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Poultry - Cost of Production O.S.

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THE WEST OF SCOTLAND AGRICULTURAL COLLEGE

POULTRY COSTINGS, 1954-55

By

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ECONOMICS REPORT No. 31

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WEST OF SCOTLAND AGRICULTURAL COLLEGE
ECONOMICS DEPARTMENT

Poultry Costings 1954-55

FOREWORD

This is a report on 18 Poultry Costings collected and prepared for the year 1954-55, the majority closing their year at 31st August, 1955. Two flocks producing market eggs but including rearing costs are omitted. Averages are given for three types of flock, "Battery", "Deep Litter" and "Hatching Egg and Stock Producing."

Grateful acknowledgment is made to the farmers who co-operated in keeping records.

Types of Flock

Five flocks were kept in battery cages, replacements being bought as day olds or older and home reared to point-of-lay. These were mainly pullet flocks.

Six flocks were kept on deep litter, where again replacements were bought and home reared. Although mainly pullet flocks some hens were kept for a second year.

Rearing costs are not included in the Battery and Deep Litter Flock costs, replacements were entered at estimated mature cost of production.

Seven flocks are grouped as Hatching Egg and Stock Producing. These were all accredited Poultry farms.

ACCOUNTING METHOD AND DEFINITIONS

Accounting Method

In the stock valuation birds are entered at estimated cost of rearing with a peak value for pullets at point-of-lay and thereafter a depreciated value according to age. The valuations at the beginning and end of the year were taken on the same basis.

Expenditure in the Hatching Egg and Stock Producing Flocks includes costs of hatching and rearing young stock for replacement and sale.

Home grown grain was charged at market value and, kale, turnips, etc., which were used in small quantities, at estimated cost of production.

Hired labour was charged at actual rates paid plus about 2d. per hour to allow for sick and holiday time.

The manual labour of the farmer and family was charged at rates approximately equivalent to those used for similar hired labour. The rates per hour were:-

Farmer	3/4	Wife	2/6
Sons	1/4 - 3/1	Daughters	1/4 - 2/2

A credit was given for the residual manurial value of feeding used.

Definitions

The following explanations relate to terms used in the statements of averages or in the Appendix tables.

The "Representative Size of Flock" shows the approximate flock size of the production unit costed. It is the number of birds made available or housed for egg production - in some cases the initial numbers: in others it is the total additions throughout the year.

The "Average Number of Layers" is the average over the year calculated on a hen-day basis. All "per layer" figures have been based on this number.

"Eggs laid per Layer" is the total number of eggs collected divided by the "Average number of Layers".

"Net Output per Layer" is income less feeding and gross replacement costs.

"Income" is the receipts from all sales of eggs and stock, plus the value of produce used, plus a credit for the manurial value of foods fed but omitting any sales of equipment.

"Expenditure on Feeding" includes all bought feeding at cost, home grown grain at realisable value and kale and roots etc., at estimated cost of production.

"Gross Replacement Cost" was calculated from - Opening Stock Valuation plus Value of Birds added, less Closing Stock Valuation.

"Hired Labour Charge" - this is charged at actual rates paid plus about 2d. per hour to allow for sick and holiday time.

"All other expenses except Family Labour and New Equipment" shows all sundry expenses including, if required, a charge for the share of farm general expenses (Overheads) but omitting new equipment bought and family labour.

"Equipment Depreciation" is the balance obtained from the Opening Valuation of Equipment plus Equipment Bought less Equipment Sold plus the Depreciated value of all Equipment at close.

"Profit" or "Loss" is the balance before making a charge for the labour of the farmer and family.

"Surplus" or "Deficit" is the balance after charging family labour.

"Net Replacement Cost" is the Gross Replacement Cost reduced by a credit for culls sold, already included as part of "Income".

"Index of Stocking". This shows how much larger or smaller than average the numbers in the flock were during the periods indicated, taking 100 as average.

"Index of Egg Production". This shows how many more or less eggs than average were laid per day during the periods indicated taking 100 as average.

THE COSTING FIGURES

A summary of some of the average figures for the different types of flocks are given below.

