June 21, 1950

To the Committee on Graduate Study:

I am submitting to you a thesis written by William E. Raikes entitled "Relation of Size of Flock to Market Egg Production in Tennessee, 1947-1948." I recommend that it be accepted for eighteen quarter hours of credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Economics.

C. E. Allred

Major Professor

We have read this thesis
and recommend its acceptance:

John L. Fischer

Troy A. Jones

Accepted for the Committee

E. A. Walters

Dean of the Graduate School

# RELATION OF SIZE OF FLOCK TO MARKET EGG PRODUCTION IN TENNESSEE, 1947-1948

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A THESIS

Submitted to
The Committee on Graduate Study
of
The University of Tennessee
in
Partial Fulfillment of the Requirements
for the degree of
Master of Science

---

by

William E. Raikes

August 1950

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# CHAPTER I

# INTRODUCTION

## The Scope and Purpose of the Study

This study is a part of a regional project on egg marketing conducted by the agricultural experiment stations in eight states including Alabama, Arkansas, Georgia, Louisiana, Mississippi, South Carolina, Tennessee, and Virginia in cooperation with the United States Department of Agriculture.

Each of the cooperating states collected data on seasonal market prices and practices of egg producers and first dealers, and the data were tabulated in such a manner that it could be summarized on a regional basis. This necessitated the adoption of uniform methodology and procedure. Field work was done for this study between March 18 and June 1948, and at that time arrangements were made to receive monthly reports from the producers and first-buyers each month during 1948 and to June 1949.

The regional project has the following objectives: (1) to determine the production and marketing practices of producers, (2) to study the buying and marketing practices of primary marketing agencies, (3) to see what effects certain practices have on the quantity and quality of eggs and on prices received, (4) to learn the important market areas from which Tennessee receipts originate, and the important market to which Tennessee surplus eggs are shipped, (5) to compare prices paid within the state with those in neighboring states, and (6) to find what wastes occur from producers to consumers, and to ascertain the price spread, (7) to analyze the economic loss of time, labor, and money due to inefficient handling and marketing of poultry and eggs, (8) to

determine the trade channels through which poultry and eggs move, (9) to study marketing agencies which facilitate movement, (10) to study the problems involved in the various marketing functions, such as collection, grading, storage, buying, selling, risk-bearing, transportation and market information, (11) to study consumption demands, and state candling and grading regulations.[1]

The purposes of this part of the Tennessee study were to determine:

1. What changes occurred in size of flocks, and to analyse the economic importance of these changes.

2. The importance of market egg outlets for farmers by months.

3. The seasonality of prices received by farmers, by size of flock and type of market outlet.

4. The seasonality of egg prices received by first-buyers.

5. Some practices of market egg producers by size of flock.

## Importance of the Study

Changes in size of flocks that are made from year to year affect egg production which in turn affects the seasonal prices received by the producer and buyer. More investigation is needed to determine what causes these changes.

Information presented in this report will aid the farmers in adjusting their size of flocks to meet the market demands and the

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[1]Clyde R. Keaton, Marketing Eggs by Farmers and First Dealers, Tennessee, 1947 and 1948, Unpublished thesis, University of Tennessee, p. 2.

seasonal price patterns. Also, the producers will be in a more favorable position for improving their market practices enabling them to operate on a more profitable basis.

Market outlets have a direct bearing on the seasonal prices of eggs received by the producers and first-dealers and these outlets also affect the market practices of farmers. An increase in rolling stores, for example, tends to open up new areas of egg production and results in changes in feeding, management, and marketing procedures.

The practices of the market egg producers are very important. What does one producer do that makes his egg production profitable, and what does another producer do that makes him a failure as an egg producer? These characteristics will be reflected on the prices received by the producers and the practices that they follow when producing the eggs.

Income from egg production is important in nearly every county in Tennessee as shown in Figures 1, 2, and 3. For the state as a whole 89 percent of the farms had poultry and 66 percent of all farms sold eggs in 1944.

The value of eggs and poultry sold per farm reporting the marketing of eggs and poultry averaged $121 in 1944, and ranged from $355 in Davidson County, to $45 in Haywood County.

Importance of farm egg production and egg marketings in the state is indicated by the value of farm egg products and sales during recent years. From 1945 to 1948 the farmers of Tennessee marketed an average of 748 million eggs annually with an average per farm of $159.

TABLE I

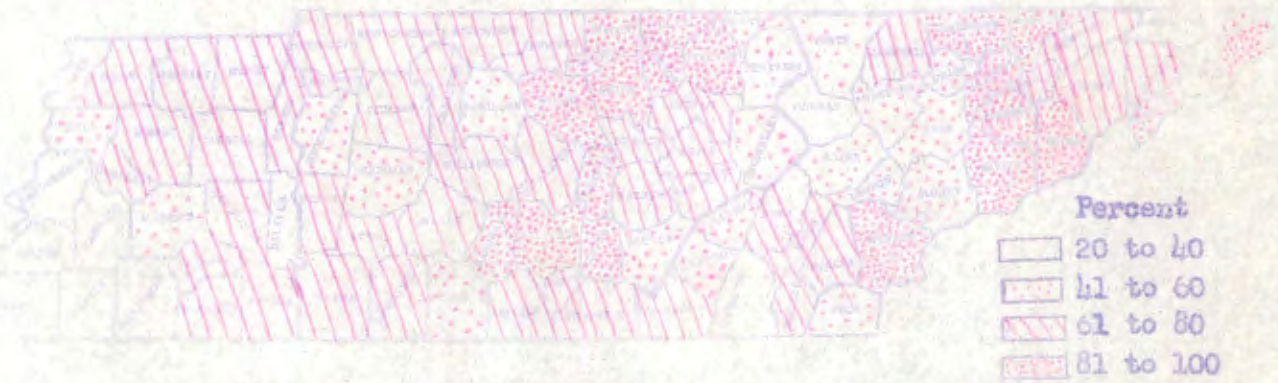
IMPORTANCE OF FARM EGG PRODUCTION AND SALES IN TENNESSEE, 1945 to 1948

| Year | Number of Eggs | | Value of Eggs | | |
|---|---|---|---|---|---|
| | Produced (millions) | Sold (millions) | Produced | Sold (total) | Sold (per farm)* |
| 1945 | 1,084 | 785 | $32,881,000 | $23,812,000 | $154 |
| 1946 | 1,055 | 749 | 31,826,000 | 22,595,000 | 146 |
| 1947 | 1,034 | 739 | 36,276,000 | 25,927,000 | 168 |
| 1948 | 1,015 | 720 | 36,490,000 | 26,220,000 | 170 |
| Average | 1,047 | 748 | 34,365,750 | 19,638,500 | 159 |

* Based on 154,683 farms reporting sale of eggs in 1944.

Source: U. S. Bureau of Agricultural Economics, Agricultural Estimates, Nashville, Tennessee.

Percentage of All Farms Selling Eggs and Poultry




State average 66%

Source: 1945 Census of Agriculture.

Figure 1

Importance of Egg Production, by Counties,
Tennessee, 1944




Source: 1945 Census of Agriculture.

Figure 2

Value of Eggs and Poultry Sold Per Farm
Reporting, Tennessee 1944




Source: U. S. Census of Agriculture, 1945

Figure 3

Distribution of Layers in Tennessee, 1944

## Methods of Procedure and Source of Data

This report is based on data obtained by personal interviews, observation, and questionnaires. The area method of sampling was used. Twenty-four counties were included, ranging from the most Western to the most Eastern county in Tennessee as shown in Figure 4. From these twenty-four counties 546 complete producer schedules were obtained in 1947. From the 546 producer schedules, the first report was made.[2] The producers were to send in monthly reports to the Experiment Station of their production and sales of eggs for the year 1948. Only 170 complete monthly schedules were received for 1948 and these are the primary source of data used in this study. Complete reports from 28 of the 197 dealer schedules were obtained. These dealer reports contained all the information that was asked for by months for the year 1948.

## Definition of Terms Used

Country store: A store selling groceries and/or merchandise and located in a rural area.

Rolling store: A truck of some type carrying groceries and other merchandise for the purpose of selling to and buying from rural people. This store sells for cash or takes poultry or eggs and other

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[2] B. D. Raskopf, Clyde R. Keaton, Practices of Market Egg Producers in Tennessee, 1947-48, Agricultural Experiment Station, University of Tennessee, Knoxville, Tennessee, Monograph No. 249.

CRANES CREST





Figure 4

Location of Counties in Tennessee Which Were Included
In The Egg Marketing Study, 1948

farm products in trade, or buys them for cash. One person may own only the rolling store, or it may be operated in connection with a stationary store.

Wholesale produce dealer: One who buys poultry and poultry products from buyers or first handlers (local stores) or from farmers direct, and who sells to retailers, dressing plants, shippers, etc. Wholesale dealers may buy from shippers in certain seasons and sell to them at other times.

City store: Those selling groceries and/or merchandise in an incorporated town.

Chain store: One of a number of retail stores under the same ownership and central management, selling groceries and/or merchandise. The chain stores were included in the city store category.

Huckster: One who buys poultry and eggs at the farm or country store and who resells them to other country stores, wholesale produce dealers, or shippers. For the purpose of this study a huckster is considered a peddler.

Consumer: An individual person who eats eggs or uses them for purposes other than resale.

Institution: An establishment of public character including restaurants, bakeries, boarding houses, state institutions, hospitals, and other public agencies furnishing meals.

## Other Related Studies

This study is the continuation of the study started by Clyde R. Keaton, University of Tennessee Experiment Station, in March 1948. When this study was started, it was the first overall study of egg production and marketing practices for the entire state of Tennessee. Four other studies had been made pertaining to egg marketing practices, and two of consumer preference and marketing of poultry and eggs in the Knoxville Trade Area.[3]

---

[3] Clyde R. Keaton, Marketing Eggs by Farmers and First Dealers, Tennessee, 1947 and 1948, Unpublished thesis, University of Tennessee.

T. L. Mayes, Egg Consumption in West Knoxville, 1933, Report on file, Poultry Husbandry Department, University of Tennessee, Knoxville, Tennessee.

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M. M. Guilford, Poultry and Egg Marketing in the Knoxville Trade Area, Thesis, Agricultural Experiment Station, University of Tennessee.

## CHAPTER II

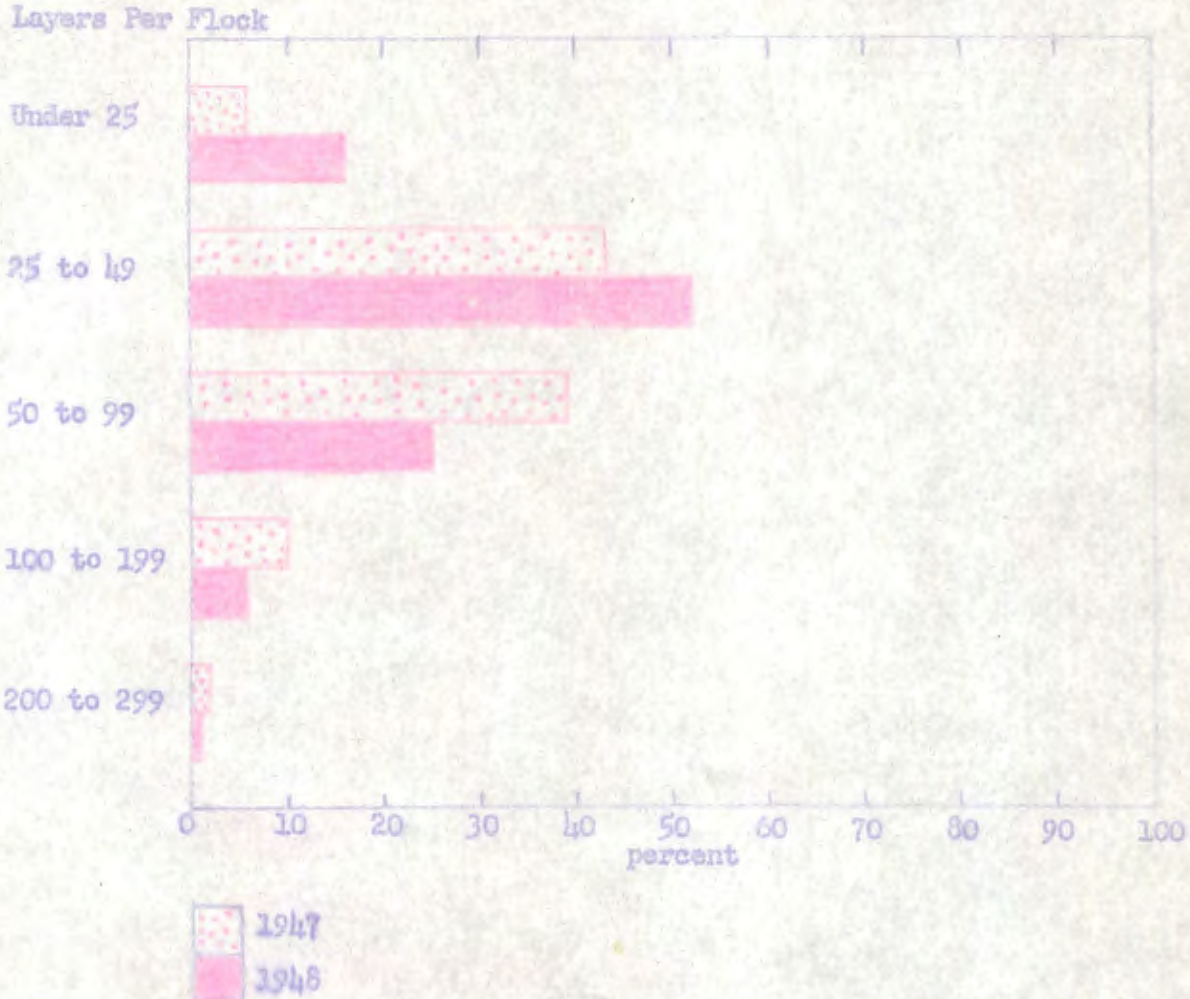
## CHANGES IN SIZES OF FLOCKS OF MARKET EGG PRODUCERS

### Shifts in Sizes of Flocks, 1947 to 1948

A study of the changes taking place in the size of flocks is important because a previous study of the Tennessee Agricultural Experiment Station has shown that when the average size flock is small the preservation of quality during the marketing process is difficult and the producer's main purpose in keeping laying hens is to supply home needs. It also appears true that if the size of production unit is to remain small the cost of assembling eggs for market will be high. Changes in size of flock are also important from the income standpoint because when both large and small flocks are managed with the same degree of efficiency, naturally the larger flock yields the greater return.

That the size of the egg production unit can change appreciably from one year to another is indicated by the shifts in size of flock which took place among 170 market egg producers in the state from 1947 to 1948. Because of unfavorable prices, or other factors which will be discussed later, there was a noticeable increase in 1948 in the proportion of flocks under 50 layers (Figure 5 and Table II).

Although there was a percentage increase in the smaller size flocks, actually little change took place in the average number of birds in the smaller production units, and flocks of over 100 layers showed a substantial increase (Table III and Figure 6).




Source: Table 2.

Figure 5

Changes in size of flocks of 170 market egg producers in Tennessee, 1947 and 1948

TABLE II

CHANGES IN SIZE OF FLOCKS OF 170 MARKET EGG PRODUCERS IN TENNESSEE, 1947 TO 1948

| | Percent of All Flocks | |
|---|---|---|
| Layers Per Flock | 1947 | 1948 |
| Under 25 | 6.1 | 15.8 |
| 25 to 49 | 43.0 | 52.1 |
| 50 to 99 | 39.4 | 24.8 |
| 100 and over | 11.5 | 7.3 |
| All flocks | 100.0 | 100.0 |

Source: This table and all tables included in this study that have no source designation were derived from this study of 170 market egg producers in Tennessee in 1947 and 1948.

These data seem to indicate that under unfavorable price and market conditions many of the farmers with the larger flocks reduce their number of layers but those that are left increase the size of their operations. This appears to be desirable if the producers who expand operations follow more improved practices, obtain higher egg production per layer, sell higher quality eggs, and use more efficient marketing methods.

From the standpoint of volume of eggs produced, however, it seems that during the past five years the smaller flocks have been producing an increasing proportion of the total volume of eggs. For the state as a whole about 67 percent of the eggs produced in 1944 came from flocks under 100 layers but this proportion was reported at 76 percent in 1947 and 80 percent in 1948 (Table IV and Figure 7).

A most important factor for consideration with regard to a shift toward increased percentage of production by the smaller flocks is that as size of flock decreases the proportion of eggs marketed decreases and Tennessee will import more eggs.[1]

In flocks of 100 or more layers the proportion of eggs produced that were available for sale averaged 83 percent in 1947, whereas this percentage was about 51 in the flocks averaging under 25 layers.

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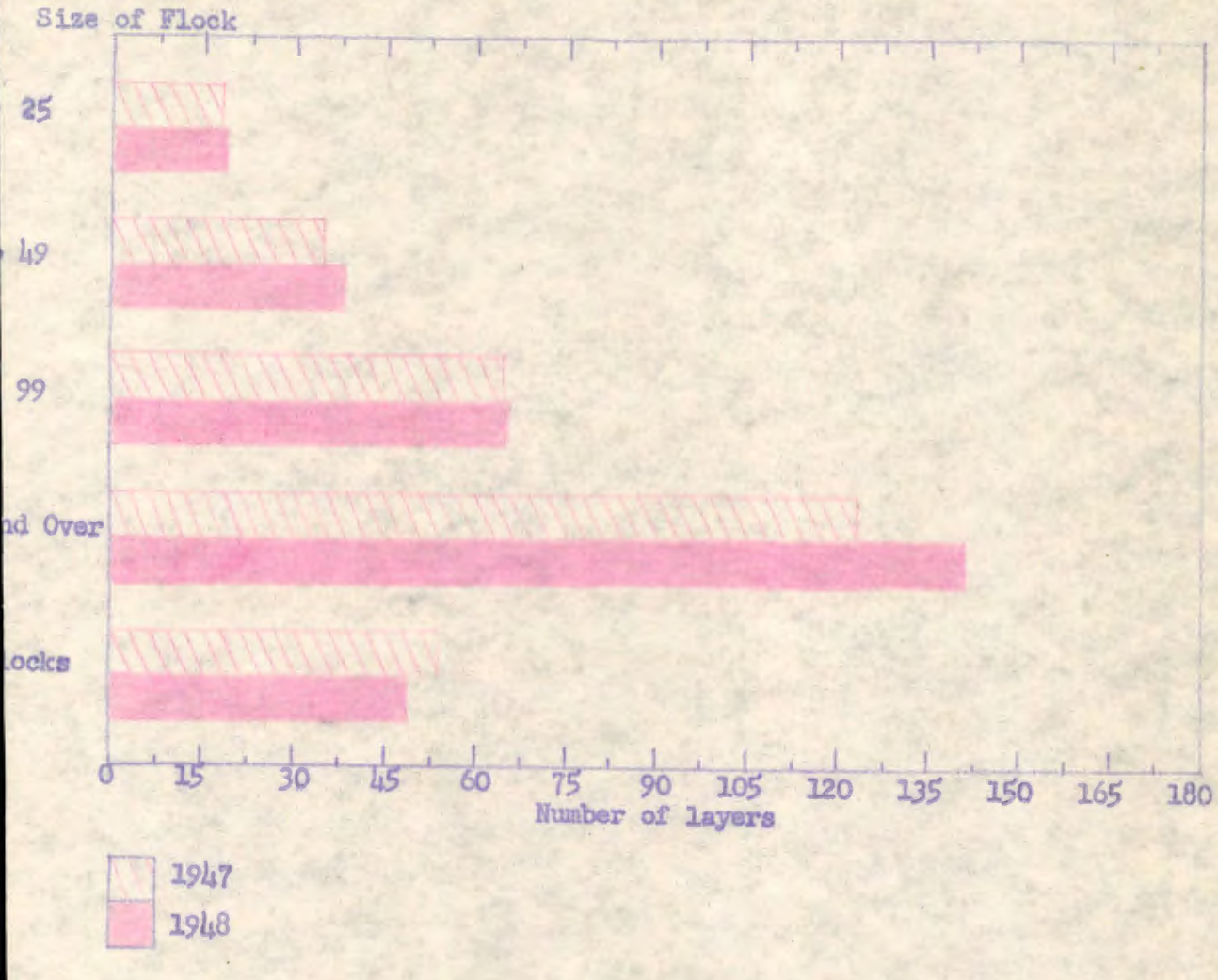
[1] Practices of Market Egg Producers in Tennessee, 1947-48, Tennessee Agricultural Experiment Station, Monograph 249, 1949.




Source: Table 3.

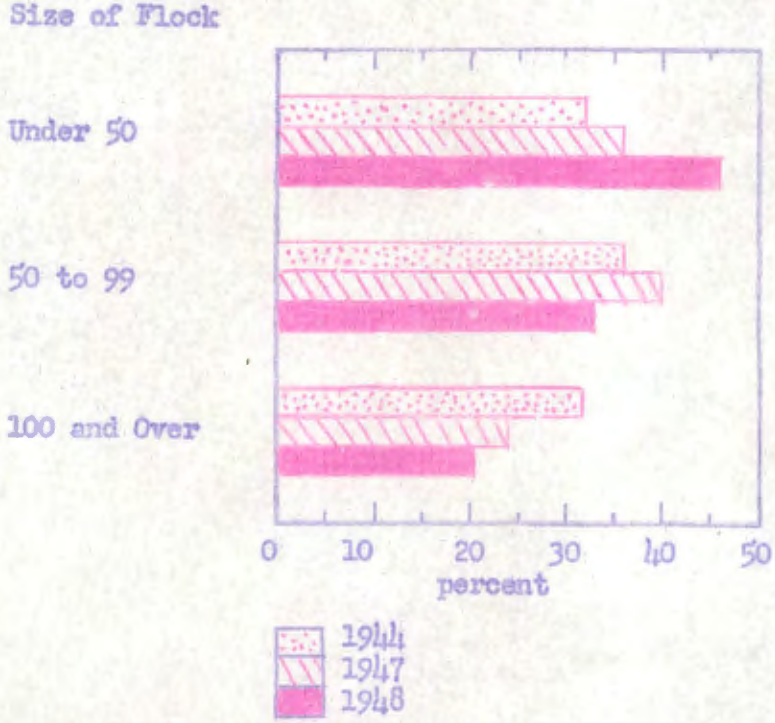
Figure 6

Changes in average number of layers by size of flock groups, 170 market egg producers, Tennessee, 1947 and 1948

TABLE III

CHANGE IN AVERAGE NUMBER OF LAYERS BY SIZE OF FLOCK GROUPS, 170 MARKET EGG PRODUCERS, TENNESSEE, 1947 AND 1948

| Size of Unit (No. Layers) | Layers Per Flock (Average Number) | |
|---|---|---|
| | 1947 | 1948 |
| Under 25 | 18 | 19 |
| 25 to 49 | 35 | 38 |
| 50 to 99 | 64 | 65 |
| 100 and over | 123 | 140 |
| All flocks | 53 | 49 |




Source: Table 4.

Figure 7

Changes in egg production of all egg producers in 1944 and 170 market egg producers, by size of flock groups, Tennessee, 1947 and 1948

TABLE IV

CHANGES IN EGG PRODUCTION OF ALL EGG PRODUCERS IN 1934, 1939, 1944 AND 170 MARKET EGG PRODUCERS, BY SIZE OF FLOCK GROUPS, TENNESSEE, 1947 AND 1948

| | Percentage of All Eggs Produced | | | | |
|---|---|---|---|---|---|
| Layers Per Flock | 1934* | 1939* | 1944** | 1947 | 1948 |
| Under 50 | 34.8 | 48.2 | 31.9 | 36.3 | 46.3 |
| 50 to 99 | 36.1 | 30.4 | 35.6 | 39.9 | 33.2 |
| 100 and over | 29.1 | 21.4 | 32.5 | 23.8 | 20.5 |
| All flocks | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

* Based on data from 1940 Census of Agriculture.

** Based on data from 1945 Census of Agriculture.

## Factors Affecting Size of Flocks

### Types of Market Outlets

The farmer, as a producer, has many outlets for his eggs. If he cannot take them to market, the market will be brought to him. This is exemplified by rolling stores that travel through the country and pick up the farmers' eggs, paying cash or trading merchandise for them.

There are eight main outlets for market egg producers in Tennessee. These are city stores, rolling stores, country stores, local customers, produce dealers, hatcheries, eating establishments, (including restaurants, institutions, cafes) and meat packing companies. Also, a ninth may be listed as miscellaneous including food manufacturers, roadstands, milk plants, cooperatives, etc.

In the study that was made in the eight southeastern states, of which this study is a part, the main outlets used were country and city retail stores, chain stores, rolling stores, local produce dealers, hucksters, cooperatives, consumers, institutions, hatcheries, and miscellaneous. Retail stores were the principal outlet used for marketing eggs.[2] More eggs were sold to these retail stores than all other outlets combined. Consumers ranked second in importance

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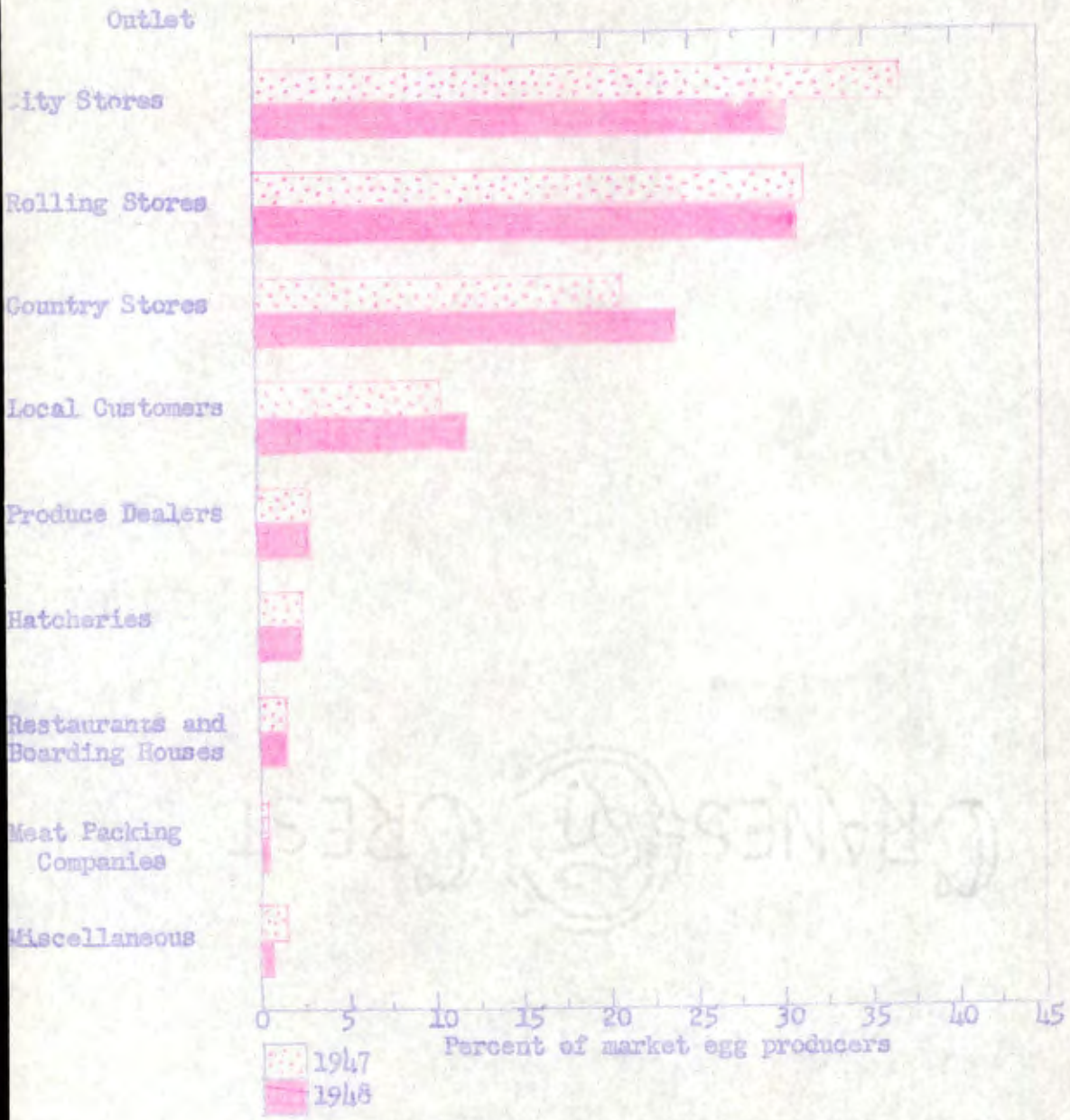
[2]Jerry M. Law, Preliminary Information On Egg Marketing Project, SM-6, September 27, 1949, p. 1.

as an outlet and rolling stores ranked third. The rolling store was more important in Alabama, Mississippi, and Tennessee. The other outlets were not so important.

Comparing Tennessee to the Region as a whole,we find that retail stores rank first as the main outlet for market egg producers. In Tennessee, rolling stores rank second, whereas in the Region, consumers rank second. Consumers rank third in Tennessee, whereas rolling stores rank third in the Region. These three agencies, rolling stores, retail stores, and consumers, handle over 85 percent of total eggs marketed, either in Tennessee or in the Region.

In this study of 170 producers in Tennessee, some of them sold to more than one agency. This study shows a decrease in the number of farmers selling to retail stores from 1947 to 1948. Also, the number of market egg producers selling to rolling stores decreased from 1947 to 1948, but the number selling to country stores increased. One conclusion could be drawn from this increase in that more farms exchanged their eggs for merchandise instead of taking them to retail stores in towns or selling them to rolling stores. The number of farmers selling to local customers increased slightly from 1947 to 1948. All other outlets showed very little or no change in proportion of farmers selling to them from 1947 to 1948 (Figure 8 and Table V).

From Table V it is evident that the most important market outlets for Tennessee eggs producers are retail grocery stores and rolling stores and that there has been no great change in the outlets used from 1947 to 1948.




Source: Table 5.

Figure 8

Market outlets for 170 market egg producers, 24 Counties, Tennessee, 1947 and 1948

TABLE V

MARKET OUTLETS FOR 170 EGG PRODUCERS, 24 COUNTIES
TENNESSEE 1947 AND 1948

| Market Outlets | 1947 | | 1948 | |
|---|---|---|---|---|
| | No. of Farmers | % of Farmers | No. of Farmers | % of Farmers |
| City stores and incorporated towns | 64 | 37.4 | 52 | 30.4 |
| Rolling stores | 54 | 31.5 | 52 | 30.4 |
| Country stores | 35 | 20.4 | 41 | 23.9 |
| Local customers | 18 | 10.5 | 20 | 12.0 |
| Produce dealers | 5 | 2.9 | 5 | 3.0 |
| Hatcheries | 4 | 2.3 | 4 | 2.3 |
| Restaurants and Boarding houses | 2 | 1.2 | 2 | 1.2 |
| Meat packing company | 1 | .6 | 1 | .6 |
| Miscellaneous* | 2 | 1.2 | 1 | .6 |
| Total | ** | ** | ** | ** |

* Includes schools, family relations, institutions.

** Total adds above 100 percent because some producers sold to more than one agency.

## Distance to Market

Distance to market appears to have very little bearing on the shifts in size of flocks.* Today, the rolling store has brought the market for eggs and the merchandise for consumption, to the farmers' front door. The automobile has proved to be a great aid in transporting the eggs to a near-by town or country store. The huckster or peddler has also improved the means of marketing eggs as he comes to the house and picks up eggs.

More than half the egg producers market their eggs within two miles of their home. This shows that the distance to market should not have too much effect on the shifts from larger to smaller flocks. Only 8.4 percent of the producers transported their eggs 10 miles or over to market (Figure 9).

## Prices

Because the changes in prices are among the more important factors affecting the producers decisions as to adjustments made in the number of laying hens he keeps on hand, some discussion is presented on the trends of egg prices in the United States and Tennessee.

The prices received for eggs in the United States have been on the increase since 1939. In that year the high for the period from 1935 to 1939 was 29 cents per dozen. During the war years,

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* Distance to market for the 170 producers was obtained in 1947 and few changes were reported in distance traveled to and from market during the period 1947 to 1948.

