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FARM PRODUCTION AND CONSUMPTION OF POULTRY IN KANSAS



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SUMMARY AND CONCLUSIONS

The Leghorn breed is the most widespread in number of flocks and total number of chickens on the Kansas farms in the nine representative counties in this study. Other lightweight breeds are few in number. There were more flocks of the American breeds than of any other class. The average flock on most farms contained approximately 100 hens and consequently did not compete seriously with other enterprises for the time of the operator.

At present most farmers are hatching their own chicks with an increasing proportion buying baby chicks or having their eggs custom hatched. Most of the chicks are hatched in March, April, and May with the hatchings in other early months of little importance.

The loss of chickens and baby chicks is high. Approximately 23 per cent of all chickens over one month of age are lost by death annually and one-fifth of all baby chicks die before they are one month old. The proportion of the baby chicks lost increases as the season advances.

The annual per capita consumption of eggs on the farms in the study was 33 dozen. There was an average of 4.8 persons per farm during the year. The total egg consumption on the farm was 166 dozen. The farm consumption of poultry was 66 chickens or $1\frac{3}{4}$ for each person. The value of poultry and eggs used for food was approximately \$100 for each farm or \$20.77 for each person.

The total value of poultry and eggs sold and used for food on the average farm was \$569.90. This indicates that on Kansas farms the poultry enterprise is of major importance. The receipts from eggs were approximately two-thirds and from poultry, one-third of the total poultry receipts.

The heaviest period of egg and poultry production is in the spring and early summer months. The period of heavy egg sales corresponds with that of heavy egg production, but the heaviest sales of poultry are in the late summer and fall months.

The average production per hen in the flocks studied was 120 eggs. This is on the basis of hens laying throughout the whole year and indicates that the usual figure given for eggs produced per hen in one year is low. Data from reports made available for comparative purposes by the Division of Crop and Live Stock Estimates of the United States Department of Agriculture, indicate that 10 dozen eggs per hen per year is approximately correct when figuring a full years time per hen.

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FARM PRODUCTION AND CONSUMPTION OF POULTRY IN KANSAS¹

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INTRODUCTION

The poultry industry is rapidly changing from a side line to an enterprise of major importance on most Kansas farms. The number of poultry on farms has increased from 15,736,038 in 1910 with a value of \$7,033,469 to 21,609,776 in 1925 valued at \$17,161,000. The estimated number on hand January 1, 1929, was 22,409,000, valued at \$18,151,000. The value of poultry and eggs sold has increased from \$9,563,362 in 1909 to \$24,497,388 for the year ending March 1, 1929.³

SOURCES OF DATA

The data contained in this bulletin were obtained in a study of farms in nine Kansas counties for the period March 1, 1928, to March 1, 1929.⁴ The purpose of the study was to analyze statistically the poultry industry in representative counties of the state for a period of 12 months. In this study information was secured which aids in answering such questions as, What changes in size and composition of the farm flock may be expected to occur during the year? How much does the poultry enterprise contribute to the farm income? What does it contribute in food for the family? What is the rate of egg production and what disposition is made of the eggs produced? What disposition is made of chicks hatched on the farm and what are the sources of chickens grown on the farm?

Statistics giving numbers and values of poultry are gathered annually by the Kansas assessors, and similar information is collected as a part of the federal census. Such information, although of great value, does not reflect the changes that occur from month to month in the industry. In this study data covering individual farm poultry flocks were secured monthly in nine Kansas counties. Changes in the size and composition of flocks, the source of additions to the flock, the rate of egg production, the disposition and consumption of poultry and eggs, and the hatching of baby chicks were given particular attention.

For convenience, the United States Department of Agriculture has divided Kansas into nine crop and live-stock reporting districts.

1. Contribution No. 68 from the Department of Agricultural Economics in cooperation with the Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics, United States Department of Agriculture, and the Kansas State Board of Agriculture.

2. Agricultural statistician, Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics, United States Department of Agriculture.

3. Reports of Kansas State Board of Agriculture.

4. Reports of Kansas State Board of Agriculture and United States Department of Agriculture.

One representative county in each district was chosen for this study. (Fig. 1.) Rawlins, Ness, and Gray counties represent the western wheat belt and Sumner and McPherson counties the central wheat belt. Jewell and Marshall counties typify the corn belt, and Franklin and Wilson counties, the general farming section. Wilson county borders on the Bluestem region of the state. Wheat is the leading crop in the first five counties named, with corn as second in importance. Hogs are important in Rawlins county and grain sor-

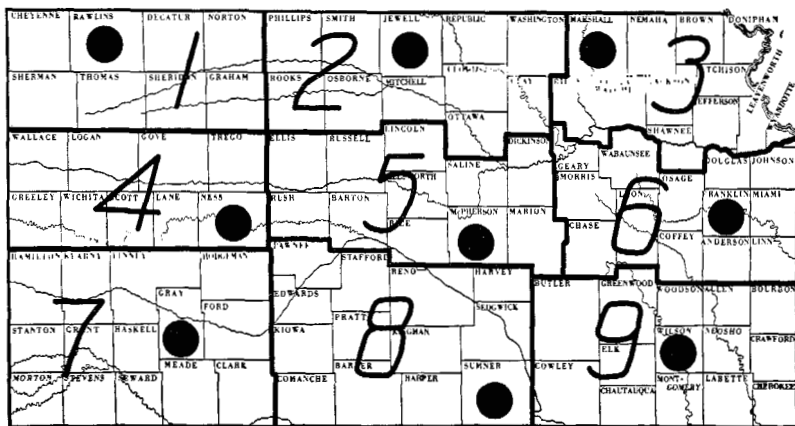


FIG. 1.—Map of Kansas showing the nine crop-reporting districts as used by the United States Department of Agriculture and the nine counties included in this study.

ghums in Gray county. Corn is the chief crop in the other counties. Considerable alfalfa and hogs are produced in Marshall and Jewell counties. Many hogs are produced in Franklin county, while in Wilson county hay is the second enterprise in importance.

IMPORTANCE OF POULTRY INDUSTRY IN KANSAS

The importance of the poultry industry in these nine counties and in the entire state is indicated in Table I.

The figures for 1929 and 1925 are not directly comparable since the 1929 figures include only the hens while the 1925 figures included all chickens. The usual farm flock includes 100 to 125 chickens rearing from one to two dollars in annual cash sales per hen.

