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Egg Cost of production

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SCHOOL OF AGRICULTURE

EGG PROFITS PLANNING PROSPECTS

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SUTTON BONINGTON
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Grateful acknowledgement is made to the farmers whose records form the basis of the report.

F.R. No. 125

EGG PRODUCTION ON THE GENERAL FARM

(1951-52 and 1952-53 Seasons, 1st October - 30th September).

P R O F I T S

P L A N N I N G

P R O S P E C T S

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JULY 1954.

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SECTION I

Introduction

This report presents the results of the second financial year of the poultry investigation in the counties of Nottinghamshire and Lincolnshire (Lindsey). At the time of writing, the egg-producing industry can be said to be in a transition period, and the results presented here may be very different from those in future years. They do, however, show the effect of changing economic conditions and thus form a basis for speculation as to the probable future trends. The section on Future Prospects may, therefore, be of more interest than the actual results, but the two are really complementary.

The freeing of the egg and feeding stuffs markets, together with the gradual changeover to intensive winter egg production have meant a change of the whole pattern of production. The results presented here are therefore, to some extent historical, and their main function is to provide the background information for a commentary on recent happenings up to the time of going to press.

The Sample

The records from 36 flocks were available for the second financial year. Of these, 21 kept records for the two years. The flocks varied in size from 30 to 1,200 birds and all but two could be described as "farm flocks". The deep litter and hen yard system were best represented as it was hoped to find more about these newer methods of housing.

Accounting Methods and Explanatory Notes

1. All the figures refer to the year from 1st October, 1952 to 30th September, 1953.

2. The per bird figures are calculated on the average number of birds during the period, on a hen-day basis, taking into account the number of days each bird was in the flock.

3. Food costs

   (a) The per bird figures for food and other costs are for less than 12 months in some cases. The actual number of months has been indicated below.

   (b) Where cockerels or other poultry were fed from the same food it has been assumed for the sake of simplicity that the value of the food

eaten is the same as the increase in value of the birds. This is not strictly correct because there will be some labour and other costs to set against the increase in value and there may also be an element of profit in the increase in value. However, since the amounts involved were small the simplification is reasonable.

(c) Home grown foods were charged at market values.

4. Labour was charged at standard rates per hour: 2s. 8½d. for men, and 2s. 1¼d. for women.

5. Bird Depreciation

(a) Birds were valued at estimated cost of production based on a figure of 18s. 0d. for point of lay pullets. Birds bought at point of lay were charged at cost price.

(b) Income from the sale of birds has been deducted from the difference between opening valuation plus replacements, and the closing valuation. Income from eggs is, therefore, regarded as the sole source of income, and bird depreciation is regarded as an expense.

6. Equipment Depreciation was charged on all housing and equipment for laying and growing stock. Where conversion of stone buildings was made, the cost of conversion only has been used as a basis for the depreciation charge. The depreciation charge was 10 per cent for wooden huts and all general equipment, 12½ per cent for folds, and five per cent for improvements to stone buildings.

7. Other Expenses

This item is mainly fuel, lighting and veterinary expenses. No charge has been made for rent, or interest on capital, and no credit has been allowed for manurial residues. Overheads have not been charged.

8. Profits

The figures shown as profits are not strictly so, because all expense items such as interest on capital, overheads, etc. are not included. Profit in this report, therefore, is taken to mean the difference between egg receipts and the expenses enumerated above.

DISTRIBUTION OF FLOCKS BY SIZE AND METHOD OF HOUSING

TABLE 1

Method	Batteries	Deep litter	Hen yard	Folds	Range	Total
Flocks in group	5	12	10	5	4	36
Average number of birds:						
Less than 100	3	4	1	-	1	9
100 to 200	1	3	2	-	2	8
200 " 300	1	1	2	2	-	6
300 " 500	-	1	5	-	1	7
500 " 1,000	-	3	-	1	-	4
1,000 and over	-	-	-	2	-	2

AVERAGES PER BIRD GROUPED ACCORDING TO NUMBER OF LAYING MONTHS, 1951-52 and 1952-53.

TABLE 2

Item	1951-52				1952-53			
	Number of laying months				Number of laying months			
	Less than 9	9-11	12	All flocks	Less than 9	9-11	12	All flocks
Number of flocks	7	7	22	36	6	15	15	36
PAYMENTS	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Foods:								
Purchased	13. 6.	1. 2. 7.	1. 2. 6.	1. 0. 9.	15. 7.	1. 1. 2.	1. 5. 8.	1. 2. 1.
Home grown	4. 9.	8.11.	13. 2.	10. 8.	7. 9.	10. 9.	8. 2.	9. 2.
Total	18. 3.	1.11. 6.	1.15. 8.	1.11. 5.	1. 3. 4.	1.11.11.	1.13.10.	1.11. 3.
Labour	3. 9.	7. 4.	5.11.	5. 9.	3. 4.	4. 8.	6. 8.	5. 4.
Bird depreciation	7.10.	10. 6.	9. 2.	9. 2.	8. 0.	10.11.	10. 6.	10. 3.
Equipment depreciation	1. 4.	1. 8.	1.11.	1. 9.	1. 7.	1. 6.	1. 6.	1. 6.
Other expenses	4.	6.	9.	8.	1.	3.	6.	4.
Total expenses	1.11. 6.	2.11. 6.	2.13. 5.	2. 8. 9.	1.16. 4.	2. 9. 3.	2.13. 0.	2. 8. 8.
Profit	11. 0.	13. 8.	12. 5.	12. 5.	13. 8.	1. 0. 5.	18.10.	18. 8.
Total income (eggs sold and consumed)	2. 2. 6.	3. 5. 2.	3. 5.10.	3. 1. 2.	2.10. 0.	3. 9. 8.	3.11.10.	3. 7. 4.
Price per dozen eggs sold	5. 1.	4. 9.	4. 7.	4. 9.	5. 4.	5. 1.	4.10.	5. 0.
Average number of eggs laid per bird	101	154	173	158	124	166	178	164

PAYMENTS AND RECEIPTS PER BIRD - 1st October, 1952 to 30th September, 1953.

TABLE 3

Item	Method of housing					Total
	Batteries	Deep litter	Hen yard	Folds	Range	
Number of flocks	5	12	10	5	4	36
PAYMENTS	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Foods:						
Purchased	1.12. 6.	19. 9.	19. 7.	1. 8. 0.	15. 4.	1. 2. 1.
Home grown	3. 0.	8. 6.	12. 9.	8. 1.	10.11.	9. 2.
Total	1.15. 6.	1. 8. 3.	1.12. 4.	1.16. 1.	1. 6. 3.	1. 11. 3.
Labour	6.11.	4. 8.	3. 8.	7.10.	6. 1.	5. 4.
Bird depreciation	11. 8.	8.10.	10.10.	9. 1.	12.10.	10. 3.
Equipment depreciation	1. 8.	1. 6.	1. 5.	1.10.	1. 6.	1. 6.
Other expenses	4.	5.	3.	5.	-	4.
Total expenses	2.16. 1.	2. 3. 8.	2. 8. 6.	2.15. 3.	2. 6. 8.	2. 8. 8.
Profit	1. 5. 9.	16. 4.	18. 7.	13. 3.	1. 3. 6.	18. 8.
Total income (eggs sold and consumed)	4. 1.10.	3. 0. 0.	3. 7. 1.	3. 8. 6.	3.10. 2.	3. 7. 4.
Price per dozen eggs sold	5. 0.	5. 2.	5. 0½	4. 9.	4.10.	5. 0.
Average number of eggs laid per bird	199	146	161	170	175	164

AVERAGES PER BIRD GROUPED ACCORDING TO METHOD OF HOUSING (1)

TABLE 4

Item	Batteries			Deep Litter			Hen Yard			Folds			Range		
	1951-52	1952-53	Average	1951-52	1952-53	Average	1951-52	1952-53	Average	1951-52	1952-53	Average	1951-52	1952-53	Average
Number of flocks	8	5	-	5	12	-	9	10	-	6	5	-	8	4	-
Average size of flock	162	130	149	293	293	293	437	275	352	456	724	578	247	187	227
Adjusted to 12 months per bird															
Food lbs.	125	118	122	116	129	126	120	132	126	125	128	126	104	91	99
Labour hours	2.7	2.7	2.7	2.0	2.2	2.1	2.3	1.6	1.9	2.2	2.8	2.5	2.6	2.2	2.4
Yield eggs	199	213	200	180	192	188	178	199	189	160	170	154	168	175	170
Adjusted to 12 months															
Mortality as percentage of average number of birds	23	11	18	19	14	16	17	14	16	23	16	20	22	21	22
Mortality as percentage of maximum number of birds	16	8	13	15	11	12	14	12	13	19	14	16	17	15	17

(1) The above figures are calculated from the per bird figures and thus give equal weight to all flocks irrespective of size.

Comparison of 1952-53 Results with those of 1951-52

The structure of costs for each season is very similar. Food costs were just over 31s. 0d. per bird for all flocks in each season; labour costs in the region of 5s. 6d. per bird and bird depreciation increased by about 1s. 0d. from 9s. 0d. to 10s. 0d. due mainly to the lower prices for cull birds. On the returns side the main change was in the price received for eggs, the increase being about 3d. per dozen. Thus the difference in returns from the sale of eggs of about 6s. 0d. per bird can be explained mainly by higher prices of eggs, the remainder being due to higher yields. The higher yields are partly due to the greater number of intensive flocks in the 1952-53 season, although the intensive flocks were generally in lay for shorter periods.

The increase in profit margins from an average of 12s. 0d. to 18s. 0d. is, therefore, largely due to increased prices received for eggs. A part of this price increase was due to the exceptionally high egg prices in the late summer of 1953, which proved to be much higher than those of the winter which followed. A feature of the second financial year was the exceptionally good results from both the battery and range flocks. It must be noted, however, that the sample contained only half the number of the previous year in each case. The newer methods - the Hen Yards and Deep Litter, have proved themselves under commercial conditions on the general farm, but most farmers admit that they still have room to learn and profit by their own experience and that of others, in these newer methods.

