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POULTRY MANAGEMENT SURVEY

Summary of Results from some commercial Egg Flocks  
in the Northern Counties

1955-56

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The main purpose of this report is to present the results emerging from the sixth year's investigation into the profitability and other economic aspects of some representative non-accredited commercial egg producing enterprises in the north of England during the production year ending 30th September, 1956. The Survey has now been discontinued.

The 57 enterprises which participated in the Survey in 1955/56 included 34 full-year and 23 part-year operators. Management systems were represented by 21 Battery, 27 Deep Litter and 9 Free Range operators.

In various tables the results for the different systems are set out side by side. This has been done purely as a matter of convenience of lay-out, and though it appears to invite comparisons between the systems as such, it should be obvious that the comparative merits of the systems cannot be conclusively assessed on the basis of these small groups. Much more significance should be given to the comparison of individual enterprise results *within* the separate groups (*Tables 5 and 12 and Appendix I*). For each system there is a wide range in economic performance as shown by the various measures of output levels, and input/output relationships.

Two principal lessons can be drawn from the Survey as a whole. First, choice of system largely depends on the circumstances of the farm, having regard to how much investment capital is available; how poultry fit into the whole farm economy; what housing accommodation is available; whether there is "spare" labour to be absorbed; and so on. Second, successful poultry keeping depends more on how efficiently a system is operated, whatever the chosen system may be.

The wide spread of individual results around the various group averages, means that the averages themselves are quite unreliable as indicators of the results to be expected from any one enterprise (see *Table 5*). They confirm a point stressed in previous reports, that commercial egg production is a speculative business, in which only good *all-round* management, supported by accurate knowledge of what is happening in the enterprise, can hope to achieve satisfactory economic results.

This report is issued at the beginning of a new phase in commercial egg marketing, following the establishment under the Agricultural Marketing Acts of a statutory producers' Egg Marketing Scheme. The solid vote in favour of this step by those registered producers eligible to vote for or against the Scheme reflects the growing concern, amongst poultry keepers generally, about the future prospects in this substantial field of enterprise.

The broad facts of the situation have been widely publicised. There are statistical and administrative difficulties in determining just how many poultry keepers there are; how many hens they all keep; and the total quantities of eggs they sell. Yet it is abundantly clear that the country's poultry flocks and the total supplies of eggs have been raised to levels which, under the operation of the laws of demand and supply in a free market, have depressed retail prices far below the guaranteed levels of producers' prices (for eggs sold through the packing stations). Consequently the cost to the public exchequer of maintaining the guaranteed prices has become unacceptable in the light of the country's strained finances.

The White Paper announcing the outcome of the 1957 Price Review discussions (Cmd. 109) puts the matter quite bluntly.

"The substantial increase in the output of eggs, also produced at considerable expense in imported food, has weakened the market at an excessive and increasing cost to the Exchequer. The aim must therefore be to reduce the output now in prospect at the current guaranteed price. This requires a reduction in profitability. It has accordingly been decided that the guarantee on hen eggs must be reduced by 1½d. per dozen - a substantial cut, yet within the long-term assurances."

The reactions of poultry keepers to this situation, and under the new marketing arrangements, will become evident in due course. Some may try to maintain their gross revenues by trying to produce more eggs at the lower prices. Some may reduce their flocks in the hope that smaller supplies of eggs to the market will restore retail price levels. Some may try to reduce their production costs in one way and another and some may carry on as they are in the hope that the Marketing Board or the Government or "they" will somehow resolve their difficulties. These are all matters which commercial operators must decide for themselves. It can at least be forecast that they will not all do the same things. It can also be said with confidence that no one knows at the moment what effect the combined decisions of several hundred thousand poultry keepers will have on the quantities of eggs offered to the market during the next twelve months or what effect their problematic offerings will have on the retail prices of eggs.

Individually, however, commercial egg producers face the simple fact that poultry keeping is to be less profitable at present levels of production and costs. It follows that the more they know about the profitability of their own enterprises and the details of their own input/output relationships the better position they will be in to cope with the future situation.