BREEDS OF CHICKENS KEPT

The number of chickens in the 399 flocks included in the study totaled 92,341. Of the various breeds kept on these farms, the Leghorn ranked first in numbers with 49,924, or 53.9 per cent of the total number as shown in Table II. The Plymouth Rock breed

TABLE I.—AVERAGE NUMBER AND VALUE OF POULTRY ON FARMS IN NINE KANSAS COUNTIES AND FOR THE ENTIRE STATE, 1929.

ITEM.	Franklin county.	Gray county.	Jewell county.	McPherson county.	Marshall county.	Ness county.	Rawlins county.	Sumner county.	Wilson county.	Entire state.
Average number of hens in laying flock, Mar. 1, 1929 (a).....	119	84	105	152	127	96	80	85	87	96
Value of hens per flock March 1, 1929 (b).....	\$96	\$68	\$85	\$123	\$103	\$78	\$65	\$69	\$70	\$78
Egg and poultry sales for the year ending March 1, 1929.....	200	116	168	244	195	131	92	132	140	148
Average number of chickens per farm, Jan. 1, 1925 (c).....	135	113	151	160	141	140	129	113	110	130
Dozen of eggs produced per farm, 1924 (d).....	635	469	546	755	534	573	470	538	451	562
Number chickens raised per farm, 1924 (d).....	163	163	165	213	190	184	158	183	145	175

(a) Based on quarterly report, Kansas State Board of Agriculture, December, 1929.

(b) Average January 1 value per head (U. S. D. A. Yearbook 1930, p. 940) times the number of hens per flock on March 1.

(c) U. S. Census of Agriculture, 1925, for Kansas, Table III.

(d) *Ibid.*

TABLE II.—LEADING BREEDS OF CHICKENS IN NUMBERS ON FARMS STUDIED.

COUNTY.	Number of flocks studied.	Ranking breed.		Second-place breed.		Third-place breed.	
		Name.	Number of flocks.	Name.	Number of flocks.	Name.	Number of flocks.
Franklin.....	69	Leghorn.....	34	Plymouth Rock.....	20	Rhode Island Red.....	9
Gray.....	26	Rhode Island Red.....	8	Leghorn.....	7	Orpington.....	5
Jewell.....	41	Leghorn.....	18	Plymouth Rock.....	8	Rhode Island Red.....	7
McPherson.....	63	Leghorn.....	22	Plymouth Rock.....	18	Rhode Island Red.....	11
Marshall.....	52	Leghorn.....	21	Plymouth Rock.....	10	Rhode Island Red.....	9
Ness.....	23	Rhode Island Red.....	10	Plymouth Rock.....	6	Leghorn.....	3
Rawlins.....	20	Leghorn.....	8	Plymouth Rock.....	5	Rhode Island Red.....	2
Sumner.....	63	Leghorn.....	22	Plymouth Rock.....	15	Rhode Island Red.....	11
Wilson.....	42	Leghorn.....	16	Plymouth Rock.....	13	Rhode Island Red.....	7
All flocks.....	399	Leghorn.....	151	Plymouth Rock.....	95	Rhode Island Red.....	74

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ranked second with 16,572, or 19.7 per cent of the total, and the Rhode Island Red breed was third with 13,650 birds, or 14.8 per cent. These three breeds included 86.8 per cent of all the chickens in the survey. Analysis, by counties, of the breeds kept showed the Leghorn ranking first in all but Ness and Gray counties where the Rhode Island Reds were the more numerous. The Plymouth Rock breed ranked second in number in eight of the nine counties.

The frequency of occurrence of the various classes and breeds of chickens as reported in the study is shown in Table III. When grouped under the headings of certified, standard bred, or mixed, it

TABLE III.—CLASSIFICATION AND BREEDS OF CHICKENS ON FARMS INCLUDED IN STUDY.

CLASS AND BREED.	Number of flocks.	Per cent of total chickens included.
American:		
Plymouth Rock.....	95	19.6
Rhode Island Red.....	74	14.7
Wyandotte.....	25	3.3
Total.....	194	37.6
Mediterranean:		
Leghorn.....	151	53.7
Minorca.....	7	1.4
Ancona.....	7	.6
Andalusian.....	2	.9
Total.....	167	56.6
English:		
Orpington.....	29	4.8
Asiatic:		
Langshan.....	4	0.6
Mixed breeds.....	5	0.4

was found that nearly 9,000, or 9.7 per cent of all chickens included, were certified. This is an evidence of the rapid growth and popularity of poultry certification work in Kansas. The White Plymouth Rock breed led in per cent of flocks certified with 26.5 per cent. The Orpingtons were second with 14.8 per cent, the Rhode Island Reds next with 13 per cent, the Wyandotte breed next with 7.4 per cent, and the Leghorns last with 5.3 per cent. The uniformly high quality of the flocks is shown by the fact that 80.7 per cent were reported as standard bred and only 19.3 per cent as mixed.

SIZE OF FARMS IN STUDY

No attempt was made to select flocks on farms of any certain size. The farms were selected at random. The average of all farms studied was 284 acres compared with the state average of 264 acres. The farms were larger in the western counties than in the central or

eastern counties. In Ness county 43 per cent of the farms were within the size group 260-499 acres. In Gray and Rawlins counties more than one-third were in the group 500-999 acres. In the other six counties there were more farms in the 100-174-acre group than in any other. This group contains the quarter section farm. This size group also contained the highest number of farms for all nine counties. The average size of farms varied from 158 acres in Franklin county to 578 acres in Rawlins county. The largest farm studied was a 3,760-acre ranch in Ness county and the smallest was a one-acre tract in Franklin county. There was a fairly normal frequency distribution between these limits. Table IV gives the average area and the average number of chickens for 318 farms for which information was available.

TABLE IV.—AVERAGE NUMBER OF CHICKENS PER FARM AND PER 100 ACRES IN FARM.

On 318 Kansas farms, January 1, 1929. (a)

COUNTY.	Number of flocks.	Average size of farm (acres).	Number of chickens per farm.	Number of chickens per 100 acres in farms.
Franklin.....	49	158	293	185
Gray.....	23	484	180	37
Jewell.....	39	236	229	97
McPherson.....	44	186	267	148
Marshall.....	41	258	272	105
Ness.....	28	536	196	37
Rawlins.....	23	578	228	39
Sumner.....	44	237	227	96
Wilson.....	27	196	252	129
Average.....		284	243	86

(a) Data on size of farm were not available for 81 farms.

