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COMMERCIAL EGG PRODUCTION ON THE GENERAL FARM

Costs, Returns and Profits (1st October, 1951 - 30th September, 1952)

DEPARTMENT OF AGRICULTURAL ECONOMICS
SUTTON BONINGTON
LOUGHBOROUGH

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COMMERCIAL EGG PRODUCTION ON THE GENERAL FARM

Costs, Returns and Profits (1st October, 1951 - 30th September, 1952)

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COMMERCIAL EGG PRODUCTION ON THE GENERAL FARM.

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Introduction.

The last few years have seen two important changes in the poultry industry. Firstly, there has been a great reduction in profitability. Secondly, there has been a radical change in the ratio between the prices of home grown and purchased foods. The more recent developments in marketing and feeding stuffs will be discussed later.(1)

The first of these changes is mainly due to the removal by stages of the subsidies on feeding stuffs. The consequent rise in feed prices has not been compensated by a similar rise in egg prices.

Table 1 shows the number of eggs needed to buy one cwt. of proprietary poultry food in the years shown. From this table it can be seen that less than six dozen eggs were needed to buy one cwt. of food all through the war, and in 1949 the number was as low as $4\frac{1}{2}$ dozen. The 1952 figure of nearly nine dozen gives some indication of the changes in profitability for the years shown.

The second change (i.e. in the ratio between the prices of home grown and purchased foods) is also due mainly to the removal of subsidies. To a small extent the change is also due to the differences between the home and world prices for cereals.

Table 2 shows the change in the relationship between the prices of wheat and poultry food. Although this is not a true guide to the cost of home produced rations, because other cheaper home grown food may be used, and dearer protein supplements will be required, it does give some idea of the advantage to be gained by using home grown foods at the present time. On this basis, a hen needs to lay six dozen eggs to buy one cwt. of home grown food compared with the nine dozen needed to buy one cwt. of proprietary food.

The net effect of these two factors has been to turn the balance of poultry farming in favour of the general farmer and against the specialist poultry keeper. The specialist depends very much on purchased foods which have been both dear and hard to obtain. On the other hand the general farmer with his greater flexibility of organisation, is better able to adapt himself to the changed conditions. He is usually better fitted to improvise housing and has the advantage of cheaper home grown foods.

The writer wishes to thank the farmers whose willing

co-operation has made the publication of this report possible.

ACKNOWLEDGEMENT

DOZENS OF EGGS REQUIRED TO PAY FOR 1-CWT. OF PROPRIETARY POULTRY FOOD

TABLE 1

	1	Ι				<u> </u>					·		
Dozens	1938	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952
10					-					1			
													w
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•	$ (\ \) $	$(\dot{})$	()	()	()	()	()	()	()				
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		()	()	()	()	()	()	()	()		()	()	()
3	$ \mathbf{x} $	$\searrow 4$	\searrow	\bigvee	\searrow	\leq	\subseteq	\subseteq	\mathbf{X}	\subseteq	\sim	$\times 1$	\sim
	$ (\) $	$(\)$		$(\)$	()	()	$\langle \ \rangle $				()	()	() [
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	18 1	()	\bigcap	\bigcap	\bigcap	()	()	()	()		()	()	$(\)\ $
1		<u> </u>	\bigcup	<u> </u>	<u> </u>	<u> </u>	<u> </u>	\bigcup	\bigcup	\bigcup	<u> </u>	<u> </u>	\subseteq

FARM PRICE OF HOME GROWN WHEAT AS A PERCENTAGE OF THE RETAIL PRICE OF PROPRIETARY POULTRY FOOD.

TABLE	2		•				
Year	Per cent	Year	Per cent	Year	Per cent	Year	Per cent
1938 1941 1942 1943	96 91 98 106	1944 1945 1946 1947	104 113 102 105	1948 1949 1950 1951	117 126 93 85	1952	73

A further change is the introduction of a seasonal price for oggs instead of the flat rate throughout the year. This came into operation after March 1949. It has tended to offset these disadvantages of specialised poultry farming, by making Winter egg production more profitable, since Winter egg production had long been considered the job of the specialist. However, the price incentive for Winter egg production has encouraged many general farmers to adopt intensive methods such as deep litter and hen yards.

Table 3 shows the total production of eggs in England and Wales from 1939 onwards and the production on agricultural holdings, (1) both in total, and as a percentage of the total production. An average of four pre-war years in included for comparison.

ESTIMATED PRODUCTION OFHEN EGGS ON ALL HOLDINGS IN ENGLAND AND WALES.

TABLE 3	-	W. C		•		Mil	lion Eggs
Year	Total pro- duction	cultural	Production on agri- cultural holdings as percent- age of total	Year	Total pro- duction	Pro- duction on agri- cultural	Production on agri- cultural holdings as percent- age of total
Pre-war 1939-40 1940-41 1941-42 1942-43 1943-44 1944-45	6,081 6,394 5,016 3,695 3,252	4,229 4,304 3,932 2,687 1,847 1,758 1,885	77 71 62 54 50 54 54	1945-46 1946-47 1947-48 1948-49 1949-50 1950-51 1951-52	4,182 4,182 4,311 5,235 6,152 6,537 6,309	2,202 2,210 2,501 3,303 4,235 4,742 4,704	53 53 58 63 69 73 75

This includes all holdings other than those of one acre or less. Domestic flocks are excluded.

It will be seen from this table that total production has risen since 1946-47 after the decline in production during the war years. The peak production was in 1950-51, following the most favourable year for feed/egg price ratio, after which production has fallen to a level which is still above the average for the pre-war years. The production on agricultural holdings showed a more rapid increase during the favourable years than the total production. Also, when production fell slightly after 1950-51, production on agricultural holdings remained at about the same level. The proportion produced on agricultural holdings is now at about the pre-war level after falling to a low level during the war years.

The significant factors which provide a background for the investigation are:

- (a) The reduction in profitability,
- (b) The change in the ratio of prices of home grown and purchased foods,
- (c) The emphasis on Winter egg production, and
- (d) Increase in production on the general farm.

The Objects of the investigation were briefly as follow :-

- (1) To obtain information about costs, returns and profits from commercial egg production on the general farm.
- (2) To study the causes of variation in costs, returns and profits.
- (3) To obtain information about the physical requirements of laying stock i.e. feed and labour requirements.
- (4) To study the way that systems of keeping poultry fit into the farm business.

This report covers the first year of the investigation and all the points are not fully discussed, but will be dealt with in a final report at the end of the second financial year.

The Sample.

The material for this report was provided by the monthly records of 36 flocks in Lincolnshire (Lindsey) and Nottinghamshire. None of the co-operating farmers were breeders or specialist poultry keepers and all units could be described as "farm flocks". The flocks varied in size from 50 birds to over 1,000 birds and were kept under five different systems of management.

DISTRIBUTION OF FLOCKS BY SIZE AND METHOD OF PRODUCTION.

TABLE 4

Method	Battories	Deep litter	Hen yard	Folds	Range	Total
Flocks in group	8	5	9	6	8	36
Average number of birds:- 50 to 100 100 " 200 200 " 300 300 " 500 500 " 1,000 1,000 and over	4 2 1 1 -	1 - 3 -	- 2 2 1 4	1 2 - 1	1 2 3 2 -	7 8 8 7 5

The distinction between hen yard and deep litter lies in the fact that deep litter birds were kept entirely indoors, whereas hen yard birds had an outdoor run. There was considerable variation in the manner of construction of hen yards. The main differences were in the degree of shelter or windbreak which was afforded to the birds. Of the deep litter flocks, four were kept in lofts and three in huts, two of the flocks being in two sections.

