University of Cambridge
Department of Agriculture

Farm Economics Branch
Report No. 22

(Issued July, 1934)

An Economic Survey of Agriculture in the Eastern Counties of England

1933

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PREFACE

THIS *Report* represents the third of a series covering the results of the most extensive Farm Management Survey hitherto undertaken in Great Britain. Commencing with the year 1931, financial and economic data relating to the organisation of more than 1000 farms in the Eastern Counties of England have been secured for each of three successive years. To obtain this information approximately 3500 visits have been made to individual farms, nearly 80,000 miles have been travelled, and replies have been obtained to upwards of one million questions.

The results published here and in *Reports* 19 and 21 (for list of contents of these earlier *Reports* see pages 74 to 77) cover a wide variety of information. But the fact that the research organisation has had to work to a definite, and rather crowded, time-table during these three years has precluded the possibility of exploring as exhaustively as is desirable the data secured. Much yet remains to be done in this respect, and it is hoped that from time to time further publications may be issued giving the results of more detailed studies.

From the information provided in Chapter II of the present *Report* it will be clear that the net returns obtained by farmers in 1933 were very much better than those secured in either of the two preceding years. This more encouraging position has been achieved in spite of a further fall in the price index, and well illustrates the point that unit prices are only one factor influencing the prosperity of the industry. In point of fact the better net returns in 1933 are due wholly to quantitative changes in production brought about partly by favourable climatic conditions and partly by deliberate changes in organisation on the part of the farmers themselves.

Chapters III and IV are devoted to a description of the organisation of certain individual farms. No two farms and no two farmers have identical capabilities or opportunities, and the contents of these chapters are not intended to provide models of what should or should not be done in any particular case. They are included here primarily to illustrate certain general tendencies which appear to underlie financial success or failure at the present time.

It remains only to acknowledge gratefully the help of all those who have assisted in one way or another in the preparation of this *Report*. First in this list must be placed the 1140 farmers who have co-operated, and each of whom has gone to a considerable amount of trouble to provide the necessary

information. To the County Organisers thanks are also due for their friendly assistance and advice. In this connection special mention must be made of the help provided by J. Hunter-Smith, of Hertfordshire, and J. C. Leslie, of Essex, whose staffs assisted in the collection of farm records. . The exacting duty of recording, which involved the overstepping of any known Trade Union hours, was undertaken by the following :—Messrs. J. R. Finlay Best, R. F. Edwards, D. J. Ewing, R. B. Ferro, H. W. Gardner, M. Halcrow, R. P. Hawkins, R. K. Kerkham, R. W. Kettlewell, A. W. Menzies-Kitchin, E. G. D. Pritchett, J. W. Reid, D. F. Stewart, E. C. Voysey, and N. M. Wight. T. J. Hunt has assisted in the statistical analysis, while Miss Edith Whetham prepared the diagrams and gave much valuable help in collating the material.

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July, 1934.

CHAPTER I.

1. INTRODUCTION.

In an article in the *Economic Journal* for March, 1934, Mr. A. E. Feavearyear drew attention to recent changes in the character of food consumption in Great Britain. Comparing the period 1924-27 with the year 1932, he indicated that in the latter year the " average person " ate less beef, but more mutton, lamb and bacon, and that his total consumption of meat increased 6 per cent. At the same time the consumption of poultry, cream, fish, milk, cocoa, fruit and potatoes increased, while butter was largely substituted for margarine and lard. On the other hand, although he consumed greater quantities of biscuits and cakes from shops, his consumption of bread showed no change, and his consumption of home made puddings and pastry was lower. There was, therefore, a movement away from the staple foodstuffs towards a more varied diet, and a tendency to substitute factory preparations for home cooked food. The population figures used in Mr. Feavearyear's analysis were 45.1 millions for 1924-27, and 46.3 millions in 1932. *Per capita* annual expenditure on foodstuffs was £27.48 in the former period and £24.14 in the latter, while, owing to the drop in prices, total annual expenditure fell from £1239½ millions in the first period to £1107½ millions in 1932, in spite of the fact that the population had increased 1.2 millions. It will be readily appreciated that these changes in consumers' demand exercise an important influence on the agricultural situation.

Figures of total consumption, *per capita* consumption, and the retail value of various foodstuffs in the two periods are given in the Table on page 2, which also shows quantitative variations *per capita*, and price changes expressed as a percentage of 1924-27 figures. It will be seen that in spite of population having by 1932 increased by approximately 1¼ millions, the total consumption of beef and veal fell by 106,000 tons, while a 10 per cent. decrease occurred in the amount consumed by the " average person." On the other hand the *per capita* consumption of mutton and lamb, bacon, and pork increased by approximately 20 per cent., 46 per cent., and 12 per cent. respectively. It is evident from inspection of the " price change " column that these alterations are largely the result of substitution by the housewife —in an attempt to get value for her money—of mutton, lamb, and bacon, for beef and veal. In 1932, for example, mutton and lamb prices had fallen 30 per cent. below, pork 32 per cent. below, and bacon 20 per cent. below the 1924-27 level, while beef and veal prices had fallen only 18 per cent.

TOTAL AND PER CAPITA CONSUMPTION OF FOOD, RETAIL VALUES, QUANTITATIVE CHANGES PER CAPITA, AND PRICE ALTERATIONS.*
(1924–27 and 1932).

Commodity	Average 1924–27		1932		Per Capita Consumption			
	Total Consumption	Retail Value	Total Consumption	Retail Value	1924–27	1932	Difference + or −	Price Change + or −
		£m.		£m.			%	%
Beef and Veal ...	1398 thous. tons	140	1292 thous. tons	106	69½ lb.	62½ lb.	− 10·1	− 18·1
Mutton and Lamb	514 ,,	63	633 ,,	54	25½ ,,	30½ ,,	+ 19·6	− 30·4
Bacon	416 ,,	47	620 ,,	56	20½ ,,	30 ,,	+ 46·3	− 20·1
Ham	80 ,,	16	59 ,,	8	4 ,,	3 ,,	− 25·0	− 32·2
Pork	250 ,,	40	288 ,,	32	12½ ,,	14 ,,	+ 12·0	− 30·6
Lard	171 ,,	16	155 ,,	12	8½ ,,	7½ ,,	− 11·8	− 17·3
Poultry	73 ,,	12	100 ,,	17	3½ ,,	5 ,,	+ 33·3	+ 3·4
Milk	725 m. gals.	85	851 m. gals.	89	16 gals.	18½ gals.	+ 15·6	− 10·7
Butter	300 thous. tons	68	455 thous. tons	58	15½ lb.	21½ lb.	+ 40·3	− 40·5
Margarine ...	238 ,,	25	200 ,,	11	12 ,,	9½ ,,	− 20·8	− 47·6
Cheese	188 ,,	28	198 ,,	22	9½ ,,	9¾ ,,	+ 2·6	− 25·4
Eggs	5079 million	37	6960 million	40	113 eggs	150 eggs	+ 32·7	− 21·0
Cream	4 m. gals.	4	4½ m. gals.	4	⅜ pint	⅜ pint	+ 12·5	− 11·1
Bread	1690 m. 4-lb. loaves	63	1720 m. 4-lb. loaves	42	37 4-lb. loaves	37 4-lb. loaves	nil	− 34·5
Flour	2000 thous. tons	47	2000 thous. tons	32	99 lb.	97 lb.	− 2·0	− 31·9
Fruit	1970 ,,	120	2200 ,,	122	98 ,,	106 ,,	+ 8·2	− 9·0
Potatoes ...	3767 ,,	44	4114 ,,	38	187 ,,	200 ,,	+ 7·0	− 20·9

* The contents of this Table are for the most part taken direct from the article by Mr. Feavearyear to which reference is made on page 1. The percentage changes in *per capita* consumption and in prices have been computed from Mr. Feavearyear's figures.

The same consideration applies to the case of butter, where a price decline of 40 per cent. was associated with a 40 per cent. increase in *per capita* consumption, and to eggs, cream, and fruit, the demand for which had been stimulated by reduced prices. Turning to the more staple products, for which the demand is likely to be inelastic, it will be seen that no change occurred in the *per capita* consumption of bread in spite of a 34 per cent. fall in price, that the demand for flour actually declined by 2 per cent. in the face of a 32 per cent. price fall, and that although the price of cheese fell by 25 per cent. consumption increased by only 2.6 per cent.

Considering the extent to which these changes in consumers' demand affect the market for agricultural produce, what, for example, does a falling off of 106,000 tons of beef and veal mean in terms of live cattle? On the basis of a 46 per cent. slaughter loss it means that in 1932 we required annually 392,000 fewer 10 cwt. bullocks than during the period 1924-27. It also means that if in 1932 we had eaten as much beef and veal per head as we did in 1924-27, we should have consumed 535,000, or just over half a million, more 10 cwt. bullocks, a factor which is likely to exercise considerable influence on present meat prices. On the other hand, as a result of the greater

consumption of bacon and pork, an increase of 205,000 tons has occurred in the consumption of pig meat, which, assuming a 40 per cent. slaughter loss, entails the production of 3,800,000 more bacon pigs of 10 score live weight. At the same time additional egg consumption represents the output of 19 million hens, and that of dairy products of approximately half a million cows.

This rapid change over in the character of consumption, largely associated with price, has an important bearing on agricultural policy. An increase in the price of those commodities for which the demand is elastic can only result, other things being equal, in a falling off in consumers' demand, and the substitution of the protected commodity by one of lower price. The present increased consumption of butter, mutton, eggs, bacon, etc. has resulted from the fact that their lower price has extended the group of effective purchasers, and any considerable increase in their price will tend again to place them out of the reach of the poorer members of the community. The moral of this is that while within certain limits *production* may be " planned," yet it seems wellnigh impossible to plan *demand* on any large scale, owing to the possibility of substitution of one commodity for another because of either (*a*) change in the habits and tastes of consumers, or (*b*) change in price differentials. It will be a poor bargain for farmers if they secure higher prices at the expense of a reduction in their gross incomes due to a decline in demand.

2. The Sample.

The six counties of Norfolk, Suffolk, Essex, Hertfordshire, Cambridgeshire and Huntingdonshire form the field of the present survey, and readers are referred to *Report* 19 for a description of the physical characteristics of the district from which the sample is drawn. The sample is as far as possible identical with that covered in the two previous years (see *Reports* 19 and 21). In an investigation of this nature, however, there is of necessity a certain annual wastage, and fresh parishes have been introduced in 1932 and 1933 in order to maintain the number of records, and also to concentrate farms in the various agricultural " districts." In selecting these parishes (see diagram on page 20) an attempt has been made to arrange that roughly one-third of the farms are in each of the three main soil groups, *viz.* : (1) clays, (2) loams, and (3) chalks, sands and gravels. In 1933, 1140 farm records were obtained, but of these 55 were not used in the analyses owing to their being incomplete or for some other reason. Thus the data presented in the following pages refer to 1085 farms, and cover an area of 184,602 acres. Of these farms, 560 have been recorded for three successive years, while 891 have been recorded for the two years 1932 and 1933.

The data for this investigation were collected by visiting and interrogating each farmer personally. The reliability of the data depends not only on the

accuracy of the information obtained from each farmer, but also on the representativeness of the whole sample. Readers are again referred to *Report* 19 for a discussion on these two aspects.

In a publication of this nature it is impossible to avoid the use of technical terms. Particularly in connection with the interpretation of the statistical material it is important that the meaning in which these terms are employed should be completely understood. In *Report* 19 all the technical terms employed were defined, and here are recapitulated only the more important of these.

(1) *Financial Year* covers a period of twelve months ending at a date varying with individual farms between September 21st and December 23rd, 1933.

(2) *Gross Income* is the sum of (*a*) receipts for livestock, livestock products, and miscellaneous sales effected during the financial year; (*b*) receipts for the 1933 crops already sold, plus the anticipated crop sales at prices ruling when the record was taken, and (*c*) an adjustment (plus or minus) for changes in livestock and fodder crop valuations during the financial year. Wheat " deficiency payments " are not included in the gross income, but are shewn as a separate item to be added to the gross income. The gross income does not include the value of farm produce consumed by the farmer and his family.

(3) *Gross Charges* comprise (*a*) expenditure on labour (including an allowance at current rates for unpaid family labour other than that of the occupier), foodstuffs, purchases of livestock, and miscellaneous expenses incurred during the financial year, (*b*) expenditure incurred on seeds and fertilisers for the 1933 crops, and (*c*) a full year's rent. The gross charges do not include interest payments on loans, interest on the farmer's own capital, or any allowance for the manual and managerial work of the farmer himself. No credit has been given either for the rental value of, or local rates on, the dwelling house, or for material (*e.g.*, coal, paraffin, etc.) drawn out of farm stores for use in the farmer's household.

(4) *Farm Income* is the difference between gross income (including wheat deficiency payments) and gross charges. It should be noted that this figure has been obtained by calculating the difference between the charges incurred during the financial year, and the income realised or anticipated *as a result of* these charges. The farm income is the amount available to defray interest on loans, and to remunerate the farmer for his own labour and capital investment.

(5) *Investment Income* is the farm income less remuneration to the occupier for his own labour. This remuneration is calculated at the rate of £2 per week for manual work, and £4 per week for managerial duties. Where an occupier employs part of his time on manual work and part on managerial duties, the allowance has been calculated *pro rata* to the estimated number of weeks spent on each. Investment income is, therefore, a measure of the return yielded by the capital invested in the farm (not including landlord's capital) on the assumption that *all* labour on the farm has been remunerated.

(6) *Labour Income* is the farm income less interest at 5 per cent. on the mean value of the farm capital. In this connection it should be noted that the farm income has been calculated on the basis of a debt-free undertaking, a condition which, in practice, is far from common. Labour income is, therefore, the return obtained by the occupier to remunerate him for his own labour after interest on his own and on borrowed capital has been defrayed.

(7) *Profit Surplus* is the farm income less an allowance for the occupier's own labour and less interest at 5 per cent. on the farm capital. Where the profit surplus is a minus figure (*i.e.*, a deficit) it represents the amount by which the farm has failed to make a fair return for the capital invested and for the work of the occupier. Where the profit surplus is a plus figure it represents the amount left over after all legitimate charges have been met.

(8) *Family Income* is the farm income plus any charge for family labour debited against the farm, and plus the rental value of the house and private drawings in kind.

(9) *Gross Output* represents the gross income less purchases of livestock. Private drawings in kind should, theoretically, be included in the gross output.

3. Prices.

The instability of agricultural prices as a feature of present world conditions, and the difficulty which farmers have experienced in keeping their organisations adjusted to rapidly changing levels of price and cost, was emphasised in the two previous *Reports*. In 1933 the official index of agricultural prices in England and Wales at 105 (1911–13 = 100) was some 5 points lower than that of the previous year, but considerable fluctuation occurred within the range of agricultural commodities. During the year a 10 per cent. and 20 per cent. fall occurred in the price of wheat and oats respectively. Barley prices, on the other hand, showed a marked improvement. Substantial falls occurred in the price of dairy cows, store and fat cattle, while slight falls took place in the case of eggs and store sheep. The price of milk improved by 4 per cent. on the year, while that of fat pigs and fat sheep increased by 12 per cent. and 15 per cent. respectively. The price of store pigs rose by as much as 24 per cent. The monthly prices of the principal cash crops throughout the periods August, 1932 to May, 1933, and August, 1933 to May, 1934 (during which time the bulk of the 1932 and 1933 crop sales covered by the present investigation were made) are compared in the following figures, while average prices ruling in certain earlier years are given for reference. A comparison is also made between livestock and livestock product prices for the periods November, 1931 to October, 1932, and November, 1932 to October 1933 (during which time the livestock and livestock product sales covered by the present investigation were effected), and prices in earlier years.

Crop Prices.

	Wheat per cwt.	Barley per cwt.	Oats per cwt.	Potatoes per ton	Sugar beet per ton	Clover Hay per ton
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
1911–13 ...	7 7	7 11	7 1	78 10	21 6	89 0
1920 ...	18 10	25 0	20 5	—	—	255 6
1929 ...	9 10	9 11	8 10	92 6	52 11	113 6
1930 ...	8 0	7 11	6 2	76 0	49 10	106 6
1931 ...	5 9	7 11	6 3	148 6	42 4	77 6
1932 ...	5 11	7 7	7 0	155 0	42 8	63 0
1933 ...	5 4	7 11	5 7	82 0	39 7*	66 0

	1932	1933	1932	1933	1932	1933	1932	1933	1932	1933	1932	1933
August ...	6 5	5 9	6 10	9 6	7 5	5 6	85 0	73 6	—		60 0	64 0
September ...	5 8	4 9	8 7	10 9	6 6	5 3	84 0	73 6	—		61 6	67 6
October ...	5 7	4 10	8 1	10 2	6 3	5 5	86 6	79 6	—		61 6	72 0
November ...	5 5	4 7	7 4	9 4	5 11	5 4	87 0	82 0	—		61 0	76 6
December ...	5 3	4 6	6 11	9 2	5 8	5 3	85 6	80 0	—		61 0	79 0
	1933	1934	1933	1934	1933	1934	1933	1934	1933	1934	1933	1934
January ...	5 3	4 4	7 0	9 4	5 9	5 6	89 0	79 6	—		61 0	79 0
February ...	5 3	4 5	6 9	9 2	6 0	6 5	87 0	77 0	—		61 0	79 0
March ...	5 1	4 4	6 3	8 9	5 11	6 2	83 0	76 0	—		61 0	80 0
April ...	5 2	4 4	6 3	7 11	5 9	5 11	79 6	81 0	—		61 0	81 0
May ...	5 7		6 6		5 8		87 0		—		62 6	

* Subject to revision.

Livestock and Livestock Product Prices.

	Fat Cattle 2nd quality Shorthorn per cwt. l.w.	Fat Sheep 2nd quality Longwool per lb. d.w.	Fat Pigs 2nd quality bacon per sc. d.w.	Milk per gall.	Eggs 2nd quality per 120
	s. d.	*d.*	*s. d.*	*d.*	*s. d.*
1911–13	34 10	7¼	10 0	8¾	11 6
1920	—	21¼	33 4	26½	39 0
1929	45 10	11¼	15 11	14¾	18 4
1930	45 6	11⅛	15 4	14⅛	15 7
1931	42 3	9¾	10 8	12⅞	13 4
1932	39 7	6¾	9 1	12⅝	12 6
1933	34 10	7¾	10 2	13⅛	12 1
	1931 1932	1931 1932	1931 1932	1931 1932	1931 1932
November	38 2 33 6	8½ 6½	8 10 8 6	12⅛ 15½	21 8 19 9
December	39 1 35 9	8 6¾	8 8 9 3	15 15½	15 7 15 5
	1932 1933	1932 1933	1932 1933	1932 1933	1932 1933
January	40 3 37 2	7¾ 7½	9 1 9 5	15⅜ 15½	13 9 12 1
February	40 10 36 6	7½ 7¾	9 3 9 7	14⅜ 15	11 8 13 4
March	42 0 36 6	7¾ 8⅛	9 8 11 0	11¾ 12⅞	8 9 8 6
April	42 10 36 3	7½ 8½	10 0 11 2	11¼ 11¼	8 1 7 1
May	43 10 35 6	7¼ 8¼	10 2 10 7	10¼ 10⅜	7 11 7 6
June	43 9 35 1	7¼ 8	8 11 9 6	10¼ 10⅜	8 11 8 11
July	41 4 34 9	6¾ 7¼	8 8 9 4	10¾ 10⅜	11 3 10 2
August	39 10 33 6	6¼ 7	8 10 9 9	11⅛ 11¼	12 8 12 11
September ...	37 2 32 11	5¾ 6¾	8 7 10 4	11¼ 12	14 9 13 9
October	33 11 32 10	5¾ 7⅛	8 5 9 11	14⅛ 15¾	16 10 15 7

On the requirements side the cost of middlings and bran fell 15 per cent. and 12 per cent. respectively, while slight falls occurred in the cost of both barley meal and maize meal. Sulphate of ammonia rose 8 per cent. on the year, while the price of nitrate of soda fell by 6 per cent. Rent and labour remained practically constant.

Feeding Stuffs, Prices per Ton.

	Middlings (coarse British)	Bran (British)	Barley Meal	Maize Meal	Linseed Cake	Cotton Seed Cake
	£	£	£	£	£	£
1911–13 ...	6·60	5·05	7·82	7·12	8·67	5·62
1920 ...	14·75	13·65	24·72	19·67	22·85	14·07
1929 ...	7·77	7·22	9·87	10·35	13·25	7·85
1930 ...	5·75	5·25	6·62	7·47	10·45	5·50
1931 ...	5·82	5·47	6·35	5·45	8·52	5·40
1932 ...	6·41	6·00	7·59	5·90	8·64	5·25
1933 ...	5·44	5·25	7·32	5·57	8·64	5·61

	1931	1932	1931	1932	1931	1932	1931	1932	1931	1932	1931	1932
October ...	6·05	6·39	5·30	5·64	6·55	7·49	5·40	5·85	8·70	8·63	5·45	5·49
November ...	6·27	6·35	6·07	5·89	7·05	7·68	6·07	5·75	9·22	8·37	4·79	5·30
December ...	5·70	5·65	5·73	5·73	7·50	7·75	5·68	5·75	8·95	8·35	5·60	5·50

	1932	1933	1932	1933	1932	1933	1932	1933	1932	1933	1932	1933
January ...	6.30	5·71	6·02	5·75	7·71	7·75	5·65	5·60	8·85	8·48	5·55	5·83
February ...	6·47	5·38	6·50	5·68	7·94	7·58	5·74	5·60	8·67	8·73	5·35	6·10
March ...	6·60	5·20	6·65	5·48	8·54	7·08	6·40	5·60	8·64	8·75	5·32	5·85
April ...	6·57	5·08	6·50	4·96	8·07	7·00	6·00	5·60	8·52	8·56	5·02	5·85
May ...	6·85	5·05	6·46	4·70	7·77	7·50	6·07	5·50	8·25	8·70	4·85	6·00
June ...	6·35	4·09	5.46	4·49	7·56	7·10	5·85	5·60	8·25	8·75	4·85	6·01
July ...	6·62	5·15	5·45	4·55	7·22	7·23	5·89	5·60	8·27	8·75	4·92	5·39
August ...	6·70	5·45	5·77	4·70	7·37	7·02	6·00	5·27	8·62	8·75	5·59	5·07
September ...	6·42	5·75	6·05	5·44	7·77	6·61	6·05	5·33	8·75	8·85	5·75	4·93

Fertilisers, Prices per Ton.

	Sulphate of Ammonia	Nitrate of Soda	Super-phosphate	Basic Slag	Kainit	Muriate of Potash
	£	£	£	£	£	£
1911–13 ...	13·45	10·65	2·55	1·72	2·50	—
1920 ...	22·25	24·61	8·17	4·87	7·30	—
1929 ...	10·47	9·90	2·90	2·05	3·05	9·20
1930 ...	9·70	9·60	2·99	2·11	3·07	9·25
1931 ...	8·20	9·02	2·86	2·14	3·04	9·05
1932 ...	6·25	8·50	2·65	2·17	3·26	10·30
1933 ...	6·67	8·00	2·66	2·26	3·25	9·75

	1931	1932	1931	1932	1931	1932	1931	1932	1931	1932	1931	1932
September ...	5·70	5·30	7·65	8·15	2·81	2·65	2·14	2·21	2·80	3·17	8·55	9·50
October ...	6·30	5·30	8·25	8·20	2·75	2·65	2·14	2·21	2·92	3·22	8·70	9·60
November ...	6·55	5·60	8·25	8·25	2·75	2·65	2·14	2·21	3·00	3·27	8·90	9·80
December ...	6·80	6·17	8·35	8·35	2·76	2·65	2·14	2·21	3·20	3·32	9·55	9·95

	1932	1933	1932	1933	1932	1933	1932	1933	1932	1933	1932	1933
January ...	7·05	6·30	8·45	8·45	2·68	2·65	2·14	2·21	3·37	3·37	10·65	10·15
February ...	7·05	6·42	8·55	8·55	2·67	2·66	2·14	2·21	3·30	3·37	10·70	10·15
March ...	7·05	6·55	8·75	8·55	2·67	2·66	2·14	2·21	3·30	3·37	10·75	10·15
April ...	7·05	6·55	8·75	8·55	2·66	2·66	2·14	2·21	3·30	3·37	10·95	10·15

Dairy Cows and Store Livestock, Prices per Head.