PROFIT MARGINS

TABLE 5

Profit	Batteries	Deep Litter	Hen Yard	Folds	Range	Total
Below 5s. 0d.	-	1	-	-	-	1
5s. 0d. to 10s. 0d.	-	2	1	1	-	4
10s. 0d. " 15s. 0d.	1	1	1	2	-	5
15s. 0d. " 20s. 0d.	-	4	1	1	1	7
20s. 0d. " 25s. 0d.	1	3	7	1	2	14
25s. 0d. " 30s. 0d.	1	-	-	-	1	2
30s. 0d. and over	2	1	-	-	-	3

In the 1952-53 season no flock showed a loss, and profits were generally higher than the previous year. As with the previous year, high profits were not confined to any one system of management.

In view of the more recent decline in profits from egg production it is encouraging to note the number of flocks which made over £1. a bird. It is also interesting to note that the capital saving method, the hen yard, had eight out of ten flocks with over 18s. 0d. a bird profit.

Factors Affecting Profits

(a) Level of Feeding in Relation to Egg Production

The relationship between the most important item of cost and the most important item of revenue is naturally a sound guide as to the efficiency of egg production. It is equally obvious that the largest items of expense and revenue should show the widest variation from farm to farm. What then are the main reasons for these variations and how do they affect profits?

Variations in food costs.

The composition of rations fed, varied considerably from all purchased to all home grown and home mixed, and costs of rations from about 30s. 0d. to 40s. 0d. a cwt. The actual amounts of food fed (adjusted to 12 months), varied from 85lbs. to 180lbs. a bird. Generally speaking the most intensive flocks, i.e. the batteries, fed little home grown food, and the most extensive flocks fed the most home grown food. Most of the flocks were of a light-heavy cross, but the sample available was too small to establish any relationship as to the effect of breed on amount of food consumed. It does, however, seem reasonable to assume that the body size of birds would have some influence on the quantity of food eaten. Extensive flocks with access to grazing and stubbles would naturally consume less hand fed foods, although if palatable hand fed foods of high quality were fed, then foraging would be considerably reduced. Perhaps the main reason for variations in food consumption was the difference in the amounts of food offered to the birds and also the amount of wastage. Where foods are fed ab lib, a record of food consumed would seem to be a wise measure to ensure that wastage is kept to a minimum, and that birds are not using more than normal requirements. Above all, the amount and quality of food offered should be related to the birds capacity to produce eggs. Capacity for egg production is not easy to gauge as it depends on both breeding and environmental conditions. Thus hens kept under free range conditions will have a smaller capacity for egg production than hens kept under ideal intensive management. On the other hand, free range birds would have the capacity to produce eggs on cheaper foods.

In the first year, the tendency to overfeeding was most marked in the extensive flocks (folds and range). In the second year the number of extensive flocks was reduced, and the flocks remaining made more efficient use of feeding stuffs and there was little, if any, evidence of overfeeding. On the other hand, the number of intensive flocks was increased, and there was an increased tendency to overfeeding. A feature of the second year's results was the relatively low food consumption of the battery flocks.

Although it is difficult to substantiate any assumption that overfeeding was widespread, it does seem that a closer check on foods used would have paid dividends in several cases.

Variations in Egg Receipts

DISTRIBUTION OF YIELDS BY METHOD OF HOUSING
(25 FLOCKS for 10 - 12 MONTHS)

TABLE 6

Method	Batteries	Deep litter	Hen yard	Folds	Range	Total
Average number of eggs per bird						
Below 150	-	-	2	1	-	3
150 to 180	-	3	1	2	4	10
180 to 200	3	2	3	2	-	10
Over 200	2	-	-	-	-	2
Total	5	5	6	5	4	25

DISTRIBUTION BY METHOD OF HOUSING OF AVERAGE PRICE RECEIVED PER DOZEN EGGS (25 FLOCKS)

TABLE 7

Method	Number of flocks	Range of average prices received by flocks
Batteries	5	4s. 9d. to 5s. 4d.
Deep litter	5	4s. 8d. to 5s. 5d.
Hen yard	6	4s. 8½d. to 5s. 1d.
Folds	5	4s. 7d. to 5s. 1d.
Range	4	4s. 8d. to 5s. 1d.

The two tables above, show wide variations in both production and prices received for eggs. Although high yields and out of season production are very profitable, it is essential to consider returns in relation to the costs incurred and food costs in particular. Thus the four free range flocks all had good financial results with moderate yields and low food costs, whereas the batteries obtained good results with high yields and high food costs. Similarly, low prices per dozen eggs may be offset by low food costs and vice versa. Generally speaking, high yields were profitable provided that wastage did not occur, but in many cases a high rate of out of season production meant earlier culling and shorter production periods, which partly offset higher average egg prices.

(b) Bird Depreciation

This is the next most important item of expense and depends on the death rate and the price received for culls. Cost of rearing will also affect replacement cost, but as comparisons of egg production were the main aim, this has been standardised at 18s. 0d. per bird.

Mortality

Heavy death rates are obviously something to avoid if at all possible, but even in the best regulated flocks the unexpected can happen. As with the first year's results, a high death rate did not always mean low profits, especially as it appeared to be linked with high production or a low food intake in a few cases. These cases were, however, the exception rather than the rule.

The price received for culls varied considerably from farm to farm, and according to the time of year. There were two peak prices for cull birds, at Christmas and Easter, and flocks culling earlier in the laying year received better average prices. The problem of when to cull is discussed in the section on management problems pp. 19-20.

Labour Costs

DISTRIBUTION BY METHOD OF LABOUR COSTS PER BIRD
(25 FLOCKS)

TABLE 8

Labour cost \ Method	Batteries	Deep litter	Hen yard	Folds	Range	Total
Below 4s. 0d.	1	1	3	-	1	6
4s. 0d. to 6s. 0d.	2	4	2	2	1	11
6s. 0d. " 8s. 0d.	-	-	1	-	1	2
8s. 0d. " 10s. 0d.	-	-	-	2	1	3
Over 10s. 0d.	2	-	-	1	-	3

The time spent with poultry on general farms depends on factors other than the degree of intensity of production methods. Some poultry keepers spend more time with their poultry than would strictly be necessary. In many cases this was more than repaid by the response in egg yields to individual attention.

With the advent of American methods, we tend to hear the different systems compared in terms of the one man unit. In this country this is rather a convenient measuring stick rather than a description of the typical type of commercial egg producing unit.

General farm flocks are the backbone of the industry and the majority of producers are on a relatively small scale. The popular egg production unit is perhaps the one requiring one or two hours labour per day and the popularity of intensive methods lies in the fact that a larger number of birds can be kept for a given number of labour hours. In this way the income from poultry can be increased though income per bird may be much the same as under extensive methods.

The actual labour hours spent on the flocks investigated, would seem to suggest that one man should under average farm conditions, be able to look after at least 1,000 birds in batteries, on range, or in fold units, and that with deep litter and hen yard systems, up to and over 2,000 should be possible.

SECTION II

PLANNING THE POULTRY ENTERPRISE.

Some Standard Requirements.

Food

Rearing: 1 cwt. for every four birds reared to point of lay.

Layers: 100 to 140 lbs. depending on system of management and rate of lay.

Capital 4s. 0d. per bird upwards depending on system.

Notes on Systems

Batteries

This is the most expensive system, but it has advantages in that space is used very economically, egg production is high and may give the best return if expensive purchased foods have to provide the bulk of the ration. The system is foolproof and safe, as few snags can occur if the birds are fed a well-balanced ration. Birds can be kept quite successfully two in a cage. A further advantage is that low producers can easily be culled. Eggs are normally clean and should not require washing.

Deep Litter

If relatively small numbers of birds (100 - 150) are to be housed, then it may be easy to find suitable buildings for conversion, and capital costs can be kept low (5s. 0d. - 10s. 0d. per bird), but if larger numbers are required, then capital expense may be up to and over £1. a bird. Floor space needed is about four sq. ft. per bird.

Adequate trough space is essential if vices are to be controlled. Twelve feet of double sided trough should be sufficient for 100 birds if dry mash is fed. Where wet mash or grain is fed, three times this space will be required.

Hen Yards

This system is the cheapest method of housing large numbers of birds, because it lends itself well to improvisation, and expansion of

capacity is relatively easy if land is available. About two tons of straw should be sufficient for 100 birds for 12 months, under normal weather conditions. Covered space should be provided at two sq. ft. a bird. The size of run is not important, but good protection from wind and weather is a big advantage.

Folds

Costs of new fold units are in the region of £1. per bird. The system is not as popular as when it was introduced before the war, mainly because of the labour involved, and the advent of the newer intensive methods. The main advantage of folds is on the general farm where a premium is placed on grassland improvement. Another advantage is that growers can be reared from eight weeks in folds, and so save labour and equipment on rearing.

Range

Like fold units, range flocks can still be a profitable sideline on the general farm, and with the change in seasonal pattern, prospects may be improved. Capital costs can be from 10s. 0d. a bird upwards. Economies can be achieved by use of cheaper rations, more grazing, and use of stubbles. There may also be scope for range flocks run in conjunction with intensive birds, to cut costs in periods of low prices.

Does Egg Production Pay?

The answer to this question is very much a relative matter, as different producers will have different ideas of what is a good profit. These ideas will depend on levels of efficiency, but also on the type of holding. Where poultry provide a large proportion of the farm income the level of profit will be viewed in a different light from where they are a minor enterprise.

The table below is designed to show the sort of profits which can be expected under various cost/price conditions, and at various levels of production.

