - 1942-43, 175, 180, 201, 237
 - 1943-46, 183, 201, 215, 220, 222, 237
 - pre-war and Second World War years, 375
 - degree of dependence on home output for supplies, 39, 48, 360, 361
 - effect of milk output drive on, 146
 - meat output *vis-à-vis* livestock numbers and livestock policy, 116, 117, 118, 119, 120, 121, 122, 134, 141, 157
 - post-war policy, 208
- pre-Second World War planning and, 41, 48, 55
- rationing of, 90, 91
 - size of ration, 104, 116, 117, 121, 122
- 'reserves on the hoof', 79, 115, 117, 152
- world shortage of, 215
- See also *Beef and veal; Cattle, beef; Livestock; Livestock products; Mutton and Lamb; Pig-meat; Sheep*

Mediterranean, closing of, 41, 50, 69, 178

Middleton, T., *Food Production in War*, 3n, 11n

Milk

- cheap milk schemes, 35, 262
- consumption of and demands for liquid milk, 104, 170, 262
 - pre-war publicity to increase, 35
- control of supplies, 13, 61, 170-171
- county milk competitions and targets, 266, 267, 307-308, 342
- deficiency payments, pre-war, 33, 34, 35, 61
- discouragement of unsuitable farms from entering, or remaining in, milk production, 186, 214, 215, 261
- distribution of
 - Perry Committee, 132
 - rationalisation of, 186
- income from sale of, inter-war years, 21, 25
- location of milk production, 261
- Marketing Boards, 28, 34, 61, 68, 92, 93, 104, 167, 170, 171, 191, 261, 268, 269
- market guaranteed for
 - war-time, 100
 - post-war, 208, 351
- number of farmers selling milk, 261
- pre-Second World War planning and, 48, 52
- prices
 - as cause of fall in milk output, 263, 264, 265, 344
 - bonus for increased output, 297n
 - costs and prices compared, 265
 - guaranteed prices
 - war-time, 100
 - postwar, 208, 216, 217, 351
 - level of
 - First World War, 13
 - inter-war years, 21, 34, 35, 39, 381
 - 1939-40, 76, 91, 92, 93, 94, 95, 98, 280, 376-377, 381
 - 1940-41, 131, 132, 163, 381
 - 1941-42, 166, 167, 381
 - 1942-43, 191-192, 381
 - 1943-45, 213, 214, 215, 223, 381
 - generally, 282, 285, 286, 287, 381
 - livestock and livestock products prices compared with, 342
 - Milk Marketing Board's responsibility for payment to producers, 171
 - premiums for quality, 34, 187, 188, 267, 268, 293
 - procedure for deciding, 217

- regional price differentials, 192
 timing of announcement of, 264, 267
 winter milk prices, 131, 167n, 215, 264-265, 266, 267, 342
 priority of in war-time, 41, 79, 80, 97, 104, 109, 117, 154, 185, 223, 239, 262, 280, 287, 313, 341, 342, 360, 361
 quality
 measures to improve, 24, 35, 186, 187, 267, 268, 372
 output
 First World War, 6, 11
 inter-war years, 38, 39, 375
 1939-40, 68, 92, 93, 104
 1940-41, 103, 104, 140, 146, 237
 1941-42, 146, 147, 158, 170, 237, 240
 1942-43, 175, 176, 180, 182, 183, 201, 237
 1943-44, 183, 201, 202, 237, 239
 1944-46, 220, 222, 237, 240
 war years generally, 240, 260, 261, 262, 269, 282, 375
 causes of decline in, 262-265, 341, 344
 effects of changes in feeding practices and shortage of feedingsuffs, 70, 92, 147, 262, 263, 264, 267, 269, 341
 raising of extraction rate, 149, 150
 effects of maintaining too many livestock, 118, 122, 157
 effects of weather, 263
 drive to increase output, 110, 158, 176, 185, 240, 265-269, 307, 316, 342
 effect on meat output, 146
 feedingsuff rationing scheme and, 138, 147
 post-war policy, 208
 sales by large producers, 264, 342
 sales by small producers, 214, 215, 264, 341-342
 winter output, 68, 131, 202, 262, 266, 306, 307, 360, 362, 380
 output recording, 24, 268, 317
 production of cows on recorded farms compared with others, 268
 'rationing' of, 158, 202
 sales for liquid consumption, 35, 104, 140, 176, 191, 192, 237, 240, 261, 262, 269, 380
 sales for manufacture, etc., 34, 35, 104, 140, 240, 261, 262, 380
 small producers, position of, 214, 215, 344
 subsidies on, pre-war, 33, 34, 35, 39, 372
 cost of, 372, 384
 T. T. milk, 24, 187, 188, 293
 —See also *Cattle, dairy; Nutrition*
 Milk Acts, 1934-1939, 34, 35
 Milk industry, schemes for reorganising, 35
 Milner, Lord, 6, 7, 12
 Minister of Agriculture, 27, 31, 49, 59, 62, 108, 245, 269, 281, 307, 311, 313, 315, 319, 325, 327, 328
 Mr. Walter Elliot, 47
 Mr. W. S. Morrison, 53, 227
 Sir Reginald Dorman-Smith, 57, 70, 73, 74, 76, 78, 79, 80, 83, 89, 91, 108, 231, 245, 306, 309, 327, 332, 333
 Mr. R. S. Hudson, 81, 85, 98, 99, 109, 111, 112, 113, 121, 122, 125, 126, 135, 138, 146, 149, 151, 154, 159, 162, 164, 166, 167, 168, 176, 181, 183, 185, 190, 205, 207, 208, 210, 213, 214, 215, 216, 222, 245, 246, 261, 265, 266, 272, 296, 300, 303, 308, 310, 313, 314, 315, 316, 322, 345, 346, 350, 351, 360, 369
 Minister of Aircraft Production, Lord Beaverbrook, 112
 Minister of Food, 60, 76, 77, 100, 135, 136, 149, 150, 179, 196, 197, 201, 207, 281, 311, 313
 Mr. W. S. Morrison, 80, 92
 Lord Woolton, 70, 71, 94, 98, 105, 106, 108, 119, 120, 121, 122, 131, 134, 138, 148, 149, 151, 154, 155, 158, 166, 167n, 176, 178, 179, 180, 183, 184, 185, 186, 187, 261, 265, 284, 313, 314, 344, 345, 346
 Minister of Labour
 Mr. E. Brown, 83
 Mr. E. Bevin, 84
 Minister without Portfolio, Mr. A. Greenwood, 294, 296, 312
 Ministry of Agriculture, 16, 47, 48, 49, 52, 53, 59, 60, 61, 62, 69, 70, 75, 82, 86, 87, 88, 91, 94, 99, 106, 110, 117, 118, 122, 127, 133n, 134, 159, 173, 176, 181, 183, 184, 187, 217, 243, 245, 246, 257, 267, 268, 271, 273, 283, 284, 288, 289, 315, 319, 336, 337, 348