SIZE OF FLOCKS IN STUDY

The United States Department of Agriculture defines a commercial flock as one having 400 or more hens and pullets of laying age on January 1. All flocks of 400 to 999 are classed as commercial flocks and those of 1,000 or more as specialized. No specialized flocks were included in this study. Out of a total of 47,000 reports concerning Kansas flocks received by the United States Department of Agriculture during the four-year period, 1925 to 1928, only 34 flocks were specialized. This indicates the relative unimportance of the extremely large flock in Kansas. During the same period, 1,508 reports, or 3.2 per cent of the total, were of commercial flocks. The United States Department of Agriculture records show a gradual increase in the number of commercial flocks in Kansas. In 1925,

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commercial flocks made up 2.3 per cent of all flocks reporting; in 1926, 2.9 per cent; in 1927, 3.8 per cent; and in 1928, 3.9 per cent.⁵

COMPARISON OF SIZE OF FLOCKS

On January 1, 1929, there was an average of 243 chickens on the farms included in the study, which was the low point for the year. (Table V.) The largest average number per flock reported for any month was 544 on June 1, 1928. The federal census of January 1, 1925, showed 131 chickens per farm for the average of these nine counties. The census figures and these reported in this study are not comparable, however, for in selecting flocks for the study only those of 100 hens or more were included.

The reports from 318 farms for January 1, 1929, were divided into five groups based on size. (Table V.) The smallest number of flocks was in the group 0 to 99 chickens. The largest number of flocks was in the 100 to 199 group, with 65 per cent of all flocks reporting. The 200 to 299 size group was next largest. The average number of chickens per farm on January 1, 1929, varied from 196 in Ness county to 293 in Franklin county.

From the January 1, 1925, federal census, certain counties were selected in which the number of flocks of various sizes was worked out. McPherson and Franklin counties were included in this study. In McPherson county 2.4 per cent of the flocks were in the 1 to 25 size group, 13.6 per cent in the 26 to 75 group, 45.3 per cent in the 76 to 175 group, 37.6 per cent in the 176 to 450 group, 1.1 per cent in the 451 to 900 group and no flocks larger than 900 chickens. In Franklin county 3.6 per cent of the flocks were in the 1 to 25 group, 18.8 per cent in the 26 to 75 group, 44.3 per cent in the 76 to 175 group, 32 per cent in the 176 to 450 group, 1.2 per cent in the 451 to 900 group and 0.1 of 1 per cent in group of 900 chickens or more.

The United States Department of Agriculture records for the four-year period, 1925 to 1928, showed a range in size in the average Kansas farm flock from 123 hens and pullets in 1926 to 127 in 1927. The reports on commercial flocks showed a variation from 462 hens and pullets per flock in 1925 to 479 in 1926.⁶ Considering all available evidence, it is concluded that the farm flock of less than 400 hens and pullets is, at present, and will be for some years to come, the dominating unit in both chicken and egg production in Kansas.

The number of chickens per unit of crop area was studied to see if there was any relation between acres per farm and size of flock. The largest number of chickens per unit of area was in the sections of more intensive farming. Franklin county, which is in the general farming area, had 185 chickens for each 100 acres of land. McPherson county, in the eastern edge of the wheat belt, had 148 chickens for each 100 acres and Ness and Gray counties, in the extensive wheat-producing areas, had only 37 chickens for each 100 acres. The average of all farms included in the study was 86 chickens for each 100 acres of land in farms.

5. Unpublished reports of the United States Department of Agriculture.

6. *Ibid.*

TABLE V.—DISTRIBUTION OF FLOCKS ON BASIS OF SIZE.

January 1, 1929.

SIZE GROUP.	Franklin county.	Gray county.	Jewell county.	McPherson county.	Marshall county.	Ness county.	Rawlins county.	Sumner county.	Wilson county.	Total (a).	Per cent in each group.
0- 99 hens.....	2	2	3	3	5	2	3	3	1	24	8
100-199 hens.....	11	12	16	15	11	13	10	18	10	116	37
200-299 hens.....	15	7	11	12	10	10	5	12	9	91	28
300-399 hens.....	12	1	6	8	6	3	.....	6	3	45	14
400 hens or more.....	9	1	3	6	9	.....	5	5	4	42	13
Total.....	49	23	39	44	41	28	23	44	27	318	100

(a) Two hundred seventy-six flocks or 86 per cent are classed as farm flocks, i. e., less than 400 hens, and 42 flocks are classed as commercial.

COMPOSITION OF FLOCKS

To establish a basis for determining the variation in composition of poultry flocks and the relative importance of the various units making up the flock, the following classification was made:

1. Hens, including all pullets and hens of laying age.
2. Mature roosters.
3. Baby chicks, under one month of age.
4. All other chickens not included in the first three groups.

The classification was made for the flock as it was on the last day of each month.

There was a marked difference in the composition of the average farm flock from month to month. (Fig. 2.) As was to be expected,

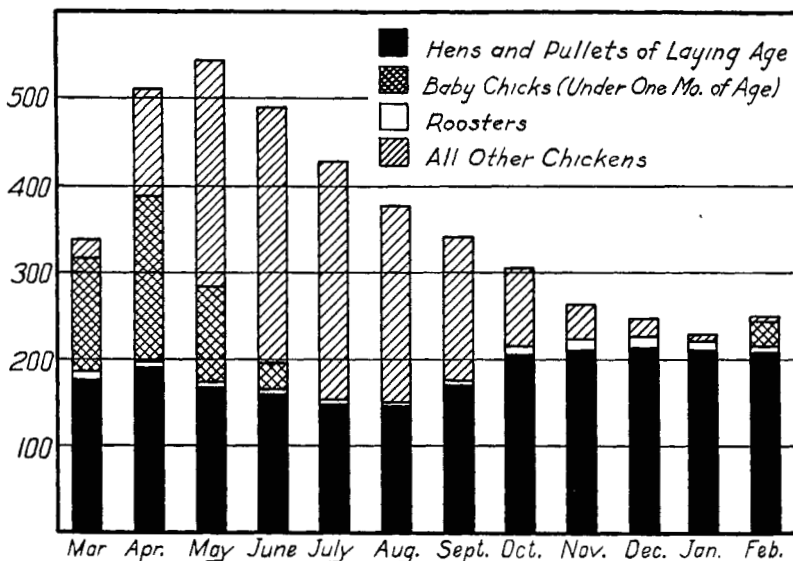


FIG. 2.—Monthly changes in the number and composition of poultry flocks on farms in nine Kansas counties, March, 1928, to February, 1929.

the number of mature birds in the average flock showed the least monthly and seasonal variation. Baby chicks, which are of importance only in the spring and early summer, constituted as high as 39 per cent of the total flock during the spring hatching season. The group of "all other" chickens, which are those more than one month of age but not yet sufficiently matured for laying or breeding purposes, varied from 3 per cent in January to 65 per cent in July.