The most important items which can explain the variations in profit per bird are the production and price of eggs, and the cost of food. In the following table, costs other than food are standardised at the figure of 18s. 0d. made up of:- Bird depreciation 9s. 0d., labour 6s. 0d., equipment depreciation 2s. 0d., other expenses 1s. 0d.

The table assumes that:-

1. A hen will eat 120 lbs. of food a year.

2. Income from eggs is the sole source of income, sale of birds being included against the charge of bird depreciation.

Total Costs in each column is the cost of 120 lbs. of food plus the charge of 18s. 0d. for "other costs".

Total Receipts are arrived at by multiplying the production by the price of eggs.

There will be variations from the standards shown in the table, some may have lower labour costs, others higher bird depreciation, and perhaps the biggest variation will be in the amount of food consumed. However, this will depend mainly on the system practised, and if we assume that birds in batteries will consume 140 lbs. of food and those on range 100 lbs., this means that an addition or deduction of 5s. 0d. a bird would be a fairly reasonable correction to the standard cost of food per cwt.

A PROFIT READY RECKONER

Possible Margins for Commercial Egg Production, Costs, Returns and Margins in Shillings per Bird per Year.

TABLE 9

Price of one dozen eggs	Cost of one cwt. food	PER CENT PRODUCTION (360 EGGS = 100%) or DOZENS OF EGGS PER BIRD PER YEAR								
		40% or 12 dozen			50% or 15 dozen			60% or 18 dozen		
		Total costs	Total receipts	Margin	Total costs	Total receipts	Margin	Total costs	Total receipts	Margin
3s.6d.	25s.	45	42	- 3	45	52	+ 7	45	63	+18
	30s.	50	42	- 8	50	52	+ 2	50	63	+13
	35s.	56	42	-14	56	52	- 4	56	63	+ 7
	40s.	61	42	-19	61	52	- 9	61	63	+ 2
	45s.	66	42	-24	66	52	-14	66	63	- 3
4s.0d.	25s.	45	48	+ 3	45	60	+15	45	72	+27
	30s.	50	48	- 2	50	60	+10	50	72	+22
	35s.	56	48	- 8	56	60	+ 4	56	72	+16
	40s.	61	48	-13	61	60	- 1	61	72	+11
	45.	66	48	-18	66	60	- 6	66	72	+ 6
4s.6d.	25s.	45	54	+ 9	45	67	+22	45	81	+36
	30s.	50	54	+ 4	50	67	+17	50	81	+31
	35s.	56	54	- 2	56	67	+11	56	81	+25
	40s.	61	54	- 7	61	67	+ 6	61	81	+20
	45s.	66	54	-12	66	67	+ 1	66	81	+15
5s.0d.	25s.	45	60	+15	45	75	+30	45	90	+45
	30s.	50	60	+10	50	75	+25	50	90	+40
	35s.	56	60	+ 4	56	75	+19	56	90	+34
	40s.	61	60	- 1	61	75	+14	61	90	+29
	45s.	66	60	- 6	66	75	+ 9	66	90	+24

From this Table a farmer should be able to get a fair idea of what profit he can expect on his particular farm with his system of production, assuming appropriate yields and level of prices. The Table should also provide a commentary on the enterprise as production and prices change.

Is Poultry-Keeping the Best Investment?

Conditions vary so much from farm to farm, and from one year to the next, that it is not possible to answer this question without reference to the conditions prevailing at the time. Much will depend on the type and size of farm, and the smaller the farm the more likely is the opportunity for keeping poultry as a means of increasing the volume of business. The system of poultry keeping will also influence the demands made upon the various resources. Extensive methods will use more land and labour, but less food, than intensive methods. Batteries will usually require greater capital expense than deep litter, and hen yards less than either, and so on. Generally speaking, poultry are primarily competitors for capital and labour, although they can be fitted into the general farm organisation to spread out uneven demands made upon the labour force. They also compete with other classes of stock for the use of home grown cereals, and there is usually the further alternative of selling the cereals.

Whatever the problem, the answer and the approach will depend on individual circumstances, but the fundamental factor is the consideration of the alternatives available, or in other words, weighing up the potential production of the farm resources, and balancing this against any limiting factors, such as shortage of capital, land, buildings, and lack, or availability of suitable labour.

This is in fact what farmers do, and it is suggested here that in many cases a little thought plus some arithmetic, can help to indicate the effect on profits of any proposed change. As an example, the case of a Pig v Poultry enterprise is considered.

Pigs or Poultry?

The problem is analysed in terms of making use of a building which can be adapted to house 200 hens or 40 bacon pigs

Alternative I - To house 200 hens to be reared from eight weeks.

Capital Expenses	
Additional rearing equipment	£20.
Conversion of laying house	£50
Other equipment, troughs, etc.	£20
Total	£90

Working Capital (i.e. outlay other than fixed capital incurred before the hens start laying). To buy eight weeks old pullets and rear to point of lay would cost about £1. per bird.

Total working capital	£200
Total Capital Outlay	£290

Estimated Expenses and Receipts per Layer

Expenses	£. s. d.	Receipts	£. s. d.
Food: 1 cwt.	1.15. 0.	Sales:	
Equipment depreciation	1. 0.	15 dozen eggs @	
Stock replacement(1)	12. 0.	4s. 0d. a dozen	3. 0. 0.
Other expenses	1. 0.		
Margin	11. 0.		
	£3. 0. 0.		£3. 0. 0.

Estimated yearly margin from average of 180 hens = £100.

Alternative II - To house 40 bacon pigs

Capital Expenses

Conversion of housing	£200
Other equipment, troughs, scales, etc.	£50
	£250

Working Capital

Purchase of 40 weaners @ £6.	£240
Food: 40 x 7 cwts. @ 32s. 0d.	£448
Total working capital	£688
Total Capital Outlay	£938

Estimated Expenses and Receipts per Bacon Pig

Expenses	£. s. d.	Receipts	£. s. d.
Food: 7 cwts. @ 32s.0d.	11. 4. 0.	Sale of baconer	
Cost of weaner	6. 0. 0.	8 score @ average	
Depreciation of stock and equipment.	1.10. 0.	of 52s. 0d. a score	20.16. 0.
Other expenses (Vet. etc.)			
Margin	2. 2. 0.		
	£20.16. 0.		£20.16. 0.

Estimated margin for yearly throughput of 100 baconers= £210.

(1) The figure for stock replacement is high because birds are reared from eight weeks and not day old.

The figures shown in these two examples are merely illustrations and farmers must adjust their estimates to fit probable prices and levels of performance. They do, however, show that an investment in a pig enterprise is likely to be far more expensive in terms of capital outlay, but on the other hand the potential rewards are also greater. The choice will depend on individual circumstances and preferences, but a calculation of the type shown here can be helpful in indicating the relative merits of various alternatives.

Some Management Decisions

For the farmer who decides that there is a place for poultry on his farm (and there is undoubtedly a future for egg production on the general farm), a few important management decisions are considered in the light of the findings of this investigation.

Choice of Stock

This is perhaps the most important decision which the poultry keeper has to make, because without good stock, all the feeding, housing, and attention in the world will not produce first class results.

The experience of one co-operating farmer is very revealing. He kept two flocks of birds in two adjoining hen yards which were of identical construction. In one yard were housed 260 birds from one breeder, and in another 245 from a different breeder. Rations and conditions of management were also the same. Based on the opening numbers of birds the first flock laid 195 eggs per bird in 11 months and the second 155 in ten months. Allowing for the shorter production period of the second flock, this represents a difference of over 30 eggs per bird. At the present guaranteed average of 4s. 0d. a dozen, this is worth 10s. 0d. per bird.

Good stock are well worth an extra 6d. or 1s. 0d. a bird which may be asked, but a high price does not necessarily assure the purchaser of better stock. However, above average prices of a well-established breeder are usually a sign of well satisfied customers.

To assist poultry keepers in the selection of suitable stock, the Ministry of Agriculture publishes particulars of accredited poultry breeders and approved hatcheries operating under the "Poultry Stock Improvement Plan". Control is maintained over the quality and health of the stock produced by members of the plan, and county lists of such breeders and hatcheries can be obtained free of charge, from County or Provincial Offices of N.A.A.S. Purchasers of accredited or approved stock can obtain free post-mortem examinations on the carcase of any bird which dies within 28 days of leaving an accredited breeding station, or an accredited or approved hatchery.

Losses through diseases like B.W.D. (Bacillary White Diarrhoea) can mean great financial loss, and the best safeguard is the reputation of an established breeder. Apart from the advantages of getting healthy stock a possible difference in production between good and moderate stock of 10s. 0d. per bird, makes it well worth while trying to find the best birds on the market.

When to Buy Chicks

Extension of the hatching season is an advantage to the breeder and enables him to spread his fixed costs over a longer production period. He can thus offer out of season chicks at lower prices. This does not necessarily mean that it is to the disadvantage of the egg producer, although it pays to be wary of any false economy through buying cheap chicks.

Although the actual cost of chicks is an important item, it is far more important to consider the potential production of the birds. In calculating the probable profits from birds hatched at a given time, three main points must be considered:

1. Saving in cost of chicks.
2. Effect on egg production and the seasonal pattern.
3. Effect on selling price of cull birds.

Personal experience is the best guide to the probable effect of changing dates of purchasing chicks, and much will depend on the standard of management. A few generalisations may, however, be helpful:-

Normal Hatching Season (March and April)

The main advantage is in ease of rearing out of doors, and birds hatched at this time should also lay their maximum number of eggs and a high proportion in the winter.

Early Hatched (January and February)

Birds hatched at this time of the year will catch the high late summer prices as well as the winter prices. There is, however, a tendency for these birds to moult under average farm conditions in the winter, but this can be avoided by good management and uniform housing conditions. Birds would also have laid sufficient eggs to warrant early disposal if prices of culls are high at Easter. There is probably less danger from coccidiosis with birds hatched at this time, as the greatest danger is in the warm moist atmosphere in the Summer months. The latest preventatives and cures are, however, very effective.

