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# UNIVERSITY OF NOTTINGHAM 

 SCHOOL OF AGRICULTURE

COMIERCIAL EGG PRODUCTION ON THE GENERAL FARM Costs, Rotuins and Profits (1st Octobor, 1951-30th Soptombor, 1952)

DEPARTMENT OF AGRICULTURAL ECONOMICS SUTTON BONINGTON LOUGHBOROUGH
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## COMMERCIAL EGG PRODUCTION ON THE GENERAL FARMI.

COSTS, RETURNS AND PROFITS (1ST OCTOBER, 1951-30TH SEPTEMBER, 1952).

## Introduction.

The last few years have seen two important changes in the poultry industry. Firstly, there has been a great reduction in profitability. Secondly, there has boen a radical change in the ratio betwoon the pricos of home grown and purchased foods. The moro recent developments in marketing and fooding stuffs will be discussed lator. (1)

The first of those changes is mainly due to the removal by stages of the subsidies on feeding stuffs. The consequent rise in fecd prices has not been componsatod by a similar rise in ogg prices.

Table 1 shows the number of eges needed to buy one cwt. of proprietary poultry food in the years shown. From this table it can be seen that less then six dozen egoss were needed to buy one cort. of food all through tho war, and in 1949 tho number was as low as $4 \frac{1}{2}$ dozen. The 1952 figure of noorly nine dozen gives some indication of the changes in profitability for the yoars show.

The second change (i.e. in the ratio between the prices of home grown and purchased foods) is also due mainly to the removal of subsidies. To a small extent the change is also due to the differonces betwoen the home and world prices for cercals.

Table 2 shows the change in the rolationship betwoon the pricos of whoat and poultry food. Although this is not a truc guido to tho cost of homo producod rations, beceuse other checper homo grown food may be used, and dearer protein supplements will be required, it does give some idea of the advantage to be gained by using home grown foods at tho present time. On this basis, a hen needs to lay six dozen eggs to buy one cwt. of home grown food compared with the nine dozen needed to buy ono cwit. of proprictary food.

The net offect of these two factors has been to turn the balance of poultry farming in favour of the general farmer and against the specialist poultry koopor. The specialist depends very much on purchased foods which have boen both donr and hard to obtain. On tho othor hand tho foncral farmer with his greator flexibility of organisation, is better able to adapt himsolf to the changed conditions. Ho is usually better fittod to improvise housing and has the advantago of chosper home grown foods.

[^0]
## ACKNOWLEDGEMENT

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## DOZHITS OF EGGS REQUIRED TO PAY FOR 1-CWT. OF PROPRIETARY POUITRY FOOD



FRRM PRICE OF HOIE GROWN WHEAT AS A PERCENTGGE OF THE RETAIL PRICE OF PROPRIETARY POULTRY FOOD.
-
TABLE 2

| Year | Per cent | Year | Per cent | Year | Per cent | Year | Per cent |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1938 | 96 | 1944 | 104 | 1948 | 117 | 1952 | 73 |
| 1941 | 91 | 1945 | 113 | 1949 | 126 |  |  |
| 1942 | 98 | 1946 | 102 | 1950 | 93 |  |  |
| 1943 | 106 | 1947 | 105 | 1951 | 85 |  |  |

A further change is the introduction of a scasonal price for oges instead of the flat rate throughout the yeur. This camo into operation after March 1949. It has tended to offset these disadvantages of specialised poultry farming, by making wintor ege production more profitable, since Winter egg production had long been considerod the job of the specialist. Howevor, tho prico incentive for Winter ogg production has encouraged many genoral farmers to adopt intensive methods such as deep litter and hen yards.

Table 3 shows the total production of eggs in England and Wales from 1939 onvards and the production on agricultural holdings, (I) both in total, and as a percentage of the total production. An average of four pre-var years in included for comparison.

ESTIMATED PRODUCTION OFHON EGGS ON ALL HOLDINGS IF ENGLAND AND WALES.

| TABLE 3 |  |  |  |  |  | Mil | Iion Eggs |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Total production | Produotion on agricultural holdings | Production on agricultural holdings as percentage of total | Year | Total production | Production on agricultural holdings | Production on agricultural holdings as percentage of total |
| Pre-war | 5,509 | 4,229 | 77 | 1945-46 | 4,182 | 2,202 | 53 |
| 1939-40 | 6,081 | 4,304 | 71 | 1946-47 | 4,182 | 2,210 | 53 |
| 1940-41 | 6,394 | 3,932 | 62 | 1947-48 | 4,311 | 2,501 | 58 |
| 1941-42 | 5,016 | 2,687 | 54 | 1948-49 | 5,235 | 3,303 | 63 |
| 1942-43 | 3,695 | 1,847 | 50 | 1949-50 | 6,152 | 4,235 | 69 |
| 1943-44 | 3,252 | 1,758 | 54 | 1950-51 | 6,537 | 4,742 | 73 |
| 194i-45 | 3,670 | 1,885 | 54 | 1951-52 | 6,309 | 4,704 | 75 |

(I)

This includes all holdings other than those of one acre or less. Domostic flocksare excluded.

It will be seen from this table that total production has risen since 1946-47 after the decline in production during the war years. The peak production was in 1950-51, following the most favourablo year for feed/egg price ratio, after whioh production has fallen to a level which is still above the average for the pre-war years. The production on agricultural holdings showed a more rapid increase during the favourable years than the total production. Also, when production fell slightly after 1950-51, production on agricultural holdings remainod at about the same level. The proportion produced on agricultural holdings is now at about the prewar level after falling to a low lovel during the war years.

The significant factors which provide a background for the investigation are:
(a) The reduction in profitability,
(b) The change in the ratio of prices of home grom and purchased foods,
(c) The emphasis on Winter egg production, and
(d) Increase in production on the goneral farm.

The objocts of the investigation were briefly as follow :-
(1) To obtain information about costs, returns and profits from commercial egg production on the general farm.
(2) To study the causes of variation in costs, roturns and profits.
(3) To obtain information about the physical requirements of laying stock i.e. feod and labour requirements.
(4) To study the way that systoms of koeping poultry fit into the farm business.

This report covers the first year of the investigation and all the points are not fully discussed, but will be dealt with in a final report at the ond of the second financial yoar.

The Samplo.
The material for this roport was providod by the monthly records of 36 flocks in Lincolnshire (Lindsey) and Nottinghamshire. None of the co-operating farmers were breeders or spocialist poultry koepers and all units could be described as "farm flocks". The flocks varied in size from 50 birds to over 1,000 birds and were kept under five different systems of managemont.

DISTRIBUTION OF FLOCKS BY SIZE AND METHOD OF PRODUC?ION.
TABLE 4

| Method | Battorios | Deep <br> litter | Hon <br> yard | Folds | Range | Total |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Flocks in group | 8 | 5 | 9 | 6 | 8 | 36 |
| Average number of birds:- |  |  |  |  |  |  |
| 50 to lo0 | 4 | 1 | - | 1 | 1 | 7 |
| 100 " 200 | 2 | 1 | 2 | 1 | 2 | 8 |
| 200 " 300 | 1 | - | 2 | 2 | 3 | 8 |
| 300 " 500 | 1 | 3 | 1 | - | 2 | 7 |
| 500 " 1,000 | - | - | 4 | 1 | - | 5 |
| 1,000 and over | - | - | - | 1 | - | 1 |

The distinction betreen hen yard and deop litter lies in the fact that deep litter birds were kept ontirely indoors, whereas hen yard birds had an outdoor run. There was considerable variation in the manner of construction of hen yards. The main differences wore in the degree of shelter or windbreak which was afforded to the birds. Of the deep litter flocks, four were kept in lofts and three in huts, two of the flocks being in two sections.

Most of the flocks were looked after by fanily labour, and in many cases it was the farmor's wife or daughter who was in charge. The majority of the farners kept all pullet flocks although in four cases older birds were kept. In all excopt six flocks pullets were bought as day olds. Of tho other flocks, two wero hatched on the farm, two were bought at from eight to 12 wooks old, and two wore bought at point of lay.

