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*Poultry - Cost of production*

WITHDRAWN

THE WEST OF SCOTLAND AGRICULTURAL COLLEGE

POULTRY COSTINGS, 1961-62

J. F. Macpherson

178 Bothwell Street,  
Glasgow, C.2.

Economics Department Report No. 86  
1963

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THE WEST OF SCOTLAND AGRICULTURAL COLLEGE

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INTRODUCTION

For the year 1961-62, suitable records from twelve laying flocks were received. With the exception of one flock where the costing year ended in May, 1962, these records were for poultry units which closed their costing year on dates from 31st July, 1962 to 30th September, 1962.

Two deep litter flocks were of parent stock selling hatching eggs back to the breeder. Another flock was kept on free range and for a fourth flock housed in battery cages, the eggs were sold retail.

This leaves the eight intensive units with which this small report is concerned.

These eight units, even although their individual results showed wide variations, have been grouped to give an average for stock kept on intensive systems: deep litter, battery and a combination of both.

In this type of investigation (enterprise costing) certain costs have to be estimated. As it is the laying flock only which was costed, rearing costs are not shown, but pullets at point-of-lay and any incoming point-of-lay pullets have been given an estimated value of 15/- per bird. Actual rearing costs to point-of-lay may probably in the case of the lighter hybrid type of bird be rather less than this. Estimated costs are also used for home-grown grain and for family labour. The rates charged for these items are shown in the section headed Accounting Method.

Due to the smallness of this sample it cannot be claimed that the results are representative of the profitability or otherwise of egg production in this College area. Nevertheless in the light of previous costings, it is felt that the average cost structure given here may be taken as a not unrealistic general guide on which to base estimates of the costs of keeping hens for a year.

The average output per hen in this small sample was not good. One would have hoped for a higher average yield per hen than the 16 dozen eggs obtained.

It should be remembered that about half-way through this costing at the 1962 Annual Review, the average price guaranteed to the British Egg Marketing Board was cut by 1½d. per dozen and was fixed for hen eggs at 3/9.79d. per dozen related to a feed price of 26/7d. per cwt. for a standard ration composed as follows:-

Feeding wheat	20%	Wheat offals	20%
Feeding barley	10%	White fish meal	5%
Feeding oats	20%	Extracted soya	
Maize	15%	bean meal	10%

For every rise or fall of 7d. per cwt. in the price of this ration, the egg price guaranteed to the Board is correspondingly raised or lowered by  $\frac{1}{2}$ d. per dozen.

The average price received by producers as distinct from the average price guaranteed to the Board was estimated to be about  $3/2\frac{1}{4}$ d. per dozen for 1961-62, i.e. for the year that ended about the time of the 1962 Annual Review, and to be about  $3/2\frac{1}{2}$ d. per dozen for 1962-63, i.e. for the year that ended about the time of the 1963 Annual Review. This last price might have been under 3/- per dozen but for the severe winter in 1962-63 and the accompanying shortage of eggs.

Grateful acknowledgement is made of the help received from the farmers and poultry-keepers who provided records for this small costing.

J. F. Macpherson

#### DEFINITION OF SOME TERMS

Average Number of Layers is the average laying flock size over the year calculated from the average monthly flock size. All per layer figures have been based on this number.

Average Egg Yield per Layer is the total number of eggs collected divided by the average number of layers.

Total Revenue combines all sales of stock and eggs, plus a credit for the value of stock and eggs used in the house, but omits any sales of equipment.

Gross Stock Replacement Cost is the balance obtained from the opening stock valuation plus value of birds transferred in less the closing stock valuation.

Net Stock Replacement Cost is the balance obtained from the Gross Stock Replacement Cost less sales of culls and less the value of culls used in the house. It is often referred to as Flock Depreciation.

Net Output is the balance remaining after Feed Cost and Flock Depreciation are deducted from the Egg Revenue. (This latter is egg sales plus the value of eggs used in the house.)

Profit or Loss is the balance remaining after all costs, with the exception of family labour, but including a share of farm general expenses where required, have been charged against revenue. Interest on capital has not been charged.

