

**EGG PRODUCTION PRACTICES
IN LATIMER COUNTY**

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TABLE OF CONTENTS

	Page
INTRODUCTION.	1
METHOD AND PROCEDURE.	3
RESULTS AND DISCUSSION.	4
Flock Size.	4
Years in Business.	4
Association Membership.	6
Housing and Equipment.	7
Floor Space.	7
Ventilation.	8
Litter.	9
Roosting Space.	9
Nests.	10
Watering Space.	11
Type of Waterer.	12
Lights.	13
Investment.	13
Replacement Program.	14
Mortality Losses.	16
Labor-Saving Equipment.	17
Labor Efficiency.	18
Feeding Program.	21
Feed Consumption per Hen.	21
Marketing Program.	22
Net Income.	23
Net Income and Marketing Practices.	24
PROBLEM AREAS.	26
SUMMARY AND CONCLUSIONS.. . . .	29
SELECTED BIBLIOGRAPHY.	31
APPENDIX A.	32

LIST OF TABLES

Table	Page
I. Distribution of Flocks by Number of Hens per Flock. .	4
II. Egg Producers of Latimer County Classified by Years of Experience and Flock Size.	5
III. Number of Producers Who Indicated Poultry as a Main Source of Farm Income.	6
IV. Number of Producers Who Belonged to the Latimer County Egg Producers Association Classified by Flock Size. .	7
V. Egg Producers Classified by Amount of Floor Space per Hen and Number of Hens per Flock.	8
VI. Egg Producers Classified by Roosting Space per Bird and Size of Flock.	10
VII. Egg Producers Classified by Number of Hens per Nest and Size of Flock.	11
VIII. Egg Producers Classified by Watering Space per 100 Hens and Flock Size.	12
IX. Producers Classified by Type of Waterer and Flock Size.	13
X. Producers Classified by Use of Electric Lights and Flock Size.	13
XI. Producers Classified by Amount Invested and Size of Flock	14
XII. Producers Classified According to Replacement Program and Flock Size.	15
XIII. Producers Classified as to Ages of Hens in the Flock and Size of Flock.	16
XIV. Producers Classified According to Layer Mortality Rate and Flock Size.	17
XV. Egg Producers with Various Labor-Saving-Equipment Classified by Flock Size.	18

Tables	Page
XVI. Time Required to Care for Flock by Flock Size.	19
XVII. Time Required per 100 Hens for Poultry Enterprise by Size of Flock.	20
XVIII. Method of Purchasing Commercial Feed by Size of Flock.	21
XIX. Cost of Feed Per Hundredweight by Size of Flock. . .	21
XX. Method of Handling and Selling Eggs by Flock Size. . .	22
XXI. Producers Classified by Income per Bird and Flock Size	24
XXII. Producers Classified by Net per Hen and by Type of Marketing Program.	25
XXIII. Number of Producers Reporting Various Problem Areas Classified by Size of Flock.	26

INTRODUCTION

The poultry and egg production business in Latimer County has changed notably during the past four years. In 1953, Latimer County was one of three counties in the state chosen as pilot counties in the Rural Development Program.

The Rural Development Committee decided that the business of egg production was one which should be considered as a means of supplementing the farm family's income, or, in some cases, of offering full-time employment. Several educational meetings were conducted in the county to explain the business. As a further aid to the production and marketing of eggs in Latimer County, a county poultry organization was formed.

At the time these poultry meetings began, no flocks in the county consisted of more than 300 hens, except for the flock at Eastern Oklahoma A. & M. College at Wilburton. At present eleven producers in Latimer County own flocks of more than 300 hens. Two other producers now have buildings and equipment and plan to increase their flocks to 500 hens or more next year.

A comparison of the 1954 and the 1959 census shows that although the number of farmers selling eggs decreased, there was an increase in the total number of eggs marketed. During 1954, 246 producers sold 51,547 dozens of eggs, as compared to 114 producers selling 215,258

dozens during 1959. The seventeen producers included in this survey owned a combined total of 19,040 hens. With a rate of production of 65 percent, they should market more than 320,000 dozens of eggs each year.

METHOD AND PROCEDURE

In order to obtain the names and addresses of all commercial poultry producers in Latimer County, all feed stores and grocery stores in the county were contacted. It was determined that there were 17 producers in the county who had flocks of 100 or more hens. A personal visit was made to each of these farms during the fall of 1961 and the spring of 1962. The questionnaire which is included as a part of this report (Appendix A) was completed during the visit.

The purpose of this study was to summarize and evaluate the practices which poultry producers in Latimer County were using. From this, certain problem areas can be delineated which can be used for future program planning.