	Dairy Cows, 1st and 2nd quality Shorthorn milkers	Store Cattle, 1st and 2nd quality Shorthorn 1 and 2 year olds	Store Sheep, 1st and 2nd quality Down hoggs	Store Pigs, 1st and 2nd quality 8–12 and 12–16 weeks old
	£	£	s. d.	s. d.
1911–13	20·7	11·5	35 11	22 9
1920	54·8	23·2	97 3	83 7
1929	27·4	14·2	56 2	40 10
1930	27·1	15·0	56 1	48 6
1931	26·1	14·8	47 1	34 5
1932	24·2	13·3	30 11	22 5
1933	22·3	11·5	30 5	28 1

	1931	1932	1931	1932	1931	1932	1931	1932
October	25·8	25·0	14·0	11·8	37 5	22 10	29 1	19 10
November	26·4	25·1	14·2	11·7	38 4	24 0	27 7	20 4
December	27·1	24·6	14·0	12·4	36 11	26 3	26 0	23 6

	1932	1933	1932	1933	1932	1933	1932	1933
January	25·6	23·6	14·0	12·4	36 8	30 9	26 7	25 5
February	25·2	23·2	14·2	12·4	37 6	32 2	25 10	26 5
March	24·3	22·1	14·3	12·2	36 10	34 8	25 3	29 5
April	24·1	21·4	14·2	12·2	37 7	35 7	24 9	29 3
May	23·9	20·5	14·1	12·2	38 2	35 9	24 3	27 2
June	23·2	20·9	13·9	11·4	36 6	30 11	20 1	24 11
July	22·7	21·4	13·2	11·2	27 3	26 5	19 2	24 7
August	22·6	21·4	13·0	11·3	24 1	24 8	19 7	26 2
September ...	23·4	23·0	12·6	10·9	23 8	24 6	19 9	30 5

Using the weights given on page 73, it would appear that in the six eastern counties the prices of all farm commodities in the harvest year 1933 averaged 20 per cent. above the pre-war level, and that the comparable figure for requirements in production was 40 per cent. A comparison with similar figures for 1932 (24 per cent. and 46 per cent. respectively) suggests that the farmers' price-cost position had improved slightly on the previous year.

4. Weather Conditions.

The eastern counties form the driest district in England, having a rainfall 25 per cent. below that of the country as a whole. Below are given the average monthly rainfalls recorded at 22 stations in the Province for (*a*) the decade 1920-30, (*b*) the exceptionally dry year 1920–21, and (*c*), (*d*) and (*e*) the crop years 1930–31, 1931–32, and 1932–33.

*Average Rainfall in the six Eastern Counties**

Month	Decade 1920–30	Year 1920–21	Year 1930–31	Year 1931–32	Year 1932–33
October ..	2.38	0.80	0.98	0.86	4.36
November ..	2.41	0.78	3.70	2.00	1.39
December ..	2.35	2.63	2.09	1.09	0.51
January ..	2.18	1.97	1.98	1.02	1.22
February ..	1.65	0.35	2.42	0.49	1.66
March ..	1.20	1.03	0.34	1.51	1.97
April ..	1.90	1.45	3.31	2.63	1.01
May ..	1.84	1.19	3.07	3.83	1.74
June ..	1.58	0.40	1.51	0.60	2.21
July ..	2.50	0.38	3.43	2.75	1.60
August ..	2.12	1.36	3.67	1.89	0.84
September ..	2.33	1.55	2.25	1.74	2.64
TOTAL ..	24.44	13.89	28.75	20.41	21.15

* Compiled from *British Rainfall*, annual publication of the Meteorological Office.

In reference to the averages for the decade 1920–30 it should be noted that in these 10 years nearly as much rain fell throughout Great Britain as usually falls in 11 years, and that so long a run of wet seasons had not occurred since comparable statistics became available in 1868. It will be observed from the above table that during the crop year 1932–33 the rainfall was approximately three-quarters of an inch higher than in the previous year. This increase was entirely due to the heavy rains which fell during October, 1932, when 4.36 inches were recorded, compared with 0·86 for the same month in the previous year. For the calendar years it appears that 1933 was drier than 1932, the annual rainfall being 19·60 in. in the former year compared with 22.72 in. in the latter. This difference occurred wholly in the spring and summer months, for during the period April to August inclusive, the rainfall was 11.7 inches in 1932 and only 7.4 inches in 1933. Considerable spells of warm weather accompanied by brilliant sunshine were enjoyed during the summer months of 1933, while dry weather around harvest, which was completed about a month earlier than usual, enabled farmers to secure their crops in good condition. Over 2½ in. of rain fell in September, 1933, and this, together with a mild autumn, greatly stimulated the growth of sugar beet and other root crops which had been seriously retarded by the summer drought.

CHAPTER II.

THE principal financial and economic data for 1933 are given in Tables II and III in the Appendix. In this chapter these figures are briefly summarised, and certain comparisons are made with the results of the two previous years 1932 and 1931 published in *Reports* 21 and 19, respectively, of this series. It is possible that variations shown between one year and another may be due partly to the fact that the " sample " is not identical in each of the three years, but this should not materially affect comparisons of the size-groupings. It is impossible, in the compass of a single chapter, to deal adequately with both " size " groupings (Table II) and " district " groupings (Table III), and readers who wish more information on the economic organisation of farming in the various agricultural " districts " of the Province are referred to *Report* 21, Chapter III. In the present chapter the main emphasis is laid on comparisons of the size group data, although the diagrams on pages 21, 22, and 23, give some indication of the wide variations in financial and economic organisation which exist between the different agricultural " districts."

1. FINANCIAL DATA.

Farm Capital

The value of the farm capital has been calculated as at Michaelmas on the assumption that none of the current year's crops has been sold by that date. So far as livestock, implements and machinery are concerned the farmer's own estimates of their value have been accepted. Corn, potatoes, sugar beet and other crops generally sold have been valued according to estimated yield and market price, while young seeds, bare fallows, folding and other root crops have been valued at standard rates. It should be appreciated that valuations have been computed on the basis of the farm as *a going concern*, and that, in the event of a forced sale, values, particularly those of implements and machinery, might require considerable modification. As all farms have been considered on the basis of tenancy, no attempt has been made to assess the value of land and buildings in the following Table, which shows, in addition to the valuation figures, the number of farms and average size of holding in each group.

Michaelmas Valuation in £ per farm.

Size Group	No. of farms	Average size	1933 Valuations of			Total		
			Livestock	Crops	Deadstock	1933	1932	1931
acres	no.	acres	£	£	£	£	£	£
20–50	190	37	203	175	101	479	458	488
50–100	283	74	319	328	149	796	774	805
100–150	199	125	489	531	232	1252	1215	1318
150–300	253	217	785	866	345	1996	1954	2053
300–500	118	382	1266	1471	539	3276	3147	3259
Over 500	42	756	1973	2851	890	5714	6220	6160
All farms, 1933	1085	140	516	571	235	1322	×	×
,, ,, 1932	1052	139	503	550	234	×	1287	×
,, ,, 1931	983	140	567	535	254	×	×	1356

The total farm valuations for 1933 average about 2¾ per cent higher than those of 1932, this small rise being due mainly to crops, and to a less extent to livestock. The increase in the crop valuations can be accounted for partly by the increased area under beet and wheat, partly by the better crop yields associated with the 1933 season, and partly by the higher prices for barley. The small rise in livestock valuations is less expected in view of the continued decline in livestock prices, but it is due almost entirely to pigs, which show a marked rise in numbers and values during the year. Minor valuation increases are evidenced by sheep and poultry, but these are more than off-set by valuation decreases in dairy cattle, feeding cattle and horses.

Gross Income

This figure represents the sum of (*a*) receipts for livestock, livestock products and miscellaneous sales effected during the financial year, (*b*) receipts arising from the sale of the current year's crops, and (*c*) an adjustment (plus or minus) for changes in livestock and fodder crop valuations during the financial year. The gross income does not include the value of the farm produce consumed by the farmer and his family.

While the general index number of Agricultural Prices tended to rise during the last six months of 1933, yet the average for the calendar year at 105 (1911-13 = 100) was some 5 points less than in 1932. But in spite of this the gross incomes secured by farmers in 1933 show an increase of no less than 12 per cent. compared with the previous year. This increase is due to greater physical production obtained partly as a result of favourable climatic conditions and partly as a result of deliberate changes in policy made by the farmers themselves. The following table shows the amount and composition of gross incomes in the various size groups.

Gross Income in £ per farm.

Item	1933 figures grouped by size of farm						All farms		
	20–50 acres	50–100 acres	100–150 acres	150–300 acres	300–500 acres	Over 500 acres	1933	1932	1931
	£	£	£	£	£	£	£	£	£
Dairy produce ...	106	197	275	381	485	646	251	229	241
Horned stock ...	31	67	100	173	290	418	108	126	165
Eggs and Poultry	74	85	105	144	190	168	107	101	113
Pigs	86	113	134	216	274	449	149	97	113
Sheep and Wool	2	7	22	71	180	390	43	24	61
Wheat*	22	49	88	154	267	443	94	86	54
Barley	23	49	84	126	253	649	93	68	80
Sugar beet ...	39	64	98	158	192	464	100	83	48
Other crops ...	13	29	41	100	212	295	61	88	111
Miscellaneous ...	8	17	29	47	83	161	31	22	25
Total, 1933* ...	404	677	976	1570	2426	4083	1037	×	×
,, 1932* ...	380	593	900	1418	2028	3612	×	924	×
,, 1931 ...	413	644	1015	1499	2280	4168	×	×	1011

* Exclusive of wheat deficiency payments.

For " all farms " the gross income from dairy produce in 1933 is nearly 10 per cent. greater than in 1932. The " winter " milk terms for 1932-33 were rather more favourable to producers than in the previous winter, and over the whole year milk prices were about 4 per cent. higher than in 1932. Allowing for this price change it would appear that production was 5 to 6 per cent. greater in 1933 than in 1932. The gross income from horned stock shows a very marked decrease, being 14 per cent. less than in 1932, a figure that is almost exactly proportional to the price decline which has occurred. Comparing 1933 with 1931, the gross income from horned stock has decreased by one-third. It must be clearly understood that this figure for income from horned stock covers dairy herd culls, sales of breeding stock, calves, and store stock, as well as fat beef, and it is unlikely that sales off at beef contribute more than half the total income under this heading. The gross income from eggs and poultry is 6 per cent. higher in 1933 than in 1932, but as prices have dropped about 4 per cent. it would appear that production has increased approximately 10 per cent. The income from pigs shows a very marked increase of over 50 per cent., but as the price index has only risen 10 per cent., production must have been increased nearly 40 per cent. This suggested physical increase refers, of course, to weight of pork and bacon, not to numbers of pigs, and also incorporates the increment in stocks in hand between the beginning and end of the year. The gross income from sheep and wool also reflects a marked increase over 1932, but in this connection it must be borne in mind that the heavy valuation decreases of breeding flocks in 1932 depressed

the income from this source considerably below the real *cash* position in that year. The official statistics do not show any appreciable change in numbers of sheep between the two years, while the price index of fat sheep is only 6 per cent. higher in 1933 than in 1932.

The gross incomes from the three major arable crops, wheat, barley and sugar beet, are all appreciably higher in 1933 than in 1932. The price secured for the 1933 wheat crop was 15-20 per cent. less than that of 1932, so that the physical production is probably as much as one-third greater. This greater production is due mainly to the marked increase in acreage (29 per cent.), and partly to the higher acreage yields secured in 1933. The increased income from barley has been obtained *in spite of* a very considerable decline (over 20 per cent.) in acreage; an example of a smaller crop yielding a larger return. This has been achieved mainly by an improvement of nearly 30 per cent. in the price secured for the 1933 crop, but contributing factors have been better acreage yields, and the fact that a considerably larger *proportion* of the total crop was marketed. Although the price per ton secured for the 1933 crop of beet is less than that of the previous year, the greater production arising from a 40 per cent. increase in acreage and slightly better acreage yields has resulted in a material increase in gross incomes from this source. The decline in income from " other crops " is no doubt mainly due to the increased proportion of arable land devoted to wheat and sugar beet, but the drop in price of such commodities as potatoes and oats must be partly responsible.

Of course the incidence of price changes, and the alterations in physical production described above have not been uniform in the different size and " district " groups. Comparison of Tables II and III in the Appendix of the present publication with the similar Tables in *Reports* 21 and 19 will give some indication of the variations which occur.

Wheat deficiency payments.

The data on gross incomes given in the previous paragraphs do not include " deficiency payments " resulting from the operation of the Wheat Act. Wheat deficiency payments on the 1933 crop have been provisionally estimated at 22/- per quarter sold (compared with 20/- for the 1932 crop), but it is clear that this figure may ultimately require revision. The following table compares the deficiency payments in 1933 and 1932 in the various size and district groups:

Wheat Deficiency Payments

Size Group	1933 £ per farm	1932 £ per farm	District Group	1933 £ per 100 acres farmed land	1932 £ per 100 acres farme land
acres	£	£		£	£
20–50	23	19	Central Norfolk loam	67	48
50–100	51	39	Norfolk and Suffolk "breck" ...	25	17
100–150	93	64	Central Suffolk loam	86	64
150–300	160	112	S.E. Suffolk and N.E. Essex sand and gravel	51	42
300–500	277	176	N. Essex boulder clay	124	89
Over 500	466	371	S. Essex London clay	36	15
Weighted average for all farms	98	70	S. Hertfordshire	56	39
			S. Cambridge chalk	92	56
			Huntingdon and W. Cambridge clay	77	51

It is clear that in each size group and in each district the deficiency payments in 1933 are very much greater (over 40 per cent. on the average) than in 1932. This is due mainly to the increased production of wheat in the former year, and partly to the higher deficiency payments per quarter resulting from the drop in price of wheat. It is also clear that the incidence of this subsidy falls very unevenly on the various sizes of farms and districts. On the smallest size group, for example, the 1933 deficiency payments average £23 per farm and represent an addition of under 6 per cent. to gross incomes, while on farms over 500 acres they average £466 and represent an addition of more than 11 per cent. to gross incomes. On the Norfolk "breck" lands the deficiency payments average £25 per 100 acres of farmed land, and add 4-5 per cent. to gross incomes, but on the clays of north Essex they amount to £124 per 100 acres and represent an addition of 18 per cent. to gross incomes. It is of interest to note that approximately one-third of the total deficiency payments goes to occupiers of farms of 20-150 acres (representing 69 per cent. of the total number of holdings over 20 acres in size), one-third goes to occupiers of 150-300 acres (representing 20 per cent. of the total number) and one-third goes to occupiers of over 300 acres (representing 11 per cent. of the total number).

Gross Charges

These comprise (*a*) expenditure on labour (including an allowance at current rates for unpaid family labour other than that of the occupier), foodstuffs, purchases of livestock, and miscellaneous expenses incurred during the financial year, (*b*) expenditure on seeds and fertilisers for the 1933 crops, and (*c*) a full year's rent. The gross charges do not include bank charges

and interest payments on loans, interest on the farmer's own capital, or any allowance for the manual or managerial work of the farmer himself. No credit has been given either for the rental value of, or local rates on, the dwelling house, or for material (*e.g.*, coal, paraffin, etc.) drawn out of the farm stores for use in the farmer's household.

The increased physical output in 1933 to which attention has been drawn has naturally involved some addition (averaging just over 5 per cent.) to gross charges. The following table gives the relevant data.

Gross Charges in £ per farm

Item	1933 figures grouped by size of farm						All farms		
	20–50 acres	50–100 acres	100–150 acres	150–300 acres	300–500 acres	Over500 acres	1933	1932	1931
	£	£	£	£	£	£	£	£	£
Labour	107	204	317	529	853	1520	339	349	358
Foods	119	155	203	313	433	543	214	187	168
Rent	49	85	120	189	301	481	127	127	136
Livestock	33	65	77	147	220	328	92	94	137
Implements and machinery*	16	27	40	66	106	196	44	34	41
Fertilisers	8	15	26	51	72	174	30	27	28
Seeds	10	17	29	46	87	144	31	26	28
Coal, petrol, oil	10	17	27	48	76	128	29	24	29
Tackle hire	7	14	22	34	53	66	21	20	19
Road and rail haulage ...	9	17	27	40	47	127	26	19	15
Miscellaneous	17	27	39	64	92	162	42	40	44
Total, 1933	385	643	927	1527	2340	3869	995	×	×
,, 1932	375	603	892	1451	2159	3897	×	947	×
,, 1931	385	644	993	1504	2304	4228	×	×	1003

* This includes purchases as well as repairs, but a deduction has been made for capital expenditure.

The principal variation in gross charges arises under the heading of feeding stuffs, which evidence an increase of over 14 per cent. compared with 1932. As the price of feeding stuffs in 1933 averaged some 9 per cent. less than in the previous year the increased expenditure must be due to a rise of about 25 per cent. in consumption. This greater consumption is probably due to a number of causes, of which the most obvious are (1) the increased physical output of livestock, (2) the stimulus of the Wheat Act to cash an

ever greater area of cereals, and (3) the abnormally dry summer, necessitating increased feeding to cows on pasture.

Rents have remained constant, after a 7 per cent. decline in 1932. Expenditure on livestock is distributed about equally between (1) store stock for fattening and (2) stock for replacements of breeding animals, dairy herds, working horses, etc. The total expenditure under this heading shows only a small decline, as a 25 per cent. rise in the price of store pigs has done much to off-set an 11 per cent. fall in the price of dairy cows, store cattle, and store sheep. As might have been anticipated, the better financial prospects have resulted in an increased outlay on implements and machinery, for in the dark days of 1932 cash disbursements under this heading were cut to a minimum. In spite of a 2 per cent. drop in prices, expenditure on fertilisers shows an increase which must be attributed to a rise of about 13 per cent. in consumption. The small increase in expenditure on seeds must be mainly due to the greater acreage under wheat and sugar beet, while the increase in haulage expenses is no doubt largely attributable to the greater tonnage of beet produced. Coal, petrol, oil, and tackle hire show a rise compared with 1932 which may be traced, partly at least, to the application of wheat deficiency payments to increased fallow and cleaning operations.

Net Return

It has been shown in the previous pages that the gross income (excluding deficiency payments) of farmers in the Eastern Counties was 12 per cent. higher in 1933 than in 1932, that wheat deficiency payments were more than 40 per cent. greater, and that gross charges were up by 5 per cent. How do these changes affect the ***net*** returns obtained by farmers throughout the area?

There are a number of ways of measuring net returns, no one of which is suitable for every form of comparison, but each of which represents a different aspect of a complex problem. In the first place it is important to measure the amount available to meet the farmer's private cash expenses, and interest payments on borrowed capital. This measure is here termed the "Farm Income," and represents the difference between Gross Income and Gross Charges detailed in the previous pages. It must be noted that interest on borrowed capital is a prior charge on the Farm Income, and that the proportion of the Farm Income which is available for the farmer's private needs depends on the amount of capital he has borrowed and the interest rates he must pay. The following Table compares the Farm Income in each of the three years 1931-33.

Farm Income in £ per farm

Size of farm	1933		1932		1931	Amount by which Farm Income (including deficiency payments) was less than (−) or exceeded (+) a fair return for capital invested and for occupier's labour		
	Excluding "deficiency payments"	Including "deficiency payments"	Excluding "deficiency payments"	Including "deficiency payments"		1933	1932	1931
Acres	£	£	£	£	£	£	£	£
20–50	+ 19	+ 42	+ 5	+ 24	+ 28	− 83	−102	−104
50–100	+ 34	+ 85	− 10	+ 29	nil	− 66	−122	−156
100–150	+ 49	+142	+ 8	+ 72	+ 22	− 42	−115	−166
150–300	+ 43	+203	− 33	+ 79	− 5	− 35	−161	−244
300–500	+ 86	+363	−131	+ 45	− 24	+ 42	−266	−345
Over 500	+214	+680	−285	+ 86	− 60	+243	−374	−516
All farms	+ 42	+140	− 23	+ 47	+ 7	− 45	−140	−183

It is clear that even excluding the deficiency payments the Farm Income in 1933 was better than that of either 1932 or 1931 in every size group except the smallest; the weighted average for " all farms " being + £42, −£23, and + £7 for the three years respectively. When deficiency payments are included the improvement shown is, of course, even more marked, and the largest farms stand out conspicuously as a result of the benefits received under the Wheat Act. Indeed it is only amongst farms of over 300 acres that the Farm Income in 1933 (including deficiency payments) has on the average been adequate to make a fair return for the capital invested and for the occupier's labour. It will be noticed, however, that it was on these large farms that the deficit was heaviest in the two preceding years.

With the exception of holdings over 300 acres in size, the Farm Income in 1933 was insufficient to provide a wage averaging about £120 per annum to the farmer himself (this allowance for the occupier's labour varies between one size group and another*) and interest at 5 per cent. on the capital invested. The amount by which the Farm Income fell short of the sum necessary to re-imburse these two factors is indicated in the Table above. For " all farms " the deficit averages £45 compared with £140 in 1932 and £183 in 1931. Expressed in another way, it would have been necessary for prices secured for 1933 produce to have been 4 per cent. higher than they actually were to have provided a fair return for the work of the occupier and for the capital invested. This figure of 4 per cent. compares with 14 per cent. and 18 per cent. for the years 1932 and 1931 respectively. It must again be

* See Page 4, para. (5).

emphasised, however, how largely the wheat deficiency payments have benefited farmers in the eastern counties in 1932 and 1933. But for this subsidy, prices secured for 1932 and 1933 produce would have failed by 23 per cent. and 14 per cent. respectively to provide a fair return for the capital invested and for the work of the occupier.

In addition to his share of the Farm Income the farmer gets certain drawings in kind (use of dwelling house, farm produce used in the household, etc.) which tend to lessen his private cash needs, although they do not *directly* help to meet them. Further, an allowance for unpaid family labour (*e.g.*, wife and children) other than that of the occupier himself has been included amongst the Gross Charges, and the Farm Income does not, therefore, give a complete picture of the amount which the holding has made available for the use of the occupier and his family. These two supplementary sources of "Family Income" are of special importance on the smaller farms, as the following Table indicates.

Family Income in £ per farm

Size of farm	Components of Family Income in 1933:				Total Family Income		
	Farm Income excluding deficiency payments	Wheat deficiency payments	Labour credited to wife and family	Private Drawings in kind	1933	1932	1931
Acres	£	£	£	£	£	£	£
20–50	19	23	30	42	114	91	101
50–100	34	51	38	49	172	113	86
100–150	49	93	46	57	245	168	129
150–300	43	160	36	72	311	186	106
300–500	86	277	28	76	467	156	94
Over 500	214	466	56	101	837	216	86
All farms	42	98	36	56	232	136	101

The comparative stability of the Family Income in the smallest size group over the three years reviewed is largely due to the high proportion of the total which drawings in kind and family labour represent. The importance of wheat deficiency payments in contributing to the Family Income on the largest farms is clearly shown. For "all farms" the Family Income in 1933 averages £232, as compared with £136 and £101 in 1932 and 1931 respectively.

2. Economic Data.

The previous section of this chapter has described the financial organisation of farms of different sizes in the Eastern Counties in 1933, while the diagrams on pages 21, 22, and 23, based on averages for the three years 1931-33, and expressed on a common denominator of 100 acres, illustrate graphically the variations which occur between groupings of different sizes of farms and groupings referring to the different agricultural "districts." A glance at these diagrams will make clear how great are the differences in organisation between one group and another.

Farm Capital

The Michaelmas valuation of capital invested in farm live and deadstock is approximately 50 per cent. greater per 100 acres on the smallest farms than on the largest farms. A marked variation also occurs in the distribution of capital, and the following figures indicate the percentage composition of the total farm capital in each size group averaged for the three years 1931-33, and for "all farms" in each of the three years.