Most of the flocks were looked after by family labour, and in many cases it was the farmer's wife or daughter who was in charge. The majority of the farmers kept all pullet flocks although in four cases older birds were kept. In all except six flocks pullets were bought as day olds. Of the other flocks, two were hatched on the farm, two were bought at from eight to 12 weeks old, and two were bought at point of lay.

ACCOUNTING METHODS AND EXPLANATORY NOTES.

- 1. All the figures refer to the year from 1st October, 1951 to 30th September, 1952.
- 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. <u>Labour</u> was charged at standard rates per hour: 2s. $8\frac{1}{2}$ d. for men, 2s. $1\frac{1}{4}$ d. for women and 1s. $9\frac{3}{4}$ d. for youths.

5. Bird Depreciation.

- (a) Birds were valued at estimated cost of production based on a figure of 18s. Od. 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, $12\frac{1}{2}$ 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.

Some of the flocks are shown as having fewer than 12 laying months. This is not because the farmers only kept records for that time, but because they sold the birds out in the spring. Where the replacements were brought in before 1st October, 1952 the extra months have also been included, so that a laying period of nine months may include for example, seven months from October to April and three months from July to September.

The figures in Table 5 are grouped according to the number of laying months, partly to avoid comparison of costs per bird for different laying periods. They also serve to show the differences in costs and returns when birds are culled at different times of the year. However, they are not meant to show that it is better to keep birds for any particular

AVERAGES PER BIRD GROUPED ACCORDING TO NUMBER OF LAYING MONTHS.

TABLE 5				
Number of laying months	5 - 8	9 - 11	12	All flocks
Number of flocks	7	7	22	36
PAYMENTS.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Foods:				
•				•
Purchased	13. 6.	1. 2. 7.	1. 2. 6.	1.0.9.
Home grown	4. 9.	8.11.	13. 2.	
Total	18. 3.	1.11. 6.	1.15.8.	1.11. 5.
Labour	3. 9.	7. 4.	5.11.	5• 9•
Bird depreciation	7.10.	10.6.	9. 2.	9. 2.
Equipment depreciation	1. 4.	1. 8.	1.11.	1. 9.
Other expenses	4.	6.	9.	8.
Total expenses	1.11. 6.	2.11. 6.	2.13. 5.	1
Profit	11. 0.	13. 8.	12. 5.	12. 5.
M-4-7 2/				
Total income (eggs sold and	6 0 (0 5 30	0.7.0
consumed)	2. 2. 6.	3. 5. 2.	3. 5.10.	3. 1. 2.
Price per dozen eggs sold	5. 1.	4. 9.	4. 7.	4. 9.
2				
Average number of eggs				
laid per bird	101.1	153.7	173.3	157.7

length of time because the best time to cull may vary with the particular circumstances. This problem of when to cull is discussed in more detail in the section on Bird Depreciation (page 12). When the individual results of flocks in production for less than 12 months are examined, it can be seen that for those flocks in production from five to eight months, profits varied from 23s. Od. to a loss of ld., which shows that some farmers found the practice of spring culling very much more profitable than others. It would be wrong to try to draw conclusions about the best culling policy from the analysis in Table 5 because factors other than culling have a greater effect on profits, and the sample is too small to eliminate the effects of these other factors such as food costs and rate of egg production.

⁽¹⁾See Appendix I. Page 24.

AVERAGE COSTS AND RETURNS PER 120 EGGS LAID GROUPED ACCORDING TO METHOD OF HOUSING (36 FLOCKS).

TABLE 6

	1	Deep	Hen	T	i .	
Method of housing	Dottomion		1	-	_	
			yard	Folds	Range	Total
No. of flocks	8	5	9	<u>6 ·</u>	8	36
PAYMENTS	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Foods:						
· ·		9-14		•	-	
Purchased	1. 3.10.	12. 3.	72 7	14. 5.	14. 5.	15 77
Home grown	1. 6.					
Total		10.7.			7. 1.	8.0.
IOGAL	1. 5. 4.	T. 5.10.	1. 3. 3.	1. 6.10.	1. 1. 6.	1. 3.11.
Labour	4.8.	3.6.	4. 2.	4.6.	5. 1.	4. 5.
Bird depreciation	8. 2.	7. 9.		1		
Equipment "	1.4.	i. í.				
Other expenses	5.					1. 5. 6.
Total		<u> </u>	9.	9.	4.	6.
TOGAL	1.19.11.	T-T) - / -	1.16. 6.	1.19. 5.	1.15. 5.	1.17. 5.
Price per 120 eggs	2. 8.10.	2. 7. 8.	2. 7.10.	2. 4. 9.	2. 4.10.	2. 6.10.
	, i	•	,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Profit	8.11.	ד כו	11. 4.	5.4.	.0 5	0.5
		TC T .		J• 4•	9. 5.	9. 5.

REASONS FOR VARIATIONS IN PROFIT MARGINS.

For each system of management the profit margin varied considerably. The most significant points were that profits were fairly good in spite of the relatively unfavourable egg/feed price ratio, and high profits were not confined to any one particular system.

DISTRIBUTION OF PROFIT MARGING PER BIRD BY METHOD OF HOUSING (36 FLOCKS).

TABLE 7

Profit or loss	Batteries	Deep litter	Hen yard	Folds	Range	Total
Loss Below 5s. Od. 5s. to 10s. 10s. " 15s. 15s. " 20s. 20s. and over	- 1 3 1 1 2	- - 2 2 1	1 - 5 3 -	1 2 3 1	1 - 2 1 3	3 5 12 7 6

The two most important factors which can explain these variations in profits are:

- (1) Egg yields and the price received for eggs.
- (2) Food costs.

Returns from eggs varied from 52s. Od. to 84s. Od. per bird for the 22 flocks which were in production for 12 months and yields varied from 139 to 219 eggs per bird.

<u>DISTRIBUTION OF YIELDS BY METHOD OF HOUSING</u>. (22 flocks for 12 months)

TABLE 8						
Average number of eggs per bird	Batteries	Deep litter	Hen yard	Folds	Range	Total
Below 150 150 to 180 180 " 200 Over 200	- 1 - 3	- 1 1	- 2 - 2	2 2 1 -	2 3 2 -	4 9 4 5
TOTALS	4	2	4	5	7	22

DISTRIBUTION OF TOTAL FOOD COSTS PER BIRD FOR THE 22 FLOCKS IN PRODUCTION FOR 7.2 MONTHS.

TABLE 9		·				
Total food costs	Batteries	Deep litter	Hen yard	Folds	Range	Total
20s. to 25s. 25s. " 30s. 30s. " 35s. 35s. " 40s. 40s. " 45s. 45s. " 50s.	1 2 1	- - 1 1	- 1 3 -	- 1 - 2 1 1	3 1 1 1	332932

It is not possible to say which of these two factors (Food Cost and Egg Returns) is more important and it is really the relationship between the two which determines the rate of profit.

YIELD PER BIRD AND FOOD CONSUMPTION.

Experiments have shown that for a particular flock of birds there is a direct relationship between the amount of food fed and the yield per bird obtained, so that as the amount of food fed above maintenance ration increased, the number of eggs produced would increase at a constant rate. (1) Thus, at present prices it should pay to feed birds up to their maximum capacity to produce eggs. However, when we try to explain differences in production between farms, it cannot be done by reference to feeding alone. This is because there is a very great variation in the capacity of different flocks of birds to produce eggs. Some of these variations in production are due to differences in the inherent capacity of the birds. Other differences can be grouped broadly under environmental or management factors which would include housing and quality of feeding.

Table 10 shows an analysis of the costs, returns, and yields of the six flocks with the lowest and highest food costs in each of the two groups, Extensive (folds and range) and Intensive (batteries, deep litter and hen yards).