RESULTS AND DISCUSSION

Flock Size - The information in this report was collected from 17 egg producers in Latimer County. The flocks included in the report were divided into three groups according to the number of hens per flock (Table I).

TABLE I
DISTRIBUTION OF FLOCKS BY NUMBER OF HENS PER FLOCK

	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
Number of Flocks	6	5	6

Years in Business - When classified according to experience in the poultry business, all of the producers who owned more than 200 hens had been operating at present size for four years or less (Table II). The five producers who are shown in Table II as operating the first year in the various flock sizes may have been in the poultry business previously, but on a smaller size.

The one producer in the 100-200 size group increased his flock size from twelve hens to 170 hens. His house is large enough to accommodate 500 hens; in fact, he plans to increase his flock size to 500 hens by the fall of 1962.

TABLE II
EGG PRODUCERS OF LATIMER COUNTY CLASSIFIED BY
YEARS OF EXPERIENCE AND FLOCK SIZE

	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
1 Year	1	2	2
2 Years			1
3 Years		2	2
4 Years		1	1
5-9 Years	1		
10-19 Years	1		
20 Years or Longer	3		

Of the two producers in the second group (200-1000 hens), who were operating for the first year at their present size, one had increased his flock from 100 to 1000 hens. The other had increased his flock size from 75 to 800 hens.

In the third group (1000-4000 hens), the two producers operating the first year at their present size had increased their flock sizes from 1500 to 3000 and from 200 to 3500.

As an income source, the poultry enterprise may vary from farm to farm. Six of the producers in this survey stated that poultry was their main source of income (see Table III). Five of the six producers were in the 1000-4000 size group, and one was in the 200-1000 size group.

TABLE III
 NUMBER OF PRODUCERS WHO INDICATED POULTRY
 AS A MAIN SOURCE OF FARM INCOME

	Number of Hens Per Flock			Total
	100-200	200-1000	1000-4000	
Yes	—	1	5	6
No	6	4	1	11

Eleven of the seventeen producers surveyed reported that poultry was not their main source of income. Most of the producers in the 100-200 hen group were marketing very few eggs at the time this survey was made. During the spring and summer months when their production was highest, they sold eggs to their neighbors. They also felt that they were cutting down on the family food bill by using a considerable portion of their eggs at home.

The four producers in the 200-1000 hen group and the one in the 1000-4000 hen group (Table III) were using poultry as a means of supplementing other sources of income. In these cases the poultry operation was helping the family to maintain a better standard of living.

Association Membership - The Latimer County Poultry Producers Association was organized in 1958. Its purpose was to assist in the marketing of eggs. After contacting various produce dealers in the area, a marketing agreement was reached with Russell Produce of Tulsa, Oklahoma. Russell Produce agreed to pay producers the current market price for their highest quality eggs, plus one-cent per dozen for transportation expenses, plus one-cent per dozen to the association. In order to assure quality egg production, the Association rented a room in the local

ice plant in which all members could store their eggs. The Association transported the eggs, by truck, to Tulsa at least once each week.

Another function of the Association has been to help its members with financial problems and, in fact, has loaned money to two of its members to enable them to expand their operations.

All of the producers having the largest flocks (1000-4000 hens), belonged to the Latimer County Poultry Producers Association (see Table IV). Only one producer having a medium-sized flock (300-1000 hens) belonged to the Association, and none of the producers in the small-flock group (100-200 hens) belonged to the Association.

TABLE IV

NUMBER OF PRODUCERS WHO BELONGED TO THE LATIMER COUNTY
EGG PRODUCERS ASSOCIATION CLASSIFIED BY FLOCK SIZE

Member	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
Yes		1	6
No	6	4	

Housing and Equipment - The management of the poultry flock is composed of many factors. Many studies have been conducted on the effect of these factors on the success of the poultry enterprise. Any list of recommendations will contain reference to one or more of these. Winter and Funk (1956) have summarized many of the studies with the following succinct statements. Adequate floor space is needed in the house. Sufficient air space and ventilation are needed to prevent stuffiness in the house. Dry living quarters and adequate lighting are also necessary.

Floor Space - Since floor space is one of the primary factors, most producers put as many hens in the house as it will adequately hold. If

the hens are kept in confinement at all times, the house should provide from 2.5 to 3.0 square feet of floor space per layer (Winter and Funk, 1956). Five of the 17 producers surveyed had buildings which provided approximately this amount of floor space (see Table V).