HENS AND PULLETS IN FLOCK

The change in the size of the laying flock was gradual from December until September, but was rapid from September 1 till the end of December. The variation in numbers was from the high point

of 214 hens and pullets at the end of December down to 144 on September 1. This is a decrease from the high point of 33 per cent and an increase from the low point of 49 per cent. The average number of hens and pullets of laying age for the year was 181.

During the months of July and August considerable culling of old hens is practiced. Culling usually starts in June, but the heaviest culling occurs late in the summer. There is more culling in September than in the summer months just preceding, but there are enough early pullets beginning to lay to cause an increase by the end of the month in the size of flock as compared to July or August when no pullets are laying. The size of the laying flock may be increased either by the pullets coming into production or by the purchase of laying hens. During no month of the year did the purchases of mature chickens total more than 0.3 of 1 per cent of the total size of flock on hand, and only 7 mature chickens per 100 hens were purchased during the entire year.

The disposition of hens and pullets includes those marketed, those used for food on the farm, and losses by death. The marketing of this class of chickens was heaviest from July to October, when from 9 to 12 per cent each month of the total number of chickens on hand was sold. The average monthly sale for the year was 6.1 per cent of the total flock. A monthly average of 1.4 per cent of the flock was reported as used for food, but the number of hens and pullets consumed was relatively small. (See Table X.)

The number of chickens more than one month of age that died or were otherwise lost was a rather large total in the aggregate, but this loss was distributed rather evenly throughout the year. The loss was within narrow limits as the variation was from 1.3 per cent in November and December to 2.6 per cent in July. The average monthly loss was 1.9 per cent of all included in the class and totaled about 23 chickens for each 100 in the flock for the year. The average number lost varied from 3.3 chickens in December to 12.2 in July.

ROOSTERS

From December 1 to April 1 there were about 10 roosters kept per farm, or an average of 5 for each 100 hens. After the breeding and hatching season was over the number dropped sharply and from July to October, only 4 roosters per farm or 2 for each 100 hens were kept in the flocks. The number of roosters varied from 1 to 4 per cent of the total number of chickens in the average flock.

BABY CHICKS

Aside from exceptional cases, all baby chicks were hatched in the months of February to June, with 90 per cent of the hatching occurring in March, April, and May. During the months of March and April more than one-third of the average flock was composed of baby chicks less than one month of age.

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OTHER CHICKENS

The number of other chickens, those more than one month old but not yet of breeding or laying age, varied from 3 per farm on March 1 to 298 per farm on July 1. From June to October this class of chickens averaged 57 per cent of the total number in farm flocks.

EGG PRODUCTION

Records of the number of eggs produced by each flock were secured throughout the period March, 1928, to February, 1929, inclusive. These records were secured for the last day of each month together with the number of hens and pullets in the laying flock on the same day. This method has been used for years by the United States Department of Agriculture in securing material upon which to base estimates of crop and live-stock production in so far as it affects the poultry enterprise.

The number of eggs produced on the last day of the month was divided by the number of birds in the laying flock to determine per cent of production for the month. The total number of eggs produced on the 12 days was divided by the sum of layers for the same days to get the per cent of production for the year. The data secured on the flocks included in this study showed a production rate of 33 per cent. There was an average of 120 eggs laid per hen in the laying flock during the 12-month period of March, 1928, to February, 1929, inclusive.

For purposes of comparison, there were made available for use in this study, data secured by the Division of Crop and Live Stock Estimates, United States Department of Agriculture, with respect to egg production on Kansas farms.⁷ A summary of from 600 to 800 crop schedules received monthly by the Bureau and containing egg production information was available for the four-year period, 1925 to 1928. According to these data, the range of average daily production for farm flocks was from 31.5 eggs for each 100 hens each day during 1925 to 34 eggs each day during 1926 and 1928. The average egg production per hen per year was 115 in 1925, 124 in 1926, 122 in 1927, and 123 in 1928. From the data secured in the study and also from the reports to the Division of Crop and Live Stock Estimates it might be estimated that the average Kansas hen and pullet of laying age in farm flocks produces 120 eggs during the year.

The egg production of hens in commercial flocks (400 to 999 hens) differed somewhat in distribution, but was similar in total.⁸ (Fig. 3.) The commercial flocks showed a range in production from 29.6 per cent in 1925, to 34 per cent in 1926 and 1928. The rate of production in commercial flocks was usually higher except during the fall and early winter months when the farm flock production rate

7. Unpublished data of the United States Department of Agriculture.

8. *Ibid.*

was the higher. The reason for this difference seems to be that during the spring and summer months the commercial flocks are given better care and management, resulting in a higher rate of production. During August and September the commercial flocks are culled more closely than the average flock, reducing many of them to the farm-flock size group. Also some farm flocks have not been culled closely and have enough hens and pullets to place them in the commercial-flock group. Insufficient data are available to determine the full extent or effect of this intergroup movement upon either size of flock or the change in rate of egg production.

