Egg Production

UNIVERSITY OF NOTTINGHAM SCHOOL OF AGRICULTURE

SUTTON BONINGTON, LOUGHBOROUGH.

POULTRY HUSBANDRY SECTION.

REPORT ON

EGG PRODUCTION IN FOLDS

SEPTEMBER 1st 1951 TO AUGUST 31st 1952

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by

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INTRODUCTION.

A bulletin on this subject was issued some months ago. It dealt in considerable detail with various aspects of this system of housing laying stock and the results obtained during the year to August 31st 1951. This report covers the following year.

There was a marked increase in production which has its influence on the figures presented in some of the tables, and there was an increase in cost of food. Apart from these changes many of the calculations closely resemble those of the previous year.

The laying stock was completely replaced with 1951 hatched pullets during the five months June to October 1951. This entailed the thorough cleaning and paraffin creosoting of all the thirty eight folds. All the folds were transferred to a distant field at the end of August 1951. Although not apparent at the time, this move had an adverse influence on the birds and the autumn production. The last of the yearling hens were disposed of on October 16th 1951.

The capacity of the folds is 950 but the average number accomodated during the twelve months was 841. In the autumn of 1951 we were short of replacement stock to the extent of twenty five birds which caused one fold to be unoccupied.

BIRDS USED.

The pullets were home produced and hatched from January to April. The majority of them were near maturity when transferred to the folds, group by group. They consisted mainly of Rhode Island Reds, Light Sussex, and crosses between these two breeds, also some White Leghorn x Rhode Island Red, White Leghorn x Light Sussex and a few White Leghorns.

CULLING AND DISPOSAL OF BIRDS FOR TABLE.

No major culling of the pullets (hatched 1951) was undertaken until February when forty six birds were sold. To make way for replacement stock some birds had to be cleared in May and larger numbers in the succeeding months (see table 3).

The prices of 9/6d and 10/1d per bird received in July and August, were disappointing.

MORTALITY RATE.

Based on the number of birds on hand on the first day of each month the loss was 12.39%. If accidental deaths are excluded the rate becomes 11.81%.

FEEDING.

Method: Moist mash was fed about nine o'clock in the morning and grain in the afternoon. No other kind of food was used. The mash was fed in troughs and the grain was scattered on the ground. Shell and hard grit were available to the birds always.

The birds were handled from time to time and if their condition was not satisfactory an adjustment was made in the amount of food given.

~~TABLE 4~~

MASH

Ingredients	cwts	lbs
Ground Wheat (coarse)	1½	
Ground Barley (medium)	2½	
Ground Oats (fine)	2½	
Grass Meal	¾	
Fish Meal	¾ +	
Steamed Bone Flour		18
Limestone Flour		22
Manganesed Salt		4
Cod Liver Oil		4 pints
	8	44
	+ Cod Liver Oil	

+ An extra stone of fish meal was added from November 7th to March 23rd.

The inclusion of cod liver oil was discontinued from April 22nd to August 31st.

GRAIN.

Equal parts oats barley and wheat were fed during most of the year.

TABLE 1

EGG PRODUCTION FROM SEPTEMBER 1st 1951 TO AUGUST 31st 1952

Figures relating to all the birds in the folds			Average production per bird		
Month	Av.No.of birds	No.of eggs produced	Av. prod.per bird	Hatched Jan-Apl.1951	Hatched Jan-Apl.1950	Hatched Jan-Feb.1952
1951						
Sept.	756.74	10,511	13.89	13.65	14.94	
Oct.	874.94	10,294	11.77	11.77		
Nov.	905.20	12,071	13.33	13.33		
Dec.	896.26	15,402	17.18	17.18		
1952						
Jan.	891.60	16,041	18.00	18.00		
Feb.	855.07	14,676	17.16	17.16		
March	817.97	17,539	21.44	21.44		
April	808.53	17,304	21.40	21.40		
May	801.28	15,477	19.31	19.56		
June	799.03	12,342	15.45	17.20		1.12
July	854.64	11,894	13.92	16.39		6.81
August	829.74	13,319	16.05	16.53		15.49
Total	10091.00	166,870	198.90	203.61		23.42

The average daily production rate was 54.36%. Included in the bird numbers are 180 pullets placed in the folds at the age of 16 to 18 weeks. As these birds did not come into production for a further 5 to 8 weeks their presence depressed the egg production averages. The effect is seen when the June and July average production of all the birds in the folds is compared with the production of the 1951 hatched group.

The figures for the 1951 hatched birds do show what the main group of birds did month by month over the year. The average production during the four winter months October to January was 60.28 and for the twelve months it was 203.61. If it were possible to produce more March hatched birds and fewer April hatched, it is likely that more eggs would be produced in October and November. The autumn production is also adversely influenced by a number of early hatched birds moulting.