TABLE V
EGG PRODUCERS CLASSIFIED BY AMOUNT OF FLOOR SPACE
PER HEN AND NUMBER OF HENS PER FLOCK

Square Feet per Hen	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
1.5-2.4	3	2	2
2.5-3.0	1		4
3.1 and more	2	3*	

*Includes 1 cage operator

Among the seven producers in this survey who were providing less than 2.5 square feet of floor space per bird, only two were providing less than 2 square feet per bird. One of these producers was having serious trouble with wet litter, and the death loss among his flock was the highest of all the producers surveyed.

Five producers were providing more than 3 square feet per bird, although they realized that this did not represent economical use of house space. Four of these producers had formerly kept more birds in the house. The producer which had the largest amount of floor space per bird (7.7 sq. ft.) plans to increase the size of his flock in 1962. The larger producers said they preferred to have about 2.5 square feet of space per hen.

Ventilation - Ventilation is necessary in the laying house to provide the hens with fresh air, to remove moisture, and to control temperature.

Card (1961) reported that ventilation which was adequate to keep the house dry more than meets the air requirement of the hens.

The producers included in this report were supplying plenty of ventilation. Most of the poultry houses which have been built in the Latimer County during the last four years are open on all sides, which not only serves for ventilation but also cuts down on building costs. During the winter three sides of the building are covered with a glass substitute. The south side is so constructed that it can be either completely or partially open. Some of the producers were using old broiler houses which have windows on all sides. In the cases where older houses were being used to house the poultry flock, there was adequate provision for ventilation.

During the seasons of the year that this survey was being conducted, the producers were primarily concerned with closing the buildings in order that the inside temperature be as high as possible.

Litter - The type of litter material used in the poultry house is often a matter of individual preference. Absorbency and availability are two characteristics used by poultrymen in arriving at a preference. As pointed out by Jull (1958), some of the materials which may be used are shavings, sawdust, oat hulls, peat moss, ground corn cobs, shredded sugar cane, and straw.

Shavings and sawdust are readily available in Latimer County and were being used by all of the producers interviewed. Only one producer was having any trouble with wet litter. The problem seemed to be that of using green sawdust which had a high moisture content. After discussion of the problem, several loads of dry shavings were added, which materially helped in solving the wet litter situation.

Roosting Space - All of the producers who had floor-plan operations

provided roosts for their hens. The roosting poles should be spaced about 14 to 15 inches apart and made of 2-inch x 2-inch material with rounded tops. Enough roosting space should be provided to allow 8 to 10 inches per hen (Winter and Funk, 1956). Many of the producers in this survey had used scrap material or used lumber to build their roosts and had spaced them approximately 14 inches apart.

Six of the seventeen producers were allowing from 8 to 10 inches of roosting space per hen (see Table VI). Nine of the producers were allowing from 6 to 8 inches of roosting space per hen. In one case where the producer was allowing only 6 inches of roosting space per hen, he was having trouble with his hens roosting on waterers and other equipment. One producer was allowing 17 inches per hen, but this was because his flock had decreased below the number he had at one time kept in the building.

TABLE VI
EGG PRODUCERS CLASSIFIED BY ROOSTING SPACE
PER BIRD AND SIZE OF FLOCK

Inches of Roosting Space Per Hen	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
6"-8"	3	1	5
8"-10"	3	2	1
10" and over		1	
No Roost		1 (Cages)	

Nests - Winter and Funk (1956) recommend that one nest should be provided for each five to six hens. Eight of the producers interviewed were supplying the recommended number of nests (see Table VII). Four of the producers were allowing 1 nest for every 3 to 5 hens, but in each case the flock numbers were below capacity for the facilities.

Three producers were supplying 1 nest for every 7 to 9 hens. None of these producers complained of having trouble with dirty eggs. One producer was allowing an average of only one nest per 11 hens. In this case the producer was having trouble with dirty eggs as well as broken and cracked eggs. He was gathering the eggs four or five times a day in an effort to decrease the number of broken and dirty eggs.

TABLE VII
EGG PRODUCERS CLASSIFIED BY NUMBER OF HENS
PER NEST AND SIZE OF FLOCK

No. of Hens Per Nest	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
3 to 5		2	2
5 to 6	3	1	4
7 to 9	3		
9 to 11		1	

Fourteen producers were using wooden nests and two were using metal nests. The most common size wood nest found in this survey was about 12" x 14" x 4", which is smaller than the recommended size of 14" x 14" x 6" (Winter and Funk, 1956). Orange crates were being used as nests by some of the producers with small (100-200) flocks. Hay was used in the nests by many of the producers, in an effort to reduce the number of broken and dirty eggs.