Although the number of farms is very small and therefore no real conclusions can be drawn, it does seem that economy in food cost is much more important in the Extensive flocks. The low food cost group had an average profit of 16s. 3d. a bird compared with 2s. 3d. in the high food cost group. There was not much difference in the yields of the two groups nor in the returns from the sale of eggs, and the big difference was in food costs. This was because the high food costs group not only fed more food per bird (137 lbs. compared with 92 lbs.) but also fed a smaller proportion of home grown feeding stuffs, (29 per cent compared with 50 per cent).

With the <u>Intensive flocks</u> the profit figures for the two groups are similar. The high yields and returns from eggs of the high food cost group are balanced by the low intake of food (113 lbs. compared with 139 lbs. per bird) and the higher percentage of home grown foods fed (50 per cent compared with 30 per cent) of the low food cost group. The high food cost group incidentally, included four battery flocks and very little home grown foods were fed to battery birds.

The analysis of Table 10 would appear to show that the practice of feeding birds to appetite is sound as far as intensive methods are concerned, but where birds are kept extensively, they will not have the same capacity to produce eggs, and if they are to compete with the intensive systems there must be some economy in cost. The logical answer seems to be some form of rationing so that only part of the birds' feed requirements are provided

P.L. Hansen: Input-Output Relationships in Egg Production. Journal of Farm Economics Vol.XXXI No. 4, Part I. P.687 November 1949.

American Farm Economics Association.

by expensive foods, the remainder hours provided by use of grains, grazing, and use of stubbles. The point here is that if a free range bird is fed to appetite on expensive foods, it will not forage for any of its food requirements.

COMPARISON OF COSTS, RETURNS, FEEDING, AND YIELDS OF THE SIX FLOCKS WITH THE LOWEST AND HIGHEST FOOD COSTS, ON EXTENSIVE AND INTENSIVE SYSTEMS.

(Flocks with 11 or 12 laying months).

TABLE 10				
er fortholist and forth	EXTENSIV	E FLOCKS	INTENSIV	E FLOCKS
Averages per bird	Six lowest	Six highest	Six lowest	Six highest
	food costs	food costs	food costs	food costs
EXPENSES	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Foods:			+ 1.1	
				and the second
Purchased	15. 6.	1. 3. 0.	19. 2.	1.13. 9.
Home grown	10. 3.	15.11.	13.11.	10.2.
Total	1. 5. 9.	1.18.11.	1.13. 1.	2. 3.11.
Labour	5. 7.	7. 0.	5. 4.	6.0.
Bird Depreciation	8. 9.	8.6.	8. 7.	10.8.
Equipment depreciation	2. 1.	2. 1.	1.11.	1.6.
Other expenses	11.	9•	7.	1.0.
Profit	16. 3.	2. 3.	14.8.	14.10.
	· · ·			
Total income (eggs				
sold and consumed)	2.19. 4.	2.19.6.	3. 4. 2.	3.17.11.
	No.	No.	No.	No.
Egg yield	159	162	164	197
V 3	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Value of eggs per			7.70	7 75 7
£ food	2. 6. 6.	1.11.10.	1.19.6.	1.15. 7.
Net production(1)	7 70 7	3 7 6	7 74 2	7 70 70
per £ food	1.19. 7.	1. 7. 3.	1.14. 3.	1.10.10.
Food per bird:	lbs.	lbs.	lbs.	108.
Home many	16	20	57	41
Home grown Purchased	46	39	57 56	98
•	46	98 137	113	139
Total	92 Per cent	Par cent	Per cent	Per cent
Home grown food as	rer cent	್ರಧ್≙ಗ ಭಜೀಚರ 	rer cent	Tor cone
percentage of				
total food	50	00	50	30
OCOURT TOOK	<u> </u>	29	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1 0

⁽¹⁾Net production = Value of eggs less bird depreciation per bird.

BIRD DEPRECIATION.

This is the next most important item of cost and depends on the death rate and the price received for culls. It also depends on the cost of rearing, but in this investigation the rearing cost has been standardised at 18s. Od. a bird.

Mortality.

It can be seen from the individual per bird figures (1) that a high mortality did not necessarily mean a low profit. It may be linked with high egg production or with low food consumption and in these cases the less in value of the birds may be more than compensated by increased income or reduced cost. For example F.C.30 has a mortality rate in his deep litter flock which was twice that of his range flock and this did not adversely affect profits because of the higher rate of production. P.C.29 and 26 cut food consumption to a very low level by use of grazing leys and stubbles, and in both cases mortality was high but this was offset by relatively high production in the case of P.C.29 who made a good profit in spite of the very low price of his cull birds. In the case of P.C.26 the high mortality was offset by the high price received for the remaining birds. However, high mortality and the consequent high bird depreciation did have an adverse affect on profits in some cases. In the batteries three cases (P.C.1, 4 and 33) show that even with a high level of feeding and egg production, birds should not be allowed to die or to be written off as a total loss. losses through disease are sometimes unavoidable even in the best managed flocks.

Culling.

The rate and time of culling also has considerable affect on bird depreciation, as prices of cull birds vary from month to month - the peak prices being at Christmas and Easter. There is, however, a great variation in local market conditions and some farmers were able to command a good price all the year round by contracting to maintain a regular supply of good quality birds. For this reason it is not possible to be dogmatic about culling policy. With poultry managed extensively, the problem is fairly simple because there can be no question of culling at Easter, as the high Spring and Summer production, even at low prices, will more than offset any fall in value of the birds.

With the intensive flocks the position is different and a simple calculation can be made to see what policy is likely to pay best. For example, a flock kept intensively, which has produced $7\frac{1}{2}$ dozen eggs a bird in six months from 1st October to 1st April might have financial results per bird as follows:

⁽¹⁾

Expenses			Income	
Food ½ cwt.	£. s. d. 19. 0.	F 71 3		£. s. d.
Labour Bird depreciation	3. 0.	Eggs $7\frac{1}{2}$ doz. @ 5s. 2d.		1.18. 9.
(18s. Od. to 15s. Od.)(i) Equipment depreciation	3. 0. 1. 6.			
Other expenses(ii) Profit	6.	·.		
	<u>11. 9</u> . £1.18. 9.			07.70
	=====			£1.18. 9.

- (i) This includes an allowance for mortality.
- (ii) Mainly fuel and lighting.

A flock kept for a further six months would not have to bear all the fixed costs, and equipment depreciation could not be charged. Similarly, labour which has no alternative use should not be charged. However, on most farms this could be used to rear replacements, or for other Spring work. Nevertheless, a flock should not be sold out before all the alternatives available have been considered. The main points to consider are:

- (1) The estimated production and price receivable for eggs;
- (2) The expected loss or gain in value of the birds; and
- (3) Their food cost.

Expected returns per bird from 1st April to 30th September might be as follows:

Additional Ex	penses	Additional Income		
Food ½ cwt. Labour(1)	£. s. d. 19. 0.	Eggs 8 dozen @	£. s. d.	
Bird depreciation (15s. Od. to 10s. Od Profit	3. 0. .)(ii) 5. 0. 	4s. 3d.	1.14. 0.	
, ,	£1.14. 0.		£1.14. 0.	

- (i) If there is no alternative use for labour than the profit would be 10s. Od.
- (ii) This includes an allowance for mortality.

There may be wide variations in any of the three major items: food costs, egg production and bird depreciation, but a calculation of this kind may prove very helpful even though prices for culls and for eggs, and also the actual production, may not be predictable with any great accuracy.

Other points which must be considered are: making the best use of limited resources of food and labour, and the competing claims of the rearing flock for housing, food, and labour.

