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# Poultry Record Flocks In Minnesota

1925-1926

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## POULTRY RECORD FLOCKS IN MINNESOTA, 1925-1926

### Record Keeping for Good Management

It is sometimes said that a farm business without records is like a clock without hands. This is as true of the single enterprise, poultry raising, as it is of the farm business as a whole. Poultrymen everywhere need definite information as to the best practices to follow in caring for their flocks, what costs enter into the running of the business; what are the probable sources of income; and what standards of production and costs may serve as a guide in the handling of their flocks.

The poultry record flock project in Minnesota has been conducted with a view to making available such information, based on actual records of the receipts and expenditures in a representative group of flocks in different parts of the state. Such records not only help the owner to determine what are the best methods for his own use, but also furnish valuable information for other poultry producers.

### Some Facts About the Record Flocks

The twenty-nine poultry flocks of 1925-26 represented widely varying conditions as to location, price of feed, price of eggs, and methods of care. Following are a few of the main facts concerning the flocks:

Number of farms furnishing complete records.....	29
Number of hens on these farms.....	5440
Largest flock at beginning.....	1218
Largest average flock.....	645
Smallest average flock.....	47
Average size of flock.....	186
Total eggs laid.....	673,528
Average eggs laid per hen.....	124
Highest production per hen.....	197
Lowest production per hen.....	68
Total value of eggs sold and used.....	\$17,368
Average price received per dozen.....	\$.32
Average lbs. feed used per hen (includes feed used in rearing chicks).....	92
Average feed cost per hen for year (includes feed used in rearing chicks).....	\$1.93
Percentage of adult stock died.....	13
Percentage of chicks died.....	24
Total returns—including increase of inventory.....	\$30,134.63
Total expense—including interest, depreciation, and decrease of inventory, not including labor.....	17,876.33
Net returns above all costs except labor.....	12,251.30
Net return per hen.....	2.25

Labor cost for 22 flocks amounted to 60 cents per hen, or 17 per cent of all expenses.

### Where Returns Come From

In the flocks as a whole, 69 per cent of the returns came from eggs; the other 31 per cent from poultry and miscellaneous. Light breeds and dual-purpose breeds differ considerably in this respect. With the light breeds, 73 per cent of the total receipts were from eggs; while in the dual-purpose breeds, eggs contributed 63 per cent of total receipts. These figures show that even with a dual-purpose breed, eggs may be expected to be the main source of income from the farm flock. A comparison of the feed cost and the returns from poultry and from eggs throws still further light on the subject. The total feed cost in these twenty-nine flocks was \$10,532.09; total receipts from poultry and miscellaneous sources amounted to only \$7772.04, an amount not sufficient to pay feed costs. With the total receipts amounting to \$30,134.63, it is evident that the egg income must be depended upon not only for the profits but also to help pay the expenses of the flock; and also that poultry raised for meat alone is rarely profitable.

### Balanced Feeding Pays

#### Better Feed—More Eggs

These records show a considerable variation in the method and cost of feeding in the different flocks. One reason for this is that the feed charged to the flock includes that used for baby chicks. On the average, these record flocks received a larger amount of whole grain than of ground feed. Of the 92 pounds of feed—the average amount used per hen for the year—58 pounds was whole grains and 34 pounds ground feed. One flock used 107 pounds of whole grain per hen, while another used only 34 pounds.

Some of the flocks showed very good egg production in spite of a noticeable lack of balance between the scratch feed and the mash, but on the whole the flocks receiving a larger proportion of mash produced the largest number of eggs. The seventeen flocks having an average production above 124 eggs per hen for the year, received an average of 56 pounds of whole grains and 37 of ground feed per hen. The twelve flocks below this average were fed 61 pounds of scratch feed and 30 of mash per hen, or more than twice as much scratch as mash. In several flocks that received about equal parts of mash and scratch feed, the highest records were obtained.

#### More Eggs—More Money

A better balanced ration, resulting in increased egg production, showed a similar increase in net return; that is, flocks showing above average net return received more nearly an equal amount of scratch feed and mash than those whose net return was below average, and that were fed considerably less

mash than scratch feed. It is significant that all but one of the flocks having a ration consisting almost entirely of scratch feed, were among those whose production was below the average of 124 eggs per hen, and also among those whose average net return fell below \$2.25 per hen, the average of all flocks. Best results were obtained with flocks given about equal amounts of mash and scratch feed.

