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FARM POULTRY FLOCK RETURNS

1947 - 1952

UNIVERSITY OF MINNESOTA

Institute of Agriculture

Department of Agricultural Economics

and the

UNITED STATES DEPARTMENT OF AGRICULTURE

Bureau of Agricultural Economics

cooperating

Report No 212

Department of Agricultural Economics

University Farm

St. Paul 1, Minnesota

December, 1953

1000/12/53

FACTORS AFFECTING COSTS AND RETURNS FROM POULTRY, 1947 - 1952

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INTRODUCTION

Each year since 1947, from 200 to 550 cooperators in three farm-management services in Minnesota3/ have furnished records of the feed costs and the returns they received from their farm poultry flocks. Since 1949, many of them have kept separate records for rearing and laying flocks. The purpose of this report is to present the summary of these data for 1952 and a comparison with previous years.

COSTS AND RETURNS FROM COMBINED REARING AND LAYING FLOCKS

In 1952 the average cost of feeding a hen was approximately the same as during 1947 and considerably higher than in the intervening years (table 1). In only one year, 1950, was the total value produced per hen lower than in 1952. The combination of high feed cost and relatively low value produced resulted in the lowest return over feed for the six-year period covered by the records. The relatively low returns received during 1952 were due largely to the low average price received for eggs.

The farm-raised feeds listed in table 1 were valued at average prices at the farm. Commercial feeds were valued at the price the farmer paid for them. The net increase in value of chickens represents the gross return. It is calculated by subtracting the cost of the chicks and hens which were bought and the estimated value of the poultry on hand at the beginning of the year from the combined value of hens sold, those butchered for home use, and those left on hand at the end of the year. The value of the eggs which were sold and those used in the home were added to the net increase in the value of chickens in order to get the total value produced.

The number of pounds of poultry produced was calculated in the same way. The average number of hens during the year was arrived at by adding the number on hand at the beginning of each month and dividing by 12.

The return above the cost of feed was the amount by which the total returns from the poultry enterprise exceeded the cost of the feed which was fed. It must pay for the housing costs, the labor involved, and for all incidental expenses if the enterprise is to prove profitable. How well farmers fared with their poultry enterprise when all of their costs are considered is shown in table 2. Data for the labor requirements, costs of shelter and equipment, and other cash costs were obtained from the 1951 and 1952 study of Southern Minnesota Detailed Accounting Farms.4/ No attempt was made to adjust the 1951 - 52 data for these items to fit the earlier years, although a slight downward adjustment in costs probably would be justified.

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4/ Reports No. 203 and 208, Department of Agricultural Economics, University of Minnesota.

Table 1. Feed Costs and Returns From Combined Rearing and Laying Flocks, 1947 - 1952

	1947	1948	1949	1950	1951	1952	Average 1947-52
Number of farms	516	549	532	432	392	216	440
Feed per hen, lbs.:							
Grain	98	86	99	94	96	97	95
Commercial feed	43	38	42	46	45	52	44
Total	141	124	141	140	141	149	139
Skim milk	6	7	7	5	4	2	5
Total feed cost per hen	$5.07	$4.42	$3.76	$4.15	$4.61	$5.03	$4.51
Value of produce per hen:							
Eggs sold and used in home	$5.33	$5.61	$5.59	$4.64	$6.09	$5.52	$5.46
Net increase in value of chickens (1)	.76	.83	.57	.59	.67	.35	.63
Total value produced	6.09	6.44	6.16	5.23	6.76	5.87	6.09
Return above feed cost per hen	$1.02	$2.02	$2.40	$1.08	$2.15	$ .84	$1.58
Return per $100 feed consumed	$ 120	$ 146	$ 164	$ 126	$ 147	$ 117	$ 135
Prices rec. per doz. eggs sold (cts.)	39.9	41.6	39.6	31.4	41.9	35.8	38.4
Eggs laid per hen	159	162	170	177	175	185	171
Average no. of hens on farm during year	198	199	201	219	220	255	215
Per cent of hens that were pullets	79	72	76	82	81	85	79
Per cent death loss of hens	13	13	12	13	14	14	13
Number of chicks purchased per farm	382	287	366	378	351	432	366
Pounds of poultry produced per farm	1094	876	1059	1139	1067	1234	1078

(1) Sales less cost of chicks purchased, death loss and depreciation.