The tables which follow summarise the recorded experience of 57 commercial egg producers who collaborated with the Department in the Survey just completed. Just how representative these 57 may be in the statistical sense, no one can say. As already stated, there are hundreds of thousands of poultry keepers in the country, and so far as group averages go, a similar survey amongst any other 57 enterprises would almost certainly have produced different average figures.

This does not mean that the group averages are worthless. Other surveys on the same lines are carried out by other centres, and the combined results provide a comprehensive picture of the broad level and trend in profitability and of the general structure of production costs. Such a picture has considerable value to those responsible for shaping general poultry policy, and for setting the broad conditions for the industry at large.

To an individual operator, on the other hand, these and similar group averages are useful only as datum lines, standards, or yardsticks for judging the economic efficiency of his own enterprise, and for indicating what he might need to do to achieve greater efficiency. And if the various averages

are to be used for these purposes, the operator must first have the same detailed information about his own enterprise.

The Survey results likely to be of most direct interest and value to the individual operator therefore, are those set out in *Appendix I*. These make it abundantly clear that there is an astonishingly wide range in the economic efficiency of individual enterprises, whether they be batteries, deep litter, or on free range. This is not a new discovery. In pre-war surveys, as in every year of the present survey, and in surveys carried out in other parts of the country, the same wide range in productivity per layer; feed cost per layer; mortality rates; labour cost per layer and so on, has always been evident.

Participators in economic surveys have these analyses done for them. They are required only to keep the simple basic records of what is happening as regards numbers of birds kept and changes due to sale, death, and additions; kinds and quantities of foods used and the cost thereof; a daily count of eggs laid and a periodical record of numbers of eggs and birds sold and prices received; and similar matters of fact. These facts are easy to record, given the will to do so.

The mathematics needed to work out the business analysis and efficiency measures are not abstruse. The calculations can be done by anyone able to add, subtract, multiply and divide.

The more efficient operators neither ask for nor need the help of a Department of Farm Economics to work out these analyses for them. Being efficient, they know what checks they need and see that they get them. They know well enough that, even with the most careful recording and supervision, things can sometimes go wrong for reasons outside their control. Nevertheless on matters which are within their control they see to it that they have the facts and figures through which control can be exercised effectively.

To help the less efficient the terms used and the methods by which the various efficiency measures are calculated, are explained below.

The first need is a Trading Account for the year or the part of the year the flock is kept in production. *Table 2* illustrates one way in which the account can be set out. Note that it includes both physical and financial information, built up from cash books, invoices, packing station chits, egg production and flock records, and so on, compiled during the period of the account. The simplified versions of the detailed trading account given in *Tables 3* and *4* are derived from *Table 2*.

**Flock Valuations.** Mature pullets are valued uniformly at 15/- a head and hens at 7/6d.

**Feeds Purchased** are charged at net delivered cost (i.e. less discount, if any).

**Grain**, home-grown, is charged uniformly at 25/- per cwt.

**Labour**, hired, is charged at actual wage rates,  
family " " uniformly at 2/6d. per hour

**Tractors.** Use of tractors is charged at 4/- per hour.

**Plant Depreciation** is by diminishing instalments at the rate of 12½%. Where

existing farm buildings are used without modification (as for deep litter, etc.) no depreciation is charged. Where modification has been made, the costs involved have been written off at the same rate as for other plant and equipment.

**Rent.** No rent is charged. Diversities in farm to farm circumstances prevent the use of any formula which would reasonably measure this item as between one farm and another. By any formula the charge would not amount to more than a pound or two per 100 layers.

**Average Flock.** The year is divided into 13 periods of four weeks. For each period the average flock is the sum of the opening and closing numbers divided by 2. The year's average flock is the sum of the thirteen four-weekly averages divided by 13.

Calculations "Per 100 Layers" mean "Per 100 Layers of the year's Average Flock". Because of deaths and cullings, the year's average flock is normally smaller than the initial flock at the beginning of the year. Consequently calculations per 100 of the year's average flock give higher figures than calculations per 100 of the *initial* flock.

**Egg Production Rates.** Seasonal rates are obtained by dividing total eggs produced in the period by the average number of layers during the period. Annual production divided by the year's average flock gives the average production per layer over the year.