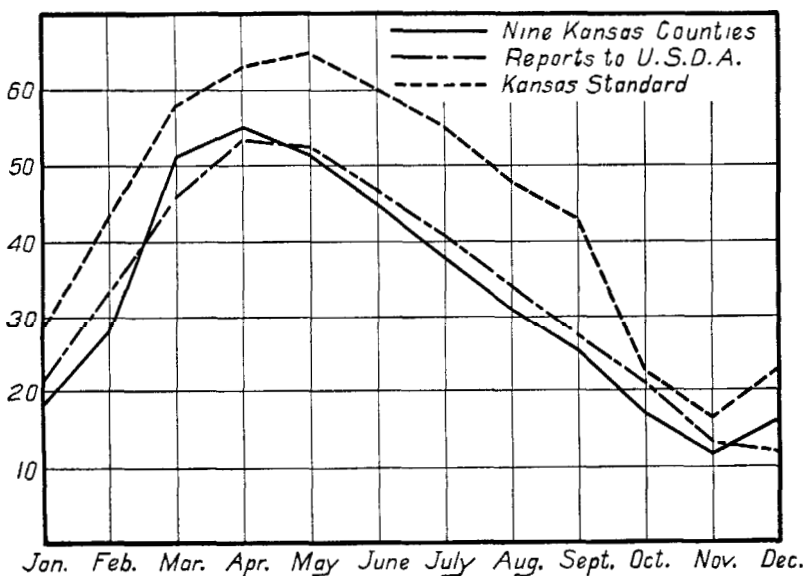


FIG. 3.—Average daily production per 100 hens and pullets in flocks of less than 400 birds.

FLUCTUATIONS IN RATE OF PRODUCTION

Egg production is not distributed uniformly throughout the year. There are certain pronounced seasonal fluctuations. In this study the peak of production was reached in April with a daily production of 56 eggs per 100 hens. The production then decreased gradually until November, when only 13 eggs per 100 hens were produced. On the basis of total yearly production per hen 71 per cent of the production came during the six-month period, March to August, inclusive. Figure 4 shows the per cent distribution of egg production by months and the average farm price of eggs in Kansas. There is an apparent inverse correlation between production and price, for as production increases the price drops and as production decreases the price tends to increase.

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It is generally accepted that the time of heaviest production is influenced more by temperature and feed than by other factors. An unusually mild winter or early spring encourages early production and results in flocks reaching their peak of production earlier than usual. Under such conditions the heavy production is not maintained during the normal peak months, but drops below the average of these months.

It is within the producer's power to influence the production of his flock. By systematic culling and improvement of breeding he may

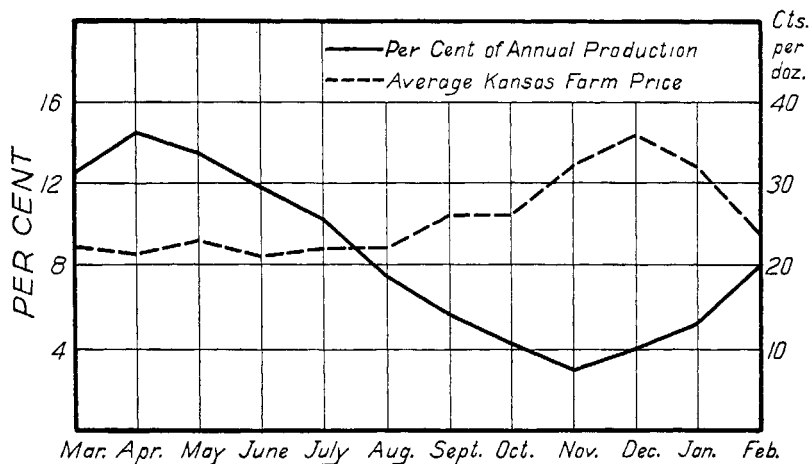


FIG. 4.—Per cent of annual egg production and average price paid farmers for eggs each month in nine Kansas counties, March, 1928, to February, 1929.

bring his flock to a higher level of production. By following better methods of feeding and flock management heavier production may be secured in the late fall and winter months, when production is usually light and prices are favorable.

DISPOSAL OF EGGS

On the usual farm there are three ways of disposing of eggs produced. Most of the eggs are sold, some are used for food, and the rest are used for hatching. (Fig. 5.) More eggs were sold from the farm each month from March to June, inclusive, than were used for food during the entire year. Most of the eggs sold go into market channels to be used as food. The remainder of the eggs sold go for hatching purposes. The proportion of the eggs sold each month varies, due to seasonal demand for hatching eggs and to variation in production. During March and April 80 per cent of the eggs produced were sold, while in January 90 per cent were sold. (Table VI and figure 5.)

TABLE VI.—DISPOSAL OF EGGS PRODUCED.

Average per farm for each month, March, 1928, to February, 1929, in nine Kansas counties.

MONTH.	Eggs produced per farm (dozen).	Eggs used for food (a).		Eggs used for hatching on farms.		Eggs sold.	
		Dozen.	Per cent.	Dozen.	Per cent.	Dozen.	Per cent.
1928.							
March.....	238	16.5	6.6	34.0	13.7	188	79.7
April.....	232	18.0	7.7	27.5	11.9	186	80.4
May.....	205	16.5	8.0	8.5	4.2	180	87.8
June.....	197	16.5	8.4	3.5	1.8	177	89.8
July.....	137	18.0	12.6			119	87.4
August.....	101	15.0	14.6			86	85.4
September.....	86	12.0	13.9			74	86.1
October.....	60	10.0	16.7			50	83.3
November.....	48	8.5	17.3			40	82.7
December.....	72	8.5	11.9			63	88.1
1929.							
January.....	98	10.0	10.2			88	89.8
February.....	117	10.5	8.5	.5	5.9	106	85.6
Total.....	1,591	160	10	74	4.7	1,357	85.3

(a) The consumption of eggs on these farms may be greater than on the usual farm as the flocks on these farms are larger than the average-size flock.