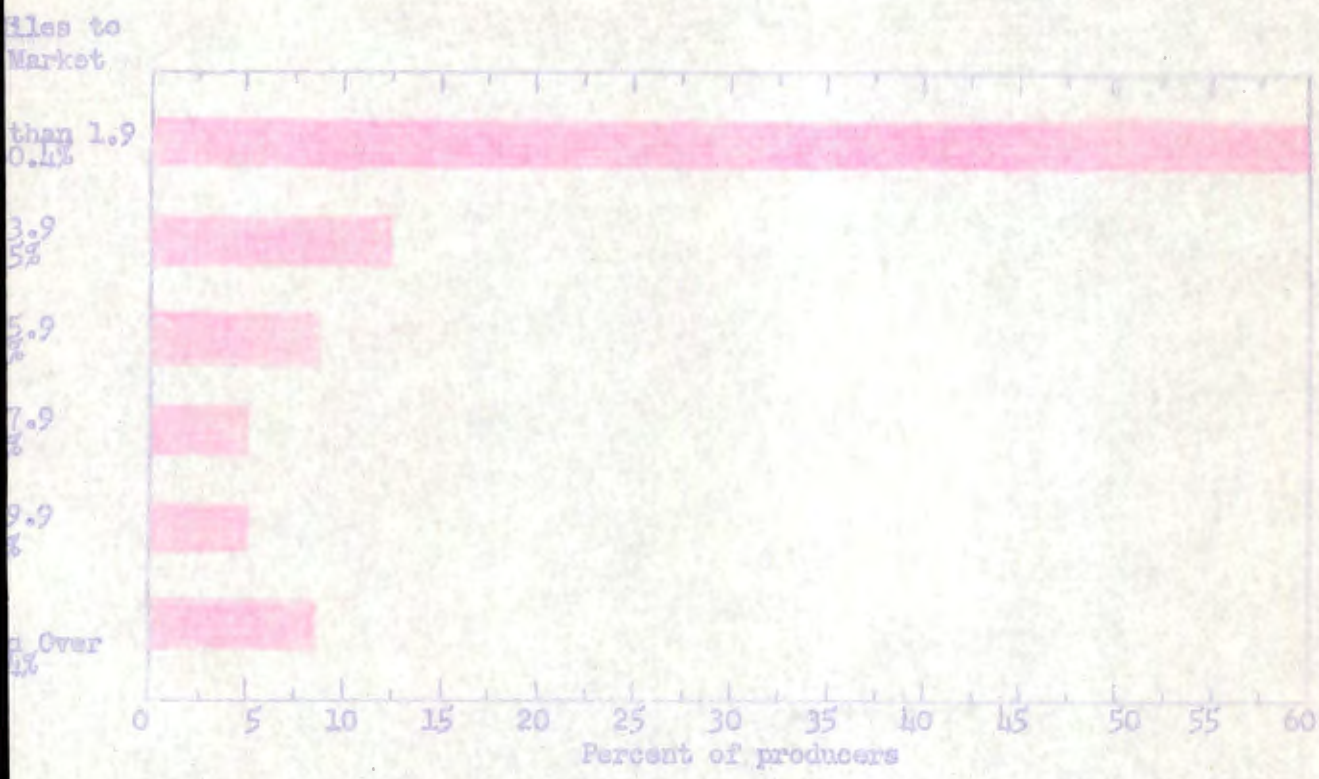



Figure 9

Distance to market, 170 market egg producers,
Tennessee, 1948

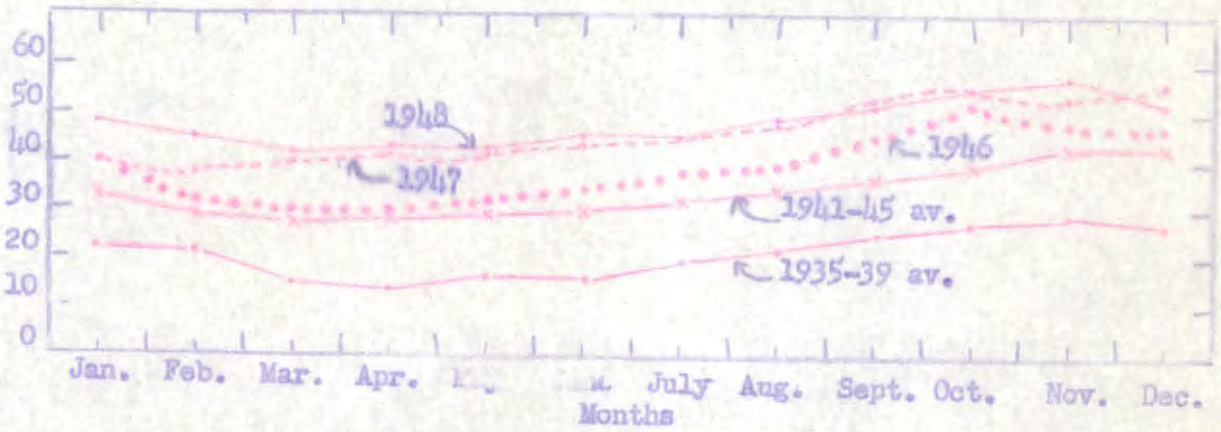
1941-1945, the highest prices received were 42 cents per dozen. Then in 1946, after the war, the highest price received was 52 cents per dozen. In 1947 and 1948, the peak was reached at 58 cents per dozen. From this we can see that prices generally have been on the increase in the past eight years (Figure 10).

The price trends for Tennessee, compared to the United States, are similar but Tennessee's prices averaged under those for the United States. In 1939, both Tennessee and the United States reached their lowest average during the 1936-48 period, whereas in 1948, the highest averages were reported (Figure 11 and Table VI).

The high prices received for eggs during the war period was conducive to an increase in size of flocks. As shown in Table III, about 21.4 percent of the eggs were produced from flocks of over 100 chickens in 1939 but this proportion increased to 32.5 percent in 1944.

Although egg prices have remained relatively high since the war there has been a decline in the percentage of eggs produced in flocks of 100 or more layers, possibly because of an unfavorable egg-feed-price rates.

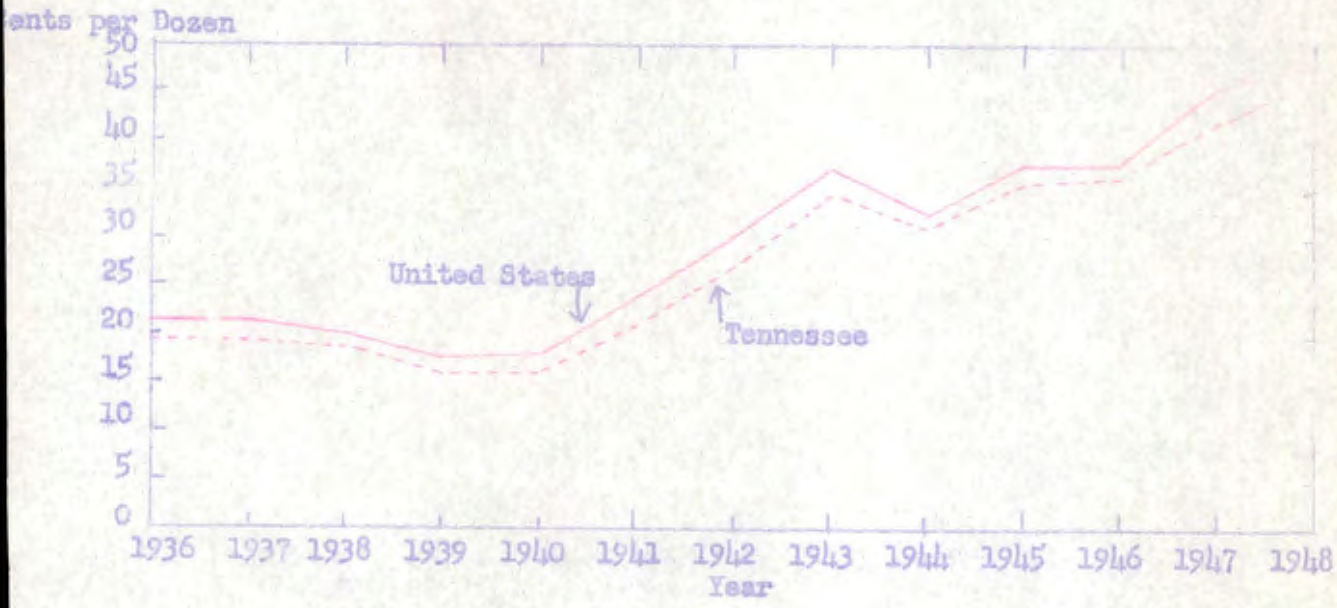
Important price factors in 1947 and 1948 which were responsible for causing market egg producers to make shifts in the size of their laying flocks were prices received for eggs and the egg-feed-price ratio. As shown in Figure 13 the price of eggs declined rapidly from December 1947 to March 1948, and the number of pounds of poultry ration equivalent in value to one dozen eggs decreased from 12.6 to less than




Source: The Poultry Industry, Poultry Branch Production and Marketing Administration, U. S. D. A., Washington, D. C., October 1949, p. 16.

Figure 10

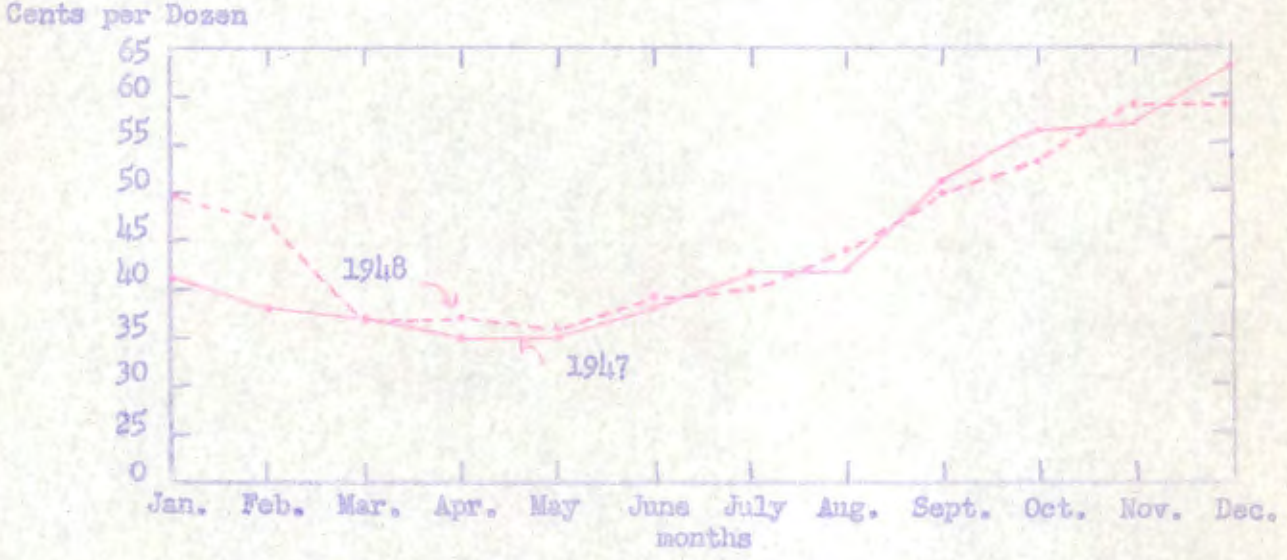
U. S. average prices received by producers, by months, for selected years, 1935-1948




Source: S. T. Marsh, et. al. Agricultural Trends in Tennessee, Nashville, Tennessee, Department of Agricultural Statistics Services, 1948, p. 121.

Figure 11

Comparison of average prices received by farmers for eggs in the United States and Tennessee, 1936-1948




Source: Crops and Markets, United States Department of Agriculture, Washington, D. C., 1949 Edition, Volume 26, p. 57.

Figure 12

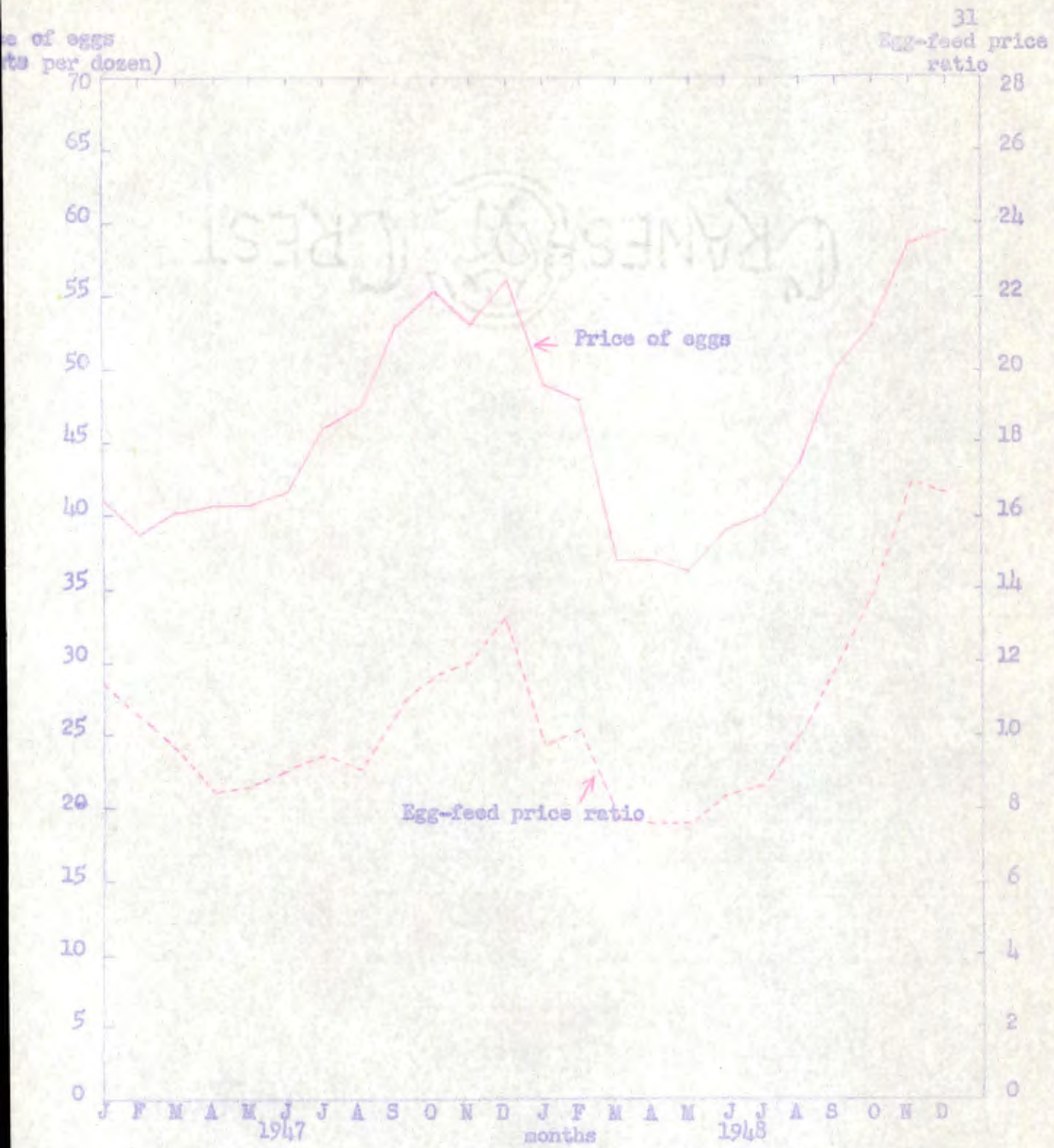
Changes in egg prices received by farmers in Tennessee, by months, 1947 and 1948

TABLE VI

CHANGES IN EGG PRICES RECEIVED BY FARMERS IN TENNESSEE, BY MONTHS, 1947 AND 1948

| Month | Price Per Dozen | |
|---|---|---|
| | 1947 | 1948 |
| January | 41 | 49 |
| February | 38 | 48 |
| March | 37 | 37 |
| April | 35 | 37 |
| May | 35 | 36 |
| June | 38 | 39 |
| July | 42 | 40 |
| August | 42 | 44 |
| September | 51 | 50 |
| October | 56 | 53 |
| November | 57 | 59 |
| December | 63 | 59 |
| Average | 42 | 46 |

Source of 1947 data: Crops and Markets, United States Department of Agriculture, Washington, D. C., 1948 Edition, Volume 25, p. 95.

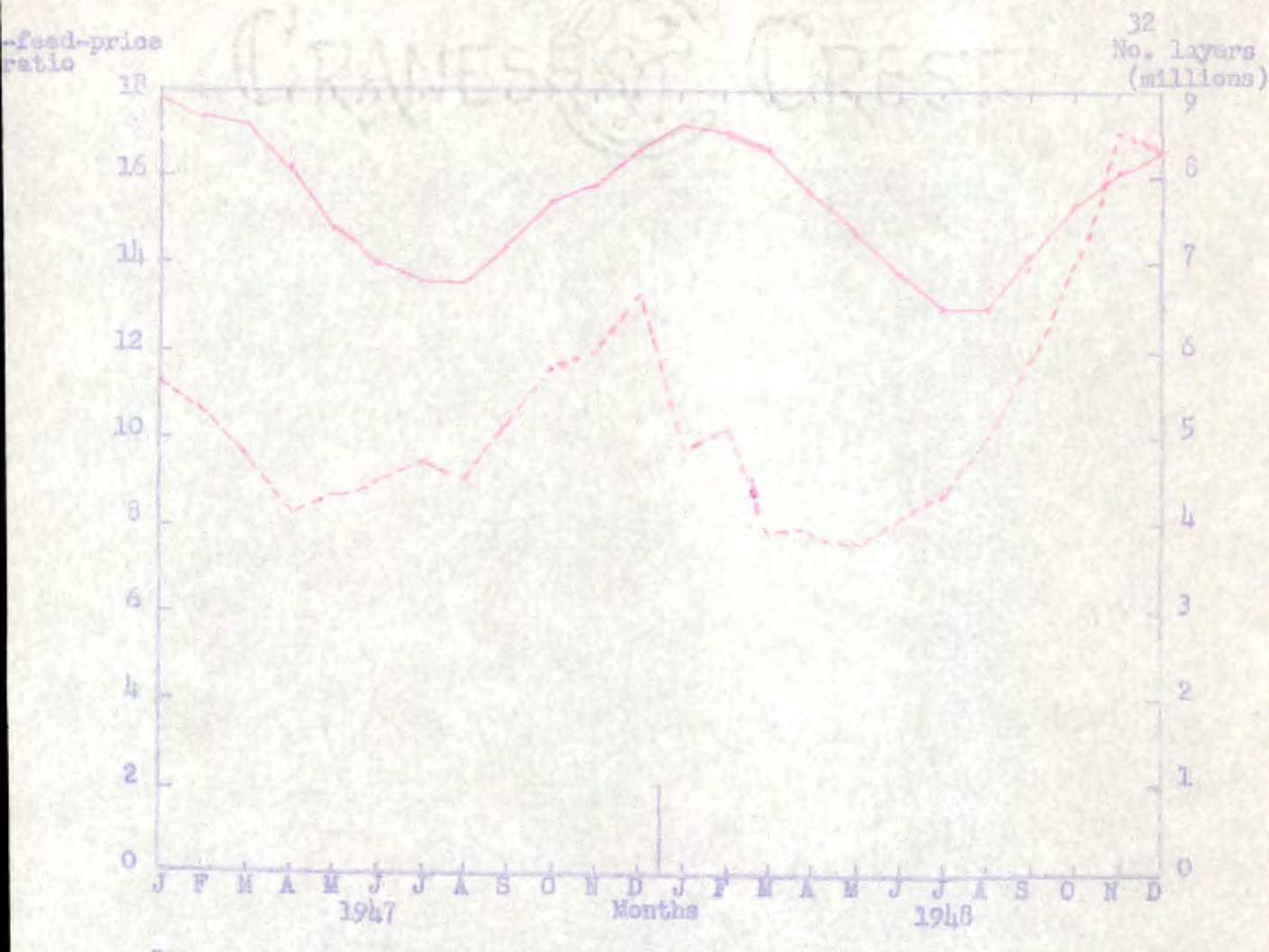



*Number of pounds of poultry ration equivalent in value at local farm markets to one dozen eggs.

Source: Crops and Markets, United States Department of Agriculture, Washington, D. C., 1948 and 1949 Editions.

Figure 13

Egg-feed price in relation to prices received for eggs, Tennessee, 1947 and 1948




*Egg-feed-price ratio computed same as for Figure 13.

Source: Figure 13.

S. T. Marsh, et. al., Agricultural Trends in Tennessee, Tennessee Department of Statistical Services, 1948, p. 121.

Figure 14

Egg-feed price ratio in relation to number of layers on farms, Tennessee 1947 and 1948

seven. This unfavorable egg-feed-price ratio induced many farmers to cull their flocks heavily in the spring of 1948 and to grow fewer baby chicks that year (Figure 14).

## Number of Baby Chicks Hatched

To some extent the changes which will take place in size of flocks may be anticipated by the number of baby chicks purchased monthly from the hatcheries.

As shown in Table VII the number of baby chicks hatched by commercial hatcheries in the state was lower each month in the spring of 1948 than it was in 1947.

The number of layers on farms in Tennessee will be affected by the number of chicks hatched the year before. The number chicks hatched by commercial hatcheries in Tennessee for the past few years has been on the decrease and likewise the number of layers on farms has been on the decrease.*

The changes which occurred in number of chicks hatched by commercial hatcheries and the average number of layers on hand, by months, is shown in Figure 16.

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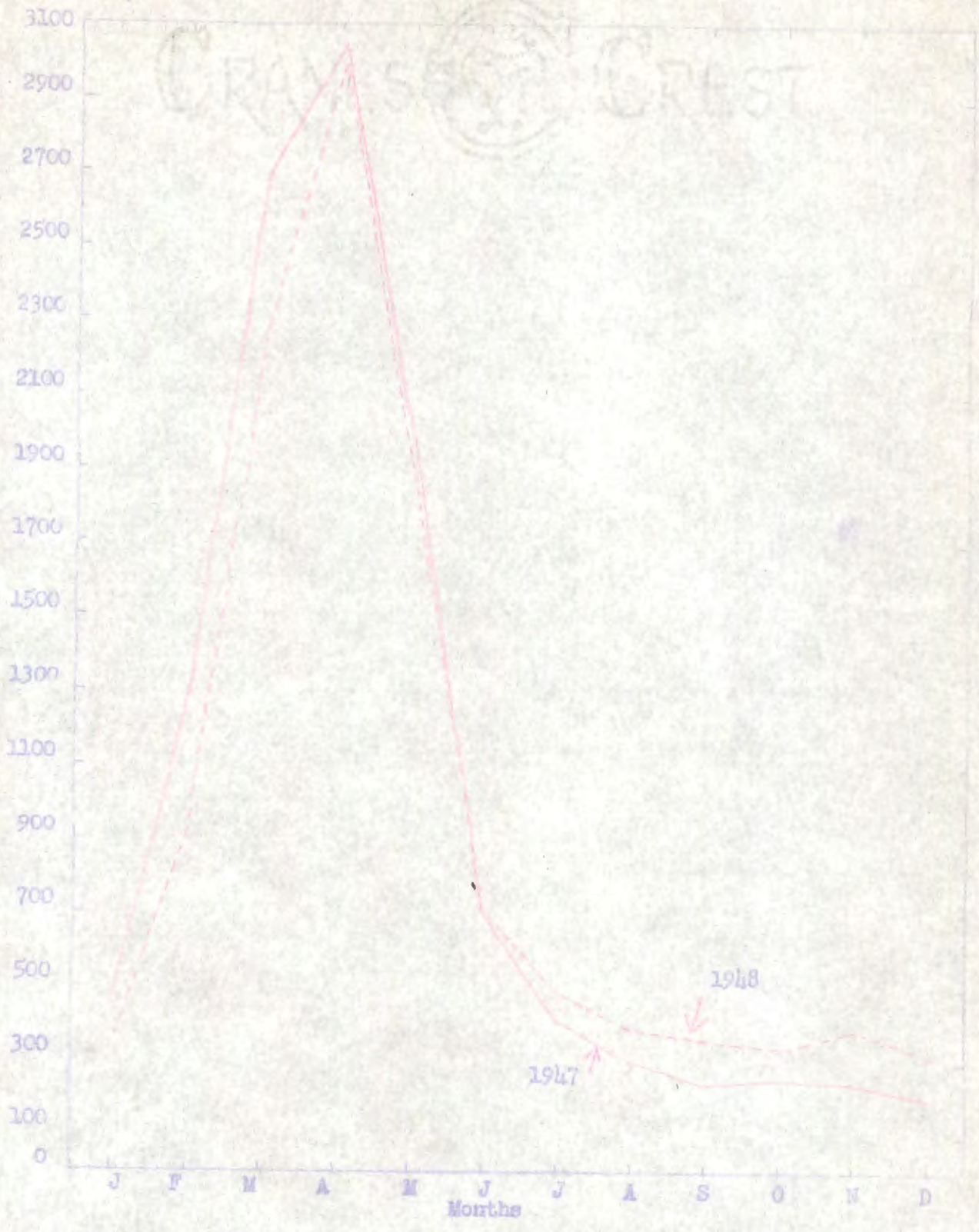
* The number of baby chicks hatched by commercial hatcheries in Tennessee declined from 15.9 millions in 1943 to 11.3 millions in 1948. The average number of layers on farms decreased from 9.2 millions in 1943 to 7.7 millions in 1948.

TABLE VII

NUMBER OF CHICKS HATCHED BY COMMERCIAL HATCHERIES BY MONTHS, TENNESSEE, 1947 AND 1948

| Month | 1947 | 1948 |
|---|---|---|
| | (in thousands) | |
| January | 550 | 330 |
| February | 1290 | 925 |
| March | 2680 | 2250 |
| April | 3050 | 3000 |
| May | 1980 | 1900 |
| June | 700 | 700 |
| July | 410 | 485 |
| August | 300 | 300 |
| September | 240 | 360 |
| October | 256 | 340 |
| November | 242 | 385 |
| December | 200 | 326 |
| Total year | 11,898 | 11,301 |

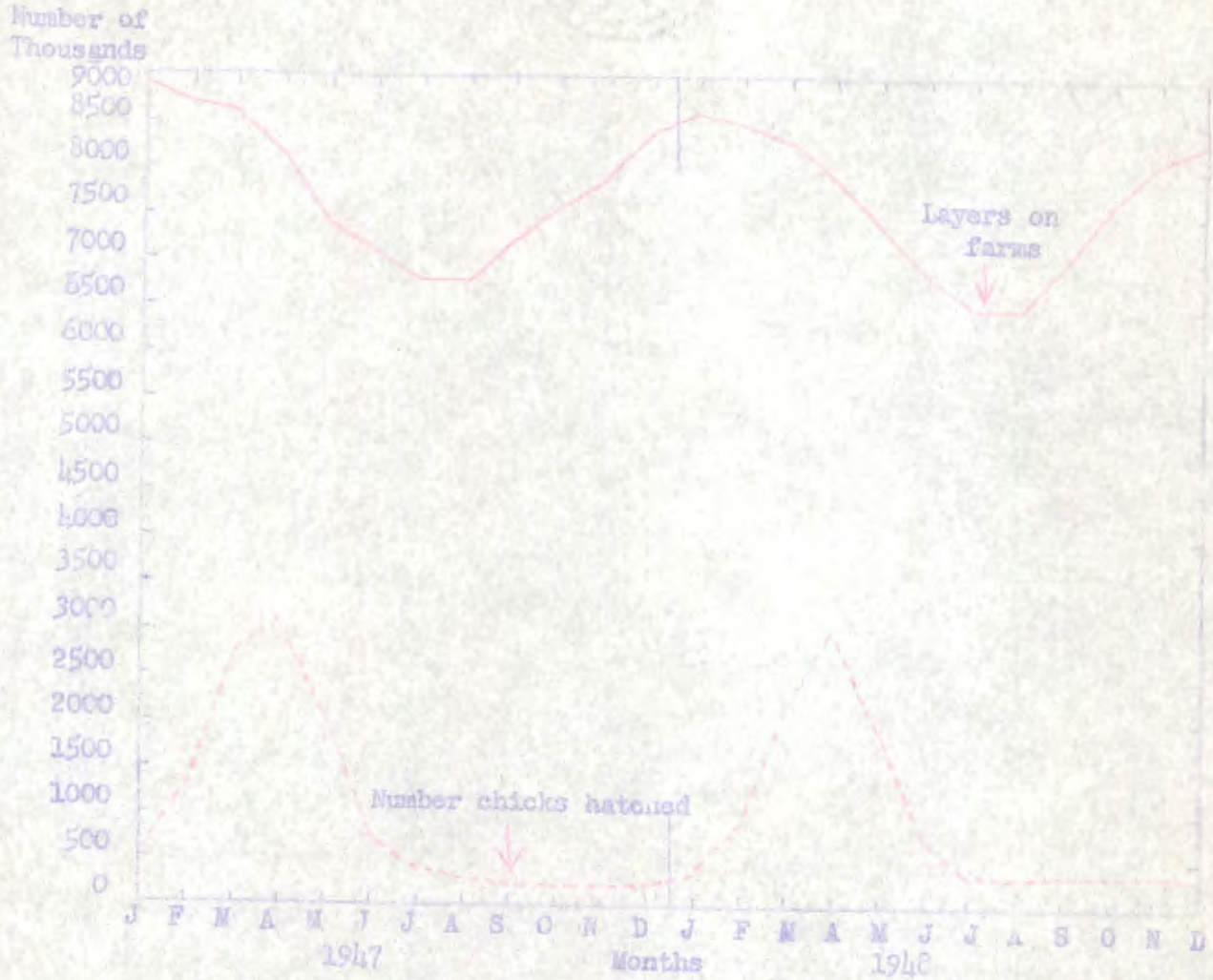
Source: S. T. Marsh, et. al., Agricultural Trends in Tennessee, Nashville, Tennessee, Tennessee Department of Agricultural Statistical Services, 1948, p. 121.




Source: Table 7.

Figure 15

Number of baby chicks hatched, commercial hatcheries, Tennessee, 1947 to 1948




Source: S. T. Marsh, et. al., Agricultural Trends in Tennessee, Tennessee Department of Statistical Services, 1948, p. 117.

Figure 16

Number of chicks hatched by commercial hatcheries and number of layers on farms, Tennessee, 1947 and 1948

## Relation of Egg Production to Size of Flock

In considering the average production per layer in both 1947 and 1948, by size of flocks, it was found that small flocks under 50 hens showed the highest rate of lay and those from 50 to 99 layers the lowest production per layer.

In flocks having over 100 layers the production per layer increased compared to the production per layer in flocks containing 50 to 99 layers (Table VIII). Flocks containing under 25 layers averaged 178 eggs per layer, compared with 151 eggs per layer for flocks of 25 to 49 layers. Flocks having 100 or more layers did not produce as many eggs per layer as did the small flocks but averaged above the flocks of 50 to 99 hens.

In comparing the same 170 producers for 1947 and 1948, it was found that the rate of production per layer was less in 1948 in all cases with the exception of medium size flocks of 50 to 99 layers. The average for all flocks was 142 in 1948, compared with 148 in 1947 (Table VIII).

## Seasonality of Egg Production

### By Size of Flocks

In this study it was found that the highest production per 100 layers was in April for all flock sizes with the exception of those that contained over 100 layers. These flocks produced the most eggs per 100 layers in March. The month of lowest production per 100

layers was in September for flocks containing under 25 layers, and also for flocks with 50 to 99 layers. October was the lowest month of production for the other two groups (Table IX).

Taking all flocks into consideration, March was the highest month in rate of production and October was the lowest rate of production month. The flocks with under 25 layers led in the rate of production.

In a preliminary report on the eight-state area participating in the regional study, results on production of eggs per 100 hens has been tabulated, and it was found that the monthly production per 100 layers ranged for all flocks from 1,418 eggs in April to 697 in November. The highest rate was laid by flocks with 100 or more layers and the lowest by flocks of 25 to 49 layers (Table X). Changes in rate of lay seem to be a much greater cause of seasonal variation in production than changes in number of layers. Many producers fail to carry out improved production practices which in turn causes much seasonal variation. Among the practices which tend to even out egg production during the year are: (1) starting baby chicks early, (2) using electric lights to increase the feed time of the flock, (3) proper feeding during the year, (4) confining the flock, and (5) maintaining a high proportion of pullets in the flock.[3]

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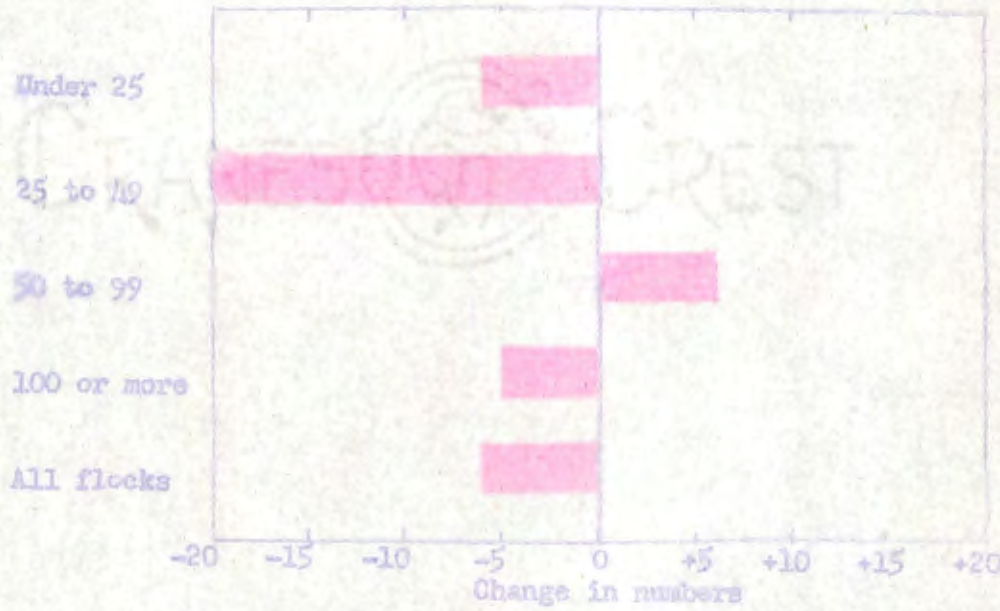
[3] Jerry M. Law, Preliminary Information, SM-6, Egg Marketing Study, September 27, 1949, p. 5.




Source: Table 8.