The data in table 2 show the return above all costs other than labor and the net returns per hour of labor used on poultry. The year 1952 was the low point during the six-year period covered by this study. In that year the average flock owner failed to receive any return for labor. In 1949 the poultry enterprise paid 76 cents per hour of labor. The six-year average is 35 cents per hour. As shelter, equipment, and miscellaneous cash costs were not varied from year to year, the factors that cause variations in returns are limited to changes in feed cost per hen, changes in the value of the hen,

rate of lay per hen, and the price of eggs.

Table 2. Return Above All Costs From Combined Rearing and Laying Flocks, 1947-1952

	1947	1948	1949	1950	1951	1952	Average 1947-52
Costs per hen:							
Feed	$5.07	$4.42	$3.76	$4.15	$4.61	$5.03	$4.51
Other costs (except labor)1/	.89	.89	.89	.89	.89	.89	.89
Total cost other than labor	5.96	5.31	4.65	5.04	5.50	5.92	5.40
Value of produce per hen:							
Eggs sold and used in home	5.33	5.61	5.59	4.64	6.09	5.52	5.46
Net increase in value of chickens	.76	.83	.57	.59	.67	.35	.63
Total value produced	6.09	6.44	6.16	5.23	6.76	5.87	6.09
Return to labor per hen	.13	1.13	1.51	.19	1.26	none	.69
Net return per hour of labor	.06	.56	.76	.10	.63	none	.35

1/ Reports No. 203 and 208, Department of Agricultural Economics, University of Minnesota.

If one uses the average results for 1947-52, and the flocks in units of 100 hens, the results are about as follows: During the year 100 hens laid 1425 dozen eggs. Of these it took 1174 dozen to pay for the feed and 232 dozen to pay other costs except labor. Thus it took 1406 dozen eggs to pay all costs except labor, which leaves 19 dozen eggs from each 100 hens to pay for labor and provide any expected profit.

Looking at it another way, if these eggs were laid uniformly through a 340-day laying period beginning November 1, then it would take all of the eggs laid between November 1 and August 9 of the following year to pay for the feed. It would take all of the eggs laid between August 9 and October 3 to pay other costs except labor. This would leave all of the eggs laid between October 3 and October 7 to pay for the labor used and to compensate for any expected profit.

THE REARING FLOCK1/

Time of Purchase

The months in which the chicks were bot, the number of purchases, and the percentage of the total number of purchases are shown in table 3 for 1949 to 1952. These data show some trend toward earlier purchase of chicks.

1/ The rearing flock includes the chicks from the time of purchase until they are transferred to the laying flock or are otherwise disposed of.

Table 3. Month Chicks Were Purchased

Month	Per cent of purchases			
	1949	1950	1951	1952
January, February and March	23.2	38.9	34.8	39.3
April	53.6	40.1	38.2	45.1
May and June	23.2	21.0	27.0	15.6

Sexed Chicks Predominate

Approximately 85 per cent of the flock owners bot sexed chicks either as pullets or cockerels alone or in some combination with straight run (table 4). During the last four years the purchase of sexed chicks has increased markedly.