## ACCOUNTING METHODS AND EXPLANATORY NOTES.

1. All the figures refer to the year from Ist October, 1951 to 30th September, 1952.
2. The per bird figures are calculated on the average number of birds during the period, on a hen-day basis, taking into account the number of days each bird was in the flock.
3. Food costs.
(a) The per bird figures for food and other costs are for less than 12 months in some cases. The actual number of months has been indicated below.
(b) Where cockorels or other poultry wero fed from the same food it has been assumed for the sake of simplicity that the value of the
food caten is the same as the increase in value of the birds. This is not strictly correct becauso thero will be some labour and other costs to set against the increase in value and there may also be an element of profit in the increase in value. However, since the amounts involved were small the simplification is reasonablc.
(c) Home grown foods were chargod at market values.
4. Labour was charged at stindard rates per hour: 2s. $8 \frac{1}{2} d$. for mon, 2s. $1 \frac{1}{4}$. for women and Is. $9 \frac{3}{4} \mathrm{~d}$. for youths.
5. Bird Depreciation.
(a) Birds were valued at estimated cost of production based on a figure of 18s. Od. for point of lay pullets. Birds bought at point of lay were charged at cost price.
(b) Income from the sale of birds has been deducted from the difforence between opening valuation plus replacements, and the closing valuation. Incomo from eggs is, therofore, regarded as the sole source of income, and bird depreciation is regarded as an expense.
6. Equipmont Depreciation was charged on all housing and equipment for laying and growing stock. Where conversion of stone buildings was made, the cost of conversion only, has been used as a basis for the depreciation charge. The depreciation charge was 10 per cont for wooden huts and all general equipment, $12 \frac{1}{2}$ por cent for folds, and five por cent for improvements to stone buildings.

## 7. Other Expensos.

This itom is mainly fuel, lighting and vetorinary oxpenses. No charge has been made for rent or interest on capital, and no crodit has been allowed for manurial residues. Overheads have not been charged.

Some of the flocks are showm as having fewor than 12 laying months: This is not because the farmers only kept rocords for that time, but because they sold the birds out in the spring. Where the replacoments were brought in before lst October, 1952 the extra months have also been included, so that a laying period of nine months may includo for cxample, seven months from October to April and three months from July to September.

The figures in Table 5 aro grouped according to the number of laying months, partly to avoid comparison of costs por bird for different laying poriods. They also serve to show the difforences in costs and returns when birds are culled at different times of the yoar. However, they are not moant to show that it is better to keep birds for any particular

AVERAGES PER BIRD GROUPED ACCORDING TO NUMBER OF LAYING MONTHS.
TABLE 5

| Number of laying months | 5-8 | 9-11 | 12 | All flocks |
| :---: | :---: | :---: | :---: | :---: |
| Number of flocks | 7 | 7 | 22 | 36 |
| PAYMENTS. | £. s. d. | £.s.d. | £. s. d. | £. s. d. |
| Foods: |  |  |  |  |
| Purchased | 13.6. | 1.2.7. | 1.2.6. | 1. 0.9 |
| Home grown | 4. 9. | 8.11. | 13. 2. | 10.8. |
| Total | 18.3. | 1.11. 6. | 1.15.8. | 1.11 .5. |
| Labour | 3.9. | 7. 4. | 5.11. | 5.9. |
| Bird depreciation | 7.10. | 10.6. | 9.2. | 9. 2. |
| Equipment depreciation | 1.4. | 1.8. | 1.11. | 1.9. |
| Other expenses | 4. | 6. | 9. | 8. |
| Total expenses | 1.11.6. | 2.11. 6. | 2.13. 5. | 2.8.9. |
| Profit | 11.0. | 13. 8. | 12. 5. | 12. 5. |
| Total income (eggs sold and consumed) | 2.2.6. | 3. 5.2. | 3. 5.10 | 3.1.2. |
| Price per dozen eggs sold | 5.1. | 4. 9. | 4. 7. | 4.9. |
| Average number of eggs laid per bird | 101.1 | 153.7 | 173.3 | 157.7 |

length of time because the bost time to cull may vary with the particular circunstances. This problem of when to cull is discussed in more detail in the section on Bird Deprociation (page 12). When the individual results $(1)$ of flocks in production for less than 12 months are examined, it can be seen that for those flocks in production from five to eight months, profits varied from 23s. Od. to a loss of ld., which shows that some farmers found tho practice of spring culling very much more profitable than others. It would be wrong to try to draw conclusions about the best culling policy from the analysis in Table 5 because factors other than culling have a groater effect on profits, and the sample is too small to eliminate the effects of these other factors such as food oosts and rate of ogg production.
(I)

Sco Appendix I. Fage 24.

## AVERAGE COS'PS AND RETURINS PER 120 EGGS LAID GROUPED ACCORDING TO METHOD OF HOUSING ( 36 FLOCKS).

TABLE 6

| Method of housing | Batterios | Deep litter | Hen yard | Folds | Range | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of flocks | 8 | 5 | 9 | 6 | 8 | 36 |
| PAYMENTS | £. s. d. | £. s. d. | f. s. d. | £. s. d. | f. s. d. | £. s. d. |
| Foods: |  |  |  |  |  |  |
| Purchased | 1.3.10. | 12. 3. | 13. 1. | 14. 5. | 14.5. | 15.11. |
| Home grown | 1.6. | 10.7. | 10.2. | 12. 5. | 7.1. | 8.0. |
| Total | 1.5.4. | 1. 2.10. | 7. 3.3. | 1.6.10. | 1.1.6. | 1. 3.11 . |
| Labour | 4.8. | 3. 6. | 4.2. | 4.6. | 5. 1. | 4. 5. |
| Bird depreciation | 8.2. | 7.9. | 7.0. | 5.9. | 7.0. | 7. 2. |
| Equipment " Other expenses | 1.4. | 1.1. | 1.4. | 1.7. | 1.6. | 1.5. |
| Total expenses | $\frac{2 .}{1.19 .11 .}$ | 1.15.7. | 1.16.6. | 1.19.5. | 1.15. 5. | 1.17. 5. |
| Price per 120 eggs | 2.8.10. | 2.7.8. | 2. 7.10. | 2. 4.9. | 2. 4.10. | 2.6.10. |
| Profit | 8.11. | 12. 1. | 11. 4. | 5. 4. | 9. 5. | 9. 5. |

## REASONS FOR VARIATIONS IN PROFIT MARGINS.

For each system of management the profit margin varied considerably. The most significant points were that profits wero fairly good in spito of the relatively unfevourable egg/feed price ratio, and high profits vere not confinod to any ono particular system.

DISTRIBUTION OF PROFIT MARGING PER BIRD BY METHOD OF HOUSING ( 36 FLOCKSI).
TABLE 7

| Profit or loss | Batteries | Deep litter | Hen yard | Folds | Range | Total |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Loss |  | - |  |  |  |  |
| Below 5s. 0d. | 1 | - | - | 2 | 1 | 3 |
| $5 \mathrm{s} .\mathrm{to} \mathrm{10s}$. | 3 | - | - | 3 |  |  |
| 10s. " 15s. | 1 | 2 | 5 | 3 | 2 | 5 |
| 15s. " 20s. | 1 | 2 | 3 | - | 1 | 12 |
| 20s. and over | 2 | 1 | - | - | 3 | 7 |

The two most important factors which can explain these variations in profits are:
(1) Egg yields and the price received for eggs.
(2) Food costs.

Returns from oggs varied from 52s. 0d. to 84 s . 0d. per bird for the 22 flocks which were in production for 12 months and yields varied from 139 to 219 eggs per bird.

DISTRIBUTION OF YIELDS BY METHOD OF HOUSING.
( 22 flocks for 12 months)
TABLE 8

| Average number of <br> eggs per bird | Battories | Doep litter | Hen yard | Folds | Range | Total |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Below 150 | - | - |  |  |  |  |
| 150 to l80 | 1 | - | 2 | 2 | 2 | 4 |
| 180 " 200 | - | 1 | - | 1 | 3 | 9 |
| Over 200 | 3 | - | 2 | - | - | 4 |
| TOTALS | 4 | 2 | 4 | 5 | 7 | 22 |

DISTRIBUTION OF TOTAL FOOD COSTS PER BIRD FOR THE 22 FLOCKS IN PRODUCTION FOR ? 2 MONTHS.

TABLE 9

| Total food costs | Batteries | Deep litter | Hen yard | Folds | Range | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20 s . to 25s. | - | - | - | - | 3 | 3 |
| 25s." 30s. | - | - | 1 | 1 | 1 | 3 |
| 30s. " 35s. | 1 | - | - | - | 1 | 2 |
| 35s." 40s. | 2 | 1 | 3 | 2 | 1 | 9 |
| 40s." 45s. | - | 1 | - | 1 | 1 | 3 |
| 45s." 50s. | 1 | - | - | 1 | - | 2 |

It is not possible to say which of these two factors (Food Cost and Egg Returns) is more important and it is really the relationship between the two which determines the rate of profit.