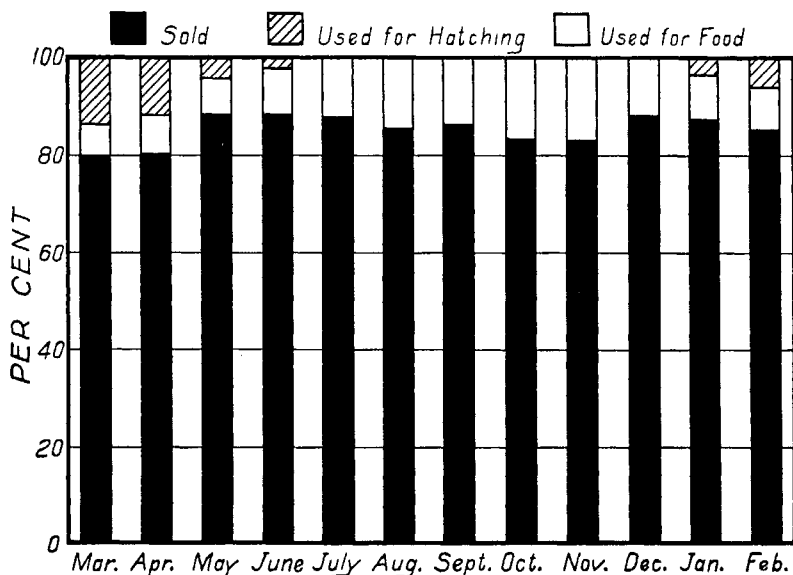


FIG. 5.—Per cent of annual egg production each month, sold, used for food, used for hatching, March, 1928, to February, 1929.

More eggs were marketed in March and April than in any other two months. The average number sold per farm varied from 40 dozen in November to 188 dozen in March. An average of 113 dozen per month, or 1,357 dozen per year, were sold from each farm. This quantity was 85 per cent of all eggs produced. On the basis of 120 eggs produced by each hen during the year, 102 eggs were sold, 14 eggs were used for food, and 4 eggs were used for hatching on the farm.

EGGS USED FOR FOOD

About one egg out of every ten produced was used on the farm for food. The proportion consumed each month varied from 6.6 per

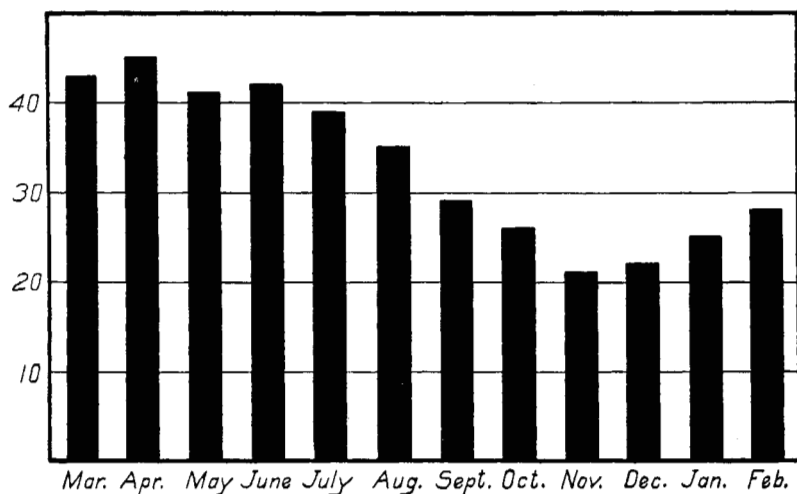


FIG. 6.—Average number of eggs per person used for food in nine Kansas counties, March, 1928, to February, 1929.

cent in March to 17.3 per cent in December, with an average of 10 per cent. This consumption accounted for 16.5 dozen in March, 8.5 dozen in December, and 160 dozen for the year. From March to August, the period of heavy egg production, the average farm consumption of eggs for food was 16.7 dozen per month, and from September to February it was 10 dozen. The per capita consumption of eggs was $33\frac{1}{3}$ dozen, or 400 eggs for the year. The lightest consumption per capita was in November with 21 eggs, and the highest was in April with 45 eggs. (Fig. 6.)

EGGS USED FOR HATCHING ON FARM

The hatching season on the farm is practically confined to the months of February to June, inclusive. (Figs. 7 and 8.) Of all chicks hatched, 90 per cent were hatched in March, April and May. During March and April a rather large part of eggs produced were used for hatching, 13.7 per cent in March and 11.9 per cent in April.

In February 5.9 per cent were so used, in May 4.2 per cent, and in June only 2 per cent. A total of 74 dozen eggs per farm were used for hatching purposes, or 40.5 dozen for each 100 hens and pullets of laying age.

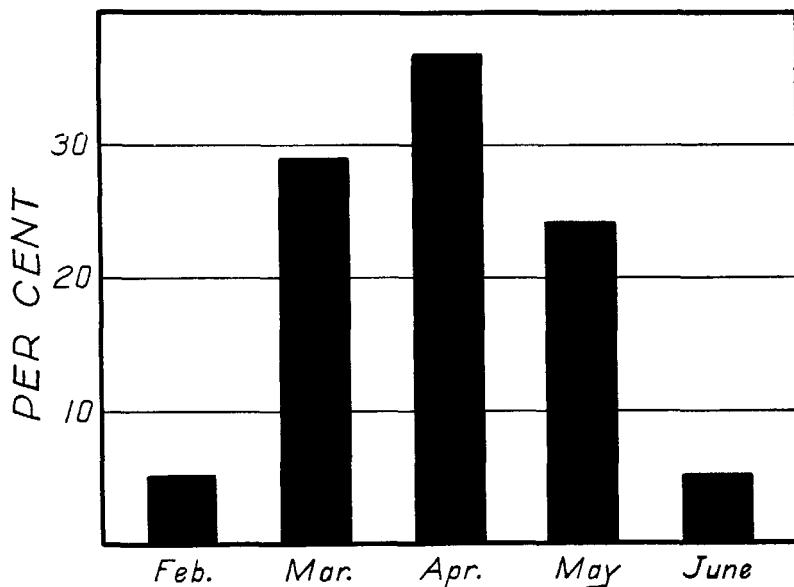


FIG. 7.—Per cent of the total annual hatch of chicks, hatched each month during hatching season on farms in nine Kansas counties, March, 1928, to February, 1929.

BABY CHICKS

The poultry study was started in March, 1928, so the data on baby chicks cover the months of March to June, 1928, and January and February, 1929. In only six of the 318 flocks reported for December were there any baby chicks reported, and in January in only six of 326 flocks reported were any baby chicks hatched as a part of the month's program. These six January reports averaged 140 chicks per flock. The hatching of baby chicks was of primary importance during March, April, and May, but of minor importance in January, February, and June. The total production of baby chicks for the six-month period was 618 per farm. The highest month was April with 230 baby chicks per farm. March was second with 179 chicks and May third with 145 chicks. There was an average of 3.3 baby chicks hatched for each hen and pullet of laying age.