Some of the low-producing flocks showed a fairly high net return from sources other than eggs. On the average, however, it was found that the ten flocks having the highest egg production, an average of 152 eggs per hen, showed also the highest net return, \$2.99 per hen. The nine flocks having the lowest egg production, 85 eggs per hen, brought a net return of \$1.72 or \$1.27 per hen lower than that obtained in the ten highest-producing flocks.

### **Eggs Cheaper if Produced in Large Numbers**

It has already been noted that net returns were higher in the higher producing flocks. Such was the case in spite of the fact that it cost more to produce these extra eggs. Feed costs amounted to \$2.14 per hen in the ten flocks having the highest egg production, while in the nine with the lowest egg records, feed cost was only \$1.52 per hen; in other words, the more eggs laid, the more feed will be required. The question naturally arises, Will the increased egg production pay the increased cost of feed? The high-producing flocks made a net return of 92 cents per hen more than the low-producing flocks, indicating that the owner of a heavily laying flock may expect a larger net income than the owner of a low-producing flock, even tho it costs more to feed them. To put it in still another way, in the group of flocks having the highest production, the feed cost amounted to 18 cents for each dozen of eggs laid, while in the low-producing group, the feed cost was 22 cents per dozen, over 20 per cent more than in the high-producing flocks.

When eggs are low in price many may ask whether they can afford to supply the flock with the feeds needed to obtain a reasonably large production. This question may be answered satisfactorily by determining how many eggs a hen would need to lay each month in order to pay her expenses. As feed cost is the chief cash expense in the farm flock and as most other expenses remain approximately the same regardless of production, it may be well to consider the number of eggs that a flock should lay in order to pay feed costs. In the twenty-nine flocks under consideration, the average feed cost per hen was \$1.93. Deducting the conservative amount of 50 cents for every pullet raised in order to estimate the egg

cost, the feed cost for egg production was \$1.43, or about 12 cents per hen per month (See Fig. 1).

At this rate 61 eggs per hen for the year would be required to pay the cost of feed, which is less than half the total cost of production. The lowest record flock averaged 68 eggs per hen, while the flocks as a whole laid 124 eggs per hen. At the average price received during the year November, 1925, to October, 1926, the number of eggs per hen required each month to pay the feed cost was as follows:

Month	Eggs per hen needed	Av. price received per dozen, cents
November	3	49
December	3	44
January	4	37
February	6	28
March	6	26
April	6	23
May	7	20
June	7	20
July	6	25
August	5	33
September	4	35
October	4	40

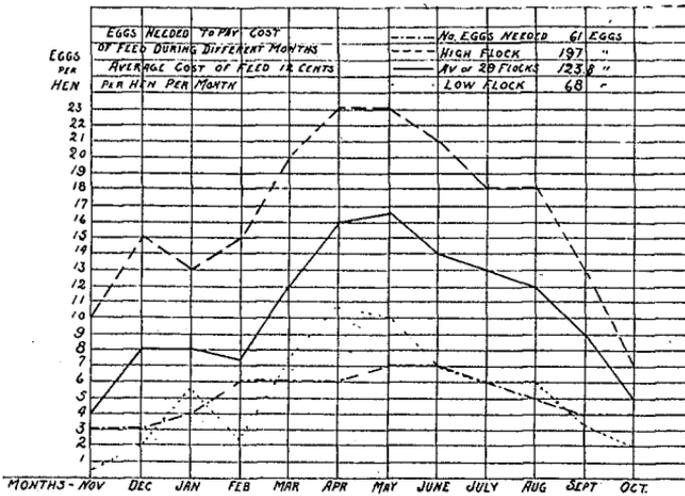


Fig. 1

The lowest flock, while producing more than the necessary number of eggs for the entire year, fell below the number needed in November, February, September, and October. Only during March and April did this flock have a good margin over the necessary number of eggs. The flocks, on the average, produced more than the necessary number of eggs during every month of the year. In May they laid 10 more than the re-

quired number. The highest flock, averaging 197 eggs per hen, at all times laid a generous number more than enough to pay for the feed. In April this margin amounted to 15 eggs and in May to 16 eggs per hen. This comparison shows that a relatively small number of eggs will pay for the feed. However, a further study of the records shows that the feed cost is only 58 per cent of the total expense, not including labor; therefore, at the same rate, about 100 eggs per hen are needed in order to pay all expenses except labor if eggs are the sole source of income.

