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Poultry
Cost of
production

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AGRICULTURAL ECONOMICS DEPARTMENT

SURVEY OF POULTRY COSTS AND RETURNS 1950-51

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The Department is grateful to the farmers who have kept records of their poultry enterprises and who have made those records available to us. Development in this aspect of our work depends largely upon increasing the number and variety of the flocks recorded, and upon increasing the range of information made available.

T.W.G.

SURVEY OF POULTRY COSTS AND RETURNS, 1950-51

Introduction

For this 1950-51 Survey of Poultry Costs and Returns, financial information was obtained from 25 farms in Lancashire and Cheshire for periods of twelve months ending between 31st March and 31st December 1951. Seventeen of the farms have accounting periods ending on 30th September, six on 31st March, and two on 31st December 1951. Although the different closing dates have had no appreciable effect on the financial results of the enterprises included in the survey during this particular period, it is hoped in the future, for the sake of uniformity, to have all accounting periods ending on 30th September.

Of the 25 farms, fourteen are specialist poultry enterprises and eleven are general mixed farms with flocks of varying sizes. No particular account is taken of this distinction. Mixed farms might generally be expected to have available some home grown foods and thereby to have the advantage of a cheaper food supply but in this sample the mixed farms derive little benefit in this way; only seven farms have any home grown foods available for poultry and - except on one farm - they only account for a small proportion of the total foods used. Mixed farms have a further advantage in the use of labour; work on the poultry enterprise can be dovetailed with other farm work and only the actual time devoted to the poultry enterprise need be charged. On the specialist farms however, the farmer is usually regarded as fully employed in running the enterprise and is charged as such; unless the flock is of considerable size this results in a high labour charge per hen. It is true, of course, that the size of the flock has a marked influence on the labour cost per hen on all types of farms.

The farms have been classified on a functional basis and divided into two groups, of twelve accredited and twelve non-accredited farms. One farm has been excluded from the general classification because of a high specialisation on the rearing and sale of stock; its results are given separately in table 7 at the end of this report.

Table 1

Distribution of 24 Flocks by the Number of Hens per Flock, 1950-51

Hens per flock	Up to 100	101 to 200	201 to 300	301 to 500	501 to 750	751 to 1000	Over 1000	Total Flocks	Av. Hens per Flock
Group I	5	-	-	3	2	2	-	12	379
Group II	-	-	3	5	1	1	2	12	577
Total:	5	-	3	8	3	3	2	24	478

Group I consists of nine general and three specialist farms whose main function is the production of eggs for ordinary consumption. Group II consists of twelve accredited flocks, ten of which are specialist

enterprises and two are on general farms. Their main function is also the production of eggs but a proportion of the eggs are sold, according to demand, to hatcheries and bring in a higher price, while a few also derive a substantial income from the sale of day old chicks and growing stock. Farms in both groups obtain an added income from the sale of surplus poultry for the table market.

Costs and Returns

Table 2 sets out the average income and expenditure per hen for both groups. The averages have been calculated by treating the twelve farms in each group as one unit.

Table 2

Average Income and Expenditure per hen for 12
Ordinary and 12 Accredited Flocks, 1950-51.

	Group I Ordinary			Group II Accredited		
<u>Income</u>	£	s	d	£	s	d
Market Eggs	2	14	5	1	15	9
Hatching Eggs					17	8
Table Poultry		5	5½		11	2
Day Old Chicks			2		5	11
Growing Stock			1		6	8
Miscellaneous			0½			6
Produce to House			11		1	0
Farm Eggs Set			1		6	0
Livestock Appreciation		2	1		1	5
Total Income	3	3	3	4	6	1
<u>Expenditure</u>						
Foods	1	17	4½	2	11	5½
Hatching Eggs and Stock		3	1		1	9½
Miscellaneous		2	7½		4	11
Labour		10	0		13	10½
Rent			3½			11½
Farm Eggs Set			1		6	0
Deadstock Depreciation		1	9		2	2½
Total Expenditure	2	15	2½	4	1	2½
Profit		8	0½		4	10½
Average Number of hens per flock	379			577		
Average Number of eggs per hen	153			147		
Number of Flocks	12			12		

With the greater diversification of the poultry enterprise, costs increase from Group I to Group II. The production of hatching eggs involves extra costs in the selection and management of the laying flock and in the maintenance of stock cockerels, whilst the rearing of young stock for sale is an additional cost on some of the farms. Although these costs bring in a higher income for group II, the average profit for the group is only 4s 10½d per hen compared with 8s 0½d for group I. It should be borne in mind, however, that average results do not indicate profitability on individual farms, but are general measures of profitability when a number of flocks are grouped together. A study of individual results (tables 6 and 7) shows the wide variation in costs, incomes, and profits that occur in actual practice.