Autumn Hatched

These birds are slower to mature and would probably lay fewer eggs. They would also be difficult to rear under normal farm conditions because of the cold, and more costly because of slower maturity and greater fuel requirements. The advantages lie in obtaining high late summer and winter prices and the possibility of disposal of culls on the Christmas market.

Assuming the difficulties of rearing, and of preventing birds going into a moult in the autumn, the financial prospects of autumn hatched birds compared with spring hatched birds may be something like this:-

Production Costs (per bird in shillings)

	Spring 12 months	Autumn 8 months
Food	32	22
Rearing cost	18	20(1)
Totals	50	42

Returns

Eggs: 180 @ 4s. 0d. a dozen	60	
120 @ 4s. 6d. a dozen		45
Cull birds: average 8s. 0d.	8	
average 18s.0d.		18
Totals	68	63
Difference between Costs and Returns	18	21

The margins here are not net profits, as labour and other costs have not been included, but the calculation shows that if these are the expected levels of production and prices, the winter hatched bird gives an additional profit of 3s. 0d. per bird as a reward for the extra risk involved, and for a shorter production period.

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(1) Although autumn hatched birds may be 1s. 0d. or so cheaper to buy they would probably be more costly to rear.

Method of Feeding

This will depend mainly on the system of production adopted and also on the availability of home grown foods. Where home grown foods are available, home mixing can mean a saving of around 5s. 0d. per bird and unless the prices of compound mashes become more competitive it will still pay the farmer to use home grown foods. A record of food consumed could be a valuable check against wastage on many farms and would also enable birds to be fed more in line with their capacity for egg production.

Are Food Costs Being Covered?

As food cost is the most important expense which can be reduced by culling, it is useful to know the number of eggs which a hen must lay in a month to cover its food cost.

Assuming one hen eats 1 cwt. of food a year,
12 hens eat 1 cwt. of food a month,

$\therefore$ $\frac{\text{Cost of 1 cwt. food}}{\text{Price of dozen eggs}}$ gives the number of eggs a hen must lay in a month to cover food cost.

e.g. $\frac{\text{32s. 0d.}}{\text{4s. 0d.}}$ = 8 eggs a month to cover food cost.

When to Cull

The main points to consider are:-

1. Change in value of the birds
2. Food cost.
3. Estimated future production and price of eggs.

A simple calculation can then be made to find out if it will pay to keep the birds.

e.g. What will the additional costs and returns be for keeping birds from April 1st to September 1st instead of selling out?

Additional Expenses per Bird	£. s. d.
Change in value (15s. 0d. to 10s. 0d.) of birds including mortality	5. 0.
Food cost - $\frac{1}{2}$ cwt.	17. 0.
Margin	8. 0.
	£1.10. 0.

Additional Receipts per Bird	£. s. d.
Sale of eggs: 8 dozen @ 3s. 9d.	1.10. 0.
	£1.10. 0.

Keeping Older Birds in the Flock

The main points to consider are:-

1. The saving in cost of replacements.
2. The reduction in egg production.

If we assume similar rates of mortality for hens and pullets, then a pullet costing 18s. 0d. to rear and worth 10s. 0d. after one laying season, can be compared with a hen worth 10s. 0d. at the beginning of her second season and 9s. 0d. at the end. This represents a 7s. 0d. difference in bird depreciation of the two birds and therefore a saving of 7s. 0d. on replacement.

Translated into terms of eggs, this difference is equal to about 20 eggs at 4s. 0d. a dozen, and the reduced production of the second season birds should not be greater than 20 if the two classes of birds are to make similar profits.

Based on unculled flocks the reduced production is usually about 20 per cent , or 36 eggs for a 180 egg bird, but the difference could be narrowed with rigorous culling.

The Christmas Market

Hens kept on until Christmas may be expected to show an appreciation so that a profit may be possible even if food costs are not covered by sales of eggs.

e.g. Possible Returns from October 1st to Christmas.

Additional Expenses	s. d.	Additional Income	s. d.
Food: ½ cwt.	8. 6.	Sale of eggs: 1½ dozen @ 4s. 6d.	6. 9.
Margin	6. 3.	Bird appreciation: (10s. 0d. to 18s. 0d.)	8. 0.
	14. 9.		14. 9.

Similarly a calculation can be made to see if it would be worth while keeping birds on to sell at Easter. In this case egg production would probably be higher, but the price of culls lower.

In these calculations labour cost has been left out, not because it is unimportant, but because the labour cost would probably be incurred in any case. However, if there is an alternative use for labour, such as rearing pullets or other work, then labour should be charged as an additional expense.

SECTION III

FUTURE PROSPECTS

Although the cost structure of the egg producing industry may change with economic conditions, the order of importance of the main expense items will remain the same. Food will continue to be the largest item, and profits will still depend on the cost relationship between the input of food and output of eggs. A knowledge of the structure of costs and changes over the last few years can, therefore, be a useful guide to the probable effect of any future changes.

Over a year has elapsed since the creation of a freer market in eggs and although the last 12 months could hardly be typical of what to expect under free market conditions, there are some lessons to be learned from recent experience.

In the Spring of 1953 when eggs were first freed, the indications were that prices were higher than would normally be expected at that time of the year. The high prices which obtained in July and August lent argument to the view that controls during recent years had depressed prices below the market value. Egg prices had not been allowed to rise as subsidies on feed were removed. However, the prospects of an 8d. winter egg were killed by a peculiar combination of circumstances:-

Firstly, a sharp rise in the price of eggs from 4d. to 8d. coupled with a strong press campaign against high prices was sufficient to build up a consumer resistance.

Secondly, the seasonal production pattern did not work out quite as anticipated. This was due to the mild winter and the fact that many producers have changed over to more intensive methods.

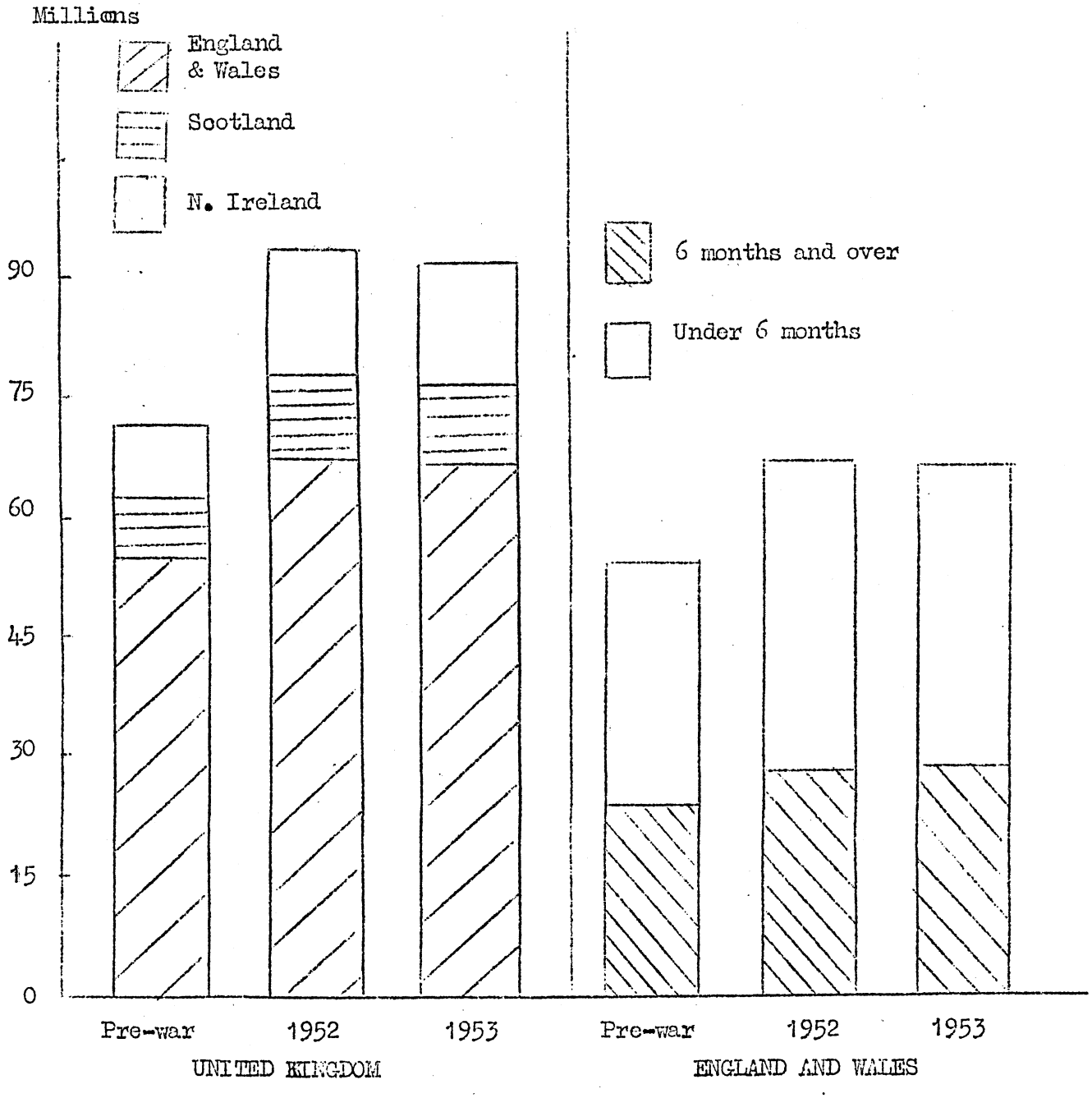
Thirdly, the importing programme was presumably planned in expectation of high winter prices.

The depressing effect of all these factors on egg prices is now history, but it may be helpful to consider these facts and the conditions which gave rise to them, to try to guess whether similar conditions are likely to occur in future years.