It should be remembered that food cost is the most important expense which can be reduced by culling, and a simple method of seeing whether food costs are being covered is to divide the cost of a bird's yearly ration, say one cwt., by the price of one dozen eggs. This gives the number of eggs a bird must lay each month to cover food costs and assumes that one hen cats one cwt. of food a year (a smaller amount of food may be needed for range birds and a greater amount for battery birds). Therefore 12 hens will cat one cwt. of food a month.

Example

if Price of one cwt. food
Price of dozen eggs = say 36s. 0d.
4s. 0d.

then nine eggs per hen per month are needed to cover food costs.

KEEPING OLDER BIRDS IN THE FLOCK.

Here again, there can be no hard and fast rule as to whether birds should be kept after the first 12 months of laying. Some birds of breeds like Light Sussex may not lay very heavily in the first year, and the next year's production may not be much smaller. But higher producers in the first year may not be expected to be "long distance" layers. Apart from the case of the lower producing first year bird, the main justification for keeping birds a further year would appear to be in the saving of rearing replacements. If a bird is worth 10s. Od. at the end of its first laying year and it costs 18s. Od. to replace it, then its production should be no more than 20 eggs less than that of its replacement, if they are to make similar profits. This assumes that the pullet replacement will lose 8s. Od. in value compared with 1s. Od. in the case of the hen, leaving a possible difference in production of 7s. Od. (assuming food costs to be the same for hons and pullets and a similar rate of mortality).

Thus with eggs at 4s. 6d. a dozen the flock owner might keep a hen if it was likely to lay only about 20 fewer eggs in a year.than its pullet replacement. In most flocks the difference in production would be greater than 20 eggs a bird (perhaps nearer 36) but with culling in the first year the difference in production may be reduced.

Other alternatives are open to the poultry keeper in keeping birds on after 12 month's production for sale at either Christmas or Easter. Returns per bird from 1st October to Christmas might be:

Additional Expense	s	Additional I	ncome
	£. s. d.	•	£. s. d.
Food $\frac{1}{4}$ cwt. Labour	9. 0 1. 6.	Eggs $1\frac{1}{2}$ dozen @ 5s. 6d.	8. 3.
Profit	4. 9.	Bird de preciation (10s. Od. to 17s.	od.) 7.0.
	15. 3.		15. 3.

Thus with a rate of lay of six eggs per bird each month, and assuming a sale price of birds of 18s. Od. (the increase to 17s. Od. takes account of mortality), there is a profit of 4s. 9d. a bird for the three months. Assuming this price for birds it would pay to keep them till Christmas even though food costs are not fully covered by egg sales.

Conditions will vary a good deal with the locality and this practice may not be the best in many cases, and the farmer must fit his own prices, to work out the possible profit.

With birds kept till Easter, one might expect an increase in the rate of production, say nine eggs a month, and a fall in the price received for birds say 15s. Od. instead of 17s. Od.

Returns per bird from 1st October to 31st March might be:

Expenses		Income
	£. s. d.	£. s. d.
Food ½ cwt.	18. 0.	Eggs $4\frac{1}{2}$ dozen @
Labour	3.0.	4s. 6d. 1. 0. 3.
		Bird depreciation
Profit	<u>4.3</u> .	(10s. 0d. to 15s. 0d.) <u>5. 0</u> .
	£1. 5. 3.	£1. 5. 3.

It should be borne in mind that the egg yields assumed are low and actual yields might exceed those given. However, the assumption of six eggs a month during October, November and December takes into account the fact that this is probably the moulting period, the total of 54 eggs in the six months October to March assumes that about 80 eggs will be laid in the six Summer months making a total of 134 in 12 months.

The assumptions in these two examples are not meant to show that it would be profitable for a farmer to keep older birds until Christmas but not until Easter. They are mainly to show the method by which farmers can calculate the expected returns under their own cost and price conditions.

Seasonality.

For each mothod of production there was a wide variation in the average price received for eggs.

DISTRIBUTION, BY METHOD OF HOUSING, OF AVERAGE PRICES RECEIVED. (22 flocks)

TABLE 11		Per dozen eggs
Method of housing	No. of flocks	Range of average prices received by flock
Batteries Deep litter) Hen yard) Folds Range	4 6 5 7	s. d. s. d. 4. 6. to 4.11. 4. 6. " 4.11½ 4. 4. " 4. 8. 4. 4. " 4. 9.

When the price of eggs varies from 3s. 7d. to 6s. 1d. per dozen, the number of eggs produced in the Winter has an obvious effect on profits. However, it is not seasonality alone which affects profits. Winter and Summer egg production must be considered in relation to the costs incurred, and food costs in particular. Referring to the costs per 120 eggs (1) it can be seen that the eight battery flocks received 4s. 0d. more per 120 eggs than the eight range flocks, but their food costs were 3s.10d. higher. Also, the variation within each group is quite considerable and the price received depends not only on the proportion produced in the Winter but upon the production from July to the end of September when eggs are 4s. 6d. to 5s. 0d. per dozen.

Examination of the individual per bird results shows that low average receipts per dozen eggs did not necessarily mean low profits, especially in the Extensive flocks. But even in the Intensive flocks with a high rate of food consumption a good profit can be made. P.C. 6 in a hon yard had an average price per dozen of 4s. 6d. and a food cost per bird of 38s. 7d. and yet made more than 19s. 0d. a bird profit. In this case the high production (205 eggs a bird) made up for the low price per dozen eggs.

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See Appendix II. Page 29.

Where high quality foods are fed for Winter egg production, and the same level of feeding is continued throughout the Summer months, there will be a much smaller margin over food costs in the Summer. The farmer may well be faced with the choice of an income of £350 in six months or £500 in 12 months. Against this must be set the fact that some of the fixed costs may have already been met before the Spring and Summer production commences, and when considering the alternatives, these fixed costs should really be charged to the Winter production, and not spread over the whole year. If labour, land and housing are available it may be worth considering the possibility of feeding birds, which have been indoors all winter, on free range and stubbles in the Spring and Summer. method, costs may be reduced without greatly reducing income. reduction in food consumption of 14 lbs. per bird means an extra 4s. 6d. per bird if food is 36s. Od. a cwt. Even if the saving is not as much as 14 lbs. there may be a similar economy in feeding more home grown foods and thus reducing the cost of the ration.

It should pay to produce out of season, as eggs will always be plentiful in the spring, but it should be remembered that high winter production is only one of the factors which lead to high profits.

LABOUR COSTS.

DISTRIBUTION OF LABOUR COSTS PER BIRD. (22 flocks).

П	ΙΔ	RI	H.	70	>
•	H	n	10.		•

	Batteries	Deep litter	Hen yard	Folds	Range	Total
Below 4s. 4s. to 6s. 6s. "8s. 8s. "10s. 0ver 10s.	1 - 3 -	2	1 2 - 1 -	1 2 1 1	- 2 4 - 1	3 8 8 2 1

The labour costs per bird did have some effect on profit, but as in most cases this was just a reflection of the amount of family labour which could be devoted to looking after the poultry, their importance may be over emphasised. To the farmers who used family labour, the significant figure is Profit plus Labour charge which represents the total return for his labour and capital outlay, as well as for his skill as a manager.

However, for any particular flock the method of poultry keeping chosen determines the number of birds that can be kept with a fixed amount of labour. This is important because the size of the flock determines the size of income. The number of hours spent with the poultry depended not only on the method, but on the quality of the labour and the interest of the poultry man or woman in the care of poultry, as well as the

extent to which other work made demands on their time. But for a given flock with the same poultryman, less time will be needed using intensive methods, so that size of flock and of income can be increased in this way.

NOTES ON METHOD AND CAPITAL COSTS.