Figure 17

Change in number of eggs produced per layer, by size of flocks in Tennessee, 170 market egg producers, 1947 to 1948

TABLE VIII

CHANGES IN NUMBER OF EGGS PRODUCED PER LAYER, BY SIZE OF FLOCKS IN TENNESSEE, 170 MARKET EGG PRODUCERS, 1947 TO 1948

| Size of Flock | 1947 | 1948 |
|---|---|---|
| | Number of eggs per layer | |
| Under 25 | 178 | 171 |
| 25 to 49 | 151 | 131 |
| 50 to 99 | 120 | 126 |
| 100 or more | 143 | 138 |
| All flocks | 148 | 142 |

TABLE IX

NUMBER OF EGGS PRODUCED PER 100 LAYERS BY SIZE OF FLOCKS, BY MONTHS, 170 MARKET EGG PRODUCERS, TENNESSEE, 1948

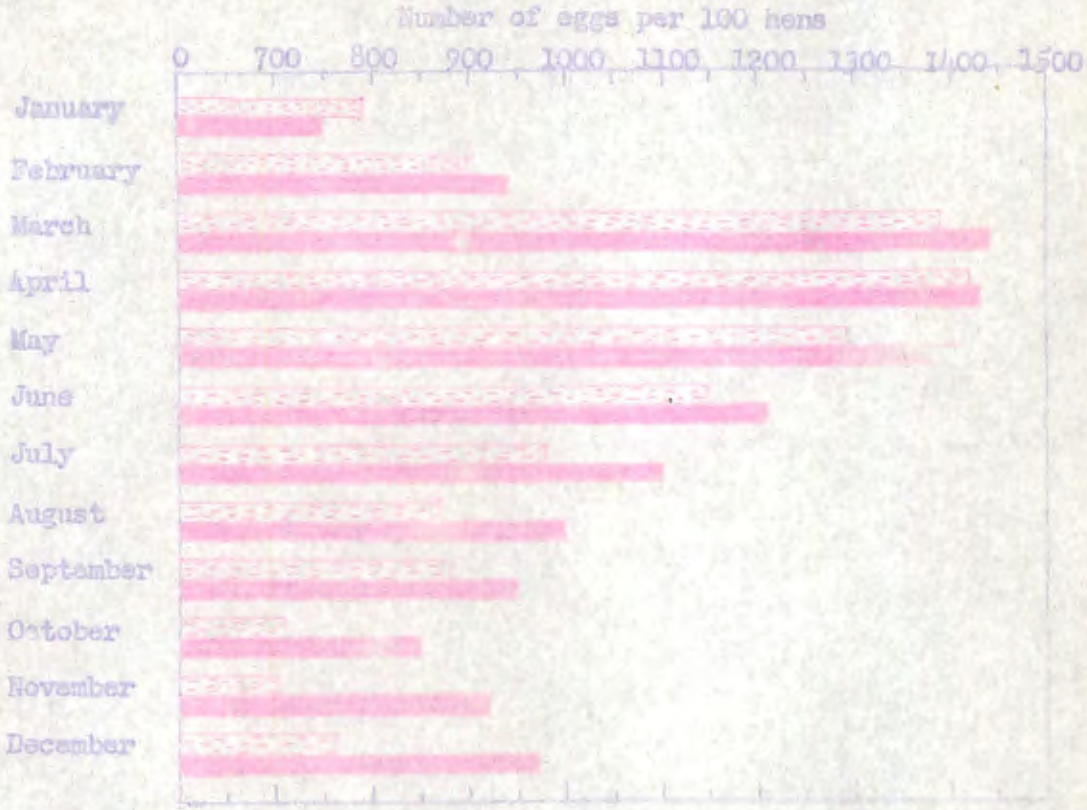
| Month | Size of Flock | | | | |
|---|---|---|---|---|---|
| | Under 25 | 25 - 49 | 50 - 99 | 100 and over | All flocks |
| January | 766 | 616 | 805 | 810 | 749 |
| February | 920 | 960 | 904 | 996 | 945 |
| March | 1605 | 1449 | 1280 | 1528 | 1441 |
| April | 1686 | 1452 | 1580 | 1098 | 1429 |
| May | 1512 | 1453 | 1419 | 1268 | 1413 |
| June | 1394 | 1252 | 1200 | 993 | 1209 |
| July | 1207 | 1163 | 1166 | 863 | 1100 |
| August | 1014 | 1055 | 987 | 952 | 1002 |
| September | 1004 | 956 | 847 | 992 | 950 |
| October | 1124 | 979 | 991 | 776 | 948 |
| November | 1189 | 1007 | 993 | 948 | 1019 |
| December | 1281 | 1037 | 958 | 997 | 1068 |
| Average year | 1225 | 1115 | 1094 | 1017 | 1113 |

TABLE X

NUMBER OF EGGS PRODUCED PER 100 LAYERS, BY SIZE OF FLOCKS, BY MONTHS, EIGHT-STATE AREA, 1948

| Month | Size of Flock | | | | |
|---|---|---|---|---|---|
| | Under 25 | 25 - 49 | 50 - 99 | 100 and over | All Flocks |
| January | 709 | 593 | 597 | 859 | 697 |
| February | 879 | 818 | 722 | 979 | 849 |
| March | 1409 | 1336 | 1203 | 1425 | 1343 |
| April | 1527 | 1278 | 1141 | 1427 | 1343 |
| May | 1290 | 1102 | 1173 | 1435 | 1273 |
| June | 1118 | 974 | 1170 | 1245 | 1126 |
| July | 911 | 812 | 837 | 1068 | 907 |
| August | 773 | 690 | 704 | 964 | 782 |
| September | 665 | 633 | 631 | 806 | 683 |
| October | 645 | 537 | 574 | 803 | 640 |
| November | 521 | 529 | 562 | 858 | 617 |
| December | 570 | 560 | 614 | 977 | 680 |
| Average all months | 919 | 822 | 827 | 1073 | 910 |

Source: Jerry M. Law, Preliminary Information, SM-6, Egg Marketing Study, September 27, 1949, p. 6.




*Includes Alabama, Arkansas, Georgia, Louisiana, Mississippi, South Carolina, Tennessee, and Virginia.

Source: Table 11.

Figure 18

Comparisons of the number of eggs produced per 100 layers by months 170 Tennessee producers and eight-state area,* 1948

TABLE XI

NUMBER OF EGGS PRODUCED PER 100 LAYERS BY MONTHS, 170 TENNESSEE PRODUCERS AND EIGHT-STATE AREA,* 1948

| Months | All Flocks | |
|---|---|---|
| | Eight-State Area | Tennessee |
| January | 787 | 749 |
| February | 898 | 945 |
| March | 1387 | 1441 |
| April | 1418 | 1429 |
| May | 1293 | 1413 |
| June | 1152 | 1209 |
| July | 979 | 1102 |
| August | 865 | 1002 |
| September | 779 | 950 |
| October | 706 | 948 |
| November | 697 | 1019 |
| December | 759 | 1068 |
| Average all months | 977 | 1113 |

* Includes Alabama, Arkansas, Georgia, Louisiana, Mississippi, South Carolina, Tennessee, Virginia.

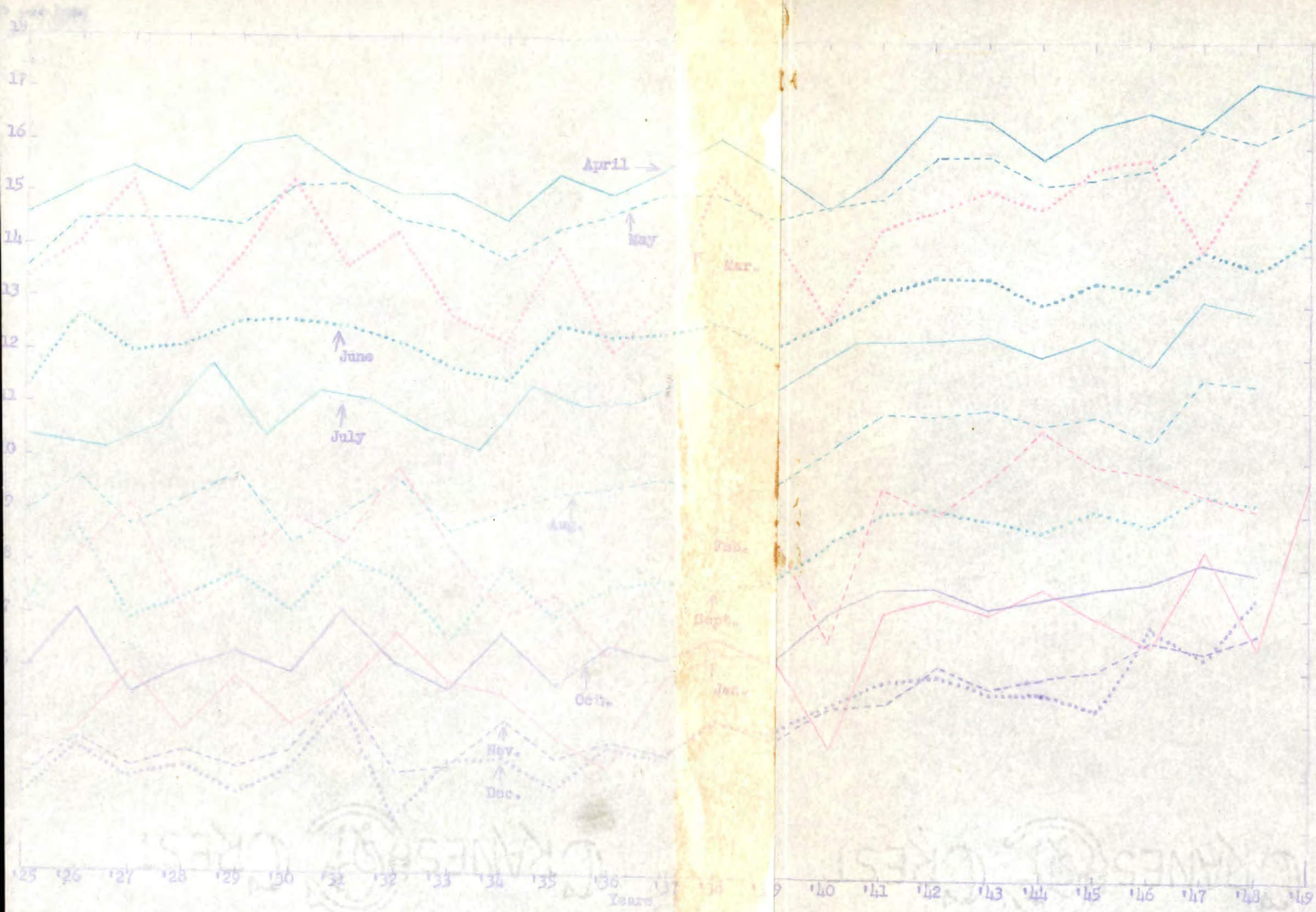
Source: Tables VIII and IX.

For All Flocks

Throughout a period of 25 years, from 1925 to 1949, April led all other months in the number of eggs produced by each layer. Only in two years, 1940 and 1947, did any other month's production equal that of April. Overall, December is the lowest production month for the 25-year period. During the months January through April, the egg production increases and from May through December egg production per layer declines (Figure 19).

The trend of eggs produced per layer has been on the increase for the 25-year period for all months (Figure 20). There has been an increase of about 26 eggs per hen over the 25-year period. The production for each year is very irregular.

The cyclic changes in egg production follow somewhat the same pattern for the 25-year period. The months of highest production were in the spring and the months of lowest production were in the fall months (Figures 20 and 21). Improvements in egg production during the fall and winter months are significantly leveling off the seasonal variation in egg production.



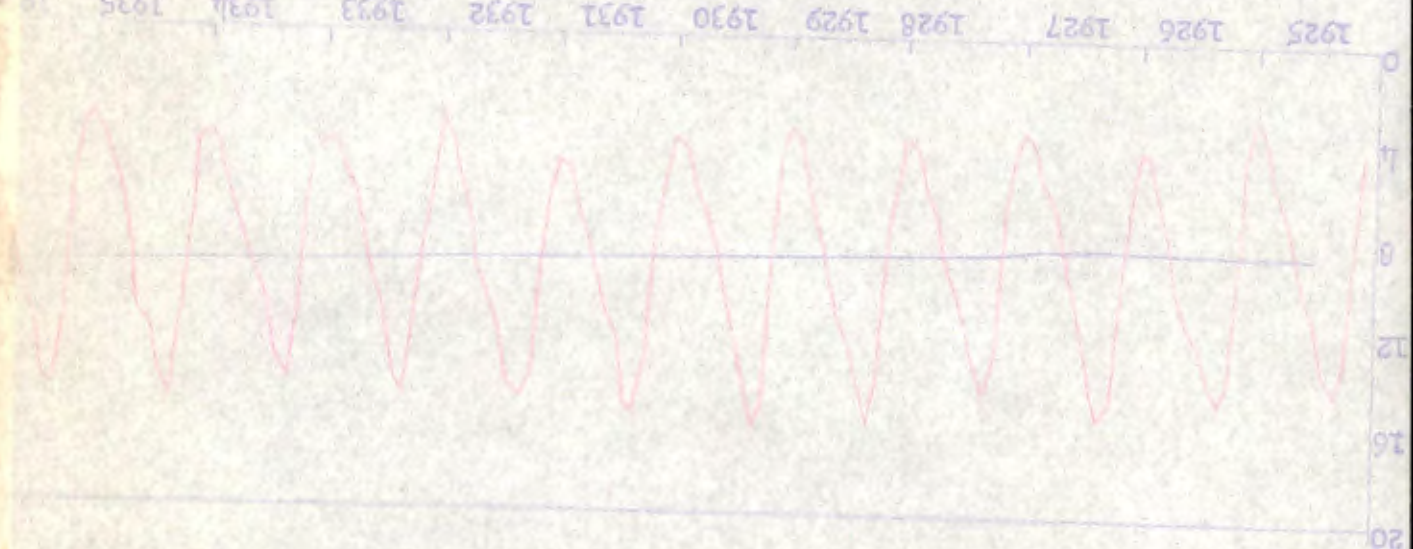

Source: S. T. Marsh, et. al., Agricultural Trends in Tennessee, Tennessee Department of Statistical Services, December, 1948, p. 118.

Figure 19

Average number of eggs laid per layer on farms by months, Tennessee, 1925-1949

Figure

Average number of eggs laid per layer o




Source: S. T. Marsh, et. al., Agricultural Trends in Tennessee,

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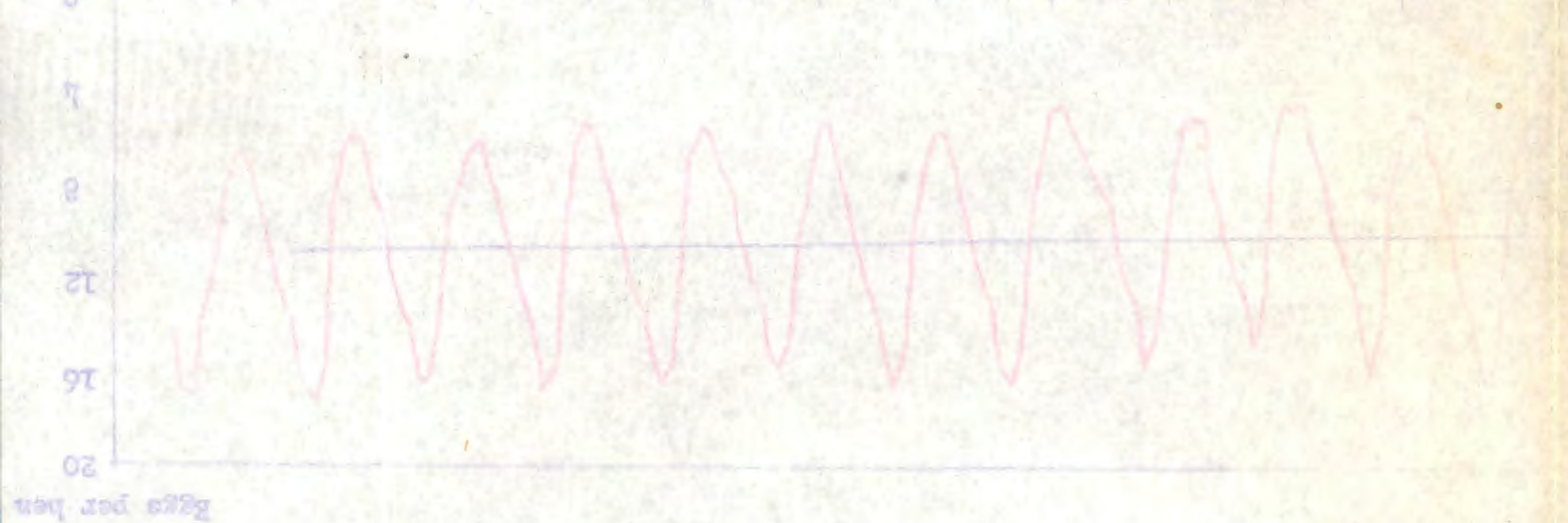
nessee Department of Statistical Services, December, 1948.

1 by months, Tennessee, 1925-1949

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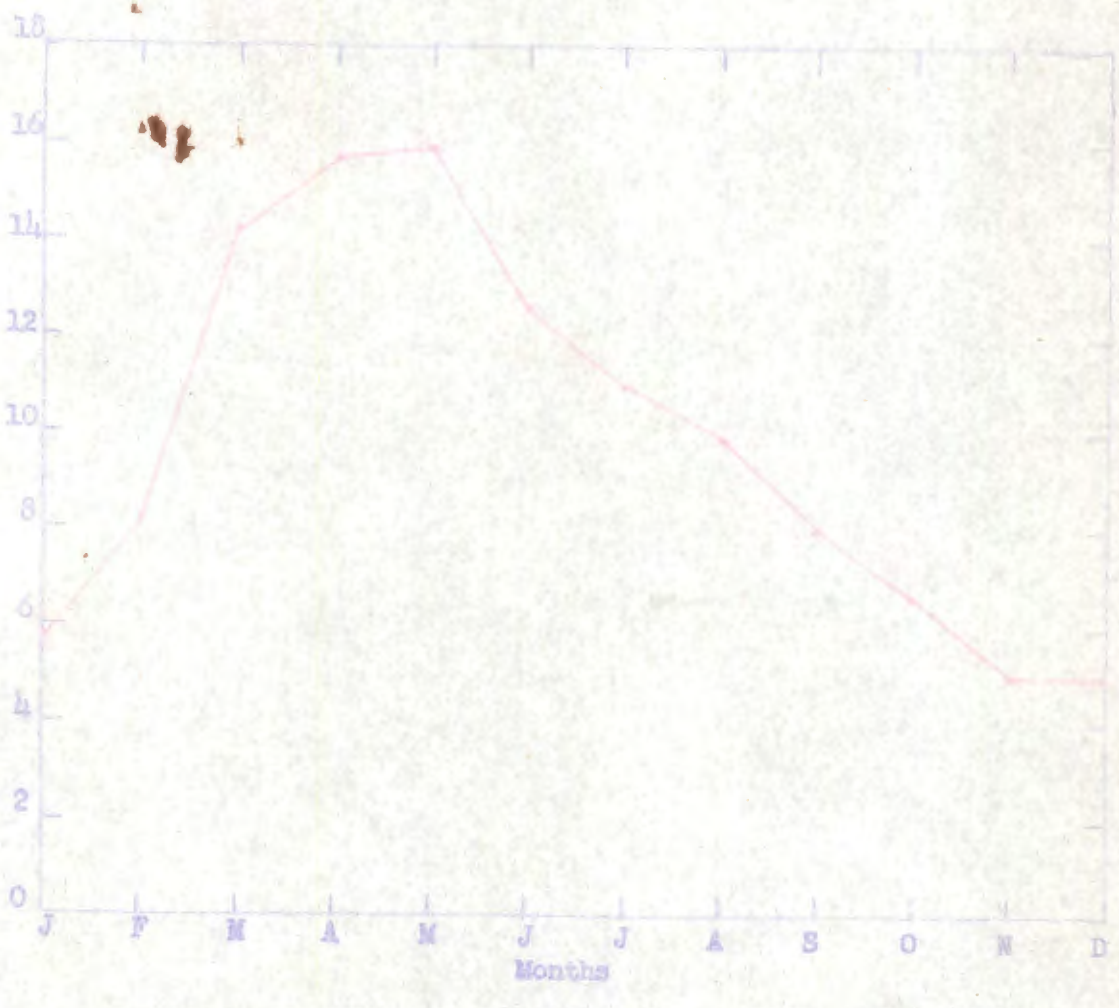


Source: S. T. Marsh, et. al., Agricultural Trends in Tennessee, Tennessee Department of Statistical Services, December, 1948.

Figure 21

Average number of eggs produced per layer each month on farms, Tennessee, 1925 - 1949

# CHAPTER III

## MARKET EGG OUTLETS

### Farm Disposition of Eggs

#### Eggs Marketed and Used in the Home

The marketing of eggs to best advantage in many respects is just as important as producing them efficiently. The producer would like to know when and where he can market his eggs after he produces them. The producer wants to use the most economical and profitable means of disposition.

The per capita egg production in the United States has been somewhat greater than the per capita consumption in order to meet the demands for hatching eggs and exports under lend-lease and foreign-aid programs during and since the recent war.[1]

Since the early war days there has been an increase in per capita consumption of eggs in the United States. The demand for eggs caused production to expand very quickly, also the civilian shortages of protein foods, such as beef, pork, and dairy products helped the production expansion. It was possible for the farmer to increase his production very quickly because of the short reproduction cycle of the chicken.[2]

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[1] The Poultry Industry, United States Department of Agriculture, Washington, D. C., October 1948, p. 2.

[2] Ibid., p. 2.

Today, the relative production and consumption of eggs is larger, as compared with the prewar average of 1935-39, than any other major group of commodities in the United States. In the 1935-39 period, the per capita egg consumption amounted to 298 eggs, compared with 386 in 1948. This is an increase of 27 percent. This compared with a decrease of 6 percent for milk in all forms, and increase of 16 percent for meat, 6 percent more for fruit, and 2 percent less for all vegetables.[3]

They now see the need for a high level of egg production. The question then arises as to how these eggs are distributed or disposed of. What percent is sold? What percent is eaten? What percent is hatched? How much is waste?

In this study it was found that about 70 percent of the eggs were sold, about 29 percent were used at home and about one percent hatched. The proportion of waste was included in eggs used in the home (Figure 22 and Table XII).

March was the month of the greatest egg sales and September the lowest. This may partly be accounted for by the fact that March is the leading month in production, however September was not the month of lowest production.

September was the month when the greatest proportion of eggs were used in the home, while March and April were the lowest months.

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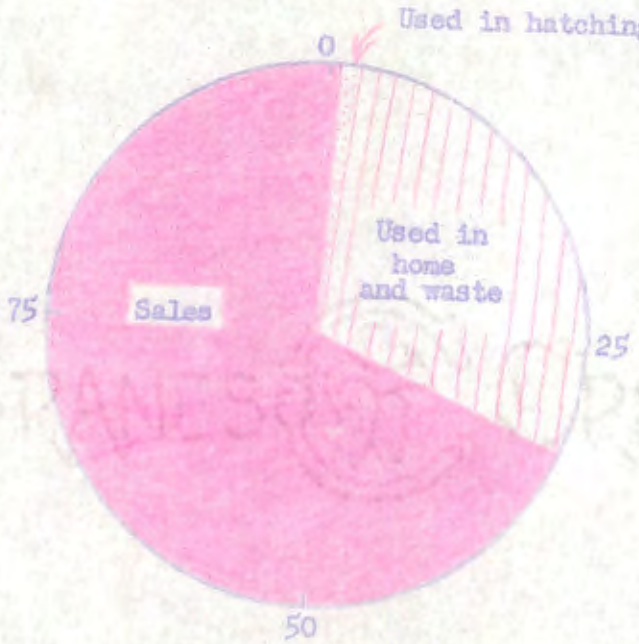
[3] Ibid., p. 2, 3.




Source: Table 12.

Figure 22

Percentage distribution of eggs according to disposition, 170 market egg producers, Tennessee, 1948

TABLE XII

PERCENTAGE DISTRIBUTION OF EGGS ACCORDING TO DISPOSITION, BY MONTHS
170 MARKET EGG PRODUCERS, TENNESSEE, 1948

| Month | Means of Disposition | | |
|---|---|---|---|
| | Sales | Used in Home * | Used in Hatching | Total |
| January | 67 | 32 | 1 | 100 |
| February | 71 | 28 | 1 | 100 |
| March | 76 | 22 | 2 | 100 |
| April | 75 | 22 | 3 | 100 |
| May | 73 | 25 | 2 | 100 |
| June | 69 | 30 | 1 | 100 |
| July | 66 | 33 | 1 | 100 |
| August | 66 | 33 | 1 | 100 |
| September | 65 | 34 | 1 | 100 |
| October | 67 | 32 | 1 | 100 |
| November | 68 | 32 | 0 | 100 |
| December | 67 | 32 | 1 | 100 |
| Average all months | 70 | 29 | 1 | 100 |

* Includes waste.

The most eggs were hatched in the spring months and very few throughout the rest of the year (Figure 16).

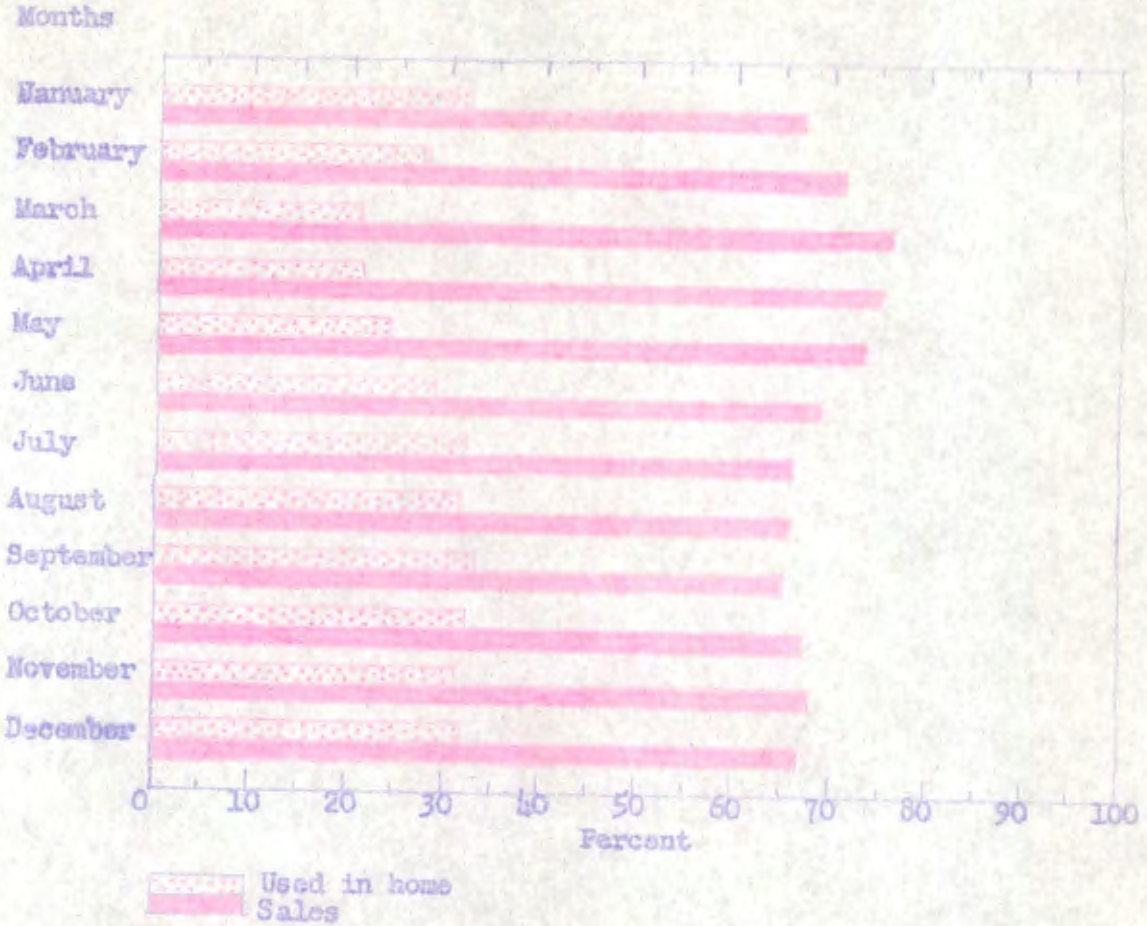
Wastes occurred mostly in the months of the highest production. When production was at the lowest point, the producers tended to take better care of their eggs, around one percent being the greatest loss estimated for anyone month.

From this study it was found that when production is high, prices are relatively low. You might then assume that the greater number of eggs would be used for home consumption during the periods of lowest price. In Table XII it was found that from 22 to 25 percent of the eggs were used at home during the months of highest production, and from 32 to 34 percent of the eggs were used at home during the period of lowest production.

In the regional study, about 69 percent of the total production of eggs were sold, 24 percent were used in the home, two percent were hatched and six percent of the eggs were not ascertained. Comparing Tennessee to the Regional study, we find only a one percent difference in the percent of eggs sold (Figure 24).

Seasonality of Egg Sales, By Size of Flock Groups and Market Outlets

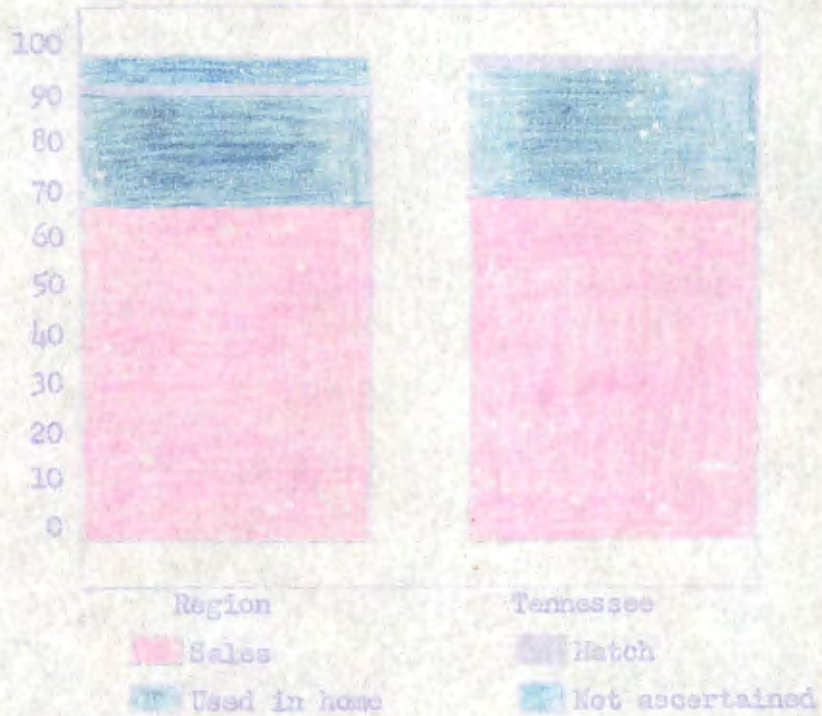
The months of highest production being March and April, one would naturally expect the months of highest sales to be in March and April, and the lowest sales to be in October and November, the lowest-producing months.




Source: Table 14.

Figure 23

Percent of eggs sold and used at home, by months, 170 market egg producers, Tennessee, 1948




Source: Table 13.

Figure 24

Percentage distribution of eggs according to disposition, southern region and 170 market egg producers, Tennessee, 1948

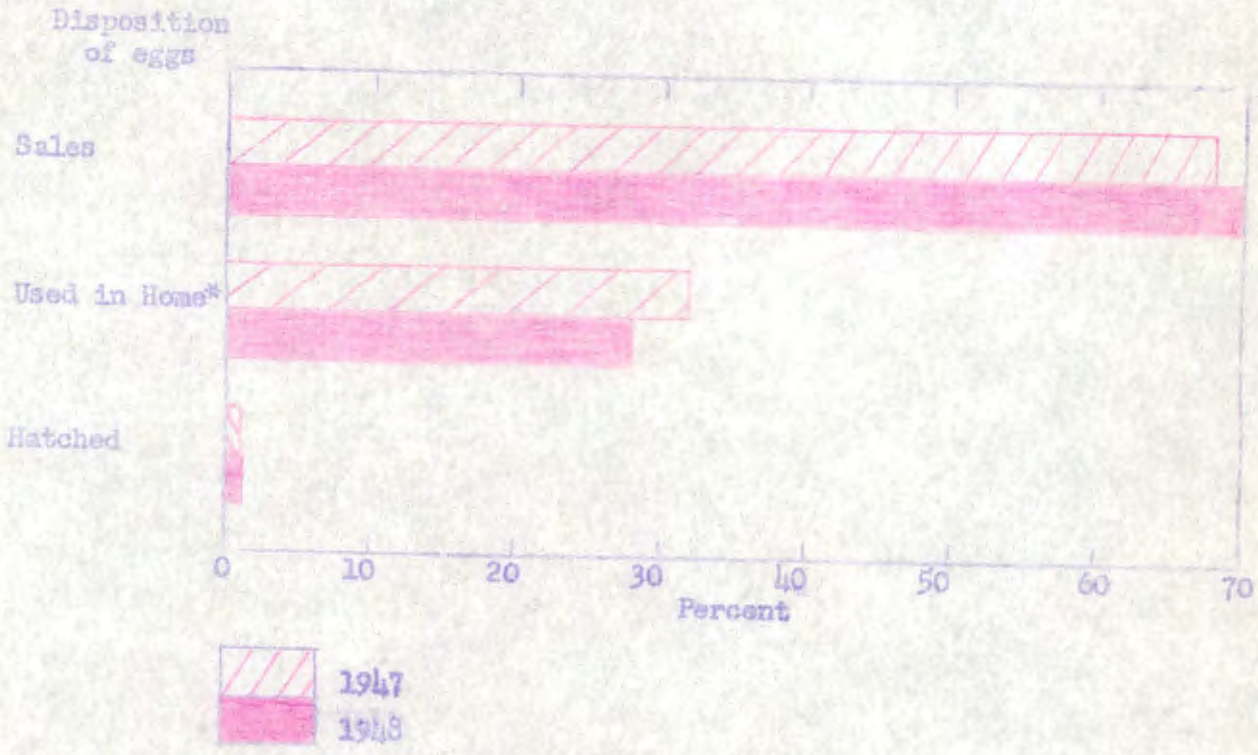



Figure 25

Percentage distribution of eggs according to disposition, 170 market egg producers, Tennessee, 1947 and 1948

TABLE XIII

PERCENTAGE DISTRIBUTION OF EGGS ACCORDING TO DISPOSITION, TENNESSEE, 1947 AND 1948

| Method of Disposition | Year | |
|---|---|---|
| | 1947 | 1948 |
| Sales | 68 | 70 |
| Used in Home | 31 | 28 |
| Hatch | 1 | 2 |
| Total | 100 | 100 |

Source for 1947: Clyde R. Keaton, Marketing Eggs by Farmers and First Dealers, Tennessee, 1947 and 1948, Unpublished thesis, University of Tennessee, p. 83.

A study was made concerning the number of eggs sold by size of flock groups for the year 1948. It was found that as the size of flock increased the more eggs per 100 hens were sold. In another study of production for Tennessee, it was found that the smaller flocks produced more eggs per 100 hens until flocks of 100 layers and over were reached and then the rate of production per 100 hens increased (Table VII, p. 34.). This study shows that more eggs were sold per 100 hens from flocks as they increased in number of layers per flock. It might be expected that more eggs would be sold if more eggs are produced (Table XIV).

In comparing the number of eggs sold per 100 layers by size of flock in 1948, to the number of eggs produced in 1948, we find that about 46% of the eggs were sold that were produced by the flocks containing under 25 layers. Around 60% of the eggs that were produced by flocks containing 25 to 49 layers were sold. Here we have an increase of 14% from one flock size to another. About 71 percent of the eggs were sold from flocks containing 50 to 99 layers. This was a considerable increase over the smaller size flocks. Around 80 percent of the eggs were sold from flocks containing 100 or over layers. An average of about 70 percent sales was found for all flocks for the entire year.

In 1947 a greater percent of the eggs produced were used in the home than there was in 1948. A lesser percent of the total production was sold. The same proportion was hatched, and but little loss of eggs occurred (Figure 25 and Table XIII).