Watering Space - In laying houses, 96 inches of watering space should be provided per 100 layers (Oklahoma Extension Service Leaflet L-13). Three of the seventeen producers in this survey were using less than the recommended amount of space (see Table VIII). One of the producers was using an automatic watering system and two others were using buckets. Both of the producers using the buckets realized that they

should allow more watering space and said that they did during the summer.

TABLE VIII
EGG PRODUCERS CLASSIFIED BY WATERING SPACE
PER 100 HENS AND FLOCK SIZE

Inches of Watering Space Per 100 Hens	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
70" to 96"	1	1	1
96" to 100"	1		
Over 100"	4	4	5

Thirteen of the producers were allowing more than the recommended amount of watering space. Two of the producers were allowing more than 300" of watering space per 100 birds, but this was because of the fact that the building was filled only to about 50 percent of capacity and all of the waterers were being used.

Type of Waterer - Type of watering system in use was related to the size of flock. The eight producers who were using buckets or trough-type waterers were the producers whose flocks ranged in size from 100 to 500 hens (see Table IX). The nine producers who were using the automatic or continuous flow-type of waterers had flocks of 800 to 3500 hens. All of the producers seemed to realize the importance of keeping a good, clean source of water available to their hens at all times.

TABLE IX
PRODUCERS CLASSIFIED BY TYPE OF WATERER AND FLOCK SIZE

Type of Waterer	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
Trough or Bucket	6	2	
Automatic or Continuous		3	6

Lights - Poultry producers seemed to realize the importance of using electric lights to increase the length of day. Thirteen producers were using electric lights in order to lengthen the light day to the recommended 14 hours per day (Oklahoma Extension Service Leaflet L-14). The four producers who were not using electric lights were in the smallest flock size group (see Table X).

TABLE X
PRODUCERS CLASSIFIED BY USE OF ELECTRIC LIGHTS AND FLOCK SIZE

Used Electric Lights	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
Yes	2	5	6
No	4		

Investment - The amount of money invested in buildings and equipment is an important consideration in the economic success or failure of the poultry business. There was a wide range of investment among the producers included in this survey (see Table XI). One producer with a small flock (100 hens) was using an old building which had very little actual value. The equipment was also old. His investment per hen in

building and equipment was approximately \$0.30. The highest investment per bird in buildings and equipment was \$3.00, which was for a cage system.

Nine of the producers in this survey had an investment of less than \$1.00 per hen in building and equipment, four producers had from \$1.01 to \$2.00 investment per hen and four producers had from \$2.01 to \$3.00 investment per hen (see Table XI).

TABLE XI

PRODUCERS CLASSIFIED BY AMOUNT INVESTED AND SIZE OF FLOCK

Investment Per Bird	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
0 to \$1.00	5	1	3
\$1.01 to \$2.00		1	3
\$2.01 to \$3.00	1	3	
Average (Dollars)	0.94	2.01	0.98

The average investment per hen, according to the size of flocks were as follows: 100 to 200 hens, \$0.94; 200 to 1000 hens, \$2.01; and 1000 to 4000 hens, \$0.98.

In many cases the size of the poultry operation was determined by the amount of capital available for the construction of buildings and for equipment. By constructing buildings through the use of their own labor as well as buying second-hand lumber and used equipment, as some of the producers have done, the investment per bird can be kept at a minimum. In one such case a producer had invested only \$1,750 in buildings and equipment for a capacity of 3,000 hens.

Replacement Program - Whether a producer grew his own replacement pullets or purchased 16-week-old pullets was determined to some extent by the size of his operation.

The nine producers who were using 16-week-old started pullets were from the larger two groups (see Table XII). When asked if they had considered raising their own replacement pullets, most of them agreed that they would have sufficient time but that the capital investment for additional buildings and brooder equipment was not available. Eight producers were buying baby chicks to be used as replacement stock.

TABLE XII
PRODUCERS CLASSIFIED ACCORDING TO REPLACEMENT
PROGRAM AND FLOCK SIZE

Age of Replacements Purchased	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
Baby Chicks	6	2	
Started Pullets (16 Weeks Old)		3	6

All eight of the producers who were growing their own replacements obtained their baby chicks from a local distributor. The distributor purchased from different places in the state. The Capitol Hill Hatchery was the largest supplier of 16-week-old started pullets. Only one producer had obtained his replacement pullets from a different source, which was an out-of-state hatchery. This producer indicated dissatisfaction with the performance of the birds and felt that he would purchase elsewhere in the future.

At the time this survey was conducted only six flocks were made up entirely of hens in their first year of production (see Table XIII). Two producers were making a practice of replacing one half of their flock each year. Seven producers were using hens that were in their second year of production. These producers were satisfied with the rate

of production of hens in the second year of production, but agreed that flock size was considerably below house capacity.