The Supply Position

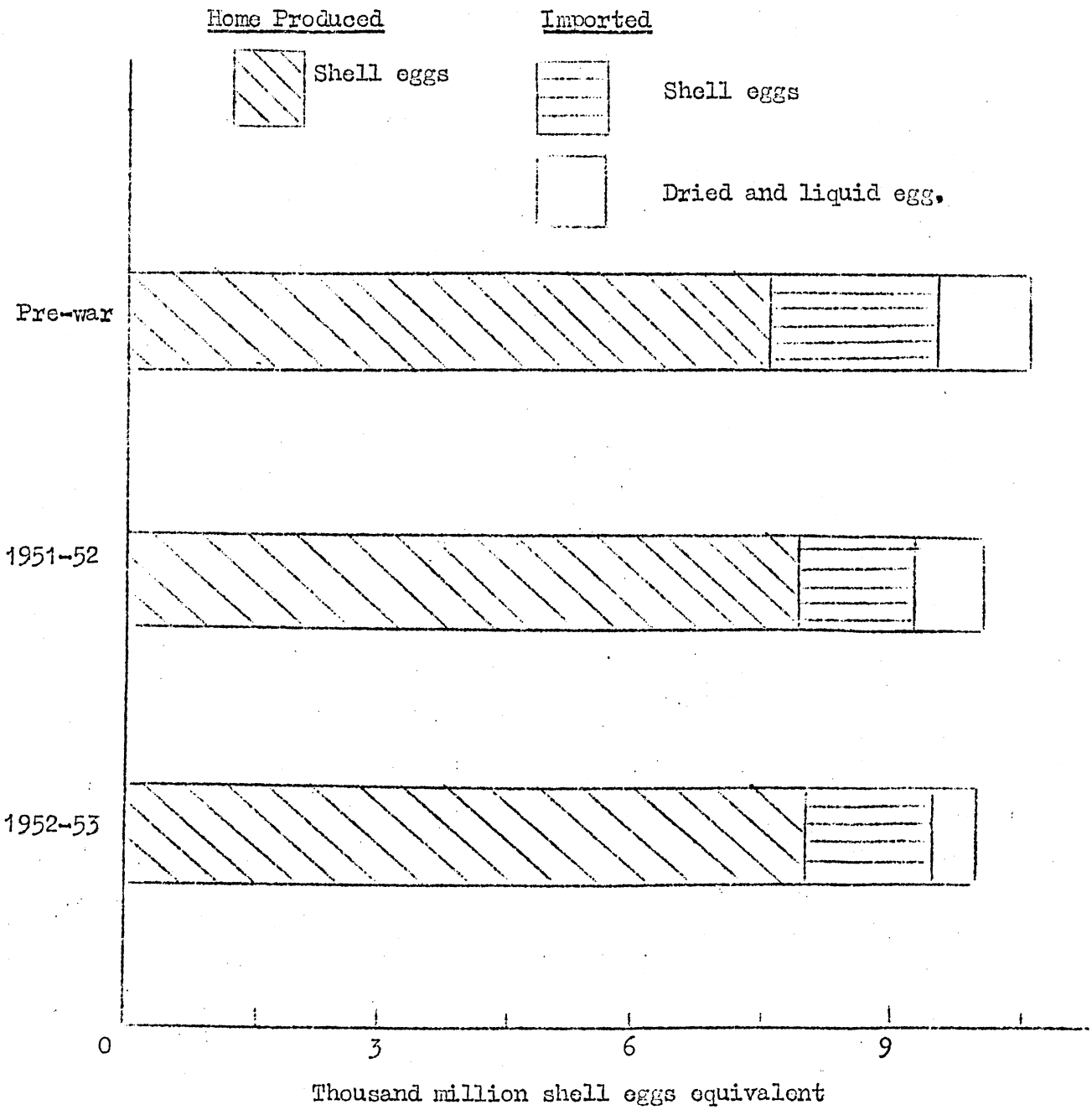
Figures of eggs available for consumption are based on estimates, and cannot necessarily be taken at their face value, but even so, it is probable that there is no great difference in the quantity of eggs available both now and before the war. The main

CHART I TOTAL FOWL POPULATION IN THE UNITED KINGDOM AND FOWLS UNDER AND OVER SIX MONTHS IN ENGLAND AND WALES (JUNE AGRICULTURAL CENSUS).



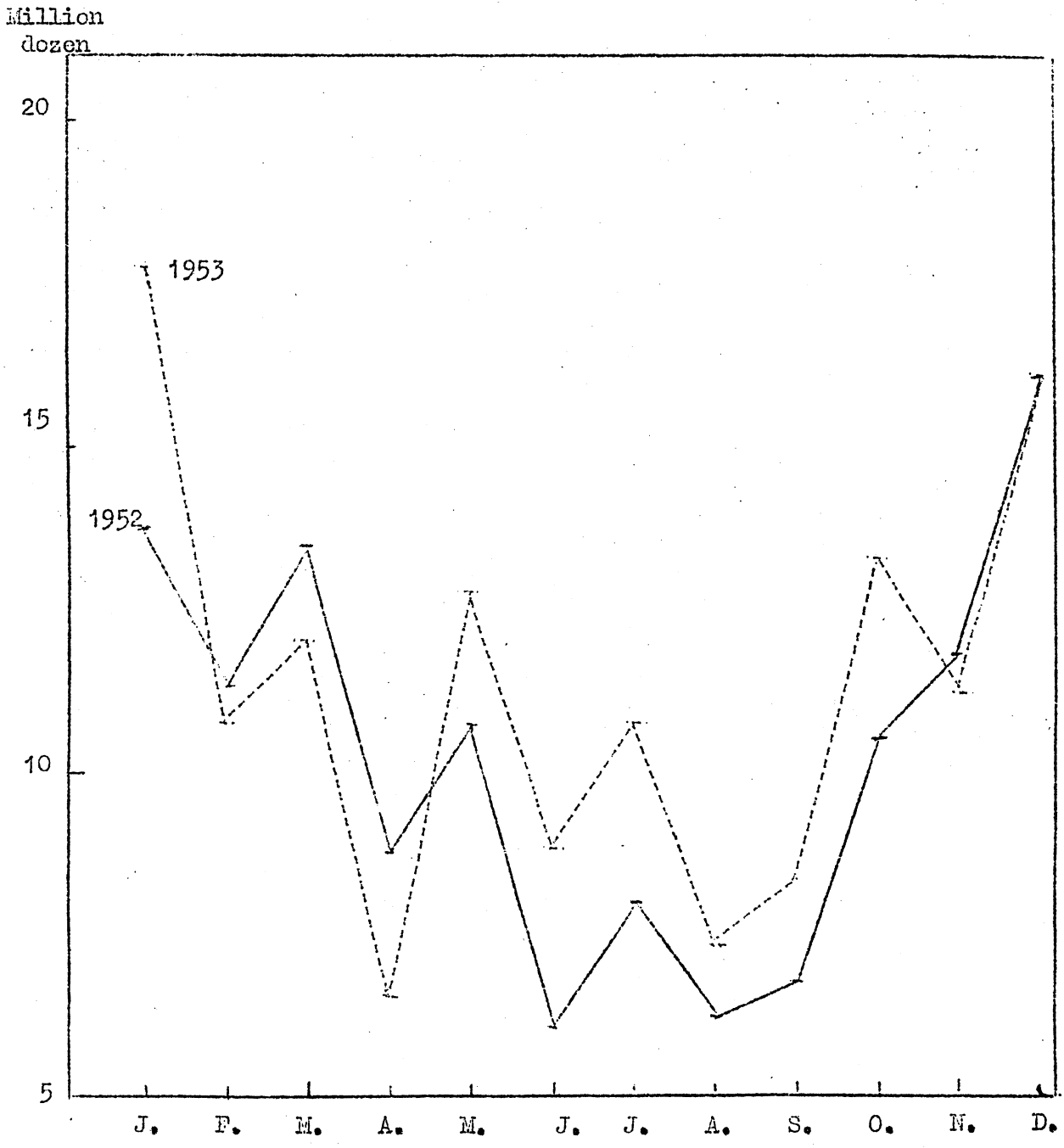
Source: State of British Agriculture 1953-54. Published 1954. Agricultural Economics Research Institute, Oxford.

CHART II SUPPLY OF EGGS IN THE UNITED KINGDOM, JULY-JUNE YEARS.



Source: State of British Agriculture 1953-54. Published 1954. Agricultural Economics Research Institute, Oxford.

CHART III MONTHLY IMPORTS OF EGGS IN SHELL (Million Dozens) 1952 and 1953.



Source: Central Statistical Office. Monthly Digest of Statistics. H.M.Stationery Office, London.

difference is in the sources of these eggs and the methods of production. A greater proportion are now produced in this country by a greater number of hens. Although egg yields are estimated at little higher than the pre-war figure of 149 eggs per bird, there has been a steady rise after a sharp drop in the war years. There is little doubt that the introduction of intensive methods has done much to increase the efficiency of egg production. Fewer birds are now being kept for a second laying season, and there is a tendency to cull birds earlier in the first laying year. Three or four years ago June numbers of adult birds were 86 per cent of the December numbers, whereas in 1952-53 they were only 77 per cent(1). The low Spring price of eggs together with the high Easter price of cull birds have also tended to mean earlier culling. Another point of interest is that many deep litter producers experienced a marked fall in egg production in the summer months, whereas in the battery and range flocks it was usually considered most profitable to carry on production for a full twelve month period. It should be noted, however, that continuous culling was usually part of the policy of battery producers.

It is probable, therefore, that intensive methods enable eggs to be produced economically over periods of less than 12 months. Thus a flock producing 160 eggs a bird in nine months may be producing eggs more cheaply than a flock producing 180 eggs per bird in 12 months. Increased efficiency over the years since pre-war times should perhaps be measured in eggs per bird per month, rather than per year. The small increase in eggs per bird may, therefore, represent a greater increase in efficiency than one might expect. This does not mean that the shorter production period is always more profitable, as this would depend very much on individual circumstances(2). Increased efficiency would mean that poultry keepers could work to a less favourable feed/egg price ratio than existed in competitive conditions before the war.