Table 4. Per Cent of Farmers Purchasing Various Types of Chicks, 1949 - 1952

Classification of chicks purchased	1949	1950	1951	1952	Average 1949-52
Pullets	35.9	42.8	37.3	33.7	37.4
Pullets and cockerels	23.5	24.8	27.3	36.8	28.1
Straight run	23.5	14.3	16.4	7.4	15.4
Pullets and straight run	11.1	11.2	11.8	16.8	12.8
Pullets, straight run & cockerels	2.0	2.5	2.7	5.3	3.1
Cockerels	2.0	2.5	2.7	0	1.8
Straight run and cockerels	2.0	1.9	1.8	0	1.4
Total	100.0	100.0	100.0	100.0	100.0

Feed Cost and Returns

The quantity of feed required to raise 100 chicks in 1952 was about the same as the average for 1949 - 52 (table 5). However, the proportion of feed that was bought as commercial feeds continued to rise up to 1952. The total cost of the feed was substantially higher in 1952 than during the previous three years. The cost of the feed exceeded the net increase in value per 100 chicks raised 1/ by $30.65 in 1952. Hence, on the average, these flock owners

1/ The net increase in value was determined by subtracting the cost of the chicks from gross income. This gross income includes the amount received from sales and the farmers estimate of the value of birds used in the home and those transferred to the laying flock.

not only failed to recover the cost of the feed consumed by the chicks but they also failed to cover any of their other costs such as labor, use of equipment, interest on investment, and miscellaneous cash cost. This failure to cover feed costs in the chick-raising enterprise occured in each of the four years of record and the average loss was $14.64 for the period 1949 - 52.

Table 5. Feed Costs and Returns Per 100 Chicks Raised in Rearing Flocks, 1949 - 1952 1/

Item	1949	1950	1951	1952	Average 1949-1952
Number of flocks	150	161	110	95	129
Feed per 100 chicks raised, lbs.:					
Grain	1285	1439	1251	1260	1309
Commercial feeds	950	1123	1138	1185	1099
Total	2235	2562	2389	2445	2408
Skim milk	13	72	31	31	37
Total feed cost per 100 chicks raised	$70.92	$86.04	$89.00	$95.04	$85.25
Net increase in value per 100 chicks raised	65.05	74.48	78.53	64.39	70.61
Return over feed cost per 100 chicks raised	-5.87	-11.56	-10.47	-30.65	-14.64
Return per $100 feed consumed	$ 92	$ 87	$ 88	$ 68	$ 83
Number of chicks purchased per farm as:					
Pullets	296	340	324	433	348
Straight run	155	104	133	108	125
Cockerels	26	35	27	57	36
Total number purchased	477	479	484	598	509
Price paid per 100 chicks purchased as:					
Pullets	$39.83	$39.85	$42.49	$45.37	$41.88
Straight run	20.13	20.90	20.24	22.14	20.85
Cockerels	14.30	7.96	5.03	7.13	8.60
Number of chicks raised per farm	391	399	416	500	426
Pounds of poultry produced per farm	1638	1679	1747	2071	1784

1/ "100 Chicks Raised" includes only those that are sold, butchered for home use, or raised to maturity and transferred to the laying flock.

Cost of Raising Pullets

These low returns are due to a very large extent to farmers' underestimates of the value of pullets transferred to the laying flock and to a lesser extent to underestimating the value of chickens eaten in the home.

Insofar as the rearing flock is for replacement purposes, it seems reasonable that pullets can be valued either at their cost of rearing or at the cost of purchasing pullets of similar age and quality - whichever is the lower. Likewise for chicks eaten in the home the value should be equal to that which the bird would bring if sold in the market.

The approximate cost of raising a pullet to laying age is shown in table 6. No attempt was made to adjust the costs other than feed and the purchase price of chicks. As these miscellaneous costs are based on data reported in 1949 some upward adjustment in costs would be justified.

Table 6. Cost of Raising a Sexed Pullet

	1949	1950	1951	1952	Average 1949-52
Pounds of feed required	22.4	25.6	23.9	24.5	24.1
Cost of feed	$.71	$.86	$.89	$.95	$.85
Purchase price of the chick 1/	.47	.46	.49	.49	.48
Other costs including labor 2/	.56	.56	.56	.56	.56
Total cost per pullet	1.74	1.88	1.94	2.00	1.89

1/ Cost of chicks that die are charged against chicks raised to maturity.