	<u>Averages of:-</u>		
	<u>5 Battery Flocks</u>	<u>6 Deep Litter Flocks</u>	<u>7 Hatching Egg and Stock Producing Flocks</u>
Average number of Layers	513	477	575
Eggs laid per Layer	200	184	163
<u>PER LAYER:-</u>	£. s. d.	£. s. d.	£. s. d.
Income	4- 7-10	3-16- 2	4-11- 4
Expenditure on Feeding	2- 1- 8	1-17- 2	2-13- 1
Income less Feeding	2- 6- 2	1-19- 0	1-18- 3
Net Output	1- 0- 4	18- 8	1-19-10
Profit	11- 8	10- 2	1- 3- 3
<u>SURPLUS</u>	4- 4	4- 9	6- 6
Price per dozen eggs	4- 4	4- 5	x
Cost of Feeding per cwt	1-15- 4	1-13-11	1-12- 0

The average number of eggs laid per layer was greater in the Batteries than in Deep Litter and the cost of feeding was also greater, £2- 6- 2 per layer in the Batteries and £1-17- 2 in Deep Litter. In the Hatching Egg and Stock Producing Group the cost of feeding is not comparable with that for the first two groups as feeding expenditure covers birds for sale and replacement as well as egg production. In Tables 1, 2, and 3 in the Appendix the figures are given in greater detail.

The following table gives figures from the flock in each group which showed the highest net output per layer, that is income less feeding and gross stock replacement or, in the case of the Hatching Egg and Stock Producing flocks, after adjustment for increase or decrease in livestock valuations.

Flock with Highest Net Output in Each Group

	<u>Battery Flock</u>	<u>Deep Litter</u>	<u>Hatching Egg and Stock Producing</u>
Average number of Layers	445	806	618
Eggs laid per layer	215	174	165
<u>PER LAYER:-</u>	£. s. d.	£. s. d.	£. s. d.
Income	4-16- 5	3-14- 4	4-19- 3
Expenditure on Feeding	2- 1- 7	1-11- 9	2- 5-11
Income less Feeding	2-14-10	2- 2- 7	2-13- 4
Net Output	1-12- 2	1- 8- 5	3- 0- 4
Profit	1- 3- 5	1- 1- 4	2- 3- 3
SURPLUS	17- 0	16- 2	1-19- 4
Price per dozen eggs	4- 8 $\frac{3}{4}$	4- 8 $\frac{1}{2}$	£
Cost of Feeding per cwt	1-16- 3	1-12-11	1- 9- 1

The average "cost per dozen eggs" produced from the Battery and Deep Litter Flocks was:-

	<u>Average of 5 Battery Flocks</u>	<u>Average of 6 Deep Litter Flocks</u>
<u>PER DOZEN</u>	s. d.	s. d.
Feeding	2- 5 $\frac{1}{2}$	2- 5 $\frac{1}{4}$
Net Flock Replacement	10	10 $\frac{1}{2}$
	3- 3 $\frac{1}{2}$	3- 3 $\frac{3}{4}$
Miscellaneous	2 $\frac{1}{2}$	3 $\frac{1}{4}$
Depreciation	2 $\frac{1}{2}$	1 $\frac{1}{2}$
Hired Labour	1	2
	3- 9 $\frac{1}{2}$	3-10 $\frac{1}{2}$
Family Labour	6	4
Total	4- 3 $\frac{1}{2}$	4- 2 $\frac{1}{2}$
Less Sundry credits	1	1
Net Cost	4- 2 $\frac{1}{2}$	4- 1 $\frac{1}{2}$

The following table shows the average Return and Surplus per dozen eggs.

	<u>Average of 5 Battery Flocks</u>	<u>Average of 6 Deep Litter Flocks</u>
<u>PER DOZEN</u>	s. d.	s. d.
RETURN	4- 4	4- 5
less Feeding	2- 5 $\frac{1}{2}$	2- 5 $\frac{1}{4}$
less Net Flock Replacement	10	10 $\frac{1}{2}$
	1- 0 $\frac{1}{2}$	1- 1 $\frac{1}{4}$
less All Other Expenses except Family Labour	6	6 $\frac{3}{4}$
add Sundry credits	1	1
	7 $\frac{1}{2}$	7 $\frac{1}{2}$
less Family Labour	6	4
SURPLUS	1 $\frac{1}{2}$ d	3 $\frac{1}{2}$ d

The average margin after charging feeding and net flock replacement was 1/0 $\frac{1}{2}$ per dozen for the Battery Flocks and 1/1 $\frac{1}{4}$ per dozen for the Deep Litter Flocks.

Some of the eggs were sold retail and the following table shows the income, had all eggs been at wholesale prices, after making adjustments for seasonality and small eggs.

<u>Battery Flocks</u>	<u>Actual</u>	<u>Adjusted</u>
	£. s. d.	£. s. d.
Income from eggs	3-13- 4	3- 9- 6
Average price per dozen	4- 4	4- 1 $\frac{1}{2}$
<u>Deep Litter Flocks</u>		
Income from Eggs	3- 5- 5	3- 1- 3
Average price per dozen	4- 5	4- 1 $\frac{3}{4}$

The average price per dozen is based on the revenue from all eggs sold, given as perquisites and used in the farmhouse.

