

Poultry -

Cost of production as



**NORTH OF SCOTLAND COLLEGE OF AGRICULTURE**

**School of Agriculture, Aberdeen**

**Agricultural Economics Department**

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**Cost of Rearing Birds to  
Point-of-Lay in the  
North-East of Scotland  
1963/64**

by Audrey M. Chalmers, B.Sc.

May, 1965

Economic Report No. 112

Price 3/-



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NORTH OF SCOTLAND COLLEGE OF AGRICULTURE

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THE NORTH OF SCOTLAND COLLEGE OF AGRICULTURE

AGRICULTURAL ECONOMICS DEPARTMENT

COSTS OF REARING BIRDS TO POINT-OF-LAY

IN THE NORTH-EAST OF SCOTLAND

1963/64

by

Audrey M. Chalmers . B.Sc.

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COSTS OF REARING TO POINT-OF-LAY

INTRODUCTION

With egg prices falling annually, it is becoming increasingly important that commercial and hatching egg producers should have a complete knowledge of the financial state of their egg production enterprise. Food constitutes nearly 60 per cent of costs in egg production; the second highest cost item, standing at approximately 20 per cent, is the figure for bird depreciation. For the purpose of this Report, bird depreciation may be defined as the difference between cost at point-of-lay and cull price. Rearing costs to point-of-lay, therefore, play a vital part in the economics of egg production, and the cost of the young pullet at point-of-lay is of paramount importance to the profitability of the egg production unit. The bird must be reared at a reasonable cost if the figure for bird depreciation is to be kept to a minimum. But at what age is the bird reckoned as being at point-of-lay? This will depend upon (a) breed (b) management during the rearing period. Also, age at point-of-lay can be delayed or advanced according to feeding and environment. In the main, birds in the sample covered in this investigation were costed from date of purchase, either at day-old or older, to the point when they were up to 5 per cent production, and were called "at point-of-lay" at around 20 weeks of age. Subsequently the birds were used for commercial egg production or for the production of hatching eggs.

The Sample - With a view to finding out the cost of rearing their birds to point-of-lay, 58 farmers provided physical and financial data relating to 68 batches of young birds. Of these birds, 59 batches were bought at day-old, 10 of these comprising birds which would eventually produce hatching eggs. The remaining 9 batches were purchased at an older stage. Formation of the sample, covering over 40,000 birds reared, is shown in Table I.

TABLE I  
Number of Batches and Birds Reared, including Age at Purchase and Type

Batches			Age at Purchase	Birds Reared		Type of Birds
Type	No.	%		No.	%	
Commercial Egg	27	39.7	Day-Old	9,734	24.0	Medium Hybrids and Crosses Light Hybrids Medium and Light Hybrids Medium and Light Hybrids Medium and Light Hybrids
" "	22	32.4	Day-Old	10,778	26.6	
Hatching "	10	14.7	Day-Old	12,431	30.6	
Commercial "	4	5.9	9-12 wks.	2,650	6.5	
" "	5	7.3	16-18 wks.	4,994	12.3	
	68	100.0		40,587	100.0	

Ten varieties of modern hybrids and four traditional medium-type crosses were represented in the sample. None of the units was a specialist poultry farm - all these birds were reared on general farms as replacements for commercial egg production enterprises or for supplying hatching eggs as the major sale product.

CHICKS PURCHASED AT DAY-OLD

Brooding - Brooding of chicks purchased at day-old was done in gas, electric and paraffin brooders as shown in Table II.

TABLE II  
Type of Brooders Used and Average Size of Batch

Type of Brooder	No. of Batches	Av. Size of Batch
Gas	15	1,250
Electric	28	460
Gas and Electric	3	1,520
Paraffin	13	220
Total	59	625

A marked preference for electric brooders was shown where medium-size batches of birds were being reared, but gas appeared to be chosen on these units where batches were larger. Smaller poultry units requiring comparatively few laying replacements still remained faithful to the older paraffin brooders, making up nearly 25 per cent of the sample.

Size of Batch - Chicks were purchased in numbers ranging from 100 to 2,500 with the frequency shown in Table III.



TABLE III

Frequency Distribution of Batches by size with  
Average Cost to Point-of-Lay

No. in Batch	No. of Batches	%	Average Cost to Point-of-Lay
			£ s. d.
150 and under	11	18.6	-:16: -
151 - 200	7	11.9	-:14: 9
201 - 300	16	27.1	-:14: 1
301 - 400	2	3.4	-:14: 10
401 - 500	2	3.4	-:12: 5
501 - 600	4	6.8	-:13: 1
601 - 700	-	-	-: -: -
701 - 800	2	3.4	-:12: 7
801 - 900	-	-	-: -: -
901 - 1,000	1	1.7	-:12: 3
Over 1,000	14	23.7	-:13: 9
	59	100.0	

The largest batches were those purchased, in the main, by hatchery suppliers, but the largest percentage of the sample comprised birds which were being reared as replacements for commercial egg production enterprises.