**Food Consumed.** Average food consumption per bird is calculated in the same way as average egg production.

**House Credits.** Birds consumed by the operator's household are credited at appropriate rates, mostly between 7/6d. and 10/- per head. Eggs are credited at 4/- per dozen.

**Gross Output** is the sum of sales of birds and eggs plus any increase, or less any decrease in the valuation of birds on hand at the beginning and end of the year. Inputs used to obtain the Gross Output include the cost of birds added to flocks during the year.

As the flocks are primarily kept for commercial egg production, an alternative measure of output is the Egg Sales Revenue (including eggs consumed by the household). Where this measure is used, the transactions in birds are regarded as flock maintenance operations and reduced to a single figure, referred to as **Net Flock Depreciation or Appreciation**. This figure is the difference between Opening Valuation plus additions of birds, and Closing Valuation plus disposals of birds (see *Table 6*).

In most cases there is Net Flock Depreciation and this is shown as an input item. In a few cases where there is Net Flock Appreciation, the amount is added to the Egg Sales Revenue.

*Table 1*  
**THE SAMPLE : BY FLOCK SIZE and MANAGEMENT SYSTEM**

FLOCK SIZE LIMITS	BATTERY		DEEP LITTER		FREE RANGE	
	Full Year	Part Year	Full Year	Part Year	Full Year	Part Year
Under 50	-	1	-	-	-	-
50 and under 150	2	-	3	7	3	1
150    "    "    200	2	1	4	2	1	1
200    "    "    250	1	1	3	5	3	-
250    "    "    300	-	-	-	1	-	-
300    "    "    500	3	-	2	-	-	-
500    "    "    750	4	1	-	-	-	-
750    "    "    1,000	1	2	-	-	-	-
Over 1,000	2	-	-	-	-	-
No. of Flocks	15	6	12	15	7	2
Av. No. of Layers	539	486	204	171	152	137

Flock Size is expressed as the Average Number of Layers over the year, calculated as described on *page 4* (under Average Flock).

*Table 2*  
**TRADING ACCOUNTS IN DETAIL**  
**Per 100 Layers**                      **Full Year Flocks**

I N C O M E			B A T T E R Y 15 FLOCKS			D E E P L I T T E R 12 FLOCKS			F R E E R A N G E 7 FLOCKS		
Eggs: Packing Station	Doz.	1,500	340 10	£ s.		1,406	301 13	£ s.	1,103	230 17	£ s.
Other Sales	"	113	23 16			17	4 5		240	55 0	
House Consumption	"	9	2 15	367 1		38	7 14	313 12	19	3 16	289 13
Fowls: Hens Sold	No.	89	41 6			59	25 2		55	23 7	
Pullets Sold	"	-	-			-	-		-	-	
Other Sales	"	2	1 6			4	2 2		4	1 18	
House Credits	"	2	19	43 11		1	8	27 12	1	11	25 16
Stock Valuation Increase				-				6 12			-
Total Income				410 12				347 16			315 9
Margin, being Loss											
E X P E N S E S											
Stock additions		106	79 17	79 17		100	72 8	72 8	66	49 16	49 16
Meal & Pellets	Cwts.	103	183 18			70	133 19		65	118 16	
Grain: Home-grown	"	4	5 0			22	27 11		39	48 8	
Purchased	"	-	-			14	18 15		4	6 9	
Grit	"	4	2 14			4	3 5		4	3 3	
Other	"	3	5 2	196 14		2	6	183 16	-	-	176 16
Hired Labour	Hours	172	21 16			28	4 4		76	11 2	
Family Labour	"	103	12 17	34 13		170	21 6	25 10	133	16 14	27 16
Horse & Tractor	"	-	-			-	-			4 19	
Fuel			1 14				16			9	
Miscellaneous			1 12				6			18	
Depreciation of Plant			15 9	18 15			3 18	5 0		7 16	14 2
Stock Valuation Decrease				7 15				-			21 14
Total Expenses				337 14				286 14			290 4
Margin, being Profit				72 18				61 2			25 5

**Table 3**  
**TRADING ACCOUNT, SIMPLIFIED INTO GROSS OUTPUT,**  
**NET INPUTS, NET PROFITS, and NET FAMILY INCOMES**  
**Per 100 Layers** **Full Year Flocks**