Capital costs.

Capital costs vary with the method chosen and the figures shown in this report give some idea of the variation, although they may be misleading in some cases. The figure in each case represents the value of capital invested in equipment, and does not give a true guide to costs of starting a new enterprise. In the newer intensive methods the capacity of the house was often above the number actually kept because the new methods were on trial.

Batteries are the most expensive method of housing and may cost anything from 20s. Od. a bird upwards, but there are considerable economies to offset the large outlay. The method is safe and well tried and very economical in the use of buildings, especially where two birds can be kept in a cage. Rations must be well balanced and many farmers did not consider they could use much home grown foods. Consequently, food costs of battery birds were well above the average. Labour costs per 120 eggs produced were higher than the other intensive methods and reflect to some extent the individual attention required by battery birds. Batteries may be best when capital is plentiful and farm buildings in short supply.

Deep Litter. Where buildings are available for conversion capital costs can be kept low (5s. Od. to 10s. Od. a bird) but when the number of birds exceeds 200 to 300, there may be need for erecting further buildings and the capital costs may thus rise steeply. Providing housing, at four square feet, a bird may cost from 15s. Od. to 30s. Od. a bird and even more.

From a manurial point of view peat moss is probably the best kind of litter, but if there is no sale for the manure then it may be better to use a cheaper form of litter - chopped straw or shavings. Five hundred birds will need one ton of peat moss and produce eight tons of manure.

If the peat costs £10 a ton and the manure is worth £6 a ton this represents a return of 1s. 6d. per bird for an outlay of 4d. to 5d. a bird.

Hen Yards. This method lends itself well to improvisation and yards can be erected or converted to the use of poultry at low capital cost, by the use of bales or free range houses, or both at from 5s. Od. to 15s. Od. a bird. Capital costs do not rise to the same extent as with deep litter,

when the size of flock is increased. Expansion is relatively easy and cheap, if the land is available. One hundred birds require about two tons of straw per annum depending of course on the weather. This method may be best where a large number of birds are to be kept with as little capital expense as possible, or where a suitable yard is available for conversion.

Folds. Most fold units will cost about £1 per bird but they do have the advantage of being useful for rearing birds from about eight weeks onwards. It is difficult to put a value on the manure produced and spread by fold unit birds, (perhaps about 1s. 6d. per bird).

Range. Capital costs of free range houses are fairly well known and might be anything from 10s. Od. a bird upwards.

FUTURE PROSPECTS.

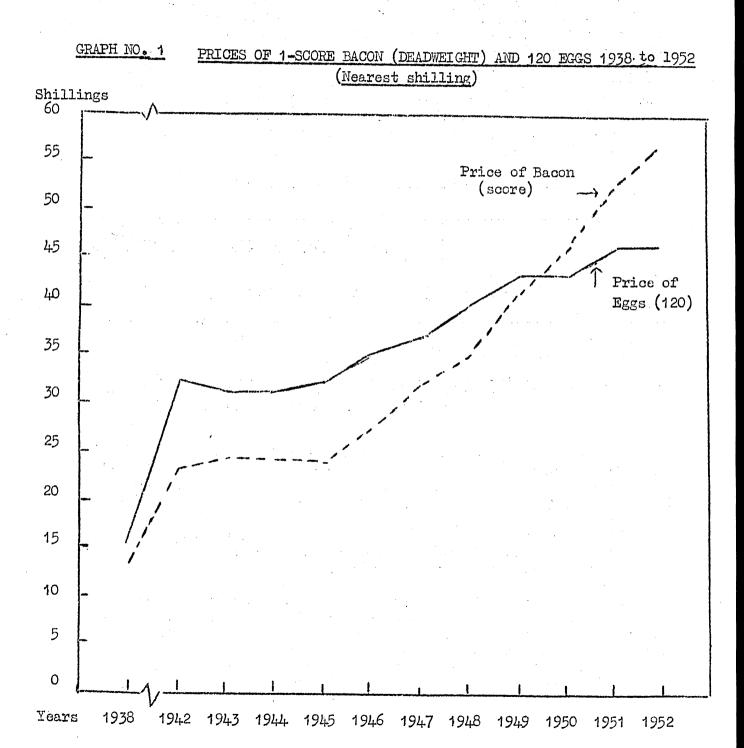
The poultry industry has been selected as the "guinea pig" for a movement in the direction of "less control". This move towards freer marketing has been received with mixed feelings by those connected with the industry, and producers' representatives have expressed doubts about the achievement of an orderly marketing scheme which will give the farmer the protection promised in the 1947 Act. However, the present guaranteed minimum price of 3s. 6d. a dozen, and the average price of 4s. 0d. a dozen do give the farmer some safeguard. Now that the final subsidy on feeding stuffs has been removed, the increase in prices of £2. to £3. a ton will mean that the average minimum of 4s. 0d. a dozen would be inadequate for profit making. But it must be remembered that 4s. 0d. a dozen is the minimum average price below which prices will not be allowed to fall, and the expected average price should be much higher.

It is fairly obvious that the fixing of minimum prices was carried out with an eye to the future, as feed prices might be expected to move downwards after this year's harvest.

The free market in feeding stuffs which comes into operation after this year's harvest will have considerable effects on the poultry industry. Competition will no doubt increase, with new entrants to the industry, and increased size of flocks especially on specialist holdings.

Demands for feeding stuffs are likely to be high, because of increased demands for livestock feeding, especially pigs, whose numbers have increased by almost a million a year in the last three years and look like reaching a record figure.

The graph below gives some idea of the relative changes in profitability of pigs and poultry during the years shown.



It can be seen that in 1938 the price of 120 eggs under free market conditions was greater than the price of one score of bacon. All through the Second World War prices were more favourable to egg producers than to bacon producers and only after 1949, when a special stimulus was given to pig meat production, did the position change. Bacon pigs were given a price increase of 6s. 9d. a score dead weight compared with an increase of 10d. per 120 eggs. In 1950 bacon producers received a further 4s. 0d. per score whereas egg producers had no increase. In 1951 the respective price increases were 6s. 6d. per score and 2s. 1d. per 120 eggs, and in 1952, 3s. 3d. a score and 2s.11d. per 120 eggs. These awards differ from the actual prices received because of quality premium for pigs and seasonal variations in egg production.

FEED/EGG RATIOS AND FEED/BACON RATIOS COMPARED.

		1942-1946						
	1938	(average)	1947	1948	1949	1950	1951	1952
Scores of bacon dead weight								

TABLE 13

Scores of bacon dead weight to buy 6 cwts. proprietary pig meal.

Dozens of eggs to buy 1 cwt. proprietary poultry food.

6.6 5.4 5.1 5.1 4.5 6.6 7.7 8.8

SOURCE: Based on data from THE ANNUAL ABSTRACT OF STATISTICS AND MONTHLY DIGEST. H.M. STATIONERY OFFICE, LONDON.

When the feed/egg and feed/bacon ratios are compared, it can be seen that bacon producers are in a position roughly comparable to 1938, whereas egg producers have been better off during the war and post-war years up to 1949, but in 1952 were in a much less favourable position than in 1938.

Thus if 1938 is taken as representative of what could be expected under free market conditions, it might be reasonable to expect the feed/egg ratio to become more favourable to egg producers.

However, the competitive position of egg producers relative to pig producers will be influenced by factors other than the prices of feeding stuffs. Imports of both eggs and bacon must be considered, but as imports of both are still below the 1938 level, producers of both eggs and bacon should not feel the full force of foreign competition unless import regulations are changed, and imports are considerably increased.