Percentage Composition of Farm Capital

	Average for 1931–33 grouped by size of farm						All farms		
	20–50 acres	50–100 acres	100–150 acres	150–300 acres	300–500 acres	Over 500 acres	1933	1932	1931
	%	%	%	%	%	%	%	%	%
Dairy Cattle ...	16·9	16·2	15·7	14·5	11·2	9·4	14·0	13·7	14·2
Other Cattle ...	4·8	6·0	6·9	8·8	9·0	6·9	7·1	7·4	8·0
Sheep	0·4	1·0	1·9	3·9	6·2	9·8	3·3	4·1	4·5
Pigs	5·3	4·3	3·4	3·2	3·2	2·7	3·6	3·4	3·5
Poultry	7·4	4·4	3·8	3·0	2·5	1·3	3·6	3·7	3·3
Horses	8·4	8·6	8·0	7·1	6·9	7·0	7·2	7·7	7·8
Crops and Tenant right	35·9	40·2	41·8	41·7	43·0	46·7	43·4	42·1	39·8
Implts.andmach'y	20·9	19·3	18·5	17·8	18·0	16·2	17·8	17·9	18·9
TOTAL CAPITAL	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100.0

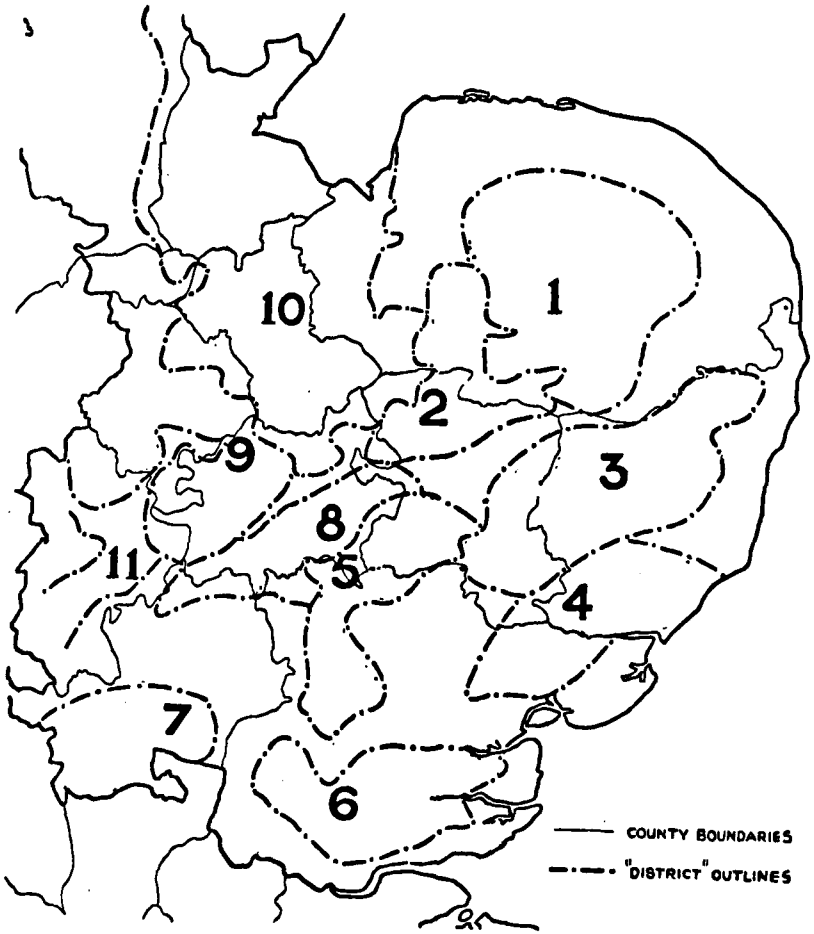
On the average 40 per cent. of the total farm capital is invested in livestock, 42 per cent. in crops, and 18 per cent. in implements and machinery. It should, perhaps, be emphasised that while the amount of capital invested in livestock and in implements and machinery remains comparatively constant throughout the year, there are marked seasonal variations in the amount invested in crops. The above proportion of total capital represented by crops is the maximum under this heading for any time throughout the year, and must be associated with maximum bank overdrafts and other credit.

DISTRIBUTION OF SOIL TYPES IN THE EASTERN COUNTIES.

CODE TO SHADINGS:

ALLUVIUM
BRECK
LIGHT
MEDIUM
HEAVY
CLAY

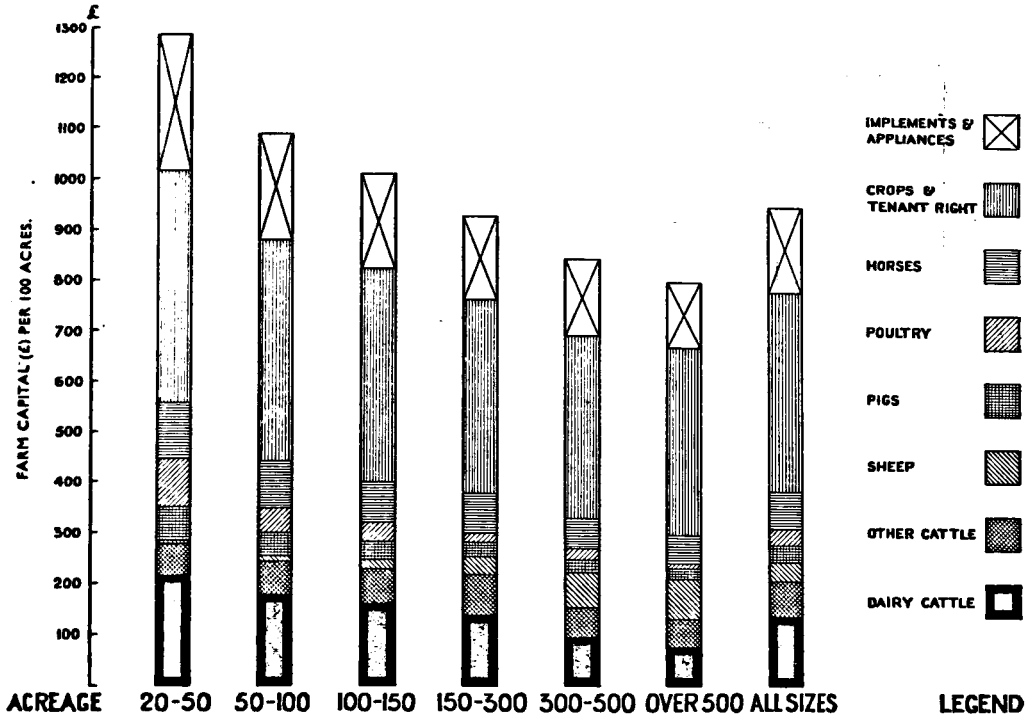
DIAGRAM I



AGRICULTURAL "DISTRICTS" IN THE EASTERN COUNTIES.

CODE TO DISTRICT NUMBERS:

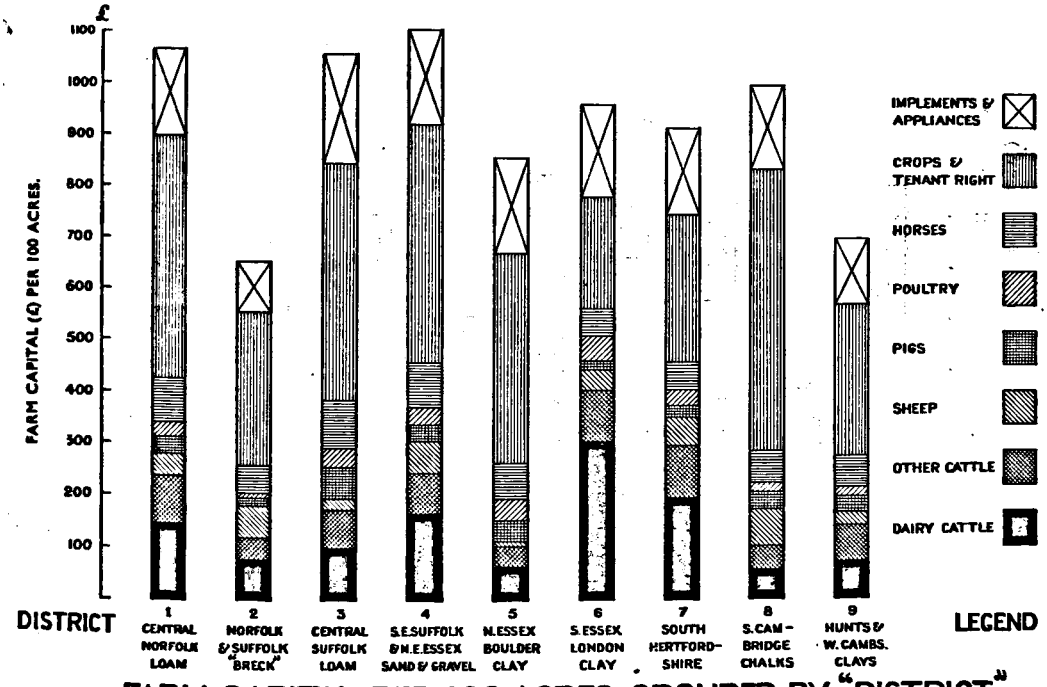
1. Central Norfolk loam
2. Norfolk and Suffolk "breck"
3. Central Suffolk loam
4. S.E. Suffolk and N.E. Essex sand and gravel
5. N. Essex boulder clay
6. S. Essex London clay
7. S. Hertfordshire
8. S. Cambridge chalk
9. Hunts. and W. Cambs. clay
10. Fen alluvials
11. Beds. greensand and gravel



FARM CAPITAL PER 100 ACRES GROUPED BY SIZE OF FARM

(AVERAGES FOR 3 YEARS 1931 - 33)

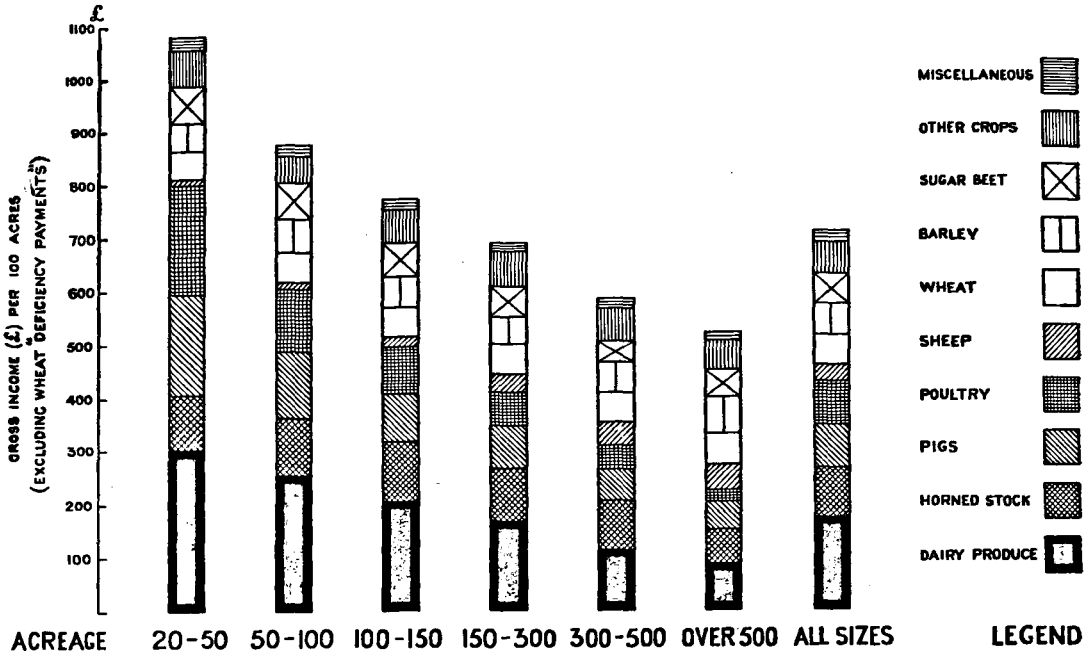
DIAGRAM III



FARM CAPITAL PER 100 ACRES GROUPED BY "DISTRICT"

(AVERAGES FOR 3 YEARS 1931 - 33)

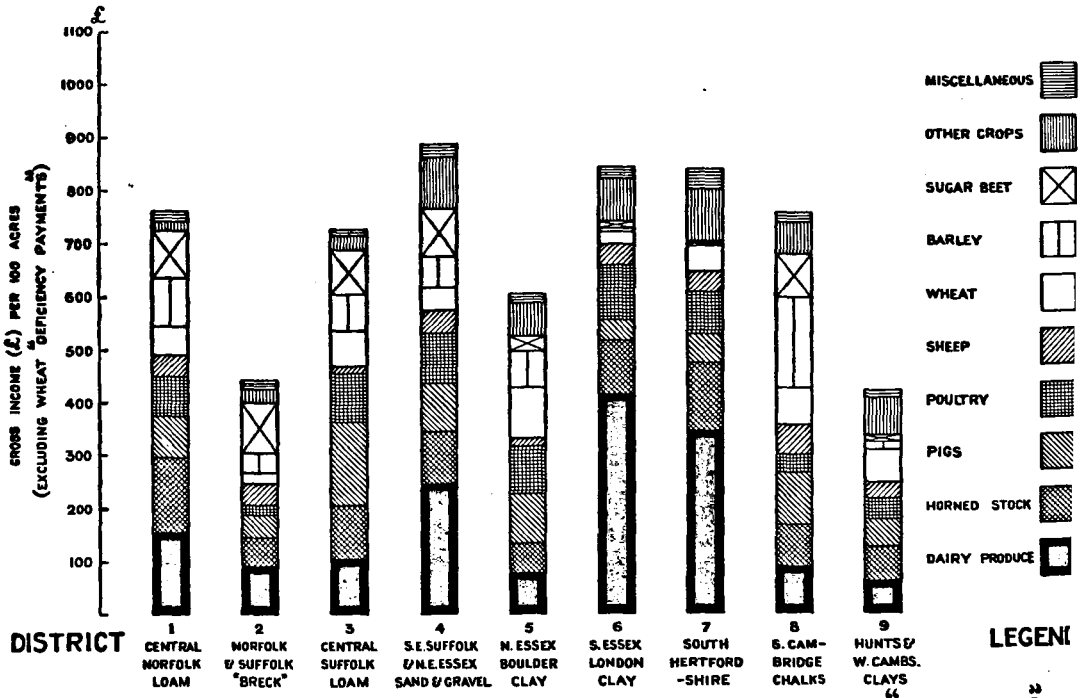
DIAGRAM IV



GROSS INCOME PER 100 ACRES GROUPED BY SIZE OF FARM

(AVERAGES FOR THREE YEARS 1931-33)

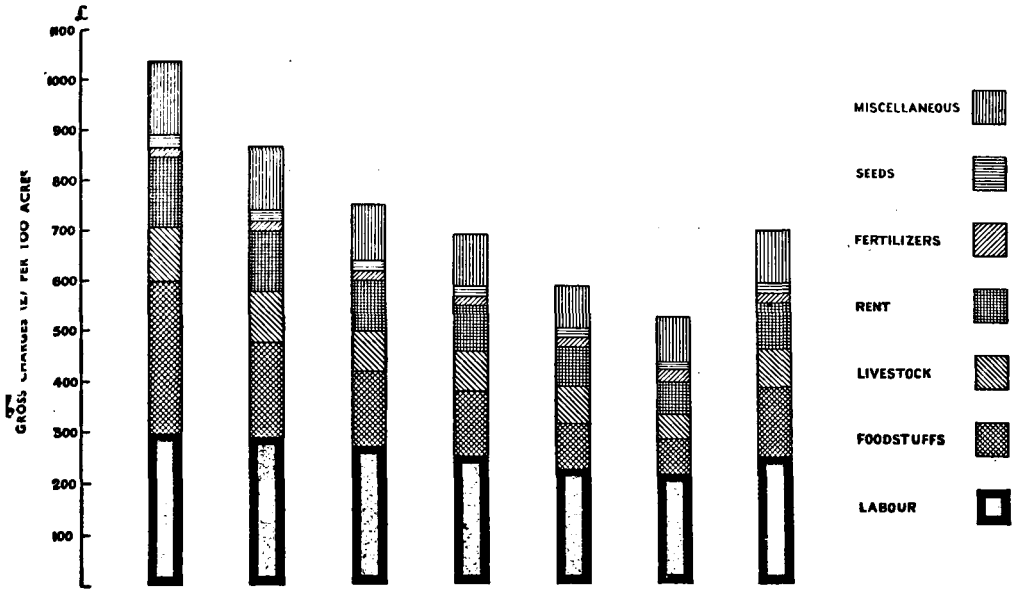
DIAGRAM V



GROSS INCOME PER 100 ACRES GROUPED BY "DISTRICT"

(AVERAGE FOR THREE YEARS 1931-33)

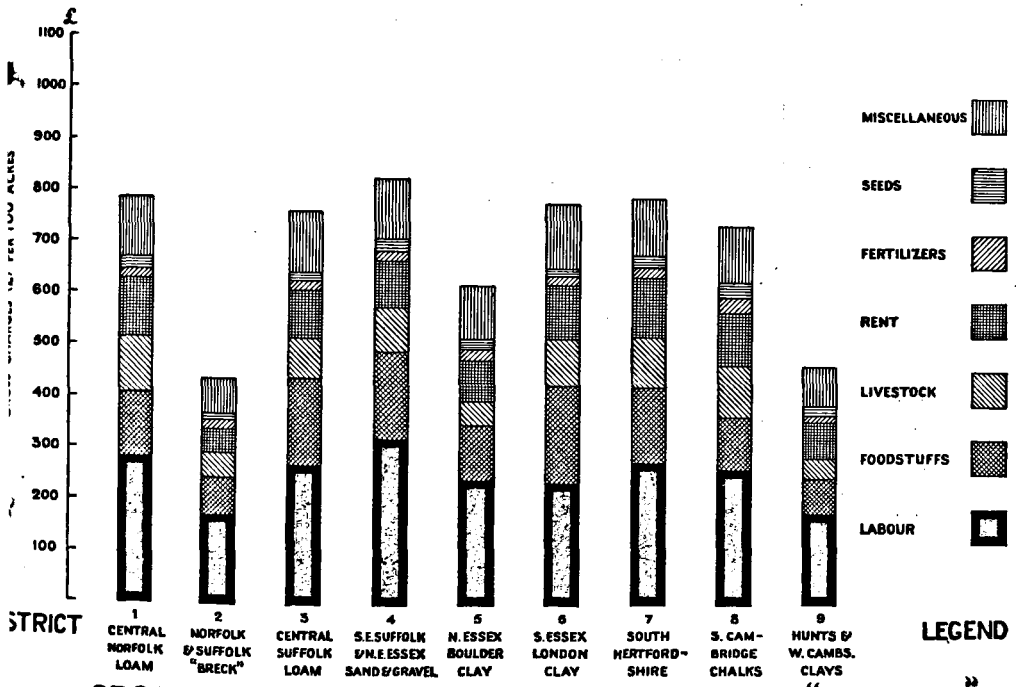
DIAGRAM VI



GROSS CHARGES PER 100 ACRES GROUPED BY SIZE OF FARM

(AVERAGES FOR 3 YEARS 1931 – 33.)

DIAGRAM VII



GROSS CHARGES PER 100 ACRES GROUPED BY "DISTRICT"

(AVERAGES FOR 3 YEARS 1931 – 33)

DIAGRAM VIII

Gross Income

The percentage composition of gross incomes in the different size groups averaged over the three years 1931-33, and for " all farms " for each of the three years is shown in the following Table.

Percentage Composition of Gross Incomes

Item	Average for 1931–33, grouped by size of farm						All farms		
	20–50 acres	50–100 acres	100–150 acres	150–300 acres	300–500 acres	Over 500 acres	1933	1932	1931
	%	%	%	%	%	%	%	%	%
Dairy produce ...	27·8	28·8	26·5	24·4	19·2	17·2	24·2	24·8	23·8
Horned stock ...	9·8	12·4	14·3	14·4,	16·0	11·8	10·4	13·6	16·3
Pigs	17·5	14·6	11·8	10·9	9·6	10·1	14·4	10·5	11·2
Eggs and Poultry	19·0	13·2	11·4	9·4	7·9	4·4	10·3	10·9	11·2
Sheep and wool...	1·0	1·6	2·5	4·8	7·5	8·7	4·1	2·6	6·0
ALL LIVESTOCK...	75·1	70·6	66·5	63·9	60·2	52·2	63·4	62·4	68·5
Barley	5·0	7·1	7·4	7·4	9·7	13·6	9·0	7·3	7·9
Wheat*	4·8	6·3	7·3	8·5	9·6	11·1	9·1	9·3	5·3
Sugar beet ...	6·3	7·8	8·3	8·0	6·5	9·9	9·6	9·0	4·7
Potatoes ...	3·7	2·2	2·9	3·8	2·4	2·6	2·1	3·5	3·8
Hay	0·4	0·7	1·0	1·2	1·4	1·6	0·5	0·8	1·9
Oats	0·6	0·7	0·8	0·8	1·0	0·8	0·7	1·0	0·7
Beans and Peas	0·6	0·6	0·7	0·5	0·6	0·5	0·6	0·5	0·6
Other crops ...	1·2	1·6	2·7	3·3	5·6	4·6	2·0	3·8	4·1
ALL CROPS* ...	22·6	27·0	31·1	33·5	36·8	44·7	33·6	35·2	29·0
Miscellaneous ...	2·3	2·4	2·4	2·6	3·0	3·1	3·0	2·4	2·5
GROSS INCOME *	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0

* Excluding " wheat deficiency payments."

The averages for " all farms " indicate that livestock and livestock products contributed practically two-thirds of the total gross income, although the proportion varies from three-quarters on the smallest size group to just over half on the largest farms. It has been objected that these figures are no criterion of the relative importance of crops and livestock, and from one point of view this objection is valid. For example, reference to page 71 in the Appendix shows that in each size group the produce of almost exactly two-thirds of the area under crops and grass has been consumed by livestock on the farm of origin, so that the proportion of the total gross income represented by crops is derived from only one-third of the farm area. But the composition of the

gross income does not purport to represent the distribution of the agents of production. That is another matter entirely. The fact remains, therefore, that the percentage composition of gross income gives an indication of the relative *cash* importance of the various items, and provides a basis for estimating the effect on gross incomes which changes in the price levels of different commodities are likely to exert.

It is clear that dairy produce is the largest individual item in each size group although its importance is most pronounced on the smallest farms. Averaged over " all farms " the dairy enterprise contributes nearly one-quarter of the total gross income. Pigs and poultry each contribute almost as large a proportion of the gross income as does horned stock. When it is borne in mind that the income from horned stock includes sales of breeding stock, store animals, culls from dairy herds, and veal calves, it would seem that prime fat cattle form a relatively small item in the budget. In this connection it may be stated that some duplication of entries is unavoidably associated with the livestock items, for there is invariably some exchange of animals (both stores and breeding stock) between farms previous to fattening and slaughter. Adjustment for expenditure on livestock must therefore be made if the real value of the output is to be computed (see Table V, page 69). But a similar, though smaller, adjustment must also be made in the crop items for exchange of seed between one farm and another, and taken together these alterations do not materially affect the general comparison of the relative cash importance of livestock and crops.

Excluding deficiency payments, crops represent on the average almost exactly one-third of the total gross income. This ratio agrees closely with the proportion of the total farmed area devoted to crops for direct cash sale (see page 24). On the largest farms crop sales represent nearly one-half of the gross income, compared with under one-quarter on the smallest farms. It is of interest to note, however, that, in spite of this difference in proportions, the absolute money income per 100 acres from crops is actually greater on the small farms than on the large farms.

Gross Charges

The percentage composition of the gross charges in the different size groups, averaged over the three years 1931-33, and for " all farms " for each of the three years is shown in the following Table.

Percentage Composition of Gross Charges

Item	Average for 31–33 grouped by size of farm						All farms		
	20–50 acres	50–100 acres	100–150 acres	150–300 acres	300–500 acres	Over 500 acres	1933	1932	1931
	%	%	%	%	%	%	%	%	%
Labour	28·6	33·4	35·8	36·2	37·6	40·9	34·1	36·9	35·7
Feeding stuffs ...	29·3	21·6	19·6	18·3	15·7	13·2	21·5	19·8	16·7
Rent	13·6	14·0	13·5	12·9	13·3	12·4	12·8	13·4	13·6
Livestock ...	10·2	11·6	10·6	11·3	12·2	9·1	9·3	9·9	13.6
Implts. & Machy.*	3·7	3·7	3·9	4·0	4·2	4·9	4·4	3·5	4·1
Fertilisers ...	1·8	2·2	2·6	3·1	3·1	4·5	3·0	2·9	2·8
Seeds	2·6	2·7	2·8	2·9	3·2	3·1	3·1	2·7	2·8
Coal, petrol, oil...	2·3	2·4	2·6	2·9	3·7	3·0	2·9	2·5	2·9
Tackle hire ...	1·9	1·9	2·1	2·2	2·1	1·9	2·1	2·1	1·9
Haulage ...	1·6	2·1	2·3	2·1	1·5	2·5	2·6	2·0	1·5
Miscellaneous ...	4·4	4·4	4·2	4·1	3·4	4·5	4·2	4·3	4·4
GROSS CHARGES	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0

* This includes purchases as well as repairs, but an appropriate deduction has been made for capital expenditure. Including capital expenditure the percentages would be about one-fifth greater.