WEATHER.

Mild and wet were the prevailing conditions until January.

There was almost continuous frost, mostly rather severe, from January 26th to February 16th, inclusive. There was sharp frost on several occasions during the period February 22nd to 28th, and frost accompanied by a strong and very cold east wind on the four days March 26th to 29th.

Snow fell on three occasions to a depth of two to three inches. The dates were January 26th after which it remained for seven days, February 14th, and March 30th when it remained for three days.

TABLE 2

Candling results at Egg Packing Station
Eggs produced September 1st 1951 - August 31st 1952

	%
Good Eggs	96.73
Seconds	2.06
Dirty	1.17
Rejects	.04

TABLE 3

INCOME MONTH BY MONTH
SEPTEMBER 1st 1951 - AUGUST 31st 1952

No. of Eggs sold		Receipts Eggs			Month	No. of birds sold for table	Receipts Table birds			Receipts Total		
Dozens	Odd	£	s	d			£	s	d	£	s	d
836	5	203	12	9	September	243	123	18	9½	327	11	6½
931	11	249	14	5	October	99	57	19	9	307	14	2
910	8	269	11	6	November	5	3	19	2	273	10	8
1337	6	346	19	1½	December	1	-	16	6	347	15	7½
1427	11	378	13	2	January	2	1	2	10	379	16	0
1167	0	247	8	9½	February	46	32	2	0	279	10	9½
1283	0	225	12	1	March	4	2	2	6	227	14	7
1647	1	290	13	7	April	-	-	-	-	290	13	7
1182	4	224	13	2	May	37	21	12	8	246	5	10
993	11	195	1	9	June	81	49	4	6	245	1	3
1142	2	247	7	10	July	146	69	4	10	316	12	8
1045	11	209	15	9	August	110	55	12	6½	265	8	3½
13905	10	3089	18	11		774	417	16	1	3507	15	0

TABLE 54

SUMMARY OF FOOD CONSUMPTION AND COSTS (52 WEEKS)

The per bird figures are based on 841 birds, the average number kept during the year (calculated on the bird day basis)	
GRAIN	
Total amount consumed	326 cwts
Total consumption per bird	43.4 lbs
Consumption per bird day	1.90 ozs
Total cost	£414 - 16 - 7
Cost per cwt	£ 1 - 5 - 5½
MASH	
Total amount consumed	597 cwts
Total consumption per bird	79.5 lbs
Consumption per bird day	3.5 ozs
Total cost	£826 - 0 - 0
Cost per cwt	£ 1 - 7 - 8
TOTAL FOOD consumption, grain and mash per bird	123 lbs
Consumption per bird day, grain and mash	5.4 ozs
Cost of food, per bird	£ 1 - 9 - 6¼
Food consumption per dozen eggs produced	7.44 lbs
COCKLE SHELL	
Total consumption 36 cwts 55 lbs	£ 18 - 11 - 1
Per bird consumption 4.86 lbs	5¼
FLINT GRIT	
Total consumption 20 cwts 61 lbs	£ 9 - 9 - 2
Per bird consumption 2.74 lbs	2¾

The home produced grain was charged at market value (on farm).

The amount and cost of shell and grit shows a marked increase on the previous year. It would be more accurate to average the figures for the two years (see earlier report) as the quantity carried over from one year to the other was not recorded. Apart from the bulk supplies, it is not easy to estimate accurately the amounts in the 38 grit boxes which are considerable in size.

If a made up mash had been purchased the cost of feeding would have been increased by a little over four shillings per bird. In this calculation allowance has been made for a possible slightly lower consumption rate in the case of purchased mash. If all the grain had been purchased from a merchant the cost of feeding would have been still further increased.

TABLE 65

Costs per dozen eggs sold		
	s.	d.
Depreciation and replacement of stock		11.03
Food, shell and grit	1	9.90
Sundries: water, straw, fuel		.08
Maintenance of equipment		.24
Labour		7.23
Use of tractor		.10
Rent of stores, insurance		.10
Hire of pony and dray		.31
Depreciation on equipment		2.15
	3	7.14