Substantial losses were made again this year on some farms, although the proportion is smaller than for the previous year; on the other hand some farms have maintained a high level of profits with the result that the gap between the highest profit and greatest loss is a very wide one. This emphasises the importance of management at a time when conditions are difficult. The farms in group I operate under a wide variety of management systems from large intensively housed flocks to small ones kept on free range and the gap between highest profit and greatest loss is £2 15s 11d per hen. The highest profits in this group were recorded by flocks that showed the highest average egg yields. Management systems and flock sizes in group II are more uniform and the range of profitability is £1 10s 2d per hen. The income from hatching eggs in group II is, rather surprisingly, insufficient to counterbalance the lower receipts from market eggs and partly accounts for the lower profit of the group as a whole.

Table 3

Costs of Egg Production for 12 Ordinary and
12 Accredited flocks, 1950-51

	Group I Ordinary				Group II Accredited			
	Cost per Hen			Cost per doz. eggs	Cost per Hen			Cost per doz. eggs
	£	s	d	s	d	£	s	d
Foods	1	17	4½	2	11½	2	11	5½
Hatching Eggs and Stock		3	2		3		7	9½
Miscellaneous		2	7½		2½		4	11
Labour		10	0		9¼		13	10½
Rent			3½		¼			11½
Deadstock Depreciation		1	9		1½		2	2½
Gross Cost	2	15	2½	4	3¾	4	1	2½
Less Receipts other than eggs		8	1		7½	1	6	0
Net Cost	2	7	1½	3	8¼	2	15	2½
Egg Receipts	2	15	2	4	4	3	0	1
Profit		8	0½		7¾		4	10½
							4	11
								5

Costs of Egg Production

Table 3 gives a further analysis of the data for the two groups and is an attempt to assess the costs of egg production. The cost per dozen eggs has been calculated on the assumption that table poultry and the sale of growing and other stock are by-products of the main function of egg production; the income from them has, therefore, been deducted from the gross cost.

This method is not perhaps strictly applicable to group II; although even there the majority of the farms obtain the greater part of their income from egg production. Three of them, however, obtain a substantial income from the sale of day old chicks and growing stock so that it cannot be assumed that their system of management is wholly directed to the production of eggs. This accounts for the high figure of receipts from items other than eggs. The table, however, demonstrates again the higher production costs of accredited enterprises in general.

Financial changes over a three year period, 1948-49 to 1950-51

Table 4 gives the costs and returns per hen for an identical sample of eleven farms for which data are available for three years. The averages have again been calculated by treating the eleven flocks as one unit in each of the three years. The sample contains farms from both the ordinary and accredited groups but, because of its small size, it cannot be claimed to be representative. It is rather a means of studying financial changes and trends of costs, incomes, and profits over a period of years. Another such sample of farms would probably show similar trends although the actual figures might be of different magnitudes.

Agricultural statistics show that the poultry population on holdings of one acre and over in Great Britain was reduced during the war to about half its pre-war size. Since the end of hostilities, however, there has been a rapid and steady recovery until by 1951 the pre-war totals had been surpassed and poultry farming was re-established as an important section of the agricultural industry. The immediate post-war years, with guaranteed prices and subsidised feedingstuffs, saw the entry of new men into the industry while more general farmers came to regard poultry as an integral part of their whole farm economy.

During this period, although costs were constantly on the increase, the returns were sufficient to give a fair profit margin. The removal of the feedingstuffs subsidy in 1949 and 1950, however, caused a marked change. A study of table 4 shows that feedingstuffs account throughout for a high proportion of the total costs for these eleven farms; yet the removal of the subsidy co-incided with a forty per cent increase in food costs per hen in 1949-50. Income increased by sixteen per cent, but average profit fell from 17s 6d to 7s 1d per hen. At the same time there was a marked reduction in the size of flocks from a total of 5644 to 4941 layers; this was at least partly responsible for the livestock depreciation charge in 1949-50 of 2s 9d per hen. There is, of course, a related increase in income from the sale of birds, particularly for table poultry. In 1950-51 further increases in food costs almost offset the benefit derived from larger sales of day old chicks and growing stock, despite some reductions in other expenses. The average profit of 8s 8d per hen, although slightly higher than in the previous year, was therefore still well below the 1948-49 average.