TABLE XIII

PRODUCERS CLASSIFIED AS TO AGES OF HENS
IN THE FLOCK AND SIZE OF FLOCK

Ages of Hens	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
1st Year of Production	2	2	2
2nd Year of Production	1	2	4
3 Years or More	3	1	

Four producers had flocks in which the age of the hens ranged from pullets to five-year-old hens. Three of these were producers with small flocks who realized that they would get better production from a flock of first-year hens, but could find no market for their old hens. For most of them the nearest market would be from 50 to 80 miles away. One producer made a practice of buying hens from the producers who wanted to sell their hens after the first year of production. No actual records were available, but this producer seemed to think that he was making as much profit from this type of operation as he had from the one bunch of 16-week-old started pullets he had bought.

Under ordinary circumstances, the decline in egg production each year is about 20 percent of that of the preceding year (Winter and Funk, 1956). Although no records were being kept, the producers in this survey, who were using 2-year-old hens, felt that these birds had not produced as well during the second laying year.

Mortality Losses - Among the producers surveyed the percentage of mortality varied from 4 percent to 20 percent (see Table XIV), which is

lower than the 12 percent to 20 percent shown by Winter and Funk (1956) to be the range for most producers.

TABLE XIV
PRODUCERS CLASSIFIED ACCORDING TO LAYER
MORTALITY RATE AND FLOCK SIZE

Laying House Mortality Percent	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
4-8	3	3	1
9-15	3	---	4
16-20		2	1

Seven producers had an estimated 4 to 8 percent annual death loss. Seven estimated their death losses at 9 to 15 percent, and three producers had losses of 16 to 20 percent.

The producer who had the 20 percent death loss had trouble with wet litter, and the house was cold and drafty at the time this survey was made; the hens were also crowded.

Some of the most common cause of mortality, expressed by the producers in the survey, include: cannibalism, internal parasites, and respiratory disease.

Labor-Saving Equipment - The amount of time a producer is able to devote to the business is one of the greatest factors in the determination of the size of his flock and the kind of labor- and time-saving devices he utilizes. The general pattern of the producers in this survey was to utilize more labor- and time-saving equipment as the size of the flock increased. The data in Table XV show that more labor-saving devices were being used on the larger farms.

TABLE XV
EGG PRODUCERS WITH VARIOUS LABOR-SAVING EQUIPMENT
CLASSIFIED BY FLOCK SIZE

Labor-Saving Equipment	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
Automatic Waterers		3	6
Mechanical Feeders			2
Egg Washers		3	6
Automatic Candler			2

Nine producers were using automatic or continuous-flow type of waterers and nine producers were also using automatic egg washers. Two producers had automatic egg candler, in which the eggs rolled across a light where they were candled and on the same machine were automatically sorted by weight. The two producers who used automatic feeders were the two largest producers in the county and whose flocks number 3,400 and 3,500 hens.

Labor Efficiency - The amount of automatic and labor-saving equipment a producer uses greatly affects the amount of time required to care for his flock. Based on the information received from producers included in this survey, there seemed to be a direct correlation between the size of the flock and the time required to care for the hens (see Table XVI). Candling and grading of eggs required more time each day than any other job and the time required to gather, candle, and grade the eggs increased as the size of the flock increased.

TABLE XVI
TIME REQUIRED TO CARE FOR FLOCK BY FLOCK SIZE

Nature of Operation	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
	<u>Number of Minutes Per Day</u>		
Feeding and Watering	23	63	42
Gathering Eggs	14	41	74
Candling and Grading Eggs	33	96	105
	<u>Number of Days Annually</u>		
Miscellaneous (Days Annually)	7	23	26
Total 9-Hour Days Per Year	54	158	175

Feeding and watering took 23 minutes per day for the producer with 100 to 200 hens, 63 minutes for those with 200 to 1000 hens, and 42 minutes for those with 1000 to 4000 hens. In the 1000 to 4000 group, all of the producers were using some kind of automatic waterer and two were using mechanical feeders.

Jobs such as cleaning the houses, controlling external and internal parasites, adding new litter, culling, vaccinating, debeaking, etc., took an average of seven days annually for producers with 100 to 200 hens, 23 days annually for producers with 200 to 1000 hens, and 26 days annually for producers with 1000 to 4000 hens.

The data presented in Table XVII indicate the effect of flock size on labor efficiency. When considered on the basis of time spent per 100 hens, it becomes obvious that as flock size increases labor is used more efficiently. Time required for egg candling and grading, the single job requiring the most time, decreased from 28 minutes per 100 hens to 4 minutes per 100 hens when comparing the smallest and largest

sized flocks. The time required to perform each of the other tasks was reduced similarly.