Surplus or Deficit is the final balance remaining after family labour has been charged.

Averages are unweighted but in Table III a weighted average sales price for culled birds is also shown.

Family Labour covers any manual work of farmer and wife and of members of the family.

Feed means all feed both purchased and home-grown.

#### ACCOUNTING METHOD

Incoming pullets at point-of-lay have been valued at 15/- per bird.

Home-grown grain where used has been charged at approximate market value, from 18/- to 20/- per cwt.

Hired labour, whenever possible was charged at actual rates paid. Otherwise the following rates which were also used for family labour were charged:-

Farmer and over 21 years	- poultry specialist	5/1d. per hour
	non specialist	4/8d. per hour
Wife and over 21 years	- poultry specialist	3/9d. per hour
	non specialist	3/5d. per hour

For younger men and women the wage varied according to age.

No credit was given for the residual manurial value of feeding used.

A share of general farm expenses (overheads) calculated according to the standards adopted by the Scottish Conference of Agricultural Economists was applied to individual costings when necessary.

SUMMARY OF RESULTS

EIGHT COMMERCIAL EGG PRODUCTION FLOCKS

The table below shows the average of the results for the eight intensive commercial egg production flocks.

<u>GENERAL INFORMATION</u>		<u>Your Flock</u>
Average Number of Layers per Flock	1072	-----
Average Egg Yield per Layer	.191	-----
Average Price per Dozen Eggs	3/3 $\frac{1}{2}$ d	-----
Feed: lb. per Layer	113 $\frac{3}{4}$	-----
Feed: lb. per Dozen Eggs Produced	.7.2	-----
Feed: Average Cost per cwt.	32/-d	-----
Feed: Cost per Layer	32/6d	-----
Feed: Cost per Dozen Eggs Produced	2/0 $\frac{1}{2}$ d	-----
Labour: Hours per Layer	1.33	-----

RETURNS AND COSTS

<u>PER LAYER</u>	<u>s. d.</u>	<u>s. d.</u>
Total Egg Revenue	52 7	-----
Expenditure on Feed	<u>32 6</u>	-----
Egg Revenue less Feed	20 1	-----
Flock Depreciation	<u>9 8</u>	-----
Net Output	<u>10 5</u>	=====
Profit (Before charging family labour)	3 9	-----
Surplus (After charging family labour)	Negligible	-----
<u>PER DOZEN EGGS</u>	<u>s. d.</u>	<u>s. d.</u>
Average Return (All eggs)	3 3 $\frac{1}{2}$	-----
Average Cost	<u>3 3<math>\frac{1}{2}</math></u>	-----
Average Surplus (after charging family labour)	<u>Negligible</u>	=====



GENERAL

It is well known that financial results vary widely in poultry keeping, from satisfactory profits to disturbing losses. The financial outcome depends upon the combination of a number of factors which can be measured to give information on laying performance, food conversion, feed and egg prices, etc. Many of these factors, particularly those relating to the price of what is bought - chicks and poultry feed, and to the price of what is sold - eggs and culls, are largely outwith the control of the individual producer. He may within limits pay more or less according to the type of chick and food which he chooses to buy. He will, if he does his own mixing, have a cheaper ration, although he must relate this to the value of the eggs produced. The price of eggs and culls are again governed by the type of market in which he sells.

It is perhaps in management that the greatest scope lies. The poultry keeper by providing a favourable environment and the proper feeding for his birds strives to ensure that they remain healthy and lay to their full capacity, but the success or otherwise is measured in money terms.

Just how far this measurement should be taken will depend on individual circumstances. It would appear on some mixed farms at any rate, with part-time or small flocks, that, so long as feed costs and costs of flock replacement are covered, the producer may still find it worthwhile to continue in egg production. Converted buildings and equipment which have been written down mean little or no charge for depreciation, and the farm and family labour would still be there whether poultry were kept or not.

The producer in these cases is using Net Output as a measure of the profitability of his flock. For the eight flocks in this small study it averaged 10/5d. per layer with a range of from 23/5d. to 7d.