TABLE XIV

EGG SALES BY SIZE OF FLOCKS, 170 MARKET EGG PRODUCERS, TENNESSEE, 1948

| Size of flock | Average number of eggs sold per layer per month |
|---|---|
| Under 25 | 5.61 |
| 25 to 49 | 6.69 |
| 50 to 99 | 7.78 |
| 100 and over | 8.09 |
| All flocks | 7.74 |

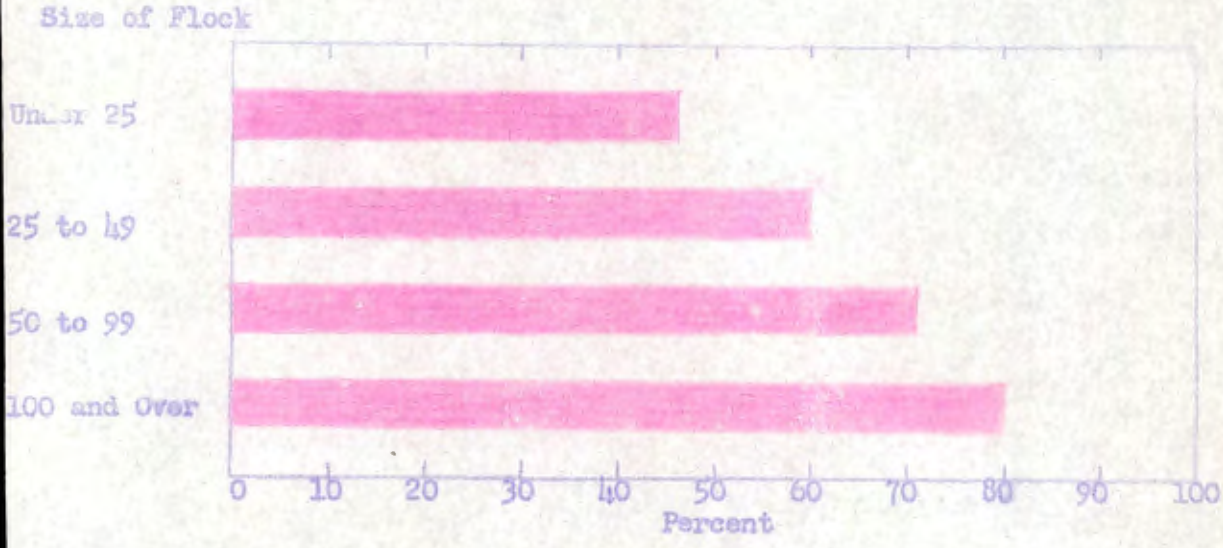



Figure 26

Percent of eggs sold of total production, by size of flocks, Tennessee, 1948

TABLE XV

PERCENTAGE DISTRIBUTION OF EGGS BY METHOD OF DISPOSITION, SOUTHERN REGION AND 170 MARKET EGG PRODUCERS, TENNESSEE, 1948

| Months | Method of Disposition (Percent) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Sales | | Used at home | | Hatched | | Not ascertained and waste | | Total | |
| | Region | Tenn. | Region | Tenn. | Region | Tenn. | Region | Tenn.* | Region | Tenn. |
| January | 62 | 67 | 27 | 32 | 0 | 1 | 11 | - | 100 | 100 |
| February | 70 | 71 | 26 | 28 | 1 | 1 | 3 | - | 100 | 100 |
| March | 73 | 76 | 21 | 22 | 3 | 2 | 3 | - | 100 | 100 |
| April | 73 | 75 | 20 | 22 | 4 | 3 | 3 | - | 100 | 100 |
| May | 72 | 73 | 22 | 25 | 2 | 2 | 4 | - | 100 | 100 |
| June | 70 | 69 | 25 | 30 | 1 | 1 | 5 | - | 100 | 100 |
| July | 66 | 66 | 27 | 33 | 1 | 1 | 7 | - | 100 | 100 |
| August | 63 | 66 | 27 | 33 | 1 | 1 | 10 | - | 100 | 100 |
| September | 62 | 65 | 27 | 34 | 1 | 1 | 10 | - | 100 | 100 |
| October | 63 | 67 | 27 | 32 | 0 | 1 | 10 | - | 100 | 100 |
| November | 68 | 68 | 26 | 32 | 0 | 0 | 6 | - | 100 | 100 |
| December | 70 | 67 | 26 | 32 | 0 | 1 | 4 | - | 100 | 100 |
| Year | 69 | 70 | 24 | 29 | 1 | 1 | 6 | - | 100 | 100 |

* In Tennessee the waste is included in percent of eggs used at home.

Source: (For area) Jerry M. Law, Preliminary Regional Report on Egg Marketing, September 27, 1949, p. 10.

One may account for this increase in sales partly by the shift that occurred in total egg production by months. As previously indicated there was also a difference in the price of eggs, the average for Tennessee was about 3.8 cents higher in 1948. People will tend to eat more eggs when eggs are cheaper.

Percentage Distribution of Eggs Sold By Size of Flocks by Months

The percent of egg sales by all flocks for each month has been considered. In this part of the discussion the seasonal picture of sales by flock groups will be shown. The highest production season is in the spring and the lowest in the fall. What affect should this have on the seasonal sales of eggs by size of flock groups?

Studies over the past years show that when the production of eggs is highest the prices are lowest, and when production is lowest prices are the highest. What effect will this have on the sales of eggs by months by some flock groups?

In the study that was made covering eight states in the southern region (including Tennessee), it was found that the sales followed very closely the seasonal pattern of production. During the months of March through June, 47 percent of the sales of all producers were made, and during the months of September through December only 23 percent were sold (Table XVI). Almost half of the total sales came from flocks with less than 100 layers. A high proportion of the eggs sold during the year came from flocks showing the greatest seasonality of production.

TABLE XVI

PERCENTAGE DISTRIBUTION OF EGG SALES BY MONTHS, BY SIZE OF FLOCK, EIGHT STATE SOUTHERN REGION INCLUDING TENNESSEE, 1948

| Size of Flock | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
| | Percent of total eggs produced | | | | | | | | | | | | |
| Under 25 | 5.2 | 7.0 | 14.3 | 14.8 | 14.0 | 12.1 | 9.2 | 7.0 | 5.6 | 4.0 | 3.0 | 3.8 | 100 |
| 25 to 49 | 5.2 | 9.1 | 15.2 | 14.4 | 11.9 | 10.1 | 7.9 | 6.4 | 5.7 | 4.6 | 4.5 | 5.0 | 100 |
| 50 to 99 | 6.8 | 8.2 | 14.9 | 14.1 | 11.9 | 9.6 | 7.1 | 5.8 | 5.3 | 5.4 | 5.3 | 5.6 | 100 |
| 100 and over | 8.0 | 9.0 | 12.3 | 12.2 | 10.6 | 8.1 | 7.6 | 6.7 | 5.8 | 5.6 | 6.9 | 7.2 | 100 |
| Not ascertained | 3.0 | 9.4 | 10.5 | 14.0 | 11.1 | 40.2 | 1.7 | 2.0 | 2.5 | 4.6 | .4 | .6 | 100 |
| All flocks | 6.9 | 8.7 | 13.5 | 13.2 | 11.2 | 9.1 | 7.6 | 6.4 | 5.7 | 5.4 | 5.9 | 6.4 | 100 |

Source: Jerry M. Law, Preliminary Regional Egg Market Report, September 27, 1949, p. 10.

In the Tennessee study, the seasonal sales did not follow the pattern of seasonal production very closely. During the period March through June, 35 percent of the sales of all producers were made, and during the months of September through December 32.3 percent of all sales were reported. It seems that the sales didn't fluctuate too much. The flocks with 100 or more layers were the most consistent, month in and out on percent of sales. The 25 to 49 bird-flocks seemed to have the greatest variance, by months, in percent of sales (Table XVII).

In comparing Tennessee with the region, it was found that Tennessee leads in percent of sales in all but four months, those being February, March, April, and May. These months are the periods of highest production and Tennessee's lower percentage may partly be accounted for by the shifts from larger to smaller flocks. During the high production months, Tennessee producers, with their smaller flocks, weren't obtaining the relatively high production that the region as a whole was securing (Figure 27 and Table XVIII).

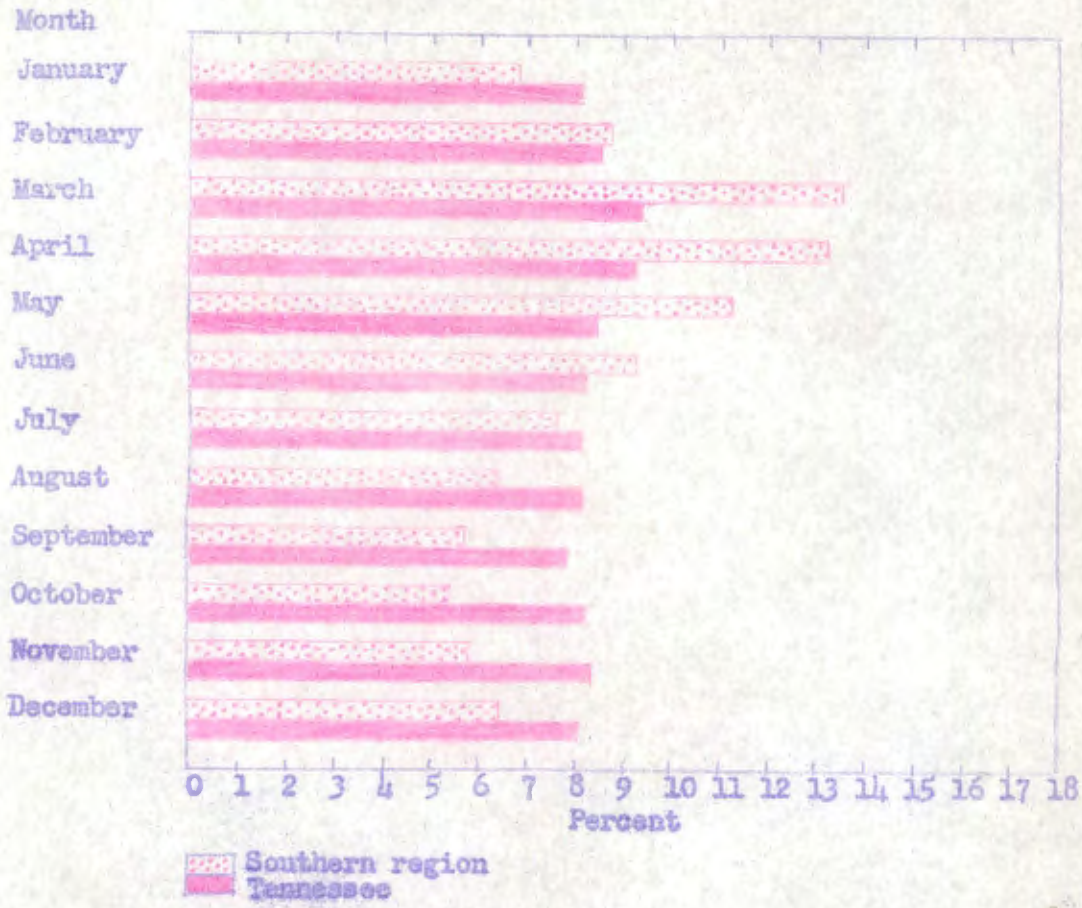
Percentage Distribution of Eggs Sold by Type of Outlet Used

As previously discussed the main outlets for eggs are city stores, country stores, rolling stores, local customers, produce dealers, restaurants and boarding houses, hatcheries, and meat packing companies. These markets may vary in percent of eggs bought from year to year for many reasons. For example, a new rolling store may be established or one may cease to operate. Another reason may be the change in population from one community to another.

TABLE XVII

PERCENTAGE DISTRIBUTION OF EGG SALES BY MONTHS,
BY SIZE OF FLOCKS, 170 MARKET EGG PRODUCERS, TENNESSEE, 1948

| Size of Flocks | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
| | Percent of year's production | | | | | | | | | | | | |
| Under 25 | 8.4 | 8.4 | 9.8 | 8.8 | 8.5 | 8.4 | 7.6 | 6.7 | 7.2 | 8.7 | 8.5 | 9.0 | 100.0 |
| 25 to 49 | 7.8 | 8.5 | 10.0 | 9.4 | 8.6 | 8.5 | 7.9 | 7.6 | 7.6 | 7.8 | 8.2 | 8.1 | 100.0 |
| 50 to 99 | 8.2 | 8.5 | 8.9 | 9.2 | 8.5 | 8.2 | 7.9 | 8.0 | 7.7 | 8.3 | 8.4 | 8.2 | 100.0 |
| 100 & over | 7.9 | 8.3 | 8.6 | 8.7 | 8.7 | 8.7 | 8.2 | 8.3 | 8.4 | 8.2 | 8.2 | 7.8 | 100.0 |
| All flocks | 8.1 | 8.5 | 9.3 | 9.2 | 8.4 | 8.1 | 8.1 | 8.0 | 7.8 | 8.1 | 8.3 | 8.1 | 100.0 |




Source: Table 18.

Figure 27

Percent of egg sales for all flocks, by months, southern region and 170 market egg producers, Tennessee, 1948

TABLE XVIII

PERCENT OF EGG SALES FOR ALL FLOCKS BY MONTHS, SOUTHERN REGION AND 170 MARKET EGG PRODUCERS, TENNESSEE, 1948

| | Percent | |
|---|---|---|
| Month | Area | Tennessee |
| January | 6.9 | 8.1 |
| February | 8.7 | 8.5 |
| March | 13.5 | 9.3 |
| April | 13.2 | 9.2 |
| May | 11.2 | 8.4 |
| June | 9.1 | 8.1 |
| July | 7.6 | 8.1 |
| August | 6.4 | 8.0 |
| September | 5.7 | 7.8 |
| October | 5.4 | 8.1 |
| November | 5.9 | 8.3 |
| December | 6.4 | 8.1 |
| Year | 100.0 | 100.0 |

Source: Tables XII and XIII.

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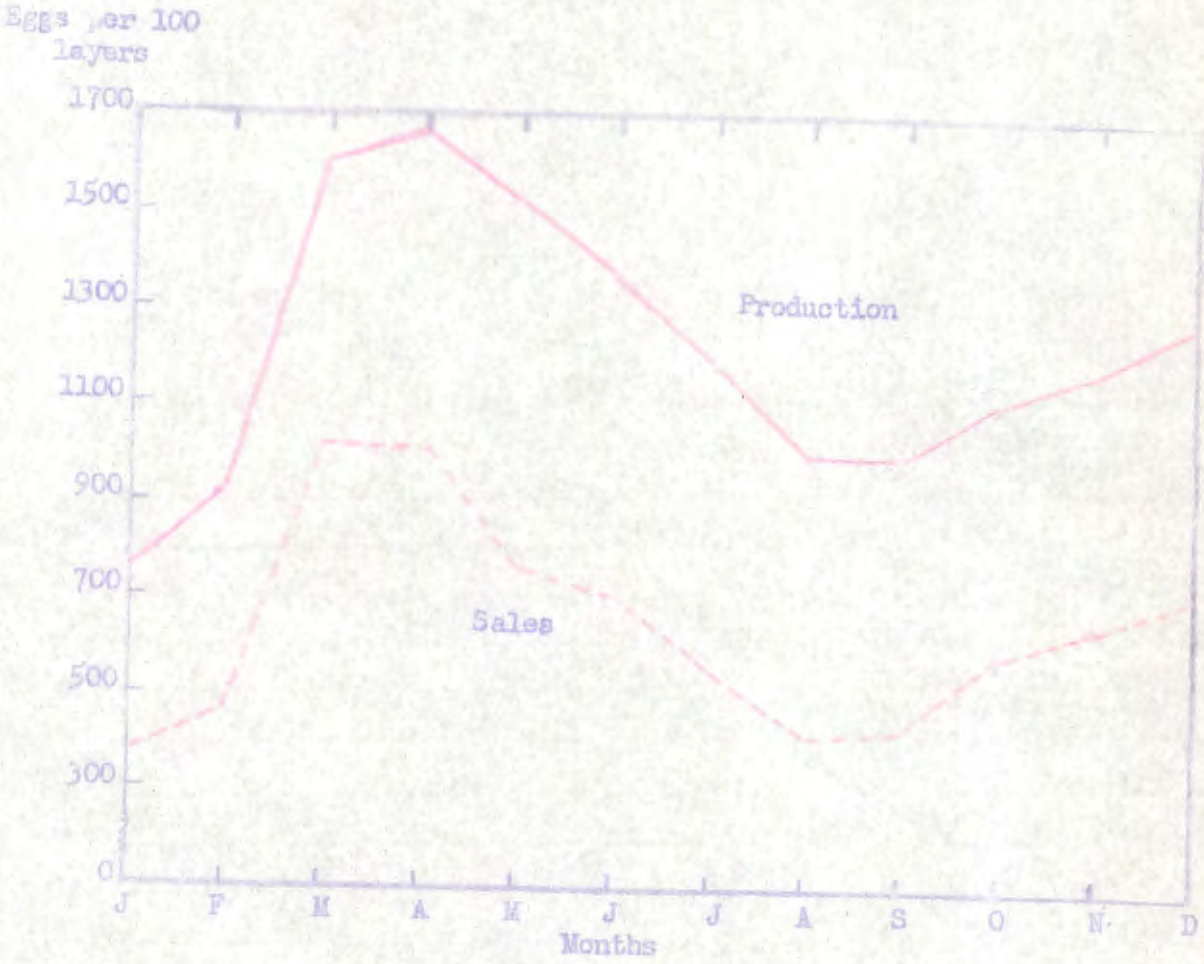


Figure 28

Seasonal production and sales, average number of eggs per 100 layers, for flocks of under 25 layers, Tennessee, 1948 (Based on flocks of 26 market egg producers)

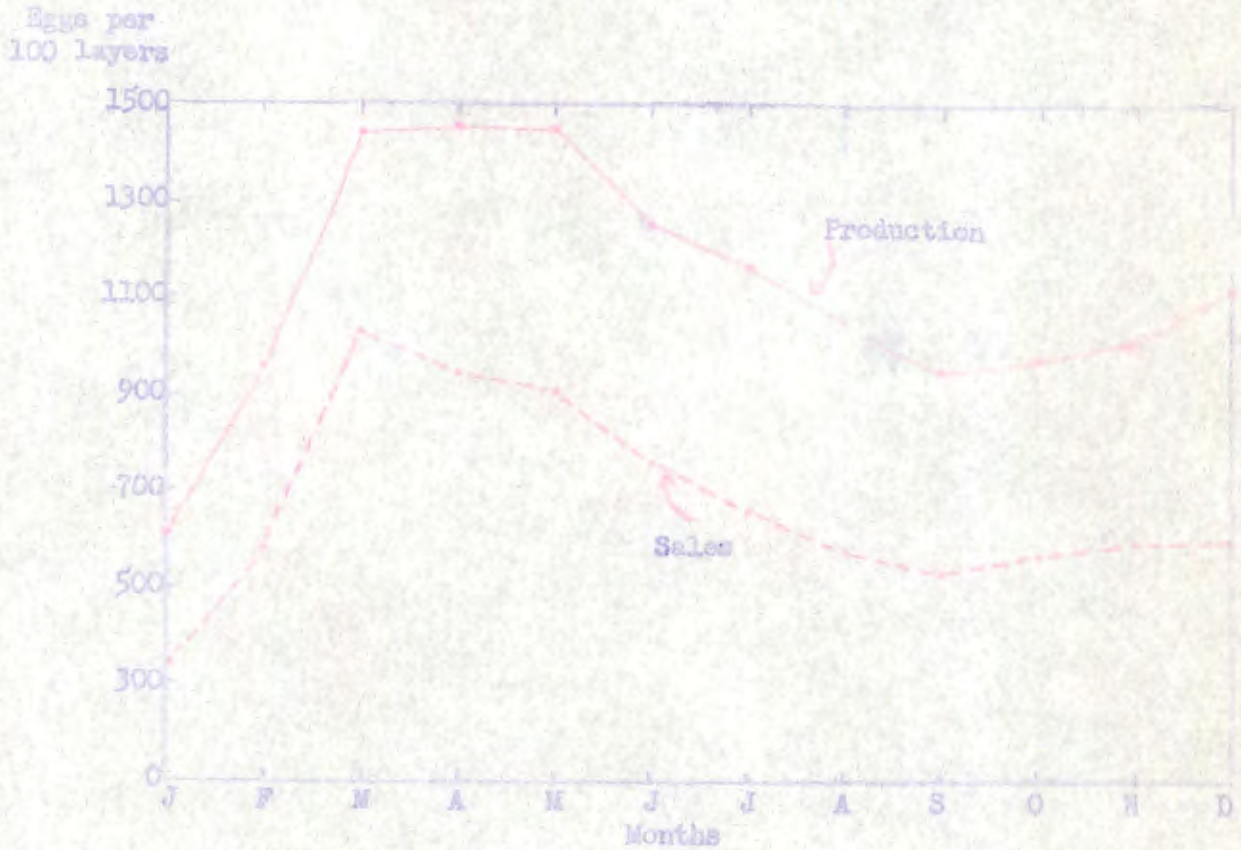


Figure 29

Seasonal production and sales, average number of eggs per 100 layers for flocks of 25 to 49 layers, Tennessee, 1948 (Based on flocks of 90 market egg producers)

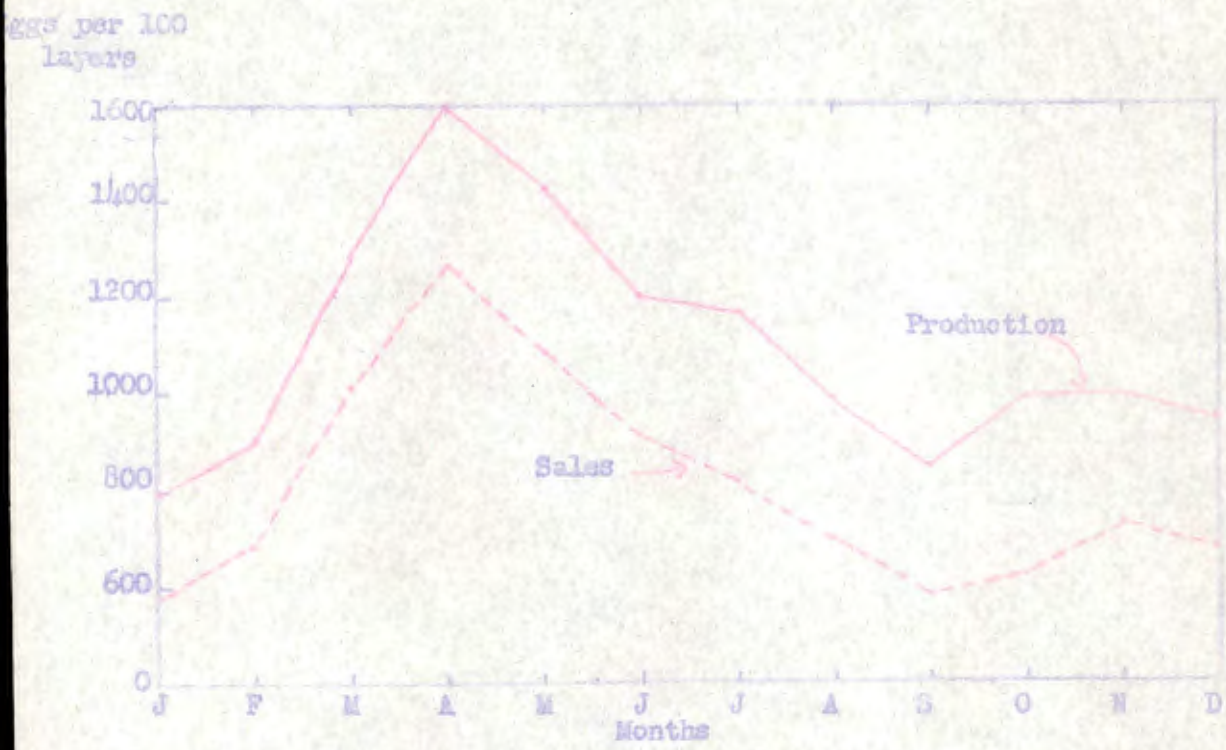


Figure 30

Season production and sales, average number of eggs per 100 layers, for flocks of 50 to 99 layers, Tennessee, 1948
(Based on flocks of 42 market egg producers)

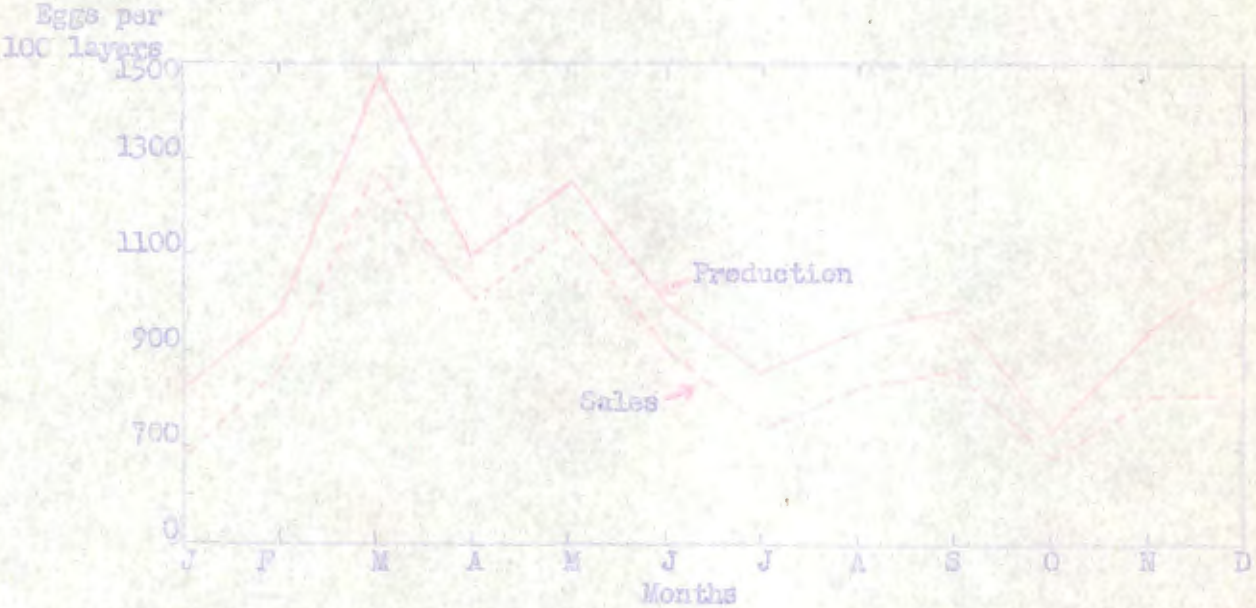


Figure 31

Season production and sales, average number of eggs per 100 layers for flocks of 100 and over layers, Tennessee, 1948 (Based on flocks of 12 market egg producers)

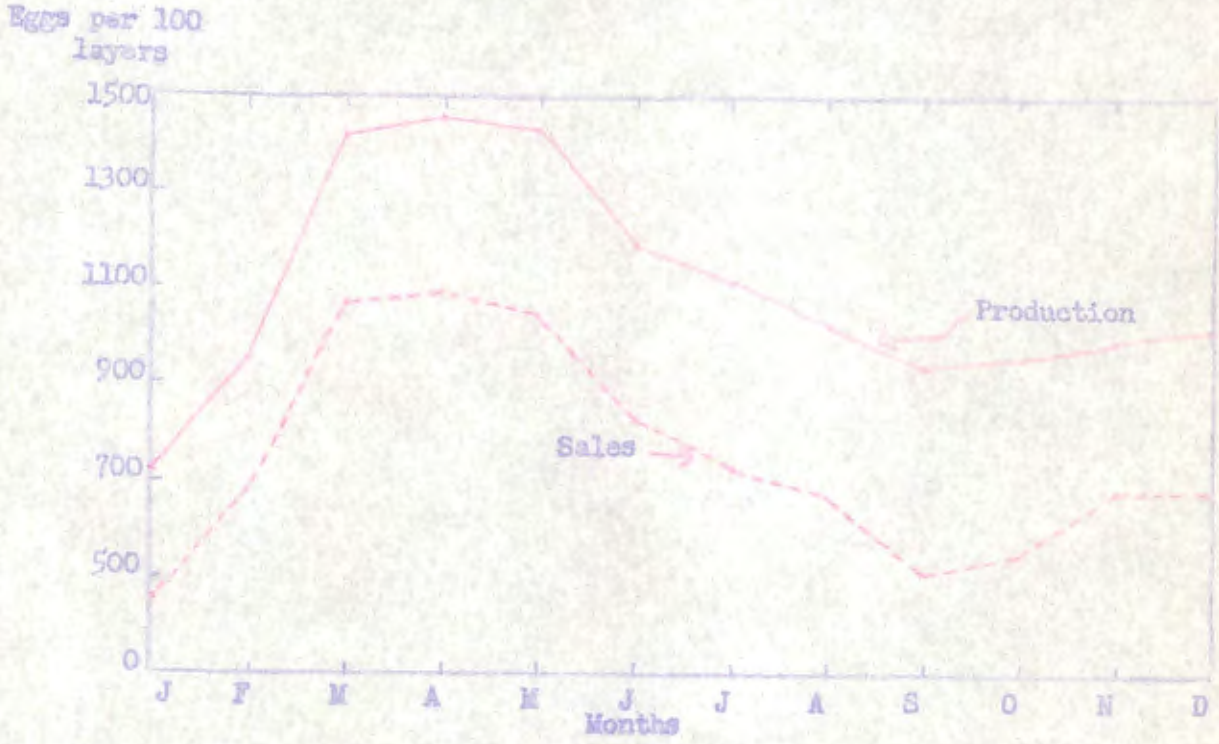


Figure 32

Season production and sales, average number of eggs per 100 layers, for all flocks, Tennessee, 1948
(Based on flocks of 170 market egg producers)

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In a previous report[4] it was shown in both 1947 and 1948, that the city store was the most important market outlet from both the standpoint of number of producers selling eggs, and volume of eggs sold. There was a two percent increase in the eggs bought by rolling stores and a four percent increase in the eggs bought by city stores. Country stores had an increase of six percent in 1948 over 1947. There was a decrease in the eggs sold to local customers of six percent. The other outlets declined slightly or held constant and their change were very insignificant compared to the others (Table XIX).

In the study of the region as a whole, it was found that the retail stores (country and city) dominated the market outlets. About two-fifths of the eggs were sold through these retail stores. Consumers or local customers are next in importance followed by the huckster. An average of 1.3 percent, for the year of 1948, of the sales were not ascertained. No information is available as to the disposal of these eggs (Table XVII).

The percentage distribution of eggs sold to various types of outlets often changed rapidly from month to month, but the greatest change in percent of eggs bought occurred among the leading buyers of eggs. These included retail stores, rolling stores, hucksters and consumers. In the fall months, the retail stores, as outlets, began to

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[4] B. D. Raskopf, Clyde R. Keaton, Practices of Market Egg Producers in Tennessee, 1947-48, University of Tennessee Publication Monograph Number 249, page 28.

TABLE XIX

MARKET OUTLETS FOR EGGS SOLD BY 546 MARKET EGG PRODUCERS, TENNESSEE 1947 AND 1948

(Not all of the 546 market egg producers reported in 1948)

| Market outlet | Year | |
|---|---|---|
| | 1947 | 1948 |
| | Percent of eggs sold to each outlet | |
| City stores and incorporated towns | 28 | 32 |
| Rolling stores | 26 | 28 |
| Country stores | 13 | 6 |
| Local customers | 15 | 21 |
| Produce dealers | 5 | 3 |
| Restaurants and Boarding Houses | 5 | 5 |
| Meat packing company | 3 | 4 |
| Hatcheries | 2 | 1/2 |
| Miscellaneous | 3 | 1/2 |
| Total | 100 | 100 |

Source: B. D. Raskopf, Clyde R. Keaton, Practices of Market Egg Producers in Tennessee, 1947-1948, University of Tennessee, Monograph No. 249, p. 28.

decline in percent of eggs bought, whereas the proportion of eggs purchased by consumers, hucksters, and local produce dealers steadily increased. This might have been due to the huckster collecting the eggs at the home, as did the consumer. Local produce dealers might have also collected some eggs locally. Also, premiums could have been paid by some of the buyers during different months. In mid-summer the retail stores led in percentage of eggs purchased by far more than any other time of the year. Consumers were second and hucksters were third (Table XX).

In this study of 170 producers, there was found to be some differences as compared to the study made of 546 producers for 1947, which included the 170 producers. Rolling stores were the leading market outlets for the producers followed closely by city stores and incorporated towns (Table XXI). Country stores were next in importance and the other outlets were very similar to the previous study that has already been mentioned.

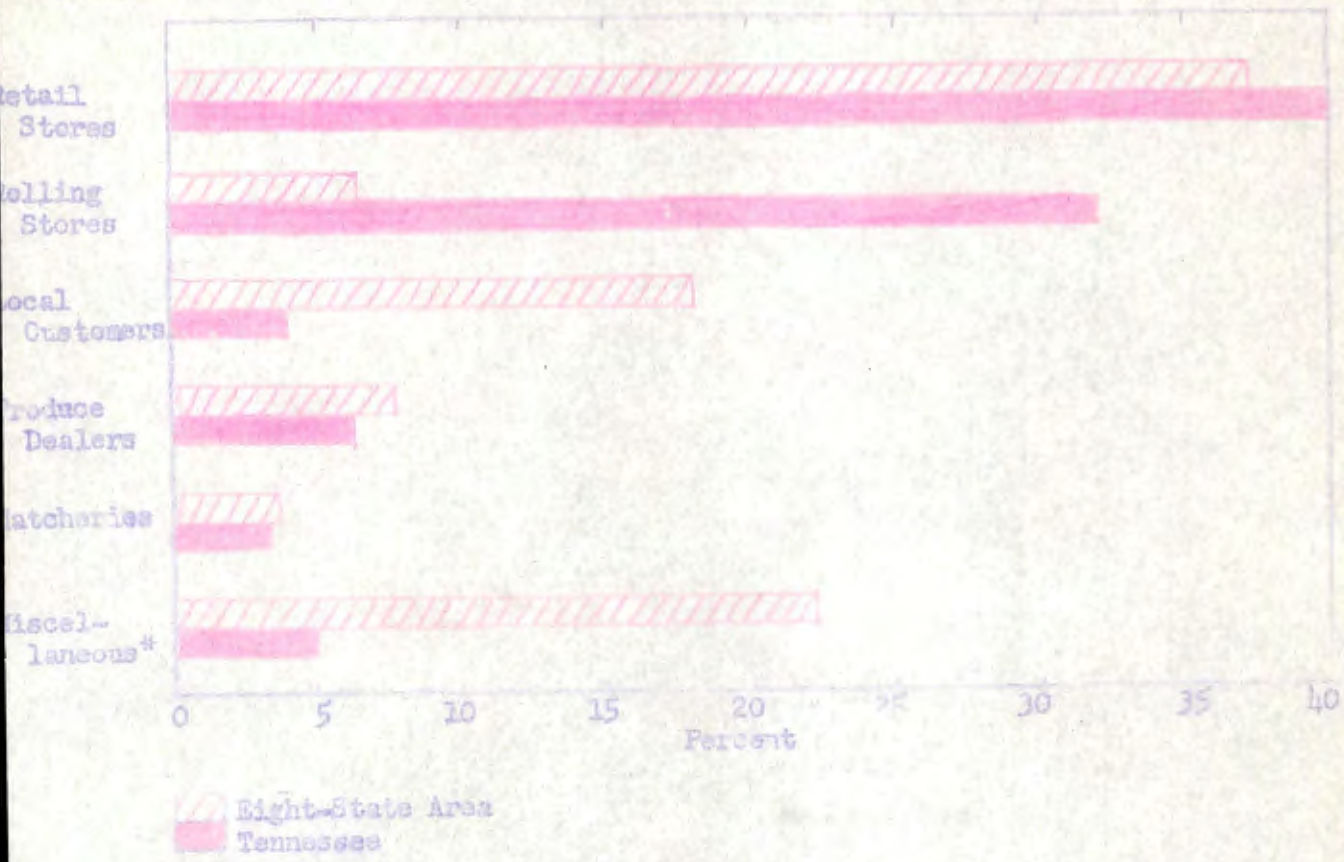
About three-tenths of the eggs were marketed by rolling stores and about three-tenths were marketed by city stores. Rolling stores are by far more important in Tennessee than they are in the region as a whole. In the region, only about six percent of the eggs were marketed through rolling stores in 1948, (Table XX) whereas in Tennessee about 32 percent of the eggs were marketed through such stores (Figure 33). Retail stores also received a greater percentage of eggs in Tennessee than did the retail stores in the region as a whole. The other market outlets varied very little.