## YIELD PER BIRD AND FOOD CONSUMETION.

Experiments have shown that for a particular flock of birds there is a direct relationship between the amount of food fed and the yield per bird obtained, so that as the amount of food fed above maintonance ration increased, the number of eggs produced would increase at a constant rate.(1) Thus, at present prices it should pay to food birds up to their maximum capacity to produce eggs. However, when we try to explain differences in production between farms, it cannot be done by reference to feeding alone. This is because there is a very great variation in the capacity of different flocks of birds to produco eggs. Some of those variations in production are due to differences in the inherent capacity of the birds. Other differences can bo grouped broadly under environmental or management factors which rould includo housing and quality of fooding.

Table 10 shows an analysis of the costs, roturns, and yields of tho six flocks with the lowost and highest food costs in oach of the two groups, Extensive (folds and range) and Intensivo (batteries, deep litter and hen yards).

Although the number of farms is very small and therefore no real conclusions can be drarm, it does seom that oconomy in food cost is much more important in the Extensive flocks. The low food cost group had an average profit of 16 s . 3d. a bird compared with 2 s . 3a. in the high food cost group. There was not much difference in the yields of the two groups nor in tho returns from the salo of oges, and the big difforence was in food costs. This wos because the high food costs group not only fed more food per bird ( 137 lbs. compared with 92 lbs.) but also fed a smaller proportion of homo grow fooding stuffs, (29 por cont compared with 50 per cent).

With the Intensive flocks the profit figures for the two groups aro similar. The high yields and returns from eggs of the high food cost group are balancod by the low intake of food ( 113 lbs . compared with 139 lbs. per bird) and the higher percentage of home grown foads. fed ( 50 per cent compared with 30 per cent) of the low food oost group. The high food cost group incidentally, included four battery flocks and very littlc home grown foods wore fod to battery birds.

Tho analysis of Table 10 would appear to show that the practice of fecding birds to appetite is sound as far as intensive mothods are concernod, but where birds are kept extensively, they will not have the same capacity to produce eggs, and if they are to compete with the intensive systems there must be some economy in cost. The logical answer seems to be some form of rationing so that only part of the birds' food requirements are providod
by expensive foods, the remainder bextic provided by use of grains, grazing, and use of stubbles. The point here is that if a free range bird is fed to appetite on exponsive foods, it will not forage for any of its food requirements.

COMPARISON OF COSTS, RETURNS, FEEDING, AND YIELDS OF THE SIX FLOCKS WITH THE LOWEST AIVD HIGHEST FOOD COSTS, ON EXTENSIVE AND INTENSIVE SYSTEMS.
(Flocks with 11 or 12 laying months).
TABLE 10

| Averagas per bird | EXTENSIVE FLOCKS |  | INTENSIVE FLOCKS |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Six lowest food costs | Six highest food costs | Six lowest food costs | Six highest food costs |
| EXFENSES | £. s. d. | £. s. d. | £. s.d. | £. s. d. |
| Foods: |  |  |  |  |
| Purchased <br> Home grown | $15.6 .$ | 1. 3. 0. 15.11. | $\begin{aligned} & 19.2 . \\ & 13.11 . \end{aligned}$ | $\begin{array}{r} 1.13 .9 \\ 10.2 \\ \hline \end{array}$ |
| Total | 1. 5.9. | 1.18.11. | 1.13.1. | 2. 3.11. |
| Labour | 5. 7. | 7. 0. | 5. 4. | 6.0. |
| Bird Depreciation | 8.9. | 8.6. | 8.7. | 10.8. |
| Equipment depreciation | 2. 1. | 2.1. | 1.11. | 1. 6. |
| Other expenses .. | 11. | 9. | 7. | 1.0. |
| Profit | 16. 3. | 2. 3. | 14.8. | 14.10. |
| Total income (eggs sold and consumed) | 2.19. 4. | 2.19.6. | 3.4.2. | 3.17 .11. |
| EgE yield | $\begin{aligned} & \text { No. } \\ & 159 \end{aligned}$ | $\begin{aligned} & \text { No. } \\ & 162 \end{aligned}$ | $\begin{aligned} & \text { No. } \\ & 164 \end{aligned}$ | $\begin{aligned} & \text { No. } \\ & 197 \end{aligned}$ |
| Value of eggs per \& food Wet production (1) per £ food | $\begin{aligned} & \text { £. s. d. } \\ & \text { 2.6.6. } \\ & 1.19 .7 . \end{aligned}$ | $\begin{aligned} & \text { £. s. d. } \\ & 1.11 .10 . \\ & 1.7 .3 . \end{aligned}$ | $\begin{aligned} & \text { £. s. d. } \\ & 1.19 .6 . \\ & 1.14 .3 . \end{aligned}$ | $\begin{aligned} & \text { £.s.d. } \\ & 1.15 .7 . \\ & 1.10 .10 . \end{aligned}$ |
| Food per bird: | Ibs. | Ibs. | lbs. | 1 bs . |
| Home grown Purchasod | $\begin{array}{r} 46 \\ 46 \end{array}$ | $\begin{aligned} & 39 \\ & 98 \end{aligned}$ | $\begin{aligned} & 57 \\ & 56 \end{aligned}$ | $\begin{aligned} & 41 \\ & 98 \\ & \hline \end{aligned}$ |
| Total | 92 | 137 | 113 | 139 |
| Home grom food as porcentage of total food | Per cent | Par cent 29 | Per cent | Per cent <br> 30 |

(I)

Net production $=$ Value of eggs less bird depreciation per bird.

## BIRD DFPRECIATION.

This is the next most important itom of cost and depends on the death rate and the price rocoived for culls. It also dopends on the cost of roaring, but in this investigation the racing cost has beon standardised at 18s. 0d. a bird.

## Mortality.

It can be seen from the individual per bird figures ${ }^{(1)}$ that a high mortality did not necessarily mean a lov profit. It may be linked with high ogg production or with low food consumption and in theso casos the lo is in value of the birds may bo more than compensatod by increased incomo or reduced cost. For example F.C. 30 has a mortality rate in his deep litter flock which was twice that of his range flock and this did not adversely affect profits because of the higher rate of production. P.C. 29 and 26 cut food consumption to a very low level by use of grazing leys and stubbles, and in both cases mortality was high but this was offset by relatively high production in the caso of F.C. 29 who mado a good profit in spite of tho very low price of his cull birds. In the case of P.C. 26 the high mortality was offset by the high price received for the remainine birds. However, high mortality and tho consequent high bird dopreciation did have an adverse affect on profits in some cases. In the batteries three cases (P.C.I, 4 and 33) show that even with a high level of feeding and egg production, birds should not be allowed to die or to be written off as a total loss. However, losses through disease are sometimes unavoidable oven in the best managod flocks.

## Culling.

The rate and time of culling also has considerable affect on bird depreciation, as prices of cull birds vary from month to month - the peak prices being at Christmas and Easter. There is, however, a great variation in local market conditions and some farmers were able to command a good prico all the year round by contracting to maintain a regular supply of good quality birds. For this reason it is not possible to be dogmatic about culling policy. With poultry managed extensively, the problem is fairly sinple becauso there can be no question of culling at Easter, as the high Spring and Summer production, even at low prices, will more than offset any fall in value of the birds.

With the intensive flocks the position is different and a simple calculation can be made to see what policy is likely to pay best. For example, a flock kopt intensively, which has produced $7 \frac{1}{2}$ dozen oggs a bird in six months from lst October to lst April might havo financial results per bird as follors:

See Appondix I. Page 24.

Expenses
Food $\frac{1}{2}$ cwt. Labour Bird depreciation (18s. Od. to 15 s .0 d.$)^{(i)}$ Equipment deprociation Other expenses(ii)
Profit
£. s. d. Income
£.s. d.
Eggs $7 \frac{1}{2}$ doz. (1) 5 s .2 d .

| 3.0 |
| ---: |
| 1.6 |
| 6. |
| 11.9. |
| 1.18 .9. |

(i) This includes an allowanco for mortality.
(iị.) Mainly fuel and lighting.