Prices of feeding stuffs will be influenced to some extent by increased demands for livestock feeding but these demands could be met by supplies which are available on the world market if agreement can be reached with the chief grain exporters, and if currency, especially dollars, is made available. Even if pigs were increased by one million, and hens by 10 million they would need no more than ½ million tons of feeding stuffs or 1/50th of the estimated reserves of grain held by the United States and Canada after this year's harvest. Britain's refusal to sign the International Wheat Agreement may give other countries the lead to held out for lower prices in view of the supply position. Also from 1st May, 1953 import licences will be issued to merchants for the import of feeding stuffs and fertilisers from any country, subject to the availability of currency. Feed prices may perhaps rise at first but can be expected to move downwards in the future.

The future of the egg producing industry will also be influenced by the development of methods of preserving eggs especially by the oil dipping method. It will also depend on the quantity and quality of imports and the price at which they can be marketed. No doubt if higher prices were paid to exporting countries we could get a greater supply of eggs but this depends on the government's import and tariff policy and may be strongly influenced by pledges made to protect the British egg producer.

The housewife also has a strong influence. She probably has decided views about the quality of eggs in relation to the price. Does the house-wife prefer British eggs to foreign eggs and does she prefer fresh eggs to preserved ones? Undoubtedly there is scope for increased egg consumption, and the consumer will probably prefer British, and fresh eggs to imported or preserved ones, but the deciding factor in many family budgets is price. Provided that producers can buy all that they want in the way of feeding stuffs, and supplies remain good, they cannot expect to receive increased prices if the costs of food rise, unless this is warranted by the state of the market. They may expect some protection from foreign competition but should not expect protection from the competition of other home producers.

When speculating as to whether there will be a return to the pre-war egg/feed ratio which was more favourable to egg producers, it must be borne in mind that conditions do differ from those prevailing in 1938. Perhaps the greatest difference will be in improved techniques which should gradually increase the number of eggs produced per bird. The estimated production per bird in England and Wales on agricultural holdings was 154 for the perwar years, 133 in 1948-49, 142 in 1949-50, 145 in 1950-51, 146 in 1951-52 and 148 in 1952-53. These estimates are based on throughput figures at packing stations and may give a false picture because black market sales have to be estimated as a percentage of total sales. However, it is probable that rates of production are increasing and that further improvements can be expected with improved livestock breeding schemes and better husbandry.

As the results of scientific research become known and applied to the problems of practical poultry keeping, the productive capacity of our poultry flocks can be raised. Perhaps the greatest possibility lies in reducing the amount of food a bird needs, by environmental control - light, temperature, insulation, feeding etc.

The net effect of improved standards might be expected to mean lower margins for the below average producers, although it is probable that there will at first be only an increase in the range of efficiency rather than a sharp increase in average standards. It must also be remembered that present levels of profits do not give a great margin for risk and for overhead expenses and it may not be over-optimistic to expect some increase in the level of egg prices at least until the effect of increased food supplies is felt. However, as prices of feed are rather fluid at present, it would probably be more appropriate to speak of a more favourable endied and price ratio rather than increased egg prices.

To sum up the position, perhaps the most that can be said about the future of the industry is that poultry keepers can expect to be at least no worse off than they are at present. The extent of any favourable trend cannot be predicted because the two most important factors influencing the position, namely:- imports of feeding stuffs and imports of shell eggs, depend on government policy. Even so it is very unlikely that future changes will show any departure from the spirit and letter of the 1947 Act.

	·							
SYSTEM				В А Т Т Е	RIES			***************************************
FARM CODE NO.	1	4	13	33	35	43	1 23	49
PAYMENTS,	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	f. s. d
Foods: Purchased	2. 8.10.	1. 2. 5.	16. 1.	1. 9. 8.	2. 7. 0.	2. 0. 0.	1.13. 7.	1. 7. 5.
Home grown				0. 7.	.! -	1 7.8.	5 10	5 2
Total		1. 2. 6.	16.1.	1.16. 1.	2. 7. 0.	2. 1. 8.	1.19. 5	1.12. 8.
Labour	6.1.	7. 5.	3. 0.	11.0.	6.9.	5.10.	6. 6.	
Dêma annu de de								
Bird depreciation	15. 5.	11. 1.	(9. 5.	9.11.	6.11.
Equipment depreciation	2. 9.	1. 4.	1	2. 6.	1.5.	10.		
Other expenses	7.	3.	•	_	_	2. 3.		1
Profit	10.8.	1.10.	9. 2.	8. 6.	15.11.			1. 4. 1.
Total = (eggs sold or					į .	l	1	ļ
consumed)	4. 4. 4.	2. 4. 5.	1.18. 5.	3.11. 7.	4. 1. 2.	3.8.0.	4. 2. 6.	3. 9. 6.
Number of laying months	12	- 7	5	10	12	11	7.0	
Average number of birds		,		10	12	1 11	12	12
during period	69.7	50.2	469.6	71.8	284.1	143.4	120.4	0.0
Average number of eggs laid		,		72.00	204.1	147•4	120.4	84.0
per bird	204.9	102.0	85.4	179.1	203.0	169.5	7707	770.0
Per cent production on hen	,			-1/	20).0	109.0	219.1	179•2
day basis	56	50	56	59	56.	-54	60	40
Price per dozen eggs sold	$4.10\frac{1}{2}$	50 5• 3•	5. 5.	4. 9½		4.10.	4.6.	49
Average price of birds sold	9.10.	13.10.		10.0.	16. 2.			
Mortality as percentage of	Í	2,5			10. 2.	12. $7\frac{1}{2}$	10.0.	9.11.
average number of birds	31.6	39.8	5.3	37.6	7.0	15.3	72.2	
Mortality as percentage of		2)		71.00	7.0	±J•J [∞]	13.3	2.4
maximum number of birds	14.3	33.3	5.0	29.7	4.4	11.0	11.2	0.0
Capital per average number	_		7	-/-1	.,	77.00	11.02	2.0
of birds	1. 9. 7.	13. 7.	1. 2. 7.	1. 5. 3.	74.7.	1. 3. 9.	. 72 70	7 1 5
Capital per maximum numbor						J- J-	12.10.	1. 4. 5.
of birds	13. 5.	11.4.	1. 1. 1.	19.11.	8.10.	17. 0.	70.70	1. 0. 4.
Food consumed (adjusted to				-/	0.10.	-1- 0-	TO • TO •	1. U. 4.
12 months) lbs.	140	108	113	131	138	141	120	707
					<u> </u>		عدن	107

: 24

RECEIPTS AND PAYMENTS AND OTHER AVERAGE FIGURES PER BIRD

	D.	د ه	20 0 t	<u> </u>	*
SYSTER FURNI GODY NO		D	EEP LI	TTER	
FARM CODI NO.	- 8	30	31	47	48
PAYMENTS Foods: Purchased Home grown	£. s. d 9 1.19.11	13.10.	£. s. d. 15. 2. 10. 2.	£. s. d. 1. 6. 1.	£. s. d. 1. 2. 4.
Total Labour Bird depreciation Equipment depreciation Other expenses Profit Total = (eggs sold or consumed)	2. 0. 8 5. 9 7. 5. 1. 7. 10. 16. 0. 3.12. 3.	1. 1. 1. 3. 8. 10. 8. 11. - 1. 3. 7.	1. 5. 4. 6. 3. 12. 1. 6. 5. 17. 3. 3. 1.10.	1.17. 6. 4. 1. 9.11. 1.10. 11. 8. 3. 5.11.	5.8. 1.8.0. 3.8. 10.5. 2.4. 8. 10.8. 2.15.9.
Number of laying months Average number of birds during period Average number of eggs laid per bird Per cant production on hen day basis Price per dozen eggs sold Average price of birds sold Mortality as percentage of average number of birds Mortality as percentage of maximum number of birds Capital per average number of birds Capital per maximum number of birds Food consumed (adjusted to 12 months) lbs.	12 486.7 182.0 50 4.11½ 15. 0. 25.1 15.1 16. 1. 9. 8. 159	8 89.2 147.7 61 4.11. 9. 9½. 14.6; 13.0 13.3. 11.10. 102	10 130.2 160.2 53 4.8. 9.5. 13.8	12 391.2 167.2 46 4. 9. 12. 4. 13.8 13.7 18. 4. 16.10. 125	11 365.6 138.1 41 4.10. 8. 3½. 16.7 13.3 1. 3. 4. 18. 7. 94