- Ministry of Agriculture, *contd*
 amalgamation with Ministry of Food suggested, 323-324
 decentralisation—*See County War Agricultural Executive Committees*
 regional organisation, 321, 336, 337
 expenditure by, 322, 323
 functions and organisation summarised, 319-322, 327, 328
 Land Commissioners, 325
 liaison officer with County Committees, 327-328
 —*See also Agricultural Departments; Board of Agriculture; Government machinery and administration*
- Ministry of Education, 159, 258
- Ministry of Food, 13, 60, 61, 69, 70, 71, 78, 90, 91, 92, 93, 94, 96, 99, 100, 104, 105, 106, 107, 108, 110, 111, 116, 117, 121, 122, 132, 133, 135, 136, 137, 138, 147, 148, 151, 155, 170, 171, 187, 191, 198, 203, 204, 223, 228, 229, 234, 236, 240, 255, 257, 280, 281, 282, 284, 292, 301, 309, 312, 315, 342
 amalgamation with Ministry of Agriculture suggested, 323-324
- Ministry of Information, 307
- Ministry of Labour, 86n, 125, 160
- Ministry of Munitions, 13
- Ministry of Reconstruction, First World War, 14
- Ministry of Shipping, 70, 105, 311
- Ministry of Supply, 61, 70, 71, 78, 106, 117, 127, 128, 139, 145, 155, 173, 211, 254, 292, 312, 318
- Ministry of War Transport, 121, 122
- Morrison, Mr. Herbert—*See Secretary of State for Home Affairs*
- Morrison, Mr. W. S.—*See Minister of Agriculture; Minister of Food*
- Moyné, Lord—*See Livestock: policy towards: 1940-41: Moyné Committee*
- Munich crisis, 54, 62
- Mustard, 113, 155, 183, 301
- Mutton and lamb
 import regulation, peace-time, 29, 30
 output
 inter-war years, 175
 1939-40, 68, 103
 1940-41, 103, 146, 237
 1941-42, 146, 175, 237
 1942-43, 175, 180, 201, 237
 1943-46, 183, 201, 215, 220, 237, 239
 pre-war and Second World War years, 375
 pre-Second World War planning and, 48
 —*See also Meat; Sheep*
- National Cattle Breeders' Association, 269
- National Council of Social Service, 246
- National Farmers' Union, 99, 167, 168, 193, 212, 213, 216, 268, 269, 296, 315, 320
 —*See also Farmers: farmers' unions*
- National Federation of Women's Institutes, 245, 246
- National income, 3, 27, 290
 agriculture's share of, 4, 290
- Netherlands, 40
- New Zealand, international regulation of supplies and, 30, 31
- Norfolk, Duke of, 269
- Northern Ireland*
 areas of arable and grassland, 23, 114, 206
 collection of data for price reviews in, 216
 Control of Engagements Order, 160
 County War Agricultural Executive Committees, 60
 feedingstuff imports, peace-time, 23
 flax production in, 155, 156, 193n, 235, 254
 harvesting conditions, 220
 livestock numbers in, 23
 manpower in, 85, 124n, 182
 marginal production schemes in, 194, 195, 196
 marketing schemes in, 28

* These entries only include specific references to Northern Ireland; most of the general subject matter of the book also, of course, covers Northern Ireland.