2/ Adapted from information reported by C. D. Kearl and L. B. Darrah, "Cost of Raising Pullets", Farm Economics, No. 169, Cornell University, July 1949.

The approximate cost of raising a pullet to laying age was $2.00 in 1952. During the same year the farmers included in this study placed a value of $1.19 per pullet on the birds which were transferred into the laying flock. Altho it is often possible to buy scattered lots of good pullets at less than the cost of raising them, it is doubtful whether many farmers could depend on such purchases for their annual replacements. It would seem that the cost of raising pullets would be a logical charge unless actual purchases were made.

Data shown in a previous section indicated that farmers failed to receive a return large enough to cover the cost of feed consumed. In addition other expenses must be met in raising chicks. The data in table 7 show a comparison of the return over feed per 100 chicks raised, using values of pullets as reported by flock owners and approximate returns if the pullets were transferred into the laying flock at cost of production. The credit to the flock from birds which were sold or butchered for home use remains as reported by the flock owners. As 75 per cent of the birds raised were transferred into the laying flock, an adjustment in the value of pullets transferred to layers from $1.17 to $1.89 per bird brings about a marked increase in the calculated returns.

Table 7. Feed Costs and Returns Per 100 Chicks Raised in Rearing Flock, 1949-1952.

	Using values as reported by farmers	Value of pullets at cost of production
Per 100 chicks raised:		
Net increase in value of chicks raised 1/	$70.61	$127.71
Cost of feed	85.25	85.25
Return over feed cost	-14.64	42.46
Return per $100 feed consumed	$ 83	$150

1/ Value of pullets transferred to laying flock, sold and used in the home less cost of chicks.

High Mortality Lowers Returns

One reason for the low returns received from the rearing flocks was the high rate of mortality on some farms. Death losses varied considerably among the flocks on the farms studied (table 8). Loss of small chicks soon after purchase accounts for much of the loss. But on some farms loss of chicks occurred several weeks after purchase. In either case, the cost of chicks that die and the cost of feeds consumed by them must be borne by the birds that remain in the flock. Consequently a high death loss is associated with a high feed charge for each 100 birds raised.

Table 8. Relation of Death Loss to Returns From Rearing Flocks, 1949 - 1952

	Per cent death loss of chicks			
	Below 10.0	10.0-19.9	20.0-29.9	30.0 and over
Number of flocks	42	52	22	14
Per 100 chicks raised:				
Pounds of feed	2206	2362	2636	2864
Feed cost	$79.69	$82.86	$91.11	$99.87
Net value produced 1/	73.93	71.18	69.38	59.55
Return above feed cost	-5.76	-11.68	-21.73	-40.32
Return per $100 feed consumed	$ 93	$ 86	$ 76	$ 60
Number chicks purchased per farm	448	528	650	533
Per cent death loss	5.4	14.6	23.8	38.4
Pounds poultry produced per farm	1762	1896	2039	1368

1/ Value of pullets transferred to laying flock, sold and used in home less cost of chicks.

THE LAYING FLOCK

In 1952 the return above feed cost per hen, in flocks where the laying flock record was kept separate from the rearing flock, was below the 1949 - 52 average. (table 9) Considerable year-to-year change in the return above feed costs was due almost entirely to changes in the prices paid for feed and those received for eggs. The quantity of feed fed per hen and the number of eggs laid per hen changed very little from year to year.