A flock kept for a furthor six months would not have to bear all the fixed costs, and equipment dopreciation could not be charged. Similarly, labour which has no altermative use should not be charged. However, on most farms this could be used to rear replacements, or for other Spring work. Nevertheless, a flock should not be sold out before all the alternatives avsilable have beon considered. The main points to consider are:
(1) The estimated production and price receivable for eggs;
(2) The expected loss or gain in value of the birds; and
(3) Their food cost.

Expected returns per bird from lst April to 30 th Soptember might be as follows:

Additional Exponses
Food $\frac{1}{2}$ cwt. Labour ${ }^{2}$ (i) Bird depreciation
(15s. Od. to 10 s .0 d.$)(\mathrm{ii})$ Profit
(i) If there is no alternative use for labour than the profit would be 10s. 0d.
(ii) This includes an allowance for mortality.

There may be wide variations in any of the three major items: food costs, egg production and bird depreciation, but a calculation of this kind may prove very helpful even though prices for culls and for eggs, and also the actual production, may not be predictable with any great accuracy.

Other points which must be considered are: making the best use of limited rosources of food and labour, and the competing claims of the rearing flock for housing, food, and labour.

It should be remembered that food cost is the most important exponse which can be reduced by culling, and a simple nothod of seoing whothor food costs are being covered is to divide tho cost of a bird's yoarly ration, say one cwt., by the price of one dozen eggs. This gives the number of egrs a bird must lay ench month to cover food costs and assumes that one hon oats one cut. of food a yoar (a smallor amount of food may be needed for range birds and a groator amount for battory birds). Thorofore 12 hons will oat one cwt. of food $a$ month.

Examplo
if $\frac{\text { Price of one cut. food }}{\text { Price of dozen oggs }}=$ say $\frac{36 s .0 d}{4 s .0 \mathrm{~d}}$.
then nine eggs per hen per month are needed to cover food costs.

## KEFPPING OLDER BIRDS IN THE FLOCK.

Here again, there can be no hard and fast rule as to whether birds should be kept after the first 12 months of laying. Some birds of breeds like Light Sussex may not lay very heavily in the first year, and the next year's production may not be much smaller. But higher producers in the first year may not be expected to be "long distance" layors. Apart from the caso of the lower producing first yoar bird, the main justification for keeping birds a further year would appear to be in the saving of rearing replacoments. If a bird is worth 10 s . Od. at the end of its first laying year and it costs 18 s . Od. to replace it, then its production should be no more than 20 eggs less than that of its replacement, if they are to make similar profits. This assumes that the pullet roplacement will: lase 8s. Od. in value compared vith ls. Od. in the case of the hen, loaving a possible difference in production of 7 s . Od. (assuming food costs to be tho samo for hons and pullets and a similor rate of mortality).

Thus with eggs at 4 s . 6d. a dozen the flock owner might keep a hen if it was likely to lay only about 20 fewer eggs in a year.than its pullet replacement. In most flocks the difference in production would be greater than 20 oggs a bird (perhaps nearer 36) but with culling in the first yoar the difforence in production may bo roduced.

Other alternatives are open to the poultry keeper in keoping birds on after 12 month's production for sale at either Christmas or Faster. Returns per bird from lIst October to Christmas might be:

## Additional Expenses

Additional Income
£. s. d.
Food $\frac{1}{4}$ cwt.
Labour
Profit
9. $0^{\circ}$

1. 6. 
1. 9 .
2. 3. 

£. s. d.
Eggs $1 \frac{1}{2}$ dozen @
5s. Gd.
8. 3.

Bird appreciation
(10s.0d. to 17 s .0 d ) 7.0 .
15. 3.

Thus with a rate of lay of six eggs per bird each month, and assuming a sale price of birds of 18 s . Od. (the increase to 17 s . Od. takes account of mortality), there is a profit of 4 s . 9 d . a bird for the three months. Assuming this price for birds it would pay to kep them till Christmas avon though food costs are not fully covered by egg sales.

Conditions will vary a good deal with the locality and this practice may not be the best in many cases, and the farmer must fit his own prices, to work out the possible profit.

With birds kept till Easter, one might expect an increase in the rate of production, say nine eggs a month, and a fall in the price received for birds say 15 s . Od. instead of 17 s .0 d .

Returns per bird from last October to 3lst March might be:

## Expenses Income

Food $\frac{1}{2}$ cwt. Labour

$$
\begin{array}{r}
4.3 \\
\hline 1.5 .3 \\
\hline
\end{array}
$$

£. s. d. 18. 0. Eggs $4 \frac{1}{2}$ dozen (a) 3. 0. 4s. Wd. 1. 0. 3. Bird appreciation
Profit

$$
(10 \mathrm{~s} .0 \mathrm{~d} . \text { to } 15 \mathrm{~s} .0 \mathrm{~d} .) \quad 5.0 .
$$

$$
\text { £1. 5. } 3 .
$$

It should bo borne in mind that the egg yields assumed are low and actual yields might exceed those given. However, the assumption of six eggs a month during October, November and December takes into account the fact that this is probably the moulting period, the total of 54 eggs in the six months October to March assumes that about 80 eggs will be laid in the six Summer months making a total of 134 in 12 months.

The assumptions in these two examples are not meant to show that it would be profitable for a farmer to keep older birds until Christmas but not until Easter. They are mainly to show the method by which farmers can calculate the expected returns under their own cost and price conditions.

## Seasonality.

:. For ach mothod of production there was a wide variation in the average price received for eggs.

## DISTRIBUTION, BY METHOD OF HOUSING, OF AVERAGE PRICES RECEIVED. (22 flooks)

TABLE 11
Per dozen eggs

| Method of housing | No. of flocks | Range of averago prices received by flocks |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Batteries | 4 | $\begin{array}{ll} \text { s. } \\ 4 . & \end{array}$ |  | $\begin{aligned} & \text { s. d. } \\ & 4.11 . \end{aligned}$ |
| Deep litter ( |  |  |  |  |
| Hen yard ) | 6 | 4. 6. | " | . $11 \frac{1}{2}$ |
| Folds | 5 | 4. 4. | " | 4.8. |
| Range | 7 | 4. 4. | " | 4.9. |

Whon the price of oggs varies from 3 s .7 d . to 6 s . 1 d . per dozen, the number of oggs produced in the Winter has an obvious effect on profits. However, it is not scasonality alone which affects profits. . Winter and Summor egg production must be considered in relation to the costs incurrod, and food costs in particular. Roferring to the costs per 120 eggs $(1)$ it can be seen that the eight battery flocks recoived 4 s . Od. more per 120 eggs than the eight range flocks, but their food costs werc 3s.10d. higher. Also, the variation within each group is quite considerable and the price received depends not only on the proportion produced in the Winter but upon the production from July to the ond of September when eggs are 4s. 6d. to 5 s .0 d . por dozen.

Examination of the individual per bird results shows that low average receipts per dozen eggs did not necessarily mean low profits, especially in the Extensive flocks. But oven in the Intensive flocks with a high rate of food consumption a good profit can be made. P.C. 6 in a hon yard had an average price per dozen of 4 s . 6d. and a food cost per bird of 38 s . 7 d . and yet made more than 19s. Od. a bird profit. In this case the high production (205 eggs a bird) mado up.for tho low price per dozen oggs.

Where high quality foods aro fod for Winter egg production, and the same level of feeding is continued throughout the Summer months, there will be a much smaller margin over food costs in the Summer. The farmer may well be faced with the choice of an income of $£ 350$ in six months or $£ 500$ in 12 months. Against this must be set the fact that some of the fixed costs may have already been met bofore the Spring and Sunmer production cormencos, and when considering tho altornatives, these fixed costs should really be chargod to the Winter production, and not sproad over the whole year. If labour, land and housing are available it may be worth considering the possibility of feeding birds, which have been indoors all winter, on free range and stubbles in the Spring and Surmer. By this mothod, costs may be reduced without greatiy reducing income. A reduction in food consumption of 14 lbs . per bird means an extra 4 s .6 d . per bird if food is 36s. Od. a cwt. Even if the saving is not as much as 14 lbs. there may be a similar economy in feeding more home grom foods and thus reducing the cost of the ration.

It should pay to produce out of season, as eggs will always be plentiful in the spring, but it should be remembered that high winter production is only one of the factors which lead to high profits.