	BATTERY	DEEP LITTER	FREE RANGE
Number of Flocks	15	12	7
Average Layers per Flock	539	204	152
	£	£	£
Gross Output	411	348	315
Inputs	338	287	290
NET PROFIT	73	61	25
Add Back Family Labour charged as Input	13	21	17
NET FAMILY INCOME	86	82	42
Gross Output per £100 Input	122	121	109
Inputs per £100 Gross Output	82	82	92

**Table 4**  
**TRADING ACCOUNTS IN TERMS OF EGG SALES REVENUE and COSTS**  
**Full Year Flocks** **Per 100 Layers**

	BATTERY			DEEP LITTER			FREE RANGE		
Number of Flocks	15			12			7		
Year's Average Layers per flock	539			204			152		
	£	£	%	£	£	%	£	£	%
Eggs Sales Revenue (Output)	367			314			290		
Costs (Inputs)									
Feeds	197		67.0	184		72.7	177		66.8
Labour	35		11.9	26		10.3	28		10.6
Fuel & Miscellaneous	3		1.0	1		0.4	6		2.2
Plant Depreciation	15		5.1	4		1.6	8		3.0
Net Flock Depreciation	44	294	15.0	38	253	15.0	46	265	17.4
Profit	73 100			61 100			25 100		
Add Back Family Labour	13			21			17		
Net Family Income	86			82			42		
Egg Revenue per £100									
Total Costs	124			124			110		
Total Costs per £100									
Egg Revenue	80			80			92		

**Table 5**  
**RANGE IN NET PROFITS AND NET FAMILY INCOMES**  
**Per 100 Layers** **Full Year Flocks**

SCALE	NET PROFIT			NET FAMILY INCOME		
	Battery	Deep Litter	Free Range	Battery	Deep Litter	Free Range
Loss £20 and over	1	1	2	1	1	1
" under £20	1	1	1	1	-	1
Profit under £20	2	1	-	2	2	1
" £20 - £40	-	3	-	-	-	-
" £40 - £50	2	-	1	-	1	-
" £50 - £60	1	-	-	1	1	-
" £60 - £70	1	1	1	1	-	1
" £70 - £80	-	-	1	-	2	1
" £80 - £90	-	-	-	-	-	-
" £90 - £100	2	2	1	3	-	1
" £100 - £120	2	-	-	3	2	1
" £120 - £140	2	1	-	1	-	-
" £140 - £160	-	2	-	1	-	-
" £160 - £180	-	-	-	-	3	-
" £180 - £200	-	-	-	-	-	-
Over £200	1	-	-	1	-	-
Average Net Profit & Net Family Income per 100 Layers	£73	£61	£25	£86	£82	£42
No. of Flocks	15	12	7	15	12	7

**Table 6**  
**NET FLOCK DEPRECIATION**  
**Per 100 Layers** **Full Year Flocks**

	BATTERY		DEEP LITTER		FREE RANGE	
	£	£	£	£	£	£
Opening Valuation	73		56		82	
Additions	<u>80</u>	153	<u>72</u>	128	<u>50</u>	132
Sales	44		27		26	
Closing Valuation	<u>65</u>	109	<u>63</u>	90	<u>60</u>	86
Net Flock Depreciation		44		38		46

**Table 7**  
**AVERAGE PRICES REALISED FOR LAYERS CULLED & EGGS (PER DOZ.)**  
**Full Year Flocks**

PERIOD	BATTERY		DEEP LITTER		FREE RANGE	
	Culled Layers	Eggs	Culled Layers	Eggs	Culled Layers	Eggs
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1	7 10	5 3	6 0	5 2	7 11	5 2
2	8 6	5 5	8 8	5 5	12 0	5 5
3	9 10	5 5	8 7	5 6	12 2	5 6
4	9 7	4 9	8 6	4 9	10 0	4 8
5	8 10	3 8	9 6	3 8	7 9	3 8
6	8 9	3 5	10 4	3 5	8 9	3 5
7	9 2	3 4	9 0	3 5	9 1	3 4
8	9 2	3 5	10 3	3 5	9 4	3 5
9	8 6	3 3	8 3	3 5	8 3	3 5
10	8 6	3 8	7 10	3 7	7 8	3 9
11	9 5	4 1	8 5	4 2	8 3	4 0
12	9 2	4 8	6 6	4 10	8 8	4 10
13	8 7	5 0	8 11	5 0	8 3	5 1
Average Selling Price	8 11	4 3	8 6	4 3	9 1	4 3