When summarized by the number of 9-hour days required to care for the flock, the differences were striking. For the small-, medium-, and large-sized groups, 46, 23, and 7 days, respectively, were required, for the entire poultry operation.

TABLE XVII

TIME REQUIRED PER 100 HENS FOR POULTRY
ENTERPRISE BY SIZE OF FLOCK

Task	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
	<u>Number of Minutes Per Day</u>		
Feeding and Watering	19	9	2
Gathering Eggs	12	6	3
Candling and Grading	28	14	4
	<u>Number of Days Annually</u>		
Miscellaneous Tasks	6	3.4	1
Total 9-Hour Days Per Year	46	23	7
Total Hours Per Bird Per Year	4.1	2	.63

The hours that producers spent per bird per year varied considerably among the different sized groups. The producers with flocks of 100 to 200 hens spent an average of 4.1 hours per bird per year; the 200 to 1000 and 1000 to 4000 groups required an average of 2 hours and .63 hours, respectively, per bird per year for caring for the poultry enterprise. Card (1961) reported that producers in a California experiment during 1959 used an average of 0.7 hours per bird per year in caring for their poultry enterprises.

Feeding Program - There was considerable similarity in the feeding programs in relation to the size of the operation, because most of the larger producers purchased their feed in bulk. All of the producers who used bulk feed bought from the same company. None of the producers included in this survey used home-grown grains in the poultry rations. Eight producers purchased feed in sacks and nine producers purchased feed in bulk (see Table XVIII).

TABLE XVIII
METHOD OF PURCHASING COMMERCIAL FEED BY SIZE OF FLOCK

How Purchased	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
Sacks	6	2	
Bulk		3	6

The method of purchasing feed had an effect on the price paid per hundredweight as can be seen in Table XIX.

TABLE XIX
COST OF FEED PER HUNDREDWEIGHT BY SIZE OF FLOCK

	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
Average Cost Per Hundredweight	\$ 4.25	\$ 3.79	\$ 3.72

The average cost of feed for the producers with 100 to 200 hens was \$4.25 per hundredweight, \$3.79 for the producers with 200 to 1000 hens, and \$3.72 for the producers with 1000 to 4000 hens. The price paid per hundredweight of feed varied from a high of \$4.35 to a low of \$3.56.

Feed Consumption per Hen - The producers in this survey reported the average consumption of feed per layer to be 92 pounds per year. The

highest estimate of average annual feed consumption was 110 pounds and the lowest was 85 pounds. Fifteen of the seventeen producers in this survey were feeding the 15 of 16 percent protein pellets, which are fed alone without additional grain. The other two producers, both of whom had less than 200 hens, were using 20 percent protein mash and feeding approximately 50 percent of mash and 50 percent of grain.

Marketing Program - There was a notable variation in the marketing practices of the producers in this survey. Many of the producers were making use of available time by candling and grading their own eggs and placing them in local grocery stores. Many of these producers indicated that they would rather spend all of their time caring for laying hens, but they were unable to secure the extra financing necessary to expand their operations. Producers felt that an increase of approximately 10¢ per dozen of eggs was necessary to pay for the extra labor and supplies.

TABLE XX
METHOD OF HANDLING AND SELLING EGGS BY FLOCK SIZE

How Sold	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
Candle, Grade and Carton Eggs	2	5	
Candle, Grade and Carton Part of the Eggs			4
Sell to Dealer who Grades	3		6
Sell Eggs Ungraded at Farm	4		

Eleven of the producers (Table XX) had egg grading licenses and were grading and marketing at least a part of their eggs. Two producers with flocks of 100 to 200 hens were grading and marketing all of their eggs. All five of the producers in the 200 to 1000 size group candled,

graded, cartoned and sold all of the eggs they produced. Four of the producers with flocks of 1000 to 4000 hens candled, graded, cartoned and sold part of the eggs they produced. At the time this survey was made, two of these producers had been marketing for two months all the eggs they had produced and expected to be able to make this a continuous practice.

Nine producers were selling part or all of their eggs to dealers who graded and marketed the eggs. Three producers with 100 to 200 size flocks marketed a part of their eggs by selling to dealers. This was usually at periods of high production and accounted for only a small percentage of the total production. All six of the producers with flocks from 1000 to 4000 in size marketed at least part of their production through dealers. Only two of the producers were marketing all of their eggs by this method; they were producers with flocks of 3000 and 3400 hens. Four producers with flocks of 100 to 200 hens were selling their eggs at the farm, ungraded. Only one producer was marketing all of his eggs in this manner.