TABLE XX

PERCENTAGE DISTRIBUTION OF EGG SALES BY MONTHS, BY TYPE OF OUTLET AND, SOUTHERN REGION, 1948

| Market Outlet | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
| | Percent of eggs sold to each outlet | | | | | | | | | | | | |
| Country and city stores | 43.7 | 40.7 | 42.3 | 42.3 | 42.2 | 41.4 | 46.5 | 46.5 | 45.6 | 40.5 | 39.4 | 37.2 | 42.4 |
| Chain stores | 2.2 | 1.7 | 2.0 | 1.5 | 1.5 | 1.5 | 0.8 | 0.9 | 0.8 | 1.6 | 2.3 | 0.8 | 1.5 |
| Rolling stores | 5.0 | 6.2 | 6.7 | 6.9 | 6.6 | 6.4 | 5.9 | 6.0 | 6.0 | 5.8 | 6.1 | 6.7 | 6.3 |
| Local produce dealers | 8.6 | 8.4 | 8.9 | 8.6 | 8.6 | 9.0 | 6.4 | 4.1 | 3.1 | 5.4 | 6.6 | 9.4 | 7.6 |
| Hucksters | 8.8 | 9.2 | 9.3 | 10.5 | 9.6 | 10.7 | 12.0 | 13.8 | 13.5 | 13.9 | 13.6 | 13.7 | 11.0 |
| Cooperatives | 5.2 | 6.6 | 4.0 | 3.6 | 3.6 | 4.5 | 3.4 | 3.9 | 4.4 | 4.9 | 5.5 | 6.0 | 4.5 |
| Consumers | 15.0 | 17.2 | 17.0 | 17.6 | 18.7 | 18.6 | 17.8 | 18.8 | 18.9 | 19.5 | 17.4 | 18.5 | 17.9 |
| Institutions | 4.1 | 2.0 | 3.1 | 3.2 | 3.7 | 3.4 | 5.0 | 5.3 | 5.6 | 5.3 | 5.5 | 5.4 | 4.0 |
| Hatcheries | 6.3 | 6.5 | 5.2 | 4.3 | 3.8 | 3.2 | 0.7 | 0.6 | 1.0 | 2.2 | 2.1 | 2.2 | 3.5 |
| Not ascertained | 1.1 | 1.5 | 1.5 | 1.5 | 1.7 | 1.3 | 1.5 | 1.1 | 1.1 | 0.9 | 1.5 | 0.1 | 1.3 |
| All buyers | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Jerry M. Law, Preliminary Information on SM-6 Egg Study, September 27, 1949.




*Includes restaurants, boarding houses, meat packing companies, institutions, cooperatives, hucksters, chain stores, and eggs not ascertained.

Source: Tables 20 and 21.

Figure 33

Percentage distribution of egg sales by type of outlet used, eight-state area and Tennessee in 1948

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TABLE XXI

PERCENTAGE DISTRIBUTION OF EGG SALES, BY MONTHS, BY TYPE OF OUTLET,
170 MARKET EGG PRODUCERS, TENNESSEE, 1948

| Outlet | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
| | Percent of eggs sold to each outlet | | | | | | | | | | | | |
| City stores & incorp. towns | 25.3 | 28.9 | 28.9 | 31.4 | 31.0 | 31.9 | 33.6 | 33.0 | 29.8 | 29.3 | 31.9 | 29.9 | 30.4 |
| Rolling stores | 30.2 | 29.6 | 32.8 | 31.0 | 31.0 | 32.4 | 31.6 | 33.0 | 32.9 | 30.9 | 33.3 | 32.1 | 31.8 |
| Country stores | 23.5 | 19.4 | 20.4 | 21.4 | 20.9 | 17.5 | 17.2 | 17.5 | 15.9 | 14.8 | 15.7 | 15.7 | 18.8 |
| Local customers | 5.0 | 7.4 | 5.7 | 3.7 | 2.7 | 3.1 | 2.9 | 2.7 | 3.0 | 4.6 | 4.1 | 3.7 | 4.1 |
| Restaurants and boarding houses | 6.4 | 7.5 | 4.7 | 6.4 | 5.7 | 7.7 | 7.6 | 7.4 | 7.3 | 6.9 | 4.6 | 4.6 | 6.3 |
| Produce dealers | 2.2 | 1.4 | 2.6 | 1.3 | 1.1 | 1.8 | 1.7 | 3.0 | 3.0 | 4.4 | 1.3 | 2.0 | 2.0 |
| Hatcheries | 4.9 | 4.0 | 3.3 | 3.6 | 2.5 | 2.9 | 3.1 | 2.6 | 3.1 | 6.4 | 4.1 | 5.2 | 3.7 |
| Meat packing company | .3 | .2 | .6 | .5 | .4 | 1.6 | 2.0 | .3 | .3 | .1 | .3 | .3 | .5 |
| Miscellaneous | 2.2 | 1.6 | 1.0 | .7 | 4.7 | 1.1 | .3 | .5 | 4.7 | 2.6 | 4.7 | 6.5 | 2.4 |
| All buyers | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Differences in seasonality of egg sales by outlets in Tennessee were not apparent. About the same proportion of eggs were sold each month to the same type of outlet. In only two months did city stores purchase a greater percentage of eggs than did the rolling stores. There was a small variation in the proportion of eggs sold to local customers with the percentage being somewhat higher in the spring months. Over-all, there was not too much seasonality, (Table XXI).

## First-Buyer Purchases and Sales of Eggs

### Egg Purchases, By Type of Market Outlet and Months

Market outlets for eggs sold by producers has been discussed. At this time the egg purchases by first-dealers will be given some consideration. Also the seasonality of the first dealer's purchases will be discussed.

In a previous study[5] of the distributive functions of 197 primary egg buyers in Tennessee it was found that the most important market outlet for locally-purchased eggs in the relative order of their importance were city stores, rolling stores, local produce dealers and meat packing companies. These outlets were located in 26 different counties in the state.

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[5] B. D. Raskopf, Clyde R. Keaton, Distributive Functions of Primary Egg Buyers in Tennessee, Agricultural Experiment Station, University of Tennessee, Knoxville, Tennessee, Monograph No. 254, December 28, 1949, p. 28.

In this study the data from only 28 primary buyers were used. Of the 197 dealers from which schedules of information was secured in 1947, only 28 sent in complete reports each month for 1948.

Three of the main outlets, rolling stores, country stores, and city stores, bought eggs from two main sources. They bought from farmers or local producers and from local produce dealers. Eggs were only bought from local produce dealers when their demand by cash customers could not be met by the producer. Consequently the greater percent of eggs was purchased from the farmers or local producers.

Some produce dealers purchased from other produce dealers so they would have eggs to meet their local demands. Also, several produce dealers shipped eggs out of the state.

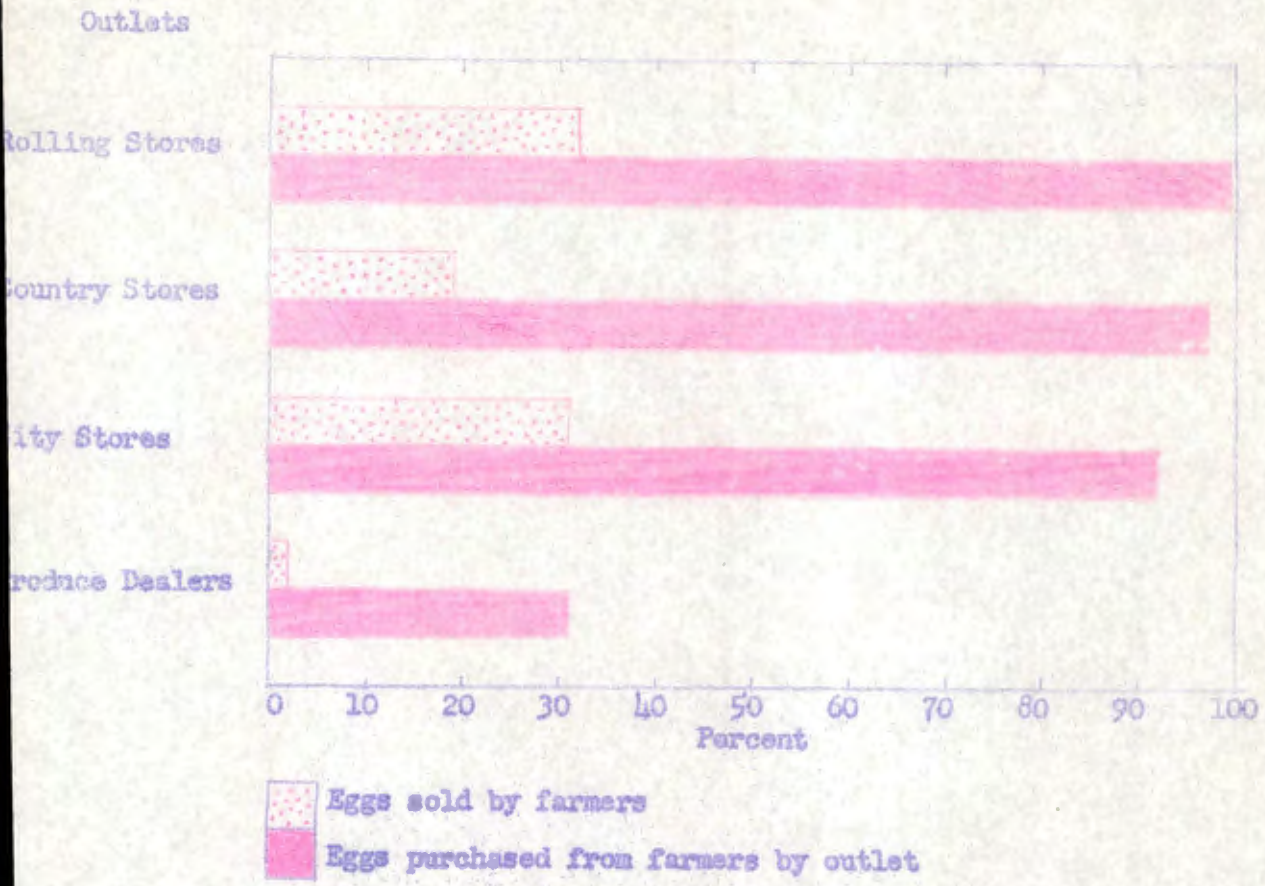
During the year 1948, rolling stores purchased over 99 percent of their eggs from farmers alone. Country stores purchased all but 2.7 percent of their eggs from farmers, while city stores purchased 8.1 percent of their eggs from produce dealers. Of the total number of eggs purchased by produce dealers, 69 percent were purchased from another produce dealer (Table XXII).

From the standpoint of seasonality of eggs purchased by first dealers, during the months of highest production, the highest percent of eggs was sold to the first-dealers by farmers. City stores were the only first-dealers that, at some time or another during the year, didn't receive 100 percent of their eggs from farmers for at least one month (Table XXII). City stores reached their greatest amount

TABLE XXII

PERCENTAGE OF EGGS PURCHASED BY TYPE OF MARKET OUTLET, BY MONTHS, 28 FIRST-BUYERS, TENNESSEE, 1948

| Months | Rolling stores | | | Country stores | | | City stores | | | Produce dealers | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Farmers | Produce dealers | Total | Farmers | Produce dealers | Total | Farmers | Produce dealers | Total | Farmers | Produce dealers | Total |
| January | 100 | — | 100 | 98 | 2 | 100 | 90 | 10 | 100 | 24 | 76 | 100 |
| February | 100 | — | 100 | 100 | — | 100 | 90 | 10 | 100 | 24 | 76 | 100 |
| March | 100 | — | 100 | 100 | — | 100 | 96 | 4 | 100 | 100 | — | 100 |
| April | 100 | — | 100 | 100 | — | 100 | 99 | 1 | 100 | 100 | — | 100 |
| May | 100 | — | 100 | 100 | — | 100 | 99 | 1 | 100 | 33 | 67 | 100 |
| June | 100 | — | 100 | 100 | — | 100 | 96 | 4 | 100 | 43 | 57 | 100 |
| July | 100 | — | 100 | 92 | 8 | 100 | 97 | 3 | 100 | 45 | 55 | 100 |
| August | 100 | — | 100 | 97 | 3 | 100 | 95 | 5 | 100 | — | 100 | 100 |
| September | 100 | — | 100 | 95 | 5 | 100 | 96 | 4 | 100 | — | 100 | 100 |
| October | 97 | 3 | 100 | 99 | 1 | 100 | 79 | 21 | 100 | — | 100 | 100 |
| November | 97 | 3 | 100 | 93 | 7 | 100 | 75 | 25 | 100 | — | 100 | 100 |
| December | 100 | — | 100 | 91 | 9 | 100 | 91 | 9 | 100 | — | 100 | 100 |
| Average year | 99.5 | .5 | 100.0 | 97.3 | 2.7 | 100.0 | 91.9 | 8.1 | 100.0 | 30.8 | 69.2 | 100.0 |




Source: Table 23.

Figure 34

Relation of percent of eggs sales by farmers to percent of eggs purchased from farmers by outlets, 28 buyers Tennessee, 1948

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of purchases from local produce dealers during the months of lowest production, October and November. From August through December, no eggs were purchased by produce dealers from farmers (Table XXII).

The relation of the percent of eggs sold by farmers to the first - buyers to the percent of eggs purchased from the farmer by the buyer is important because it gives some idea as to the portion of the eggs produced that goes to the buyer, and in turn one gets an idea as to the portion of eggs the farmer furnishes buyers. Here one can see the significant role that the buyer plays in meeting the demand by type of outlet. In three of the four types of buyers studied, all but one purchased more than 90 percent of their eggs from the farmer (Figure 34 and Table XXIII).

The greatest proportion of the eggs was purchased by buyers from farmers during the spring months when egg production was the highest and the dealers' demands could be met. The buyer that received the smallest percent of his total purchases from the farmer was the produce dealer. His purchases were only significant during the first seven months of the year. (Figure 34 and Table XXIII).

Egg Sales to Customers[1] and Produce Pedlers

In this study, it was found that the first-buyers had two main outlets for the eggs purchased. These outlets were direct to customers

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[1] The extent to which customers were: consumers, eating establishments, other stores, etc. was not determined.

TABLE XXIII

RELATION OF PERCENT OF EGG SALES BY FARMERS TO PERCENT OF EGGS PURCHASED FROM FARMERS BY OUTLETS, BY MONTHS, 28 BUYERS, TENNESSEE, 1948

| Months | Rolling stores | | Country stores | | City stores | | Produce dealers | |
|---|---|---|---|---|---|---|---|---|
| | % Farmers sales | % Dealers purchases | % Farmers sales | % Dealers purchases | % Farmers sales | % Dealers purchases | % Farmers sales | % Dealers purchases |
| January | 30.2 | 100 | 23.5 | 98 | 25.3 | 90 | 2.2 | 24 |
| February | 29.6 | 100 | 19.4 | 100 | 28.9 | 90 | 1.4 | 24 |
| March | 32.8 | 100 | 20.4 | 100 | 28.9 | 96 | 2.6 | 100 |
| April | 31.0 | 100 | 21.4 | 100 | 31.4 | 99 | 1.3 | 100 |
| May | 31.0 | 100 | 20.9 | 100 | 31.0 | 99 | 1.1 | 33 |
| June | 32.4 | 100 | 17.5 | 100 | 31.9 | 96 | 1.8 | 43 |
| July | 31.6 | 100 | 17.2 | 92 | 33.6 | 97 | 1.7 | 45 |
| August | 33.0 | 100 | 17.5 | 97 | 33.0 | 95 | 3.0 | — |
| September | 32.9 | 100 | 15.9 | 95 | 29.8 | 96 | 3.0 | — |
| October | 30.9 | 97 | 14.8 | 99 | 29.3 | 79 | 4.4 | — |
| November | 33.3 | 97 | 15.7 | 93 | 31.9 | 75 | 1.3 | — |
| December | 32.1 | 100 | 15.7 | 91 | 29.9 | 91 | 2.0 | — |
| Average year | 31.8 | 99.5 | 18.8 | 97.3 | 30.4 | 91.9 | 2.0 | 30.8 |

Source of data: Tables XXI and XXII.

and to produce dealers. Of the total eggs sold in 1947 by these first-buyers, only about 30 percent went directly to customers.[6] Around 60 percent of the total eggs purchased by these first-buyers was sold directly to customers in 1948, as was shown in the study of the 28 first-dealers. The balance of the eggs were shipped to other areas and included waste.

Produce dealers led in the percent of eggs sold to customers with an average of 93 percent. Only in two months, March and April, did produce dealers sell to other produce dealers. These two months were during the highest season of production and the produce dealers had more eggs than they could sell directly to customers. Rolling stores sold the least proportion of eggs directly to customers. During the months of lowest production their proportion of sales directly to customers was high compared with the other months of the year (Table XXIV).

In 1948, about 40 percent of the total eggs purchased by the first buyers reporting in this study was sold to produce dealers. The seasonal variation in these sales to produce dealers was quite variable. During the months of highest production, more eggs were sold to produce dealers than during the months of lowest production (Table XXV). Rolling stores seemed to have the greatest seasonal variation in percent of eggs sold to produce dealers. Rolling stores averaged about 74

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[6] Ibid., p. 1.

TABLE XXIV

PERCENTAGE OF EGG SALES TO CUSTOMERS BY FOUR TYPES OF FIRST-BUYERS, BY MONTHS, TENNESSEE, 1948*

| Month | Rolling store | Country store | City store | Produce dealer |
|---|---|---|---|---|
| | (Percent of eggs sold) | | | |
| January | 16 | 53 | 60 | 100 |
| February | 11 | 25 | 78 | 100 |
| March | 9 | 12 | 56 | 60 |
| April | 4 | 15 | 56 | 57 |
| May | 6 | 19 | 74 | 100 |
| June | 7 | 67 | 89 | 100 |
| July | 12 | 55 | 95 | 100 |
| August | 53 | 65 | 99 | 100 |
| September | 57 | 65 | 95 | 100 |
| October | 47 | 63 | 97 | 100 |
| November | 34 | 59 | 94 | 100 |
| December | 61 | 59 | 90 | 100 |
| Year (Average) | 26.4 | 46.4 | 81.9 | 93.1 |

* Based on records of 28 first buyers.

percent for the year. Only during the months of March and April did produce dealers sell eggs to other produce dealers. In these two months, they sold about two-fifths of their purchases (Table XXV).

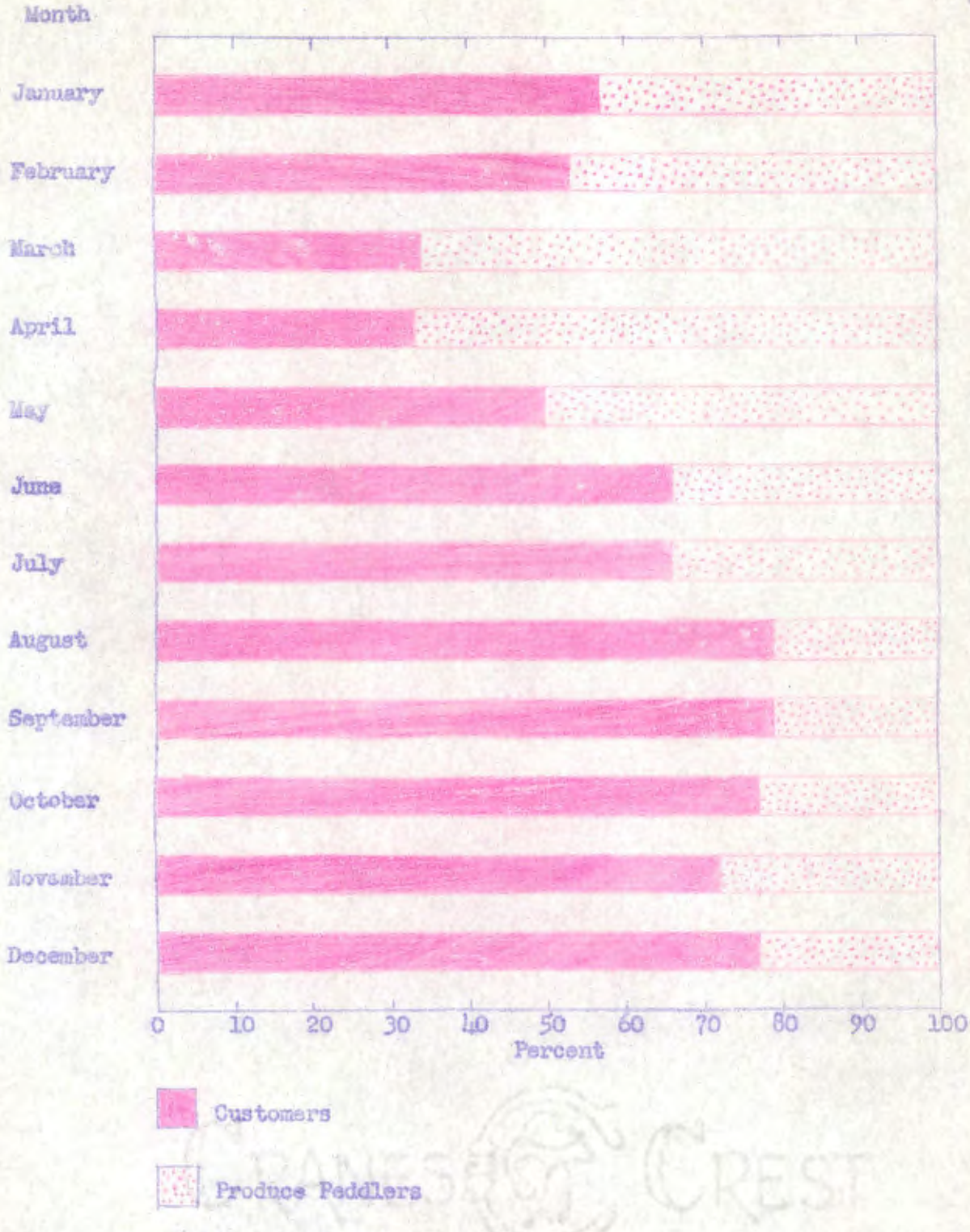
In comparing the egg sales of all first-buyers it was found that a greater percent of eggs was sold to produce dealers in the months of February, March, April, and May or the months of highest production. The greater percent of eggs was sold to customers in August, September, October, and November, in the months of lowest production. These data show the seasonal variation in percent of egg sales by the first-buyers in Tennessee (Figure 35 and Table XXVI).

TABLE XXV

PERCENTAGE OF EGG SALES TO PRODUCE PEDDLERS BY FOUR TYPES OF BUYERS, BY MONTHS, TENNESSEE, 1948*

| Months | Rolling stores | Country stores | City stores | Produce dealers |
|---|---|---|---|---|
| | (Percent of eggs sold) | | | |
| January | 84 | 47 | 40 | — |
| February | 89 | 75 | 22 | — |
| March | 91 | 88 | 44 | 40 |
| April | 96 | 85 | 44 | 43 |
| May | 94 | 81 | 26 | — |
| June | 93 | 33 | 11 | — |
| July | 88 | 45 | 5 | — |
| August | 47 | 35 | 1 | — |
| September | 43 | 35 | 5 | — |
| October | 53 | 37 | 3 | — |
| November | 66 | 41 | 6 | — |
| December | 39 | 43 | 10 | — |
| Year | 73.6 | 53.6 | 18.1 | 6.9 |

* Based on records of 28 first-buyers.




Source: Table 26.

Figure 35

Percentage of egg sales to customers and produce peddlers, by months, 28 dealers, Tennessee, 1948

TABLE XXVI

PERCENTAGE OF EGG SALES TO CUSTOMERS AND PRODUCE DEALERS, BY MONTHS, 28 DEALERS, TENNESSEE, 1948

| Months | Customers | Produce peddlers |
|---|---|---|
| January | 57 | 43 |
| February | 53 | 47 |
| March | 34 | 66 |
| April | 33 | 67 |
| May | 50 | 50 |
| June | 66 | 34 |
| July | 66 | 34 |
| August | 79 | 21 |
| September | 79 | 21 |
| October | 77 | 23 |
| November | 72 | 28 |
| December | 77 | 23 |
| Year | 63.7 | 36.3 |

Source: Tables XXIV and XXV.

## CHAPTER IV

## SEASONALITY OF PRICES RECEIVED BY FARMERS AND FIRST-BUYERS

### Prices Received by Farmers by Size of Flock Groups

In chapter two, the price trend of eggs over the past few years in the United States and Tennessee was discussed. It has been shown there has been some shifting towards the smaller size flocks. The total number of all flocks has increased, production per layer has risen, and total egg production is well above the pre-war level.

Since production of eggs is greatest in the spring months, and lowest in the fall, it is important to determine the relation of prices to this seasonality of production and the effect of size of flock on seasonality of prices received for eggs.

In the past there has been a considerable seasonal swing in egg prices. There are three main reasons for this seasonal swing: (1) the great fluctuation in egg production from season to season, (2) the cost of storing eggs, and (3) the deterioration that takes place in the quality of eggs in storage.[1]

In Tennessee, the period March through June, is the bottom of the seasonal egg price cycle, and October through January is the top of the cycle. The chief swing in egg prices is due primarily to

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[1] Geoffrey S. Shepard, Marketing Farm Products, Iowa State College Press, The Collegiate Press, Inc., Iowa, 1946, p. 90.

the great change from season to season in the number of eggs laid per hen.

Over a period of many years for which accurate monthly egg prices are available, the seasonal pattern of egg prices has been changing slowly. The peak prices have been coming somewhat earlier in the fall. Forty years ago, in the United States, the peak price came in January, gradually it moved up to December and November and it appears as though it will move up to October.[2]

The principal reasons for these variations in the seasonal price pattern trace back to changes in production and storage practices. Before World War I, many small farm flocks produced very few eggs during the fall and winter months. About this time much emphasis was placed on poultry nutrition and breeding. Producers began to use improved practices to maximize production and to get it in the high-price months. Poultry experts advised early hatching so that more pullets would come into egg production during the months of highest prices. As a result, production during these months has increased, and this has changed the seasonal pattern of farm egg prices.

In this study of 170 market egg producers, it was found that the highest average prices paid for eggs during 1948 was received by farmers with flocks containing 100 or more layers and, the lowest price paid for eggs during the year was to farmers with flocks having under 100 layers. The range in these high and low prices received was 3.0 cents per dozen (Table XXVII).

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[2] Ibid, p. 90.

TABLE XXVII

AVERAGE PRICES RECEIVED BY FARMERS BY SIZE OF FLOCK GROUPS, 170 MARKET EGG PRODUCERS, TENNESSEE, 1948

| Size of Flock (No. layers) | Price Per Dozen |
|---|---|
| Under 25 | 48.4 |
| 25 to 49 | 47.6 |
| 50 to 99 | 47.8 |
| 100 and over | 51.0 |
| All flocks | 49.1 |

It is interesting to note that the price received by farmers with the smallest flocks, or those under 25 layers, ranked next to the price received by the largest size flocks. Apparently where only a few eggs are available for sale they can be sold at good prices.

There was considerable variation in prices received for eggs by size of flocks, by months. The price received per dozen followed inversely the seasonal production pattern of eggs. Eggs reached their lowest price point in the spring months when production appeared to be in excess of consumption. With the decline in production, prices rose during the summer and were highest during the fall and winter when production was at its lowest (Table XXVIII and XXIX).

Egg prices show the greatest seasonality of any major farm product, but they also follow a pattern of prices rather closely for the average seasonal movement over a period of years. Seasonal egg production, the change in all food prices from spring to fall, and the change in egg prices from spring to fall of the previous year are factors that affect greatly the seasonal fluctuations in egg prices.

Prices Received by Farmers by Type of Market Outlet

The type of outlet for eggs is an important factor in determining the price received for eggs by the farmer. Agencies that sell direct to consumers, or have more direct outlets are usually able to pay more for eggs than a rolling store or any other agency that comes

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3 Ibid., p. 94.

TABLE XXVIII

PRICE RECEIVED BY FARMERS BY SIZE OF FLOCKS, BY MONTHS,
170 MARKET EGG PRODUCERS, TENNESSEE, 1948

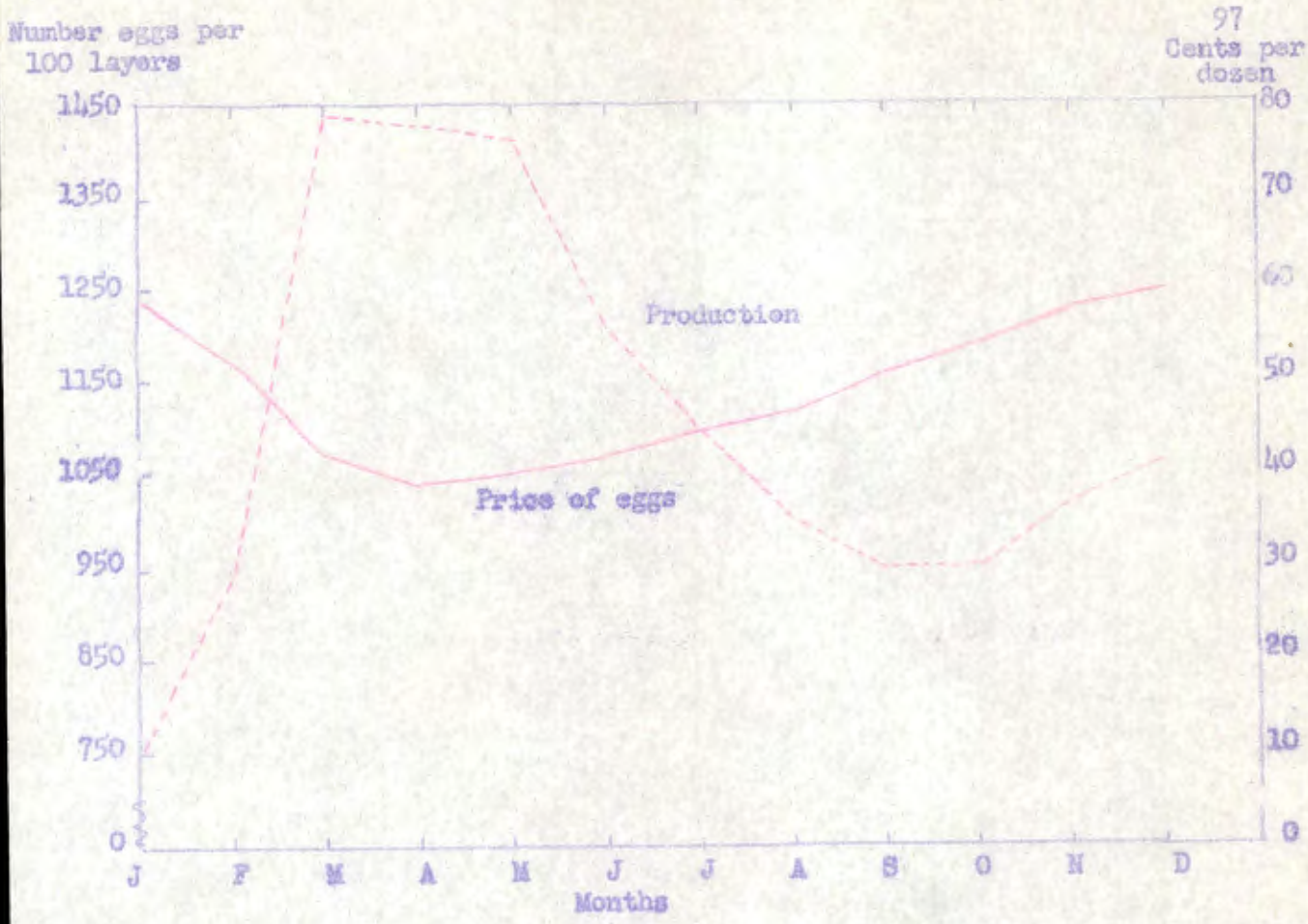
| Size of Flock (No. layers) | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (Average price in cents per dozen) | | | | | | | | | | | | |
| Under 25 | 61 | 64 | 41 | 36 | 38 | 42 | 43 | 46 | 51 | 52 | 57 | 60 | 48.4 |
| 25 - 49 | 58 | 52 | 41 | 38 | 38 | 40 | 42 | 46 | 49 | 53 | 56 | 58 | 47.6 |
| 50 - 99 | 58 | 49 | 42 | 40 | 39 | 39 | 48 | 45 | 49 | 51 | 57 | 57 | 47.8 |
| 100 & over | 59 | 53 | 43 | 41 | 43 | 45 | 47 | 48 | 53 | 56 | 60 | 64 | 51.0 |
| All flocks | 59 | 52 | 42 | 39 | 40 | 42 | 45 | 47 | 51 | 54 | 58 | 60 | 49.1 |

TABLE XXIX

SEASONAL RELATIONS BETWEEN PRICES RECEIVED BY FARMERS AND PRODUCTION PER 100 LAYERS, BY SIZE OF FLOCK, BY MONTHS, 170 MARKET EGG PRODUCERS, TENNESSEE, 1948

| Month | Size of Flock | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Under 25 | | 25 to 48 | | 50 to 99 | | 100 and over | | All flocks | |
| | Production Per 100 Layers | Price | Production Per 100 Layers | Price | Production Per 100 Layers | Price | Production Per 100 Layers | Price | Production Per 100 Layers | Price |
| January | 766 | 61 | 616 | 58 | 805 | 58 | 810 | 59 | 749 | 59 |
| February | 920 | 64 | 960 | 52 | 904 | 49 | 996 | 53 | 945 | 52 |
| March | 1605 | 41 | 1449 | 41 | 1280 | 42 | 1528 | 43 | 1441 | 42 |
| April | 1686 | 36 | 1452 | 38 | 1580 | 40 | 1098 | 41 | 1429 | 39 |
| May | 1512 | 38 | 1453 | 38 | 1419 | 39 | 1268 | 43 | 1413 | 40 |
| June | 1394 | 42 | 1252 | 40 | 1200 | 39 | 993 | 45 | 1209 | 42 |
| July | 1207 | 43 | 1163 | 42 | 1166 | 48 | 863 | 47 | 1100 | 45 |
| August | 1014 | 46 | 1055 | 46 | 987 | 45 | 952 | 48 | 1002 | 47 |
| September | 1004 | 51 | 956 | 49 | 847 | 49 | 992 | 53 | 950 | 51 |
| October | 1124 | 52 | 979 | 53 | 991 | 51 | 776 | 56 | 948 | 54 |
| November | 1189 | 57 | 1007 | 56 | 993 | 57 | 948 | 60 | 1019 | 58 |
| December | 1281 | 60 | 1037 | 58 | 958 | 57 | 997 | 64 | 1068 | 60 |
| Year | 1225 | 48.4 | 1115 | 47.6 | 1094 | 47.8 | 1017 | 51.0 | 1113 | 49.1 |

Source: Tables IX and XXVII.