**Table 8**  
**AVERAGE FOOD CONSUMPTION PER LAYER PER DAY**  
**Full Year Flocks**

TYPE OF FEED	BATTERY		DEEP LITTER		FREE RANGE	
	Ounces	%	Ounces	%	Ounces	%
Meal & Pellets	5.1	91	3.4	62	3.2	58
Grain: Home-grown	0.2	4	1.1	20	1.9	35
Purchased	-	-	0.7	13	0.2	4
Grit	0.2	3	0.2	3	0.2	3
Other Feeds	0.1	2	0.1	2	-	-
Total feeds per day	5.6	100	5.5	100	5.5	100

Table 9  
SOME RELATIONSHIPS BETWEEN FOOD COSTS,  
EGG PRODUCTION RATES and EGG SALES

Full Year Flocks

	BATTERY	DEEP LITTER	FREE RANGE
Av. Cost per cwt. Meal & Pellets	35/8	38/3	37/7
" " " " Grain: Home-grown*	25/-	25/-	25/-
Purchased	-	26/9	32/3
" " " " Grit	13/6	16/3	15/9
" " " " Other Feeds	34/-	3/-	-
" " " " Total Feeds	34/6	32/10	31/7
Eggs produced per cwt. total feed	180	156	146
Eggs sales revenue per cwt. total feed	£3 4 5	£2 16 0	£2 11 9
Eggs sales revenue per £100 total feed	£186 12 1	£170 12 5	£163 16 7
Total feeds per £100 Egg Sales Revenue	£53 11 9	£58 12 2	£61 0 9
No. Eggs needed to buy 1 cwt. total feed	96	92	89
Eggs needed to cover Feed Cost per bird	111	104	100
Total Feed Cost per bird per year	£1 19 4	£1 16 9	£1 15 4
Total Feeds per bird per year	127 lbs.	126 lbs.	125 lbs.
Egg-Feed Margin per cwt. total feed	£1 9 10	£1 3 2	£1 0 2
Average price per doz. eggs sold	4 3¼	4 3¼	4 3
Average No. of eggs produced per bird per year	205	175	163
Winter Production as % of Total Production†	45%	47%	40%

\* Charged uniformly at this price.

† Winter = first six 28-day periods

*Table 10*  
**SOME LABOUR COST RELATIONS**  
**Full Year Flocks**

	BATTERY	DEEP LITTER	FREE RANGE
Hired Labour Costs per Layer	4/4½d.	10d.	2/2¼d.
Family    "       "       "       "	2/6¾d.	4/3d.	3/4d.
Total       "       "       "       "	6/11d.	5/1d.	5/6¾d.
Hours per Layer per Year	2.75	1.98	2.09
No. of birds needed to give egg sales = wage £7 per week at average production rate	100	116	126

*Table 11*  
**AVERAGE COSTS and RETURNS PER DOZEN EGGS**  
**Full Year Flocks**

	BATTERY			DEEP LITTER			FREE RANGE		
Total Eggs per layer per year	205			175			163		
Average price received	4/3¼d.			4/3¼d.			4/3d.		
	s.	d.	%	s.	d.	%	s.	d.	%
Total Feeds	2	3½	68	2	6¼	73	2	7¼	67
Total Labour		4¾	11		4	10		4¾	10
Total General (Inc. Plant Depreciation)		2¾	6		0¾	2		2½	5
Net Flock Depreciation		6¾	15		6¾	15		8¾	18
Total Cost per Dozen	3	5¼	100	3	5¼	100	3	10¾	100
Margin per Dozen		10			10			4¼	

*Table 12*  
**DISTRIBUTION OF ANNUAL EGG YIELDS PER LAYER**  
**Full Year Flocks**