LABOUR COSTS.
DISTRIBUTION OF LABOUR COSTS PER BIRD. (22 flocks).
TABLE 12

|  | Batteries | Deep litter | Hen yard | Folds | Range | Total |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Below 4s. | 1 | - | 1 | 1 | - |
| 4s. to 6s. | - | 2 | 2 | 2 | 2 | 3 |
| 6s. 8s. | 3 | - | - | 1 | 4 | 8 |
| $8 \mathrm{s.c} 10 \mathrm{~s}$. | - | - | - | 1 | 1 | 2 |
| Over 10s. | - |  |  | 1 |  |  |

The labour costs per bird did have some effect on profit, but as in most cases this was just a reflection of the amount of family labour which could be devoted to looking aftor the poultry, their importance may be over emphasised. To the farmers who used fomily labour, the significant figure is Profit plus Labour charge which represents the total return for his labour and capital outlay, as well as for his skill as a manager.

However, for any particular flock the method of poultry keeping choson determines the number of birds that can be kept with a fixed amount of labour. This is important because the size of the flock determines the size of income. The number of hours spent with the poultry depended not only on the method, but on the quality of the labour and the interest of the poultry man or woman in the care of poultry, as well as the
extent to which other work made demands on their time. But for a given flock with the same poultryman, less time will bo needed using intensivo methods, so that size of flock and of income can be increased in this way.

## NOTES ON METHOD AND CAPITAL COSTS.

Capital costs.
Capital costs vary with the method chosen and the figures show in this roport give some idea of the variation, ulthough they may be misleading in somo cases. The figuro in each caso royresents the value of capital invosted in equipment, and does not give a tirue guide to costs of starting a now enterprise. In the nowor intonsive nethods the capacity of the house was ofton above the numbor actually kept because the new mothods were on trial.

Batteries are the most expensive method of housing and may cost anything from 20s. Od. a bird upwards, but there are considerable economies to offset tho large outlay. The method is safe and well tried and very economical in the use of buildings, especially where two birds can be kept in a cage. Rations must be well balanced and many farmers did not: consider they could use much home grown foods. Consequently, food costs of battery birds were well above the average. Labour costs per 120 eggs produced wore highor than the other intensive mothods and roflect to some extent the individual attention required by battery birds. Batterios may be best when capital is plentiful and farm buildings in short supply.

Deap Litter. Whore buildings are availablo for conversion capital costs can be kept low ( 5 s . Od. to 10 s . Od. a bird) but when the number of birds exceeds 200 to 300 , there may be need for orecting further buildings and the capital costs may thus rise steoply. Providing housing, at four square foct, a bird may cost from 15 s . Od. to 30 s . Od. a bird and even more.

From a manurial point of viem peat moss is probably the best kind of litter, but if there is no sale for the manure then it may be botter to use a cheaper form of litter - chopped straw or shavings. Five hundred birds will need one ton of peat moss and produce eight tons of manure.

If the peat costs $£ 10$ a ton and the manure is worth $£ 6$ a ton this represents a return of 1 s .6 d . por bird for an outlay of 4 d . to 5 d . a bird.

Hon Yards. This method lends itself well to improvisation and yards can be orected or converted to the use of poultry at low capital cost, by the use of balos or froe range houses, or both at from 5 s . Od. to 15 s . Od. a bird. Capital costs do not rise to the same extent as with deop litter,
when the size of flock is increased. Expansion is relatively easy and cheap, if the land is available. One hundrod birds require about two tons of straw per annum deponding of course on the woather. This method may bo best where a large number of birds are to be kopt with as little capital oxpenso as possible, or whero a suitablo yard is available for conversion.

Folds. Most fold units will cost about $£ 1$ per bird but they do havo tho advantage of boing usoful for rearing birds from about oight weoks onwards. It is difficult to put a valuo on tho manure producod and spread by fold unit birds, (porhaps about ls. 6d. per bird).

Range. Capital costs of free range houses are fairly well known and might be anything from 10s. Od. a bird upwards.

## FUTURE PROSPECTS.

The poultry industry has been selected as the "guinea pig" for a movement in the direction of "less control". This move towards freer marketing has been recoived with mixed feelings by those connocted with the industry, and producers' represontativos have exprossed doubts about the achievement of an orderly markoting scheme which will give the farmer the protection promised in the 1947 Act. However, the prosent guaranteed minimum price of 3 s .6 d . a dozen, and the average price of 4 s . 0 d . a dozen do give the farmer some safeguard. Now that the final subsidy on feeding stuffs has been removed, the increase in prices of £2. to £3. a ton will mean that the average minimum of 4 s . Od. a dozen would be inadequate for profit making. But it must be remembered that 4s. 0d. a dozen is the minimum average price below which prices will not be allowed to fall, and the expected average price should be much highor.

It is fairly obvious that the fixing of minimum prices was carricd out with an eye to the future, as feed pricos might be expected to move downwards after this year's harvest.

The free market in fooding stuffs which comes into oporation after this year's harvest will have considerablo effects on tho poultry industry. Compotition will no doubt increase, with now entrants to the industry, and increased size of flocks especially on specialist holdings.

Demands for feeding stuffs are likely to be high, because of increased demands for livestock feeding, especially pigs, whose numbors have increased by almost a million a year in the last three years and look like reaching a record figure.

The graph below gives some idea of the relative changes in profite: ability of pigs and poultry during the years shown.

GRAPH NO. 1 PRICES OF 1-SCORE BACON (DEADWEIGHT) AND 120 EGGS 1938. to 1952 (Nearest shilling)


It can be seen that in 1938 the price of 120 eggs under free market conditions was greater than the price of one score of bacon. All through the Second World War prices were more favourable to egg producers than to bacon producers and only after 1949, when a special stimulus was given to pig meat production, did the position change. Bacon pigs were given a price increase of 6 s . 9d. a score dead weight compared with an increase of 10d. per 120 eggs. In 1950 bacon producers received a further 4s. Od. per score whereas egg producers had no increase. In 1951 the respective price increases were 6 s .6 d . per score and 2 s . ld. per 120 eggs, and in 1952, 3s. 3d. a scorc and 2s.11d. per 120 eggs. Thesc awards differ from the actual prices received bocause of quality premium for pigs and seasonal variations in egg production.

FEED/EGG RATIOS AND FEEED/BACON RATIOS COMPARED.
TABLE 13

Scores of bacon dead weight to buy 6 cwts. proprietary pig meal.

Dozens of eges to buy 1 cwt . proprietary poultry food.

| 1938 | $1942-1946$ <br> (average) | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3.7 | 4.1 | 3.4 | 3.0 | 3.9 | 3.8 | 4.1 | 3.9 |
| 6.6 | 5.4 | 5.1 | 5.1 | 4.5 | 6.6 | 7.7 | 8.8 |

SOURCE: Based on data from the anivual abstract OF STaTISTICS AND MONTHLY DIGEST. H.M. STATIONERY OFFICE, LONDON.

When the feed/egg and feed/bacon ratios are compared, it can be seen that bacon producers are in a position roughly comparable to 1938, whereas ege producers have been better off during the war and post-war yoars up to 1949, but in 1952 wore in a much less favourable position than in 1938.

Thus if 1938 is taken as representative of what could be expected under free market conditions, it might be reasonable to expect the feod/egg ratio to become more favourable to egg producers.

However, the competitive position of egg producers relative to pig producers will be influenced by factors other than the prices of feeding stuffs. Imports of both eggs and bacon must be considered, but as imports of both are still below the 1938 level, producers of both eggsand bacon should not feel the full force of foroign oompetition unless import regulations are changed, and imports are considerably increased.

Prices of feeding stuffs will be influenced to some extent by increased demands for livestock feeding but these demands could be met by supplies which aro available on tho world market if agreement can be reached with the chief grain exporters, and if currency, especially dollars, is made available. Even if pigs were increased by one million, and hens by 10 million they would noed no more than $\frac{1}{2}$ million tons of feeding stuffs or $1 / 50$ th of the estimated reservos of grain held by the Unitod States and Canada after this ycar's harvest. Britain's refusal to sign the Intermational Wheat Agreement may give other countries the lead to hold out for lower prices in view of the supply position. Also from lst May, 1953 import licences will be issued to merchants for the import of feeding stuffs and fertilisers from any country, subject to the availability of currency. Feed prices may perhaps rise at first but can be expected to move downwards in tho future.