Table 9. Feed Costs and Returns from Laying Flock, 1949 - 1952

	1949	1950	1951	1952	Average 1949-52
Number of farms	160	187	140	118	151
Feed per hen, lbs.:					
Grain	81	80	77	75	78
Commercial feed	27	30	31	36	31
Total	108	110	108	111	109
Skim milk	4	3	2	3	3
Feed cost per hen	$2.77	$3.19	$3.48	$3.67	$3.27
Value produced per hen:					
Eggs sold and used in the home	$5.89	$5.02	$6.59	$5.71	$5.80
Less death loss and depreciation	.55	.50	.55	.71	.58
Net value produced	5.34	4.52	6.04	5.00	5.22
Return above feed cost per hen	$2.57	$1.33	$2.56	$1.33	$1.95
Return per $100 feed consumed	$ 193	$ 142	$ 174	$ 136	$ 160
Average number of hens per farm	229	251	274	265	255
Number of hens on hand, Jan. 1 per farm	269	292	316	302	295
Per cent of hens that were pullets	83	85	82	81	83
Per cent death loss	13	13	15	15	14
Eggs laid per hen	182	189	186	188	186
Price received per dozen eggs sold (cts.)	39.5	31.9	42.3	36.2	37.5

The number and value of birds in the laying flock are presented in table 10 for the four-year period included in this study. The average number of hens purchased was small. Flock owners reported paying an average of $1.37 for the hens they bought. This is 20 cents higher per hen than the value they assigned to the pullets transferred to the laying flock.

Table 10. Number and Value of Birds in Laying Flock, 1949 - 1952

	1949	1950	1951	1952	Average 1949-52
	Number per flock				
On hand beginning of year	272	292	321	303	297
Transferred from rearing flock	258	285	272	288	275
Purchases	11	11	10	15	12
Total	541	588	603	606	584
Sold	189	211	198	196	199
Used in home	11	13	12	13	12
On hand at end of year	281	300	308	313	300
Total	481	524	518	522	511
Death loss	60	64	85	84	73
	Value of birds as reported by farmers				
On hand beginning of year	$1.16	$1.04	$1.15	$1.19	$1.13
Transferred from rearing flock	1.08	1.16	1.24	1.19	1.17
Purchased	1.50	1.39	1.20	1.38	1.37
Sold	.92	.83	.97	.82	.88
Used in home	.90	.80	.96	.83	.87
On hand at end of year	1.05	1.14	1.18	1.14	1.13

The value placed on pullets influences the calculated returns received from the laying flock (table 11). If the value of $1.17 which flock owners placed on pullets were increased to $1.89 -- the approximate cost of raising pullets to laying age -- the return over feed cost per hen is reduced approximately 40 per cent. As most of the replacements for the laying flock each year came from the rearing flocks on the same farms, it is reasonable to credit the rearing flock and charge the laying flock for pullets at the approximate cost of production. Altho one can arrive at a market price for birds sold for meat, the number sold by one farmer to another for laying purposes is relatively small. This is especially true of pullets.

Table 11. Feed Costs and Returns Per Hen, 1949 - 1952

	Using values as reported by farmers	Value of pullets at cost of production
Per hen:		
Eggs sold and used in home	$5.80	$5.80
Less death loss and depreciation	.58	1.37
Net value produced	5.22	4.43
Cost of feed	3.27	3.27
Return over feed cost	1.95	1.16
Return per $100 feed consumed	$160	$135

High Egg Production Increased Returns

The total feed consumed per hen varied only slightly with the level of egg production (table 12). However, there was some variation in the quantity of commercial feeds used. Flock owners, who obtained less than 150 eggs per hen, fed 22 pounds of commercial feed per hen as compared with 35 pounds of commercial feed for flocks laying 210 eggs and more in 1949 - 52. Ordinarily, one would expect a greater increase in feed consumption to be associated with increased production of eggs. However, quality of feed was also a factor. The additional commercial feeds used by flock owners, with the relatively high levels of production, resulted in better balanced rations. The percentage of hens that were pullets was higher for the high-producing flocks and the death loss was lower.