Source: Table 29.

Figure 36

Seasonal relations between prices received by farmers and production per 100 layers for all flocks, by months, 170 market egg producers, Tennessee, 1948

by the producer's home and picks up the eggs. The producers marketing expenses are cut when the eggs are collected at the home, and therefore he should not expect to receive as high a price as he would by taking them to a retail store.

In the Southern Region the prices reported by farmers showed that they received an average of 51 cents per dozen for their eggs in 1948. Hatcheries, institutions, consumers, and hucksters were reported as paying above the average price. Rolling stores paid lowest prices. Cooperatives paid approximately three cents below the average, while prices received from the other outlets showed them to be an average of about two cents below the regional average (Figure 37).

In considering seasonality of price it was found that the highest price received per dozen was in November and the lowest received in April. Over the year as a whole there was a fluctuation of 19 cents per dozen (Table XXX).

In this study, it was found that city stores, hatcheries, country stores, restaurants and boarding houses, and packing companies all paid above the average for eggs bought from the producers. Hatcheries paid the highest price for eggs and local customers paid the lowest. There was a range of 14.8 cents per dozen in prices paid by different outlets.

May was the month of lowest egg prices, considering all outlets, while December was the month of highest prices. From December, the price declined each month to May and then began increasing to December (Table XXXI).

There was quite a variance in the prices paid for eggs when each individual outlet is compared with the other one.

The seasonality of prices received by farmers in the southern region and Tennessee appeared to follow somewhat the same pattern. The lowest prices were received in March and April, and the highest in October and November.

For the Southern Region as a whole, the prices received for eggs for all outlets by months averaged higher than Tennessee. However, the price paid by retail stores and rolling stores in Tennessee averaged above those for the same market outlet in the region (Table XXXII).

Prices Received by First-Buyers for Eggs Sold to Customers

The seasonal pattern of prices received by first-buyers differs from the seasonal pattern of the prices received by farmers. The first-buyer received lowest prices during the month of June, and highest prices during November. Buyers prices began their decline in January and and continued until June when they began to increase until December. The average price received for the year was 54 cents per dozen. The range for the year was 27 cents per dozen (Table XXXIII).

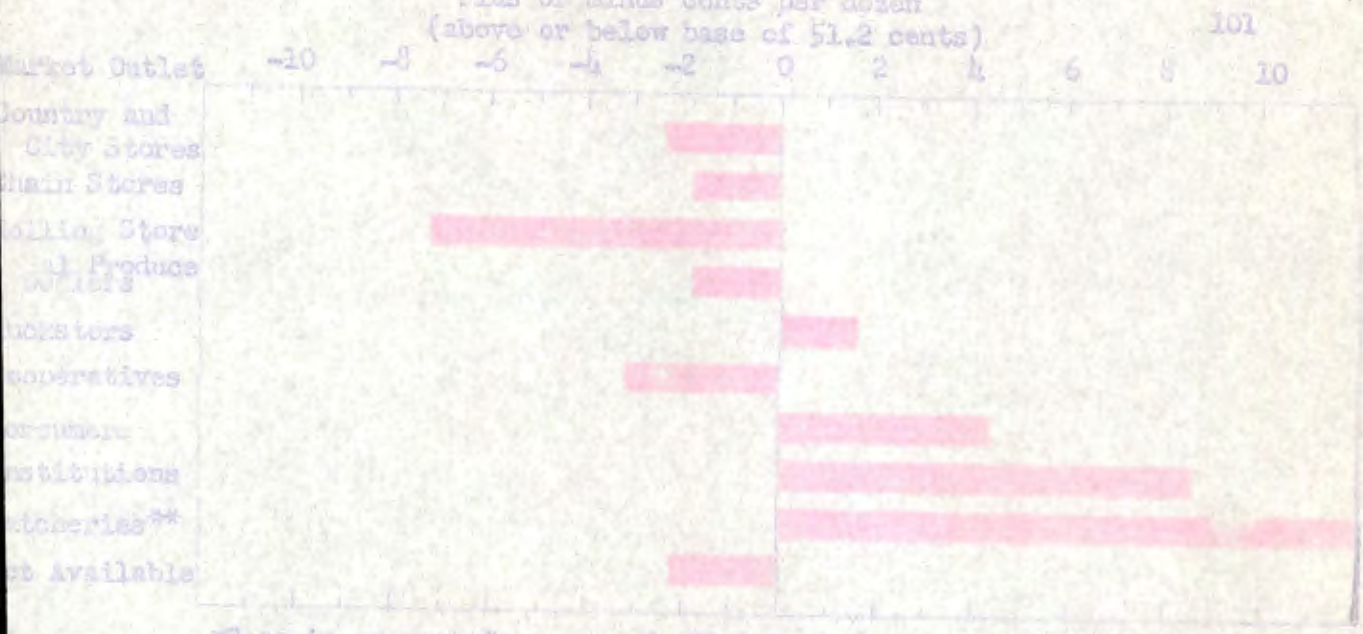
The first-buyers received an average of nine cents per dozen more for eggs than did the farmers when selling direct to customers. The farmer's range in prices received was not as great as the range the first-buyer received. The farm price spread was 17 cents, compared with the first-buyer spread of 27 cents (TableXXXIV).

TABLE XXX

PRICES RECEIVED PER DOZEN EGGS SOLD BY PRODUCERS, BY TYPE OF SALES OUTLET, BY MONTHS, SOUTHERN REGION, 1948

| Types of Sales Outlet | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
| | Cents Per Dozen | | | | | | | | | | | | |
| Country and city stores | 57 | 51 | 41 | 40 | 43 | 42 | 47 | 57 | 55 | 57 | 60 | 61 | 48.8 |
| Chain stores | 59 | 53 | 44 | 42 | 41 | 42 | 44 | 50 | 55 | 58 | 62 | 61 | 49.4 |
| Rolling stores | 57 | 50 | 39 | 38 | 37 | 39 | 38 | 43 | 48 | 52 | 57 | 56 | 44.1 |
| Local produce dealers | 56 | 50 | 44 | 44 | 44 | 48 | 50 | 52 | 57 | 57 | 61 | 56 | 49.3 |
| Hucksters | 59 | 56 | 45 | 46 | 44 | 47 | 50 | 52 | 56 | 61 | 65 | 65 | 52.7 |
| Cooperatives | 55 | 46 | 42 | 43 | 39 | 39 | 49 | 52 | 53 | 56 | 58 | 56 | 48.0 |
| Consumers | 65 | 59 | 50 | 48 | 48 | 49 | 54 | 58 | 61 | 64 | 67 | 67 | 55.6 |
| Institutions | 69 | 45 | 41 | 49 | 50 | 55 | 59 | 64 | 68 | 70 | 71 | 66 | 59.7 |
| Hatcheries | 78 | 77 | 72 | 74 | 80 | 81 | 58 | 60 | 67 | 76 | 79 | 74 | 77.7 |
| Not available | 61 | 47 | 43 | 42 | 46 | 47 | 52 | 54 | 57 | 58 | 60 | 52 | 49.1 |
| All buyers | 60 | 54 | 45 | 44 | 45 | 46 | 49 | 56 | 57 | 60 | 63 | 62 | 51.2 |

Source: Jerry M. Law, Preliminary Information on Egg Marketing Study - SM-6, September 27, 1949, p. 13.




*Base is average for year of all buyers.
**Hatcheries were 26.5 cents per dozen above the base.

Source: Table 30.

Figure 37

Variance from-base* in prices received for eggs by type of sales outlet, eight state area, 1940

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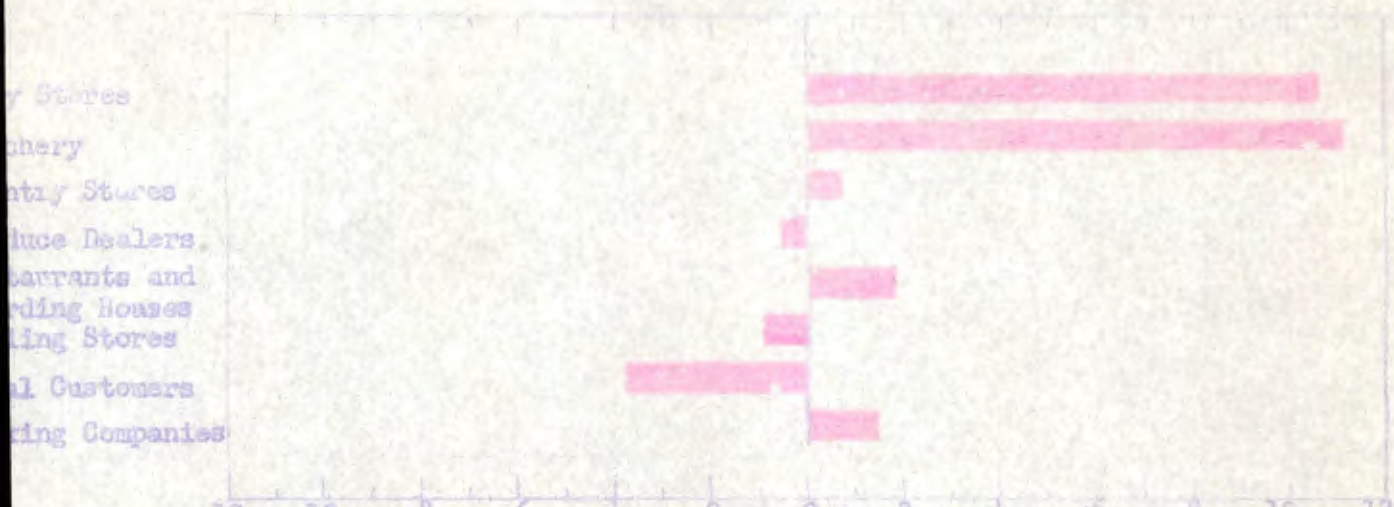
TABLE XXXI

PRICES RECEIVED BY FARMERS FOR EGGS BY TYPE OF MARKET OUTLET BY 170 MARKET EGG PRODUCERS, TENNESSEE, 1948

| Outlet | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year |
| | Cents Per Dozen | | | | | | | | | | | | |
| City stores | 61 | 52 | 43 | 40 | 39 | 40 | 43 | 49 | 52 | 54 | 58 | 61 | 59.3 |
| Hatchery | 55 | 53 | 46 | 44 | 40 | 40 | 41 | 47 | 52 | 57 | 62 | 61 | 59.8 |
| Country store | 61 | 51 | 40 | 38 | 38 | 40 | 55 | 45 | 50 | 55 | 60 | 60 | 49.4 |
| Produce dealer | 59 | 51 | 45 | 39 | 38 | 34 | 39 | 45 | 46 | 49 | 53 | 82 | 48.2 |
| Restaurants & Boarding House | 54 | 50 | 45 | 40 | 43 | 46 | 47 | 50 | 51 | 56 | 60 | 64 | 50.5 |
| Rolling stores | 59 | 51 | 40 | 39 | 38 | 40 | 41 | 44 | 49 | 51 | 55 | 55 | 46.8 |
| Local customers | 54 | 48 | 44 | 36 | 38 | 40 | 42 | 44 | 45 | 43 | 57 | 57 | 45.0 |
| Packing companies | 62 | 51 | 37 | 39 | 38 | 40 | 40 | 51 | 52 | 75 | 58 | 60 | 50.2 |
| All outlets | 58.1 | 50.8 | 42.5 | 39.4 | 39.0 | 40.0 | 43.3 | 46.9 | 49.6 | 54.9 | 56.6 | 62.5 | 48.1 |




*Base is average for all outlets for the year.

Source: Table 31.

Figure 38

Variance from base* in prices received for eggs by type of sales outlet, 170 market egg producers, Tennessee, 1948

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TABLE XXXII

PRICES RECEIVED BY FARMERS FOR EGGS BY TYPE OF OUTLET, BY MONTHS, SOUTHERN REGION AND 170 MARKET EGG PRODUCERS, TENNESSEE, 1948

| Month | Market Outlet | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Retail stores | | Rolling stores | | Hatcheries | | Local produce dealers | | Local customers | | Others | | All outlets | |
| | Region | Tenn | Region | Tenn | Region | Tenn | Region | Tenn | Region | Tenn | Region | Tenn | Region | Tenn |
| | Cents per Dozen | | | | | | | | | | | | | |
| January | 58 | 61 | 57 | 59 | 78 | 55 | 56 | 59 | 65 | 54 | 65 | 58 | 63 | 58 |
| February | 52 | 52 | 50 | 51 | 77 | 53 | 50 | 51 | 59 | 48 | 56 | 51 | 57 | 51 |
| March | 43 | 42 | 39 | 40 | 72 | 46 | 44 | 45 | 50 | 44 | 53 | 41 | 50 | 43 |
| April | 41 | 39 | 38 | 39 | 74 | 44 | 44 | 39 | 48 | 36 | 53 | 40 | 50 | 39 |
| May | 42 | 39 | 37 | 38 | 80 | 40 | 44 | 38 | 48 | 38 | 53 | 41 | 52 | 39 |
| June | 42 | 40 | 39 | 40 | 81 | 40 | 48 | 34 | 49 | 40 | 57 | 43 | 41 | 39 |
| July | 46 | 49 | 38 | 41 | 58 | 41 | 50 | 38 | 54 | 42 | 54 | 44 | 50 | 42 |
| August | 54 | 47 | 43 | 44 | 60 | 47 | 52 | 45 | 58 | 44 | 57 | 52 | 54 | 47 |
| September | 55 | 51 | 48 | 49 | 67 | 52 | 56 | 46 | 61 | 45 | 61 | 52 | 58 | 49 |
| October | 58 | 55 | 52 | 51 | 76 | 57 | 61 | 49 | 64 | 43 | 64 | 65 | 63 | 53 |
| November | 61 | 59 | 57 | 55 | 79 | 62 | 65 | 53 | 67 | 57 | 68 | 59 | 66 | 57 |
| December | 61 | 61 | 56 | 55 | 74 | 61 | 65 | 82 | 67 | 57 | 65 | 62 | 64 | 63 |
| Year | 49.1 | 49.9 | 44.1 | 46.8 | 77.7 | 59.8 | 52.7 | 48.2 | 55.6 | 45.0 | 59.5 | 50.4 | 56.5 | 48.3 |

Source: Tables XXX and XXXI.

TABLE XXXIII

AVERAGE PRICES RECEIVED FOR EGGS SOLD TO CUSTOMERS, BY MONTHS BY FIRST-BUYERS, TENNESSEE, 1948

| Months | Cents/Dozen |
|---|---|
| January | 59 |
| February | 57 |
| March | 48 |
| April | 43 |
| May | 46 |
| June | 41 |
| July | 45 |
| August | 51 |
| September | 62 |
| October | 63 |
| November | 68 |
| December | 64 |
| Year | 54 |

TABLE XXXIV

AVERAGE PRICES PAID BY CUSTOMERS TO FARMERS AND BUYERS FOR EGGS, BY MONTHS, 170 MARKET EGG PRODUCERS AND 28 FIRST-BUYERS, TENNESSEE, 1948

| Months | Prices Farmer Received | Prices Buyers Received |
|---|---|---|
| | Cents/Dozen | |
| January | 54 | 59 |
| February | 48 | 57 |
| March | 44 | 48 |
| April | 36 | 43 |
| May | 38 | 46 |
| June | 40 | 41 |
| July | 42 | 45 |
| August | 44 | 51 |
| September | 45 | 62 |
| October | 43 | 63 |
| November | 57 | 68 |
| December | 57 | 64 |
| Year | 45 | 54 |

Source: Table XXXII and XXXIII.

Considering the margin on which the first-buyers bought and sold eggs, the average for the year was six cents per dozen (Table XXXV). The lowest margin of one cent occurred in January with the highest of 13 cents occuring in September (Figure XXVIII). Production was low in both these months, but usually in January, egg prices were on the decline and in September on the increase. The first-buyer must handle his eggs very carefully and economically to justify his transactions in the egg business.

Prices Received by First-Buyers From Eggs Sold to Produce Dealers

The first-buyer received an average of 49 cents per dozen for his eggs that were sold to the produce dealer. Lowest prices were received in March while the highest price was received in December. The range was from 37 to 69 cents per dozen or a difference of 32 cents. This range in price may be mostly attributed to the seasonality of egg production (Table XXXVI).

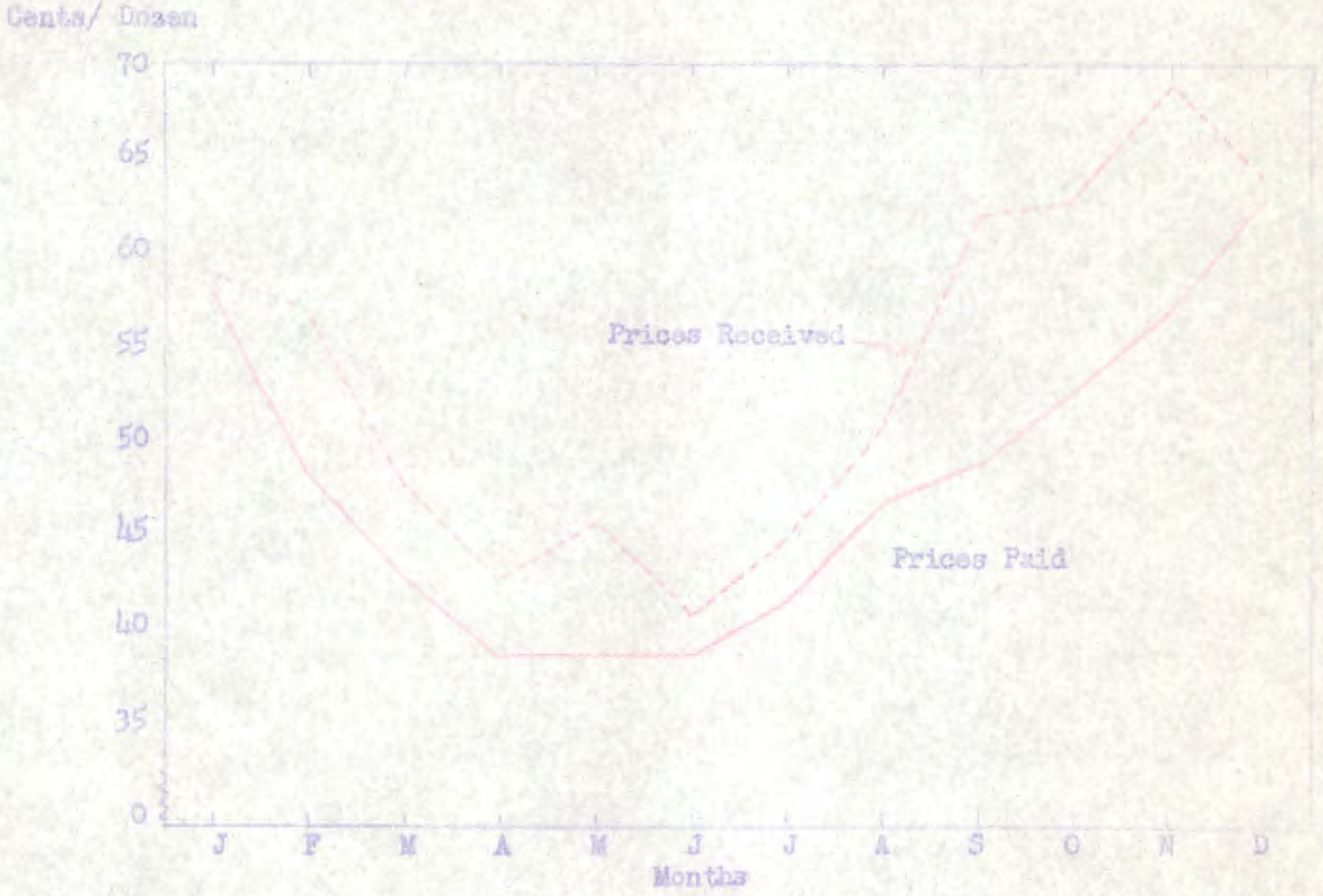
First-buyers made an average of one cent per dozen on eggs they sold to produce dealers for the year 1948 (Table XXXVII). During the months January through August, the first-buyers either lost money or broke even, disregarding expenses of handling the eggs (Figure 40). Factors such as loss due to improper handling, deterioration, low quality eggs, and over-supply of eggs, were factors affecting the price the first-buyer received.

TABLE XXXV

AVERAGE PRICES FIRST-BUYERS PAID AND RECEIVED FOR EGGS SOLD TO CUSTOMERS, BY MONTHS, 170 MARKET EGG PRODUCERS AND 28 FIRST-BUYERS, TENNESSEE, 1948

| Months | Prices Buyers Paid | Prices Buyers Received |
|---|---|---|
| | Cents Per Dozen | |
| January | 58 | 59 |
| February | 51 | 57 |
| March | 43 | 48 |
| April | 39 | 43 |
| May | 39 | 46 |
| June | 39 | 41 |
| July | 42 | 45 |
| August | 47 | 51 |
| September | 49 | 62 |
| October | 53 | 63 |
| November | 57 | 68 |
| December | 63 | 64 |
| Year | 48 | 54 |

Source: Tables XXXII and XXXIII.




Source: Table 35.

Figure 39

Average prices first-buyers paid and received for eggs, by months, 170 market egg producers and 28 first-buyers, Tennessee, 1948

TABLE XXXVI

AVERAGE PRICES RECEIVED BY FIRST-BUYERS FOR EGGS SOLD TO PRODUCE DEALERS, BY MONTHS, 28 FIRST-BUYERS, TENNESSEE, 1948

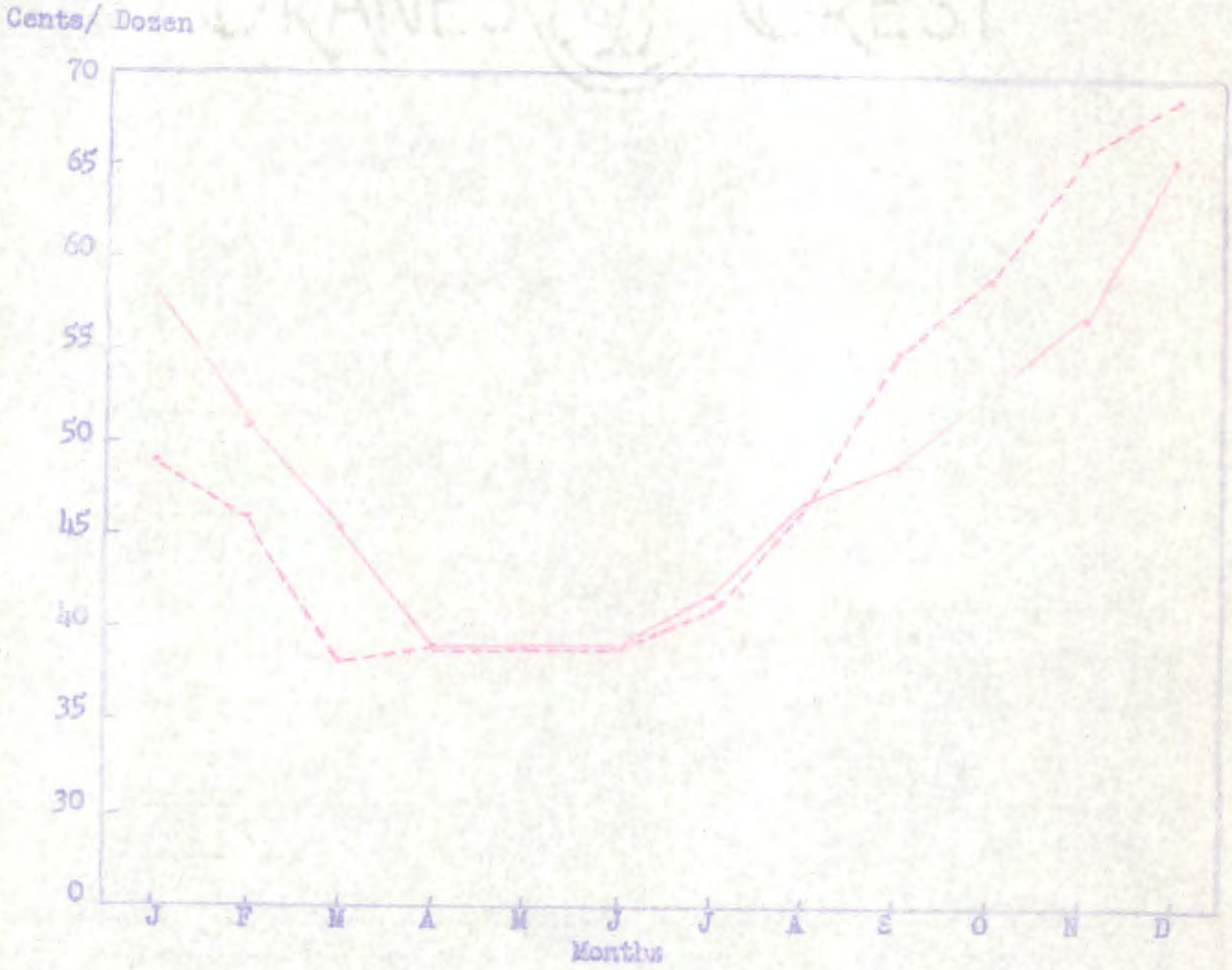
| Months | Prices Buyers Received Cents/Dozen |
|---|---|
| January | 49 |
| February | 46 |
| March | 37 |
| April | 39 |
| May | 39 |
| June | 39 |
| July | 41 |
| August | 47 |
| September | 55 |
| October | 59 |
| November | 66 |
| December | 69 |
| Year | 49 |

TABLE XXXVII

AVERAGE PRICES FIRST-BUYERS PAID AND RECEIVED FOR EGGS SOLD TO PRODUCE DEALERS, BY MONTHS, 170 MARKET EGG PRODUCERS AND 28 FIRST-BUYERS, TENNESSEE, 1948

| Month | Prices Buyers Paid | Prices Buyers Received |
|---|---|---|
| | Cents/Dozen | |
| January | 58 | 49 |
| February | 51 | 46 |
| March | 43 | 37 |
| April | 39 | 39 |
| May | 39 | 39 |
| June | 39 | 39 |
| July | 42 | 41 |
| August | 47 | 47 |
| September | 49 | 55 |
| October | 53 | 59 |
| November | 57 | 66 |
| December | 63 | 69 |
| Year | 48 | 49 |

Source: Tables XXXV and XXXVI.




Source: Table 37.

Figure 40

Average prices first-buyers paid and received for eggs sold to produce dealers, by months, 170 market egg producers and 28 first-buyers, Tennessee, 1945

# CHAPTER V

## PRACTICES OF MARKET EGG PRODUCERS BY SIZE OF FLOCKS

### Improved Practices Followed by Producers

In this study of the 170 market egg producers, twenty-three improved practices were set up on which to score the producer. The practices used were factors in production, management, and marketing of eggs. From these reports one may get a reasonable knowledge of what practices are being carried out over the state.

Table XXXVIII shows the percent of producers that followed each of the twenty-three improved practices. These percentages ranged from no producers selling eggs on a quality basis to 81 percent who cleaned eggs before marketing them.

Over half the farmers followed the improved practices of keeping flocks having 60 percent or more pullets, cleaning dirty eggs before they were marketed, and making some use of market information. Less than half the farmers followed the other practices conducive to the production of high-quality eggs (Table XXXVIII).

In a former study the principal reasons given by farmers were determined as to why they did not follow more of the improved practices.[1] These reasons are as follows:

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[1] B. D. Raskopf and Clyde R. Keaton, Practices of Market Egg Producers in Tennessee, 1947-1948, University of Tennessee Publications, Monograph Number 249, October 1, 1949, p. iv.

(1) Many farmers stated that they did not find it profitable to produce and market high quality eggs. Only 10 percent received premiums for eggs, and many of these premiums were paid because the seller accepted merchandise in place of cash.

(2) In the smaller flocks (under 50 layers) over half of the eggs were used for home consumption, and the producer's main purpose in keeping laying hens was to supply home needs, selling any surplus at local prices.

(3) Over half of the farmers stated that they were unaware of the need for following many of the practices.

(4) Production of eggs was a minor source of income on 99 percent of the farms of market egg producers, and the farmers have taken relatively little interest in producing eggs for market.

(5) Farm tenants and colored farmers hesitate to invest much in laying houses because of the uncertainty of their tenure.

(6) Not much care and attention needs to be devoted to small flocks, since few hens can usually obtain enough feed and shelter around the farmstead to provide eggs for the average-sized family.

Improved Practices Followed By Producer By Size of Flock

Out of 23 improved practices as previously discussed, only about five to eight of them were followed by most market egg producers having 100 layers. Where flocks over 100 layers were kept the farmers

TABLE XXXVIII

PRACTICES FOLLOWED BY 170 MARKET EGG PRODUCERS IN TENNESSEE, 1948

| Practices | Percent of Producers |
|---|---|
| Flocks having 60 percent or more pullets | 64 |
| Producing infertile eggs | 9 |
| Keeping feed cost or egg laying records | 28 |
| Feeding laying mash to supplement home-grown feeds | 42 |
| Starting baby chicks by April 1st | 25 |
| Having separate house for laying hens | 55 |
| Using litter in laying house | 18 |
| Providing laying house with dropping boards or pits | 12 |
| Using screening over dropping boards or pits | 11 |
| Using electric lights in laying house to increase feeding time of flocks | 6 |
| Controlling range of laying flock | 34 |
| Gathering eggs twice or more daily | 22 |
| Using wire basket to gather eggs | 6 |
| Cleaning soiled eggs | 81 |
| Cleaning soiled eggs by recommended method | 6 |
| Cooling eggs before packing | 14 |
| Sorting eggs by color before marketing | 16 |
| Use of cartons or cases in marketing | 28 |
| Holding eggs in a cool moist place before marketing | 41 |
| Marketing twice or more weekly | 28 |
| Selling eggs on a quality basis | 0 |
| Making use of market information | 65 |
| Knowing price before selling eggs | 41 |

followed more improved practices (Table XXXIX). Only three producers out of the 170 followed as many as 17 of the suggested practices. No producers followed as many as 17 suggested practices in flocks containing under 25 layers and flocks containing 50 to 99 layers. In considering all flocks, the majority of the 170 market egg producers followed from one to eight of the practices checked. The flocks containing 100 or more layers seemed to follow the greater percent of improvement practices (Table XXXIX).

The relation of egg production per layer to improved practices followed by market egg producers is important, but hard to evaluate. The highest rate of production per layer was found in flocks containing under 25 layers and the producers were following from 13 to 16 improvement practices. Lowest production was found in flocks containing from 25 to 49 layers and the producers were only following one to four improved practices. Taking all flocks into consideration, the highest rate of production was reported in flocks where producers followed the greatest number of improvement practices (Table XL).

## Production Practices

About three-fifths of the 170 market egg producers followed the practice of having 60 percent or more pullets in their flocks. The flocks of under 25 layers had the highest percent of pullets while flocks of 100 or more layers had the lowest proportion. About two-fifths of the 170 market egg producers fed laying mash as a

TABLE XXXIX

IMPROVED PRACTICES FOLLOWED BY 170 MARKET EGG PRODUCERS, BY SIZE OF FLOCKS, TENNESSEE, 1948

| Number of Practices Followed* | Number of Layers in Flocks | | | | |
|---|---|---|---|---|---|
| | Under 25 | 25 to 49 | 50 to 99 | 100 and Over | All Flocks |
| | Number of Producers | | | | |
| 1 to 4 | 7 | 16 | 3 | 1 | 27 |
| 5 to 8 | 16 | 55 | 22 | 1 | 94 |
| 9 to 12 | 2 | 18 | 15 | 6 | 41 |
| 13 to 16 | 1 | None | 2 | 2 | 5 |
| 17 to 20 | None | 1 | None | 2 | 3 |
| Total | 26 | 90 | 42 | 12 | 170 |

* Improved practices shown in Table XXXVIII.

TABLE XL

RELATION OF IMPROVED PRACTICES FOLLOWED BY 170 MARKET EGG PRODUCERS TO EGG PRODUCTION PER LAYER BY SIZE OF FLOCK, TENNESSEE, 1948

| Number of Practices Followed* | Number of Layers in Flock | | | | |
|---|---|---|---|---|---|
| | Under 25 | 25 to 49 | 50 to 99 | 100 and Over | All Flocks |
| | (Eggs Produced Per Layer) | | | | |
| 1 to 4 | 121 | 116 | 119 | 138 | 124 |
| 5 to 8 | 165 | 127 | 115 | 91 | 125 |
| 9 to 12 | 104 | 142 | 119 | 136 | 126 |
| 13 to 16 | 223 | None | 166 | 181 | 190 |
| 17 to 20 | None | 206 | None | 107 | 157 |

* Improved practices are shown in Table XXXVIII.

supplement to home-grown feeds. About three-fourths of the producers having flocks of 100 or more layers fed laying mash and this proportion was higher than for any of the other groups of producers (Table XLI).

About a fourth of the producers started their baby chicks by April 1st. Flocks containing 50 to 99 layers showed the highest percent of their producers starting baby chicks early in the season.