Before arriving at Profit, other expenses have to be charged against the Net Output. These expenses may include such items as rent, rates and insurance, fuel, light and power, equipment repairs, equipment depreciation and sundry stock expenses. On a general farm there will also be an estimate of that share of the general farm expenses which it is felt that the poultry should bear. On the specialist poultry farm these overheads (share of car, telephone, etc.) will have been included. A charge for hired labour is also made. When all these charges have been set against the Net Output, the balance remaining is termed Profit. For this small sample it averaged 3/9d. per layer, with one outstandingly good flock averaging 18/11d., the remaining ones with the exception of one which made a loss of 9/- were mostly between about 2/6d. and 5/6d.

When/

When the Profit is reduced by the estimated family labour charge, what is left is called here the Surplus.

For this small sample there was on average a negligible surplus, ranging from 14/8d. per layer to a deficit of 12/2d. per layer. The remainder varied from approximately 3/9d. surplus to 3/6d. deficit and altogether of the eight flocks three had a surplus and five a deficit.

The range of the figures dealing with the various prices and efficiency measurements for the eight flocks is shown below.

Average Egg Yield per Layer	153	to	228
Average Price per Dozen Eggs	2/11 <sup>5</sup> / <sub>4</sub> d.	to	3/7 <sup>1</sup> / <sub>4</sub> d.
Feed: lb. per Layer	83	to	129
Feed: lb. per Dozen Eggs Produced	5.1	to	8.9
Feed: Average Cost per cwt.	28/5d.	to	36/3d.
Feed: Cost per Layer	25/2d.	to	41/10d.
Feed: Cost per Dozen Eggs Produced	1/6 <sup>1</sup> / <sub>2</sub> d.	to	2/7d.
Flock Depreciation per Layer	3/8d.	to	16/11d.
Labour: Hours per Layer	0.70	to	2.62

As this report is for general distribution it does not give detailed individual flock costings, when the inter-relation of the various factors could have been more easily seen. The wide ranges shown above are accounted for in many ways: age composition of the flocks; the type of bird; the type of feed (home mixed, all purchased, or grain fed in addition to mash); egg size, seasonality of egg sales and in some cases retail outlets as well; mortality and culling (one producer with a smaller flock dressed his culls which meant a very low flock depreciation); difficulty of getting accurate labour requirements particularly on the family holding; and finally the differences in standards of management.

These figures emphasise the wide variations that are known to occur in poultry costings. The average cost structure however is reasonably typical in that feed accounts for approximately 60% of the costs, flock depreciation (net flock replacement) for almost 20%, labour 10% and all other costs about 10%.

The actual figures and percentages for this sample were:-

	<u>Average Costs per Bird</u>	
	s. d.	%
Feed	32 6	61.8
Flock Depreciation	9 8	18.4
Labour	5 6	10.4
All Other Costs	4 11	9.4
Total Costs	<u>52 7</u>	<u>100.0</u>

TABLE I  
SUMMARY OF RETURNS AND COSTS PER LAYER

	<u>Average</u>	<u>Your Flock</u>
Average Number of Layers per Flock	1072	-----
Average Egg Yield per Layer	191	-----
Net Output per Layer	10/5d.	-----
 <u>SUMMARY OF RETURNS PER LAYER</u>		
Revenue (omitting any equipment sold)	s. d.	s. d.
Eggs	51 10	-----
Stock (culls, etc.)	5 1	-----
Credit Eggs used in farmhouse	9	-----
Credit Culls used in farmhouse	negligible	-----
Total Revenue	<u>57 8</u>	-----
Cost of Feeding	<u>32 6</u>	-----
Revenue less Feeding	25 2	-----
Deduct Gross Stock Replacement Cost	<u>14 9</u>	-----
NET OUTPUT PER LAYER	10 5	-----
Deduct Hired Labour	<u>1 9</u>	-----
Balance	8 8	-----
Deduct All Other Except Family Labour and New Equipment	<u>3 4</u>	-----
Balance	5 4	-----
Equipment Depreciation Charge	<u>1 7</u>	-----
PROFIT OR (-) LOSS	3 9	-----
Deduct Family Labour Charge	<u>3 9</u>	-----
SURPLUS OR (-) DEFICIT	(+) <u>negligible</u>	-----
Flock Depreciation	s. d.	s. d.
(Net Stock Replacement Cost)	9 8	-----