- Minister of Agriculture for, 108
- Ministry of Agriculture in, 47, 48, 52, 60, 319, 322
- ploughing-up campaign in, 52, 60, 73, 74, 78, 108, 111, 113, 114, 153, 156, 206
- potato acreage, 256
- potato prices, 210-211
- rotation grasses in, 250n
- seed potatoes from, 257
- wages, 84n, 210, 211
- Norway, dilution of flour in, 151n
- Nutrition, 38, 47, 149, 319n, 349
 - war-time nutritional needs, 40, 41, 56, 79n, 109, 177, 239
 - 'basal' diet, 109-110, 179
 - percentage of diet represented by livestock products, 241
- Oats
 - acreage
 - First World War, 6, 10, 37
 - inter-war years, 58n
 - 1939-40, 78, 231, 235, 237
 - 1940-41, 115, 140, 237
 - 1941-42, 237
 - 1942-43, 182, 183, 184, 236, 237
 - 1943-45, 222, 237
 - First World War, inter-war and Second World War, 371, 373
 - control of supplies, 13, 93, 134-135, 149, 150, 157, 170, 179, 313, 344
 - imports owing to inadequacy of control, 135, 345
 - county quotas for, 301n
 - deficiency payments, peace-time, 33, 34, 37, 39, 51, 53, 58, 61n, 228
 - cost of, 372, 384
 - dilution of flour with, 151, 152, 178, 179
 - imports for feedingstuffs, 385
 - income from sale of, inter-war years, 21
 - new varieties, 255
 - output
 - inter-war years, 68
 - 1939-40, 68, 103
 - 1940 harvest, 102, 103, 146, 237
 - 1941 harvest, 146, 175, 237
 - 1942 harvest, 175, 237
 - 1943 harvest, 201, 237
 - 1944 and 1945 harvests, 220, 237
 - war years generally, 375
 - yields, 67, 102, 145, 174, 201, 220, 374
 - prices
 - acreage payments proposed, 298
 - control over, 6, 13, 89, 92, 93, 280, 287
 - guaranteed
 - First World War, 8, 12, 27
 - post First World War, 14, 17, 18
 - Second World War, 100
 - post Second World War, 216
 - level of
 - First World War, 6, 12
 - Second World War, 90, 91, 92, 93, 95, 96, 98, 134, 166, 216, 280, 282, 287, 376-377, 381
 - seasonal variations to encourage smoother marketing, 164, 192
 - production of calories per acre from, 43
 - production programmes, 48, 52, 56, 58, 73, 75, 76, 221, 235, 282
 - seed supplies, 93
 - utilisation of, 386
 - supplies for feedingstuffs rationing scheme, 149, 151, 157, 171, 178
 - supplies for human consumption from war-time harvests, 110, 238, 386
 - supplies for milling, 93, 110, 134, 135, 151, 154, 172, 178, 344
 - supplies for pit ponies and horses, 134, 135, 151, 178, 344
 - use by brewers, 207
- Oatmeal, 109, 134, 344

Oils and fats

- cost of imports in terms of shipping space and energy value, 45, 46
 - home output as percentage of requirements, 39, 48
 - pre-war storage policy, 52, 55
- Ojala, E. M., *Agriculture and Economic Progress*, 4n, 23n
- Onions, 135-6, 139, 155, 218, 301, 310
- Orr, Sir John (now Lord) Boyd, 45n
- Ottawa Agreements, 29, 30

Pests

- control of, 7, 24, 37, 195, 317, 320
 - grants for, 384
- prevalence of, 43, 206, 221, 250, 252, 351

Pigs

- deficiency payments, 33, 35, 39, 61
 - cost of, 372
- demand for, 157
- domestic pig-keepers, 157, 245-248, 306
 - number of pigs kept by, 247
 - pig clubs, 79, 245, 247
 - Small Pigkeepers' Council, 245, 247, 315, 316
- earlier slaughtering, peace-time, 24
- efficiency of pigs as converters of feedingstuffs into human food, 44
- feedingstuffs for, 44, 52, 79, 80, 81, 103, 105, 107, 157, 158, 171, 184, 185, 197, 198, 203, 207, 208, 215, 218, 221, 223, 227, 240, 248, 270, 305, 306, 316n, 341
 - effect of increasing wheat extraction rate, 149, 150
 - rationing scheme, 137, 138, 184, 185, 197
- manpower requirements of, 44
- market guaranteed
 - war-time, 100
 - post-war, 217, 351
- marketing board, 28
- marketing gluts, 116, 163
- numbers
 - 1875-1914, 4
 - First World War, 11, 370
 - inter-war years, 22, 23
 - 1939-40, 68, 69
 - June 1940, 103, 115, 237
 - March 1941, 121
 - 1939-41, 140
 - June 1941, 146, 237
 - 1939-42, 148
 - June 1942, 175, 237
 - March 1943, 186
 - June 1943, 202, 237
 - June 1944, 1945, 221, 237
 - First World War, inter-war and Second World War, 371, 373
 - need to arrest decline in breeding stock, 1943, 186, 197, 207, 221, 317
 - numbers compared with meat production, 147
- output recording, 24
- policy towards, 48, 52, 55, 79, 80, 81, 115, 116, 118-120, 121, 185, 197, 227, 240, 361
- prices, 35, 36, 90, 91, 92, 94, 95, 96, 98, 116, 118, 119, 132, 163, 166, 167, 192, 215, 376-377, 381
 - guaranteed prices, 100
 - post-war, 216, 217
 - premium for quality, 132, 270
 - seasonal variations, 192
- specialist producers, 80, 81, 270, 365
 - See also *Livestock*
- Pig industry, reorganisation of (peace-time), 35
- Pigmeat
 - international regulation of, 31
 - output, 48, 103, 146, 175, 201, 220, 237, 239, 375
 - domestic pigkeepers, 247
 - See also *Bacon*

Ploughing technique, 260

Ploughing-up campaign

- First World War, 5, 7, 8, 9, 10, 11, 15, 16, 17, 43, 48, 357
- pre-Second World War planning, 42, 43, 48, 49, 52, 54, 55, 56, 57, 59, 72, 135, 227, 228, 229
- 1939-40, 69, 72, 73, 75, 76, 77, 78, 86, 87, 89, 90, 102, 135, 140, 235, 306
- 1940-41, 107, 108, 110, 111, 112, 113, 114, 116, 123, 125, 130, 135, 139, 145, 229, 230, 235
- 1941-42, 153, 156, 162, 174, 231, 235, 361
- 1942-43, 181, 182, 183, 200, 230, 236
- 1943-44, 205, 207, 219, 230, 236
- 1944-45, 221, 222, 230
- First and Second Wars compared, 244
- war years generally, 185, 186, 249, 293, 340, 355, 356-358, 366-367
- cost of ploughing-up, 293
- county quotas, 9, 73, 113, 293, 300, 301, 356
- credit facilities for, 99-100, 108
- difficulties involved in, 252
- fertilisers and, 87, 107, 108, 111, 139, 207, 258, 357
- grants for, 38, 57, 62, 72, 73, 293, 344
- limit of, 182, 206, 207, 231
- machinery and, 86, 107, 108, 190, 207, 275, 357
- manpower requirements, 82, 107, 108, 123, 207, 209
- mixed farming and, 251
- timing of, 234
- See also Arable area; Grassland; Production programmes*