About half of the producers followed the practice of having a separate laying house. Laying houses were more common for flocks of 100 or more layers, while half the flocks of under 25 layers were not housed. Only about one-eighth of the 170 market egg producers used electric lights in the laying house. About a fourth of the producers with flocks of 100 or more layers had lights in their laying houses, while in flocks of under 25 and 50 to 99, no producers used lights to increase length of feeding time. For all flocks as a whole, the producers didn't follow too closely the improved practices (Table XLI).

In relating the production practices to output per layer, it was found that all flocks averaged about 133 eggs per layer for producers that had 60 percent or more pullets in their flocks. As the size of flocks increased the production per layer decreased. One reason for this was because there were relatively less pullets in the larger flocks (Table XLI). Considering the practice of feeding laying mash as a supplement, it was found that the smaller flocks had the highest rate of production and as size of flock increased,

TABLE XLI

PERCENT OF 170 MARKET EGG PRODUCERS FOLLOWING SUGGESTED IMPROVED PRODUCTIVE PRACTICES, BY SIZE OF FLOCK, TENNESSEE, 1948

| Selected Production Practices | Under 25 | 25 to 49 | 50 to 99 | 100 and Over | All Flocks |
|---|---|---|---|---|---|
| | (Percent of Producers) | | | | |
| Flocks having 60 Percent or more pullets | 81 | 61 | 64 | 50 | 64 |
| Feeding laying mash as a supplement | 27 | 35 | 59 | 75 | 42 |
| Starting baby chicks by April 1st | 23 | 24 | 36 | 25 | 25 |
| Providing a laying house separately | 50 | 52 | 59 | 67 | 55 |
| Using electric lights in laying house | 0 | 1 | 0 | 25 | 6 |
| Average all production practices | 36 | 35 | 42 | 44 | 40 |

the rate of production decreased until flocks of 100 or more layers were reached and then the production increased. The practice of starting baby chicks by April 1st in relation to the rate of production appears to follow the same pattern as the practice of feeding mash as a supplement. As the flock size increased, the rate of lay decreased until flocks of 100 and more was reached, and then the rate of production once again began to rise. The rate of production per layer was greater in the smaller flocks when laying houses were provided and as the flock size increased, the rate of production decreased until flocks of 100 and more were reached and then the rate of production once again began to rise. Only two groups reported having electric lights and where these were used the flocks of 25 to 49 led the flocks of 100 and over in rate of production for all productive practices, it was found that the flocks of under 25 layers led in rate of production and as the flock size increased the rate of production decreased until flocks of 100 and more was reached (Table XLII).

## Practices Affecting Egg Quality

About ten percent of the 170 farmers produced infertile eggs and this practice was most prevalent among the larger producers. In flocks of 50 to 99 layers, the lowest percent of farmers produced infertile eggs. About a fifth of the producers used litter in the laying house and this practice was reported by half the farmers who

TABLE XLII

RELATION OF IMPROVED PRODUCTIVE PRACTICES FOLLOWED BY 170 MARKET EGG PRODUCERS TO EGG PRODUCTION PER LAYER, BY SIZE OF FLOCK TENNESSEE, 1948

| Productive Practices | Size of Flock | | | | |
|---|---|---|---|---|---|
| | Under 25 | 25 to 49 | 50 to 99 | 100 and Over | Average All Flocks |
| | Production per Layer | | | | |
| Flocks having 60% or more pullets | 151 | 131 | 125 | 123 | 133 |
| Feeding laying mash as a supplement | 157 | 144 | 121 | 133 | 139 |
| Starting baby chicks by April 1st | 166 | 128 | 120 | 144 | 139 |
| Providing a laying house | 223 | 134 | 129 | 183 | 167 |
| Using electric lights in laying house | None | 177 | None | 119 | 148 |
| All productive practices | 174 | 143 | 124 | 140 | 145 |

had flocks of 100 and more layers. On the other hand, this practice was followed by only eight percent of the producers having flocks of under 25 layers.

One-eighth of the 170 producers used dropping boards or pits in their laying houses. The larger flocks had the greater percent of producers using dropping boards or pits. About one-tenth of the producers used screens over their dropping boards or pits. About a third of the producers controlled the range of their flock. In the larger flocks a larger proportion of the producers controlled the range of the layers. About one-fifth of the producers gathered their eggs twice or more daily. In the larger flocks eggs were gathered more frequently. About one-seventh of the producers cooled their eggs before packing and again more of the larger flocks owners followed this practice. About a fourth of the producers used cartons or cases in marketing their eggs and marketed twice or more weekly, but three-fourths of the larger producers followed this practice. Two-fifths of the producers kept their eggs in a cool moist place before marketing. Taking the eleven factors into consideration that are conducive to high quality egg production, the more undesirable practices were followed by the small flock producers and as the flock size increased, so did the percent of producers following better practice (Table XLIII).

TABLE XLIII

PERCENT OF 170 MARKET EGG PRODUCERS FOLLOWING SUGGESTED EGG QUALITY IMPROVEMENT PRACTICES, BY SIZE OF FLOCK, TENNESSEE, 1948

| Quality Improvement Practices | Size of Flock | | | | |
|---|---|---|---|---|---|
| | Under 25 | 25 to 49 | 50 to 99 | 100 and Over | All Flocks |
| | Percent of Producers | | | | |
| Producing infertile eggs | 8 | 3 | 3 | 17 | 9 |
| Using litter in laying house | 8 | 11 | 12 | 50 | 18 |
| Dropping boards or pits in laying house | 4 | 11 | 12 | 33 | 12 |
| Screens over dropping boards or pits | 4 | 10 | 12 | 25 | 11 |
| Controlling range of laying flock | 27 | 32 | 33 | 67 | 34 |
| Gathering eggs twice or more daily | 12 | 5 | 24 | 50 | 22 |
| Cooling eggs before packing | 0 | 17 | 9 | 33 | 14 |
| Use of cartons or cases in marketing | 0 | 6 | 16 | 75 | 28 |
| Marketing twice or more weekly | 16 | 36 | 38 | 50 | 28 |
| Holding eggs in cool moist place before marketing | 32 | 26 | 38 | 67 | 41 |
| Average all practices | 11 | 16 | 20 | 47 | 22 |

## Other Management Practices

It was found in the larger flocks that a higher percent of the producers followed certain good management practices. In general, the flocks containing 100 or more layers were better managed, their producers followed more improved management practices.

Taking all the flocks as a whole, it was found that about a fourth of the producers kept feed cost or egg laying records of their flocks. Only about one out of every 16 producers used a wire basket to gather their eggs. Containers ranged from paper sacks to iron kettles. About four-fifths of the producers cleaned eggs that were soiled, but only about one-sixteenth of the producers cleaned eggs by a recommended method. Sorting eggs by color before marketing was not practiced much by the producers. Only about one-sixth of them reporting any sorting. No farmers sold eggs on a quality basis. Over half of the farmers made use of market information they had access to before marketing their eggs, but only about two-fifths of the producers actually knew the selling price of eggs before they sold.

TABLE XLIV

PERCENT OF 170 MARKET EGG PRODUCERS FOLLOWING SUGGESTED MANAGEMENT PRACTICES, BY SIZE OF FLOCK, TENNESSEE, 1948

| Management Practices | Size of Flock | | | | |
|---|---|---|---|---|---|
| | Under 25 | 25 to 49 | 50 to 99 | 100 and Over | All Flocks |
| | Percent of Producers | | | | |
| Keeping feed cost or egg laying records | 31 | 12 | 16 | 50 | 28 |
| Using wire basket to gather eggs | 8 | 1 | 8 | 9 | 6 |
| Cleaning soiled eggs | 77 | 87 | 67 | 100 | 81 |
| Cleaning soiled eggs by recommended method | 4 | 2 | 9 | 9 | 6 |
| Sorting eggs by color before marketing | 8 | 6 | 12 | 42 | 16 |
| Selling eggs on a quality basis | 0 | 0 | 0 | 0 | 0 |
| Making use of market information | 48 | 55 | 64 | 91 | 65 |
| Knowing price of eggs before selling | 32 | 26 | 38 | 67 | 41 |
| Average all practices | 26 | 24 | 27 | 46 | 30 |

# CHAPTER VI

## SUMMARY

### Shifts in Sizes of Flocks, 1947 to 1948

Based upon a study of 170 market egg producers in Tennessee, there was a definite shift in size of flocks from 1947 to 1948. The percent of producers shifting to smaller size flocks was by far the greater among market egg producers having under 50 layers.

Flocks under 100 layers produced the greater percentage of the total volume of eggs during the period 1944 to 1948. Sixty-seven percent of the eggs were produced by the flocks having 100 layers in 1944. This percentage was 76 in 1947, and 80 percent in 1948. As might be expected there were more eggs available for sale by producers who operated the larger size flocks.

The farmer's main market egg outlets in Tennessee include city stores, rolling stores, country stores, local customers, produce dealers, hatcheries, eating establishments and meat packing companies, combined, these agencies handled practically all the producers' eggs.

City stores received the greater percent of the producers' eggs, rolling stores were second followed by country stores. These three outlets combined handled the bulk of the eggs produced. Some producers sold to more than one agency.

Over half the producers marketed their eggs within two miles of their home. Only 8.4 percent of the producers carried their eggs 10 miles or over to market them.

The price trend of eggs in Tennessee has followed the pattern that has existed over the United States for the past few years, however, Tennessee prices are slightly lower. In 1947, Tennessee's average price per dozen eggs was 42 cents compared with 46 cents in 1948. Since 1944, egg prices in Tennessee have increased because of such factors as decreased production in relation to increase demand and favorable egg - feed - price ratio. The shift to smaller size flocks by market egg producers appears to have had considerable affect on the volume of eggs available for sale.

There was a decrease of about 600 thousand baby chicks hatched by commercial hatcheries in Tennessee in 1948. Only in the late summer and fall months of 1948 did the number of baby chicks hatched, equal or exceed the number of baby chicks hatched in 1947.

The rate of production per layer is highest in flocks of under 50 and the lowest rate of lay in flocks of 50 to 99. As the flock size approached 100 layers, the rate of production began to increase. The rate of production for 170 market egg producers increased from 142 in 1947 to 148 in 1948.

The highest rate of production was found to be in the month of April for all flocks with the exception of those with 100 or more layers. When March was the highest month of production, September and October were the lowest months of production for all flocks.

To even out the egg production over the year, baby chicks should be started early, electric lights might be used to increase the feed time of the flock, the layers should be fed properly all during the year,

the flock's range should be controlled, and a higher proportion of the layers should be pullets.

## Market Egg Outlets

In 1948, about 70 percent of the eggs produced by 170 farmers in Tennessee were sold, about 29 percent were used at home and only about one percent were hatched. The amount of eggs wasted were included in the percent used in the home.

March was the leading month in egg sales, while September was lowest. March was also a leading month in production and September one of the lowest months of production.

A higher percent of the total eggs produced were used in the home during the month of September, a low production month, while in April and May a lower proportion of eggs were used in the home.

Most of the eggs that were used for hatching were sold or used for that purpose at home during the months of March, April, and May. This is the season of highest production.

Home consumption of eggs was greatest when production was high and prices low. About 22 to 25 percent of the eggs were used at home during the months of highest production. Although 32 to 34 percent of the eggs were used at home during the months of lowest production, not so many eggs were produced during these months.

On the other hand, the percentage of eggs sold was greatest when production was high and prices were low. About 73 to 76 percent

of the eggs were sold during the months of highest-production, while about 65 to 67 percent were sold during the months of lowest production and highest prices.

The different market outlets for eggs varied considerably in importance from the viewpoint of volume of eggs handled. City stores led in percent of eggs purchased for both 1947 and 1948. The egg purchases of city stores as a percentage of total sales increased 4 percent in 1948 over 1947. In 1947, city stores handled 28 percent of the eggs sold, while in 1948 the proportion was 32 percent. Rolling stores were second in percent of eggs purchased in 1948 and showed an increase of 5 percent over the previous year. Rolling stores handled 26 percent of the eggs sold in 1947 and 31 percent in 1948. Country stores handled 13 percent of the eggs sold in 1947 and 19 percent in 1948. All other outlets either had a decrease in their percent of purchases or there was no important change.

City stores purchased the highest percent of eggs from producers during the months from April to August. The bulk of these purchases were made during the months of highest production. Rolling stores varied very little by months in volume of eggs purchased. They received about 30 percent of the eggs during each month. Country stores purchased the greater proportion of the eggs from January through May. Also, the greatest percent of eggs purchased by local customers was from January through April. Boarding houses and restaurants, produce dealers, hatcheries, meat packing companies and a few other miscellaneous outlets received approximately the same percent of eggs month after month.

Rolling stores had the most consistent percent of purchases for the whole year and this may be attributed to the fact that this outlet was most convenient for the producer to market eggs, especially during bad weather and in cases of a lack of transportation.

## Seasonality of Prices Received by Farmers

### By Size of Flock

Highest prices for eggs during the year 1948 were received by producers who had over 100 layers in their flocks. The range in average price received by all producers was 3 cents per dozen for all flocks.

Producers with flocks of 100 or more layers led producers with smaller flocks in prices received with the exception of three months. Producers with flocks under 25 led in price received in the months of January and February, and producers with flocks containing from 50 to 99 led in August.

Producers with flocks of under 25 received an average price for the year of 48.4 cents per dozen with the highest prices coming during the months from September through February, the months of lowest production. Producers with flocks of 25 to 49 reported an average of 47.6 cents per dozen for the year and their highest price came during the months of lowest production, September through February. Producers with flocks of 50 to 99 layers received an average for the year of 47.8 cents per dozen. Likewise, their highest prices came during the lowest production period. Producers with flocks of 100 and over had an

average for the year of 51 cents per dozen and their highest prices came during the months of lowest production.

Producers with flocks under 25 had a range in price from 36 cents per dozen in April to 64 cents per dozen in February. Producers with flocks of 25 to 49 layers had a range in price from 38 cents per dozen in April and May, to 58 cents per dozen in January and December. Producers with flocks of 50 to 99 layers had a range in price from 39 cents per dozen in May and June, to 58 cents per dozen in January. Producers with flocks of 100 and over had a range in price from 41 cents per dozen in April to 64 cents per dozen in December (Figure 41).

For all flocks, the prices received per dozen ranged from 39 cents per dozen in April, to 60 cents per dozen in December with an average of 49.1 cents per dozen.

By Type of Market Outlet

Restaurants and boarding houses led in prices paid per dozen for eggs for the year 1948, followed in order by packing companies, hatcheries, country stores, city stores, produce dealers and rolling stores, and local customers.

There was a range in prices paid the producers of 5.5 cents per dozen. Restaurants and boarding houses paid an average for the year of 50.5 cents per dozen while local customers paid 45.0 cents per dozen.

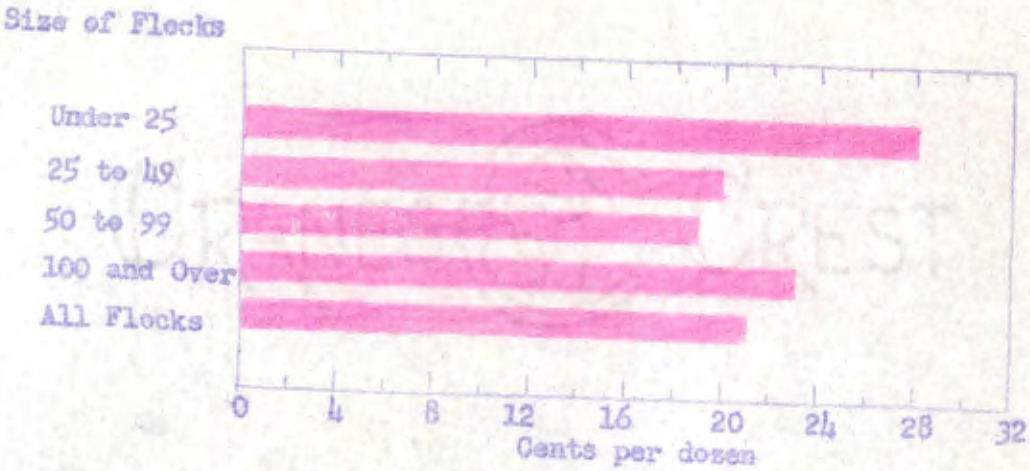


Figure 41

Range in prices received for eggs by farmers, by size of flock, 170 market egg producers, Tennessee, 1948

City stores paid their highest prices for eggs in the months of January and December, and lowest prices during the month of May. They had a range of 21 cents per dozen. Hatcheries paid highest prices during the months of April and May. There was a range in their prices of 22 cents per dozen. Country stores paid highest prices during the month of January and lowest prices in April and May. Their prices had a range of 23 cents per dozen. Both produce dealers, and restaurants and boarding houses, paid highest prices during the month of December. Produce dealers paid lowest prices during June, and restaurants and boarding houses paid lowest prices during April. Produce dealers paid a range in price of 48 cents per dozen, while restaurants and boarding houses paid a range of 24 cents per dozen. Rolling stores and packing companies paid highest prices for eggs in January and lowest prices in May. Rolling stores reported a price range of 21 cents per dozen, and packing companies a range of 24 cents per dozen for the year. Local customers paid highest prices for eggs in November and December, and lowest prices in April, the range of prices being 21 cents per dozen. The range of prices received by farmers is shown in Figure 42.

## Seasonality of Prices Received by First Buyers

First-buyers reported two outlets for the eggs they sold. These were customers and produce dealers. First-buyers received higher prices for eggs sold to customers than for eggs sold to produce dealers in all months with the exception of December. Lowest prices were received

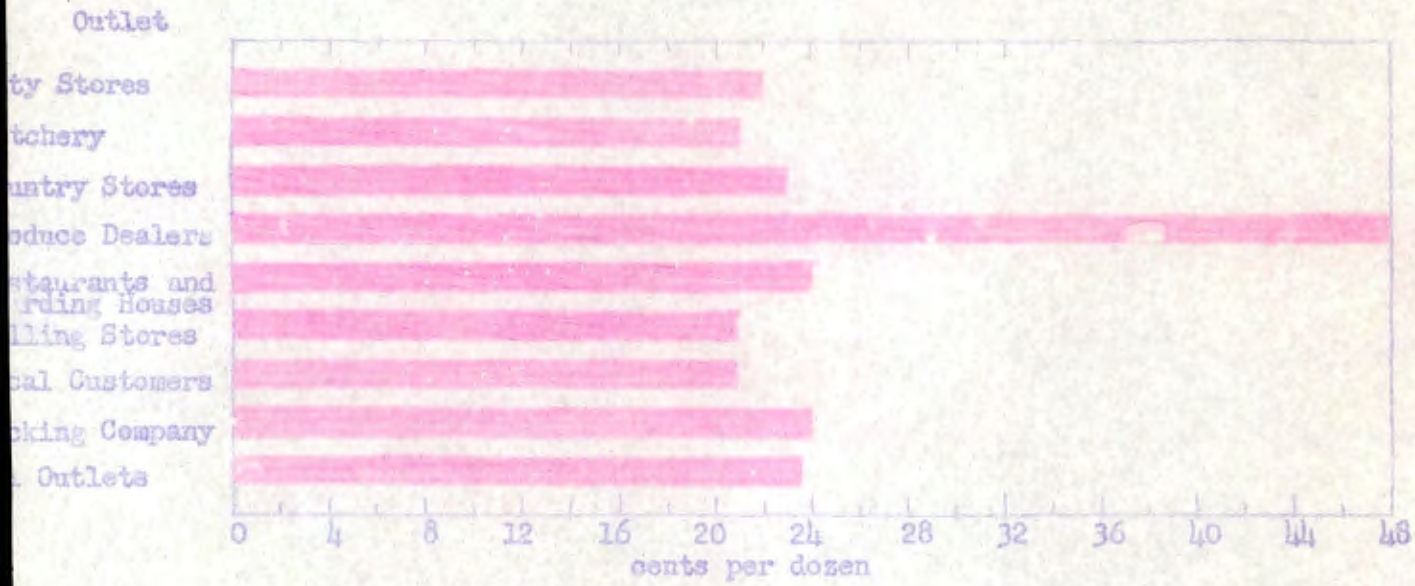


Figure 42

Range in prices received for eggs by farmers by outlets,
170 market egg producers, Tennessee, 1948

CRANES CREST

in April and highest prices in November for eggs sold to customers. For eggs sold to produce dealers lowest prices were received in March while highest prices were received in December. Overall, prices for eggs sold to customers averaged five cents per dozen above prices received for eggs sold to produce dealers (Table XLV).

There was a range of 25 cents per dozen for eggs sold to customers, compared with 32 cents per dozen for eggs sold to produce dealers. Considering prices received from both outlets, there was a range of 26 cents per dozen, the low being in April, 41 cents per dozen, and the high in November, 67 cents per dozen.

Highest prices for eggs were received during the late fall and early winter months and lowest prices in the spring and early summer months. Seasonal prices varied inversely with the seasonal production of eggs.

## Practices of Market Egg Producers

While many farmers in Tennessee seem to be under the impression that it is not profitable to market high quality eggs, keep large flocks, follow improved practices, and devote considerable care and attention to their flocks, these impressions are not borne out by the results of this study.

The practices followed by producers may be broken down into two categories: production and management. As the number of improved practices that were followed increased, so did the number of eggs produced per layer. Producers following only one to four practices

TABLE XLV

COMPARISON OF PRICES RECEIVED FOR EGGS SOLD TO CUSTOMERS AND PRODUCE DEALERS, BY FIRST BUYERS, BY MONTHS, 28 FIRST-BUYERS, TENNESSEE, 1948

| Month | Customers | Produce Dealers | Average |
|---|---|---|---|
| | Cents Per Dozen | | |
| January | 59 | 49 | 54.0 |
| February | 57 | 46 | 51.5 |
| March | 48 | 37 | 42.5 |
| April | 43 | 39 | 41.0 |
| May | 46 | 39 | 42.5 |
| June | 41 | 39 | 40.0 |
| July | 45 | 41 | 43.0 |
| August | 51 | 47 | 49.0 |
| September | 62 | 55 | 58.5 |
| October | 63 | 59 | 61.0 |
| November | 68 | 66 | 67.0 |
| December | 64 | 69 | 66.5 |
| All months | 54 | 48 | 51.5 |

had an average rate of lay of 124 eggs, compared with 190 for producers following 13 to 16 suggested improved practices. The results of following improved production practices were more outstanding in flocks of under 50 layers than in flocks over 50. In flocks under 25, the rate of lay for producers who followed one to four practices was 121 eggs per hen, while producers who followed 13 to 16 practices produced 223 eggs per hen. Also, flocks containing 25 to 49 layers showed a definite climb in production as the number of practices increased. Producers following one to four practices only produced 116 eggs per hen, while producers following 17 to 20 practices produced 206 eggs per hen. The number of production practices followed by producers has a definite relation to the number of eggs produced per hens providing the same practices are used in rating.

Producers lack the knowledge that they need concerning the importance of egg quality practices. Only nine percent of the farmers produced infertile eggs, 18 percent used litter in their laying houses, 12 percent used dropping boards or pits, 11 percent used screens over dropping boards or pits, 34 percent controlled the range of their flocks, 22 percent gathered their eggs twice daily, 14 percent cooled eggs before packing them, 28 percent marketed their eggs twice weekly, and 41 percent held their eggs in a cool moist place before marketing. From this it can be seed than producers in Tennessee either lack knowledge concerning egg quality practices or have other reasons for not following recommended practices.

Considering all improved practices studied, the management and marketing practices were followed somewhat closer than were others. Probably the farmer had a better knowledge of these practices.

Cleaning soiled eggs was the most commonly followed of the practices. Eighty-one percent of the producers cleaned dirty eggs, but only six percent used a recommended method. Twenty-eight percent of the producers kept records of feed costs or egg laying records, and six percent used wire baskets to gather eggs. Sixteen percent sorted eggs by color before marketing, but no producers sold eggs on a graded basis. Sixty-five percent of the producers made some use of market information, but only 41 percent actually knew what eggs were selling for before they marketed them. There is considerable room for improvement in farmers following recommended management and marketing practices, but farmers are more up - to - date on these than they are on production practices.

Producers with flocks of 100 and over layers led in percent of the producers following improved practices, while the smaller flocks received the less attention and care.

It is suggested that market egg producers be better informed concerning improved practices because the following of them is essential to economical egg production and the production and marketing of high quality eggs.

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# APPENDICES

# APPENDIX A

TABLE I

AVERAGE NUMBER OF LAYERS ON HAND ON FARMS IN TENNESSEE, BY MONTHS, 1942 TO 1948

| Month | Years | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1942 | 1943 | 1944 | 1945 | 1946 | 1947 | 1948 |
| | Thousands | | | | | | |
| January | 8206 | 10147 | 10705 | 9858 | 9206 | 8913 | 8611 |
| February | 7961 | 10260 | 10636 | 9713 | 9210 | 8770 | 8537 |
| March | 7838 | 10143 | 10566 | 9417 | 9139 | 8626 | 8320 |
| April | 7650 | 9429 | 9853 | 8752 | 8568 | 8116 | 7883 |
| May | 7218 | 8718 | 8710 | 8088 | 7924 | 7392 | 7376 |
| June | 6784 | 8288 | 8066 | 7721 | 7424 | 7033 | 6873 |
| July | 6596 | 7857 | 7564 | 7280 | 6925 | 6816 | 6514 |
| August | 6533 | 7856 | 7492 | 7207 | 6996 | 6814 | 6514 |
| September | 7088 | 8498 | 8064 | 7722 | 7423 | 7246 | 7091 |
| October | 8137 | 9282 | 8710 | 8166 | 7920 | 7677 | 7742 |
| November | 8876 | 9780 | 9212 | 8612 | 8416 | 7964 | 8104 |
| December | 9492 | 10350 | 9716 | 9055 | 8771 | 8397 | 8321 |
| Average all months | 7698 | 9226 | 9108 | 8466 | 8160 | 7814 | 7657 |

Source: S. T. Marsh, Agricultural Trends in Tennessee, Nashville, Tennessee, 1948, p. 117.

TABLE II

TOTAL EGG PRODUCTION IN THE UNITED STATES AND TENNESSEE BY YEARS, 1942-1948

| | U. S. | Tenn. |
|---|---|---|
| | Millions of Eggs | |
| 1948 | 55,168 | 1,015 |
| 1947 | 55,301 | 1,034 |
| 1946 | 55,590 | 1,055 |
| 1945 | 55,218 | 1,098 |
| 1944 | 57,481 | 1,155 |
| 1943 | 53,986 | 1,171 |
| 1942 | 47,959 | 968 |

Sources: Crops and Markets, United States Department of Agriculture, Washington, D. C., 1949 Edition, Volume 26, p. 57.
Crops and Markets, United States Department of Agriculture, Washington, D. C., 1948 Edition, Volume 25, p. 54.
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TABLE III

AVERAGE PRODUCTION PER LAYER ON FARMS IN THE UNITED STATES AND TENNESSEE 1925 TO 1948

| Years | U. S. | Tenn. |
|---|---|---|
| | Number | |
| 1925 - 29 | 117 | 108 |
| 1935 - 39 | 128 | 110 |
| 1941 - 45 | 144 | 126 |
| 1946 | 155 | 129 |
| 1947 | 158 | 132 |
| 1948 | 162 | 133 |
| Average | 144 | 123 |

Source: The Poultry Industry, United States Department of Agriculture, Washington, D. C., October 1947, p. 6.

TABLE IV

NUMBER OF EGGS PRODUCED PER 100 LAYERS
IN THE UNITED STATES AND TENNESSEE, BY MONTHS
1948

| Months | U. S. | Tenn. |
|---|---|---|
| January | 1,112 | 651 |
| February | 1,243 | 905 |
| March | 1,665 | 1,581 |
| April | 1,806 | 1,722 |
| May | 1,817 | 1,612 |
| June | 1,612 | 1,371 |
| July | 1,515 | 1,286 |
| August | 1,368 | 1,147 |
| September | 1,153 | 930 |
| October | 1,029 | 794 |
| November | 948 | 672 |
| December | 1,065 | 738 |
| Average all months | 1,361 | 1,117 |

Source: Crops and Markets, U. S. D. A., Washington, D. C., 1949 Edition, Volume 26, p. 56.

TABLE V

PERCENTAGE DISTRIBUTION OF EGG PRODUCERS ACCORDING TO PRINCIPAL TYPE OF OUTLET USED, BY STATES, SOUTHERN REGION, 1947

| Type of buyer | Ala. % | Ark. % | Ga. % | La. % | Miss. % | S.C. % | Tenn. % | Va. % | Region % |
|---|---|---|---|---|---|---|---|---|---|
| Country and city retail stores | 35.0 | 67.1 | 55.8 | 68.9 | 51.2 | 50.8 | 48.7 | 56.1 | 54.6 |
| Chain stores | 0 | 0.2 | 2.4 | 0.3 | 4.2 | 3.8 | 2.6 | 2.2 | 2.0 |
| Rolling stores | 29.3 | 2.5 | 5.3 | 2.9 | 12.8 | 0.6 | 24.3 | 0.2 | 9.7 |
| Local produce dealers | 4.4 | 5.5 | 0.3 | 0.7 | 6.7 | 1.9 | 4.2 | 7.0 | 3.9 |
| Hucksters | 2.0 | 1.1 | 3.2 | 1.3 | 1.4 | 1.3 | 0 | 6.5 | 2.2 |
| Cooperatives | .4 | 3.8 | 1.1 | 0 | 0 | 1.0 | 0 | 1.7 | 1.0 |
| Consumers | 28.5 | 9.1 | 25.7 | 20.9 | 22.9 | 35.5 | 17.5 | 19.8 | 21.7 |
| Institutions | 0 | 2.7 | 3.5 | 0.7 | 0.4 | 1.6 | 0.7 | 3.9 | 1.8 |
| Hatcheries | 0.4 | 1.9 | 0.8 | 2.3 | 0.4 | 2.2 | 1.8 | 0.9 | 1.4 |
| Not Ascertained | 0 | 6.1 | 1.9 | 2.0 | 0 | 1.3 | 0.2 | 1.7 | 1.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source of Data: Jerry M. Law, Preliminary Information, SM-6, September 27, 1949, p.1. (Unpublished).

TABLE VI

AVERAGE PRICES RECEIVED BY FARMERS FOR EGGS
IN THE U. S. AND TENNESSEE,
1936-1948

| Year | U. S.(1) | Tenn.(2) |
|---|---|---|
| 1936 | 21.8 | 19.8 |
| 1937 | 21.3 | 19.3 |
| 1938 | 20.3 | 17.9 |
| 1939 | 17.4 | 16.0 |
| 1940 | 18.0 | 17.3 |
| 1941 | 23.5 | 21.7 |
| 1942 | 30.0 | 27.3 |
| 1943 | 37.1 | 34.5 |
| 1944 | 32.5 | 30.6 |
| 1945 | 37.7 | 36.4 |
| 1946 | 37.5 | 36.2 |
| 1947 | 45.3 | 42.1 |
| 1948 | 47.2 | 45.9 |
| Average | 30.0 | 28.1 |

Source: (1) Crops and Markets, U. S. D. A., Washington, D. C., 1949 Edition, Volume 26, p. 96.
(2) S. T. Marsh, et. al., Agricultural Trends in Tennessee, Nashville, Tennessee, Department of Agricultural Statistics Services, 1948, p. 121.

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# APPENDIX B

Market Egg Producer Schedule Used in This Study

MONTHLY PRODUCTION AND MARKETING OF EGGS

_____ COUNTY

Name _____ Address _____ Seg. No. ___ Schedule No. __

| Month | Eggs Produced (Doz.) | Main Type Buyer | Sales (Doz.) | Price Grade | Home Use (Doz.) | Hatch (Doz.) | Waste (Doz.) | Number Hens | Number Pullets | Number Roosters |
|---|---|---|---|---|---|---|---|---|---|---|
| Jan. | | | | | | | | | | |
| Feb. | | | | | | | | | | |
| March | | | | | | | | | | |
| April | | | | | | | | | | |
| May | | | | | | | | | | |
| June | | | | | | | | | | |
| July | | | | | | | | | | |
| August | | | | | | | | | | |
| Sept. | | | | | | | | | | |
| Oct. | | | | | | | | | | |
| Nov. | | | | | | | | | | |
| Dec. | | | | | | | | | | |
| Total 1947 | | | | | | | | | | |

Market Egg Producers' Schedule Used in This Study

MONTHLY PURCHASES AND SALES OF EGGS

_____ County

Name _____ Address _____ Schedule No. ___ Agency _____

| Month | Total Cases of Eggs Purchased | No. Cases Purchased From Farmers | No. Cases Purchased From Produce Dealers | Total Cases of Eggs Sold | No. Cases Sold to Customers | No. Cases Sold to Produce Pedlers |
|---|---|---|---|---|---|---|
| Jan. | | | | | | |
| Feb. | | | | | | |
| Mar. | | | | | | |
| April | | | | | | |
| May | | | | | | |
| June | | | | | | |
| July | | | | | | |
| Aug. | | | | | | |
| Sept. | | | | | | |
| Oct. | | | | | | |
| Nov. | | | | | | |
| Dec. | | | | | | |
| Total 1947 | | | | | | |

# APPENDIX C

## CHANGES IN SIZE OF FLOCKS BY CENSUS PERIODS

The data used in this discussion is secondary information that was taken from the Census of Agriculture for the years 1930, 1935, and 1940. In this discussion, the changes in size of all flocks will first be presented, followed by information on various flock sizes.

Information was not available by size of flocks for the years earlier than 1930 and later than 1940, therefore, the period to be studied was limited to the years indicated above.

The information included in this discussion concerns the, average number of chickens per farm reporting, and the average production per layer. This information has been broken down by flock sizes, and also by counties in the state.

### All Flocks in Tennessee

There was a range of 18 to 84 chickens per farm over the three census periods. Wilson County had the highest average in number of layers per farm, while Haywood County had the lowest (Table I).

The number of eggs produced per layer was computed by dividing the number of layers reported into the total number of eggs produced. There was a wide range in the number of eggs produced per layer from county to county; this range being from 30 to 100 eggs per layer (Table I).

Data on production of eggs per hen are based on the total number of chickens reported by census periods. Since so many of these chickens reported by the census were cockerals, the egg production per hen shows much lower than it actually was.

## Classification by Size of Flock

### Flocks Under 50

By counties there was a range in average number of chickens per farm from 16 to 32 for the ten-year period. Most of the counties had flocks falling in groups whose flock size ranged from 25 to 28 layers per farm (Table II).

There was a range in number of eggs produced per layer from 22 to 104 eggs for flocks of under 50 layers (Table II).

### Flocks of 50 - 99

By counties, the average number of chickens per farm ranged from 56 to 84, the greater number of counties having flocks that averaged between 60 and 62 chickens per farm (Table III).