There are numerous reasons why poultry producers prefer chicks hatched in some particular month. These reasons are summarized

9. "Poultry in Kansas," page 118. Report of the Kansas State Board of Agriculture for the quarter ending September, 1926.

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on page 118 of "Poultry in Kansas" as follows:⁹ "The approximate dates at which reporters prefer to have the chicks hatched and the reasons for the preference are: January to the last of February, 87 reporters gave as reasons for preference, earlier mating for broiler market, for show birds, and out of way of other work. For the month of March, 345 reporters gave as reasons for preference, pullets mature early enough for good winter layers, more favorable

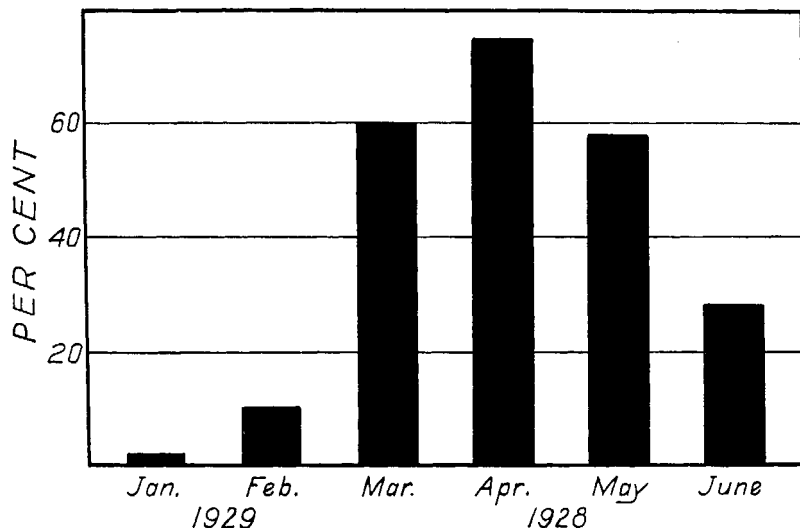


FIG. 8.—Per cent of farms in nine Kansas counties hatching chicks, March, April, May, and June, 1928, and January and February, 1929.

weather, and can sell on early market. April and May, 371 reporters gave as reasons for preference, warm weather more favorable, birds early enough for fall layers, green feed and insects more plentiful, and chicks can get out more for plenty of exercise."

CHICKS HATCHED FOR HOME USE

Up until recent years practically all of the baby chicks were hatched on the farm where raised. They were produced for food, for sale, or for replacements in the laying flock. In recent years on many farms it has become a common practice to dispose of a part of the chicks hatched either by sale as baby chicks or by custom hatching for others. Most of the chicks hatched on farms, however, are still raised on the farm where hatched. (Table VII and figure 9.) Of the chicks hatched on the farm, 67 per cent were raised where hatched, with a variation from 33 per cent in January to 72 per cent in June. There was considerable variation between counties in the proportion of farm-hatched chicks retained on the farm where hatched. In Marshall county only 50 per cent were kept, while in Wilson county 93 per cent were retained.

TABLE VII.—NUMBER AND VALUE OF BABY CHICKS HATCHED AND PURPOSE FOR WHICH HATCHED.

Average per farm for each of the six months indicated, in nine Kansas counties.

MONTH.	Total, all baby chicks.		Hatched for home raising.		Hatched and sold.		Custom hatched for others.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
1929.								
January.....	3	\$0.20	1	\$0.10	1	\$0.10	1	\$0.10
February.....	29	2.90	17	1.70	11	1.10	1	.10
1928.								
March.....	179	17.90	119	11.90	41	4.10	19	1.90
April.....	230	23.00	158	15.80	49	4.90	23	2.30
May.....	145	14.50	94	9.40	34	3.40	17	1.70
June.....	32	3.20	23	2.30	8	.80	1	.10
Total.....	618	\$61.80	412	\$41.20	144	\$14.40	62	\$6.20

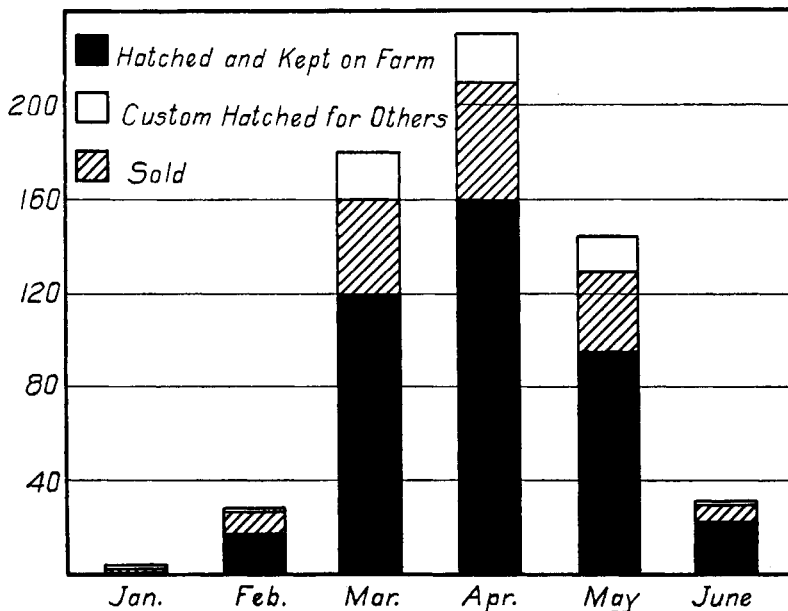


FIG. 9.—Monthly distribution of chicks hatched on farms in nine Kansas counties, March, 1928, to February, 1929.

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BABY CHICKS SOLD

There was a wide variation in the proportion of chicks hatched on farms that were sold as baby chicks. In Wilson county none were sold, in Ness county 37 per cent were sold, and for the average in all nine counties 23 per cent were sold. February was the high month in proportion of sales, with 37 per cent. In March and May, 23 per cent were sold and in April, 21 per cent. The figures for March, April, and May are more significant than for February as these three months included 86 per cent of all chicks sold. The average selling price per chick was 10 cents.