Table 12. Relation of Number of Eggs Laid Per Hen to Selected Production Factors (Laying Flocks) 1949 - 1952

	Eggs laid per hen			
	Below 150	150-179	180-209	210 and over
Number of farms	32	36	37	47
Feed per hen, lbs.:				
Grain	78	77	78	80
Commercial feed	22	31	34	35
Total	100	108	112	115
Skim milk	4	3	2	2
Feed cost per hen	$2.81	$3.24	$3.38	$3.52
Value produced per hen:				
Eggs sold and used in home	$3.87	$5.09	$6.12	$7.39
Less death loss and depreciation	.52	.58	.64	.55
Net value produced	3.35	4.51	5.48	6.84
Return above feed cost per hen	.54	1.27	2.10	3.32
Return per $100 of feed consumed	$119	$139	$162	$194
Average number of hens per farm	220	230	272	284
Per cent death loss	16	15	13	12
Per cent of hens that were pullets	64	83	88	96
Eggs laid per hen	126	165	194	236
Price received per doz. eggs sold (cts.)	36.8	37.1	37.8	37.9

Flock owners with high levels of production reported 25 per cent higher feed costs per hen than owners of flocks with low levels of production. However, they also reported 87 per cent more eggs laid per hen. The increased production more than offset the additional cost of feed. The difference between the two groups in the price received for eggs only amounted to 1.1 cents per dozen.

All Pullet Flocks Most Profitable

The ratio of pullets to hens more than a year old appears to be an important factor in poultry production. The data in table 13 show the relation of percentage of pullets in the laying flock to various production factors in 1949 - 52. Approximately half of the farmers replaced the entire laying flock with pullets in the fall. Another fourth had 60 to 99 per cent pullets and the rest had less than 60 per cent pullets.

Higher production of eggs and lower death losses are associated with a high percentage of pullets in the flock. The net result is higher return above feed cost for the young hens than for flocks that contain a relatively large proportion of old hens.

Table 13. Relation of Percentage of Pullets in the Laying Flock to Selected Production Factors, 1949 - 1952

	Percentage of laying flock that were pullets		
	Below 60	60-99	100
Number of flocks	35	34	82
Feed per hen, lbs.:			
Grain	76	79	79
Commercial feed	24	31	34
Total	100	110	113
Feed cost per hen	$2.92	$3.30	$3.42
Value produced per hen:			
Eggs sold and used in home	$4.64	$5.73	$6.32
Less depreciation & death loss	.47	.58	.62
Net value produced	4.17	5.15	5.70
Return above feed cost per hen	1.25	1.85	2.28
Return for $100 of feed consumed	$143	$156	$167
Eggs laid per hen	153	181	202
Average number of hens per farm	194	299	262
Per cent of hens that were pullets	43	82	100
Per cent death loss	18	14	12

Variation in Price Received for Eggs

There was a surprisingly large difference in the price received per dozen eggs sold among the flocks included in this study. During 1951 and 1952 one-fifth of the farmers receiving the lowest price averaged 35.7 cents per dozen (table 14). The one-fifth of the farmers receiving the highest price averaged 43.0 cents per dozen eggs sold. This difference of 7.3 cents in the price received for eggs is important in causing variations among farms in the returns received from poultry. Using the average production of 187 eggs per hen which farmers received during 1951 and 1952, the 7.3 cents per dozen differential in price received amounts to $1.14 per hen.

Farmers who receive the higher prices for eggs sell a considerable part of their production in special markets or to local hatcheries. These special markets may not be available to all producers but many could improve the returns received from the laying flock by better care and handling of eggs on the farm.

Table 14. Relation of Price Received per Dozen Eggs Sold to Selected Production Factors, Laying Flocks, 1951 - 1952