SYSTEM				ΗE	N Y A	R D			
FARM CODE NO.	2	6 1	15	20	25	40	41	42	46
TAY TINTS.	£. s. d.	£. s. d.			£. s. d.		£. s. d.		£. s. d.
Foods: Purchased	13.10.	1.8.0.	12.8.	18. 3.	13. 2.	1.12. 4.	7.6.		7. 8.
Home grown	2. 2.	10.7.	2. 7.	15. 9.	16. 1.	13. 9.		9.10.	
Total	16.0.	1.18. 7.	15. 3.	1.14. 0.	1. 9. 3.				
Labour	2. 2.		2.8.		8.2.	5.1.			
Bird depreciation	9. 1.	11.6.	6. 7.	9.4.	7. 1.	11.6.	3. 6.	5.10.	
Equipment de-								, -	
preciation	11.	1. 2.		1. 9.	2. 5.			8.	10.
Other expenses		3.	6.	5.	1. 3.				_
Profit or loss	10. 3.	19. 4.	16.11.	14.8.	13.8.	13. 0.	(-) l.	15. 3.	13.0.
Total = (eggs sold	7.0	0.76							
or consumed)	1.18. 2.	3.16. 3.	2. 3. 0.	3.10. 0.	3. 1.10.	3.19. 3.	1.12. 0.	2. 1. 4.	3. 1.11.
Number of laying							·		
months	6	12	7	11	12	12	7	7	12
Average number of								1	
birds during period	765.7	228.6	624.0	111.9	373.0	276.9	774.4	619.4	163.0
Average number of							''	,	
eggs laid per bird	89.3	205.5	99•3	175.0	160.6	201.6	84.6	99.7	162.8
Per cent production								,,,	
on hen day basis	49	56	47	- 56	44	55	40	47	45
Price per dozen eggs						ļ			
sold	5. 2.	4. 6.	5• 3•	4.10.	4.8.	4. 9.	4. 7.	5.0.	4. 7.
Average price of	0.707		3						•
birds sold	$9.10\frac{1}{2}$	8.0.	10. $2\frac{1}{2}$	9. 2.	10. 7.	10.6.	12. 6.	10.1.	8.11.
Mortality as per-									
centage of average number of birds	7(0								
Mortality as per-	16.8	9.2	6.4	19.7	14.7	27.1	13.3	9.2	9.2
centage of maximum	**		:						
number of birds		-, -,							
Capital per average	13.1	7-7	5.1	13.3	11.1	19.2	12.0	8.2	8.3
number of birds	7 0	705	70 77	7 0 70					
Capital per maximum	1- 2-	1. 0. 5.	TO TT	1. 0.10.	1. 3.11.	14.4.	1. 4. 6.	12.11.	11.0.
number of birds	5 7	77					ļ		
Food consumed Individual	5• 7• 102	17. 0.	8. 9.	14. 1.	18.0.	10. 2.	1. 2. 3.	11, 5.	10.0.
Food consumed (adjusted to 12 menths) lbs.	705	121	92	123	116	151	119	120	134
	ļI	1			· .	- 1			بسب. د سست

RECEIPTS AND PAYMENTS AND OTHER AVERAGE FIGURES PER BIRD.

SYSTEM:		. 1	FΟ	LDS		
FARM CODE NO.	3	4	14	19	27	1 39
PAYMENTS.	£. s. d.	£. s. d.	£. s. d.			£. s. d.
Foods: Purchased	1. 7.11.	17. 0.	1.0.0.		-	1.0.8.
Home grown	<u> </u>	12.10.	7.0.	12. í.	2. 1. 6.	19. 0.
Total	1.15. 5.	1. 9.16.	1. 7. 0.			1.19. 8.
Labour	7- 7-		2. 8.			
Bird depreciation	10. 5.					4. 9.
Equipment depreciation	3. 8.	1.10.	2. 2.	, ,		
Other expenses	5.	_	1. 5.			· -
Profit or loss	3. 9.	12. 7.	13. 8.			5.
Total = (eggs sold or consumed)	3. í. j.	3. 0. 9.	2.11. 9.	_	3. 4. 2.	2. 6. 6.
PE-ul				7- 1	70 10 20	2. 0. 0.
Number of laying months	12	11	12	12	12.	12
Average number of birds during		·				
period	182.3	79•4	279.4	210.1	1,054.8	927.4
Average number of eggs laid per						12104
bird	161.8	158.9	144.1	173.0	181.9	127.7
Per cent production on hen day				• • • • • • • • • • • • • • • • • • • •		751.1
basis	44	47	3 9	47	50	25
Price per dozen eggs sold	$4.6\frac{1}{2}$	4. 7.	4. 4.	4.8.	4. 4.	35
Average price of birds sold	9• 7년	12. 5.	13. $1\frac{1}{2}$			4. 5.
Mortality as percentage of average			-70 -2	. 200).	12. 3.	9.6.
number of birds	29.1	8.8	7•9	11.9	20 7	00.4
Mortality as percentage of maximum			1-7	<u> </u>	38.7	38.4
number of birds	22.3	7.3	7.1	0 7	22.0	07.0
Capital per average number of birds	1.70. 2.	14. 7.	17. 5.	9.7	33.9	31.3
Capital per maximum number of birds	1. 3. 1.	12. 1.		15. 3.	12.10.	16.10.
Food consumed (adjusted to	_• J• <u>-</u> •	-c. T.	15.8.	12. 5.	11. 3.	13. 9.
12 months) lbs.	116	109	07	7.07	7(.	
		109	91	127	1 64	143

RECEIPTS AND PAYMENTS AND OTHER AVERAGE FIGURES PER BIRD.

SYSTEM	<u> </u>			TD A	NGE			
FARM CODE NO.	9	10	12	1 16	i 26	29	30	20
PAYMENTS				£. s. d.	£ 8 d.	£ 8 d	£ 5 3	38
Foods: Payments	1. 1. 9.	11. 2.	2. 3. 6.	18. 5.	14. 9.	16.11.	15. 3.	1
Home grown	_15. ó.	19.1.		8.11.				
Total	1.16. 9.		2. 3. 6.	1. 7. 4.	1. 4. 2.	1. 7. 9.	7. 5. 2	7 17
Labour	10.6.		6.8.	4. 5.	7. 2.	6. 5.	6.11.	
Bird depreciation	10.9.	12. 8.		1				J
Equipment depreciation	1. 3.		3. 2.					2.
Other expenses	_	1. 7.		2.		9.	L .	1. 5.
Profit or loss	6. 1.			1. 4. 8.			1. 4. 2.	1. 3.11
Total = (eggs sold or			į					-
consumed)	3. 5. 4.	3. 2. 9.	2.12. 3.	3- 7- 4-	2.11. 9.	3. 0. 0.	3. 8. 6.	3. 2. 2.
Number of laying months	12	12	12	12	12	12	10	12
Average number of birds						-		
during period	85.7	227.3	460.2	138.2	349.2	284.8	139.4	288.2
Average number of eggs								
laid per bird	181.0	174.2	145.2	180.3	139.4	152.1	176.5	165.4
Per cent production on		-						
hen day basis	49	48	40	49	38	42	5 8	45.2
Price per dozen eggs sold	4.5.	4.4.	4.4.	4.6.	4.6.	4.9.	4.8.	4.6.
Average price of birds								
bloa	9- 5-	٤. 1.	10. $1\frac{1}{2}$	8.7.	13. 4.	6. 1½	11.8.	9. 2½
Mortality as percentage of	1			·				72
avorage number of birds	31.5	35.2	21.5	13.7	37.8	20.4	6.5	7.3
Mortality as percentage of								, ,
maximum number of birds	22.5	28.9	17.2	8.5	28.3	19.3	4.5	7.2
Capital per average number								•
of birds	9. 1.	1. 1. 2.	1. 6. 0.	1.13. 9.	10.6.	1.0.0.	17. 3.	17. 4.
Capital per maximum number								•
of birds	6. 6.	17. 5.	1.0.9.	1. 1. 0.	7.10.	18.11.	12.0.	17. 3.
Food consumed (adjusted to			Ì		į			
12 months) lbs.	139	117	131	94	84	70	99	96