The future of the egg producing industry will also be influenced by the development of rasthods of prosorving agez ogpooin $3 \lambda y$ by the oil dipping method. It will also depend on the quantity and quality of imports and the price at which they can be marketed. No doubt if higher prices were paid to exporting countries we could get a greater supply of eggs but this depends on the government's import and tariff policy and may bo strongly influenced by pledgos made to protect the British ege producer.

The housewife also has a strong influence. She probably has decided views about the quality of eggs in relation to the price. Does the housewife prefer British eggs to foroign eggs and does she prefer fresh eggs to preserved ones? Undoubtedly there is scope for increased ege consumption, and the consumer will probably prefer British, and fresh eggs to imported or preserved ones, but the deciding factor in many family budgets is price. Provided that producers can buy all that they want in the way of feeding stuffs, and supplies remain good, they cannot expect to receive increased prices if the costs of food rise, unless this is warronted by the state of the market. They may expect some protection from foreign competition hut should not expect protection from the competition of other home producers.

When speculating as to whether there will be a return to the pro-war ogg/feed ratio which was more favourable to egg producers, it must be borno in mind that conditions do diffor from those prevailing in 1938. Perharis the greatest difference will be in improved techniques which should gracually increase the number of eggs produced per bird. The estimated production per bird in England and Wales on agricultural holdings was 154 for the perwar years, 133 in 1948-49, 142 in 1940-50, 145 in 1950-51, 146 in 1951-52 and 148 in 1952-53. These estimates are based on throughput figures at packing stations and may give a false picture because black market sales have to be estimated as a percentage of total sales. However, it is proboble that rates of production are increasing and that further improvements can be expected with improved livestock breeding schemes and better husbandry.

As the results of scientific research become known and applied to the problems of practical poultry keeping, the productive capacity of our poultry flocks can be raised. Perhaps the greatest possibility lies in reducing the amount of food a bird needs, by environmental control - light, temporature, insulation, fooding otc.

The net effect of improved standards might be expected to mean lower margins for the below average producers, although it is probable that there will at first be only an increase in the range of efficiency rather than a sharp increase in average standards. It must also be remembered that present levels of profits do not give a great margin for risk and for overhead exponses and it may not be over-optimistic to expect some increase in the lovel of ogg prices at least until the effect of increased food supplies is felt. Howover, as prices of foed are rather fluid at present, it would probably be more appropriate to speak of a more favourable e:'. $/$ feed price ratio rather than increased egg prices.

To sum up the position, perhaps the most that can be said about the future of the industry is that poultry keepers can expect to be at least no worse off than they arc at present. The extent of any favourablo trend cannot be predicted because tho two most important factors influencing the position, namely:- imports of feeding stuffs and imports of shell eggs, dopend on govormment policy. Even so it is very unlikely that future changes will show any departure from the spirit and letter of the 1947 Act.

RECEIPTS AND PAYMENTS AND OTHER AVERAGE FIGURES PER BIRD.


RECEIPTS AND PATMENTS AND OTHER AVERAGE FIGURES PER BIRD

| $\frac{\text { SYSTES }}{\text { FARY CODT TIO }}$ | 8-DE巴P LITTER |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| PAYMTNTS | f. 8 | 30 | 31 | 47 | 48 |
| Foods: Purchasod |  | £. s. d. 13.10. | £. 3. d. | £. s. d. | £. s. d. |
| Homo grown Toto | $1.19 .11$ | 13.10 7.3 | 15.2 10.2 | 1.6 .1. 71.5 | 1. 2. 4. |
| Labour Totan | 2.0.8. | 1.1.1. | 1. 5. 4. | 1.17.6. | 1. 8. 0. |
| Bird doprociation | 5.9. | 3. 8. | -6.3. | 4.1. | 3. 8. |
| Equipmento doprċciation |  | 10. | - 12.1. | $=9.11$. | 10. 5. |
| Other expenses | 1. | 11. |  | 1.10. | 2. 4. |
| Prorit | $16.0$ |  | 17. | 11. | 8. |
| Total = (oges sold or consumod) | $3.12 .3$ | $\text { 1. } 3 \cdot 7 \cdot$ | $\begin{aligned} & 17.3 \\ & 3.10 .10 \end{aligned}$ | - $\begin{gathered}11.8 . \\ 3.11 .\end{gathered}$ | $\begin{array}{r} 10.8 . \\ 2.15 .9 . \end{array}$ |
| Number of |  |  |  |  |  |
| Number of laying months <br> Avorage number of birds durinc poriod | 12 | 8 | 10 | 12 | 11 |
| ivoraco numbor of oggs laid por bird | 486.7 | 89.2 | 130.2 | 391.2 | 365.6 |
| -Por cant apraduction on hen day basis | 182 | 147.7 | - 160.2 | . 167.2 | 138.1 |
| Prico por dozon ogess sold | 50 4.11 | 61 | 53 | 16 | 41 |
| divarazo frico of birds sold | 4.11 ${ }^{4}$. | 4.11. | - ${ }^{4.8 .8 .}$ | $=4.9$. | 4.10. |
| Ifortality as percontagc of average | 15.0 | 2. 92. | - 9.5. | -12.4. | 8. $3 \frac{1}{2}$. |
| - numbor of birds. | 25.1 |  |  |  |  |
| Mortality as percentage of muximum | 25.1 | 14.6 | - 13.8 | 13.8 | 16.7 " |
| numbor of birds |  |  |  |  |  |
| Camital por avorago number of birds | 16.1. | 13.0 | $\cdots 6.4$ | 13.7 18.4. | $13.3$ |
| Capital por maximum number of birds Food conisumad (adjustod to 12 months)ibs. | 9.8. | 11.10 | $=5.00$ | $\begin{array}{r}18.4 \\ \hline 16.10 .\end{array}$ | $\begin{array}{r} 1.3 .4 . \\ 18.7 . \end{array}$ |
| -rosd consumad (adjustod to 12 months)lbs. | 159. | 102 . | - 102. | . 125 |  |

RECEIPTS AND PAYEENTS AND OTHER AVERAGE FIGURES PER BIRD.

| SYSTEM | HEN YARD |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FhRM CODE NO. | 2 | 6 | 15 | 20 | 25 | 40 | 41 | 42 | 46 |
| IhMTENTS. | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. | f. s. d. | £. s. d. | s. d. |
| Foods: Purchased | 13.10. | I. 8. 0. | 12. 8. | 18.3. | 13. 2. | 1.12 .4. | 7.6. | 8. 2. | 7.8. |
| Home growm | 2. 2. | 10. 7. | 2. 7. | 15.9. | 16.1. | 13.9. | 11.8. | 9.10. | 9.4. |
| Total | 16. 0. | 1.18. 7 | 15.3. | 1.14 .0 | 1. 9.3. | 2.6.1. | 19. 2 . | 18.0 | 17.0. |
| Labour | 2. 2. | 5. 5. | 2. 8. | 9.10 | 8. 2. | 5.1. | 5.9. | 1.7. | 3. 4. |
| Bird depreciation | 9.1. | 11. 6. | 6.7 . | 9.4. | 7.1. | 11.6. | 3.6. | 5.10 | 7.9. |
| Equipment depreciation | 11. | 1. 2. | $1: 1$. | 1. 9. | 2. 5. | 1. 5. | 2. 5. | 8. | 10. |
| Other expenses | , |  | 6. |  | 1.3. | 2. 2. | 1.2. |  |  |
| Profit or loss | 10.3. | 19.4. | 16.11. | 14. 8. | 13. 8. | 13. 0. | (-) 1. | 15. 3. | 13. 0. |
| Total $=$ (eggs sold or consumed) | 1.18. 5. | 3.16. 3. | 2.3.0. | 3.10 .0 | 3. 1.10. | 3.19.3. | 1.12. 0. | 2.1.4. | 3.1.11. |
| Number of laying months | 6 | 12 | 7 | 11 | 12 | 12 | 7 | 7 | 12 |
| Average number of birds during period | 765.7 | 228.6 | 624.0 | 111. | 373.0 | 276 |  |  |  |
| Average number of eggs laid per bird | 76.7 | 205.5 | 624.0 99.3 | 175 | 373.0 160.6 | 276.9 201.6 | 74.4 84.6 | 19 | 63.0 |
| Per cent production on hen day basis | 49 | 56 | $0 \cdot 3$ | 17.0 .56 | 160.6 44 | 201.6 | 84.6 40 |  | 162.8 |
| Price per dozen eggs sold | 5.2 | 4. 6. | 5. | 4.10 | 44 | 55 | 40 | 47 | 45 |
| Average priee of birds sold | 9.10 | 8. 0.0. |  | 9.10 | 4.8. | 4. | 4.7 . | 5. 0. | 4.7. |
| Mortality as percentage of average number of birds | 16.8 | 8. | 10 |  |  |  | 12 | 10. 1. | 8.11. |
| Mortality as percentage dí faximum number of birds | 16.8 13.1 | 9.2 7.7 |  |  | 17 | 27.1 | 13.3 | 9.2 | 9.2 |
| Cepital per average number of birds | 13. | 1. 0.5 | 10 | 13. | 11.1 | 19.2 | 12.0 | 8.2 |  |
| Capital per maximum number of birds | 5. | 17.0. | 10.11 | 0.10. | . 11 | 14.4. | 1. 4.6. | 12.11. | 11. 0. |
| Food consurod (adjust o. te 12 rionths) ibs. | 102 | 17.0 | $9{ }^{8 \cdot}$ | $\begin{aligned} & 14.1 . \\ & 123 \end{aligned}$ | $\begin{aligned} & 18.0 . \\ & 116 \end{aligned}$ | $\begin{aligned} & 10 . \\ & 151 \end{aligned}$ | 1. 2. 3. | $11 ;$ 120 | $\begin{aligned} & 10.0 . \\ & 134 \end{aligned}$ |