	Price received per dozen eggs sold				
	1/5 low in price received	Second 1/5	Third 1/5	Fourth 1/5	1/5 high in price received
Pounds of concentrates per hen	102	112	109	111	114
Feed cost per hen	$3.25	$3.65	$3.64	$3.63	$3.70
Value produced per hen:					
Eggs sold and used in home	$5.08	$5.85	$6.26	$6.69	$6.88
Less death loss and depreciation	.69	.65	.65	.56	.61
Net value produced	4.39	5.20	5.61	6.13	6.27
Return above feed cost per hen	1.14	1.55	1.97	2.50	2.57
Return per $100 feed consumed	$135	$142	$154	$169	$169
Average number hens	240	264	254	274	348
Per cent death loss	16	13	15	16	14
Per cent of hens that were pullets	78	80	80	86	82
Price rec'd. per doz. eggs sold (cts.)	35.7	38.2	39.2	40.3	43.0
Eggs laid per hen	169	184	192	200	192

Some General Information

Some general information about the poultry enterprise in Minnesota may be of interest to the reader. According to the 1950 U.S. Census of Agriculture, about 76 per cent of all farms in the state had poultry. This made poultry, by far the most widely distributed and generally kept form of livestock in the state. However, on most of these farms, poultry was only a secondary or minor enterprise. Only about four per cent of the farms in Minnesota obtained half or more of their total income from poultry and these farms had only about eight per cent of the total number of chickens in the state (table 15).

Table 15. Percentage Distribution of Poultry Flocks and Number of Chickens Among Various Types of Farms in Minnesota

	% total flocks	% total chickens
Crop farms (1)	12.6	11.8
Dairy	28.3	21.8
Poultry	3.9	7.6
Livestock other than dairy & poultry	22.0	24.1
General (2)	25.0	31.3
Miscellaneous	8.2	3.4
Total	100.0	100.0

(1) Includes cash grain, other field crops, vegetable and fruit and nut farms.
(2) Includes general - mostly crops, general - mostly livestock, and general - crops and livestock.

Of the farmers who kept the records summarized in this report, about 86 per cent had flocks of less than 400 hens. (table 16) For the state as a whole, 94 per cent of the farms had flocks in this size range.

Table 16. Percentage Distribution of Various Sized Flocks and of Number of Chickens by Size of Flock

Flock size	% of total flocks included in this study 1951 - 52	Minnesota % of total flocks	Minnesota % of total chickens
Under 100	3.4	30.4	9
100 - 199	35.6	33.1	27
200 - 399	46.8	30.8	45
400 - 799	13.8	5.2	15
800 and over	.4	.5	4

The main difference between the two groups was that while 30 per cent of the farm flocks in Minnesota had less than 100 hens, only 3 per cent of the farms where records were kept had flocks as small as that. About half of one per cent in each group had flocks of 800 or more hens. From these data it would seem that the records summarized in this report are likely to be typical of most poultry flocks in Minnesota which contain more than 100 hens.

Feeding Standards for Chicks and Laying Hens Under Experimental Conditions

Many farmers would like to have some standard by which to compare their practices in feeding chicks and laying hens. Table 17 provides such a standard for a light and a heavy breed of chicks. The data shown were developed under experimental conditions and do not necessarily represent a completely attainable standard for farmers generally.

Table 17. Feed Required to Obtain Certain Average Live Weights for Two Breeds of Chicks. 1/

Average live weight	Feed required to obtain certain weights			
	White Leghorns		R. I. Reds	
	Female	Male	Female	Male
	Pounds		Pounds	
.5	1.4	1.3	1.2	1.1
1.0	3.2	3.0	2.9	2.5
1.5	5.4	4.9	4.7	4.1
2.0	8.0	7.2	6.9	5.7
2.5	11.2	9.9	9.3	7.5
3.0	15.6	13.3	12.1	9.5
3.5	22.0	17.9	15.5	11.7
4.0		24.8	19.5	14.1
4.5		39.8	23.4	17.0
5.0			27.5	20.3

1/ Source: "Recommended Nutrient Allowances for Poultry", National Research Council, Committee on Animal Nutrition.

For many reasons the quantity of feed fed to hens varies from farm to farm. Among these are such things as the manner of feeding, the amount of feed wasted and the make-up to the ration. Table 18 provides a standard with which the farmer may compare the feed requirements of his flock.