Table 4

Average Income and Expenditure per hen for an Identical Sample of Eleven Farms for the three years 1948-49 to 1950-51

	1948-49			1949-50			1950-51		
<u>Income</u>	£	s	d	£	s	d	£	s	d
Market Eggs	1	5	0	1	15	9	1	15	8
Hatching Eggs	1	2	0	1	1	2	1	1	4
Table Poultry		9	1		13	9		11	7
Day Old Chicks		3	6		4	4		7	3
Growing Stock		17	0		19	2	1	1	0
Miscellaneous			7			2			8
Produce to House		1	2		1	0		1	0
Farm Eggs Set		3	2		4	10		6	8
Livestock Appreciation		4	11		-			1	3
Total Income	4	6	5	5	0	2	5	6	5
<u>Expenditure</u>									
Foods	1	15	6	2	9	10	2	17	5
Hatching Eggs and Stock		5	11		7	8		5	8
Miscellaneous		6	7		6	4		7	0
Labour		14	9		17	9		17	4
Rent		1	0		1	2		1	1
Farm Eggs Set		3	2		4	10		6	8
Deadstock Depreciation		2	0		2	9		2	7
Livestock Depreciation		-			2	9		-	
Total Expenditure	3	8	11	4	13	1	4	17	9
Profit		17	6		7	1		8	8
Total Hens		5644			4941			5415	
Average Number of eggs per hen		134			161			154	

Seasonality of Production and the Average Price received for Market Eggs

The income of a commercial egg producer is mainly affected (i) by egg prices and the total egg yield of his flock, and (ii) by the seasonal variation of prices and of the production of that total yield. In 1950-51 seasonal prices varied from a peak of 5s 0d per dozen, in the four winter months September to December, to 3s 6d per dozen, for a period from mid-March to mid-June, with a gradation between these two prices in the intervening periods. This variation between highest and lowest prices is not as large, allowing for different price levels, as in some pre-war periods. In 1932-33 for example at a West Midland market uncontrolled egg prices in the winter period at 1s 10d and 2s 0d per dozen were more than twice the spring flush prices of 10d per dozen. In table 5 an attempt is made to assess the influence of seasonal production on possible incomes

and on average prices received during 1950-51.

For the three selected farms the average monthly egg yields have been calculated as a percentage of the total annual egg yield; the percentages are expressed as the proportion of 100 dozen eggs that are produced in each month. From this and average monthly price a monthly income is obtained; the sum of the twelve monthly figures gives the total annual income per 100 dozen eggs. It would be expected therefore that a flock with a high percentage of its production in the winter months would have a substantial advantage over those with a low winter percentage. The results for these farms do not however justify this assumption on the seasonal prices existing in 1950-51.

Farms B and C show the highest contrast in seasonal production. B produces 31.84 per cent of its eggs in the September-December period and 40.59 per cent in the March-June period, while for the corresponding periods C produces 16.7 per cent and 48.28 per cent. Despite its higher winter production B's income per 100 dozen eggs is only 13s 6d higher than C's and the average annual price received is only 1½d per dozen higher. The highest price for eggs in 1951-52 has been 6s 1d per dozen and 3s 7d the lowest: this wider gap should give the winter egg producer a more substantial advantage.