RECEIPTS LND PAYMETS IND OTHER AVERAGE FIGURES PER BIRD.

| SYSTEM FARII CODE MO. | FOLDS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 3 | 4 | 14 | 19 |  |  |
| PAYMTIVTS. | £. s.d. | f. s. d. | £. s. d. | £. $\frac{19}{\text { s. }}$. | £. 27. | £. 39 |
| Foods: Purchased | 1. 7.11. | 17.0 | 1. 0.0. | 2. S. <br> 1. 4. <br>  | £.s.d. | £. s. d. $\text { 1. } 0.8 .$ |
| Home grown Total | 7.6. | 12.10. | 7.0. | 12. 1. | 2. 1. 6. | 1.0.0. |
| Labour Total | 1.15. 5. | 1. 9.10. | 1.7.0. | 1.16. 4. | 2.1.6. | 1.19.8. |
| Bird depreciation | 10. 5. | 8.11. | 4.10 | 4. $5 \cdot$ | 8 | 4.9. |
| Equipment depreciation | 3.8. | 1.10. | 4.10. | 9.9. | 8.5. | 4. 2. |
| other expenses | 3. 5. | 1.10. | 2. 2. | 1.6. | 2 | 2. 1. |
| Profit or loss | 3.9. | 12. 7. | 13. 8. | 1.6 14.8. | 2.0. | 15 |
| Total = (eggs sold or consumed) | 3.1.3. | 3.0.9. | 2.11. 9. | 3.7.6. | 3. 4.2. | - 2.6 .7 |
| Fumber of laying months | 12 | 11 | 12 | 12 | 12 | 12 |
| period | 182.3 | 79.4 | 279.4 | 210.1 | 1,054.8 |  |
| Average number of eggs laid per bird | 161.8 | 158.9 | 279.4 | 210.1 | 1,054.8 | 927.4 |
| Per cent production on hen day basis | 161.8 44 | 158.9 | 144.1 | 173.0 | 181.9 | 127.7 |
| Price por dozon eggs sold | 44. $6 \frac{1}{2}$ | 47. 7. | 39 | 47 | 50 | 35 |
| Avorage price of birds sold | 9. $7 \frac{2}{2}$ | 12. 5. | 13. $1 \frac{1}{2}$ | 4.8 10.3 | 4.4. | 4. 5. |
| Hortality as percentage of average number of birds | 29.18 | 12. 5 • | 13. $1 \frac{1}{2}$ | 10.3. | 12.3. | 9.6. |
| Mortality as percentage of maximum number of birds | 29.1 | 8.8 7.3 | 7.9 | 11.9 | 38.7 | 38.4 |
| Capital por averago number of birds | 1.10.2. | 17.3 | 17.1 | 9.7 | 33.9 | 37.3 |
| Capital por maximum number of birds | 1.3.1. | 12.1. | 17.5 | 12. 3. | 12.10 | 16.10. |
| Food consumed (adjusted to 12 months) lbs. | 1.3 .1. 116 | 12.1. 109 | 15.8. 91 | 12. 5. | 11.3. 164 | 13.9 143 |

RECEIPTS 1 ND PAYENTS AND OTHER AVERAGE FIGURES PER BIRD.

| SYSTEM | R A II G E |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FARA CODE NO. | 9 | 10 | 12 | 16 | 26 | 29 | 30 | 38 |
| PAYLENTS | £. s. d. | f. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. ${ }^{\text {d. }}$ | £. s. d. |
| Foods: Payments | 1. 1. 9. | 11. 2. | 2. 3.6. | 18. 5. | 14.9. | 16.11. | 15.3. | 11. 9. |
| Home grown Total | 15.0. | 19.1. |  | 8.11. | 9. 5. | 4.10. | 9.11. | 12. 4. |
| Labour Total | 1.16 .9. 10.6 | 1.10.3. | 2. 3.6 | 1. 7.4. | 1. 4.2. | 1. $7.9 \cdot$ | 1. 5.2 | 1.4.1. |
| Bird depreciation | 10. | 12. 8. | 7.8 |  |  | 6.5. | 6.11. | 5.1. |
| Equipment deprecia |  |  |  |  |  |  |  |  |
| Other expenses |  | 1. | 2 |  |  | . | 2. 0. | 2. |
| Profit or loss | 6.1. | 8. | 8.11. | I. 4. 8. | 0 |  |  | 1. $5 \cdot$ |
| $\begin{aligned} \text { Total }= & \left(\begin{array}{c} \text { conss sold } \\ \\ \\ \text { consumed } \end{array}\right) \end{aligned}$ | 3. 5. 4.1 | 3.2.9. | 2.12. 3. | 3.7.4. 4. | 2.11. 9. | 3.0.0. | 1.4 .2. 3.8 .6. | 3. 2.2 . |
| Nunber of laying months | 12 | 12 | 12 | 12 | 12 | 12 | 10 | 12 |
| Average number of birds during perioc | 85.7 | 227.3 | 460.2 | 138.2 | 349 |  | 139.4 | 288 |
| Average number of eggs |  | 22.3 | 460.2 | 130.2 | 349.2 | 284.8 | 139.4 | 288.2 |
| Iaid per bird | 181.0 | 174.2 | 145.2 | 180.3 | 139.4 | 152.1 | 176.5 | 165.4 |
| Por cent production on hen day basis | 49 | 48 | 40 | 49 | 38 | 42 | - 58 |  |
| Price per dozen eggs sold | 4. 5. | 4. 4. | 4.4. | 4.6. | 4.6. | 4.9. | 4.8. | $\begin{aligned} & 45.2 \\ & 4.6 . \end{aligned}$ |
| Average price of birds sold | 9. 5. | $\varepsilon .1$. | 10. $1 \frac{1}{2}$ | 8.7. | 13.4. | 6. $1 \frac{1}{2}$ | 11.8. | 9. $2 \frac{1}{2}$ |
| Mortality as percentage of avorag̃ numbor of birds |  |  | 10.1 21.5 | 13.7 | 13.4 | 6. 20.4 | 11. 8. | 9. $2 \frac{1}{2}$ |
| Mortality as percontago of | 31. | 3 | 21.5 | 13.7 | 37.8 | 20.4 | 6.5 | 7.3 |
| maximum numbor of birds | 22.5 | 2\%.9 | 17.2 | 8.5 | 28.3 | 19.3 | 4.5 | 7.2 |
| Capital per avarage numbor of birds | 9.1. | 1.1.2. | 1.6.0. | 1.13. 9. | 10.6. | 1.0.0. |  |  |
| Capital por naximum numbor of birds | 6. 6. | 17. 5. | 1.6. 0 | 1.13 .9. 1.1 .0. | 10.6. | 1.0.0. | 17.3. | 17.4. |
| Food consumed (adjusted to |  |  |  | 1.0. | 7.10. | 18.71. | 12. 0. | 17.3. |
| 12 months) lbs. | 139 | 117 | 131 | 94 | 84 | 70 | 99 | 96 |