Foreign Competition

The graph of monthly imports shows that these were at a higher level in 1953 between the months of May and October, although the pattern was similar in the two years.

The bulk of our imports of eggs come from Denmark, and although these are well below pre-war levels, the fact that they are available at about 1s. 0d. a dozen less than home produced eggs means that the home industry is very vulnerable to competition from imports. Expansion of exports can be carried out quite quickly by

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(1) Source: State of British Agriculture 1953-54. Published 1954. Agricultural Economics Research Institute, Oxford.

(2) See section on Management Problems pp. 19.

increasing bird numbers, and the Danes could very easily do this.

Cheap Danish Eggs

Various reasons have been advanced for the cheap Danish eggs, and the main ones would appear to be:-

1. Lower Food Costs

Prices of wheat, barley and oats delivered at farms were on average £5. a ton cheaper in Denmark than in Great Britain in the period October 1952 - September 1953. This is partly due to the fact that import duty is payable in this country on cereals other than wheat, but not in Denmark, and would account for about £3. a ton difference. The remainder is probably due to differences in distribution costs. Co-operatives in Denmark mean that farmers share in any economies in this direction. Also, protein supplements are available to the Danes at cheaper prices.

2. Higher Production per Bird

Although figures for production per bird are not necessarily reliable, and comparisons between countries even less reliable, it does seem probable that yields are higher in Denmark. The policy of progeny testing, better known in pig breeding, is widely used, and producers are more quality conscious. It is estimated that production of eggs in Denmark was approximately the same (177 million dozens) in 1952 as in 1938, whereas the number of hens was reduced from 12 millions to 10 millions(1).

3. Lower Profit Margins

As agriculture is the chief exporting industry in Denmark, production is geared to competitive prices, and profits depend on a small margin and high turnover.

Summary

A description has been given of the present supply position and the background to recent experience of the free market in the hope that readers will try to interpret the facts and decide for themselves the probable course of future events.

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(1) Source: Commonwealth Economic Committee. Dairy Produce. 1953. H.M.Stationery Office, London.

A few questions which are perhaps worth a little thought are enumerated below:-

1. A new seasonal pattern of production is emerging. What are the prospects of high late summer prices? If there are prospects, what about earlier hatching?

2. The public has become accustomed to having very cheap eggs, sometimes below costs of production in the exporting countries. This may be good for the retail grocery trade, but will it be easy to persuade the consumer to pay an economic price(1) even if eggs become more scarce?

3. The consumer is still very dependent on home produced eggs, but imported eggs are very cheap. How vulnerable is the home producer?

4. Present marketing arrangements could hardly be described as ideal. A guaranteed price is in operation (now linked with feed prices) and has involved the Government in heavy exchequer payments. Is it reasonable to assume that import and marketing arrangements will attempt to minimise exchequer payments, and will this favour the home egg producer?

5. How are producers reacting to recent trends? Are they going out of poultry, or are they increasing numbers to offset reduced profit margins?

6. Producers who have facilities for mixing their own rations have a big advantage, worth about 5s. 0d. in reduced cost of keeping a bird 12 months. Can we expect any price competition between feeding stuff compounders in view of wide differences in costs of compounds and straight cereals?

7. Will egg production be profitable at the present guaranteed average price of 4s. 0d. a dozen? (See Table 9 on pp. 13).

An Indication of Future Developments

Research workers have been developing new methods and techniques of egg production, and the work of Dr. Greenwood at Edinburgh deserves special mention, as it gives some indication of possible future trends. His experiments with small numbers of related birds under a stabilised environment - lights 12 hours a day, temperature 66°F, and a relative humidity of 60 per cent, showed

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(1) See Table 9, pp. 13.

exceptional performance when compared with birds under normal conditions. The birds in the stabilised environment reached sexual maturity four weeks earlier at 168 days; egg production was 235 eggs per bird compared with 175 under normal conditions, in a 50 week test period from September 1st to August 16th.

It is obvious that similar results cannot be achieved by large flocks under commercial conditions, and the immediate lesson is to indicate the value of good housing. Better insulation and ventilation could go a long way towards maintaining reasonably uniform conditions, and would no doubt improve production on many farms. There is also the possibility of reducing the amount of food required to maintain a bird's body heat by controlling environment. Economies in food consumption, and increased output per bird would not need to be very great to make artificial heating an economic possibility. A reduction of food consumption by half an ounce a bird per day, together with an increase in production of half a dozen eggs per bird would provide additional income of about 5s. 0d. per bird.

Conclusions

The two financial years covered by this investigation are perhaps years of relative prosperity for egg producers. Prices of eggs are likely to be about 1s. 0d. a dozen less than in 1952-53. Although this will be offset to some extent by a drop in food costs, it will mean a substantial reduction in profits. This is not as drastic as it may appear, because efficient producers are now in a position to increase size of flocks and thus maintain profit levels. This may well be achieved by more intensive methods without proportional increases in labour requirements. The lower levels of profits should not, however, mean that there will be a general increase in size of flocks, because many less efficient producers will give up egg production.

The egg producer has the security of a guaranteed price, plus the knowledge that Government import policy will, in so far as it is able to influence imports, be calculated to minimise exchequer payments. If in addition, he makes the best use of his resources, with the aid of simple records, good housing, and above all, good stock, the man who pins his faith in poultry should have excellent prospects for the future.

APPENDIX

POULTRY COSTS INVESTIGATION 1952-53

Receipts and Payments and Other Average Figures per Bird.

SYSTEM: Batteries

Item	Farm Code Number				
	23	33	43	49	68
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS					
FOODS Purchased	1.19. 6.	1.15. 4.	1. 7. 6.	1. 7. 6.	1.12.10.
Home grown	1. 9.	1. 8.	4. 3.	7. 2.	-
Total	2. 1. 3.	1.17. 0.	1.11. 9.	1.14. 8.	1.12.10.
Labour	10. 4.	5. 7.	4.10.	3. 2.	10. 9.
Bird depreciation	12. 7.	9. 0.	18. 7.	8. 0.	10. 1.
Equipment depreciation	1. 5.	1. 8.	2. 0.	2. 6.	7.
Other expenses	3.	-	5.	-	1. 2.
Profit	14. 2.	1. 4. 1.	1.10.11.	1. 7. 8.	1.12. 0.
TOTAL (Eggs sold or consumed)	£4. 0. 0.	£3.17. 4.	£4. 8. 6.	£3.16. 0.	£4. 7. 5.
Number of laying months	12	10	10	12	12
Average number of birds during period	81.4	99.5	161.8	81.4	225.7
Average number of eggs laid per bird	200.3	186.5	199.9	192.8	215.0
Per cent production on hen day basis	57	61	66	53	59
Price per dozen eggs sold	4s.10d.	4s.11½d	5s. 4d.	4s. 9d.	4s.11½d.
Average price of birds sold	9s. 4d.	-	10s. 7d.	11s. 4d.	10s. 6d.
Mortality as % of average	23.3	7.0	3.7	6.1	9.7
Mortality as % of maximum	15.8	6.8	3.0	4.5	7.9
Capital per average number of birds	13s.11d.	16s. 5d.	£1.0s.3d.	£1.2s.8d.	6s. 3d.
Capital per maximum number of birds	9s. 5d.	15s.10d.	16s. 5d.	16s. 6d.	5s. 0d.
Food consumed (adjusted to 12 months) lbs.	121	129	118	109	112

Receipts and Payments and Other Average Figures per Bird

SYSTEM: Deep Litter

Item	Farm Code Number					
	8	9	23	31	53	54
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS						
FOODS Purchased	-	1.16. 1.	16.11.	12. 9.	19. 9.	1. 1. 9.
Home grown	19. 0.	7. 3.	4. 4.	7. 1.	13. 9.	12. 5.
Total	19. 0.	2. 3. 4.	1. 1. 3.	19.10.	1.13. 6.	1.14. 2.
Labour	6. 1.	4. 3.	6. 2.	3. 9.	4.10.	4. 2.
Bird depreciation	9. 3.	8. 5.	13.11.	1. 6.	11. 5.	10. 2.
Equipment depreciation	1. 0.	1. 4.	4.	5.	1. 1.	1. 3.
Other expenses	5	1. 6.	5.	-	1. 0.	4.
Profit	1. 0. 4.	4. 4.	8. 5.	10. 6.	1.10. 3.	1. 3.10.
TOTAL (Eggs sold or consumed)	£2.16. 1.	£3. 3. 2.	£2.10. 6.	£1.16. 0.	£4. 2. 1.	£3.13.11.
Number of laying months	9	12	9	6	12	10
Average number of birds during period	741.4	74.6	37.5	148.7	563.3	181.4
Average number of eggs laid per bird	128.3	156.4	118.9	78.9	191.8	187.0
Per cent production on hen day basis	46	43	44	40	53	61
Price per dozen eggs sold	5s. 3d.	4s.10d.	5s. 1d.	5s. 6d.	5s. 2d	4s. 9½d.
Average price of birds sold	10s. 8d.	10s. 9d.	9s. 3d.	11s. 9d.	11s. 4d.	8s. 3d.
Mortality as % of average	18.2	18.8	21.3	6.1	16.3	7.2
Mortality as % of maximum	15.8	12.2	17.0	5.6	9.3	6.9
Capital per average number of birds	9s. 6d.	13s. 4d.	6s. 8d.	5s. 2d.	£1.1s.6d.	£2.1s.11d
Capital per maximum number of birds	8s. 3d.	8s. 7d.	5s. 4d.	4s.10d.	12s.3d.	£2.0s.3d.
Food consumed (adjusted to 12 months) lbs.	97	153	99	129	127	147

Receipts and Payments and Other Average Figures per Bird

SYSTEM: Deep Litter (continued)