Table 5

Seasonal Production and the Average Price received for Market Eggs, 1950-51

MONTH	Average Price per Dozen	FARM A			FARM B			FARM C		
		Non-Seasonal Production			High Autumn Production			Low Autumn Production		
		Eggs per Hen	Per cent production	Receipts	Eggs per Hen	Per cent production	Receipts	Eggs per Hen	Per cent production	Receipts
	s d			£ s d			£ s d			£ s d
October	5 0	5.85	4.86	1 4 3½	20.43	9.74	2 8 7½	4.40	3.44	0 17 2½
November	5 0	5.13	4.26	1 1 3½	17.40	8.29	2 1 5½	4.40	3.44	0 17 2½
December	5 0	6.72	5.58	1 7 10½	16.49	7.86	1 19 3½	5.27	4.14	1 0 8
January	4 6	9.79	8.12	1 16 6½	19.13	9.11	2 1 0	10.40	8.14	1 16 7½
February	4 6	11.00	9.13	2 1 1	18.74	8.93	2 0 2	11.51	9.02	2 0 7
March	3 9	15.09	12.52	2 6 11½	24.16	11.51	2 3 2	13.92	10.91	2 0 11
April	3 6	16.53	13.72	2 8 0	22.15	10.55	1 16 11	15.59	12.22	2 2 9
May	3 6	15.29	12.69	2 4 5	21.48	10.23	1 15 9½	17.72	13.88	2 8 7
June	3 10½	8.24	6.84	1 6 6	17.41	8.30	1 12 2	14.38	11.27	2 3 8
July	4 6	8.65	7.18	1 12 3½	9.77	4.66	1 0 11½	12.40	9.72	2 3 8
August	4 9	9.89	8.28	1 18 11½	10.21	4.87	1 3 1½	10.39	8.14	1 18 8
September	5 0	8.31	6.90	1 14 6½	12.48	5.95	1 9 9	7.25	5.68	1 8 4½
Total.		120.49	100.00	21 2 9	209.85	100.00	21 12 5	127.63	100.00	20 18 11
Average Price Per Dozen:		4/2¾d			4/4d			4/2¼d		

Table
Individual Results

Income and Expenditure per hen, for

Farm Number Year End	1 Sept.30th			2 Sept.30th			3 Dec.31st			4 Sept.30th			5 Sept.30th		
	£	s	d	£	s	d	£	s	d	£	s	d	£	s	d
<u>Income</u>															
Market Eggs	3	2	4	2	11	4	3	12	0½	2	1	8	17	3½	
Hatching Eggs	-			-			-			-			-		
Table Poultry	13	10½		1	6		14	6		1	10		4	4½	
Day Old Chicks	2	1		-			-			-			-		
Livestock	-			-			-			-			-		
Miscellaneous	-			-			-			-			-		
Produce to House			8½			10			4½	2	7		3	1	
Farm Eggs Set	1	0½		-			-			-			-		
Livestock Appreciation	8	10		-			-				8		-		
Total Income:	4	8	10½	2	13	8	4	6	11	2	6	9	1	4	9
<u>Expenditure</u>															
Foods	2	6	3	1	11	11	2	0	0½	1	13	0	1	8	8½
Hatching Eggs & Stock		6	8		1	1		2	10½		2	0		3	3½
Miscellaneous		8	4		2	1		3	9			5½		3	3
Labour	14	1		6	3½		9	6½		8	10		14	1½	
Rent			3½			3½		3			1				2
Farm Eggs Set	1	0½		-			-			-			-		
Deadstock Depreciation	4	0½				1	1	0½		1	0		1	5	
Livestock Depreciation	-				2	3		5		-					8½
Total Expenses:	4	0	8½	2	4	0	2	17	11	2	5	4½	2	11	8
Profit		8	2		9	8	1	9	0		1	4½		-	
Loss		-			-			-			-		1	6	11
Number of Hens	350			508			580			60			90		
Eggs per Hen	183			147			188			132			65		

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1950-51

Group I, Ordinary Flocks.

6 Sept.30th	7 Sept.30th	8 Sept.30th	9 Apr.5th	10 Mar.31st	11 Mar.31st	12 Apr.5th
£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d
2 15 1	2 12 3	2 1 0	2 4 7½	2 18 3	2 19 6	3 4 9½
-	-	-	-	-	-	9½
12 3	7 3½	2 1	2 7	2 5	2 1	8 4
-	-	-	-	-	-	-
-	8	-	-	-	-	-
-	-	2½	-	-	-	-
4 2	-	1 5½	3 11	2½	11½	3 0
-	-	-	-	-	-	-
1 11 10½	-	3 4½	-	2½	6 3	-
5 3 4½	3 0 2½	2 8 1½	2 11 1½	3 1 1	3 8 9½	3 16 11
2 10 4½	1 12 10	1 12 9½	1 10 3	2 1 7	1 19 6	2 0 0
8 2½	3 5½	2 8	10 11½	2 4	3 0	-
4 10½	1½	1 1½	11½	3 6	1 10½	4 1
1 7 4	11 6½	6 2	1 0 2½	8 11	12 6	13 0
-	1½	3	-	2½	7	2 0
-	-	-	-	-	-	-
2 2	11	5½	2 3	3 2½	2 10	2 7
-	-	-	2 3½	-	-	1 5
4 12 11½	2 9 0	2 3 5½	3 6 11	2 19 9	3 0 3½	3 3 1
10 5	11 2½	4 8	-	1 4	8 6	13 10
-	-	-	15 9½	-	-	-
80	460	901	95	925	400	100
180	147	116	144	156	175	172