COSTS AND RETURNS PER 120 EGGS LAID.

SYSTEM				RAMMEDIEG
FARM CODE NO.	7	1	7.0	BATTERLES
PAYMENTS.	0 1	4	13	33 35 43 23 49
Foods:	ಹ∙್ಣ. α	t. s. d.	£. s. d.	£. s. d. £. s. d. £. s. d. £. s.
Purchased Home grown Total	1.8.8	1. 6. 5.	1. 2. 7.	19.11. 1. 7. 9. 1. 8. 4. 18. 5. 18.
	T. 8. 8.	1. 6. 6.	1. 2. 7.	1. 4. 2. 1. 7. 9. 1. 9. 6. 1. 1. 7. 1. 1. 1
Labour Bird depreciation Equipment " Other expenses	3. 7. 9. 0. 1. 7. 4.	8. 9. 13. 0. 1. 7.	4. 2. 11. 8.	7. 4. 4. 0. 4. 2. 3. 7. 2.
Total ·	2. 3. 2.	2.10. 1.	2. 1. 1.	2. 2. 3. 1.18. 7. 2. 2. 6. 1.11. 4. 7.10
Price per 120 eggs	2.8.0.	2.12. 4.	2.14. 0.	2. 8. 0. 2. 8. 0. 2. 8. 3. 2. 5. 2. 2. 6.
Profit	4.10.			· · · · · · · · · · · · · · · · · · ·

SYSTEM	DEEP LITTER							
FARM CODE NO.	· 8	30	31	47	48			
FAYMENTS. Foods:	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.			
Purchased Home grown	6. 1. 6. 4.	11. 3. 5.11.	11. 5. 7. 7.	18. 9. 8. 2.	19. 5. 4.11.			
Total	1. 6.10.	17. 2.	19.0.	1. 6.11.	1. 4. 4.			
Labour Bird depreciation Equipment " Other expenses	3. 9. 4.11. 1. 0. 7.	2.11. 8. 8. 9.	4. 8. 9. 0. 5. 4.	2.11. 7. 1. 1. 4. 8.	3. 2. 9. 1. 2. 0. 7.			
Total	1.17. 1.	1. 9. 6.	1.13. 5.	1.18.11.	1.19. 2.			
Price per 120 eggs	2. 7. 8.	2.8.8.	2. 6. 4.	2. 7. 4.	2.8.6.			
Profit	10. 7.	19. 2.	12.11.	8. 5.	9. 4.			

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SYSTEM	HEN YARD								
FARM CODE NO.	2	6	15	1 20	25	40	41	42	1
PAYMENTS.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	f. 8. d.	f g d	£ 5 3	£. s. d.
Foods:	1	1	i .			S. u.	. b. u.	12. S. U.	L. S. a.
Purchased	18. 7.	16. 4.	15. 4.	12. 6.	9.10	19. 3.	10.8.	9.10.	5.0
Home grown	2.11.		3. 1.	10. 9.	12.0.	Ŕ. Ź.	76 6	חר וֹנ ו	7 7 7
Total	1. 1. 6.	1. 1. 1.	18. 5.	1. 3. 3.	1. 1.10.	1. 7. 5.	1. 7. 2.	1. 1. 8.	7 7 2
									1. 1.).
Labour	2.11.		3. 3.		6. 1.	3.0.	8. 2.	1.11.	2. 5.
Bird depreciation	12. 3.		8.0.		5.4.	6.10.	5.0.		
Equipment "	1. 3.	I	1. 4.		1.10.	10.			7.
Other expenses	_	1. 7.	7-	4.	11.	1.4.			
Total	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7								
IUGIL	T-T/-TT-	1.13. 3.	1.11. 7.	1.17.11.	1.16. 0.	1.19. 5.	2. 5. 5.	1.11. 5.	1.16. 0.
Price per 120 amm									
Price per 120 eggs	<-TT- 1-	2. 4.10.	2.12. 1.	2.8.0.	2. 6. 2.	2. 7. 2.	2. 5. 3.	2. 9.10.	2. 5. 8.
Profit or loss	13. 8.								
	1 - 0 -	TT - /-	T. O. D.	10.1.	10.3.	7- 9-	(-) 2.	18. 5.	9.8.
	L	<u> </u>	I						

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SYSTEM	FOLDS							
FARM CODE NO.	3	4	14	19	27	39		
PAYMENTS.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.		
Foods:								
Purchased	1.0.8.	12.10.	16.8.	16.10.	- '	19. 5.		
Home grown	1. 6. 3.	9.8.	5.10.	8.5.	1. 7. 5.	17.10.		
Total	1. 6. 3.	1. 2. 6.	1. 2. 6.	1. 5. 3.	1. 7. 5.	1.17. 3.		
Labour Bird depreciation Equipment " Other expenses	5. 8. 7. 9. 2. 8. 4.	6. 0. 6. 6. 1. 5.	2. 3. 4. 0. 1.10. 1. 2.	3. 1. 6. 9. 7. 1. 0.	5. 6. 5. 7. 1. 1. 1. 4.	4. 6. 3.11. 1.11. 5.		
Total	2. 2. 8.	1.16. 5.	1.11. 9.	1.16. 8.	2. 0.11.	2.8.0.		
Price per 120 eggs	2. 5. 5.	2. 5.11.	2. 3. 1.	2.6.9.	2. 3. 3.	2. 3. 8.		
Profit or loss	2. 9.	9.6.	11. 4.	10.1.	2. 4.	(-)4.4.		

SYSTEM	RANGE								
FARM CODE NO.	9	10	12	16	26	29	-30	38	
PAYMENTS. Foods:	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	
Purchased Home grown	14. 5. 10. 0.		1.16. 0.	12. 3. 5.11.	1				
Total	1. 4. 5.	1. 0.10.	1.16. 0.		1. 0.10.				
Labour Bird depreciation Equipment " Other expenses	7. 0. 7. 1. 10.	8. 9.	6. 4. 2. 7.	4.11.	6.5.	10.10.	6.11.	4.9.	
Total	1.19. 4.	1.17. 8.	2.10.6.	1. 8. 5.	1.14. 4.	1.15. 3.	1.10. 2.	1. 7. 9.	
Price per 120 eggs	2. 3. 4.	2. 3. 5.	2. 3. 2.	2. 4.10.	2. 4.10.	2. 7. 4.	2. 6. 7.	2. 5. 1.	
Profit or loss	4.0.	5. 7.	(-)7.4.	16. 5.	10.6.	12. 1.	16. 5.	17. 4.	