The producers who were candling, grading and marketing their own eggs were marketing them in Latimer County and nearby McAlester. Most of the eggs were sold through grocery stores. However, all producers reported that they sold some eggs to neighbors who picked them up at the farm. Only one producer who candled and graded eggs marketed all of them on the farm.

Net Income - There are many costs which must be considered before net income can be computed. Of these costs, the largest is feed. One other out-of-pocket cost is that of the replacement pullets, whether they are purchased as baby chicks or as started pullets. When both of these costs

were considered, the data in Table XXI indicate that seven of the seventeen producers surveyed reported an income of less than \$1.00 per hen. Seven producers reported income of \$1.01 to \$2.00 per hen, and three producers reported an income of \$2.01 to \$3.00 per hen.

TABLE XXI
PRODUCERS CLASSIFIED BY INCOME PER BIRD AND FLOCK SIZE

Income	Number of Hens Per Flock		
	100-200	200-1000	1000-4000
0 to \$1.00	4	2	1
\$1.01 to \$2.00	1	1	5
\$2.01 to \$3.00	1	2	

Net Income and Marketing Practices - The approximate net income per bird above feed cost and cost of the chicks varied from a high of \$3.00 per hen to a low of \$0.20 per hen. There are many factors which can account for this difference. It would appear that the greatest of these factors is the individual's ability as a manager in conjunction with the emphasis which is placed on poultry in the overall farm enterprise. The better producers were continually trying to find ways to improve their production, marketing and management practices.

Producers whose marketing practices include candling, grading, and marketing of their own eggs were receiving a larger net income than were those producers who were not performing these marketing functions (see Table XXII).

TABLE XXII

PRODUCERS CLASSIFIED BY NET INCOME PER HEN
AND BY TYPE OF MARKETING PROGRAM

Type of Marketing Program	Net Income Per Hen			Avg. Dollars
	0-\$1.00	\$1.01-\$2.00	\$2.01-\$3.00	
Candle and Grade All Eggs	2	2	3	1.84
Candle and Grade Part of the Eggs		4		1.31
Sold Eggs to Dealer	1	1		1.08
Sold Eggs Ungraded at the Farm	4			.66

The seven producers who were candling, grading and marketing their own eggs received an average income of \$1.84 per hen over cost of feed and of replacement birds. The four producers who candled and graded a part of their eggs received an average of \$1.37 per hen, the producers who sold to dealers and those who sold eggs ungraded at the farm received an average of \$1.08 and \$0.66, respectively. The four producers who sold eggs ungraded at the farm were in the smallest flock size group (100-200 hens). In many cases the price they received per dozen of eggs was good, but income over cost of feed and of replacement pullets was down because of low production.

PROBLEM AREAS

During this survey each producer was asked to list the three of the most serious problems he had encountered in the poultry business. As would be expected there were variations in the problems listed by the producers (see Table XXIII).

TABLE XXIII

NUMBER OF PRODUCERS REPORTING VARIOUS PROBLEM
AREAS CLASSIFIED BY SIZE OF FLOCK

Problem Area	Number of Hens Per Flock			Total
	100-200	200-1000	1000-4000	
Housing	2	2	1	5
Labor	2	2		4
Disease	2	1	2	5
Marketing Old Hens	3	4	5	12
Low Production	4	2	4	10
Culling	3			3
Cannibalism	2			2
Parasites	2	2		4
Capital Investment	1	1	5	7
Cost of Feed		2	1	3
Reliable Source of Started Pullets			1	1

The most common problem that producers included in this survey was that of marketing the old hens, 12 producers having reported this as a problem. One small producer (100-hen flock) reported that she would

never keep hens for more than one year of production if she had any place to sell her old hens. Her nearest market was 80 miles from the farm.

Ten producers reported that low production was one of their problems. In some cases this was due, in part, to the fact that the hens were kept for the second year. Some other causes of low production which were observed were crowding, wet litter, parasites, and general neglect of hens.

Capital investment was a problem with seven producers. Some producers were having trouble paying off existing mortgages. Others were having difficulty in securing the necessary capital to make planned expansion or to buy equipment.

Five producers reported housing as a problem. This usually meant that the building was in need of repair, or possibly needed replacing if the producer was to stay in the poultry business.

Labor was listed as a problem by four producers. Three of these were people who, because of their age or health, were limited as to the amount of work they could do.

Disease was listed as a problem by five producers. The most common disease problem was respiratory diseases in the flock. These flocks were usually housed in buildings which were drafty or where the producer was having trouble with wet litter.

Three producers reported culling to be a problem. All of these were small producers (100-200 hens) who had hens which varied in age from 1 year to 4 years. They knew how to cull the hens but in many cases did not have any equipment for catching the hens, and no place to market the ones which were culled.