Table 18. Feed Required by Chickens of Different Live Weights for Maintenance and for Egg Production at Different Levels. 1/

No. eggs	Annual Feed Requirements				
	3½ lb. hen	4½ lb. hen	5 lb. hen	5½ lb. hen	6½ lb. hen
	Pounds of Feed				
0	52	61	65	70	78
100	67	75	80	84	92
130	71	79	84	88	96
140	73	80	85	89	97
150	74	82	87	91	99
160	76	83	88	92	100
170	77	85	90	94	102
180	79	86	91	95	103
190	80	88	93	97	105
200	81	89	94	98	106
210	82	91	96	100	108
220	84	92	97	101	109
230	85	94	99	103	111
240	87	95	100	104	112
250	88	97	102	106	114

1/ Adapted from report - "Recommended Nutrient Allowances for Poultry" National Research Council, Committee on Animal Nutrition.

The cost of feeding a hen that is fed according to these standards is shown in table 19.

Table 19. Annual Cost of Feeding Hens of Different Weights at Various Rates of Egg Production 1/

Annual egg production	Price of feed per 100 pounds $3.00 CWT. 4½ lb. hen	$3.00 CWT. 5½ lb. hen	$3.25 CWT. 4½ lb. hen	$3.25 CWT. 5½ lb. hen	$3.50 CWT. 4½ lb. hen	$3.50 CWT. 5½ lb. hen
0	$1.83	$2.10	$1.98	$2.27	$2.13	$2.45
100	2.25	2.52	2.44	2.73	2.62	2.94
130	2.37	2.64	2.57	2.86	2.76	3.08
140	2.40	2.67	2.60	2.89	2.79	3.11
150	2.46	2.73	2.66	2.95	2.86	3.18
160	2.49	2.76	2.70	2.99	2.90	3.22
170	2.55	2.82	2.76	3.05	2.97	3.29
180	2.58	2.85	2.79	3.08	3.00	3.32
190	2.64	2.91	2.86	3.15	3.07	3.39
200	2.67	2.94	2.89	3.18	3.11	3.43
210	2.73	3.00	2.96	3.25	3.18	3.50
220	2.75	3.03	2.99	3.28	3.21	3.53
230	2.81	3.09	3.05	3.34	3.28	3.60
240	2.84	3.12	3.09	3.38	3.32	3.64
250	2.90	3.18	3.15	3.44	3.39	3.71

1/ Physical data adapted from report - "Recommended Nutrient Allowances for Poultry", National Research Council, Committee on Animal Nutrition

As more than half the cost of feeding a hen is incurred even though the hen lays no eggs, early and careful culling out of nonlayers is a profitable undertaking. How far to go in culling out the low producers will depend on the rate of lay of the hen, the price of feed, and the price of eggs. For example, a hen weighing 4½ pounds and laying 100 eggs a year will pay for its feed ($3.00 CWT.) when eggs sell for 27 cents a dozen. (table 20) If the price of feed is $3.25 the price of eggs must be 29 cents and with $3.50 feed the price of eggs must be 31 cents.

Table 20. Egg Prices Necessary to Pay Cost of Feeding Hens of Different Weights at Various Rates of Lay 1/

Annual egg production	Price necessary to pay cost of feed: Feed at $3.00 per 100 pounds 4½ lb. hen	Feed at $3.00 5½ lb. hen	Feed at $3.25 per 100 pounds 4½ lb. hen	Feed at $3.25 5½ lb. hen	Feed at $3.50 per 100 pounds 4½ lb. hen	Feed at $3.50 5½ lb. hen
	cents per dozen					
100	27	30	29	33	31	35
130	22	24	24	26	25	28
160	19	21	20	22	22	24
190	17	18	18	20	19	21
220	15	17	16	18	18	19
250	14	15	15	17	16	18

1/ Physical data adapted from report - "Recommended Nutrient Allowances for Poultry", National Research Council, Committee on Animal Nutrition.