Population

- numbers fed by home production, 4, 5, 11, 39, 40, 48

Ports, 41, 50, 55, 71, 203

Post-war planning and policy

- First World War, 14
- Second World War, 112, 205, 213, 347-351

Potatoes

acreage

- First World War, 10, 370
- 1939-40, 76, 77, 78, 102, 235, 237
- 1940-41, 115, 140, 145, 181, 235, 237
- 1941-42, 154, 156, 174, 181, 234, 235, 237, 361
- 1942-43, 180, 181, 182, 184, 200, 236, 237, 238
- 1943-44, 205, 206, 219, 236, 237, 238
- 1944-45, 221, 222, 237
- war years generally, 255
- First World War, inter-war and Second World War, 371, 373

basal diet and, 109

- competing nature of potato and sugar beet production, 255, 282
- county quotas and directions for, 111, 154, 183, 205, 255, 257, 301
- geographical distribution of quotas, 155, 168, 182
- demand for, inelastic nature of, 100
- dilution of flour with, 151, 178
- disease and pests, 257, 260
- fertilisers for, 88, 139
- harvesting difficulties, 67, 102, 145, 159, 209, 257, 258
- import regulation, peace-time, 30
- income from sale of, inter-war years, 21
- lifting restrictions, 102, 103
- location of production, 256, 258
- manpower requirements of, 44, 282, 287
- See also harvesting difficulties*

market guaranteed

- First World War, 13
- Second World War, 100, 287, 309
- Ministry of Food's responsibility for disposal of crop, 136, 309
- post-war, 217, 351
- marketing board, 28
- mechanisation and, 257, 258
- output
 - First World War, 8
 - pre-Second World War, 175, 375

Potatoes, output, *contd.*

- 1939 harvest, 67, 68
 - 1940 harvest, 102, 103, 136, 146, 235, 237
 - 1941 harvest, 146, 175, 237
 - 1942 harvest, 175, 201, 237
 - 1943 harvest, 201, 221, 237, 238
 - 1944 and 1945 harvests, 220, 221, 222, 237, 238
 - war years generally, 375
 - First and Second Wars compared, 244
 - yields, 102, 130, 145, 174, 201, 220, 222, 287, 374
 - fluctuating nature of, 100, 130
 - geographical differences in, 168
 - obstacles to expansion of, 255, 258
 - output as percentage of total requirements, 39
 - output restrictions, peace-time, 73, 278
 - prices, 8, 12, 13, 75, 91, 92, 95, 98, 130-131, 136, 163, 166, 210-211, 213, 216, 223, 282, 287, 376-377, 381
 - acreage grants, 168, 193, 211, 255, 295, 299, 384
 - guaranteed, 8, 12, 100
 - post-war, 208, 216
 - premium for seed potatoes, 257
 - production of human food per acre from, 43, 44, 75
 - production programmes
 - pre-Second World War planning, 48, 52, 54
 - 1940 harvest, 70, 73, 75, 76, 77, 102, 141, 231, 235
 - 1941 harvest, 107, 108, 110, 111, 141, 145, 231, 235
 - 1942 harvest, 136, 154, 155, 174, 231, 234, 235, 361
 - 1943 harvest, 180, 181, 182, 183, 200, 236
 - 1944 harvest, 205, 232, 236
 - 1945 harvest, 221, 222
 - war years generally, 255
 - quality, 221
 - seed supplies, 257, 258
 - transport for, 256, 257
 - utilisation of, 386
 - as feedingsstuff, 258, 386
 - supplies for human consumption from war harvests, 238, 386
- Poultry
- control over, 133
 - domestic production, 245-248, 306
 - number of domestic fowls, 247
 - Poultry Keepers' Council, 245, 247
 - efficiency as converters of feedingsstuffs into human food, 44
 - feedingsstuffs for, 44, 52, 79, 80, 81, 103, 105, 107, 133, 157, 158, 171, 184, 185, 197, 198, 203, 207, 208, 215, 218, 223, 227, 240, 248, 270, 305, 306, 341
 - effect of increase in extraction rate, 149
 - rationing scheme, 137, 138, 197
 - income from, peace-time, 21
 - manpower requirements, 44
 - numbers
 - 1875-1914, 4
 - First World War, 370
 - inter-war years, 22, 23
 - 1939-40, 67, 68, 69
 - June 1940, 103, 237
 - 1939-41, 140
 - June 1941, 146, 237
 - 1939-42, 148
 - June 1942, 175, 237
 - June 1943, 202, 237
 - June 1944 and 1945, 221, 237
 - First World War, inter-war years and Second World War, 371, 373
 - egg output compared with, 147
 - output of, 375
 - policy towards, 48, 52, 55, 79, 80, 81, 115, 118, 120, 121n, 133, 185, 197, 227, 240, 361
 - need to arrest decline in numbers, 207, 317
 - prices, 98, 133, 166, 215, 376-377