Labour is the largest individual item, averaging just over one-third of the gross charges, although it is important to note that on the smallest farms it represents under 29 per cent. of the total, but increases progressively in the bigger size groups until on the largest farms it accounts for over 40 per cent. Feeding stuffs are the second heaviest item in the cost budget, being actually more important than labour on the smallest farms, but decreasing in incidence as the size of the farm increases. Rent is a fairly constant proportion in each of the size groups, and for " all farms " averages about 13½ per cent. of the total gross charges. Livestock represent the fourth largest item, and comprise in approximately equal proportions (1) replacements of breeding stock and horses, and (2) store animals. Actually these four items cover more than three-quarters of the total outlay and must, therefore, be considered the major items of expense.

In *Reports* 19 and 21 of this series attention has already been drawn to numerous data of economic interest. In the following table the more important of these are summarised in such a way as to permit comparison between different size groupings, and between the three years covered by this investigation.

	Average for 1931–33 grouped by size of farm						All farms		
	20–50 acres	50–100 acres	100–150 acres	150–300 acres	300–500 acres	Over 500 acres	1933	1932	1931
Farm capital per 100 acres £	1280	1085	1005	920	835	795	940	920	970
Capital turnover* %	76	71	69	66	61	59	72	65	64
Manual workers per 100 acres No.	5·4	4·2	3·4	2·8	2·4	2·3	3·1	3·1	3·1
Livestock units per 100 acres No.	28	22	19	18	15	14	19.3	17.9	18·0
Area under cereals per 100 acres %	33·2	34·7	32·8	31·4	31·9	31·0	32·5	32·6	31·8
Area under cash crops per 100 ac. %	31·8	32·9	32·4	31·2	32·5	32·4	35·0	32·9	28·5
Gross Income per 100 acres* £	1080	875	770	690	580	520	740	660	720
Gross Output per 100 acres* £	970	770	690	610	510	470	675	595	625
Gross ouput per manual worker* £	175	180	200	215	210	205	220	192	200
Social Output per 100 acres*† £	560	460	420	360	305	280	390	350	380
Social Output per manual worker*† £	120	110	125	130	125	120	120	110	120

* Excluding "wheat deficiency payments."
† Including private drawings in kind less rental value of dwelling house.

Rate of Capital Turn-over

The ratio of Gross Output to Farm Capital may be taken as a rough measure of the rate of capital turnover. On this basis it would appear that on the average the ratio is 2 : 3, or, expressed in another way, that the capital is turned over every 18 months. The rate of turnover is quicker, however, on the small than on the large farms, ranging from 76 per cent. on holdings of 20–50 acres to 59 per cent. on holdings over 500 acres.

Labour and Livestock Density

The number of manual workers (including family labour) varies from as much as 5.4 per 100 acres on the smallest farms to as little as 2·3 per 100 acres on holdings over 500 acres in size. Employment per unit of land on the largest farms is thus only 40 per cent. of the similar figure for holdings of 20–50 acres. The amount of livestock carried varies almost as greatly, ranging from 28 " units " per 100 acres on the smallest farms to 14 " units " per 100 acres on the largest.

Acres under Cereals and Cash Crops

In view of the criticism generally levelled against Small Holdings to the effect that they produce a comparatively small amount of cereals, it is interesting to note that in respect both of the proportion of farmed land under cereals, and the proportion of the farmed land which is devoted to crops for direct cash sale, they are on practically equal terms with the large farms. The proportion of the farmed land under cereals varies from 33·2 per cent. on the smallest farms to 31 per cent. on the largest, while the comparable figures for cash crops are 31·8 per cent. and 32.4 per cent. Reference to the diagram on page 22 will show that sales of wheat per 100 acres of farmed land are almost identical in each of the size groups.

Gross Income and Gross Output per 100 acres

Gross Output represents Gross Income less purchases of livestock, and it should be noted that throughout this publication wheat deficiency payments are not included in Gross Income. The figures on page 27 show that both Gross Income and Gross Output are more than twice as great per 100 acres on holdings of 20–50 acres as on the largest farms. On the smallest holdings crop sales per 100 acres are equal to those obtained on farms over 500 acres in size, but sales of livestock and livestock products per 100 acres are three times as great.

Gross Output per Manual Worker

In theory the gross output per manual worker varies directly with the size of farm, that is, the larger the farm the greater is the output per worker. The figures on page 27 show, however, an interesting deviation from theory in that during the three years 1931–33 the maximum gross output per worker (excluding wheat deficiency payments) has been achieved on farms of 150–300 acres in size. The explanation of the decline in output per worker on the larger farms probably lies in the fact that the drop in prices of staple farm crops has exerted a relatively greater influence on the value of the output of the large farms than on that of the small farms, and the adoption of mechanised methods has not been sufficiently rapid on the former to keep pace with the changing price conditions. If this explanation is correct, and if prices are maintained at their present level, then a further decrease in density of employment associated with increased mechanisation, or, alternatively, an increased gross output per acre associated with alterations in types of production, must be expected on the larger farms.

Social Output

Social Output is the sum of wages paid to employees, gross rents, and family income. Speaking generally it may be said that the greater the social output *per acre* the larger will be the total income of the agricultural community as a whole, while the greater the social output *per worker* the larger will be the total income of the individual members of the agricultural community. It may be pointed out that these two interests are largely conflicting, although the figures on page 27 suggest a smaller conflict than might be anticipated.

The social output per 100 acres varies from £280 on farms over 500 acres in size, to £560 on holdings of 20–50 acres—a range of exactly 100 per cent. The social output per manual worker is identical in each of these two size groups at £120, although the exceptional price conditions of the period under review (referred to in the previous paragraph on gross output) must be borne in mind in particular reference to the large farms. The minimum social output per worker is achieved on farms of 50–100 acres where the figure is only £110, but, with this exception, the variation between one size group and another does not exceed 9 per cent.

CHAPTER III.

SOME PROFITABLE FARM ORGANISATIONS.

In the following chapter the organisation of ten farms which have made comparatively substantial profits in each of the past three years is briefly described. Four of the ten farms are under 100 acres in size, and only two exceed 300 acres; they thus cluster round that mythical "average farm of 140 acres." There is nothing spectacular about any one of them—no novel machinery, prize-winning livestock, or elaborate equipment. Only one of the ten farms has any claim to be described as "specialist," and although its only cash product hitherto has been milk, half a dozen crops are grown for home consumption, while the occupier is proposing to meet the anticipated decline in milk prices by greater diversification. For the most part they can be described as ordinary mixed farms (producing anything from 20 to 30 different products), the organisation of which, combined with efficient production technique on the part of the occupier, is such as has successfully met the price conditions of the past three years. Compared with neighbouring holdings, these ten farms enjoy no special soil or marketing facilities, but as they obtain above average yields from both land and livestock, they tend to discredit the theory that low farming is the cure for economic depression.

Comparing the productivity of the 1000 farms covered by this investigation, variations of the following magnitude occur: the egg yield per hen ranges from under 50 on certain farms to over 180 on others; milk yields per cow vary from 300 to over 1200 gallons; while in the case of pigs the average number reared per sow per year may be as low as 5 or as high as 20. Similar ranges in productivity are evidenced by field crops. The problem is not one of still further increasing the yields of the high producing units, but rather of grading up, or eliminating, the low producing units. At the same time it must be borne in mind that higher yields may be obtained at too high a cost, and there seems reason for the statement that improved technique, particularly in regard to the management and feeding of livestock, could do much to relieve the burden of low prices in the Eastern Counties. The ten farmers whose organisations are described in this chapter secured high yields at comparatively low costs by a combination of two principles. Firstly, they produced a variety of products so selected and combined as to take maximum advantage of local conditions, to provide regular and full time employment to men, horses and machinery, and to make fullest use of the waste or by-products from each. Secondly, these occupiers have seen to it that their

technique of production—the balancing of rations, the judicious application of fertilisers, the elimination of low producing units, the adoption of labour saving devices, etc.—was the best they could devise, especially for their principal departments.

The following table gives certain statistical data about each of these ten farms. This table should be studied in conjunction with the descriptive material in the ensuing pages, in which the farms are arranged in ascending order of size:

Farm	A	B	C	D	E	F	G	H	I	J
Approximate Size ... ...(acres)	40	55	60	90	140	170	180	270	560	630
Soil type	light	mixed	light	medium	heavy	medium	strong	light	light	heavy
Percentage arable ... ... (%)	86	87	86	58	26	64	69	76	91	80
% arable in "cash crops" ... (%)	65	70	65	45	nil	54	57	42	65	55
Animal units per 100 acres ... (No.)	15	27	30	27	33	30	22	22	5	9
% animal units as dairy cattle (%)	48	32	77	15	81	63	35	49	nil	10
Farm capital per 100 acres ... (£)	1210	1980	1840	1450	1100	1170	1660	1370	870	850
Manual workers per 100 acres (No.)	4·6	6·6	7·1	3·6	2·0	3·9	5·6	4·2	1·9	2·1
Foods purchased per 100 acres (£)	110	290	400	330	150	130	780	158	95	46
Fertilisers purchased per 100 acres (£)	56	65	29	41	24	51	78	31	105	14
Gross farm output per 100 acres (£)	980	2020	2120	1300	1250	950	2000	1200	850	500
" " " per £100 capital (£)	80	98	115	88	103	80	118	85	95	57
" " " per £100 expenses (£)	171	160	143	148	167	132	119	139	143	113
" " " per £100 manual labour ... ... (£)	248	333	276	359	486	250	390	293	446	248
Gross livestock output per £100 foods consumed ... ... (£)	214	258	341	200	408	348	158	193	165	201
Crop yield index (Provincial average = 100) ... ... (%)	96	104	121	117	119	108	129	123	134	102

Farm A is a small holding of a little over 40 acres, of which four-fifths are arable. It is situated in a light hungry sandy soil overlying chalk. The buildings are in reasonably good repair, and the rental value about 25/- per acre.

Sugar beet is the main cash crop, and in 1933, 14 acres yielded 100 tons which realised £2 per ton. In the same year the other cash crops comprised 7 acres of wheat yielding 4 qrs. per acre, and 5 acres of barley yielding 5 qrs. per acre. Practically all the grain was sold, the wheat realising only 19/- per qr. (ex. deficiency payments), and the barley 32/- per qr. Forage crops consisted of 2½ acres of mangolds, yielding 15 tons an acre, and 5 acres of mixed seeds which (including the produce of a second cut) yielded 8 tons of hay. There were also 8 acres of permanent grass.

The livestock are 2 work horses, 3 cows, and 80 head of poultry. In 1933 the cows produced an average yield of 700 gallons, a total of some 1700 gallons of milk being sold to a retailer in a nearby town at a price of about

1/3 a gallon. In addition 3 calves were pail fed and sold fat at an average price of £5 a head during the year. The hens yielded an average of about 130 eggs apiece, which were sold wholesale.

The gross output from the farm, which has remained fairly constant for the past three years, approximated £10 per acre. Apart from the occupier himself, no permanent labour was employed, although £70 was spent on casual labour, principally for beet thinning and harvesting operations. Expenditure on fertilisers has averaged 10/- per acre over the three year period, and although the crop yields are below the Provincial average, they are considerably above the local " district " average. Feeding stuffs, on which about £50 is spent per annum, are purchased mainly for the cows, while beet haulage amounts to over £20, and is one of the largest items in the miscellaneous expenses.

The organisation of this holding is noteworthy because it is yielding a good wage to the occupier on a comparatively small capital outlay. Nearly two-thirds of the total area is devoted to cash crops, ofwhich sugar beet represents one-half, while the by-products from these cash crops (*i.e.*, beet tops, tail corn and straw) are economically used in the manufacture of milk and eggs. Surplus milk is used to fatten calves. At the same time the land is kept clean and in good heart by growing a relatively large area of sugar beet. This combination of enterprises has minimised expenses, and has resulted in a relatively high profit margin per unit of output. Clearly, however, there is a large element of risk attached to any undertaking which is wholly dependent on the continued health and strength of a single man. More capital, making possible the employment of at least one permanent hand, combined with more intensive production, would reduce this risk.

Farm B covers about 55 acres, of which a little over four-fifths are arable. It is situated on the outskirts of a village, on the fringe of a market gardening area. The holding is diffusely scattered, being comprised of as many as ten pieces of land (of which the two extremes are 4 miles apart), a fact which results in much loss of time and makes supervision difficult. The rent of the holding averages nearly £2 an acre, but there is considerable variation between one field and another, the highest rented piece (3 acres of pasture) costing 65/- per acre, and the lowest 20/- per acre. The quality and texture of the soil is also very variable and ranges from a strong clay (taken over 4 years ago in very poor condition) to a light gravelly loam. The buildings, which are also scattered, are crude.

The outstanding feature of the organisation of this farm is the large proportion of cash crops which are grown. As much as 60 per cent. of the farm area, or 70 per cent. of the arable area, is devoted to cash crops, of which at least two-thirds are " high-value " crops producing about £20 worth of produce per acre. In 1933, the cash crops were 12 acres of brussel sprouts

which realised £300, 9 acres of wheat producing 4 qrs. per acre, 4 acres of early and 5 acres of main crop potatoes which yielded 3½ and 5 tons per acre respectively, 4 acres of sugar beet averaging 7 tons per acre, and 2 acres of mangold seed, the produce of which fetched £40. In addition 5 acres of oats yielded 35 qrs. of grain, of which 15 qrs. were sold at 18/- per qr. The only crops grown wholly for home consumption were 1½ acres of mangolds and 4 acres of meadow. Three acres were bare fallowed and 5 acres were under permanent pasture.

Expenditure on fertilisers amounted to £50 in 1931, £35 in 1932, and £20 in 1933. The crop yield index for these same years (Provincial normal = 100) was 110, 113 and 90 respectively, the last figure being very suggestive in the light of the comparatively small outlay on fertilisers in that year. In addition to the purchased fertilisers, approximately 80 loads of dung are available annually from the livestock. In spite of the comparatively low yields in 1933, the total crop sales, which amounted to nearly £600, were as great as in either of the two preceding years, thanks mainly to a better price for brussel sprouts.

The principal livestock are four cows and eight sows. The former yield an average of about 700 gallons apiece, and the milk is retailed in the near-by village at 2/- per gallon. The calves are reared and sold as 2-year-old stores. The pig department is the most unsatisfactory feature of the whole organisation. The sows reared only 11-12 pigs annually, all of which, for lack of fattening accommodation, are sold as stores. In 1931 these stores averaged 25/- apiece, in 1932 20/- apiece, and in 1933 only 10/- apiece. The output per sow in 1933 was, therefore, under £6, a figure which must have left a heavy deficit. A few hens are kept to supply the homestead with eggs.

Three work horses are kept for cultivations and carting, and in addition to the occupier two men and a boy are regularly employed, while £20-£30 is spent on casual labour. Throughout the three year period output per worker amounted to over £300 a year, a very satisfactory figure for so small a farm. Expenditure on feeding stuffs totalled over £100 a year, a comparatively small amount considering the livestock carried and the large proportion of the farm area which is devoted to cash crops. In addition to the small acreage of hay and crops grown specially for the livestock, there is available, of course, a considerable amount of by-products or low quality unsaleable produce from the cash crops. In view of the unsatisfactory condition of the pig department, the relatively high livestock output secured per £100 foods consumed must be attributed mainly to the fact that milk is retailed, and partly to the utilisation of by-products from cash crops. While the retail milk round has undoubtedly contributed to the net returns of the farm, it must be emphasised that a considerable profit would have been obtained

if the milk had fetched only 1/- per gallon. Given suitable pig fattening accommodation, and with more attention to the management of the pigs, profits could be increased still further.

Farm C is situated on a light soil overlying chalk, and comprises about 60 acres, of which over four-fifths are arable. Most of the land lies nearly a mile from the farm buildings, a fact which clearly handicaps the farm organisation.

Dairying is the most important enterprise, and a timber and corrugated iron building provides accommodation for 18 cows in a long single stall cowshed. Water is laid on, and a milking machine has recently been installed. The other buildings, which have no special merit constructionally, comprise a food store, a straw and chaff shed, and a mixing room which houses a small grinding mill driven by an oil engine. The dairy and sterilising room, recently erected by the occupier, are of brick and are admirably designed. There is a plentiful supply of well water, which is pumped by electricity into a large overhead tank and distributed throughout the buildings. Electric light has also been fitted, all electricity supplies being obtained from the " grid."

The land, as the yields testify, is in excellent condition, and is very well farmed. During 1933, 19 acres of wheat yielding 4½ qrs. per acre, and 13 acres of barley yielding 5 qrs. per acre were grown. All the wheat was sold, and 55 qrs. of barley made 46/- a qr. In addition to these crops 1 acre of mangolds, 1 acre of turnips, and 2 acres of kale were grown for the cows. Six acres of oats and tares were cut green, while 7½ acres of red clover yielded 12 tons of hay, and 30 cwt. of seed, which was sold at 40/- a cwt. The rest of the land consisted of 4 acres of permanent pasture, and 7 acres of grass orchard which provides excellent pasturage for the cows, in addition to some £300 worth of fruit. In 1933 crop sales, including top fruit, amounted to £600, while the crop yield index (Provincial average = 100) was 114.

During 1933 the dairy herd consisted of 14 cows, mainly of the Shorthorn type. Yields were recorded, and the herd average for the year was considerably more than 900 gallons per cow. The concentrates for the cows consisted mainly of a balanced " dairy nut." Particular care was taken in handling the milk, and although the bacterial content was exceedingly low, a sterilising plant has recently been installed with a view to further improvement. One-third of the milk was retailed locally at 2/- a gallon, while two-thirds were sold wholesale at 1/- a gallon. Calves were sold at birth, herd replacements being bought in as heifers from well established sources. The herd wastage was low and several of the cows were more than 12 years old. The present intention is to increase the herd to about 25 cows, to buy a good recorded bull, and in future to rear replacements by selection on record.

In recent years several attempts had been made to develop a poultry department, but these had been unsuccessful. As the existing organisation provides full-time employment for the present staff, further endeavours to develop supplementary livestock enterprises have been postponed.

Some idea of the intensity of production on this small farm may be obtained by considering the value of the gross output which amounted to over £20 per acre. The labour and feeding stuffs bills each totalled nearly £400 per annum, but the productivity of labour and feeding stuffs was very high. Gross output per worker approximated £300, while livestock output per £100 foods consumed was in the neighbourhood of £340. High farming was the keynote of the organisation, and a suitable balance of enterprises for the acreage in hand, together with a high standard of technical efficiency on the part of the occupier, were jointly responsible for its financial success.

Farm D covers about 90 acres, of which two-thirds are arable. It is situated on a fertile medium loam soil, and is provided with good natural drainage. The buildings, which are old-fashioned but in good repair, lie conveniently at the centre of the land, which is intersected by hard roads. The land, which has been farmed by the present occupier for 15 years, is clean and in excellent heart.

During 1933 the cash crops comprised 17 acres of wheat yielding 5½ qrs. per acre, and 16 acres of sugar beet yielding 12 tons per acre and sold at 42/6 per ton. Six acres of oats, grown for consumption on the farm, yielded an average of 7 qrs. per acre, while 1 acre of mangolds and 5 acres of swedes were grown for stock. Twelve acres of mixed seeds yielded 12 tons of hay, while the remaining 35 acres were laid down in permanent pasture. The entire sugar beet area received 3 cwt. of "beet manure," 1 cwt. of sulphate of ammonia, 1 cwt. of nitrate of lime, and 10 loads of dung per acre, while the wheat was dressed with 2 cwt. per acre of balanced mixture. In addition to 1 cwt. of sulphate of ammonia per acre, the 6 acres of roots received 60 loads of dung.

Three work horses are kept and an attempt was made to rear two foals a year. Two cows produced milk, butter and cream for the family, all skim and surplus milk being used for stock feeding. Hitherto it has been the the practice to fatten 7 or 8 bullocks each year, but this is being discontinued on account of the recent fall in fatstock prices, and the pig unit is being increased in order to maintain the gross output. Four to six breeding sows were kept over the past three years, which produced the good total of about 70 pigs annually, and although these have hitherto been sold mainly as stores, the present intention is to develop bacon production. About 100 lambs are bought in July and August, and these are run over the pasture and later folded on sugar beet tops, and fattened off on concentrates. The poultry unit, which

has been increased from 350 birds in 1931 to 700 in 1933, is comprised mainly of R.I.R. and Wyandottes. In 1933, the egg yield gave a very satisfactory average of about 160 eggs per bird, while in addition about 1000 table chickens (worth about 3/- each) and 50 fat turkeys were produced.

In addition to the occupier the staff consists of 2 regular employees plus a considerable amount of casual work for beet operations. Although the gross farm output has been increased from £1100 to £1250 in the last three years, the labour complement has remained fairly constant, and the output per worker is high at £350. Between £300-£400 is spent annually on feeding stuffs, and the occupier is thoroughly conversant with the scientific principles of rationing. The crop yield index, which over the three years period has averaged nearly 20 per cent. above the Provincial " normal," reflects liberal manuring and good cultivation, for in addition to over 200 loads of dung available annually from the livestock, £30-£60 is spent each year on fertilisers.

Farm E is about 140 acres in size, of which only one-quarter is arable. It is situated on a heavy intractable clay soil in a district which is largely devoted to grassland dairying. With the exception of the pig department, which has recently been started, the dairy herd provides the only source of income, and it is around this herd that the whole farm organisation is centred. The farm buildings consist of a modern cowshed with accommodation for 40 cows, a large Dutch barn, a small dairy, a stable, and a range of loose boxes for calving cows, etc. The Dutch barn, which is large enough to hold a year's supply of hay and straw, adjoins the cowshed, and the surrounding yard is paved with concrete. The cowshed is a long, low, brick and concrete building with a wide central passage and a door at each end. It is equipped with tubular metal fittings and automatic water bowls, and is well lit and ventilated. There is a plentiful supply of main water.

All the crops grown are consumed on the farm. During 1933, 15 acres of oats and 3 acres of mangolds yielded 90 qrs. of grain and 50 tons of roots respectively. Two acres of kale were grown for the cows, while 15 acres of mixed seeds and lucerne yielding two tons per acre, and 22 acres of meadows yielding 1 ton an acre were cut for hay. Of the remaining land 5 acres are bare fallow, and 80 acres permanent pasture.

The pasture, which lies conveniently round the buildings, is of good quality, and contains an excellent sole of wild white clover, although on certain parts the drainage system requires overhauling. Heavy dressings of fertilisers have from time to time been applied to the pasture, and in 1931, for example, 20 acres were given 7 tons of basic slag, and 17 acres had 2 tons of an equal mixture of kainit and nitrate of soda. In 1932, 5 tons of lime were applied to other pasture fields, while in 1933 a further 5 tons of lime and 5 tons of phosphatic fertiliser were applied. The 2 acres of kale grown in 1933 received

a dressing of 4 cwt. of nitro-chalk and 20 loads of dung per acre, while the mangolds received a dressing of 25 loads of dung per acre. The clover layer also received a dressing of 2 cwt. of nitro-chalk per acre.

The dairy herd consists of about 35 Friesian type cows, which over the last three years have given an average yield of between 900-1000 gallons. All the milk is sold wholesale at an average gross price of 1/2 per gallon. The cows are rationed carefully and scientifically. Heifer calves are kept for replacement as required, and surplus calves sold at birth at about 40/- each.

The price of milk is clearly of paramount importance to this farm, and in view of the recent drop and probable future decline in milk prices, pig and poultry units are to be developed in order to maintain the farm output. Six Essex sows were bought in during 1933 to form the basis of the pig enterprise, the intention being eventually to keep 20 sows and market their progeny either as baconers or Londoners. In 1933 only 20 head of poultry were kept to supply eggs for the household, but this department is also to be increased when the opportunity arises, the objective being a unit of about 1000 laying hens. In addition to the occupier, who does his full share of manual work, two regular men are at present employed, a third man being taken on for about 6 months in the year. It is hoped that it will be possible by a re-organisation of duties to carry the additional pig and poultry stock with a total of three full time employees

An interesting feature of the economic organisation of this farm is the high output (over £12 per acre) secured from what is predominantly a grass land holding. Expenditure on purchased feeding stuffs amounts to under £2 per acre a year, so that the productivity of the pasture and of the small proportion of arable land is considerable. The livestock output per £100 foods consumed is exceptionally high at £400, and it is to this feature that a large part of the financial success is due. The labour organisation is also outstanding, for, without a milking machine, 35 cows yielding on the average over 900 gallons apiece are tended, and 40 acres of arable land maintained at a high level of production by a staff which, including the occupier himself, numbers 3 whole time and 1 part time workers. The money value of the output per man is in the neighbourhood of £500 a year. Three horses are kept for the necessary cultivations and carting. The present movement of the organisation towards greater diversification illustrates the belief of the occupier that costs may be still further reduced by spreading overheads over a greater variety of enterprises.