Time of Purchase - Day-old chicks were purchased in each month throughout the year. No chicks which were to become commercial egg producers, however, were purchased in July as the following Table IV demonstrates. As a result, birds were coming into lay every month except January. Only those birds reaching point-of-lay from July onwards would have had, therefore, peak production during the months when egg prices were at their highest, viz. from August to December, and thus maximised profitability during their productive lives in the laying flock. Time of hatch is not so important for the hatchery suppliers as hatching egg prices fluctuate less.

TABLE IV

Frequency Distribution of 49 Medium and Light Batches by  
Month of Purchase and Month reaching Point-of-Lay  
Commercial Egg Flocks

Month of Purchase	No. of Batches	%	Month reaching Point-of-Lay	No. of Batches	%
September, 1963	4	8.2			
October	7	14.3			
November	3	6.1			
December	6	12.3			
January, 1964	6	12.3	January, 1964	-	-
February	8	16.3	February	4	8.2
March	7	14.3	March	6	12.2
April	4	8.2	April	7	14.3
May	2	4.0	May	4	8.2
June	1	2.0	June	5	10.2
July	-	-	July	8	16.2
August	1	2.0	August	7	14.3
			September	3	6.1
			October	3	6.1
			November	1	2.1
			December	1	2.1
	49	100.0		49	100.0

In the Producer Survey of U.K. Commercial Flocks, October, 1963 - September, 1964, the British Egg Marketing Board provides a picture of the seasonal patterns of chick intake for the last four years. These are shown in Table V, and demonstrate "how the seasonal pattern of chick intake has changed over the years with decreases in the proportions from about December to April, and relative increases from about May to September."

TABLE V

Seasonal Patterns of Chick Intake for own Laying Flock\*

Period of intake as day-old chicks for rearing for own laying flock	1960/61 %	1961/62 %	1962/63 %	1963/64 %
Mid-Sept. to Mid-Oct.	3	4½	4	6
Mid-Oct. to Mid-Nov.	5½	5½	6	7
Mid-Nov. to Mid-Dec.	7	8	6	6½
Mid-Dec. to Mid-Jan.	10	8	8	7½
Mid-Jan. to Mid-Feb.	14	11	10	9½
Mid-Feb. to Mid-Mar.	19	13½	11	15
Mid-Mar. to Mid-Apr.	16	14½	13	12½
Mid-Apr. to Mid-May	9	10½	12	9½
Mid-May to Mid-June	6½	8	11	9½
Mid-June to Mid-July	3½	6	7	6
Mid-July to Mid-Aug.	3	5½	5½	5
Mid-Aug. to Mid-Sept.	3½	5	6½	6
Twelve monthly period Mid-Sept. to Mid-Sept.	100	100	100	100

\*British Egg Marketing Board - Final Report on Producer Survey October, 1963 - September, 1964: U.K. Commercial Flocks.

Cost of Rearing from Day-Old to Point-of-Lay - The average cost of rearing pullets from day-old to point-of-lay is shown in Table VI. Birds reared in the hatchery supply group include cockerels as well as pullets.

Tables on pages 12 and 13 (Appendix) provide costs per bird reared, and, at the same time, comparison is made between high and low cost birds of light type, also between high and low cost birds of medium type. Figures are also given for 8 batches of heavy-type birds and 2 batches of light-type birds being reared for the production of hatching eggs. Reasons for differences are discussed throughout the Report under relevant headings.

TABLE VI  
Average Costs Per Bird Reared: Day-Old to Point-of-Lay

Item	Average - 27 Medium Batches	Average - 22 Light Batches	Average 49 Batches	%	Average 10 Batches for Hatchery Supply	%
	s. d.	s. d.	s. d.		s. d.	
Cost of Chick	3:10	3:10	3:10	26.6	3: 3	21.8
Food	7: 7	7: 2	7: 5	51.5	9: 8	64.8
Equip. Deprcn.	-: 2	-: 2	-: 2	1.1	-: 4	2.2
Heating	-: 2	-: 3	-: 3	1.8	-: 2	1.1
Miscellaneous	-: 1	-: -	-: -	-	-: 1	0.6
Cost excluding Labour & Over- heads	11:10	11: 5	11: 8	81.0	13: 6	90.5
Labour	2: 1	1: 8	1:11	13.2	-:11	6.1
Overheads	-:11	-: 9	-:10	5.8	-: 6	3.4
Less Credits	14:10 -: 1	13:10 -: -	14: 5 -: -	100.0	14:11 -: 5	100.0
COST TO POINT-OF- LAY	14: 9	13:10	14: 5		14: 6	
Food consumed - lbs.	25.08	23.37	24.30		32.58	
Purchased Food as % of Ration	83.2	79.2	81.2		74.2	
Average Cost of Purchased Food per cwt.	36s. 7d.	37s. 0d.	36s. 9d.		37s. 9d.	
Average Cost of all Food per cwt.	33s. 8d.	34s. 3d.	33s. 11d.		33s. 7d.	
Average Age at Point-of-Lay	20 wks. 4 days	20 wks. 5 days	20 wks. 4 days		22 wks. 5 days	
Mortality %	5.6	5.2	5.4		5.5	
Labour - Hours per bird	0.50	0.40	0.45		0.22	
Average Number reared	360	490	419		1,243	