TABLE 6

L A B O U R

TOTAL LABOUR COST WAS £419-4-11 OR AN AVERAGE OF 2/8½d PER HOUR

ANALYSIS OF LABOUR AND COSTS DURING THE 52 WEEKS

Task	Average man hours per week	Approximate Percentage of total time	Approximate Percentage of total labour cost
Weekday routine	24.12	40.2	37.55
Sunday routine	6.69	11.4	14.11
Water carting	3.88	6.6	6.02
Food grinding and mixing	3.77	6.4	5.92
Food carting	2.21	3.7	3.53
Egg cleaning and packing	11.03	18.7	18.25
Annual Fold clearing	1.82	3.1	2.96
Fold moving (oth. than daily moves)	3.12	5.3	4.60
National Health Insurance	-	-	2.80
Miscellaneous	2.75	4.6	4.26
Total	59.39	100	100

The annual fold cleaning was carried out in less time than previously. This was mainly effected by (a) transferring the slatted floors, nest boxes and food troughs to the main department for soaking in water tank and later in creosote pit. (b) using a spraying machine for creosoting the folds, both inside and out.

The increase in the time spent in turning the folds round at the edge of the field or moving the folds to another part of the field was necessitated by the limitations of the field and the fact that pigs were folded in the same field. These moves took 76½ labour hours at a cost of £9 -13 -6.

TABLE 8

TOTAL CAPACITY OF FOLDS, 950 BIRDS. AVERAGE NUMBER OF BIRDS DURING THE YEAR, 841

Production Costs - Food and Labour	£.	s.	d.
PER DOZEN EGGS SOLD			
Food cost		1	10
Labour			7¼
PER BIRD			
Labour based on 950		8	10
Labour based on 841		9	11½
Margin over cost of food on 950	2	7	1½
Margin over cost of food on 841	2	13	3¼
Margin over food and labour on 950	1	18	3½
Margin over food and labour on 841	2	3	3¾
PER WEEK			
Food and labour	32	9	3¾

TABLE 8

FINANCIAL RESULTS

YEAR ENDING 31st AUGUST 1952

EXPENDITURE		£. d.		INCOME	£. d.
Livestock valuation, September 1st 1951					
335 yearling hens @ 11/- each	184 - 5 - 0				
406 pullets @ average of 24/- each	487 - 4 - 0	671 - 9 - 0		Eggs	3089 - 18 -11
Food Mash	826 - 2 - 7			Table birds 774	417 - 16 - 1
Grain	414 - 16 - 7	1240 - 19 - 2		Valuation 31st August 1952	
Shell and grit		28 - 0 - 3		Livestock	
Maintenance		14 - 0 - 9		389 yearling hens @ 10/6 ea. £204-4-6	
Sundries: water, straw, fuel for boiler etc.		5 - 0 - 0		441 pullets(1952) 26/- ea. £573-6-0	777 - 10 - 6
Labour		419 - 4 - 11			
Use of tractor		5 - 14 - 0			
Rent of food stores and copper boiler insurance of all equipment		5 - 17 - 6			
Hire of pony and dray		18 - 0 - 0			
Deprec. on equipment £712-18-6 @ 17½%		124 - 15 - 3			
Stock replacements 968 birds		1159 - 3 - 6			
Net surplus		593 - 1 - 2			
		£ 4285 - 5 - 6			£ 4285 - 5 - 6

The new pullets were charged for at commercial prices according to age at time of transfer to the folds.

TABLE 9

Financial results per bird 1951-52
Expenditure and income per laying bird

EXPENDITURE	s	d	INCOME	s	d
Food, shell and grit	30	2	Eggs	73	5¾
Sundries, water, straw, fuel		1½	Table birds	9	11¼
Maintenance of equipment		4			
Labour	9	11½			
Use of tractor		1¾			
Rent of stores, Insurance		1¾			
Hire of pony and dray		5¼			
Deprec. and replacement of stock	25	0½			
Deprec. of equipment	2	11½			
Net surplus	14	1¼			
	83	5		83	5

TABLE 10

Average Revenue per week

	£	s	d
EGGS	59	8	5¼
Margin of egg receipts over cost of food	35	0	4½
Margin of egg receipts over food and labour	26	19	1½
POULTRY	8	0	8½
Margin of receipts from eggs and poultry over food	43	1	1
Margin of receipts from eggs and poultry over food and labour	34	19	10

Food includes shell and grit.

BRIEF SUMMARY

The average price received for eggs was 53.3 pence per dozen.

The average price received for each bird sold for table was 10/9½.

The egg income per bird calculated on 841 was £3 - 13 - 5¾.

The average egg income per week was £ 59 - 8 - 5¼.

The average income per week from sale of culled birds was £8 - 0 - 8½.

The net surplus per bird was 14/1¼.

The average food consumption per bird was 123 lbs.

The cost of food per bird was 29/6¼d.

The labour cost per bird was 9/11½d.

The average egg production per bird was 198.90

The average egg production per pullet during the four months October to January was 60.28.

RBS:EIG
December 1952