- specialist producers, 80, 81, 270, 365
 —See also *Eggs; Livestock*
- Pre-war planning (Second World War), 25, 33, 34, 37, 38, 40-64, 140, 227, 228, 279, 319
- Prices, agricultural
- acreage payments as part of (war-time), 168, 193, 194, 211, 254, 255, 295, 298, 299, 384
 - as incentive
 - increased production generally, 13, 42, 57, 75, 76, 88, 89, 90, 91, 92, 95, 96, 97, 278, 279, 282, 283, 284, 295, 296, 310, 343
 - relative price levels, 11, 13, 42, 81, 88, 89, 91, 92, 93, 94, 95, 96, 97, 98, 99, 118, 131, 141, 165, 167, 213, 217, 222, 223, 264, 278, 279, 281, 282, 283, 285, 286, 305, 310, 342, 344
 - control of, generally
 - First World War, 12, 13, 15, 16
 - pre-Second World War plans, 61, 63, 88, 279
 - Second World War, 74, 88, 89, 279, 280, 343
 - departmental responsibility for, 312
 - See also *Barley: prices: control over; Oats: prices: control over*
 - deficiency payments and price insurance schemes, peace-time, 32-37, 39, 54, 57, 61, 62, 278, 320
 - cost of, 36, 372
 - distribution between different areas, 37
 - effects of falling prices on agriculture, 18-19, 38
 - effects of import restrictions on, 31
 - effects of marketing schemes on, 28
 - farm incomes compared with, 290n
 - fixing of
 - 1939-40, 75, 76, 81, 84, 88-99, 129, 141, 163, 280-284, 313, 344
 - June 1940 schedule, i.e., for 1939-40 season, 94-97, 98, 129, 376-377
 - August 1940 schedule, i.e., for 1940-41 season, 97-99, 116, 129, 163, 376-377
 - 1940-41, 129-132, 141, 344
 - 1941-42, 164-169, 284, 315
 - 1942-43, 191-194
 - 1943-45, 208, 210-217, 223, 285
 - war years generally, 279-288, 292
 - guaranteed
 - First World War and after, 6, 7, 8, 12, 14, 17, 18, 27
 - Second World War, 89, 90, 100, 101, 110, 112, 117, 212, 278, 282, 309
 - post Second World War, 112, 130, 214, 215, 216, 310
 - Inter-departmental Committee on Food Prices, 88, 94-97, 311, 315, 319
 - Inter-departmental Committee on Price Fixing, 88, 89, 279
 - international price regulation, peace-time, 30
 - level of
 - before First World War, 15
 - First World War, 6, 11, 12, 279, 280, 287, 288
 - inter-war years, 17, 18, 19, 20, 21, 38, 57, 279, 287, 288
 - Second World War. —See above *Prices, agricultural: fixing of, also 286*
 - First and Second Wars compared, 287, 288
 - post-Second World War, 288
 - methods and principles of price reviews, 94, 132, 141, 166, 167, 189, 212, 214, 216, 217, 223, 279-288, 351
 - calculation of wages for the reviews, 189
 - collection of data, 214, 216
 - underestimation of farmers' receipts, 285
 - weaknesses of, 281, 285
 - pledge to cover increase in farmers' costs, 85, 100, 112, 160, 164, 165, 166, 167, 168, 169, 193, 194, 211, 212, 217, 296
 - pre-Second World War planning and, 42, 57, 63, 279
 - uniformity of prices, 89
 - See also *Agriculture, financial condition of*
- Prices, wholesale, 12, 17, 286
- Prime Minister
- Mr Asquith, 6
 - Mr. Lloyd George, 12
 - Mr. Churchill, 99, 105, 106, 113, 133, 153, 154, 178, 202, 203, 312, 345, 348, 350
- Prisoners of war—See under *Manpower, agricultural*

- Production, control of, generally, 42, 50, 59, 63, 73, 74
 —See also *County War Agricultural Executive Committees; Direction Orders; Prices, agricultural; Production programmes; Propaganda and persuasion*
- Production Council, 312
- Production programmes
 First World War, 5-11, 13, 15, 16, 17, 48
 pre-Second World War planning, 34, 40-64, 69, 227, 228, 229
 1939-40 (including 1940 harvest), 70, 72-81, 89, 102, 141, 231, 235
 1940-41 (including 1941 harvest), 71, 107-122, 135, 141, 152, 231, 235
 drive to increase yield of land, 112
 1941-42 (including 1942 harvest), 148, 153-158, 174, 176, 231, 234, 235, 345
 1942-43 (including 1943 harvest), 178, 180-188, 200, 205, 231, 232, 234, 236
 1943-45 (including 1944 and 1945 harvests), 178, 204-208, 211, 214, 222, 236
 post-Second World War, 351n, 352
 war years generally, 340
 methods of formulating programmes, 234, 328
 principles governing optimum use of land, 42-46
 targets and achievements compared, 235, 236
 timing of programmes, 234, 252
 —See also *Agricultural output; Crops; Livestock; Ploughing-up campaign*
- Propaganda and persuasion, 118, 162, 181, 258, 278, 306-309, 320
 Dig for Victory campaign, 245, 246, 306
 Green Book, 181, 355-369
 milk production drive, 246, 266, 342
- Rabbits, domestic production, 245, 246
- Radnor, Lord, 318
- Rates, 26
- Relief for liberated territories, 203n, 205, 349
- Rents, 14, 19, 95, 280, 352, 379
- Roosevelt, President, 177, 178, 203
- Rotations, 25, 26, 39, 46, 181, 205, 221, 236, 250, 251, 252, 282, 346, 352, 359, 362,
 363, 365, 366, 367
 —See also *Farming systems: alternate husbandry*
- Royal Agricultural Society, 307
- Royal Commission on the Supply of Food and Raw Materials in Time of War, 5
- Royal Society, 7
 President of, 109
- Rumania, wheat from, 10
- Rural Industries Bureaux, 277, 334
- Russia
 Wheat Agreement and, 30
 wheat from, 10
- Rye
 acreage, 182, 236
 dilution of flour with, 151, 178, 179, 207
 output, 220, 221
 prices, 166, 193, 213
 acreage payments, 193, 213, 299, 384
 production programmes, 73, 75, 182, 183, 236
 supplies for human consumption from war-time harvests, 238
- Salter, Sir A. (now Lord), *Allied Shipping Control*, 5n
- Scandinavia, imports from, 40
- Schoolchildren—See under *Manpower, agricultural: voluntary help*
- Scientific Food Committee, 98, 109, 110, 117, 147, 318-319
 —See also *Nutrition*
- Scotland*
 Agricultural Colleges in, 24, 60
 agricultural cottages in, 294
 Agricultural Wages Board, 160

* These entries only include specific references to Scotland; the general subject matter of the book does, of course, also cover Scotland.