Farm F covers about 170 acres, of which two-thirds are arable. It is situated on a light medium loam soil, overlying chalk, has good natural drainage, and is rented at about 15/- per acre. The buildings are insufficient and in poor repair, but are conveniently situated near the centre of the farm, on a good road which gives easy access to motor transport. Dairying is the main

enterprise, and the farm is fortunate in being supplied with a number of excellent fresh water springs.

In 1933, the only cash crops grown were 50 acres of wheat yielding 5 qrs. per acre, and 13 acres of sugar beet yielding 10 tons per acre. Twenty acres of oat and pea mixture were threshed for feeding to livestock, and yielded 4 qrs. per acre. Other forage crops comprised 15 acres of oats and tares which yielded only 15 tons of hay, while 20 acres of mixed seeds for hay were a partial failure and were grazed instead of being cut. The remaining land consisted of 50 acres of permanent pasture.

Relatively heavy dressings of fertilisers were applied to the crops. The whole of the 1933 wheat crop, for example, was given a dressing at the rate of 5 cwt. of superphosphate and 2 cwt. of sulphate of ammonia per acre, and in addition 30 acres had 10 loads of dung per acre. The sugar beet crop had 3 cwt. of superphosphate, 2 cwt. of muriate of potash, and 1 cwt. of sulphate of ammonia in addition to 12 loads of dung per acre. At the same time 20 acres of pasture were given 1 cwt. of sulphate of ammonia per acre, while on another pasture field the effect of previous heavy dressings of basic slag were evident in a magnificent sole of wild white clover. The crop yields for this farm have averaged about 10 per cent. above the Provincial normal over the past three years, and in 1933 were 20 per cent. above normal.

There were 6 work horses and several young colts on the farm. The dairy herd numbered 27 cows, of mainly Friesian type, and the milk yield, which had been increased by nearly 200 gallons per cow during the last three years, averaged about 800 gallons in 1933. All milk was sold wholesale on a IIb contract. A pedigree Friesian bull was used, and dairy herd replacements, selected from the best cows, were reared on the farm. Bull calves, or unwanted heifer calves were generally sold as dropped, although a few of the former are reared as stores to utilise poor quality pasture and inferior hay. The pig unit consisted of 5 sows, and was to be further increased with a view to maintaining the farm output in the face of a probably reduced income from milk. There were no poultry.

In addition to the occupier, who rightly deserved the title of " working farmer," five regular workers were employed. The gross output per worker was not particularly high at £250, and the purchase of a tractor would probably improve this feature. In 1933, expenditure on labour (including casual work) was £520, a figure which has remained fairly constant over the past three years. Nearly £200 is spent on purchased feeding stuffs, mainly for the cows, but improvement of pastures has helped to reduce feeding costs. The livestock output per £100 foods consumed is nearly £350, which reflects not only good management of the dairy herd, but skilled treatment of pastures, and careful utilisation of by-products.

Farm G covers some 180 acres of strong loam soil, of which 125 acres are arable. It is situated in a typically rural area, and is a considerable distance from a market town. The buildings are of the old-fashioned bullock yard type and are in poor repair, but they lie fairly conveniently near the centre of the land, which is well farmed and in good heart. The farm carries a very large number of livestock of various sorts. The gross output per acre (which continues to increase annually, and for the period 1931-33 has averaged £20) is exceptionally high, while the labour organisation, as indicated by the gross output per manual worker, is extremely satisfactory.

In 1933 the production of eggs, sugar beet, pigs, table poultry, and milk were the main cash enterprises, and in that order. During the year 25 acres each of wheat and barley, averaging 5 and 4½ qrs. per acre, were grown. All the wheat and most of the barley were sold, the latter making over 40/- per qr. Thirty-six acres of sugar beet yielded an average of 12 tons per acre, and sold at 40/- a ton. Crops for home consumption comprised 3 acres of oats and 9 acres of beans, yielding 8 and 6 qrs. of grain respectively. Thirteen acres of clover yielded 18 tons of hay (a second cut from the same field producing 7 sacks of seed, which was sold at £8 a sack), while 3 acres of oat-tare mixture yielded a further 6 tons of hay. Seven acres of trefoil were folded by poultry, and the remaining 50 acres of pasture land were mainly grazed by cows and horses, although a considerable proportion was devoted to poultry.

Over the three years 1931 to 1933 an average of £150 was spent annually on fertilisers to supplement the farm-yard manure, of which about 400 loads were available each year. The crop yields reflect this generous treatment, for over the period they were 30 per cent. above the Provincial normal, and in 1933 were as much as 35 per cent. above normal. The dung is applied mainly to beet and beans. In 1933 the wheat crop had 1 cwt. of sulphate of ammonia per acre, while most of it had in addition 10 cwt. of a shoddy type of organic manure and 3 cwt. of superphosphate per acre. Most of the barley and all the oats had 5 cwt. of compound " barley manure " per acre, the beans had 3 cwt. of superphosphate, while the tares and 4 acres of bare fallow had 4 cwt. of superphosphate per acre. The 36 acres of sugar beet, in addition to dung, received 20 tons of a compound " beet manure " costing just over £8 a ton, while 10 acres had an additional dressing of 1 cwt. per acre of sulphate of ammonia. It is interesting to note that one 8 acres field of sugar beet yielded 18 tons of washed beet to the acre. All beet were drilled 26 inches apart and singled with 5 inch hoes.

Between 1931 and the end of 1933 the poultry department was increased from 500 to 3000 birds, and considerable quantities of poultry droppings are now available for mixing with the manure heap. At the same time the value of poultry as improvers of pasture was very obvious. On a 5 acres meadow,

which had been folded by poultry, the hay crop, which formerly had been around 15 cwt. per acre, has been increased to 2 tons an acre. On one of the outlying fields an experiment was being made with the rotation: (1) trefoil folded by poultry at the rate of 200 birds per acre, followed by (2) wheat, (3) trefoil seeded, and (4) wheat. It was believed that this rotation would do away with the necessity for dung carting, and minimise fertiliser requirements. Sheep were folded on sugar beet tops.

Four horses and a Fordson tractor performed the necessary cultivations. The dairy herd consisted of 14 very good Shorthorn type cows, yielding an average of about 800 gallons. The milk was sold wholesale. Stall accommodation was unsatisfactory, but is to be improved as soon as funds are available.

Throughout the three years about 4 sows had been regularly kept, and the progeny of these, together with over 100 purchased stores, were fattened annually and sold as baconers. With a view to expanding the pig department, however, 8 gilts have recently been selected from prolific parents and are to be used to increase the foundation stock. The litter record was good.

The poultry unit, which has been undergoing rapid expansion in recent years, produced in 1933 over £1500 worth of eggs and birds. The birds are run out in small units on pasture, and are well managed. Rhode Island Red hens provide the foundation stock, and these are crossed with Sussex, R.I.R., and Leghorn cocks according to whether table poultry, pure stock, or laying birds are required. By June, 1934, the number of laying birds had been increased to 5000, and the fattening department had been greatly increased.

Some idea of the intensive nature of the production on this holding may be gained from the following figures relating to the year 1933. Livestock sales, £20 per acre; crop sales, £7 per acre; expenditure on purchased feeding stuffs, £10 per acre; expenditure on fertilisers, 26/- per acre; labour bill, £4¾ per acre; miscellaneous and upkeep expenses £3 per acre. The rate of capital turnover is just twice "normal," and the output per manual worker is over £350. The least satisfactory point in the organisation appears to be the ratio between livestock output and cost of foods consumed, which averages only 160 : 100. Large quantities of high priced balanced mixtures are bought for the poultry, and with the present enormous and apparently increasing dependence on purchased foods, a 5 per cent. saving in cost per ton would pay for the services of one whole time store keeper and mixer.

The occupier pays a warm tribute to his men and states that the success of the organisation is mainly due to the way in which both the family and the hired labour have responded to unusual conditions.

Farm H comprises about 270 acres, of which three-quarters are arable. It is situated on a light soil, part of which is little better than sand. The buildings, except for the cowshed and stable, are in poor repair, and are situated near

the outer boundary of the land which is intersected by a number of hard public roads. On certain fields patches of bracken and spurry indicate soil acidity, but the land is generally clean and in excellent heart. There is good natural drainage, but the fields are unwatered, although a deep well ensures an adequate supply to the house and buildings. The rental value is roughly £1 per acre.

In 1933, 45 acres of wheat and 30 acres of barley yielded respectively 4½ and 5 qrs. of grain per acre. Practically all the wheat and barley were sold, the latter fetching 35/- per qr. Cash root crops comprised 4 acres of potatoes, which yielded 7 tons per acre, and 50 acres of sugar beet yielding 8 tons per acre (in the two previous seasons the beet yield was 11 and 10 tons respectively). Forty acres of oats were grown for consumption on the farm, and averaged 7 qrs. per acre. In addition 3 acres of mixed corn, 5 acres of mangolds, and 6 acres of cabbages were grown for the livestock. Five acres of an oats-tares-pea mixture were cut green during the summer, while 4 acres of oats and tares, and 20 acres of mixed seeds were cut for hay. In addition, 13 acres of meadow were cut for hay, and 46 acres were grazed.

Over the three years 1931-33, approximately £85 has been spent annually on fertilisers, and the crop yield index for the same period averages more than 20 per cent. above the Provincial normal. In 1933 the crop yields were the lowest they had been since 1930, and inspection of the fields in the early summer of 1934 suggested that a more generous use of fertilisers, particularly on the cereal crops, would have been repaid. In certain fields where three cereal crops had been taken in succession, the crops showed an obvious lack of plant food, and there were various indications of a shortage of lime. A wool waste preparation was the principal fertiliser purchased, and it is probable that expenditure in this direction could have been more usefully applied in the purchase of a balanced mineral manure.

Seven work horses and a tractor were kept. The dairy herd comprised 25 cows, and in recent years the yield has been increased by nearly 200 gallons per cow, and now stands at a little less than 900 gallons per cow. All the milk was sold wholesale at about 1/- per gallon. Heifer calves were kept for replacements, the bull calves being sold at birth. The number of sows had been increased from 2 to 8 during the year, while the poultry unit had been increased from 800 to 1800 laying birds during the last three years.

From the above description it is clear that milk, sugar beet and poultry are the main cash enterprises of the farm, being jointly responsible for approximately two-thirds of the gross income. During the three years under review the gross output has increased from £2800 in 1931 to £3100 in 1932 and £3500 in 1933, and this remarkable achievement has been obtained without any addition to the labour staff, which numbers 11 workers. With the rising

livestock output expenditure on purchased feeding stuffs has been increased from £400 to £600, but the livestock output per £100 foods consumed has also risen from £160 to £225. The increased expenditure on feeding stuffs is at least partly due to the fact that during the period the area under wheat has been increased at the expense of the oat acreage. The whole organisation, which is designed to make the fullest possible use of by-products and provide effective full time employment for the whole staff, is cemented by a high degree of technical efficiency in the principal departments.

Farm I covers 560 acres, of which more than nine-tenths are arable. For the most part the surface soil is light and shallow, lying directly on chalk, occasional outcrops of which are visible in the form of small infertile patches. The bulk of the land slopes towards the south and has good natural drainage; the remainder lies on a flat plain at the bottom of the slope, and here the soil is deeper, and of a sandier nature. The soil is very responsive to applications of artificial manures, and admirably adapted to barley growing, which is the main enterprise of the farm. The fields are all large and of good shape, the largest being 120 acres. There are two sets of buildings of the old-fashioned type, but in good repair. The old bullock yards have been adapted for pig fattening, which now forms the principal livestock enterprise.

In 1933, 30 acres of wheat were harvested and yielded 5 qrs. per acre. For the same year 270 acres of barley yielded an average of 6 qrs. per acre, of which 1500 qrs. were sold at 50/-. At the same time 40 acres of oats yielded 5½ qrs. per acre, and 160 qrs. were sold at 18/- per qr. In addition to cereal crops, 12 acres of potatoes were grown and produced 85 tons of ware, a 5 acres piece yielding an average of 10 tons per acre. The potatoes were sold at 60/- per ton. All potatoes received 15 cwt. of a balanced " potato manure " in addition to 12 loads of dung per acre. Two acres of lucerne were cut green for horses and pigs, while 15 acres of meadows were cut for hay. There is also a 14 acres grass orchard, from which £130 worth of fruit was sold during the year, while 150 acres of arable land were bare fallowed. The remaining 16 acres are in permanent pasture. Some idea of the intensity of crop production may be gathered from the fact that over the three years 1931-33 the crop yield index (normal = 100) was 134, while crop sales amounted to more than £4000 per annum. At the same time it is important to note that a difference of 10/- per qr. in the price of barley would increase or decrease gross income by £700.

More than £500, or £1 per acre, is spent annually on fertilisers. As much as 12 cwt. of fertilisers per acre are applied to 2nd year barleys, while first year barleys are dressed with 4½ cwt. of special barley manure, followed in late spring or early summer by a dressing of 3 cwt. of kainit. The first application of fertilisers is generally drilled in with the seed. It is claimed that this practice results in a quicker and more even growth, and the

latter of these contentions is certainly borne out by the general appearance of the barley crop. On 2nd year barleys 9 cwt. of balanced fertiliser is applied in two dressings of 4½ cwt., the first dressing being drilled with the seed and the second in April, while 3 cwt. of kainit per acre is later put on to help to retain the moisture. Four crops of barley in succession have been taken from the same field without mishap. The usual seeding is 3 bu. an acre, and the best selected seed is purchased. The highest yield in 1933 was obtained from a 25 acres field which returned an average of 8 qrs. of malting barley and 1 qr. of tail per acre. A barley dryer has been installed, capable of drying 10 sacks an hour, and is proving very satisfactory. Germination tests, before and after drying, conducted by competent authorities, indicate that germination is quicker and more even on the dried samples.

Comparatively few livestock are kept. Nine work horses and three tractors are required for the farm work. Fifty bullocks were fattened in 1931 and 20 in 1933, but as a result of low beef prices bullock fattening has been discontinued. The only other livestock consist of 12 brood sows, the progeny of which, together with 200 purchased stores, are fattened. The sows are Large Whites, or Large White/Large Black crosses, and are in good condition. A pedigree Large White boar is used, and an excellent record of 16 pigs per sow was obtained during 1933. During gestation and suckling the sows run out in the orchard. On weaning, the small pigs are taken into the yards for fattening. Balanced rations are used throughout. Pigs are marketed generally as porkers, 350 sold during the year bringing in £1000. Approximately £500 is spent on feeding stuffs.

The most outstanding feature in the economic organisation of this farm is the large output secured per unit of labour, the output per worker approximating £450 over the past three years. The nature of the soil and the lay-out of the farm are both suitable to mechanised methods of cultivation, and about 400 tractor days are worked in the year. While the occupier has no intention of purchasing a combine-harvester, of the value of which he is sceptical, it is clear that he has largely supplemented his labour staff with machinery, and has adopted many devices to increase the efficiency with which his labour is applied. The whole organisation is now run with 8 employees, a reduction of one since 1931, while the gross output averages £8½ per acre. While the financial success of the farm is largely dependent on the price of malting barley and pigs, the high standard of technical efficiency obtained ensures a profit on both these enterprises at very much less than current prices.

Farm J, situated on a heavy loam/clay soil in one of the most depressed areas in the Province, is 630 acres in extent, of which 500 acres, or approximately 80 per cent., are arable. The profits (excluding wheat deficiency payments) secured in each of the three years 1931-33, although not particularly

good in themselves, are very much higher than those obtained by neighbouring farmers. The land is clean and well drained, the fields are large and unfenced, and this latter characteristic, in conjunction with lack of water, has made it impossible to embark on dairying, for which the farm otherwise appears admirably suited. The buildings, although centrally situated and in good condition, are of the old-fashioned type. The rent is about 15/- an acre.

Wheat, small seeds, poultry and pigs are the main cash enterprises. Of these the small seeds crop is extremely speculative, and in two of the years under review was completely lost as a result of unfavourable weather conditions. Of the arable land, two-thirds is of poor quality and requires a bare fallow or a bastard fallow every other year. On this poor land the rotation is bare fallow, followed by wheat, then seeds with a bastard fallow, then wheat and back again to bare fallow. On the better arable land no definite rotation is followed, and a considerable amount of cross-cropping is practised. The cropping of one of the best fields during the last 8 years has been as follows :— wheat, barley, clover, wheat, fallow, wheat, barley, peas. The organisation has altered little during the past three years, except that rather more wheat has been grown as a result of the Wheat Act, and that the poultry unit has been increased from 400 to 1000 laying birds.

Some idea of the general practice can be gained from the details of the 1933 organisation. In this year 210 acres of wheat, 48 acres of barley, and 21 acres of oats were grown. The wheat and barley averaged 4 qrs. per acre, the whole of the former crop being cashed, and 140 qrs. of the latter being sold at 40/- per qr. Oats averaged 4½ qrs. per acre and were all consumed on the farm. Twenty-one acres of beans yielded only 2 qrs. per acre, while 24 acres of peas gave a total yield of 96 qrs., of which 90 qrs. were sold at 40/- per qr. In addition 11 acres of green meat, 6 acres of mangolds, and 2½ acres of swedes were grown, while 105 acres were bare fallowed. Turning to small seeds, the produce of 12 acres of wild white clover fetched £100 ; 56 acres of mixed seeds yielded 64 tons of hay, of which 25 tons were sold at £4 a ton. The small seeds layers were a complete failure, and were ploughed up and fallowed. The rest of the land comprised 105 acres of permanent pasture.

Six cows were kept which reared 14 calves during the year, and in addition supplied the farmer's household with dairy produce, and yielded a small quantity of butter for sale. The other horned stock were bullocks, of which 18 were sold during the year. The pig unit comprised 15 sows, producing an average of 13½ pigs per sow per annum. These were sold as pork at good prices in the open market, 230 fat pigs fetching £880. All pigs were fed on suitably balanced rations, and both the sows and the weaned pigs had access to pasture, and were allowed to glean the bean and pea stubbles. One thousand

White Wyandotte hens produced approximately 6400 score of eggs during the year, giving an average of about 130 eggs per bird. The price received for eggs averaged 1/10 per score throughout the year, and the egg sales amounted to nearly £600, while in addition £150 was taken for sales of birds.

In 1933 the work of the farm was accomplished by 12 men, 15 work horses and a tractor. This staffing represents a reduction of 3 men, and an increase of one horse since 1931. In spite of this reduced employment, total output has been increased over the period, and output per worker has risen from £190 in 1931 to £280 in 1933. Expenditure on purchased feeding stuffs has more than doubled during these three years as a result of the Wheat Act and increased poultry commitments, but the livestock output per £100 foods consumed has risen from £150 to £230; this latter figure being a very creditable one. Purchases of fertilisers have remained fairly constant, and in 1933 amounted to about £80. In addition to this a fairly large quantity of dung is, of course, available, and although crop yields are only slightly above the Provincial "normal," they are considerably better than the local average.

CHAPTER IV.

Some Unprofitable Farm Organisations.

By way of a contrast to the previous chapter a brief account is here given of the organisation of four farms which, during the three years 1931-33, were consistently unprofitable. Generalising, it may be said that these farms keep fewer livestock, have a smaller proportion of cash crops, buy less fertilisers and feeding stuffs, have lower yields both from crops and livestock, and produce less wealth per acre than the profitable farms already described. Their ratios of output to factors of production fall far below similar measures for profitable farms. Rate of capital turnover, for example, is about 30-40 per cent., output per worker is under £100, while livestock output per £100 foods consumed is only about £110, the comparable ratios for the profitable farms being approximately 90 per cent., £330, and £250 respectively. While shortage of capital is a matter to which commiseration rather than blame is attached, yet it seems probable that with their present organisation and standards of technical efficiency, additional capital would soon be dissipated by the occupiers of these unprofitable holdings.

The above paragraph, and the description of the four unprofitable farms which follows, is not intended to convey the impression that every farm may be made to provide an adequate return merely by adjusting the organisation or improving the technical efficiency. While on many farms profits may be increased or losses reduced by such methods, yet there are many which, on account of adverse soil conditions or other handicaps largely outside the control of the occupier, cannot be made profitable under current price and cost relationships. It is important to appreciate the fact that by no means all the factors influencing profitableness in farming are within the control of the occupier. Farm O, the fifth and last to be described in this chapter, is included merely as an example of a type of large scale organisation situated on a heavy clay soil, which, by reason of the limited cropping possibilities of the land, is largely dependent for profit on the price of wheat. But for the Wheat Act it is difficult to see how the natural handicaps with which this farm is confronted could be overcome under current price and cost conditions.

The following table provides certain data relating to the five farms described in the ensuing pages :—

Farm	K	L	M	N	O
Approximate size ... ...(acres)	160	180	200	225	1700
Soil type	heavy	medium	mixed	strong	heavy
Percentage arable ... ... (%)	71	54	66	72	71
% arable in cash crops ... ... (%)	27	40	36	36	52
Animal units per 100 acres ... ... (No.)	18	28	14	11	14
% Animals as dairy cattle... ... ... (%)	22	17	54	27	13
Farm capital per 100 acres ... ... (£)	690	1090	650	770	660
Manual workers ,, ,, ,, ... (No.)	2·4	3·5	3·6	2·8	1·7
Foods purchased ,, ,, ,, ... (£)	35	84	21	15	41
Fertilisers ,, ,, ,, ,, ... (£)	6	11	1	11	7
Gross farm output per 100 acres... ... (£)	170	390	315	255	320
,, ,, ,, per £100 capital ... (£)	24	33	43	30	46
,, ,, ,, per £100 expenses ... (£)	43	57	53	55	87
,, ,, ,, per £100 manual labour (£)	75	110	80	93	193
Gross livestock output per £100 food consumed (£)	120	91	156	84	148
Crop yield index (Provincial average = 100) (%)	60	108	84	103	83

Farm K comprises 160 acres, of which seven-tenths are arable. It is situated on a heavy clay soil, and the farm buildings, which are in poor condition, are placed near the outer boundary. The land, some of which is badly in need of draining, is in a foul condition; docks, creeping thistles, black grass and charlock being very much in evidence. The rent is about 14/- an acre.

During 1933 the cash crops were 40 acres of wheat and 8 acres of barley, both crops yielding only 2½ qrs. per acre. Except for the tail corn, all the grain was sold, the barley averaging only 30/- per qr. Seven acres of oats, yielding 4½ qrs. per acre, were grown to be consumed on the farm, while 5 acres of beans were so poor that they were not considered worth threshing. Seven acres of field peas yielded 3½ qrs. per acre, and 5 acres of tares were cut green for livestock during the summer. Ten acres of clover for hay were a complete failure, and 10 acres of meadows yielded only 7 tons of hay. Thirty-six acres of land were bare fallowed, and the remaining 30 acres were under permanent pasture. Although the total crop sales off 118 acres (excluding wheat deficiency payments) amounted to only £130 in 1933, they were the highest for three years. In 1931 £17 had been spent on fertilisers; the crop yield index was 63, and the crop sales £100; in 1932 nothing was spent on fertilisers, the crop yield index was 57 and crop sales amounted to only £40; while in 1933 £10 was spent on fertilisers, and the crop yield index was 60. Approximately 160 loads of dung were available from the livestock each year.

Five cows gave an average yield of just over 500 gallons each, the produce being made into butter which realised 1/4 a lb. The calves were reared and sold as stores or fat at 2-3 years of age. A flock of 30 ewes produced an average of one lamb apiece, while there was one sow which, over the three years had reared 40 pigs, most of which were sold as stores. One hundred hens each

produced about 60 eggs per year. It is clear that the productivity of the livestock is little better than that of the land, and the livestock output per £100 foods consumed amounted to only £120.

Four work horses were kept, and three men in addition to the occupier were regularly employed. The gross farm output amounted to less than £2 per acre, and for every £100 spent by the occupier nearly £60 was being lost. Lack of capital may have much to do with the present position, but as the occupier has been 25 years in this particular farm, and must have enjoyed good times as well as bad, lack of initiative or ability to adjust the organisation to meet changing conditions, and to adopt efficient production technique, must be considered to be mainly responsible for his unfortunate plight.

Farm L covers 180 acres of medium/strong loam, of which approximately half is arable. The farm buildings, which are of the old-fashioned type and in poor repair, are situated about a hundred yards off the main road, and lie near the centre of the farm. The land is well farmed and in excellent condition. The hedges are cut back and the ditches open. Good crops are grown and efficiently marketed, but the organisation fails through lack of interest in the livestock departments, and undue dependence on " low value " cash crops.