The average production per layer ranged from 25 to 94 eggs in Tennessee for the ten-year period (Table III).

### Flocks of 100 and Over

Number of layers per farm ranged from an average per county of 106 to 243 layers. The greatest number of counties reported their flocks, of 100 and over, averaging between 121 - 134 layers (Table IV).

The number of eggs produced per layer ranged from and average of 11 to 120 by counties over the ten-year period in flocks of 100 and over layers (Table IV).

TABLE I

AVERAGE NUMBER OF CHICKENS PER FARM AND AVERAGE PRODUCTION PER LAYER IN ALL FLOCKS, BY COUNTIES, TENNESSEE, 1930, 1935, AND 1940

| | Average Number of Chickens Per Farm | | | Average Production Per Layer | | |
|---|---|---|---|---|---|---|
| County | 1930 | 1935 | 1940 | 1930 | 1935 | 1940 |
| Anderson | 43 | 39 | 34 | 100 | 58 | 69 |
| Bedford | 65 | 72 | 53 | 79 | 55 | 65 |
| Benton | 35 | 39 | 32 | 77 | 41 | 72 |
| Bledsoe | 48 | 48 | 41 | 77 | 47 | 71 |
| Blount | 41 | 41 | 36 | 84 | 48 | 73 |
| Bradley | 35 | 36 | 34 | 88 | 53 | 67 |
| Campbell | 37 | 38 | 30 | 70 | 54 | 73 |
| Cannon | 69 | 72 | 53 | 80 | 59 | 78 |
| Carroll | 27 | 37 | 28 | 80 | 41 | 72 |
| Carter | 26 | 28 | 37 | 96 | 36 | 62 |
| Cheatham | 38 | 39 | 32 | 76 | 34 | 79 |
| Chester | 25 | 33 | 25 | 83 | 40 | 64 |
| Claiborne | 42 | 46 | 40 | 83 | 54 | 68 |
| Clay | 48 | 53 | 35 | 84 | 32 | 76 |
| Cocke | 44 | 48 | 40 | 88 | 46 | 70 |
| Coffee | 47 | 54 | 42 | 65 | 52 | 68 |
| Crockett | 25 | 28 | 23 | 61 | 30 | 60 |
| Cumberland | 29 | 32 | 26 | 82 | 48 | 62 |
| Davidson | 54 | 47 | 43 | 83 | 52 | 68 |
| Decatur | 32 | 39 | 30 | 74 | 48 | 79 |
| DeKalb | 66 | 65 | 52 | 77 | 48 | 74 |
| Dickson | 39 | 39 | 35 | 77 | 37 | 68 |
| Dyer | 28 | 42 | 29 | 71 | 38 | 65 |
| Fayette | 21 | 23 | 19 | 54 | 38 | 50 |
| Fentress | 30 | 31 | 22 | 55 | 46 | 61 |
| Franklin | 39 | 48 | 41 | 73 | 48 | 76 |
| Gibson | 28 | 41 | 24 | 72 | 34 | 68 |
| Giles | 44 | 53 | 41 | 78 | 47 | 67 |
| Grainger | 46 | 48 | 39 | 85 | 50 | 74 |
| Greene | 63 | 62 | 53 | 94 | 59 | 80 |
| Grundy | 44 | 32 | 34 | 68 | 48 | 64 |
| Hamblen | 52 | 56 | 41 | 84 | 60 | 73 |

continued -

TABLE I

AVERAGE NUMBER OF CHICKENS PER FARM AND AVERAGE PRODUCTION PER LAYER IN ALL FLOCKS, BY COUNTIES, TENNESSEE, 1930, 1935, AND 1940 (continued)

| County | Average Number of Chickens Per Farm | | | Average Production Per Layer | | |
|---|---|---|---|---|---|---|
| | 1930 | 1935 | 1940 | 1930 | 1935 | 1940 |
| Hamilton | 40 | 43 | 38 | 84 | 44 | 71 |
| Hancock | 45 | 58 | 44 | 78 | 52 | 76 |
| Hardeman | 33 | 28 | 22 | 74 | 42 | 64 |
| Hardin | 30 | 43 | 28 | 78 | 37 | 67 |
| Hawkins | 51 | 54 | 45 | 89 | 52 | 70 |
| Haywood | 20 | 25 | 18 | 72 | 34 | 62 |
| Henderson | 30 | 37 | 29 | 83 | 50 | 76 |
| Henry | 33 | 37 | 29 | 72 | 40 | 70 |
| Hickman | 50 | 50 | 39 | 70 | 29 | 68 |
| Houston | 42 | 45 | 37 | 71 | 38 | 66 |
| Humphreys | 39 | 47 | 40 | 68 | 47 | 72 |
| Jackson | 58 | 68 | 49 | 59 | 38 | 62 |
| Jefferson | 54 | 57 | 51 | 89 | 50 | 78 |
| Johnson | 29 | 31 | 27 | 79 | 54 | 55 |
| Knox | 40 | 36 | 32 | 80 | 54 | 66 |
| Lake | 23 | 42 | 36 | 95 | 30 | 64 |
| Lauderdale | 22 | 24 | 22 | 71 | 34 | 59 |
| Lawrence | 31 | 39 | 32 | 76 | 36 | 72 |
| Lewis | 36 | 39 | 27 | 79 | 44 | 74 |
| Lincoln | 56 | 74 | 50 | 68 | 54 | 70 |
| Loudon | 42 | 43 | 44 | 88 | 62 | 67 |
| McMinn | 37 | 43 | 37 | 89 | 49 | 74 |
| McNairy | 25 | 35 | 26 | 79 | 53 | 90 |
| Macon | 50 | 51 | 44 | 66 | 40 | 61 |
| Madison | 24 | 30 | 23 | 82 | 44 | 59 |
| Marion | 41 | 39 | 49 | 83 | 40 | 54 |
| Marshall | 75 | 78 | 61 | 78 | 43 | 73 |
| Maury | 60 | 61 | 51 | 85 | 42 | 77 |
| Meigs | 55 | 56 | 48 | 50 | 37 | 77 |
| Monroe | 34 | 38 | 40 | 82 | 47 | 73 |
| Montgomery | 30 | 34 | 29 | 70 | 40 | 70 |
| Moore | 56 | 62 | 53 | 72 | 60 | 79 |

continued -

TABLE I

AVERAGE NUMBER OF CHICKENS PER FARM AND AVERAGE PRODUCTION PER LAYER IN ALL FLOCKS, BY COUNTIES, TENNESSEE, 1930, 1935, AND 1940 (continued)

| County | Average Number of Chickens Per Farm | | | Average Production Per Layer | | |
|---|---|---|---|---|---|---|
| | 1930 | 1935 | 1940 | 1930 | 1935 | 1940 |
| Morgan | 29 | 28 | 23 | 100 | 40 | 73 |
| Obion | 37 | 50 | 34 | 64 | 36 | 71 |
| Overton | 42 | 46 | 33 | 62 | 34 | 64 |
| Perry | 36 | 53 | 33 | 67 | 34 | 83 |
| Pickett | 44 | 49 | 43 | 59 | 35 | 60 |
| Polk | 34 | 34 | 34 | 74 | 68 | 68 |
| Putnam | 44 | 47 | 32 | 65 | 30 | 54 |
| Rhea | 37 | 41 | 39 | 88 | 42 | 77 |
| Roane | 44 | 26 | 41 | 92 | 41 | 79 |
| Robertson | 28 | 35 | 30 | 76 | 49 | 68 |
| Rutherford | 57 | 60 | 49 | 77 | 54 | 65 |
| Scott | 28 | 28 | 24 | 74 | 34 | 74 |
| Sequatchie | 42 | 39 | 38 | 89 | 56 | 52 |
| Sevier | 44 | 45 | 39 | 82 | 50 | 77 |
| Shelby | 27 | 30 | 28 | 72 | 54 | 71 |
| Smith | 68 | 69 | 55 | 61 | 38 | 61 |
| Stewart | 31 | 48 | 33 | 83 | 36 | 67 |
| Sullivan | 58 | 53 | 41 | 91 | 42 | 72 |
| Sumner | 46 | 47 | 41 | 72 | 53 | 71 |
| Tipton | 25 | 32 | 25 | 71 | 38 | 61 |
| Trousdale | 63 | 65 | 54 | 52 | 28 | 65 |
| Unicoi | 20 | 25 | 21 | 77 | 56 | 68 |
| Union | 51 | 52 | 38 | 78 | 54 | 72 |
| Van Buren | 41 | 40 | 34 | 66 | 34 | 68 |
| Warren | 55 | 53 | 44 | 79 | 47 | 78 |
| Washington | 59 | 52 | 51 | 89 | 55 | 83 |
| Wayne | 26 | 36 | 27 | 62 | 28 | 66 |
| Weakley | 33 | 42 | 29 | 70 | 37 | 64 |
| White | 48 | 56 | 39 | 72 | 50 | 65 |
| Williamson | 66 | 63 | 47 | 72 | 47 | 68 |
| Wilson | 84 | 80 | 61 | 83 | 53 | 73 |

Source: United States Census of Agriculture, 1940

TABLE II

AVERAGE NUMBER OF CHICKENS PER FARM AND AVERAGE PRODUCTION PER LAYER IN FLOCKS OF UNDER 50 LAYERS, BY COUNTIES, TENNESSEE, 1930, 1935 AND 1940

| County | Average Number of Chickens Per Farm | | | Average Production Per Layer | | |
|---|---|---|---|---|---|---|
| | 1930 | 1935 | 1940 | 1930 | 1935 | 1940 |
| Anderson | 25 | 24 | 23 | 104 | 55 | 66 |
| Bedford | 28 | 29 | 26 | 90 | 54 | 66 |
| Benton | 25 | 27 | 24 | 72 | 43 | 74 |
| Bledsoe | 23 | 26 | 24 | 77 | 50 | 72 |
| Blount | 25 | 25 | 23 | 84 | 48 | 73 |
| Bradley | 23 | 27 | 24 | 88 | 53 | 67 |
| Campbell | 25 | 25 | 23 | 70 | 54 | 73 |
| Cannon | 28 | 30 | 26 | 80 | 59 | 78 |
| Carroll | 22 | 26 | 21 | 80 | 41 | 72 |
| Carter | 19 | 21 | 19 | 96 | 36 | 62 |
| Cheatham | 24 | 27 | 25 | 76 | 34 | 79 |
| Chester | 21 | 26 | 22 | 83 | 40 | 64 |
| Claiborne | 25 | 27 | 25 | 83 | 54 | 68 |
| Clay | 25 | 27 | 22 | 84 | 32 | 76 |
| Cocke | 22 | 24 | 22 | 88 | 46 | 70 |
| Coffee | 26 | 28 | 22 | 65 | 52 | 68 |
| Crockett | 20 | 26 | 20 | 61 | 30 | 60 |
| Cumberland | 22 | 24 | 18 | 82 | 48 | 62 |
| Davidson | 25 | 25 | 24 | 83 | 55 | 68 |
| Decatur | 24 | 32 | 23 | 74 | 48 | 79 |
| DeKalb | 27 | 29 | 26 | 77 | 48 | 74 |
| Dickson | 25 | 26 | 24 | 77 | 37 | 68 |
| Dyer | 22 | 27 | 23 | 71 | 38 | 65 |
| Fayette | 17 | 19 | 16 | 54 | 38 | 50 |
| Fentress | 21 | 22 | 18 | 55 | 46 | 61 |
| Franklin | 24 | 27 | 24 | 73 | 48 | 76 |
| Gibson | 22 | 30 | 20 | 72 | 34 | 68 |
| Giles | 25 | 27 | 21 | 78 | 47 | 67 |
| Grainger | 27 | 27 | 26 | 85 | 50 | 74 |
| Greene | 28 | 28 | 27 | 94 | 59 | 80 |
| Grundy | 23 | 21 | 21 | 68 | 48 | 64 |
| Hamblen | 25 | 28 | 24 | 84 | 60 | 73 |

continued -

TABLE II

AVERAGE NUMBER OF CHICKENS PER FARM AND AVERAGE PRODUCTION PER LAYER IN FLOCKS OF UNDER 50 LAYERS, BY COUNTIES, TENNESSEE, 1930, 1935 AND 1940 (continued)

| | Average Number of Chickens Per Farm | | | Average Production Per Layer | | |
|---|---|---|---|---|---|---|
| County | 1930 | 1935 | 1940 | 1930 | 1935 | 1940 |
| Hamilton | 23 | 25 | 22 | 84 | 44 | 71 |
| Hancock | 26 | 27 | 25 | 78 | 52 | 76 |
| Hardeman | 19 | 22 | 16 | 74 | 42 | 65 |
| Hardin | 23 | 29 | 22 | 83 | 38 | 68 |
| Hawkins | 26 | 28 | 25 | 95 | 49 | 61 |
| Haywood | 17 | 19 | 16 | 73 | 34 | 62 |
| Henderson | 23 | 26 | 23 | 89 | 52 | 80 |
| Henry | 24 | 27 | 22 | 77 | 37 | 73 |
| Hickman | 27 | 28 | 24 | 83 | 29 | 77 |
| Houston | 26 | 26- | 24 | 73 | 43 | 68 |
| Humphreys | 25 | 28 | 25 | 72 | 52 | 84 |
| Jackson | 26 | 28 | 26 | 73 | 43 | 65 |
| Jefferson | 26 | 28 | 27 | 92 | 49 | 74 |
| Johnson | 21 | 22 | 21 | 80 | 61 | 54 |
| Knox | 23 | 24 | 22 | 85 | 54 | 64 |
| Lake | 20 | 28 | 24 | 98 | 35 | 66 |
| Lauderdale | 18 | 21 | 19 | 72 | 35 | 60 |
| Lawrence | 23 | 26 | 23 | 83 | 36 | 84 |
| Lewis | 24 | 26 | 19 | 76 | 56 | 80 |
| Lincoln | 25 | 28 | 25 | 70 | 49 | 80 |
| Loudon | 25 | 26 | 24 | 94 | 65 | 71 |
| McMinn | 25 | 28 | 25 | 97 | 47 | 77 |
| McNairy | 21 | 26 | 22 | 80 | 56 | 94 |
| Macon | 27 | 28 | 27 | 73 | 37 | 65 |
| Madison | 19 | 23 | 18 | 84 | 44 | 54 |
| Marion | 24 | 24 | 27 | 96 | 38 | 72 |
| Marshall | 29 | 29 | 28 | 95 | 41 | 82 |
| Maury | 26 | 28 | 26 | 102 | 41 | 79 |
| Meigs | 28 | 29 | 27 | 95 | 41 | 80 |
| Monroe | 23 | 25 | 24 | 85 | 43 | 78 |
| Montgomery | 22 | 24 | 32 | 71 | 41 | 76 |
| Moore | 27 | 28 | 27 | 83 | 46 | 83 |

continued -

TABLE II

AVERAGE NUMBER OF CHICKENS PER FARM AND AVERAGE PRODUCTION PER LAYER IN FLOCKS OF UNDER 50 LAYERS, BY COUNTIES, TENNESSEE, 1930, 1935 AND 1940 (continued)

| | Average Number of Chickens Per Farm | | | Average Production Per Layer | | |
|---|---|---|---|---|---|---|
| County | 1930 | 1935 | 1940 | 1930 | 1935 | 1940 |
| Morgan | 22 | 25 | 20 | 103 | 38 | 73 |
| Obion | 25 | 28 | 24 | 78 | 38 | 78 |
| Overton | 24 | 26 | 22 | 78 | 35 | 62 |
| Perry | 24 | 47 | 24 | 84 | 22 | 92 |
| Pickett | 25 | 28 | 26 | 86 | 36 | 61 |
| Polk | 24 | 25 | 23 | 76 | 70 | 65 |
| Putnam | 25 | 26 | 22 | 77 | 26 | 55 |
| Rhea | 24 | 24 | 24 | 80 | 38 | 76 |
| Roane | 26 | 24 | 24 | 98 | 46 | 90 |
| Robertson | 23 | 25 | 23 | 79 | 50 | 70 |
| Rutherford | 25 | 26 | 25 | 82 | 46 | 66 |
| Scott | 25 | 22 | 21 | 74 | 32 | 76 |
| Sequatchie | 22 | 23 | 22 | 98 | 59 | 46 |
| Sevier | 26 | 27 | 24 | 70 | 50 | 84 |
| Shelby | 18 | 20 | 18 | 70 | 48 | 65 |
| Smith | 29 | 29 | 28 | 78 | 42 | 65 |
| Stewart | 23 | 27 | 24 | 85 | 38 | 76 |
| Sullivan | 26 | 27 | 24 | 97 | 40 | 74 |
| Sumner | 25 | 26 | 25 | 96 | 52 | 76 |
| Tipton | 20 | 23 | 21 | 73 | 37 | 64 |
| Trousdale | 26 | 26 | 28 | 65 | 25 | 72 |
| Unicoi | 17 | 23 | 18 | 77 | 53 | 68 |
| Union | 27 | 29 | 26 | 92 | 61 | 76 |
| Van Buren | 24 | 25 | 25 | 71 | 35 | 74 |
| Warren | 28 | 28 | 25 | 89 | 48 | 84 |
| Washington | 27 | 26 | 25 | 92 | 49 | 79 |
| Wayne | 21 | 26 | 25 | 64 | 28 | 71 |
| Weakley | 24 | 28 | 22 | 76 | 42 | 64 |
| White | 25 | 28 | 25 | 88 | 47 | 90 |
| Williamson | 27 | 27 | 25 | 82 | 44 | 67 |
| Wilson | 28 | 29 | 27 | 104 | 47 | 71 |

Source: United States Census of Agriculture, 1940

TABLE III

AVERAGE NUMBER OF CHICKENS PER FARM AND AVERAGE PRODUCTION PER LAYER IN FLOCKS OF 50-99 LAYERS, BY COUNTIES, TENNESSEE, 1930, 1935 AND 1940

| County | Average Number of Chickens Per Farm | | | Average Production Per Layer | | |
|---|---|---|---|---|---|---|
| | 1930 | 1935 | 1940 | 1930 | 1935 | 1940 |
| Anderson | 63 | 62 | 61 | 94 | 60 | 68 |
| Bedford | 66 | 65 | 64 | 80 | 58 | 65 |
| Benton | 62 | 60 | 61 | 70 | 40 | 66 |
| Bledsoe | 64 | 62 | 62 | 73 | 47 | 74 |
| Blount | 61 | 62 | 61 | 76 | 47 | 68 |
| Bradley | 62 | 61 | 60 | 78 | 50 | 67 |
| Campbell | 61 | 60 | 61 | 67 | 55 | 74 |
| Cannon | 66 | 66 | 64 | 79 | 38 | 78 |
| Carroll | 61 | 60 | 60 | 66 | 38 | 59 |
| Carter | 60 | 60 | 59 | 82 | 36 | 55 |
| Cheatham | 64 | 61 | 60 | 71 | 31 | 70 |
| Chester | 59 | 59 | 60 | 84 | 34 | 56 |
| Claiborne | 63 | 62 | 61 | 79 | 56 | 64 |
| Clay | 67 | 65 | 64 | 83 | 29 | 59 |
| Cocke | 65 | 64 | 62 | 86 | 44 | 64 |
| Coffee | 64 | 65 | 63 | 60 | 53 | 64 |
| Crockett | 60 | 61 | 59 | 52 | 29 | 53 |
| Cumberland | 62 | 59 | 59 | 77 | 54 | 66 |
| Davidson | 63 | 62 | 61 | 79 | 54 | 68 |
| Decatur | 60 | 61 | 61 | 56 | 43 | 71 |
| DeKalb | 66 | 65 | 64 | 78 | 52 | 72 |
| Dickson | 61 | 61 | 62 | 72 | 37 | 67 |
| Dyer | 61 | 62 | 61 | 58 | 36 | 60 |
| Fayette | 59 | 59 | 60 | 53 | 43 | 50 |
| Fentress | 62 | 62 | 61 | 41 | 38 | 56 |
| Franklin | 63 | 62 | 62 | 66 | 47 | 72 |
| Gibson | 61 | 62 | 60 | 58 | 32 | 63 |
| Giles | 64 | 63 | 62 | 74 | 47 | 68 |
| Grainger | 62 | 62 | 61 | 78 | 52 | 70 |
| Greene | 64 | 63 | 63 | 89 | 59 | 79 |
| Grundy | 64 | 62 | 63 | 65 | 54 | 67 |
| Hamblen | 63 | 62 | 61 | 77 | 62 | 68 |

continued -

TABLE III

AVERAGE NUMBER OF CHICKENS PER FARM AND AVERAGE PRODUCTION PER LAYER IN FLOCKS OF 50-99 LAYERS, BY COUNTIES, TENNESSEE, 1930, 1935 AND 1940 (continued)

| | Average Number of Chickens Per Farm | | | Average Production Per Layer | | |
|---|---|---|---|---|---|---|
| County | 1930 | 1935 | 1940 | 1930 | 1935 | 1940 |
| Hamilton | 61 | 60 | 60 | 78 | 42 | 62 |
| Hancock | 63 | 63 | 62 | 73 | 52 | 74 |
| Hardeman | 59 | 59 | 84 | 72 | 43 | 42 |
| Hardin | 60 | 61 | 61 | 66 | 36 | 66 |
| Hawkins | 63 | 63 | 62 | 78 | 50 | 65 |
| Haywood | 60 | 60 | 58 | 62 | 36 | 62 |
| Henderson | 61 | 61 | 62 | 70 | 49 | 54 |
| Henry | 62 | 60 | 61 | 53 | 40 | 53 |
| Hickman | 65 | 64 | 63 | 61 | 29 | 54 |
| Houston | 64 | 61 | 61 | 72 | 40 | 60 |
| Humphreys | 64 | 63 | 64 | 65 | 46 | 74 |
| Jackson | 66 | 67 | 65 | 55 | 40 | 61 |
| Jefferson | 64 | 63 | 62 | 88 | 53 | 77 |
| Johnson | 61 | 60 | 61 | 76 | 41 | 58 |
| Knox | 62 | 60 | 60 | 73 | 54 | 60 |
| Lake | 57 | 61 | 60 | 78 | 28 | 50 |
| Lauderdale | 60 | 61 | 59 | 56 | 32 | 52 |
| Lawrence | 62 | 62 | 73 | 64 | 32 | 60 |
| Lewis | 64 | 61 | 61 | 79 | 44 | 74 |
| Lincoln | 64 | 64 | 63 | 67 | 53 | 66 |
| Loudon | 61 | 60 | 61 | 83 | 59 | 66 |
| McMinn | 61 | 61 | 61 | 80 | 49 | 70 |
| McNairy | 59 | 59 | 60 | 74 | 50 | 77 |
| Macon | 65 | 63 | 62 | 60 | 37 | 54 |
| Madison | 57 | 60 | 60 | 68 | 43 | 52 |
| Marion | 62 | 60 | 61 | 72 | 40 | 66 |
| Marshall | 67 | 65 | 64 | 80 | 41 | 74 |
| Maury | 64 | 63 | 64 | 86 | 38 | 74 |
| Meigs | 64 | 62 | 62 | 70 | 40 | 74 |
| Monroe | 60 | 60 | 62 | 76 | 48 | 67 |
| Montgomery | 59 | 61 | 61 | 66 | 40 | 60 |
| Moore | 65 | 65 | 64 | 67 | 52 | 83 |

continued -

TABLE III

AVERAGE NUMBER OF CHICKENS PER FARM AND AVERAGE PRODUCTION PER LAYER IN FLOCKS OF 50-99 LAYERS, BY COUNTIES, TENNESSEE, 1930, 1935 AND 1940 (continued)

| County | Average Number of Chickens Per Farm | | | Average Production Per Layer | | |
|---|---|---|---|---|---|---|
| | 1930 | 1935 | 1940 | 1930 | 1935 | 1940 |
| Morgan | 60 | 70 | 60 | 88 | 50 | 79 |
| Obion | 61 | 63 | 62 | 61 | 36 | 62 |
| Overton | 65 | 64 | 65 | 53 | 34 | 65 |
| Perry | 62 | 64 | 62 | 50 | 32 | 70 |
| Pickett | 64 | 65 | 62 | 66 | 36 | 61 |
| Polk | 61 | 63 | 61 | 68 | 69 | 73 |
| Putnam | 65 | 64 | 62 | 59 | 31 | 50 |
| Rhea | 62 | 62 | 62 | 89 | 40 | 82 |
| Roane | 62 | 62 | 62 | 91 | 46 | 79 |
| Robertson | 56 | 59 | 60 | 68 | 49 | 68 |
| Rutherford | 64 | 64 | 64 | 76 | 54 | 65 |
| Scott | 58 | 61 | 60 | 68 | 36 | 77 |
| Sequatchie | 64 | 63 | 61 | 91 | 55 | 54 |
| Sevier | 62 | 63 | 63 | 77 | 50 | 72 |
| Shelby | 62 | 60 | 61 | 65 | 49 | 60 |
| Smith | 65 | 64 | 65 | 64 | 38 | 59 |
| Stewart | 61 | 63 | 60 | 76 | 32 | 58 |
| Sullivan | 63 | 63 | 62 | 92 | 41 | 66 |
| Sumner | 61 | 62 | 61 | 73 | 53 | 66 |
| Tipton | 60 | 59 | 59 | 61 | 40 | 58 |
| Trousdale | 66 | 64 | 62 | 34 | 25 | 60 |
| Unicoi | 59 | 61 | 59 | 73 | 65 | 56 |
| Union | 63 | 62 | 60 | 78 | 49 | 67 |
| Van Buren | 65 | 61 | 62 | 65 | 35 | 60 |
| Warren | 65 | 64 | 63 | 78 | 47 | 71 |
| Washington | 63 | 63 | 61 | 76 | 50 | 74 |
| Wayne | 63 | 60 | 62 | 62 | 26 | 52 |
| Weakley | 62 | 61 | 61 | 61 | 35 | 55 |
| White | 65 | 64 | 64 | 64 | 52 | 59 |
| Williamson | 65 | 64 | 62 | 72 | 48 | 70 |
| Wilson | 66 | 65 | 64 | 89 | 53 | 73 |

Source: United States Census of Agriculture, 1940

TABLE IV

AVERAGE NUMBER OF CHICKENS PER FARM AND AVERAGE PRODUCTION PER LAYER IN FLOCKS OF OVER 100 LAYERS, BY COUNTIES, TENNESSEE, 1930, 1935, AND 1940

| County | Average Number of Chickens Per Farm | | | Average Production Per Layer | | |
|---|---|---|---|---|---|---|
| | 1930 | 1935 | 1940 | 1930 | 1935 | 1940 |
| Anderson | 148 | 134 | 132 | 100 | 58 | 76 |
| Bedford | 132 | 131 | 127 | 74 | 53 | 64 |
| Benton | 129 | 120 | 124 | 28 | 44 | 65 |
| Bledsoe | 146 | 149 | 137 | 84 | 48 | 62 |
| Blount | 141 | 135 | 106 | 83 | 43 | 71 |
| Bradley | 140 | 119 | 125 | 65 | 52 | 72 |
| Campbell | 119 | 116 | 118 | 78 | 50 | 84 |
| Cannon | 132 | 138 | 128 | 108 | 55 | 74 |
| Carroll | 124 | 138 | 167 | 88 | 48 | 96 |
| Carter | 167 | 132 | 130 | 107 | 48 | 65 |
| Cheatham | 155 | 121 | 114 | 71 | 29 | 64 |
| Chester | 126 | 116 | 125 | 86 | 37 | 68 |
| Claiborne | 129 | 120 | 126 | 76 | 47 | 67 |
| Clay | 124 | 131 | 127 | 83 | 38 | 61 |
| Cocke | 146 | 128 | 131 | 86 | 54 | 62 |
| Coffee | 133 | 137 | 129 | 76 | 48 | 61 |
| Crockett | 124 | 123 | 127 | 60 | 29 | 48 |
| Cumberland | 179 | 133 | 159 | 80 | 54 | 53 |
| Davidson | 167 | 140 | 155 | 79 | 58 | 67 |
| Decatur | 123 | 138 | 115 | 98 | 44 | 71 |
| DeKalb | 134 | 138 | 130 | 72 | 44 | 64 |
| Dickson | 141 | 118 | 122 | 80 | 38 | 66 |
| Dyer | 163 | 128 | 134 | 92 | 38 | 70 |
| Fayette | 123 | 132 | 158 | 55 | 49 | 62 |
| Fentress | 124 | 144 | 141 | 79 | 43 | 59 |
| Franklin | 129 | 133 | 146 | 70 | 55 | 74 |
| Gibson | 144 | 117 | 123 | 80 | 32 | 72 |
| Giles | 106 | 127 | 164 | 77 | 47 | 49 |
| Grainger | 126 | 126 | 131 | 83 | 46 | 71 |
| Greene | 167 | 143 | 143 | 120 | 61 | 78 |
| Grundy | 178 | 133 | 156 | 83 | 70 | 56 |
| Hamblen | 167 | 133 | 148 | 86 | 50 | 76 |

continued -

TABLE IV

AVERAGE NUMBER OF CHICKENS PER FARM AND AVERAGE PRODUCTION PER LAYER IN FLOCKS OF OVER 100 LAYERS, BY COUNTIES, TENNESSEE, 1930, 1935, AND 1940 (continued)

| County | Average Number of Chickens Per Farm | | | Average Production Per Layer | | |
|---|---|---|---|---|---|---|
| | 1930 | 1935 | 1940 | 1930 | 1935 | 1940 |
| Hamilton | 199 | 129 | 126 | 90 | 46 | 72 |
| Hancock | 123 | 129 | 126 | 76 | 54 | 65 |
| Hardeman | 174 | 161 | 129 | 76 | 43 | 92 |
| Hardin | 126 | 111 | 118 | 89 | 37 | 73 |
| Hawkins | 119 | 134 | 141 | 97 | 55 | 73 |
| Haywood | 154 | 113 | 130 | 85 | 37 | 58 |
| Henderson | 140 | 117 | 136 | 79 | 47 | 73 |
| Henry | 168 | 114 | 140 | 80 | 54 | 58 |
| Hickman | 137 | 134 | 127 | 68 | 29 | 58 |
| Houston | 144 | 131 | 148 | 66 | 30 | 67 |
| Humphreys | 129 | 122 | 126 | 55 | 37 | 50 |
| Jackson | 127 | 135 | 127 | 56 | 35 | 60 |
| Jefferson | 141 | 192 | 144 | 86 | 40 | 83 |
| Johnson | 146 | 130 | 130 | 75 | 49 | 54 |
| Knox | 191 | 142 | 161 | 79 | 54 | 80 |
| Lake | 184 | 196 | 201 | 50 | 11 | 74 |
| Lauderdale | 169 | 121 | 113 | 67 | 32 | 54 |
| Lawrence | 134 | 124 | 131 | 64 | 42 | 66 |
| Lewis | 132 | 132 | 150 | 85 | 42 | 73 |
| Lincoln | 243 | 138 | 135 | 67 | 55 | 55 |
| Loudon | 126 | 129 | 148 | 85 | 64 | 61 |
| McMinn | 141 | 130 | 128 | 79 | 52 | 73 |
| McNairy | 118 | 156 | 128 | 79 | 30 | 92 |
| Macon | 126 | 134 | 133 | 67 | 47 | 65 |
| Madison | 139 | 127 | 208 | 85 | 44 | 83 |
| Marion | 133 | 135 | 134 | 74 | 44 | 59 |
| Marshall | 133 | 132 | 125 | 73 | 46 | 68 |
| Maury | 138 | 130 | 129 | 77 | 44 | 76 |
| Meigs | 123 | 134 | 130 | 65 | 31 | 74 |
| Monroe | 133 | 132 | 138 | 78 | 52 | 71 |
| Montgomery | 148 | 122 | 147 | 66 | 38 | 56 |
| Moore | 129 | 128 | 124 | 71 | 73 | 72 |

continued -

TABLE IV

AVERAGE NUMBER OF CHICKENS PER FARM AND AVERAGE PRODUCTION PER LAYER IN FLOCKS OF OVER 100 LAYERS, BY COUNTIES, TENNESSEE, 1930, 1935 AND 1940 (continued)

| County | Average Number of Chickens Per Farm | | | Average Production Per Layer | | |
|---|---|---|---|---|---|---|
| | 1930 | 1935 | 1940 | 1930 | 1935 | 1940 |
| Morgan | 182 | 135 | 159 | 101 | 58 | 56 |
| Obion | 132 | 131 | 133 | 59 | 35 | 61 |
| Overton | 125 | 123 | 116 | 55 | 31 | 65 |
| Perry | 122 | 123 | 116 | 52 | 36 | 78 |
| Pickett | 113 | 121 | 123 | 54 | 35 | 56 |
| Polk | 173 | 131 | 142 | 80 | 62 | 73 |
| Putnam | 124 | 128 | 124 | 58 | 35 | 54 |
| Rhea | 118 | 142 | 125 | 78 | 50 | 73 |
| Roane | 144 | 144 | 137 | 85 | 47 | 59 |
| Robertson | 135 | 129 | 120 | 56 | 47 | 64 |
| Rutherford | 132 | 134 | 128 | 76 | 59 | 65 |
| Scott | 124 | 135 | 108 | 82 | 37 | 94 |
| Sequatchie | 145 | 134 | 125 | 76 | 54 | 58 |
| Sevier | 128 | 126 | 126 | 72 | 48 | 66 |
| Shelby | 223 | 230 | 231 | 84 | 76 | 91 |
| Smith | 134 | 113 | 125 | 55 | 38 | 61 |
| Stewart | 126 | 128 | 123 | 88 | 36 | 60 |
| Sullivan | 174 | 135 | 144 | 85 | 46 | 76 |
| Sumner | 139 | 132 | 130 | 80 | 56 | 64 |
| Tipton | 126 | 128 | 121 | 67 | 49 | 61 |
| Trousdale | 129 | 127 | 142 | 48 | 31 | 65 |
| Unicoi | 114 | 127 | 188 | 84 | 80 | 14 |
| Union | 133 | 125 | 124 | 62 | 50 | 71 |
| Van Buren | 121 | 137 | 119 | 55 | 25 | 67 |
| Warren | 128 | 127 | 141 | 76 | 47 | 79 |
| Washington | 187 | 161 | 176 | 96 | 64 | 91 |
| Wayne | 117 | 108 | 115 | 61 | 32 | 55 |
| Weakley | 131 | 126 | 140 | 68 | 35 | 85 |
| White | 119 | 123 | 127 | 72 | 52 | 62 |
| Williamson | 145 | 135 | 135 | 70 | 46 | 70 |
| Wilson | 149 | 138 | 131 | 77 | 54 | 74 |

Source: United States Census of Agriculture, 1940