- agricultural output, 243n
- alternate husbandry in, 231, 250
- arable area, 8n, 9, 114
 - proportion of arable acreage to total acreage of crops and grass, 231, 232, 233
- County War Agricultural Executive Committees in, 60, 78, 322, 330, 331
 - cost of, 337, 338
 - employment of labour by, 331, 332
- dairy farm inspection in, 187
- Department of Agriculture, 47, 48, 49, 52, 53, 60, 161, 195, 319, 322, 335
 - See also Agricultural Departments*
- dispossession and termination of tenancies in, 303
- drainage work in, 129
- farm incomes in, 288, 290, 291, 292
 - different farming systems compared, 382, 383
- fertilisers in, 173, 219
- First World War, 6, 9
- flax acreages, 78, 254
- government machinery for executing agricultural policy summarised, 322
- hill sheep farming in, 26, 117
- livestock policy in, 121
- machinery pool in, 334-336
- manpower, 125
- marginal production schemes in, 194, 195, 196
- Milk Marketing Board, 171
- milk prices in, 191, 192
 - graded milk production in, 268
 - T. T. milk consumption in, 187
- national farm survey in, 329
- oats from, 134
- potato acreage in, 256
- ploughing-up campaign in, 52, 56, 73, 78, 108, 111, 113, 114, 153, 156
- quotas for barley, 183
- seed potatoes in, 257
- share of sugar beet and wheat subsidies to, 34
- share of value of sales off farms, inter-war years, 34
- wage-fixing system in, 84
- Scottish Agricultural Economics*, 243n
- Secretary of State for Home Affairs
 - Sir John Anderson, 108
 - Mr. Herbert Morrison, 210
- Secretary of State for Scotland, 108, 121, 311, 316, 325
- Seeds
 - expenditure on, 379
 - First World War shortage, 8
 - improvement of, 317
 - marginal production scheme and, 169, 195
 - seed dressing, 317
- Selborne, Lord, 6, 13
- Services
 - See Manpower: (a) enlistment in Services: (b) release of agricultural workers from the Services: (c) Services' help*
- Sheep
 - deficiency payments, pre-war, 33, 36, 39, 61
 - demand for, 157
 - earlier slaughtering, peace-time, 24
 - efficiency as converters of feedingsuffs into human food, 44
 - feedingstuff supplies for, 44, 107, 157, 171, 185, 186, 239, 240, 360
 - rationing scheme and, 137, 157, 171
 - manpower requirements of, 44
 - marketing
 - control over war-time, 90, 100
 - gluts, 104, 116, 119, 146
 - guaranteed markets
 - war-time, 100, 116
 - post-war, 208, 351
 - numbers
 - 1875-1914, 4

Sheep, numbers, *contd.*

First World War, 11, 370

inter-war years, 22, 23, 36

1939-40, 67, 68

June 1940, 103, 115, 237

March 1941, 121

1939-41, 140

June 1941, 146, 237

June 1942, 175, 237

June 1943, 202, 237

June 1944 and June 1945, 221, 237

need to arrest decline, 185, 186

war years generally, 270

First World War, inter-war years and Second World War, 371, 373

policy towards, 79, 80, 89, 108, 116, 117, 118, 120, 121, 131-132, 239, 240, 361

prices, 26, 76, 89, 90, 91, 92, 94, 131-132, 163, 166, 192, 215, 216, 280, 291,

376-377, 381

guaranteed prices

war-time, 100, 116

post-war, 208, 216, 217, 351

premiums for different grades, 132, 215, 270

seasonal variations, 192

subsidy to hill sheep, 117, 131, 192, 195, 294, 295, 299, 344, 384

store sheep, 26, 117, 157, 270

—*See also Farming systems; Livestock; Mutton and Lamb*

Shipping

cost of different imports in terms of, 45

economies through home output, 11, 76, 201, 238, 241

effect of peace-time expansion of home output on, 47

position

First World War, 5, 7, 10, 41, 50, 54

pre-Second World War assumptions about, 40, 41, 48, 50, 55, 68, 69, 227

1939-40, 68-72, 75

1940-41, 104-107, 121

1941-42, 147-152, 345

1942-43, 176-179, 180, 345

1943-45, 202-204, 215

importance to agricultural production programmes, 107, 178, 180, 202, 204,

229, 230, 231, 234, 238, 241

Shipping Committee, 150, 177

Silage, 51, 185, 221, 253, 263, 266, 271, 306, 307, 316, 363, 365

Soil fertility, 15, 24, 52, 141, 346, 356

alternate husbandry and, 250, 251, 252, 346

at outbreak of war, 63, 64, 89, 140

cropping programmes and, 43, 46, 49, 185, 205, 206, 207, 208, 221, 222, 250, 351,