In 1933, 40 acres of wheat yielded at the rate of 5 qrs. per acre, while 8 acres of barley produced 40 qrs., of which 30 qrs. were sold at 46/- per qr. In this year sugar beet was grown for the first time for a number of years, and 9 acres yielded 10 tons per acre. Crops grown for home consumption comprised 4 acres of oats and 3½ acres of beans, the former yielding 7½ qrs., and the latter 4 qrs. per acre. In addition 8 acres of mangolds, 2 acres of swedes, and 5 acres of turnips were grown for sheep and cows, while 10 acres of mixed seeds yielded 10 tons of hay. The remainder of the land comprised 80 acres of permanent pasture.

In addition to some 400 loads of dung available from the livestock, about £20 was spent annually on fertilisers. The crop yield index was nearly 10 per cent. above the Provincial average over the three years, but except for 1933 when a small acreage of sugar beet was grown, crop sales were low as only about one-fifth of the farm was under cash crops, and no " high value " cash crops were grown.

Turning to livestock a small dairy herd of 7 cows yielded about 500 gallons each. Of the total milk produced approximately one-third was sold whole at 1/4 a gallon, one-third was made into butter, and one-third fed to livestock. The calves were reared and sold as stores, or fat, at 1-2 years of age. The sheep flock comprised 120 Suffolk ewes, producing about 23 lambs to the score, which fetched an average price of 41/- in 1931, 19/- in 1932, and 24/- in 1933. Four sows reared an average of 8 pigs each in the year, which were generally sold as large stores or small pork. The poultry department contained a very

mixed assortment of about 150 hens, 100 ducks, and 20 geese, while 30 turkeys were fattened for the Christmas trade. Egg sales amounted to only £40 and sales of birds to £60 a year. About £150 was spent annually on purchased feeding stuffs, and the livestock output per £100 foods consumed was only £90.

Labour represents the main item of expenditure, and 5 workers, in addition to the occupier, are permanently employed, while the farmer's wife looks after the poultry. Including casual labour, the labour bill amounts to over £500 per year, and the gross output per manual worker is only a little over £100 per year. There is no tractor, but 5 working horses are kept for cultivations and carting.

Considering the size of the farm, the gross output per acre is too low. Extension of, and improved technique in, the livestock departments could be achieved without adding to the labour staff or overhead expenses, and would result in an increased gross output, a quicker rate of capital turnover, a larger output per worker, and a higher livestock output per £100 foods consumed. The only alternative is to reduce the labour bill (maintaining the present organisation), but it is almost certain that this would have only a very limited effect. If the first alternative is adopted, and if more sugar beet is grown and a larger proportion of arable land devoted to cash crops, the losses experienced in recent years could almost certainly be changed to profits.

Farm M is 200 acres in extent, of which two-thirds are arable. About one-third of the land can be described as a heavy clay, while two-thirds is a gravelly loam. The farm is situated on the outskirts of a large town, and the land has been farmed by the present occupier for over 30 years, and is in poor condition. Practically no fertilisers have been bought for many years and tall, thick, dark-green patches of wheat standing out from the short anaemic-looking surrounding crop clearly mark where hedge trimmings were burnt in the preceding year, while fields which had received a dressing of dung showed the effect in a striking manner.

During 1933 the cash crops (which realised less than £250) consisted of 34 acres of wheat yielding 4 qrs. per acre, 3 acres of field peas yielding 2 qrs. per acre, 4 acres of seed mustard, the produce of which fetched £6 per acre, and 2 acres of potatoes yielding 6 tons per acre. In addition a small quantity of clover seed was obtained from a second cut, and about £30 worth of fruit was sold off a 5 acres orchard. Crops grown for home consumption comprised 6 acres of barley and 9 acres of oats (each yielding 3 qrs. per acre); 3 acres of green meat, 6 acres of mangolds, 3 acres of turnips, and 1 acre of cabbages. Ten acres of clover produced 1 ton of hay per acre, and 18 acres of meadow yielded 15 cwt. of hay per acre. Twenty-eight acres of land were bare fallowed, while the remaining land comprised 12 acres of fairly good permanent pasture

and 55 acres of arable land which had been allowed to go derelict in recent years. The crop yield index averaged nearly 20 per cent. below the Provincial normal over the past three years.

Ten cows are kept, of which 3 or 4 suckle calves; about 6 fat calves being sold annually at £6-£7 a head. The yield from the other cows is very low, a total of only some 2000 gallons of milk being sold in the year. This is retailed locally at an average price of 1/6 per gallon. Three sows reared a total of 25 pigs a year which were sold as baconers. The pig unit is now in the process of being expanded, and new accommodation for 10 sows, and an excellent fattening shed for their progeny have recently been constructed. The only other livestock are poultry, which over the three years have decreased in number from 200 to 100. The egg yield has averaged about 70 per hen, and only a few birds are sold for table purposes.

The permanent labour staff numbers six men, while 4 horses and a tractor are kept for cultivation. Nothing is spent on fertilisers, and less than £50 worth of feeding stuffs are purchased annually. Less than a quarter of the farm is under cash crops, and the only " high value " crops grown are a couple of acres of potatoes, although there is a reasonable outlet locally for market garden produce. At least some of the land is suitable for sugar beet, but no attempt has been made to grow this crop. The district is suited to top fruit, and yet the 5 acres of orchard are in a very poor condition. Very few livestock are carried, and these are all low producers. The gross output of the farm amounts to only £3 per acre, the output per worker being less than £100.

Farm N is 225 acres in extent, of which nearly three-quarters is arable. It is situated on a strong loam/clay soil, and the land is generally clean and in good condition, although about one-third of the farm would benefit from draining. Hedges and ditches are in excellent condition. The farm buildings are centrally situated on a good road, but are in poor repair and highly unsuitable for pig production, which is the main livestock enterprise on the farm.

In 1933, the cash crops were 50 acres of wheat yielding 5 qrs. per acre, 17 acres of barley yielding 4½ qrs. per acre, and 24 acres of field peas, yielding 2½ qrs. per acre. All the wheat, half the barley, and half the peas were sold, the barley making 50/- a qr. and the peas 30/- a qr. Total crop sales (excluding wheat deficiency payments) amounted to £400, and were the highest for three years. Forage crops consisted of 24 acres of oats yielding 7 qrs. per acre, 13 acres of beans which were almost a complete failure and yielded a total of only 10 qrs., 3 acres of mangolds and 13 acres of meadow hay. Twenty-three acres were bare fallowed, while 45 acres of permanent pasture and 5 acres of rough grazing accounted for the rest of the land. Over the past three years about £25 has been spent annually on fertilisers and the crop yield index has averaged 2-4 per cent. above the Provincial normal. In addition

to purchased fertilisers 300-400 loads of dung are available annually from the livestock.

Two cows are kept to provide milk for the household. Four or five calves are bought in to be reared with those bred on the farm, and about 10 yearling stores are also purchased to be sold fat or as down-calving heifers. Sales of horned stock have averaged £150 a year over the past three years, but owing to the decline in cattle prices commitments in this department are being decreased. A hundred head of poultry brought a gross income of about £40 a year from eggs and table birds. Pigs, however, are the most important livestock enterprise. In 1931, there were 17 sows, but these have been gradually increased to 26 in the autumn of 1933. These have reared an average of 11 pigs per sow annually, the whole progeny being sold as stores when about 8 weeks old. In 1931 these stores made about 20/- each, but in 1932 and 1933 they only fetched 11/- or 12/-. In the latter two years, therefore, the gross income per sow was just over £6, and it is in this department that improvement can be most readily effected in the farm organisation.

The pig management is unsatisfactory. The sows are of mixed breed and poor appearance. The suckling pigs look " thriftless " and are undersized. It is stated that complaints had been received from customers as to the unsatisfactory progress of the pigs after weaning. The buildings are dark and airless, and have the general appearance of being " pig-sick " ; while the feeding utensils are in a dirty condition. A large part of the trouble probably lies with the pigman, who has the reputation of being " difficult." It is certain that by closer attention to details of management and feeding, by the use of better breeding stock, and by the erection of cheap but suitable buildings, the efficiency of the pig unit could be increased by at least 50 per cent.

A further point arises in this connection, namely, whether it would not be more profitable to sell the pig output as " baconers " rather than to continue the present practice of marketing them as " weaners." The former method would appear at the moment to offer the greatest chance of profit. Moreover, as the main weakness in the organisation of this particular farm arises from insufficient concentration on livestock, this line of attack gives an admirable opportunity for increasing gross output without any appreciable addition to labour or overhead costs. At the same time the sow carrying capacity of the farm could be advantageously increased. There are several excellent meadows which are unused as a result of the slump in fat cattle prices, and which could be adapted to open air pig keeping at a slight cost. A budget for a 50 sow unit on the basis of (*a*) present litter records, and selling as weaners, and (*b*) good litter records, and marketing as baconers, is given below, where it will be seen that while in the former case, after charging feeding stuffs and labour, only £100 remains to provide rent, depreciation, incidental expenditure, and profit, in the latter there is a margin of nearly £1000.

(*a*) 50 *sows producing* 11 *pigs per annum and selling as weaners.*

	£	£
550 pigs sold @, say, 20/- each .. .. =		550
50 tons meal @ £7 .. .. =	350	
1 man @ £100 per annum .. .. .. =	100	450
Balance available for rent, interest, depreciation, incidentals and profit		£100

(*b*) 50 *sows producing* 14 *pigs per annum and selling as baconers of* 7½ *sc. d.w.*

	£	£
700 pigs sold @, say, 90/- each .. .. =		3150
75 tons meal @ £7 for sows .. .. .. =	525	
210 tons meal @ £7 for baconers (*i.e.* 700 pigs @ 6 cwt. meal each) .. .. =	1470	
2 men @ £100 per annum .. .. .. =	200	2195
Balance available for rent, interest, depreciation, incidentals, and profit		£955

Over the past three years 7 men, 6 horses and a tractor have been employed. The gross farm output has been less than £3 per acre, and under £100 per worker. Expenditure on purchased foods has averaged less than £50 a year, and the livestock output per £100 foods consumed under £90. Even allowing for a fairly wide margin of error in the above budget for the pig department, it is clear that development along such lines would greatly improve the financial position of the farm.

Farm O. As stated at the beginning of this chapter the description of Farm O is included here merely as an illustration of a type of large scale organisation which, through being situated on a heavy intractable clay soil, is very restricted as to its cropping, and is largely dependent for profit on the price of wheat. The farm extends to 1700 acres, of which more than two-thirds are arable. The buildings, which are exceptionally commodious and in good repair, are situated centrally, and have accommodation for about 200 bullocks. The management of the farm is progressive in so far as the occupier has explored many avenues for increasing the productivity of his acres: sugar beet is grown on those few fields in which the soil is suitable, the production of both hard and soft fruits has been developed, and a comparatively large number of livestock is carried.

In 1933 the principal cash crop was wheat, of which 400 acres, yielding 3½ qrs. per acre, were harvested and made 21/- per qr. Other cash crops

included 40 acres of barley yielding 4 qrs. per acre, 25 acres of sugar beet yielding 9 tons per acre, and 35 acres of orchards. Total crop sales (including a small quantity of beans and £200 worth of lucerne hay) amounted to nearly £3000, to which must be added, of course, approximately £1400 for wheat deficiency payments. Crops grown wholly or mainly for home consumption comprised 40 acres of oats yielding 4 qrs. per acre, 65 acres of beans yielding 3 qrs. per acre, and 9 acres of mangolds. Nearly 250 acres of lucerne, sainfoin, clovers and mixtures were grown, but the yield was very light (averaging 15 cwt. per acre), while none was cut for seed. This is in marked contrast to the previous year when sales of small seeds amounted to as much as £700. Three hundred acres were under bare fallow, while 300 acres of permanent pasture and 100 acres of rough grazing account for the remainder of the land.

Twenty-four working horses and two tractors are kept, and in addition £400 is spent annually (not counting coal) on the hire of steam tackle. Between 600-700 acres are steam ploughed or cultivated each year, but the soil is so heavy that it can be worked only for a very limited number of days in the year, and the final tilth obtained is really dependent as much on the weather conditions experienced as on the cultivations performed. Four hundred acres have been mole drained in the last 5 years, but much of the farm still requires draining. Twelve to fifteen hundred loads of dung are carted out each year, and in addition about £120 is spent on fertilisers. The crop yields obtained in the last three years have been up to the local " district " average, which is, however, about 15 per cent. below the Provincial average.

Cattle are the principal livestock enterprise, and a herd of 30 cows is kept for calf rearing. No milk or other dairy produce is sold. In addition to the calves bred on the farm (an Aberdeen-Angus bull is used) some 50-70 calves are purchased annually. The cows are suckled, being brought into boxes for this purpose, and each takes a maximum of 4 calves, or a minimum of 1, according to the stage of her lactation. The ouput is sold mainly as stores. The decline in the price of horned stock has, of course, hit this organisation particularly severely, and over the past three years production has been considerably curtailed. In 1931, for example, 160 head averaged £12½, in 1932 110 head averaged £10, while in 1933 80 head averaged just over £7. In addition there has been, of course, a heavy valuation decrease. A flock of about 250 mixed ewes is kept, and these average just over 1 lamb apiece. Here again the recent trend of prices has severely penalised the organisation. Approximately 40 sows have been maintained over the period, and these have reared 10-11 pigs apiece each year. The progeny has been sold almost entirely as stores, and in 1933 averaged only 12/- each. A poultry unit of 1200 laying birds, produced 80-90 eggs per hen and about £100 worth of stock annually. Lastly 6-7 foals are reared each year, the gross income from horses amounting to about £200 per annum.

Expenditure on purchased foods has amounted to about £700 a year, and the livestock output per £100 foods consumed is about average for the district at £150. Expenditure on labour has been considerably reduced over the three years, employment having decreased 17 per cent, from 1.8 men per 100 acres in 1931 to 1.5 men per 100 acres in 1933. But in spite of this the ouput per worker has not been increased, the relative figures for the three years being £200, £170, and £190 respectively.

It is clear that the productivity both of crops and livestock might be materially increased. Eleven pigs per sow, 90 eggs per hen, 1 lamb per ewe, and a crop yield index of 85 are not high standards even for the " district." A general all-round increase of 15 per cent. in productivity would raise the gross income of the farm by about £750, but even assuming (wrongly) that no extra costs would thus be incurred, this addition to income merely cancels out the previous loss. By increasing the pig department to 50 sows, and selling pigs as baconers rather than as stores (and there is ample accommodation for this) would at present prices considerably improve the net returns. But so far as the cropping is concerned it is difficult to see how a larger proportion of high value cash crops could be introduced. It is easy to say that too large an area of land is under the plough, and that much of this should be laid down to permanent grass, but this would involve a heavy capital outlay in fencing and the provision of water, while the normal grazing season of the district is comparatively short. Further, to stock this additional grass would require a vast amount of capital, and apart from dairying (for which the outlook is doubtful at the present time) it is difficult to find a type of livestock which would make an adequate return on the capital involved.

Probably some further economies could be effected by increased mechanisation at hay-making and harvest, but on the whole it seems likely that the most advantageous arrangement would be to allow a fairly large proportion of the farm to go out of cultivation, and to concentrate the livestock and other capital on only the better land. Under the present organisation and at current prices, a profit is being obtained solely as a result of the wheat deficiency payments.

CHAPTER V.

MISCELLANEA.

1. Size of Farm and Crop Yields per Acre.

It is a recognised fact that the *value* of the output from small farms is generally greater per acre than that from large farms. This is mainly because small farms must concentrate on livestock and crops with a relatively high money value (*e.g.* milk, pigs, poultry, market garden produce, etc.) while large farms are more dependent on staple crops with a comparatively low money value. But the evidence available in regard to the *physical* production of crops per acre on different sizes of farms is conflicting. Certain authorities, for example, maintain that, owing to the greater livestock density and the more intensive cultivation, crop yields are heavier on small farms than on large farms, while others quote Continental statistics showing a 20 per cent. difference in favour of large farms.*

One of the principal difficulties in obtaining statistical information on this matter is due to the fact that within an administrative area soil, climate, etc., tend to vary considerably, while large and small farms are not necessarily distributed evenly throughout the area. Thus, if small farms tend to be concentrated, say, on the less fertile land and large farms on the more fertile (or *vice versa*), a simple comparison of yields per acre on large and small farms within the administrative area will not show the difference in yield per acre due to size of farm alone. That this possible source of error is very important is illustrated in the following data relating to the sample under investigation, and showing the 1931-33 average yields per acre of certain crops in the nine "districts" comprising the area covered by the present investigation.

	Cereals			Roots			Hay		
	Wheat	Barley	Oats	Mangolds	Potatoes	Sugar Beet	Clover Hay	Seeds Hay	M'dow Hay
	qrs.	qrs.	qrs.	tons	tons	tons	tons	tons	tons
Central Norfolk ...	4·2	4·0	5·9	14·9	6·0	8·1	1·26	1·47	0·90
"Breck"	3·4	3·3	4·7	13·3	4·7	6·6	1·20	1·23	0·76
Central Suffolk ...	4·1	3·9	5·6	17·3	5·3	8·7	1·42	1·38	1·08
S.E. Suffolk	3·9	3·8	5·6	14·7	5·5	7·1	1·30	1·47	1·13
North Essex ...	3·9	3·6	5·0	14·0	4·6	8·7	1·13	1·18	0·96
South Essex ...	4·2	4·6	5·9	21·7	6·2	8·6	1·36	1·31	1·08
South Herts. ...	3·4	3·4	4·9	15·9	5·3	—	1·14	1·34	1·01
South Cambs. ...	4·4	4·4	5·9	15·4	4·6	7·2	1·22	1·04	0·93
West Cambs. ...	3·4	3·2	4·4	13·6	4·6	7·2	1·09	0·95	0·93

* See, for example, *Foundations of Agricultural Economics*, Venn, 2nd. edition, p. 118 *et seq.*, and *Economic Development of France and Germany*, Clapham, p. 219.

It is clear that the difference between the highest and lowest yielding districts is very great, averaging as much as 35 per cent. for cereals, 40 per cent. for roots, and 45 per cent. for hay. Moreover, the average size of farm in these nine " districts " (and it will be borne in mind that the sample has been chosen as far as possible at random) varies from 290 acres in the " Breck " district to 115 acres in central Norfolk, showing that farms of different sizes are *not* evenly distributed throughout the whole area.

In the present study of the effect of size of farm on crop yields, an attempt has been made to minimise the influence of this uneven distribution of different sizes of holdings. Each of the nine individual " districts " was in the first instance treated separately, and the yields obtained by each farm were expressed as a percentage of the average yields of the district within which it was situated. Ultimately the yield indices for each size group for all " districts " were amalgamated. In the analysis three groups of crops were studied, *viz.*: (1) cereals, (2) roots, and (3) hay, and each of these groups itself comprises three representative crops (see table above). Nearly 14,000 observations were used in the calculations which refer to the three years 1931-33.

One other explanation is necessary before presenting the results obtained from this analysis. The area under any particular crop on any particular farm is not necessarily related to the size of farm. For example, one farm of 100 acres may grow a larger area of, say, sugar beet than another of 200 acres. As it seemed likely that the area grown might influence yield per acre, the analyses have been presented in the form of a double frequency table. The standards for this measure of area grown cannot, however, be specified quantitatively as they vary between one district and another for the same crop, and between one crop and another. In the following Tables the area grown has, therefore, had to be classified under the relative terms of " small area," " medium area," and " large area."

Influence of Size of Farm and Area of Crop Grown on Crop Yield per Acre.
(*a*) *Cereals;*

Size of farm (acres)	Area of crop grown			Weighted average
	small area	medium area	large area	
	yield index	yield index	yield index	yield index
20–100	97.6	100.1	—	97.9
100–300	100.1	102.6	103.4	101.9
Over 300	98.6	103.5	103.1	102.7
Weighted average	98.3	102.2	103.2	

(*b*) *Roots ;*

Size of farm (acres)	Area of crop grown			Weighted average
	small area	medium area	large area	
	yield index	yield index	yield index	yield index
20–100	96.9	102.8	—	99.1
100–300	96.3	101.5	108.1	100.8
Over 300	99.7	104.8	103.8	102.9
Weighted average	96.9	102.5	106.8	

(*c*) *Hay ;*

Size of farm (acres)	Area of crop grown			Weighted average
	small area	medium area	large area	
	yield index	yield index	yield index	yield index
20–100	107.4	105.5	—	106.8
100–300	102.1	97.5	99.8	100.0
Over 300	97.2	95.0	94.4	95.0
Weighted average	105.0	98.9	97.5	

The above figures suggest that there is a tendency for the yields of cereals and roots to be slightly higher (about 4 per cent.) on the large farms than on the small farms, but that with hay the yields per acre on the small farms are considerably greater (about 12 per cent.) than on the large farms. It is possible that in the case of cereals and roots the better yields on the large farms may be due to more intelligent and skilful management, and to greater resources in the shape of traction power and equipment, but it should be noted that the difference in yields may be accounted for partly by a purely physical handicap associated with small farms. Small farms have smaller fields than large farms, and the smaller the field the greater is the proportion of the field area rendered unproductive by reason of the hedges, etc., by which it is bounded. Assuming one yard of uncultivated land round a field, the area thus occupied represents about 6 per cent. of a 1-acre field, 3½ per cent. of a 3-acres field, 2 per cent. of a 9-acres field, and 1 per cent. of a 30-acres field. In the sample under investigation the average size of a field of cereals on farms of 20-100 acres is about 5½ acres, while on farms over 300 acres the comparable figure

is 15 acres. In the case of roots the margin in the favour of the large farmer would undoubtedly be greater. If the figures in the above table are compared horizontally it will be noticed that yield per acre appears to be influenced more by the area of the crop grown than by the size of the farm. This can be explained partly by reference to the factor of headlands, and partly by the fact that an occupier who has a relatively large area of crop is likely to pay more attention to its cultivation than if he had only a small area. It is interesting to note, however, that on farms over 300 acres in size the effect of extensive methods of production begin to be noticeable when the area grown is large.

The yield indices for hay vary in the reverse order to those of cereals and roots, that is the small farms and small areas show better yields than the large farms and large areas. It is difficult to account definitely for this variation, but the following are possible contributory causes: (1) the greater livestock density on the small farms probably results in better hay yields from meadows, (2) perhaps the small farmers cut their hay later than the large farmers, (3) unproductive headlands do not put the small farmer to the same disadvantage with grass as with arable.

2. Lime Deficiency.

To the scientific agriculturist the importance of having adequate supplies of free lime in the soil requires no emphasis. Its beneficial effects include the creation of the conditions necessary for the existence of useful and essential bacteria, the prevention of harmful fungi, and the improvement of the texture of heavy soils. For many hundred years up to the middle of the 19th century chalking or liming was a common process, and for certain districts records are available of as much as 60 to 100 loads of chalk being applied per acre every 10 years. Writing in 1906 Sir Daniel Hall stated that " . . . . the surface soil of the fields of the Rothamsted Estate now contains from 3 to 5 per cent. of carbonate of lime, which is equivalent to 30 to 50 tons per acre, and since none has been spread during the last 70 years at least, and solution in the rain water has been continuously going on, there must have been nearer 100 tons per acre at the beginning of the 19th century . . . . It is not too much to say that chalking has alone rendered arable farming possible on much of this land."* Since the middle of the 19th century the practice of liming has largely fallen off, no doubt partly as a result of rising labour costs, decreasing corn prices, and increasing use of artificial fertilisers.

Throughout the countryside evidence of the past importance of liming is available in numbers of disused chalk and marl pits, or derelict kilns. In the area covered by this survey there was on the average one old chalk or marl pit to approximately every 12 farms. In south Hertfordshire the ratio was

* Victoria County History, Vol. II.

as high as 1 pit to every 3 farms, but in central Suffolk, and in the heavy clay areas of Essex, Cambridgeshire, and Huntingdon, evidence of past chalking was scanty.

On the farms covered by this survey a small amount of liming has been done in recent years. On the average, the farmers concerned estimate that about 3½ per cent. of their land has received a dressing of lime (in one form or another) within the last 10 years, although there are considerable variations between one district and another. In District 4 (the south-east Suffolk and north-east Essex sands and gravels) as much as 10 per cent. of the farmed land has been limed within the last 10 years, and in District 7 (south Hertfordshire) the proportion is 7 per cent. On the other hand, the comparable figures for the north Essex boulder clays (District 5) and the Huntingdon and west Cambridge clays (District 9) are as small as 2 per cent. and ½ per cent. respectively.