Table
Individual

Income and Expenditure

Farm Number Year End	13 Sep.30th	14 Sep.30th	15 Dec.31st	16 Sep.30th	17 Sep.30th	18 Mar.31st
<u>Income</u>	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d
Market Eggs	1 5 5½	1 18 7	1 13 10½	1 13 6½	1 16 0	1 12 8
Hatching Eggs	16 5	2 3 3	18 4	1 6 2	3 5	5 4½
Table Poultry	7 7	11 11½	6 3	18 0	11 4	9 0
Day Old Chicks	-	-	-	-	-	1 11 8
Livestock	-	1 8	2 3½	12 2	-	1 5 3
Miscellaneous	-	5½	2½	2 9½	-	1 0½
Produce to House	1 6½	7½	1 3½	7½	11½	1 11
Farm Eggs Set	1 3	1 7½	2½	3 0½	1 8	1 4 1
Livestock Apprcciation	1 10	-	1 9½	-	-	-
Total Income:	2 14 1	4 18 2	3 4 3	4 16 4	2 13 4½	6 11 0
<u>Expenditure</u>						
Foods	2 1 3	2 8 4½	2 4 9 3	1 11	1 18 5½	3 6 6½
Hatching Eggs & Stock	2 3	1 4½	2 3	5	1 7	4 11½
Miscellaneous	1 8	3 9	3 0	9 11½	2 10	10 3
Labour	13 0	17 10½	13 4 1	1 6½	7 11	13 10½
Rent	9	7	3	2 5½	9	11
Farm Eggs Set	1 3	1 7½	2½	3 0½	1 8	1 4 1
Deadstock Depreciation	1 0	1 0	2 0	1 9	1 4½	5 6½
Livestock Depreciation	-	6	-	2 1	5½	1 10
Total Expenses	3 1 2	3 15 1	3 5 9½	5 3 2	2 15 0½	6 8 0
Profit	-	1 3 1	-	-	-	3 0
Loss	7 1	-	1 6½	6 10	1 8	-
Number of Hens	277	293	375	490	1400	1200
Eggs per Hen	109	194	132	156	102	157

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Results 1950-51

per hen for Group II Accredited Flocks

19 Mar.31st	20 Sep.30th	21 Sep.30th	22 Sep.30th	23 Sep.30th	24 Sep.30th	25 Sept.30th
£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d
1 14 3½	1 16 7½	2 3 2½	22 0 8	1 7 10½	2 14 7½	1 9 9½
1 7 10½	14 5½	14 10½	1 6 3½	1 19 4	1 3 0	2 0 3½
4 9	10 0	8 0½	8 6	1 1 6½	13 5	17 8
3 5	-	2 7½	-	-	11	-
5 10	3 3	2 3½	-	-	13 10	7 18 4½
1 5½	-	-	-	3	1½	-
1 7	4	2	7½	7½	6½	11
6 1½	1 9½	4 2	1 0	1 5	3 5½	-
3 6	5 0	7 3½	2 10½	4 5½	3 11½	3 3
4 8 10	3 11 5½	4 2 8	3 19 11½	4 15 6	5 13 10½	12 10 3½
2 8 7½	2 12 0	2 17 0½	2 0 5½	2 18 0½	3 5 1½	5 11 0
1 6½	-	-	6½	1	3 11	5 11 0 2 5 4
5 4½	1 0	9½	1 8½	7 1½	5 2	1 2 10
1 0 2	10 1½	10 10	11 5½	17 8½	1 6 5½	2 3 0½
11½	1 3	6½	1 6	4	1 2	11 10
6 1½	1 9½	4 2	1 0	1 5	3 5½	-
3 0½	3½	1 9	5	2 4½	2 5	4 6
-	-	-	-	-	-	-
4 5 10	3 6 5½	3 15 1½	2 17 1	4 7 1	5 7 8½	11 8 6½
9 0	5 0	7 6½	1 2 10½	8 5	11 2	1 1 9
-	-	-	-	-	-	-
431	346	430	750	603	269	460
160	134	155	175	153	196	135