The average reduction in Income as a result of this adjustment was 3/10 per layer or 2 $\frac{1}{2}$ d per dozen eggs for the 5 Battery Flocks and 4/2 per layer or 3 $\frac{1}{4}$ d per dozen eggs for the 6 Deep Litter Flocks.

The "Index of Stocking" and the "Index of Egg Output" show that autumn production was much greater than spring production in both groups but more markedly so in the Battery Group where culling was greater when the price of eggs dropped.

A convenient way of showing the rate of lay at different periods of the year is given by calculating egg production per layer per week.

	<u>Eggs per Layer per Week</u>	
	<u>Average of</u> <u>5 Battery Flocks</u>	<u>Average of 6</u> <u>Deep-Litter Flocks</u>
September, 1954	3.80 x	3.49
October	3.85	3.29
November	4.21	3.83
December	4.70	3.95
January, 1955	4.40	3.70
February	4.15	3.58
March	4.07	3.50
April	3.99	3.63
May	4.36	3.72
June	3.74	3.25
July	3.84	3.19
August, 1955	3.89	3.01

x This is the average for 4 Flocks as the records of one Battery Flock were for the year 1st October, 1954 - 30th September, 1955.

APPENDIX TABLES

- Table I Figures for 5 Battery Flocks
 Table II Figures for 6 Deep Litter Flocks
 Table III Figures for 7 Hatching Egg and Stock Producing Flocks

TABLE I
FIGURES FOR 5 BATTERY FLOCKS

	Average of 5 Flocks	Flock Showing Highest Net Output per Layer
Average number of layers	513	445
Eggs laid per layer	200	215
Net Output per layer	£1- 0- 4	£1-12- 2
<u>SUMMARY OF ACCOUNTS - PER LAYER</u>	<u>£. s. d.</u>	<u>£. s. d.</u>
Income (omitting equipment sold)		
Eggs	3-13- 4	4- 0- 2
Stock	11- 8	9-11
Miscellaneous	2-10	6- 4
Total (A)	4- 7-10	4-16- 5
Expenditure on Feeding (B)	2- 1- 8	2- 1- 7
A less B: Income less Feeding cost	2- 6- 2	2-14-10
Gross Replacement Cost	1- 5-10	1- 2- 8
Net Output per layer	1- 0- 4	1-12- 2
<u>Deduct</u> Hired Labour Charge	1- 8	-
Balance	18- 8	1-12- 2
<u>Deduct</u> all Other Expenses except family labour and new equipment	3- 3	5- 3
Balance	15- 5	1- 6-11
Equipment depreciation charged	3- 9	3- 6
Profit	11- 8	1- 3- 5
<u>Charge</u> all Family Labour	7- 4	6- 5
<u>SURPLUS</u>	4- 4	17- 0
 <u>NET REPLACEMENT COST - PER LAYER</u>	 14- 2	 12- 9
Average price (or estimated cost) of birds added)	1- 0- 0	1- 0- 0
 <u>FOOD COST AND CONSUMPTION</u>		
Food Cost per Dozen	2- 5 $\frac{1}{2}$	2-3 $\frac{3}{4}$
Bought Grain, Mashies, Pellets - per cwt.	1-15- 4	1-16- 3
Home Grain - per cwt.	-	-
Bought & Home - per cwt.	1-15- 4	1-16- 3
 Bought Grain, Mashies, Pellets - Lbs. per layer	 131	 125
Home Grain - Lbs. per layer	-	-
 <u>LABOUR HOURS PER LAYER</u>	 3.2	 2.6
 <u>APPROXIMATE COST STATEMENT</u>		
Return from Eggs. S.d. per dozen	4- 4	4- 8 $\frac{3}{4}$
Cost of Eggs. " " "	4- 2 $\frac{1}{2}$	3- 9 $\frac{1}{4}$
Surplus " " "	1 $\frac{1}{2}$	11 $\frac{1}{2}$
 Index of Stocking - Sept. '54 - Dec. '54 (incl.)	 119	 112
" " " - Feb. '55 - May '55 (incl.)	82	94
" " Egg Production - Sept. '54 - Dec. '54 (incl.)	118	109
" " " " - Feb. '55 - May '55 (incl.)	86	89