Enquiries were made as to the amount of land which was suspected of being deficient in lime. The information thus obtained must, however, be treated with considerable circumspection as no chemical tests were carried out to verify the farmers' opinions, and there are a number of reasons why these opinions may be erroneous. Bearing this qualification in mind, the following information is available. Approximately half the farmers suspect lime deficiency to a greater or lesser extent on their holdings. On those farms on which deficiency is suspected as much as two-fifths of the land area are involved. For the whole area, therefore, it may be estimated that about one-fifth is suspected as being deficient in lime. There are, of course, considerable variations in this proportion between one district and another. In District 4 (south-east Suffolk and north-east Essex sands and gravels) the proportion of the farmed land suspected of lime deficiency is as much as 50 per cent., while in the Norfolk and Suffolk "breck" area (District 2), and the central Suffolk loams (District 3), the comparable figure is under 10 per cent.

The proximity of lime supplies is an important consideration in this connection, because transport of so bulky a material is one of the main items in its cost. The closer the supply the more likely are farmers to avail themselves of it. Again approximating roughly, the average distance to the nearest available lime was 10 miles, but farmers situated in south Hertfordshire (District 7) have supplies available within 5 miles, while farmers in central Suffolk (District 3) must go as far as 12 miles.

3. Age of Occupiers, and Length of Experience and Tenancy.

In *Report* 21 it was shown that there was a tendency within each size group for the younger farmers to make better profits than the older. In this section certain information is given relating to the age distribution of occupiers, their length of experience as farmers on their own account. and the number of years

they have been in their present farm. Readers who wish further information on this subject are referred to an article by Ashby and Davies entitled *The Agricultural Ladder and the Age of Farmers*, printed in the *Welsh Journal of Agriculture*, Vol. VI.

The average age of all farmers included in this survey is 48 years*. Ten per cent. are under 35 years old, and a further 10 per cent. are 65 years of age or older. Thus four-fifths of all occupiers are between the ages of 35 and 64 years. The age distribution is not, however, even in the various size groups, and the following table gives the relevant data.

Age of Occupiers.

Size of farm	Average age	Percentage of occupiers whose ages are :—						
		Under 25 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	Over 74 years
acres	years	%	%	%	%	%	%	%
20– 50	48	2	12	25	28	23	8	2
50–100	49	1	7	21	36	26	7	2
100–150	47	1	10	29	28	24	6	2
150–300	48	1	9	21	36	21	10	2
Over 300	50	nil	5	19	39	22	11	4
Weighted average	48	1	9	24	33	23	8	2

In the smallest size group, for example, 14 per cent. of occupiers are under 35 years old and 10 per cent. are 65 years of age or older. On farms of over 300 acres, however, only 5 per cent. of occupiers are under 35 years old and as much as 15 per cent. are 65 years of age or older. But except for these extremes no very strong relationship holds between age and size of farm, and the correlation coefficient is only just significant at $r = +0.0512$.

In the light of the violent fluctuations in farming prosperity during the last 20 years, it may be of interest to study briefly the number of years experience which present occupiers have had. Twenty-nine per cent. of those occupying holdings over 20 acres in size in 1931 were farming before 1912, and have therefore seen the full cycle of price changes. The table below shows, however, that farmers with this long experience preponderate on the bigger farms, for while half of the present occupiers of 300 acres or more were farming in 1912, the comparable figure for holdings of 20-50 acres is only 15 per cent.

* This agrees closely with the 1921 Census figures, which give the average age of farmers and graziers as 48.2 years.

Number of years experience as a farmer.

Size of farm	Average no. of years experience as a farmer	Percentage of occupiers having experience as a farmer for :—				
		5 years or less	6–10 years	11–15 years	16–20 years	21 years or more
acres	years	%	%	%	%	%
20–50	13½	21	24	20	20	15
50–100	15½	16	28	17	15	24
100–150	16½	15	27	16	10	32
150–300	22½	10	15	14	15	46
Over 300	23½	2	16	15	17	50
Weighted average	17½	15	23	17	16	29

It will be noticed that the bigger the size of the farm the greater is the average number of years experience which occupiers have had, the range being from 13½ years on the smallest group to 23½ years on the largest size group. It seems reasonable to assume that there is a tendency for farmers to increase the area under their management as they gain experience, although, on the other hand, occupiers of large farms frequently " retire " to small farms in their old age.

An interesting feature of the above table is that while 23 per cent. of occupiers have been farming for 6–10 years, only 15 per cent. have been farming for 5 years or less. This can only mean that a considerably smaller number of persons took up farming as a profession during the period 1927 to 1931, than during the preceding 5 years period 1922 to 1926. Undoubtedly the depressed economic conditions since 1929 have discouraged newcomers, while it seems probable that there was an abnormally large influx in the years immediately following the War.

If the average age of farmers in the different size groups is compared with the average number of years experience which they have had, it appears that occupiers of small farms have, on the whole, started farming on their own at a considerably later age than those of large farms. Thus the average age of farmers in the 20–50 acres size group is 48 years, and those occupiers have had a matter of 13½ years experience farming on their own. On the average then (and this is subject to a number of statistical pitfalls), they must have commenced farming on their own at about the age of 35. But while the average age of occupiers varies only little between one size group and another, yet the number of years experience which occupiers have had increases progressively with size of farm to as much as 23½ years on farms over 300 acres.

It would appear, therefore, that the occupiers of these large farms commenced their farming career about 8 years younger than those of the small farms, *i.e.* at about 27 years of age as compared with 35 years of age for the small holders. If such a deduction is legitimate, the difference between one size group and another in the age of recruitment to farming may be explained by the following data reproduced from *Report* 19.

Vocational Experience of Occupiers.

Size of farm	Percentage of occupiers who :—		
	have always been farmers	were originally farm workers	were originally in some other profession
acres	%	%	%
20– 50	64	17	19
50–100	68	10	22
100–150	83	3	14
150–300	88	3	9
Over 300	88	2	10

These figures show that a much larger proportion of the occupiers of small farms have spent the earlier years of their life as farm workers, or in some other profession, than is the case with the occupiers of large farms. As much as 36 per cent. of the occupiers of 20-50 acres started life in some other capacity, while the comparable proportion for the large farms is only 12 per cent.

The mobility of farmers is also a matter of interest, and the following table analyses the replies of individual occupiers in 1932 to the question " how long have you been in your present holding? "

Number of years in present holding.

Size of farm	Average no. of years in present holding	Percentage of occupiers in present holding for :—				
		5 years or less	6–10 years	11–15 years	16–20 years	21 years or more
acres	years	%	%	%	%	%
20–50	12½	23	28	24	10	15
50–100	13	22	26	25	12	15
100–150	13½	18	34	24	6	18
150–300	15	21	31	15	7	26
Over 300	17	17	19	18	15	31
Weighted average	13¾	21	28	22	10	19

Nineteen per cent. of all occupiers, or nearly one-fifth, have occupied the same holding for 21 years or more, although this does not necessarily mean that the area under the one management has remained unaltered during that period. It may be noted that on the larger farms long periods of occupancy are more common than on the small farms, for while nearly one-third of the holdings over 300 acres have not changed hands within 20 years, the comparable proportion for the smallest farms is about one-seventh. It is again symptomatic of the period to find that a larger proportion of occupiers have been in their present holdings for 6-10 years (*i.e.* from 1923-27) than for 5 years or less (*i.e.* from 1928-32). So far as this is due to a shortage of newcomers to the industry, it has probably resulted in vacated holdings either being amalgamated with neighbouring farms or going derelict.

4. Birth Place of Occupiers.

Eighty-three per cent. of the occupiers were born in the Eastern Division of England (including Norfolk), and as many as 71 per cent. had not moved outside the boundaries of the county in which their birth was registered. The immigrants to the Division thus represent 17 per cent. of the total number of occupiers of 20 acres or more, and the following figures show the distribution of their birth places.

Percentage Distribution of place of birth of farmers in the area covered by this investigation.

	Per cent.
England: Eastern Division (including Norfolk)	82.9
East Midland Division	2.7
North Western Division	2.6
South Western Division	2.5
South Eastern Division	1.6
Northern Division	1.2
West Midland Division	0.9
North Eastern Division (excluding Norfolk)	0.9
Total England	95.3
Scotland	3.2
Wales	0.8
Colonies	0.4
Continental Countries	0.3
	100.0

Out of a sample of over 1000 farmers not a single occupier of Irish birth was observed.

Immigrants from outside the Eastern Division of England are distributed very unevenly throughout the various " districts " within the Province. In south Essex (District 6) and south Hertfordshire (District 7) more than one-third of the farmers were born outside the Eastern Division, and of these one-third came from the Midland and South Eastern Divisions, one-third came from the Western and Northern Divisions, one quarter from Scotland, and one-twentieth from Wales. At the other end of the range is central Norfolk (District 1) where only 3 per cent. of the farmers were born outside the Eastern Division.

Percentage of occupiers in various " districts " born outside the Eastern Division (including Norfolk).

	District.	Per cent.
1.	Central Norfolk loams	3
2.	Norfolk and Suffolk " breck "	14
3.	Central Suffolk loams..	11
4.	S.E. Suffolk and N.E. Essex sand and gravel	17
5.	N. Essex boulder clay	18
6.	S. Essex london clay	36
7.	S. Hertfordshire	40
8.	S. Cambridge chalks	6
9.	Huntingdon and W. Cambridge clays	22

Readers interested in the subject of rural migration are referred to a Report entitled *Go East for a Farm*, by E. Lorraine-Smith, published from the Agricultural Economics Research Institute, Oxford, price 2/6 net.

5. Wireless Owners

Almost exactly two-thirds of the occupiers of 20 acres and upwards own wireless receiving sets. This proportion varies, however, according to the size of the holding, and ranges from one-half of the occupiers of 20-50 acres up to four-fifths of occupiers of more than 300 acres.

Size of farm	Percentage owning wireless
acres	%
20–50	50
50–100	60
100–150	70
150–300	75
Over 300	80
All farms	65

One-third of these wireless owners did not listen to any of the agricultural broadcasts. The first preferences of those who did listen to agricultural broadcasts (representing about 45 per cent. of all occupiers) are shown in the following table.

First Preferences in Agricultural Broadcasts.

Size of farm	Practical Talks	Market Prices	Scientific Talks	Economic Talks	Total
(acres)	%	%	%	%	%
20–50	41	50	7	2	100
50–100	48	42	8	2	100
100–150	49	40	6	5	100
150–300	48	38	10	4	100
Over 300	55	27	11	7	100
Average	48	40	8	4	100

Nearly nine-tenths of the listeners preferred either the practical talks or the market prices, although there was a decided tendency for the larger farmers to prefer the former and the smaller men to prefer the latter. Just over one-tenth of the listeners put scientific or economic talks first in order of preference, but the proportion amongst the largest farmers was double that amongst the smallest.

Table I.

AGRICULTURAL STATISTICS FOR NORFOLK, SUFFOLK, ESSEX, HERTFORDSHIRE, CAMBRIDGESHIRE (ex. ISLE OF ELY), AND HUNTINGDONSHIRE.*

Year	1913	1923	1931	1932	1933
CROPS AND GRASS (ACRES)					
Total area excluding water	4,180,279	4,180,279	4,177,449	4,177,449	4,177,449
Total area under crops and grass ...	3,425,797	3,321,352	3,208,772	3,192,189	3,172,806
Arable land	2,385,962	2,374,464	2,115,357	2,073,333	2,046,296
Permanent grass for hay	362,388	249,597	310,153	285,299	271,526
Permanent grass not for hay ...	677,447	697,291	783,262	833,557	854,984
Rough grazing	—	127,108	176,669	186,688	199,721
Wheat	498,544	455,658	337,702	374,637	485,181
Barley	444,075	464,003	441,900	400,548	311,003
Oats	256,463	263,371	217,442	207,352	200,694
Mixed corn	—	5,309	7,180	5,630	4,355
Rye	12,577	24,064	9,326	7,689	6,140
Beans	110,871	87,131	62,465	59,414	64,856
Peas	65,380	58,335	39,116	37,917	37,895
Potatoes	51,413	56,950	50,726	60,973	65,982
Turnips and swedes	181,001	142,443	87,374	73,619	63,959
Mangolds	134,902	117,264	82,244	169,263	67,794
Sugar beet	—	—	105,413	37,688	200,891
Cabbages, kohlrabi and rape ...	25,444	26,798	22,101	18,770	19,342
Vetches and tares	25,181	25,107	19,697	15,541	20,538
Lucerne	29,592	30,966	25,118	21,994	20,148
Small fruit	13,810	14,412	17,145	16,459	16,752
Orchards	17,740	22,337	26,814	28,165	28,794
Clover and rot. grass for hay ...	327,364	348,204	348,168	292,532	187,112
Clover and rot. grass not for hay ...	73,823	60,360	60,419	65,290	54,429
Other crops	38,823	64,066	54,379	54,170	54,683
Bare fallow	85,886	114,485	107,408	133,275	142,718
LIVESTOCK (NUMBER)					
Horses for agricultural purposes ...	122,205	115,179	97,503	94,338	92,134
All horses	193,795	174,447	117,615	125,319	122,542
Cows in milk	99,235	116,437	128,188	135,065	142,736
Cows and heifers in calf	37,009	46,007	54,820	55,134	58,046
Bulls	} 91,390	5,571	6,914	7,037	7,421
Other cattle—2 years and over ...		75,565	58,768	54,513	62,116
" " 1 year and under 2 ...	88,009	88,441	87,539	97,368	114,015
" " under 1 year ...	80,994	78,723	82,937	95,534	99,524
Total cattle	396,637	410,744	419,166	444,651	483,858
Ewes	} 620,100	266,972	336,658	385,622	387,848
Rams and ram lambs		5,997	8,414	10,233	10,523
Other sheep—1 year and over ...		114,715	135,152	133,133	97,635
" " under 1 year	502,501	306,869	383,521	435,237	439,310
Total sheep	1,122,601	694,553	863,745	964,225	935,316
Sows	47,775	75,172	69,114	77,782	79,205
Boars	} 354,790	5,741	5,308	6,228	6,313
Other pigs		456,622	408,816	503,590	537,284
Total pigs	402,565	537,535	483,238	587,600	622,802
Fowls	—	—	6,602,399	7,534,616	8,007,580
Ducks	—	—	493,090	482,297	479,379
Geese	—	—	30,165	34,690	39,534
Turkeys	—	—	123,703	125,277	198,299
HOLDINGS (NUMBER)					
1– 5 acres	10,133	8,648	8,274	8,266	8,143
5– 20 "	9,792	9,723	8,735	8,687	8,635
20– 50 "	6,382	6,635	6,397	6,403	6,396
50–100 "	5,163	5,288	5,337	5,392	5,276
100–150 "	3,070	3,004	3,061	3,031	3,085
150–300 "	4,542	4,453	4,376	4,373	4,316
Over 300 "	2,773	2,562	2,411	2,370	2,355
Total above 1 acre	41,855	40,313	38,591	38,522	38,206
WORKERS (NUMBER)					
Reg. Males 21 years and over ...	—	82,782	82,128	79,275	81,956
" " under 21 years	—	20,600	16,057	15,944	15,827
" Women and girls	—	3,410	3,939	3,653	3,946
Cas. Males 21 years and over ...	—	10,690	11,335	14,078	19,805
" " under 21 years	—	3,492	1,434	1,451	2,032
" Women and girls	—	5,797	4,255	3,870	4,695
Total	—	126,771	120,148	118,271	128,261

* Compiled from the Official Statistics of the Ministry of Agriculture.

Table II.

ECONOMIC AND FINANCIAL DATA, 1933

All figures expressed "per farm."

SIZE GROUPING (Figures "per farm.")

SIZE GROUPING (Figures "per farm")

Size group (Acres)	Number of farms in group	Average size	Arable area	Livestock units	Manual workers*	Landlord's capital	Farm capital	Gross income†	Wheat deficiency payments	Gross charges	Gross output†	Farm income	Allowance for occupier's labr.	Investment income	Interest at 5% on farm capital	Labour income	Profit surplus	Private drawings in kind
		Acres	Acres	No.	No.	£	£	£	£	£	£	£	£	£	£	£	£	£
20–50	190	37	23	11.0	2.0	838	478	404	23	385	371	+ 42	101	− 59	24	+ 18	− 83	42
50–100	283	74	46	17.0	3.1	1462	793	677	51	643	612	+ 85	111	− 26	40	+ 45	− 66	49
100–150	199	125	78	25·2	4·1	2272	1245	976	93	927	899	+142	122	+ 20	62	+ 80	− 42	57
150–300	253	217	128	41·2	6·2	3589	1992	1570	160	1527	1423	+203	139	+ 64	99	+104	− 35	72
300–500	118	382	230	64·1	9·4	6308	3254	2426	277	2340	2206	+363	158	+205	163	+200	+ 42	76
Over 500	42	756	456	104·3	16·1	10114	5711	4083	466	3869	3755	+680	151	+529	286	+394	+243	101

* Including family labour. † Excluding wheat deficiency payments.

Size group (Acres)	Distribution (£) of Farm Capital:— Dairy cattle†	Other cattle	Sheep	Pigs	Poultry	Horses	Crops and tenant right	Implts. and appliances	Distribution (Acres) of 1933 Cropping:—* Perm. grass‡	Temp. grass	Wheat	Other cereals	Fallow crops	Bare fallow	Pulse crops	Other crops	Bldings, waste, roads, etc.‡
20–50	76	23	2	27	35	39	175	101	12·7	2·5	6·1	6·1	5·4	1·3	1·4	0·5	1·0
50–100	130	48	4	34	36	64	328	149	26·1	5·3	12·1	13·0	8·6	3·7	2·5	0·7	2·0
100–150	192	83	20	43	48	96	531	232	43·4	8·9	21·2	21·0	12·7	8·1	4·8	1·2	3·7
150–300	296	160	61	68	60	136	866	345	80·1	15·8	35·7	33·0	20·7	13·9	7·0	1·9	8·9
300–500	367	269	202	106	84	216	1471	539	135·8	29·4	60·4	64·7	32·7	25·2	10·9	6·2	16·7
Over 500	515	412	457	145	68	373	2851	890	224·0	71·6	105·5	124·2	88·0	42·6	13·6	10·0	76·5

† Cows, in-calf heifers and bulls. * See also Table VII. ‡ Rough grazings have been allocated in equal proportions to pasture and to waste.

Size group (Acres)	Distribution (£) of Gross Income:—* Dairy produce†	Horned stock	Pigs	Poultry and eggs	Sheep and wool	Wheat‡	Barley	Sugar-beet	Other crops	Miscellaneous	Distribution (£) of Gross charges:— Labour‖	Foodstuffs	Livestock	Rent	Fertilisers	Seeds	Miscellaneous**
20–50	106	31	86	74	2	22	23	39	13	8	107	119	33	49	8	10	59
50–100	197	67	113	85	7	49	49	64	29	17	204	155	65	85	15	17	102
100–150	275	100	134	105	22	88	84	98	41	29	317	203	77	120	26	29	155
150–300	381	173	216	144	71	154	126	158	100	47	529	313	147	189	51	46	252
300–500	485	290	274	190	180	267	253	192	212	83	853	433	220	301	72	87	374
Over 500	646	418	449	168	390	443	649	464	295	161	1520	543	328	481	174	144	679

† See also Table VI. * Adjusted for change in valuation. ‡ Excluding wheat deficiency payments. ‖ Excluding occupier. ** For details, see Table IV.

Table III

ECONOMIC AND FINANCIAL DATA, 1933

All figures expressed "per 100 acres farmed land."

DISTRICT GROUPING (Figures "per 100 acres.")

District No.†	Average size of farm	Arable area	Livestock units	Manual workers*	Landlord's capital	Farm capital	Gross income‡	Wheat deficiency payments	Gross charges	Gross output‡	Farm income	Allowance for occupier's labr.	Investment income	Interest at 5% on farm capital	Labour income	Profit surplus	Private drawings in kind
	Acres	%	No.	No.	£	£	£	£	£	£	£	£	£	£	£	£	£
1	113	65	21·8	3·8	1952	1077	798	67	788	717	+ 77	104	− 27	54	+ 23	− 81	53
2	260	48	13·1	2·2	861	646	483	25	447	442	+ 61	43	+ 18	32	+ 29	− 14	22
3	114	68	20·5	3·6	1675	1119	835	86	820	769	+101	102	− 1	56	+ 45	− 57	52
4	188	65	23·2	3·7	1686	1043	826	51	797	757	+ 80	65	+ 15	52	+ 28	− 37	32
5	167	75	13·1	2·9	1516	913	685	124	660	638	+149	74	+ 75	45	+104	+ 30	37
6	175	27	27·3	2·7	2017	919	859	36	811	767	+ 84	81	+ 3	46	+ 38	− 43	38
7	170	42	24·7	2·8	2219	887	825	56	758	739	+123	76	+ 47	44	+ 79	+ 3	41
8	206	86	14·2	3·0	2000	1026	799	92	715	726	+176	64	+112	51	+125	+ 61	22
9	223	59	15·0	2·1	1354	689	430	77	463	398	+ 44	56	− 12	35	+ 9	− 47	25

† The code to district Nos. will be found on page 20. * Including family labour. ‡ Excluding wheat deficiency payments.

DISTRICT GROUPING (Figures "per 100 acres.")

District No.†	Distribution (£) of Farm Capital:— Dairy cattle‡	Other cattle	Sheep	Pigs	Poultry	Horses	Crops and tenant right	Impts. and appliances	Distribution (Acres) of 1933 Cropping:—* Perm. grass‖	Temp. grass	Wheat	Other cereals	Fallow crops	Bare fallow	Pulse crops	Other crops	Buildings, waste, roads, etc.‖
1	142	73	33	32	31	85	517	164	31·9	9·4	15·6	19·2	17·7	1·7	1·6	0·3	2·6
2	82	38	44	16	8	52	314	92	32·1	9·5	7·1	12·5	15·4	2·1	1·0	0·6	19·7
3	100	75	16	61	44	91	529	203	28·6	5·2	18·6	19·5	11·2	6·2	7·7	0·1	2·9
4	143	68	60	36	30	82	456	168	31·0	8·0	12·3	20·0	18·5	2·2	1·5	2·6	3·9
5	69	40	5	37	42	68	462	190	20·9	7·4	26·6	18·1	4·5	12·3	6·0	0·3	3·9
6	290	103	30	12	42	49	215	178	70·0	5·2	7·6	4·8	4·5	1·8	1·6	1·2	3·3
7	212	109	51	25	31	50	245	164	54·8	6·9	14·6	9·6	6·5	4·1	—	0·4	3·1
8	56	42	56	41	21	57	586	167	12·0	10·6	18·5	30·9	14·1	8·7	0·6	2·9	1·7
9	73	67	26	27	17	57	299	123	37·6	7·0	20·1	9·8	3·3	11·3	5·5	1·6	3·8

† The code to District Nos. will be found on page 20. ‡ Cows, in-calf heifers and bulls. * See also Table VIII. ‖ Rough grazings have been allocated in equal proportions to pasture and waste.

District No.†	Distribution (£) of Gross Income:—* Dairy produce‡	Horned stock	Pigs	Poultry and eggs	Sheep and wool	Wheat ‖	Barley	Sugar beet	Other crops	Miscellaneous	Distribution (£) of Gross Charges:— Labour**	Foodstuffs	Livestock	Rent	Fertilisers	Seeds	Miscellaneous
1	154	117	95	72	37	63	104	134	2	20	289	131	81	105	19	26	137
2	103	44	51	21	38	23	40	131	13	19	169	84	41	44	19	15	75
3	104	86	196	105	16	73	104	130	4	17	266	211	66	90	25	20	142
4	208	69	115	69	57	48	65	101	66	28	305	168	69	86	22	27	129
5	92	53	120	95	5	118	80	39	64	19	238	135	47	79	23	24	114
6	434	109	37	91	37	35	9	10	70	27	238	202	92	104	20	17	138
7	348	104	78	86	47	59	2	—	66	35	243	170	86	115	20	22	102
8	83	63	124	42	53	88	176	92	59	19	258	109	73	101	32	29	113
9	70	54	68	39	23	73	23	12	49	19	165	85	32	69	13	18	81

Table IV

MISCELLANEOUS EXPENSES IN £ PER FARM, 1933

SIZE GROUPING. (Figures " per farm ")

SIZE GROUPING (Figures " per farm.")