Cannibalism was reported as a problem by two producers. This was a problem only with the smaller producers (100-200 hens) who were not debeaking the hens.

Four producers reported that parasites were a problem. From observation it would appear that internal parasites were probably causing trouble in more than these four flocks.

It will be noted that three producers indicated that high cost of feed was a problem, and one producer felt that a reliable source of pullets was needed in the community.

SUMMARY AND CONCLUSIONS

Seventeen egg producers in Latimer County were interviewed, and a questionnaire was completed on their poultry operations. As a result of the survey, the following conclusions can be drawn:

1. Based on census data, there has been an increase in the size of flocks in Latimer County since the beginning of the Rural Development Program in 1953.
2. There was a net income over chick and feed costs which served as a means of supplementing farm income.
3. None of the producers surveyed indicated that the marketing of eggs was a problem.
4. Finding a market for the old hens was a problem of both large and small producers.
5. "Out of pocket" costs of building construction and equipment vary, depending upon the amount of construction work done by the producer himself and the amount of used equipment and lumber employed in the operation.
6. Poultry buildings which have been constructed in Latimer County during the last four years, and broiler houses which have been converted to laying houses, are providing adequate ventilation and floor space for the flocks.
7. Most producers were providing one nest per 5 to 6 hens, but special attention should be given to gathering eggs often.

8. Wood shavings, which were locally available, were used by almost all the producers.
9. As producers increased the size of their flocks, they tend to become more efficient in labor utilization in that they used more automatic equipment.
10. A majority of the producers surveyed had an annual laying house mortality of 8 to 12 percent.
11. Those producers who purchased feed in bulk paid less per hundred-weight than producers who bought feed in bags.
12. Producers were well rewarded for the extra time required for grading, candling, cartoning, and marketing their own eggs.
13. The average income over cost of feed and cost of replacements was approximately \$1.00 to \$1.50 per hen.
14. All poultry producers have problems. They recognize that improvements can be made in their poultry enterprise. In order to do this each producer must concentrate his effort on his particular problems.

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APPENDIX A

LATIMER COUNTY COMMERCIAL EGG PRODUCERS SURVEY

Name _____ Address _____

Location of farm _____

Number of years in poultry business _____

Average size of flock _____

How many years have you been operating with the present size of flock? _____

Is your main source of income from poultry? _____
yes no

Do you belong to the Latimer County Poultry Producers Association? _____
yes no

MARKETING PROGRAM

Do you have a guarantee or contract for your eggs? _____
yes no

If yes, is it a verbal or written contract? _____

Do you sell your production in:

- Wilburton _____
- Tulsa _____
- McAlester _____
- Other _____

Do you

- Candle, grade and carton _____
- Sell to dealer, who grades _____
- Sell to hatchery _____
- Other _____

Do you have more than one outlet for your eggs? _____
yes no

HOUSING OPERATION

Floor space _____ square feet
 Roost space _____ linear feet
 Number of nests _____
 Water space _____ linear inches
 Type of waterers _____
 Remarks on waterers _____

Number of windows _____ Size of windows _____
 Type of litter used _____
 Litter management _____

Do you use electric lights to provide a minimum 14-hour day for your hens? _____

LABOR

How many people are required to care for your flock? _____

How many hours each day is spent in caring for the poultry business? _____

Feeding _____
 Gathering eggs _____
 Candling _____
 Miscellaneous _____

What labor saving devices do you have in your poultry program? _____

Automatic waterers _____
 Mechanical feeders _____
 Egg washer _____
 Automatic candler _____
 Egg cooler _____

How many pullets do you start each year for each 100 layers desired? _____

What percentage of mortality do you have in the laying house each year? _____

What is the age of the hens in your present laying flock? _____

FEEDING OPERATION

What percentage of feeds below do you use?

Commercial _____
 Home grown _____

Do you buy commercial feeds in:

Sacks _____

Bulk _____

Average cost per one-hundred pounds of feed? \$ _____

What is the annual consumption of feed per layer _____
pounds _____

What was the average production of your flock per hen for the past
year? _____

What was your approximate net income per bird last year above feed
cost and initial cost of chick? _____

Check below the areas which you consider your biggest problem in
egg production: (Rank first, second, etc.)

Housing _____

Labor _____

Disease _____

Marketing _____

Low Production _____

Culling _____

Cannibalism _____

Parasites _____

Capital Investment _____

How would you suggest correcting these problems _____

Approximately how much do you have invested in your present poultry busi-
ness? (to include house, feeders, coolers, candler, etc.)

VIIII

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