Item	Farm Code Number					
	58	59	63	66	67	68
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS						
FOODS Purchased	17.10.	1. 8. 2.	1. 7. 0.	13. 8.	17. 6.	1. 6. 0.
Home grown	9. 1.	13. 5.	-	4. 1.	11. 9.	-
Total	1. 6.11.	2. 1. 7.	1. 7. 0.	17. 9.	1. 9. 3.	1. 6. 0.
Labour	4. 8.	6. 9.	2. 0.	4. 5.	2.10.	5. 7.
Bird depreciation	10.10.	7. 3.	8. 8.	5. 4.	9. 5.	9.10.
Equipment depreciation	4.	6.	2. 4.	1. 2.	3. 4.	4.11.
Other expenses	3.	9.	3.	-	-	4.
Profit	15. 8.	18. 6.	17. 8.	6. 7.	1. 3. 9.	15.10.
TOTAL (Eggs sold or consumed	£2.18. 8.	£3.15. 4.	£2.17.11.	£1.15. 3.	£3. 8. 7.	£3. 2. 6.
Number of laying months	9	9	8	4	10	11
Average number of birds during period	252.0	28.0	341.4	920.5	96.7	132.8
Average number of eggs laid per bird	141.1	172.3	188.5	71.4	153.0	160.1
Per cent production on hen day basis	52	62	55	55	50	47
Price per dozen eggs sold	5s.0½d.	5s. 4d.	5s. 3d.	5s.11d.	5s. 5d.	4s. 8d.
Average price of birds sold	10s. 2d.	12s. 5d.	10s. 0d.	13s. 9d.	11s. 4d.	9s. 1d.
Mortality as % of average	15.5	7.1	0.3	6.4	5.2	6.4
Mortality as % of maximum	13.5	6.7	0.3	6.2	4.3	5.6
Capital per average number of birds	3s. 6d.	5s. 4d.	£1.3s.9d.	13s. 7d.	£1.12s.11d	£2.9s.4d
Capital per maximum number of birds	3s. 1d.	5s. 0d.	£1.3s.2d.	13s. 1d.	£1.7s.8d.	£2.0s.11d
Food consumed (adjusted to 12 months) lbs.	117	181	118	176	121	107

Receipts and Payments and Other Average Figures per Bird

SYSTEM: Hen Yard

Item	Farm Code Number				
	6	15	20	40	46
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS					
FOODS Purchased	1. 9. 1.	15. 3.	14. 6.	1.11. 2.	7. 2.
Home grown	7. 2.	17. 5.	13. 5.	11. 7.	1. 3. 3.
Total	1.16. 3.	1.12. 8.	1. 7.11.	2. 2. 9.	1.10. 5.
Labour	4. 1.	4. 2.	6. 7.	6. 0.	2. 3.
Bird depreciation	9.10.	12. 1.	11. 3.	11.10.	9. 5.
Equipment depreciation	10.	1. 3.	1. 6.	1. 2.	5.
Other expenses	1. 9.	5.	-	-	-
Profit	12.11.	1. 0. 8.	1. 0. 5.	1. 2. 0.	18. 9.
TOTAL (Eggs sold or consumed)	£3. 5. 8.	£3.11. 3.	£3. 7. 8.	£4. 3. 9.	£3. 1. 3.
Number of laying months	12	9	8	11	10
Average number of birds during period	341.1	480.1	119.1	369.4	232.1
Average number of eggs laid per bird	168.4	169.4	160.1	199.6	144.4
Per cent production on hen day basis	46	65	63	60	48
Price per dozen eggs sold	4s. 8½d	5s. 1d.	5s. 1d	5s. 1d.	5s. 1d.
Average price of birds sold	8s. 0d.	8s. 1d.	8s.11d	9s. 9d.	-
Mortality as % of average	9.4	13.3	11.8	19.5	7.8
Mortality as % of maximum	7.7	11.9	10.4	14.7	7.2
Capital per average number of birds	12s.11d.	12s. 9d.	17s.11d.	11s. 0d.	7s. 0d.
Capital per maximum number of birds	10s. 7d.	11s. 5d.	15s. 9d.	8s. 3d.	6s. 8d.
Food consumed (adjusted to 12 months) lbs.	126	156	136	143	135

Receipts and Payments and Other Average Figures per Bird

SYSTEM: Hen Yard (continued)

Item	Farm Code Number				
	51	55	56	65	67
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS					
FOODS Purchased	1. 0. 7.	1. 8. 7.	5. 3.	1.10. 4.	13. 5.
Home grown	6. 0.	8.10.	15. 9.	12. 5.	11. 8.
Total	1. 6. 7.	1.17. 5.	1. 1. 0.	2. 2. 9.	1. 5. 1.
Labour	1. 3.	3. 4.	2. 1.	4. 8.	2. 8.
Bird depreciation	11. 3.	13. 6.	10. 0.	10. 0.	9. 1.
Equipment depreciation	1. 7.	1. 0.	2. 6.	1. 6.	2. 7.
Other expenses	-	3.	1.	3.	-
Profit	6. 0.	1. 3. 5.	1. 1. 0.	1. 0. 2.	1. 0. 4.
TOTAL (Eggs sold or consumed)	£2. 6. 8.	£3.18.11.	£2.16. 8.	£3.19. 4.	£2.19. 9.
Number of laying months	8	11	7	11	10
Average number of birds during period	231.8	334.8	79.7	455.6	104.9
Average number of eggs laid per bird	110.9	189.4	131.6	188.8	145.5
Per cent production on hen day basis	47	56	60	56	48
Price per dozen eggs sold	5s. 2d.	5s. 0d.	5s. 2d.	5s. 0½d	4s.11d.
Average price of birds sold	10s. 0d.	7s. 5d.	10s. 1d.	9s. 4d.	11s. 7d.
Mortality as % of average	16.0	14.0	15.1	4.0	5.7
Mortality as % of maximum	13.3	12.1	14.0	3.6	5.2
Capital per average number of birds	16s. 1d.	9s.11d.	£1.5s.1d.	£1.10s.9d	£1.5s.5d.
Capital per maximum number of birds	13s. 4d.	8s. 7d.	£1.3s.3d.	£1.7s.9d.	£1.3s.3d.
Food consumed (adjusted to 12 months) lbs.	120	125	128	151	103

Receipts and Payments and Other Average Figures per Bird

SYSTEM: Folds

Item	Farm Code Number				
	3	19	27	39	68
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS					
FOODS Purchased	1.11. 6.	1. 8. 3.	1.17.10.	10. 2.	1.12. 1.
Home grown	8. 4.	11.10.	-	1. 0. 5.	-
Total	1.19.10.	2. 0. 1.	1.17.10.	1.10. 7.	1.12. 1.
Labour	5.11.	4. 5.	8. 6.	9. 5.	10.11.
Bird depreciation	8. 3.	4. 5.	10. 3.	11. 5.	11. 2.
Equipment depreciation	2. 4.	1. 9.	1. 5.	1. 4.	2. 2.
Other expenses	-	1.10.	1.	-	2.
Profit	5. 5.	15. 6.	10. 7.	14. 0.	1. 0. 8.
TOTAL (Eggs sold or consumed)	£3. 1. 9.	£3. 8. 0.	£3. 8. 8.	£3. 6. 9.	£3.17. 2.
Number of laying months	12	12	12	12	12
Average number of birds during period	205.9	219.2	1,122.2	1,247.3	826.4
Average number of eggs laid per bird	157.1	136.9	177.0	185.9	190.9
Per cent production on hen day basis	43	44	49	48	52
Price per dozen eggs sold	4s. 9d.	5s. 1d.	4s. 7d.	4s. 7d.	4s.10d.
Average price of birds sold	10s. 0d.	9s.11d.	3. 9d.	9s. 2d.	10s. 1d.
Mortality as % of average	31.6	10.0	17.9	-	19.5
Mortality as % of maximum	28.5	8.5	14.5	-	17.1
Capital per average number of birds	15s. 5d.	13s.10d.	10s.11d.	11s. 0d.	17s. 3d.
Capital per maximum number of birds	13s.11d.	11s. 9d.	8s.10d.	7s. 9d.	15s. 2d.
Food consumed (adjusted to 12 months) lbs.	120	139	143	119	117

Receipts and Payments and Other Average Figures per Bird

SYSTEM: Range

Item	Farm Code Numbers			
	10	16	23	50
	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS				
FOODS Purchased	14. 7.	16. 5.	14. 7.	15. 7.
Home grown	12.10.	10. 8.	8.11.	11. 6.
Total	1. 7. 5.	1. 7. 1.	1. 3. 6.	1. 7. 1.
Labour	4.11.	3. 9.	8. 2.	7. 6.
Bird depreciation	19. 0.	7.10.	15. 0.	9. 3.
Equipment depreciation	1. 7.	2. 5.	11.	1. 1.
Other expenses	-	-	-	-
Profit	18. 1.	1. 8. 6.	1. 3.10.	1. 3. 8.
TOTAL (Eggs sold or consumed)	£3.11. 0.	£3. 9. 7.	£3.11. 5.	£3. 8. 7.
Number of laying months	12	12	12	12
Average number of birds during period	314.8	179.0	187.5	68.1
Average number of eggs laid per bird	173.9	175.9	174.4	177.1
Per cent production on hen day basis	48	48	48	49
Price per dozen eggs sold	5s. 1d.	4s. 9d.	4s.11d.	4s. 8d.
Average price of birds sold	8s. 2d.	8s. 3d.	5s. 1d.	-
Mortality as % of average	34.6	14.5	25.1	10.3
Mortality as % of maximum	21.3	13.7	15.2	9.3
Capital per average number of birds	13s. 6d.	£1.3s.5d.	8s.9d.	11s. 2d.
Capital per maximum number of birds	8s. 4d.	£1.1s.2d.	5s.4d.	10s. 2d.
Food consumed (adjusted to 12 months) lbs.	97	89	85	92

Average Costs and Returns per 120 Eggs Laid According to Number of Laying Months.