TABLE II  
SUMMARY OF COSTS AND RETURNS PER DOZEN EGGS

	<u>Average</u>	<u>Your Flock</u>
Average Number of Layers per Flock	1072	-----
Average Egg Yield per Layer	191	-----
<u>COSTS PER DOZEN EGGS</u>	s. d.	s. d.
Cost of Feeding	2 0½	-----
Flock Depreciation (Net Stock Replacement Cost)	7¼	-----
Miscellaneous	2¼	-----
Equipment Depreciation	1¼	-----
Hired Labour	1½	-----
Family Labour Charge	<u>2½</u>	-----
Average Cost per Dozen Eggs	3 3½	-----
 <u>RETURNS PER DOZEN EGGS</u>		
Average Revenue (all eggs) per Dozen	3 3½	-----
Average Cost per Dozen	<u>3 3½</u>	-----
Average Surplus (-) Deficit per Dozen	(+) <u>negligible</u>	=====

TABLE III  
INFORMATION ON FEED, LABOUR AND CULLS

	<u>Average</u>	<u>Your Flock</u>
<u>FEED PER LAYER</u>	lb.	lb.
Purchased	107 $\frac{1}{2}$	-----
Home-Grown	<u>6<math>\frac{1}{4}</math></u>	-----
Total	<u>113<math>\frac{3}{4}</math></u>	-----
 <u>FEED PER DOZEN EGGS</u>	 lb.	 lb.
Purchased	6.8	-----
Home-Grown	<u>0.4</u>	-----
Total	<u>7.2</u>	=====
 <u>FEED AVERAGE PRICE PER CWT.</u>	 32/-	 -----
 <u>LABOUR PER LAYER</u>	 Hrs.	 Hrs.
	s. d.	s. d.
Hired Labour	0.45	1 9
Family Labour	<u>0.88</u>	<u>3 9</u>
Total Labour	<u>1.33</u>	<u>5 6</u>
 <u>FLOCK CULLS</u>	 <u>Unweighted</u>	 <u>Weighted</u>
Average Sale Price per Head	6/8d	4/9d
		-----

STANDARD APPENDIX

1961-62

LAYING FLOCKS (INTENSIVE)

Average Costs and Returns per Bird and per Dozen Eggs

PER BIRD				
<u>COSTS:</u>			£. s. d.	£. s. d.
(A)	FOODS	<u>lb.</u>		
	(a) Purchased	107 $\frac{1}{2}$	1 11 5	
	(b) Home-grown	<u>6<math>\frac{1}{4}</math></u>	<u>1 1</u>	
	Total Foods	113 $\frac{3}{4}$	1 12 6	1 12 6
(B)	LABOUR:	<u>Hrs.</u>		
	(a) Hired	0.45	1 9	
	(b) Family	<u>0.88</u>	<u>3 9</u>	
	Total Labour	1.33	5 6	5 6
(C)	LIVESTOCK DEPRECIATION:			9 8
(D)	DEADSTOCK DEPRECIATION:			1 7
(E)	MISCELLANEOUS:			1 10
	SHARE OF GENERAL FARM EXPENSES			1 6
<hr/>				
TOTAL COSTS				2 12 7
<hr/>				
<u>RETURNS:</u>		<u>Doz.</u>		
EGGS:	(a) Market	15:6		2 11 10
	(b) Used in Farmhouse	5		9
<hr/>				
TOTAL RETURNS			15:11 doz.	2 12 7
<hr/>				
MARGIN				Nil
<hr/>				
PER DOZEN EGGS				
			s. d.	
	Total Returns (all Eggs)	3	3 $\frac{1}{2}$	
	Total Costs	3	3 $\frac{1}{2}$	
	Margin	-		
<hr/>				
Number of Flocks		8		
Average Size of Flock		1072		
Average Length of Flock Season (weeks)		52		
Average Yield per Bird		191		
<hr/>				