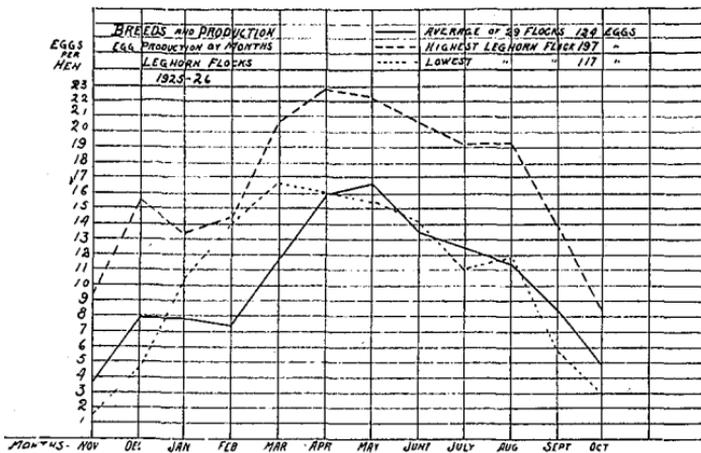


Fig. 2

### Winter Production and Profit

The question is often asked, Is winter production necessary in order to obtain a large net return? The ten high-producing flocks laid 29 per cent of their eggs during the winter months, while the ten low-producing flocks, averaging 85 eggs per hen, laid only 18 per cent of their eggs in these months. In other words, contrary to the belief of many people that their flocks will make up in the spring for the eggs that they did not lay during the winter, high records are made by hens staying on the job consistently throughout the year. A careful study of these records shows that the lowest production during the winter months is most often followed by a correspondingly low production during the spring and summer months, and that the total year's production is usually lower than if more eggs are laid during the winter and late summer months.

Figures 2 and 3 show a comparison of egg production in the light and the dual-purpose breeds. They also indicate that high-producing flocks lay well throughout the year and

that low records are usually the result of lower production during each month of the year.

### No One Best Breed

In this study of twenty-nine flocks, six of the common breeds were represented. As might be expected, the light breeds excelled in egg production. Eleven flocks of a light breed averaged 140 eggs per hen for the year. Fifteen flocks of dual-purpose breeds averaged 98 eggs per hen. Five flocks that consisted of a light and a dual-purpose breed produced 139 eggs per hen. Moreover, the light breeds laid more eggs in the four winter months—32 per cent of the total—as compared with 20 per cent of the total laid by the dual-purpose breeds.

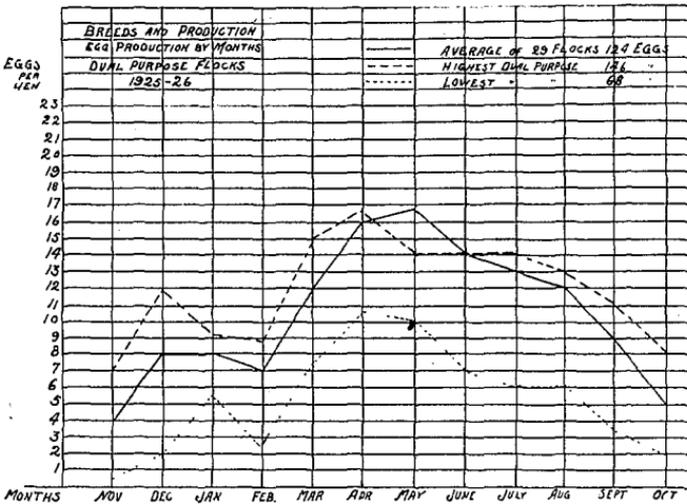


Fig. 3

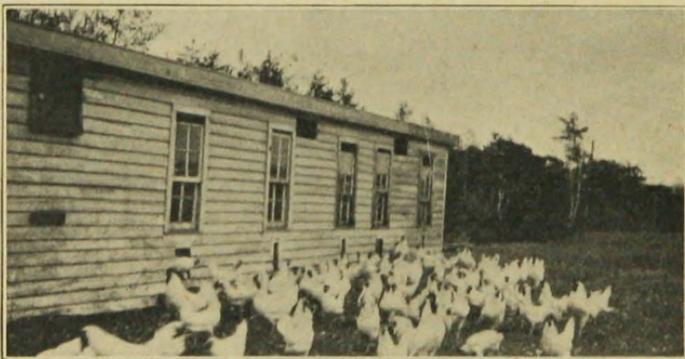
Here, again, feed costs show up in the usual relation to egg production, the light breeds with high egg production having the highest feed costs—\$2.21 per hen. Mixed flocks of light and dual-purpose breeds were second, with \$1.89 feed cost per hen, and the dual-purpose flocks with the lowest egg record showed a feed cost of \$1.53 per hen.