Number of Laying months	Less than 9	9 - 11	12	All flocks
Number of flocks	6	15	15	36
	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS				
FOODS Purchased	17. 5.	14.10.	17. 3.	16. 3.
Home grown	8. 1.	8. 2.	5. 7.	7. 1.
Total	1. 5. 6.	1. 3. 0.	1. 2.10.	1. 3. 4.
Labour	3.11.	3. 5.	4. 5.	3.11.
Bird depreciation	8. 0.	8. 1.	7. 1.	7. 8.
Equipment depreciation	1. 8.	1. 2.	1. 0.	1. 2.
Other expenses	1.	2.	5.	3.
Total expenses	1.19. 2.	1.15.10.	1.15. 9.	1.16. 4.
Price per 120 eggs	2.13. 2.	2.10. 7.	2. 8. 1.	2.10. 0.
Profit	14. 0.	14. 9.	12. 4.	13. 8.

Average Costs and Returns per 120 Eggs Laid

System	Batteries	Deep litter	Hen yard	Folds	Range	Total
No. of flocks	5	12	10	5	4	36
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS						
FOOD Purchased	19. 8.	17. 2.	14. 4.	19. 5.	10. 6.	16. 3.
Home grown	1.10.	7. 4.	9.10.	5.11.	7. 6.	7. 1.
Total	1. 1. 6.	1. 4. 6.	1. 4. 2.	1. 5. 4.	18. 0.	1. 3. 4.
Labour	4. 1.	4. 3.	2. 8.	5. 4.	4. 2.	3.11.
Bird depreciation	7. 0.	7. 7.	8. 3.	6. 5.	8. 9.	7. 8.
Equipment depreciation	1. 0.	1. 3.	1. 2.	1. 3.	1. 0.	1. 2.
Other expenses	3.	4.	2.	4.	-	3.
Total expenses	1.13.10.	1.17.11.	1.16. 5.	1.18. 8.	1.11.11.	1.16. 4.
Price per 120 eggs	2. 9. 4.	2.11. 8.	2.10. 3.	2. 7. 9.	2. 8. 0.	2.10. 0.
Profit	15. 6.	13. 9.	13.10.	9. 1.	16. 1.	13. 8.

Costs and Returns per 120 Eggs Laid

SYSTEM: Batteries

Item	Farm Code Number				
	23	33	43	49	68
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS					
FOODS Purchased	1. 3. 8.	1. 2. 9.	16. 6.	17. 0.	18. 4.
Home grown	1. 1.	1. 1.	2. 7.	4. 6.	-
Total	1. 4. 9.	1. 3.10.	19. 1.	1. 1. 6.	18. 4.
Labour	6. 2.	3. 7.	2.11.	2. 0.	6. 0.
Bird depreciation	7. 6.	5.10.	11. 1.	5. 0.	5. 7.
Equipment depreciation	11.	1. 0.	1. 2.	1. 6.	4.
Other expenses	2.	-	3.	-	8.
Total expenses	1.19. 6.	1.14. 3.	1.14. 6.	1.10. 0.	1.10.11.
Price per 120 eggs	2. 7.11.	2. 9. 9.	2.13. 1.	2. 7. 3.	2. 8. 9.
Profit	8. 5.	15. 6.	18. 7.	17. 3.	17.10.

Costs and Returns per 120 Eggs Laid

SYSTEM: Deep Litter

Item	Farm Code Number					
	8	9	23	31	53	54
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS						
FOODS Purchased	-	1. 7. 9.	17. 1.	19. 4.	12. 4.	14. 0.
Home grown	17. 9.	5. 6.	4. 4.	10. 9.	8. 7.	8. 0.
Total	17. 9.	1.13. 3.	1. 1. 5.	1.10. 1.	1. 0.11.	1. 2. 0.
Labour	5. 8.	3. 3.	6. 2.	5. 8.	3. 0.	2. 8.
Bird depreciation	8. 8.	6. 7.	14. 1.	2. 4.	7. 2.	6. 7.
Equipment depreciation	11.	1. 0.	4.	8.	8.	10.
Other expenses	5.	1. 1.	5.	-	8.	1.
Total expenses	1.13. 5.	2. 5. 2.	2. 2. 5.	1.18. 9.	1.12. 5.	1.12. 2.
Price per 120 eggs	2.12. 5.	2. 8. 6.	2.10.11.	2.14. 9.	2.11. 4.	2. 7. 5.
Profit	19. 0.	3. 4.	8. 6.	16. 0.	18.11.	15. 3.

SYSTEM: Deep Litter (continued)

Item	Farm Code Number					
	58	59	63	66	67	68
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS						
FOODS Purchased	15. 1.	19. 8.	1. 4. 3.	1. 3. 0.	13. 8.	19. 5.
Home grown	7. 9.	9. 4.	-	6.10.	9. 3.	-
Total	1. 2.10.	1. 9. 0.	1. 4. 3.	1. 9.10.	1. 2.11.	19. 5.
Labour	4. 0.	4. 9.	1.10.	7. 5.	2. 3.	4. 3.
Bird depreciation	9. 3.	5. 0.	7. 5.	8.10.	7. 5.	7. 4.
Equipment depreciation	4.	4.	2. 1.	2. 0.	2. 7.	3. 9.
Other expenses	2.	6.	3.	-	-	3.
Total expenses	1.16. 7.	1.19. 7.	1.15.10.	2. 8. 1.	1.15. 2.	1.15. 0.
Price per 120 eggs	2. 9.11.	2.12. 6.	2.12. 1.	2.19. 3.	2.13. 9.	2. 6.11.
Profit	13. 4.	12.11.	16. 3.	11. 2.	18. 7.	11.11.

Costs and Returns per 120 Eggs Laid

SYSTEM: Hen Yard

Item	Farm Code Number				
	6	15	20	40	46
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS					
FOODS Purchased	1. 0. 9.	10. 9.	10.11.	18. 9.	6. 0.
Home grown	5. 2.	12. 4.	10. 1.	7. 0.	19. 4.
Total	1. 5.11.	1. 3. 1.	1. 1. 0.	1. 5. 9.	1. 5. 4.
Labour	2.11.	3. 0.	5. 0.	3. 8.	1.11.
Bird depreciation	7. 0.	8. 7.	8. 5.	7. 1.	7. 9.
Equipment depreciation	7.	11.	1. 1.	9.	5.
Other expenses	1. 3.	3.	-	-	-
Total expenses	1.17. 8.	1.15.10.	1.15. 6.	1.17. 3.	1.15. 5.
Price per 120 eggs	2. 6.10.	2.10. 6.	2.10.10.	2.10. 5.	2.10.11.
Profit	9. 2.	14. 8.	15. 4.	13. 2.	15. 6.

SYSTEM: Hen Yard (continued)

Item	Farm Code Number				
	51	55	56	65	67
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS					
FOODS Purchased	1. 2. 4.	18. 2.	4. 9.	19. 6.	11. 1.
Home grown	6. 6.	5. 7.	14. 5.	8. 0.	9. 8.
Total	1. 8.10.	1. 3. 9.	19. 2.	1. 7. 6.	1. 0. 9.
Labour	1. 5.	2. 1.	1.11.	3. 0.	2. 2.
Bird depreciation	12. 1.	8. 7.	9. 2.	6. 5.	7. 6.
Equipment depreciation	1. 9.	8.	2. 3.	1. 0.	2. 1.
Other expenses	-	1.	1.	2.	-
Total expenses	2. 4. 1.	1.15. 2.	1.12. 7.	1.18. 1.	1.12. 6.
Price per 120 eggs	2.10. 6.	2.10. 0.	2.11. 9.	2.11. 1.	2. 9. 3.
Profit	6. 5.	14.10.	19. 2.	13. 0.	16. 9.

Costs and Returns per 120 Eggs Laid

SYSTEM: Folds

Item	Farm Code Numbers				
	3	19	27	39	68
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS					
FOODS Purchased	1. 4. 1.	1. 0. 9.	1. 5. 4.	6.10.	1. 0. 2.
Home grown	6. 4.	8.11.	-	14. 3.	-
Total	1.10. 5.	1. 9. 8.	1. 5. 4.	1. 1. 1.	1. 0. 2.
Labour	4. 6.	3. 4.	5. 8.	6. 6.	6.10.
Bird depreciation	6. 4.	3. 9.	6.11.	7.11.	7. 0.
Equipment depreciation	1.10.	1. 3.	11.	11.	1. 4.
Other expenses	-	1. 5.	1.	-	2.
Total expenses	2. 3. 1.	1.19. 5.	1.18.11.	1.16. 5.	1.15. 6.
Price per 120 eggs	2. 7. 2.	2.11. 1.	2. 6. 0.	2. 6. 1.	2. 8. 6.
Profit	4. 1.	11. 8.	7. 1.	9. 8.	13. 0.

SYSTEM: Range

Item	Farm Code Numbers			
	10	16	23	50
	£. s. d.	£. s. d.	£. s. d.	£. s. d.
PAYMENTS				
FOODS Purchased	10. 1.	11. 2.	10. 1.	10. 6.
Home grown	8.10.	7. 4.	6. 1.	7.10.
Total	18.11.	18. 6.	16. 2.	18. 4.
Labour	3. 5.	2. 7.	5. 7.	5. 1.
Bird depreciation	13. 1.	5. 5.	10. 4.	6. 3.
Equipment depreciation	1. 1.	1. 7.	8.	9.
Other expenses	-	-	-	-
Total expenses	1.16. 6.	1. 8. 1.	1.12. 9.	1.10. 5.
Price per 120 eggs	2. 9. 0.	2. 7. 6.	2. 9. 2.	2. 6. 6.
Profit	12. 6.	19. 5.	16. 5.	16. 1.