	BATTERY	DEEP LITTER	FREE RANGE
Below 140 eggs	-	1	1
140 and under 150	2	3	1
150 " " 160	1	1	-
160 " " 170	1	1	2
170 " " 180	2	1	1
180 " " 190	1	-	2
190 " " 200	-	1	-
200 " " 210	1	1	-
210 " " 220	1	1	-
220 " " 230	1	2	-
230 " " 240	2	-	-
240 " " 250	2	-	-
250 and over	1	-	-
No. of flocks	15	12	7
Average No. of eggs per bird	205	175	163

Appendix I

INDIVIDUAL FLOCK ANALYSES - BATTERY

Farm	Size Range	Profit per Layer	Gross Output per 100 Layers	Total Inputs per 100 Layers	Gross Output per £100 Total Input	Eggs per Layer	Feeds per Layer	Feeds per Layer per day	Av. Price per cwt. All Feeds	Food fed per doz. Eggs	Total Labour Hrs./100 Layers per year	Winter Eggs as % Total Prodn.	Deaths as % Total Intake	Operational weeks
		s. d.	£	£	£		Lbs. s. Oz.		s. d.	Lbs.	Hours	%	%	
FULL YEAR OPERATORS														
C104B	A	48/9	616	372	166	300	148 47/-	6.48	35/7	5.90	256	46	3	52
C501	B	25/2	527	401	131	243	138 35/7	6.04	37/1	6.80	325	49	3	52
N109	A	24/3	512	391	131	228	114 37/3	5.01	36/6	6.00	303	45	2	52
N602	D	23/-	453	338	134	225	122 38/-	5.35	34/10	6.50	347	47	5	52
N211	D	20/-	493	393	125	235	142 42/10	6.23	33/9	7.21	292	50	6	52
N101	E	18/7	469	376	125	243	149 46/-	6.53	34/7	7.31	298	50	10	52
D302A	B	18/5	408	316	129	215	122 34/10	5.35	31/11	6.81	150	75	29	52
D302D	E	13/2	303	237	128	143	102 29/-	4.47	31/10	8.54	160	47	12	52
D103	A	10/8	374	321	117	204	137 44/3	5.99	36/3	8.01	289	56	7	52
N603B	B	9/11	486	437	111	238	144 48/7	6.33	37/8	7.30	533	41	4	52
C403	B	9/10	353	304	116	163	107 31/-	4.71	32/4	7.90	407	52	2	52
D105	D	2/11	360	345	104	152	123 38/-	5.40	34/7	9.70	112	67	12	52
D302B	E	2/10	292	278	105	147	106 30/5	4.66	32/-	8.70	145	41	18	52
N104	D	3/5	329	346	95	172	118 33/5	5.15	31/10	8.11	205	46	3	52
N102	C	5/4	317	344	92	166	137 42/10	5.99	35/1	9.81	308	43	5	52
PART YEAR OPERATORS														
D302C	D	8/10	256	212	121	130	69 19/10	5.67	31/11	6.40	52	-	17	28
D501	B	8/8	378	335	113	175	116 35/-	5.55	33/8	8.00	227	56	14	48
N604A	A	4/11	335	310	108	163	83 24/-	4.30	32/5	6.10	730	38	4	44
D403	E	4/7	388	365	106	190	134 44/5	6.98	37/-	8.46	241	57	20	44
D107	E	2/9	266	252	106	112	65 19/-	5.30	32/9	6.91	71	-	11	28
D304B	A	1/4	280	273	103	141	93 31/10	4.83	38/4	7.90	96	51	28	44