356, 363

fertilisers and, 162, 258, 260, 346, 352

knowledge about 244

livestock and, 43, 46, 49, 75, 79, 120, 131, 228, 239, 251, 252, 253, 346, 352, 360

schemes to improve, 53, 57, 62, 227, 228

Land Fertility Scheme, 24, 51, 128, 227

—*See Subsidies: (a) basic slag; (b) lime*

Soil testing, etc., 24, 198, 258

Stabilisation

—*See Financial policy, general*

Storage difficulties for heavy crops, 182

Straw

licensing of traders, 132

prices, 132

supplies, 208

straw pulp, 270-271

Submarines

—*See generally Shipping*

Subsidies

feedingstuffs and fertilisers, 42, 89, 90, 98, 129-130, 164, 191, 284, 292, 310

cost of, 130

basic slag, 24, 38, 53, 62, 72, 128, 227, 278

cost of 372

- food, general war-time, 63, 284
- fat cattle, 32, 39, 61, 384
 - cost of, 372
- hill cattle, 192-193, 195, 294, 295, 299, 344, 384
- hill sheep, 117, 131, 192, 195, 294, 295, 299, 344, 384
- inter-war years, 21n, 32-37, 61, 320
 - cost of, 36, 37, 323, 372
 - distribution between different areas, 37
- levy—subsidy principle, 33, 58
- lime, 24, 38, 53, 62, 72, 87, 128, 190, 191, 227, 278, 293
 - cost of, 372
- livestock breeding, 37
- phosphates generally, 128
- ploughing-up grassland, 38, 57, 62, 72, 73, 278, 280, 293, 340
 - cost of, 293, 384
- sugar beet, 26, 32, 36, 37, 39, 206, 343, 384
 - cost of, 372
 - war-time grants and subsidies
 - cost of, 379, 384
- Sugar
 - cost of sugar imports in terms of shipping and energy value, 45, 46
 - excise duty on home-grown, 26
 - First World War supplies, 7
 - international regulation of, 30
 - output, home-grown
 - inter-war years, 32, 39
 - supplies for human consumption from war-time harvests, 238
- Sugar beet
 - acreage
 - inter-war years, 32
 - 1939-40, 77, 102, 237
 - 1940-41, 115, 145, 235, 237
 - 1941-42, 155, 156, 174, 234, 235, 237, 361
 - 1942-43, 180, 182, 200, 236, 237, 238
 - 1943-44, 205, 206, 219, 236, 237, 238
 - 1944-45, 221, 222, 237
 - pre-war and Second World War, 373
 - competing nature of sugar beet and potato production, 255
 - county quotas for, 113, 183, 205, 301n
 - fertiliser requirements, 44, 88, 139, 172
 - harvesting and cultivation difficulties, 67, 113, 145, 159
 - income from sale of, inter-war years, 21, 26
 - market guaranteed
 - war-time, 100
 - post-war, 217, 351
 - output
 - 1939 harvest, 67, 68
 - 1940 harvest, 103, 146, 237
 - 1941 harvest, 146, 175, 237
 - 1942 harvest, 175, 201, 237
 - 1943 harvest, 201, 221, 237, 238
 - 1944 and 1945 harvest, 220, 237, 238
 - war years generally, 375
 - First and Second Wars compared, 244
 - yields, 174, 220, 374
 - prices, 77, 96, 98, 155, 166, 208, 223, 282, 376-377, 381
 - guaranteed prices, war-time, 100
 - production of calories per acre, 43, 44
 - production programmes
 - pre-Second World War plans, 48
 - 1940 harvest, 73, 75, 76, 78
 - 1941 harvest, 110, 113, 145, 235
 - 1942 harvest, 154, 155, 168, 174, 234, 235
 - 1943 harvest, 180, 182, 183, 200, 234
 - 1944 and 1945 harvests, 205, 221, 222, 236
 - subsidy on, 26, 32, 36, 37, 39, 206, 343
 - cost of, 372
 - distribution of benefits between areas, 37

- Sugar beet, *contd.*
 utilisation of, 386
 Sugar Commission, 29, 60
 Sugar Industry (Reorganisation) Act, 29n, 32
- Technical Development Committee, 265, 316, 317
 Tenancies, termination of and dispossession, 9, 113, 194, 300, 302-303, 326, 338, 363
 Tenancy agreements, terms of, 5, 15, 228, 301
 Tenure, security of, 18
 Tithes, 7, 18, 26, 37
Transactions of the Highland and Agricultural Society of Scotland, 23n, 45n
 Treasury, 33, 53, 62, 92, 93, 96, 98, 119, 281, 282, 284, 294, 342, 343, 344
 Financial Secretary, 98, 311
- Unemployment insurance, 27n
 United States of America, 5
 machinery from, 86, 161, 190
 phosphates from, 112
 prices in, 17, 18
 shipping assistance from, 150, 176, 177, 178, 202, 204
 Wheat agreement and, 30
- Vegetables, 4, 21, 38
 acreage, 180, 181, 182, 183, 236, 237, 238, 373
 basal diet and, 109
 county quotas, 155, 183, 205, 301
 Direction Orders and, 110, 155, 183, 205, 301
 fertilisers for, 88, 139, 172
 imports, 41
 restriction of, 31
 markets, extent of guarantees, 110, 135-136, 155, 301, 309
 National Vegetable Marketing Company, 136
 output, 38, 68, 103, 146, 175, 201, 219, 220, 237, 238, 244, 375
 prices, 381
 acreage payments, 298
 extent of guarantees, 110, 135-136, 155, 301, 309
 production programmes
 pre-Second World War planning, 48
 1941 harvest, 107, 110, 135-136, 231
 1942 harvest, 154, 155, 231, 234, 235
 1943 harvest, 180, 181, 182, 183, 234, 236
 1944 and 1945 harvests, 205, 221, 222, 236
 supplies for human consumption from war-time harvests, 238
 Venn, Dr., 26n
 Veterinary Service, 37, 187, 267
- Wages, agricultural
 agricultural prices compared with, 19, 21, 27, 274, 275
 disparity between other industries and, 27, 38, 83, 84, 124, 125, 160, 223, 272, 274, 353
 expenditure on, 376, 379
 level of
 First World War, 6, 14
 inter-war years, 19, 21, 27, 38, 63, 353
 Second World War, 83, 84, 91, 108, 124, 130, 189, 191, 292, 352, 376-377
 national minimum increased to 48s., 84, 85, 94, 95, 96, 124, 280, 353, 376
 national minimum increased to 60s., 124, 160, 164, 165, 166, 284
 claim for increase of national minimum to 80s., 193, 211
 national minimum raised to 65s., 211, 214, 285
 national minimum raised to 70s., 223
 machinery for regulating, 14, 18, 25, 27, 83, 84, 315, 320, 323
 Central Agricultural Wages Board, 14, 83, 124, 160, 189, 191, 193, 211, 223
 County Wage Committees, 27, 83, 189
 Wage Conciliation Committees, 27