## CEHINX II

COSTS AND RETURNS PER 120 EGGS LAID.

| $\begin{aligned} & \text { SYSTEM } \\ & \text { FARMI CODE NO. } \end{aligned}$ | 1 C 1 B A T T ER I, ES |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PAYMENTS. | £. 1 | f. $\frac{4}{\text { s. }}$ | 13 | 33 | 35 | 43 | 23 | 49 |
| Foods: |  |  | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. |
| Purchased Home grown | 1. 8. | 1.6.5 | 1. 2.7. | 19.11. | 1.7.9. | 1. 8. 4. |  |  |
| Home grown Total | 1.8. | 1. |  | 4.3. |  | 1.2. | 18.5. 3. 2. | 18.4. |
| Labour | 1.8.8 | 1. 0.6 | 1. 2.7. | 1. 4. 2. | 1.7.9. | 1.9.6. | 1. 1.7. | 1. 1.10 . |
| Bird depreciation | 3.7 | 8.9. | 4. 2. | 7. 4. | 4. 0. | 4. 2. |  |  |
| Equipment " |  | 13.0. | 11.8. | 9.1. | 6. 0. | 6.8. | 5. 5. | 4.8 |
| Other expenses |  |  | 2. 5. | 1.8. | 10. | 7. | 7. | 1.7. |
| Total | 2.3.2 | 2.10. 1. | 2.1.1. | 2. 2. 3. | 1.18.7. | 2. 2. 6. | 1.11. 4. | 4. |
| Price per 120 eggs | 2. 8. 0 | 2.12. 4. | 2.14. 0. | 2.8.0. | 2.8.0. | 2. 8. 3. |  |  |
| Profit | 4.10 | . 2.3. | 12.11. | 5.9. | 9.5. |  |  | $\text { - } 6.7$ |

COSTS AND RETURNS PER 120 EGGS Lhid.

| SYSTEM | DEEP LITTER |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| FARN CODE.NO. | 3 | 30 | 31 | 47 | 48 |
| $\begin{aligned} & \text { FAYMENTS. } \\ & \text { Foods: } \end{aligned}$ | £. s. d. | £.s. d. | £. s. d. | £. S. d. | f. s. ${ }^{\text {d. }}$ |
| Purchased Home grown | 1.6. 6. | 11. 5.11. | 11.5 7.7 | 18.9. 8.2. | $\begin{array}{r} 19.5 \\ 4.11 . \\ \hline \end{array}$ |
| Total | 1.6.10. | 17. 2. | 19.0 | 1. 6.11. | 1.4.4. |
| Labour | 3.9. | 2.11. | 4. 8. | 2.11. | 3. 2. |
| Bird depreciation | 4.11. | 8.8. | 9.0. | 7.1. | 9.1. |
| Equipment " | 1.0. | 9. | 5. | 1.4. | 2. 0. |
| Other expenses |  | - | 4. | 8. | 7. |
| Total | 1.17. 1. | 1.9.6. | 1.13. 5. | 1.18.11. | 1.19. 2. |
| Price per 120 eggs | 2.7.8. | 2.8.8. | 2.6.4. | 2.7.4. | 2.8.6. |
| Profit | 10.7 | 19. 2. | 12.11. | 8.5. | 9. 4. |

COSTS AND RETURNS PER 120 EGGS LAID.

| SYSTEM | HEN YARD |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FARII CODE NO. | 2 | 6 | 15 | 20 | 25 | 40 | 41 | 42 | 46 |
| PAYMENTS. <br> Foods: | £. s. d. | 2. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s.d. | £. s. d. |
| - <br> Purchased Home grown | 18.7. 2.11. | 16.4. 4.9. | 15.4 3.1 | 12.6. 10.9. | 9.10 12.0. | 19.3. 8.2. | 10.8. 16.6. | 9.10 11.10 | 15.8. |
| Total | 1.1.6. | 1. 1. 1. | 18.5. | 1.3.3. | 1. 1.10. | 1.7.5. | 1.7.2. | 1.11.10. | 1.1.7. |
| Labour | 2.11. | 3. 2. | 3. 3. | 6.9. | 6.1. | 3. 0. | 8.2. | 1.11. |  |
| Bird depreciation | 12. 3. | 6.9. | 8.0. | 6.5. | 5.4. | 6.10. | 5.0. | 7.11. | 2. 5. |
| Equipment " Other expenses | 1. 3. | 8. | 1.4. | 1. 2. | 1.10. | 10. | 3. 5. | 7. 10. | 5.9. |
| Total | 1.17.11. | 1.13. 3. | 1.11. 7. | 1.17.11. | 1.16. 0. | 1.19. 5. | 2. 5. 5. | 1.11. 5. | 1.16. 0. |
| Price per 120 eggs | 2.11. 7. | 2. 4.10. | 2.12. 1. | 2. 8.0. | 2.6.2. | 2.7.2. | 2. 5. 3. | 2. 9.10 | 2. 5. 8. |
| Profit or loss | 13.8. | 11. 7. | 1.0.6: | 10.1. | 10.3. | 7.9. | $(-) 2$. | 18.5. | 9. 8. |

COSTS AND RETURNS PER 120 EGGS LAID.

| SYSTEH: | FOLDS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FARIT CODE ITO. | 3 | 4 | 14 | 19 | 27 | 39 |
| Paments. | f. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. |
| Foods: |  |  |  |  |  |  |
| Purchased | 1. 0.8 . | 12.00. | 16.8. | 16.10. | - | 19. 5. |
| Home grown | 5.7. | 9.8. | 5.10. | 8.5. | 1. 7. 5. | 17.10. |
| Total | 1.6.3. | 1.2.6. | 1. 2.6. | 1. 5.3. | 1.7.5. | 1.17.3. |
| Labour | 5.8. | 6.0. | 2. 3. | 3. 1. | 5.6. | 4. 6. |
| Bird depreciation | 7.9. | 6.6. | 4. 0. | 6.9. | 5.7. | 3.11. |
| Equipment " | 2. 8. | 1. 5 . | 1.10. | 7. | 1.1. | 1.11. |
| Other expenses | 4. | - | 1.2. | 1.0. | 1. 4. | 5. |
| Total | 2. 2. 8 . | 1.16. 5. | 1.11.9. | 1.16.8. | 2. 0.11. | 2.8.0. |
| Price per 120 eggs | 2. 5. 5. | 2. 5.11. | 2. 3. 1. | 2.6.9. | 2.3.3. | 2.3.8. |
| Profit or loss | 2. 9. | 9.6. | 11. 4. | 10. 1. | 2. 4. | $(-) 4.4$ |

COSTS ATD RETURNS PER 120 EGGS LAID.

| SYSTEM | R A W G E |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FARM CODE NO. | 9 | 10 | 12 | 16 | 26 | 29 | 30 | 38 |
| PAYMENTS. | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. |
| Foods: <br> Purchased | 14. 5. | 7. 8. | 1.16. 0. | 12. 3. | 12. 8. |  |  |  |
| Home grown | 10.0. | 13.2. | 1.16. 0. | 12.11. | 12.8 8.2. | 13.4 3.10. | 10.5 6.9. | 8.6. 9.0. |
| Total | 1.4.5. | 1. 0.10. | 1.16.0. | 18. 2. | 1. 0.10 | 17.2. | 17. 2. | 17.6. |
| Labour | 7. 0. | 5.3. | 5.6. | 2.11. | 6. 2. | 5.1. | 4.9. | 3. 8. |
| Bird depreciation | 7.1. | 8.9. | 6. 4. | 4.11. | 6.5. | 10.10. | 6.11. | 4.9. |
| Equ̇ipment " | 10. | 1. 9. | 2.7. | 2. 4. | 11. | 1.7. | 1.4. | 10. |
| Other expenses | - | 1.1. |  |  | - | 7. | - | 1.0 . |
| Total | 1.19. 4. | 1.17. 8. | 2.10.6. | 1.8.5. | 1.14.4. | 1.15.3. | 1.10. 2. | 1.7.9. |
| Price per 120 eggs | 2.3.4. | 2. 3. 3. | 2.3.2. | 2. 4.10. | 2. 4.10. | 2.7.4. | 2.6.7. | 2.5.1. |
| Profit or loss | 4. 0. | 5.7. | (-) 7.4. | 16. 5. | 10.6. | 12. $1:$ | 16. 5. | 17. 4. |


[^0]:    See section on "Future Prospects". Page 19.