Size Range: A = 0-200 B = 200-400 C = 400-600 D = 600-800 E = over 800

# INDIVIDUAL FLOCK ANALYSES - DEEP LITTER

Farm	Size Range	Profit per Layer	Gross Output per 100 Layers	Total Inputs per 100 Layers	Gross Output per £100 Total Input	Eggs per Layer	Feeds per Layer	Feeds per Layer per day	Av. Price per cwt. All Feeds	Food fed per doz. Eggs	Total Labour Hrs./100 Layers per year	Winter Eggs as % Total Prodn.	Deaths as % Total Intake	Operational weeks
		s. d.	£	£	£		lbs. s. d.	Oz.	s. d.	Lbs.	Hours	%	%	
FULL YEAR OPERATORS														
C115	A	31/-	454	299	152	224	119 34/10	5.20	32/10	6.4	160	54	9	52
C504	B	30/-	446	296	151	212	123 36/5	5.40	33/1	6.9	163	50	5	50
C112	A	25/7	411	283	145	197	99 28/3	4.32	32/0	6.0	264	48	6	50
D303A	A	19/10	408	309	132	210	130 40/10	5.69	35/2	7.4	121	38	1	50
D301B	C	19/7	447	349	128	226	153 41/10	6.73	30/6	8.1	129	44	3	50
C127	B	12/-	314	254	124	158	128 36/7	5.60	32/1	9.7	135	57	6	50
D401	C	6/5	332	300	111	147	123 37/7	5.40	34/2	10.1	113	45	19	50
C130	A	6/5	267	235	114	148	133 34/-	5.84	28/7	10.8	195	40	15	50
N203	A	4/7	372	349	107	160	93 28/5	4.07	34/2	7.0	391	47	2	50
D103B	A	3/5	322	305	106	170	129 41/3	5.65	35/10	9.1	338	55	13	50
N204B	A	3/7	318	336	95	139	151 41/10	6.63	30/11	13.0	298	47	9	50
C503	B	9/-	255	300	85	109	138 39/5	6.04	32/-	15.1	75	63	8	50
PART YEAR OPERATORS														
N501B	B	25/-	388	263	148	152	64 16/10	3.32	29/6	5.0	130	52	11	44
C116	A	20/7	365	262	139	177	91 25/3	4.71	31/1	6.1	222	57	23	44
N501A	B	14/10	267	193	138	129	67 18/7	4.80	31/-	6.2	100	56	8	32
D303E	A	14/10	244	170	144	112	68 21/-	5.58	34/5	7.3	188	-	8	28
N501C	A	12/10	296	232	128	104	60 16/-	4.32	29/7	6.9	126	63	4	32
D303D	A	9/7	234	186	126	117	63 19/10	5.12	35/4	6.4	132	-	3	28
D301A	B	6/7	348	315	110	159	125 36/-	6.52	32/2	9.4	153	62	3	44
D303C	A	6/-	182	152	120	87	63 20/-	5.12	35/8	8.6	102	-	14	28
N502	A	4/-	181	161	112	83	51 14/5	4.21	31/4	7.4	46	60	6	28
D303B	A	1/-	199	194	103	94	62 19/7	5.03	35/7	7.8	132	-	5	28
D304A	A	0/2	248	247	100	123	89 26/-	1.42	32/11	8.6	188	58	2	32
N501D	A	3/5	136	153	89	41	36 9/10	5.12	30/7	10.5	83	100	15	16
D304C	B	4/-	241	261	92	117	96 29/3	5.00	33/11	9.8	128	56	35	44
D306	B	8/2	127	168	76	33	47 14/-	6.72	33/4	17.0	96	100	5	16
N604	B	12/7	199	262	76	97	124 33/5	8.88	30/1	16.3	130	59	7	32

Size Range: A = 0-200 B = 200-400 C = 400-600 D = 600-800 E = over 800

# INDIVIDUAL FLOCK ANALYSES - FREE RANGE

Farm	Size Range	Profit per Layer	Gross Output per 100 Layers	Total Inputs per 100 Layers	Gross Output per £100 Total Input	Eggs per Layer	Feeds per Layer	Feeds per Layer per day	Av. Price per cwt. All Feeds	Food fed per doz. Eggs	Total Labour Hrs./100 Layers per year	Winter Eggs as % Total Prodn.	Deaths as % Total Intake	Operational weeks
		s. d.	£	£	£		Lbs. s. d.	Oz.	s. d.	Lbs.	Hours	%	%	
FULL YEAR OPERATORS														
C114	B	18/5	314	222	141	164	110 29/2	4.81	29/10	8.0	177	43	9	52
D103C	A	15/2	295	219	135	161	82 24/10	3.58	34/-	6.1	267	44	20	50
C113	A	12/7	336	273	123	184	124 36/-	5.45	32/5	8.1	246	37	15	50
C104A	A	8/3	364	323	113	169	123 36/2	5.40	32/11	8.7	215	51	4	50
D108	A	2/5	296	308	96	145	150 37/5	6.58	27/11	12.4	126	42	19	50
C109	B	6/-	386	416	93	187	170 50/5	7.46	33/2	10.9	240	41	15	50
C117	B	10/10	229	283	81	131	123 33/10	5.40	30/9	11.3	193	41	35	50
PART YEAR OPERATORS														
C401	A	9/-	298	253	118	155	94 27/7	4.89	32/10	7.3	184	51	17	44
N603	A	5/10	338	309	109	114	69 22/5	4.96	36/2	7.3	258	8	-	32