TABLE II
FIGURES FOR 6 DEEP LITTER FLOCKS

	Average of 6 Flocks	Flock Showing Highest Net Output per Layer
Average number of layers	477	806
Eggs laid per layer	184	174
Net Output per layer	£0-18- 8	£1- 8- 5
<u>SUMMARY OF ACCOUNTS - PER LAYER</u>	<u>£. s. d.</u>	<u>£. s. d.</u>
Income (omitting equipment sold)		
Eggs	3- 5- 5	3- 6- 8
Stock	7- 3	4- 9
Miscellaneous	3- 6	2-11
Total (A)	3-16- 2	3-14- 4
Expenditure on Feeding (B)	1-17- 2	1-11- 9
A less B: Income less Feeding cost	1-19- 0	2- 2- 7
Gross Replacement Cost	1- 0- 4	14- 2
Net Output per layer	18- 8	1- 8- 5
Deduct Hired Labour Charge	2- 5	1- 6
Balance	16- 3	1- 6-11
Deduct all Other Expenses except family labour and new equipment	4- 1	3- 9
Balance	12- 2	1- 3- 2
Equipment depreciation charged	2- 0	1-10
Profit	10- 2	1- 1- 4
Charge all Family Labour	5- 5	5- 2
SURPLUS	4- 9	16- 2
 NET REPLACEMENT COST - PER LAYER	 13- 1	 9- 5
Average price (or estimated cost) of birds added	1- 0- 0	1- 0- 0
 <u>FOOD COST AND CONSUMPTION</u>		
Food Cost per Dozen	2- 5 $\frac{1}{4}$	2- 2 $\frac{1}{4}$
Bought Grain, Mashcs, Pellets - per cwt.	1-15-11	1-14- 0
Home Grain - per cwt.	1- 2- 6	1- 2- 0
Bought & Home - per cwt.	1-13-11	1-12-11
 Bought Grain, Mashcs, Pellets - Lbs. per layer	 102	 97
Home Grain - Lbs. per layer	18	9
 <u>LABOUR HOURS PER LAYER</u>	 2.8	 2.4
 <u>APPROXIMATE COST STATEMENT</u>		
Return from Eggs. S.d. per dozen	4- 5	4- 8 $\frac{1}{2}$
Cost of Eggs " " "	4- 1 $\frac{3}{4}$	3- 7 $\frac{1}{2}$
Surplus " " "	3 $\frac{1}{4}$	1- 1
 Index of Stocking - Sept. '54 - Dec. '54 (incl.)	 113	 122
" " " - Feb. '55 - May '55 (incl.)	94	85
" " Egg Production - Sept. '54 - Dec. '54 (incl.)	116	118
" " " " - Feb. '55 - May '55 (incl.)	96	87

TABLE III
FIGURES FOR 7 HATCHING EGG AND STOCK PRODUCING FLOCKS

	Average of 7 flocks	Flock Showing Highest Net Output per Layer
Average number of layers	575	618
Eggs laid per layer	163	165
Net Output per layer	£1-19-10	£3- 0- 8 ⁴
<u>SUMMARY OF ACCOUNTS - PER LAYER</u>	<u>£. s. d.</u>	<u>£. s. d.</u>
Income (omitting equipment sold)		
Market Eggs	1-15- 8	1- 8- 3
Hatching Eggs	1- 0-11	2- 2-10
Total Eggs (incl. clears)*	2-16-10	3-11- 1
Culls	5- 9	7- 4
Table Poultry	1- 4	1- 9
Day Old Chicks	15-11	7- 8
Others	8- 3	8- 9
Total Stock	1-11- 3	1- 5- 6
Miscellaneous	3- 3	2- 8
Total	4-11- 4	4-19- 3
Expenditure on Feeding	2-13- 1	2- 5-11
Income less Feeding	1-18- 3	2-13- 4
Livestock Valuation up (+)	1- 7	7- 0
Net Output	1-19-10	3- 0- 4
Equipment Depreciation	3- 5	3- 5
All Other Expenses except New Equipment and Labour	11- 2	9- 9
Balance	1- 5- 3	2- 7- 2
<u>Deduct</u> Hired Labour	2- 0	3-11
Profit	1- 3- 3	2- 3- 3
<u>Deduct</u> Family Labour	16- 9	3-11
<u>SURPLUS</u>	6- 6	1-19- 4
 <u>FOOD COST</u>		
Bought Grain, Mashcs, Pellets - per cwt.	1-13- 8	1-14- 3
Home Grain - per cwt.	1- 2- 2	1- 1- 1
Bought and Home - per cwt.	1-12- 0	1- 9- 1
 <u>RETURN FROM EGGS</u>		
Market Eggs S.d. per dozen	4- 4 ³ / ₄	4- 5 ³ / ₄
Hatching Eggs " " "	6- 6 ¹ / ₂	6- 9 ³ / ₄

* Clear eggs are included in Total Eggs but are not shown as a separate item.