Size group (Acres)	Fuel :—					Motor vehicles :—		Hire of tackle :—		Machinery and Implements :—			Small tools, plough shares, etc.	Harness	Buildings, huts and sheds	Fencing materials	Draining materials
	Coal	Paraffin	Petrol	Lub. oil	Electricity	Tax and insurance	Repairs and tyres	Threshing	Cultivation	Additional	Replacements	Repairs					
20–50	5·0	2·0	2·5	0·6	0·2	3·1	1·1	4·4	2·9	3·7	3·7	3·7	2·6	0·9	4·1	0·6	0·2
50–100	6·6	4·2	4·5	1·0	0·5	5·1	3·2	9·9	3·7	9·0	6·3	6·4	3·8	1·6	4·5	0·8	0·6
100–150	8·9	9·2	6·6	2·6	0·2	7·3	5·2	16·7	4·9	12·0	8·5	9·6	6·1	2·3	5·8	1·3	1·1
150–300	11·8	16·9	14·2	5·1	0·6	14·9	11·6	24·2	8·4	15·3	17·2	15·3	8·9	3·8	7·3	1·6	2·6
300–500	15·9	31·2	18·5	9·4	0·6	18·9	21·4	36·6	14·1	18·4	27·7	27·7	12·8	6·4	8·9	2·7	3·4
Over 500	27·8	51·2	33·3	15·4	0·3	25·9	34·7	31·4	33·3	50·5	46·7	61·5	21·8	11·6	10·2	2·5	3·2

Size group (Acres)	Road and rail carriage	Sack hire	Binder twine	Fire insurance	Telephone	Rates :—		Vet. and medicines	Sprays and dips	Registration and recording	Horse shoeing	Stamps and stationery	Business subscriptions	Sundries	Gross exp'nditure	Deduct for capital exp'nditure	Net expenditure
						Ordinary	Water										
20–50	9·0	0·2	0·9	2·0	0·2	3·8	0·6	1·5	0·1	—	2·3	0·6	0·3	0·1	62·9	3·9	59
50–100	17·4	0·3	2·0	3·1	0·5	5·1	1·1	2·7	0·1	0·2	3·5	0·8	0·7	0·5	109·7	7·7	102
100–150	26·6	0·4	3·4	4·7	0·8	7·1	1·6	3·2	0·3	0·2	4·7	1·2	1·2	0·4	164·1	9·1	155
150–300	39·6	0·7	5·4	6·2	2·0	11·3	2·3	4·9	0·9	0·8	6·5	1·5	2·8	0·7	265·3	13·3	252
300–500	47·3	0·9	9·4	10·0	3·8	14·4	2·0	7·6	2·0	0·7	9·8	2·0	5·0	2·2	391·7	17·7	374
Over 500	126·8	2·0	16·9	15·1	9·3	26·4	3·5	10·9	3·6	2·3	17·3	3·2	12·2	9·6	720·4	41·4	679

Table V

GROSS OUTPUT FROM LIVESTOCK AND TOTAL FOODS CONSUMED IN £ PER FARM.

SIZE GROUPING (Figures " per farm.")

Gross Output from Livestock equals sales of livestock minus purchases, plus or minus change in valuation. Purchased foods are valued at cost on the farm, while the basis of calculating the value of home grown foods is that corn and hay have been taken at market price, roots at the average cost of production, and grazing at the rental value of the pasture.

SIZE GROUPING (Figures " per farm.")

Size group (Acres)	Distribution (£) of Gross Output from Livestock :—										Distribution (£) of Foods Consumed :—						Livestock Output per £100 worth of food consumed *
	Whole milk sold :—		Butter, Cream, Cheese	Horned Stock	Pigs	Poultry	Eggs	Sheep	Wool	Total	Purchased Cakes, Meals, etc.	Home Grown :—				Total	
	Wholesale	Retail										Corn	Roots	Hay	Grazing		
20–50	35	57	14	16	74	18	55	1	—	270	119	22	30	13	14	198	173
50–100	106	76	15	30	97	26	56	5	—	411	155	44	44	21	23	286	184
100–150	162	96	17	56	117	23	80	15	1	567	203	76	57	36	33	405	177
150–300	242	122	17	91	190	31	110	42	3	848	313	116	82	54	59	624	164
300–500	334	138	13	142	255	42	146	135	10	1215	433	192	137	69	98	929	161
Over 500	447	184	15	241	394	44	122	288	27	1762	543	312	347	127	145	1474	148

* An allowance has been made for foods fed to horses.

Table VI

DAIRY ENTERPRISE, 1933

Grouped by "size of farm."

Size group (Acres)	No. of farms	Percentage of farms having:—				Av. no. of cows		Capital value per cow (£)	Sales of dairy produce as % of Gross Income (%)	Milk produced per 100 acres (gallons)	Percentage of total yield:—				Average price (pence) received per gallon sold		
		0 Cows	1-4 Cows	5-9 Cows	10 or more Cows	per farm	per 100 acres				Sold as whole milk		Sold manufactured	Not sold	Wholesale	Retail	Manufactured
											Wholesale	Retail					
20–50	190	21·6	45·3	25·3	7·8	3·7	9·9	18·3	26·1	5249	31·3	29·9	26·3	12·5	13·24	22·61	6·33
50–100	283	16·2	43·5	20·1	20·2	5·9	8·1	18·7	29·1	4927	53·1	22·9	16·0	8·0	13·40	22·09	6·52
100–150	199	13·1	31·2	26·1	29·6	8·4	6·7	18·6	28·1	3818	59·3	21·3	12·9	6·5	13·63	22·75	6·59
150–300	253	5·5	30·0	21·7	42·8	12·5	5·8	18·4	24·3	3033	66·0	19·6	8·4	6·0	13·25	22·49	7·15
300–500	118	6·8	26·3	20·3	46·6	15·8	4·1	18·2	20·0	2063	73·9	16·6	4·2	5·3	12·99	23·71	8·51
Over 500	42	4·8	16·7	11·9	66·6	23·3	3·1	19·3	15·8	1348	73·3	18·6	3·4	4·7	12·97	20·99	9·44

Grouped by "districts."

District No. *	No. of farms	Percentage of farms having:—				Av. no. of cows		Capital value per cow (£)	Sales of dairy produce as % of Gross Income (%)	Milk produced per 100 acres (gallons)	Percentage of total yield:—				Average price (pence) received per gallon sold		
		0 Cows	1-4 Cows	5-9 Cows	10 or more Cows	per farm	per 100 acres				Sold as whole milk		Sold manufactured	Not sold	Wholesale	Retail	Manufactured
											Wholesale	Retail					
1	164	4·9	42·7	30·5	21·9	7·3	6·4	18·5	19·2	3731	56·8	9·8	25·6	7·8	11·79	19·06	6·19
2	71	14·1	28·2	28·2	29·5	9·0	3·5	18·9	21·3	1740	43·8	31·4	15·4	9·4	12·03	21·01	6·38
3	162	14·8	48.2	22·2	14·8	5·3	4·6	18·0	12·5	2763	49·4	9·5	30·9	10·2	11·09	16·32	6·10
4	105	16·2	24·8	18·1	40·9	11·8	6·3	19·3	25·2	3405	69·9	20·4	4·7	5·0	13·39	21·50	8·47
5	143	21·7	43·4	23·1	11·8	5·2	3·1	17·5	13·5	1785	45·2	28·0	14·9	11·9	12·76	22·13	7·00
6	111	4·5	19·8	7·2	68·5	21.0	12·1	19·9	50.4	7306	82·0	14·2	0·3	3·5	14·08	23·58	—
7	102	3·9	24·5	18·6	53.0	15·4	9·1	19·4	42·1	5487	63·8	28·2	2·8	5·2	14·66	25·68	11·89
8	105	25·7	36·2	20·9	17·2	5·3	2·6	17·8	10·4	954	18·6	68·7	4·5	8·2	12·97	23·32	10·52
9	122	9·0	36·1	27·9	27·0	7·5	3·3	17·8	16·4	1316	47·0	26·2	17·4	9·4	12·17	20·59	6·82

* The Code to District Nos. will be found on page 20.

Grouped by "size of herd."

Size of herd (Cows)	No. of farms	Average size of farm (acres)	Average No. of cows per farm	Capital value per cow (£)	Sales of dairy produce per cow (£)	Receipts for dairy produce as a % of:—		Milk produced per 100 acres (gallons)	Percentage of total yield:—				Average price (pence) received per gallon sold			Total No. of bulls for all herds in group	
						Cattle and dairy produce sales	Gross farm income		Sold as whole milk		Sold manufactured	Not sold	Wholesale	Retail	Manufactured	Pedigree	Commercial
									Wholesale	Retail							
0	137	109	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1–4	384	136	2·5	17·9	14·5	19·0	3·1	832	4·1	13·4	51·9	30·6	12·03	19·65	6·18	2	21
5–9	242	154	6·7	18·2	27·9	54·1	14·7	2281	24·8	31·4	32·2	11·6	12·20	21·24	6·64	17	71
10–19	157	200	13·5	19·1	36·1	76·3	30·6	4010	63·0	26·7	5·7	4·6	12·69	21·68	7·11	40	114
20–29	86	246	24·0	19·4	39·5	83·0	42·5	6048	67·9	27·4	1·7	3·0	13·12	23·84	9·65	33	78
30–39	46	309	33·8	20·1	37·0	87·0	43·7	6558	85·0	11·3	1·3	2·4	13·80	23·22	11·27	11	55
40–49	17	326	43·8	20·8	31·9	84·8	53·2	7345	94·6	1·5	0·4	3·5	14·13	24·75	11·28	3	23
50 & over	16	484	62·1	19·2	38·2	89·0	50·4	9613	82·1	15·2	0·9	1·8	13·33	25·92	—	8	27

Table VII

DISTRIBUTION AND SALES OF 1933 CROPS.

SIZE GROUPING. SIZE GROUPING.

Size Group	20-50 Acres		50-100 Acres		100-150 Acres		150-300 Acres		300-500 Acres		Over 500 acres		Over all*	
	Crop area as % of farm area	Amount sold as % of crop area	Crop area as % of farm area	Amount sold as % of crop area	Crop area as % of farm area	Amount sold as % of crop area	Crop area as % of farm area	Amount sold as % of crop area	Crop area as % of farm area	Amount sold as % of crop area	Crop area as % of farm area	Amount sold as % of crop area	Crop area as % of farm area	Amount sold as % of crop area
Crop :—														
Permanent pasture	25·6	—	25·8	—	25·0	—	27·2	—	26·8	—	20·5	—	25·6	—
Meadows	8·2	5·8	8·9	7·3	8·9	12·8	8·1	8·9	6·7	10·4	3·3	17·4	7·4	8·5
Mixed seeds	4·5	2·4	4·0	13·6	3·8	7·7	3·4	12·5	3·8	13·3	5·3	15·0	3·9	9·2
Clovers	1·3	40·4	1·7	42·5	1·4	29·3	2·0	42·1	1·6	54·4	1·6	31·2	1·7	40·0
Sainfoin	0·5	22·2	0·7	31·1	0·7	38·0	0·8	36·8	0·9	28·6	0·8	38·2	0·8	30·7
Lucerne	0·3	—	0·4	10·4	0·9	19·8	0·6	35·9	0·4	13·7	1·3	46·4	0·6	16·4
Trefoil	0·2	—	0·3	42·1	0·5	44·4	0·5	46·6	1·0	56·6	0·4	32·3	0·6	31·6
Wheat	16·4	92·7	16·3	94·5	17·0	94·1	16·5	95·8	16·7	96·4	14·0	96·1	16·3	94·3
Barley	10·5	73·3	10·8	76·6	9·6	79·9	8·4	80·2	9·3	84·2	10·8	84·4	9·6	77·6
Oats	5·8	17·6	6·3	16·8	6·9	17·9	6·5	14·0	6·4	14·9	5·2	18·5	6·3	16·6
Rye	—	—	0·1	33·7	0·2	29·5	0·3	29·0	0·2	36·3	0·4	76·0	0·2	24·6
Mixed Corn	0·2	—	0·1	21·6	—	—	0·1	—	0·1	—	—	—	0·1	5·4
Beans	2·7	25·0	2·6	25·5	2·9	18·5	2·2	13·9	2·1	17·3	1·2	18·0	2·2	21·2
Field peas	1·1	54·0	0·8	42·3	0·8	62·9	0·9	67·0	0·7	65·4	0·6	34·1	0·8	55·0
Seed tares	—	—	—	—	0·1	88·4	0·1	71·5	0·1	47·6	—	—	0·1	34·9
Other seed crops	0·1	75·0	0·2	100·0	0·3	84·6	0·2	93·9	0·2	95·7	0·3	61·3	0·2	86·8
Potatoes	1·3	82·1	1·1	81·3	1·0	76·0	1·3	77·2	0·9	63·5	0·8	89·1	1·1	79·2
Sugar beet	6·5	98·7	5·6	99·8	5·1	99·2	4·5	99·6	3·6	100·0	4·7	100·0	4·7	99·4
Mangolds	4·3	0·2	3·1	0·2	2·2	0·2	1·6	0·7	1·4	0·1	1·3	2·6	2·0	0·4
Swedes and turnips	1·4	4·0	1·3	0·2	1·2	2·8	1·1	3·3	1·2	4·3	2·2	2·6	1·4	2·7
Green crops	1·0	2·9	0·8	—	0·6	—	1·0	0·3	1·5	7·8	2·6	—	1·1	1·3
Bare fallow	3·5	—	5·1	—	6·5	—	6·4	—	6·6	—	5·6	—	5·9	—
Fruit and market garden crops ...	1·3	100·0	0·9	87·2	0·7	92·2	0·6	99·1	1·4	93·2	1·0	98·9	0·9	95·0
Rough grazing	0·8	—	0·9	—	1·4	—	3·2	—	4·0	—	12·0	—	3·9	—
Woods and waste	0·2	—	0·3	—	0·4	—	1·0	—	1·1	—	2·2	—	0·9	—
Buildings, roads, etc.	2·3	—	1·9	—	1·9	—	1·5	—	1·3	—	1·9	—	1·7	—
TOTALS	100·0	35·4	100·0	35·6	100·0	35·4	100·0	33·6	100·0	34·7	100·0	33·9	100·0	35·0

* These figures are computed by weighting the size group averages by the total number of farms in each group ; they thus represent disposal on the " average " farm, and not disposal of the total crop acreage

Table VIII

DISTRICT GROUPING. DISTRIBUTION AND SALES OF 1933 CROPS. DISTRICT GROUPING.

District	Central Norfolk loam (1)		Norfolk and Suffolk breck (2)		Central Suffolk loam (3)		S.E. Suff. and N.E. Essex sand & gravel (4)		N. Essex boulder clay (5)		S. Essex London clay (6)		S. Hertfordshire (7)		S. Cambridge chalk (8)		Hunts. and W. Cambs. clay (9)	
	Crop area as % of farm area	Amt. sold as % of crop area	Crop area as % of farm area	Amt. sold as % of crop area	Crop area as % of farm area	Amt. sold as % of crop area	Crop area as % of farm area	Amt. sold as % of crop area	Crop area as % of farm area	Amt. sold as % of crop area	Crop area as % of farm area	Amt. sold as % of crop area	Crop area as % of farm area	Amt. sold as % of crop area	Crop area as % of farm area	Amt. sold as % of crop area	Crop area as % of farm area	Amt. sold as % of crop area
Crop :—																		
Permanent pasture	28·6	—	16·7	—	21·5	—	26·1	—	15·9	—	48·5	—	38·1	—	10·5	—	27·0	—
Meadows	2.7	—	2·0	1·1	6·6	1·7	3·2	—	4·8	13·6	20·1	14·3	16·2	12·9	1·2	—	8·6	10·5
Mixed seeds ...	8·3	7·5	5·5	1·0	1·9	9·3	6·3	1·6	2·5	32·2	2·9	26·0	4·4	34·0	2·9	6·0	2·3	14·4
Clovers	0·7	73·1	0·7	23·7	2·5	39·9	1·6	13·8	2·1	70·3	0·7	34·0	0·7	47·5	3·9	28·0	1·9	53·3
Sainfoin	0·1	—	1·9	31·3	—	—	—	—	0·7	28·1	—	—	0·5	26·7	2·2	37·4	1·2	40·0
Lucerne	—	—	1·1	—	0·1	—	—	—	0·4	53·5	1·6	31·3	1·2	40·5	0·6	15·1	1·0	51·7
Trefoil	0·3	44·2	0·3	24·1	0·7	46·1	0·1	—	1·7	57·3	—	—	0·1	—	1·0	18·7	0·6	77·6
Wheat	15·6	93·0	7·1	91·5	18·6	95·3	12·3	95·3	26·6	95·1	7·6	96·1	14·6	95·9	18·5	98·5	20·1	95·9
Barley	14·4	82·4	7·1	80·0	14·5	79·5	9·3	83·5	11·2	81·5	0·9	77·6	1·0	21·2	22·7	83·1	4·4	81·0
Oats	4·6	18·0	3·4	8·6	5·0	7·9	10·3	24·1	6·9	10·8	3·9	14·1	8·5	15·1	8·2	18·5	5·4	16·0
Rye	0·1	100·0	1·9	46·7	—	—	0·4	29·9	—	—	—	—	—	—	—	—	—	—
Mixed corn ...	0·1	15·4	0·2	—	—	—	—	—	—	—	—	—	0·1	—	—	—	—	—
Beans	1·0	15·4	0·3	13·2	6·7	7·7	0·8	13.5	3.8	34.0	1·3	29·9	—	—	0·4	8·1	3·9	16·2
Field peas ...	0·4	46·4	0·6	78·9	0·9	20·5	0·7	28.6	2.2	67.2	0·3	76·4	—	—	0·2	89·1	1·3	59·5
Seed tares ...	0·2	75·3	0·1	83·3	0·1	93·7	—	—	—	—	—	—	—	—	—	—	0·3	56·6
Other seed crops...	—	—	0·4	99·4	—	—	0·4	61·7	0·1	96·9	0·2	74·4	—	—	0·7	89·3	0·2	85·7
Potatoes ...	0·1	81·2	0·1	67·2	0·3	83·9	1·5	77·4	1·0	87·7	2·1	75·0	2·5	77·5	0·8	86·7	1·1	60·8
Sugar beet ...	7·7	100·0	8·9	99·7	7·1	99·8	8·5	99·6	2·0	100·0	0·6	100·0	0·1	100·0	7·3	99·4	0·9	100·0
Mangolds ...	5·3	—	1·7	—	2·4	—	2·2	—	0·9	0·6	1·4	1·1	1·5	6·6	1·1	—	1·0	—
Swedes and turnips	3·3	—	3·0	0·1	0·8	—	3·1	10·8	0·2	—	0·1	2·6	1·0	5·0	1·7	—	0·1	—
Green crops ...	1·3	—	1·7	—	0·6	—	3·2	8·5	0·4	—	0·3	2·3	1·4	0·8	3·2	—	0·2	—
Bare fallow ...	1·7	—	2·1	—	6·2	—	2·2	—	12·3	—	1·8	—	4·1	—	8·7	—	11·3	—
Fruit and market garden crops ...	0·3	88·2	0·2	62·3	0·1	100·0	2·2	100·0	0·2	81·2	1·0	100·0	0·4	99·3	2·2	100·0	1·4	95·1
Rough grazing ...	1·1	—	26·7	—	0·9	—	3·4	—	0·4	—	2·8	—	0·9	—	0·6	—	3·9	—
Woods and waste	0·4	—	3·6	—	0·6	—	0·6	—	1·1	—	0·3	—	1·2	—	0·6	—	1·1	—
Buildings, roads, etc.	1·7	—	2·7	—	1·9	—	1·6	—	2·6	—	1·6	—	1·5	—	0·8	—	0·8	—
TOTALS ...	100·0	37·0	100·0	24·3	100·0	39·4	100·0	35·4	100·0	45·4	100·0	16·9	100·0	22·6	100·0	51·9	100·0	32·0

Table IX

WEIGHTS FOR PRICE AND COST INDICES, 1933.

A. SIZE GROUPING.

Size of farm	20–50 acres	50–100 acres	100–150 acres	150–300 acres	300–500 acres	Over 500 acres	Over-all (weighted)
Commodities :—							
Dairy produce	26·1	29·1	28·1	24·3	20·0	15·8	24·2
Horned stock	7·8	9·8	10·2	11·1	12·0	10·2	10·4
Pigs	21.4	16·6	13·7	13·7	11·3	11·0	14·4
Eggs	13·5	8·3	8·2	7·0	6·0	3·0	7·6
Sheep and wool	0·6	1·0	2·3	4·5	7·4	9·5	4·1
Poultry	4·5	4·4	2·6	2·1	1·8	1·1	2·7
Barley	5·8	7·2	8·6	8·0	10·4	15·9	9·0
Wheat*	5·5	7·1	9·0	9·8	11·0	10·9	9·1
Sugar beet	9·5	9·5	10·1	10·1	7·9	11·4	9·6
Potatoes	1·7	1·8	1·6	2·8	1·7	2·6	2·1
Hay	0·2	0·4	0·4	0·6	0·5	1·1	0·5
Oats	0·4	0·6	0·7	0·6	0·8	0·9	0·7
Peas and beans	0·5	0·5	0·6	0·5	0·6	0·4	0·6
Other crops	0·4	1·0	0·9	1·9	5·2	2·3	2·0
Miscellaneous	2·1	2·7	3·0	3·0	3·4	3·9	3·0
Gross income*	100·0	100·0	100·0	100·0	100·0	100·0	100·0
Requirements :—							
Labour	27·8	31·7	34·3	34·7	36·5	39·3	34·1
Feeding stuffs	30·9	24·0	21·9	20·5	18·5	14·0	21·5
Livestock	8·6	10·1	8·3	9·6	9·4	8·5	9·2
Rent	12·7	13·3	12·9	12·4	12·9	12·4	12·8
Seeds	2·5	2·6	3·1	3·0	3·7	3·7	3·1
Fertilisers	2·0	2·3	2·8	3·3	3·1	4·5	3·0
Miscellaneous	15·5	16·0	16·7	16·5	15·9	17·6	16·3
Gross charges	100·0	100·0	100·0	100·0	100·0	100·0	100·0

B. DISTRICT GROUPING.

District No.†	1	2	3	4	5	6	7	8	9
Commodities :—									
Dairy produce	19·2	21·3	12·5	25·2	13·5	50·4	42·1	10·4	16·4
Horned stock	14·7	9·1	10·2	8·5	7·8	12·7	12·7	7·9	12·6
Pigs	11·9	10·7	23·5	14·0	17·4	4·3	9·5	15·6	15·7
Eggs	4·8	3·3	8·9	6·3	9·7	9·3	8·2	3·8	7·6
Sheep and wool	4·6	7·9	1·9	6·8	0·8	4·2	5·7	6·7	5·2
Poultry	4·2	1·0	3·7	2·0	4·1	1·4	2·2	1·4	1·6
Barley	13·1	8·2	12·4	7·9	11·7	1·0	0·2	22·0	5·3
Wheat*	7·8	4·8	8·9	5·8	17·2	4·1	7·1	11·1	17·1
Sugar beet	16·8	27·3	15·5	12·2	5·6	1·2	0·1	11·5	2·8
Potatoes	0·3	0·1	0·5	2·6	2·4	3·8	4·9	1·5	2·5
Hay	—	0·2	—	—	0·9	1·2	1·6	0·1	0·9
Oats	—	0·2	—	1·4	0·6	0·3	0·8	1·0	0·8
Peas and beans	—	0·4	—	0·1	1·9	0·3	—	0·1	1·3
Other crops	—	1·5	—	3·8	3·5	2·6	0·7	4·6	5·9
Miscellaneous	2·6	4·0	2·0	3·4	2·9	3·2	4·2	2·3	4·3
Gross income*	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
Requirements :—									
Labour	37·8	37·5	32·4	38·3	36·1	29·3	32·1	36·1	35·7
Feeding stuffs	18·9	18·3	25·8	21·1	20·4	24·9	22·4	15·3	18·3
Livestock	9·2	9·7	8·0	8·6	7·1	11·3	11·4	10·2	7·0
Rent	9·8	10·7	11·0	10·8	11·9	12·9	15·1	14·1	14·8
Seeds	3·2	3·2	2·5	3·4	3·7	2·1	2·9	4·0	3·8
Fertilisers	4·3	4·3	3·0	2·8	3·5	2·5	2·6	4·5	2·8
Miscellaneous	16·8	16·3	17·3	15·0	17·3	17·0	13·5	15·8	17·6
Gross charges	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0

* Excluding wheat deficiency payments. † The code to District Nos. will be found on page 20.

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