On the other hand, the returns from the different breeds indicated that high egg production is not the sole source of income. The Leghorns show a slight disadvantage in this respect, with a net return of \$2.11 per hen, while the net return of the dual-purpose breeds was \$2.29 per hen. This difference is too slight to be given as definite proof of any decided advantage, especially as one of the Leghorn flocks

had a loss amounting to 43 per cent of the adult hens. That practically wiped out the returns and, as this was an especially large flock, comprising about one-fourth of all the hens in the light group, it affected the returns of the light breeds to an unusual extent. However, these comparisons help to clinch the belief that no one breed has the entire advantage as a profit-maker under farm conditions and that there is a place for all the common breeds.

### Losses Too Heavy

The losses were neither unusually high nor unusually low. The number of adult birds lost during the year amounted to 13 per cent of the birds on hand at the beginning of the year. This included losses from all causes, but mostly from disease, losses in chicks being 24 per cent of all chicks hatched. These losses are considered about average, and yet they are large enough to deserve serious consideration. Such losses would be considered most serious in other livestock enterprises and are no less so in poultry. In one flock already mentioned, 43 per cent of the mature stock died from roup caused largely, no doubt, by housing conditions that did not provide sufficient ventilation. In a few flocks the loss was practically nothing,



Northern Minnesota Record Flock Made Comfortable in a Minnesota Model Poultry House

thus indicating that care in handling (including feeding, housing, culling, and general care) goes a long way toward reducing the high annual loss. Percentage losses were about the same in the high-producing and the low-producing flocks, which may indicate that, contrary to the common belief, increased egg production need not be accompanied by greater losses.

Figure 4 shows graphically the effects of disease on production in an otherwise high-producing flock.

### Labor Costs

The cost of labor is not included in figuring the total expenses for these flocks as, in the majority of cases, they were of the farm flock class and the farm labor used in caring for them was not hired at cash expense. However, labor records were furnished for twenty-two flocks and supply interesting data as to the relation of labor costs to other expenses.

These 22 flocks represented a total average of 4120 hens for the year with a total labor value of \$2484.05 or 60 cents per hen. Total expenses for these flocks, including labor, feed, replacement of stock, equipment, and depreciation were \$4.22 per hen. Of this, 47 per cent was for feed and 14 per cent for labor. This information is of special value to commercial poultrymen, altho no doubt the commercial poultryman can use his time to better advantage than can the owner of a small farm flock, so that the labor cost would represent a smaller proportion of the total expense.