- change in procedure for determining minimum wage, 1942, 189, 194
- national minimum wage established, 27, 84
 - for women, 189, 191, 211
 - overtime rates, 27, 189, 191, 211
 - pre-Second World War planning and, 62
 - See also Manpower, agricultural*
- Wages policy, general, 62, 63, 160
- War Cabinet, 70, 74, 76, 78, 79, 80, 90, 91, 97, 98, 99, 106, 111, 113, 124, 125, 149, 150, 154, 158, 166, 169, 171, 177, 184, 214, 216, 272, 284, 310, 311, 312, 314, 347, 348, 349
 - Economic Section of War Cabinet Offices, 314
- Washington Conference, May 1943, 202, 203
- Water supplies, 37, 108, 251, 253, 352, 353
 - grants for, 253, 294, 384
- Weather
 - First World War, 7, 8, 9, 10, 15
 - Second World War, 67, 74, 76, 77, 78, 102, 114, 145, 156, 174, 176, 181, 184, 200, 206, 218, 219, 220, 222, 234, 235, 255, 263
 - effect on milk output, 341
 - extent to which weather upset production programmes, 234
- Weeds, 221, 260, 317
- Wheat
 - acreage
 - First World War, 5, 6, 10, 370
 - inter-war years, 33, 54
 - 1939-40, 78, 102, 231, 235, 237
 - 1940-41, 114, 115, 181, 237
 - 1941-42, 154, 156, 174, 181, 237, 361
 - 1942-43, 180, 181, 182, 184, 200, 237
 - 1943-45, 206, 219, 221, 222, 236, 237
 - war years generally, 255
 - First World War, inter-war years and Second World War, 371, 373
 - control of supplies and distribution, First World War, 13
 - cost of wheat imports in terms of shipping and energy value, 45, 46, 149n
 - county quotas for, 154, 205, 221, 301
 - deficiency payments, inter-war years, 32, 33, 34, 39, 54, 58, 61
 - cost of, 372, 384
 - dilution of wheat flour, 151-152, 178, 179, 204n, 207, 218, 239, 248, 305, 315, 345
 - extraction rate, 13, 51n, 52, 106, 109, 119, 120, 147, 148, 149, 150, 152, 158, 179, 184, 204, 239, 248, 305, 315
 - fertilisers for, 88
 - imports
 - inter-war years, 22
 - Second World War, 69, 70, 72, 75, 78, 148, 150, 151, 178, 180, 207
 - income from sale of, peace-time, 21
 - international regulation of, 30
 - Wheat Agreement, 30
 - manpower requirements, 44
 - market guaranteed, 100
 - output
 - inter-war years, 68, 201
 - output as percentage of total requirements, 39, 48
 - 1939 harvest, 68
 - 1940 harvest, 102, 103, 146, 237
 - 1941 harvest, 146, 175, 237
 - 1942 harvest, 175, 201, 237
 - 1943 harvest, 201, 237
 - 1944 and 1945 harvests, 220, 237
 - First and Second World Wars compared, 244
 - pre-war and Second World War years, 375
 - yields, 67, 102, 145, 174, 200, 220, 374
 - yields on land outside normal wheat areas, 193
 - prices
 - First World War, 6, 8, 12, 13, 14, 27
 - inter-war years, 17, 18, 30, 33, 54, 343
 - Second World War, 75, 90, 91, 92, 95, 98, 99, 166, 193, 213, 216, 280, 282, 377, 381
 - effect of relative prices on wheat output, 344

Wheat, prices, *contd.*

- post-war, 216
- acreage payments as part of price, 193, 213, 298, 299, 384
- guaranteed prices, 100
- seasonal variations to encourage smoother marketing, 164, 192, 213
- production of calories per acre, 43, 75
- production programmes
 - pre-Second World War planning, 48, 52, 54, 55, 227
 - 1940 harvest, 70, 73, 75, 76, 102, 141, 231, 235
 - 1941 harvest, 107, 108, 110, 141, 231
 - 1942 harvest, 154, 174, 231, 361
 - 1943 harvest, 180, 181, 182, 200, 234, 236
 - 1944 harvest, 205, 236
 - 1945 harvest, 221, 222
 - war years generally, 282
 - timing of programmes, 234
- spring-sown wheat encouraged, 255
- stocks, 51, 53, 69
- utilisation of, 386
 - feeding of wheat to livestock restricted, 52, 69, 70, 134, 135n, 156, 170, 239, 255, 345, 386
 - supplies for human consumption from war-time harvests, 238, 386
- world supply of, 222
 - See also Cereals; Crops; Grain*
- Wheat Act, 1932, 33, 343
- Wheat Commission, 29, 33, 60
- Whetham, E. H., 64n
- Williams, H. T., article in *Journal of Agricultural Economics Society*, 243n, 272n
- Wood, Sir Kingsley—*See Chancellor of the Exchequer*
- Wool
 - prices, 26, 117, 312
 - production, 26
 - See also Sheep*
- Woolton, Lord
 - See Minister of Food*
- Women's Land Army
 - See under Manpower*
- Wright, N. C., article in *Transactions of the Highland and Agricultural Society of Scotland*, 23n

- Yates, F., article in *Agricultural Progress*, 43n, 44n

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