Size Range: A = 0-200 B = 200-400 C = 400-600 D = 600-800 E = over 800

## Appendix II

### P U L L E T   R E A R I N G   1 9 5 6

Figures relating to pullet rearing were obtained from 10 co-operators in the main investigation. The following table is the average cost of rearing pullets to point of lay on a "Per Bird Reared" basis.

		s.	d.	s.	d.
Cost of Stock				4	1
<i>Feeds:</i>					
Meal & Pellets	27 lbs.	9	4		
Grain: Home-grown	7 "	1	8		
Purchased	"	"	"		
Grit	1 "	1		11	1
Labour: Hired .2 hours		7			
Family .3 "		7		1	2
Fuel					2
Miscellaneous					1
Depreciation of plant					4
GROSS COST				16	11
Less Credit for Cocks etc.					2
NET COST PER PULLET				16	9

Total number reared 3,113. Mortality as percentage of opening numbers 18%.

#### RANGE IN REARING COST PER PULLET (SHILLINGS)

	10/ 14	14/ 15	15/ 16	16/ 17	17/ 18	18/ 19	19/ 20	20/ 21	21/ 22	22/ 23	23/ 24	24/ 25	25/ 26	26/ 27
No. of farms	3	2	-	-	1	1	-	1	-	1	1	-	-	-

Home-grown grain was charged at 25/- per cwt.

Family Labour was charged at 2/6d. per hour.

Plant Depreciation was charged at 12½% of written-down value.

Cockerels on hand are credited at 10/- per head.

**L A Y I N G   F L O C K S**  
**Period 1st October 1955 to 30th September 1956**

17

Per Bird		BATTERY				DEEP LITTER				FREE RANGE													
		Lbs.	£	s.	d.	£	s.	d.	Lbs.	£	s.	d.	Lbs.	£	s.	d.							
COSTS																							
(A) Foods: (a) Purchased																							
	(i) Compounds	115	1	16	9					78	1	6	9			73	1	3	9				
	(ii) Cereals	-		-						16		3	9			4		1	3				
	(iii) Other	8		1	7					7			9			4			8				
(b) Home-grown																							
	(i) Cereals	4		1	0					25		5	6			44		9	8				
	(ii) Other	-		-						-		-				-		-					
Total Foods		127				1	19	4		126				1	16	9	125			1	15	4	
	Hrs.																						
(B) Labour: (a) Hired		1.7		4	4					0.3			10			0.8		2	3				
	(b) Family	1.0		2	7					1.7		4	3			1.3		3	4				
Total Labour		2.7					6	11		2.0					5	1	2.1				5	7	
(C) Livestock Depreciation							6	7							7	7					9	2	
(D) Deadstock Deprn. & Replacement							3	0							10						1	7	
(E) Miscellaneous								7							2						1	3	
TOTAL COSTS						2	16	5						2	10	5					2	12	11
RETURNS																							
Eggs (a) Market		Doz.	17	3	12	10				14	3	1	2			13	2	17	2				
(b) Used in house		"	.1		7	3	13	5		.4		1	6	3	2	8	.2		9	2	17	11	
MARGIN						17	0							12	3						5	0	
Per Doz. Eggs		Total Returns				4	3¼							4	3¼						4	3	
	Total Costs					3	5¼							3	5¼						3	10¾	
	Margin					10								10								4¼	
Number of Flocks						15								12							7		
Average size of flocks						539								204							152		
Average Length of Flock Season						52 weeks								52 weeks							52 weeks		
Average Yield per Bird						205								175							163		

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