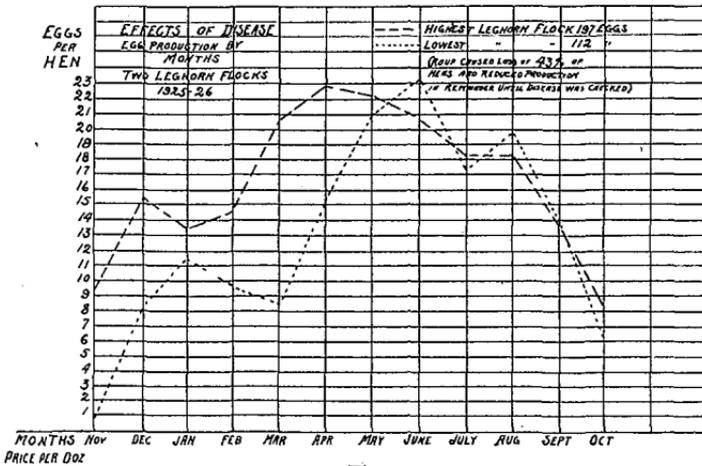


Fig. 4

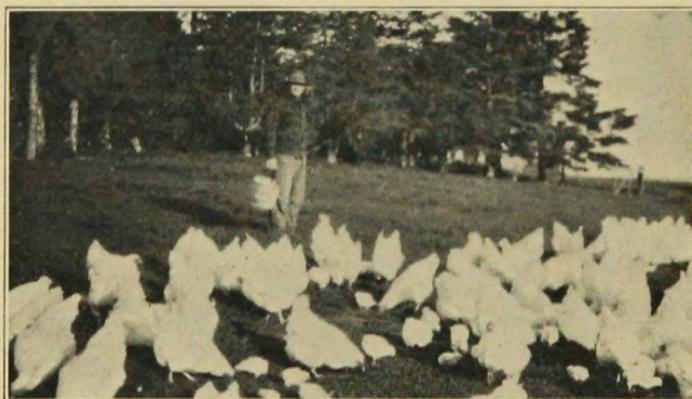
### How Some Flock Owners Made Money

The experiences of individual poultry raisers are always of special interest, and point out concrete practices that the poultryman should follow. For example, the flock having the highest egg production for the year, 197 eggs per hen, brought a net return above all costs except labor of \$3.91 per hen. This flock showed good management in every respect. The ration was well balanced, the flock receiving 46 pounds of scratch feed and 43 of mash per hen. They laid consistently throughout the year, 29 per cent of all their eggs being laid during the four winter months. Through good care the mortality in the adult flock was kept at the low point of 5 per cent.

As only 13 per cent of the receipts from this flock were from poultry and other sources, it is evident that the great advantage was in the high egg production, which can be credited to constant attention and good care.

### **Rigid Culling**

One flock in which the net return amounted to \$4.11 per hen, with an egg production of 137 eggs per hen, owed much of its success to the fact that culling was practiced throughout the year. There were 730 hens at the beginning of the year and 198 at the end. The average for the year was 419 hens. The low-producing birds were culled out regularly, a practice which helped to lower the feed cost. Another reason for the success of this flock was that, owing to its location in the northern part of the state, 50 cents per dozen was the average price for eggs during the year. In this case, also, the scratch feed and mash were about the same in amount, this no doubt being one reason for the very good egg production.



White Wyandotte Flock on Range, Average Production, 146 Eggs per Hen

### **Location**

Two other flocks located in northeastern Minnesota made a high net return, owing largely to a high price received for eggs. One of these flocks was made up of about 80 hens in their second year of laying. The record was unusual for two-year-old hens (136 eggs per hen). The eggs contributed 99 per cent of the receipts, as practically no poultry was sold or used.

### **Meat Production**

One flock of White Wyandottes with an egg production of 146 per hen, the highest production of any dual-purpose flock, brought a net return of \$2.49 per hen. In this case, 32

per cent of the receipts came from poultry. The large number of eggs produced, plus a generous income from the sale of poultry, accounted for the large return made by the flock.

Several other examples might be given. In one flock the income was over \$2.00 per hen in spite of a production of only 68 eggs per hen. In this case, sale of meat and of hatching eggs and breeding stock helped to overcome the difficulty of low production and brought a reasonably good return. In still another flock with a net income of \$2.90 per hen, the two contributing factors were production of 154 eggs per hen and a price of 38 cents per dozen for eggs, as large numbers of the eggs were sold for hatching purposes.

On the other hand, causes of failure may be listed as the lack of a well-balanced ration, lack of consistently good care, and high mortality. Two flocks whose net return per hen was 5 cents and 52 cents, had a loss of adult stock amounting to 43 per cent and 48 per cent, respectively. With such losses, a profit is hardly to be expected.

Exact housing conditions were not known in every case, but in most of the flocks showing the highest egg production and the highest net return, the housing is good. Several well-constructed Minnesota Model houses are used for these flocks and contribute a fair share to the success of the poultry venture.

### Conclusions

1. Poultry raising can be made profitable as a farm enterprise.
2. High egg production is the surest source of a good income from poultry.
3. Winter eggs help to increase the annual income.
4. A comfortable house, a well-balanced ration throughout the year, and good daily care are essential in successful poultry raising.
5. High mortality is a sure source of loss to the business and can be reduced by better housing, better feeding, and better methods of handling.
6. Consistent culling of non-producers at all times during the year is of real value as a means of cutting down the cost of production.

A study of these records does not indicate that there is any cause for great discouragement about the farm poultry business, in spite of low recurrent egg prices. They do indicate that more attention to good flock management methods can be expected to bring greater returns and that when prices are low, the owner needs to apply still more efficient methods in order to avoid loss and to continue to make a reasonable income from the farm flock.

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