CUSTOM HATCHING

On many farms it is a regular part of the poultry operations to custom hatch chicks for others. This practice seems to be increasing, but has not affected the operations of commercial hatcheries. The advantage of custom hatching by farmers is that those who have the necessary hatching equipment are enabled to utilize this equipment to more nearly its full capacity, thus reducing the overhead expense and reducing the cost of their own chicks. During the months of heavy hatching, March to May, the proportion of chicks custom hatched for others varied from 10 to 12 per cent of all chicks hatched. This practice was most important in Marshall and Franklin counties, but was of little importance in Rawlins or Jewell counties.

SOURCE OF CHICKS RAISED ON FARM

There are three sources from which the chicks raised on the farm may be secured. The chief source is from chicks hatched on the farm. The other two sources are chicks purchased and those custom hatched by others. The average number of chicks grown per farm, as reported in this study, was 541. Of this number, 412 or 76.2 per cent were hatched on the farm, 79 or 14.5 per cent were purchased, and 50 or 9.3 per cent were custom hatched by others. (Table VIII.) Most of the chickens raised on the farm were hatched in the months of March to May, inclusive.

As shown by the reports received, more than three-fourths of the chicks grown on the farms in these nine counties were hatched on the farms where grown. Comparing chicks kept for raising with chicks hatched it will be noted that the number hatched was greater than the number kept for raising. Since these flocks were somewhat larger than average, it is evident that these farmers were hatching many chicks for those who had small flocks. Of the March chicks kept or bought on the farm for raising, 79 per cent were hatched on the farm; in April, 75 per cent, and in May, 76 per cent. The proportion, in the various counties, of chicks raised that were hatched at home varied from 48 per cent in Gray county to 87 per cent in Rawlins and Wilson counties.

Baby chicks are purchased largely for three reasons: first, to reduce the labor requirements in poultry production; second, to

TABLE VIII.—SOURCE AND VALUE OF BABY CHICKS RAISED ON THE FARM.

Average per farm for each of the six months indicated, in nine Kansas counties.

MONTH.	Total chicks.		Chicks hatched on farm where raised.		Chicks purchased.		Chicks custom hatched by others.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
1929.								
January.....	1	\$0.10	1	\$0.10				
February.....	26	2.80	17	1.70	6	\$0.60	3	\$0.30
1928.								
March.....	151	15.10	119	11.90	30	3.00	2	.20
April.....	212	21.20	158	15.80	26	2.60	28	2.80
May.....	123	12.30	94	9.40	13	1.30	16	1.60
June.....	28	2.80	23	2.30	4	.40	1	.10
Total.....	541	\$54.10	412	\$41.20	79	\$7.90	50	\$5.00

secure chicks of a different breed; and third, to improve the flock by securing chicks from other and more productive strains. During the hatching season, 44 chicks were purchased for each 100 hens in the laying flock. The proportion of purchased chicks to total chicks kept varied from 11 per cent in May to 20 per cent in March and totaled 79 chicks for the season. Assuming the purchase price to be the same as the selling price, the cost of chicks purchased for raising was \$7.90 per farm. In Wilson county only 9 per cent of the chicks raised were purchased. The proportion increased to 33 per cent in Gray county.

The most important reasons for having others hatch the chicks are to reduce the labor requirement and to secure a better hatch. On the farms studied, fifty of the chicks kept for raising were custom hatched, or 9.3 per cent of the total for each farm. In only three counties were there more than one-tenth of the chicks secured in this manner. The variation was from 1 per cent in Rawlins county to 19 per cent in Gray county.

BABY CHICK LOSSES

One of the larger items of expense in the poultry enterprise is that of the baby chicks that are lost before they reach one month of age. Heavy losses of baby chicks reduce the returns of the poultry enterprise and make favorable profits hard to secure. The time of year in which the chicks are hatched seems to have an important influence upon the death rate. The average death loss in all flocks studied, for baby chicks less than a month of age, was 19.7 per cent. Five of the nine counties showed losses in excess of this average. The smallest loss was in Franklin county, where the average was 15.5 per cent, and the heaviest loss was in Rawlins county with 31.6 per cent.

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TABLE IX.—NUMBER AND PER CENT OF CHICKENS AND BABY CHICKS LOST EACH MONTH.

Average per farm in nine Kansas counties.

MONTH.	Chickens lost (a).		Baby chicks lost.	
	Number per farm.	Per cent of flock.	Number per farm.	Per cent of flock.
1928.				
March.....	4.8	2.2	20	13.5
April.....	4.0	2.0	37	16.8
May.....	6.2	1.9	29	23.6
June.....	9.3	2.1	18	64.2
July.....	12.2	2.6		
August.....	9.1	2.1		
September.....	7.3	1.9		
October.....	6.2	1.8		
November.....	3.9	1.3		
December.....	3.3	1.3		
1929.				
January.....	4.1	1.7		
February.....	3.9	1.7	3	12.5
Total for year.....	74.3		107	
Monthly average.....	6.2	1.9	(b) 21.4	(b) 19.7

(a) All chickens in flock more than one month of age.

(b) Average for five months.

The early hatched chicks had the lowest per cent of death loss, while the loss of late hatched chicks was heavy. Of all chicks less than one month of age in the month of March, 13.5 per cent were lost by death. These chicks were hatched either in February or March, but were less than one month old. In April, 15.8 per cent of the baby chicks on hand died, and in May the loss was 23.6 per cent. June losses were the heaviest of any month, averaging 64.2 per cent. These chicks had been hatched either late in May or in the early part of June.

DISPOSITION OF CHICKENS (NOT BABY CHICKS) PRODUCED

SALES OF CHICKENS

Chickens which survive the first month may be disposed of in one of several ways. Most of them are sold, many die or are otherwise lost, some are used on the farm for food, and the rest are retained on the farm to maintain the laying or breeding stock. The average number sold from each farm ranged from 4.6 in March to 31.6 in July, or a total of 205 during the year. The heaviest sales were in the months of June to October, inclusive, when 76 per cent of all sales were made. January to April sales were lightest. (Table X.)

TABLE X.—NUMBER, VALUE, AND PER CENT DISTRIBUTION OF CHICKENS SOLD OR USED FOR FOOD.

Average per farm for each month, March, 1928, to February, 1929, in nine Kansas counties.

MONTH.	Total sold or used for food.		Total sold.			Total used for food.		
	Number.	Value.	Number.	Value.	Per cent.	Number.	Value.	Per cent.
1928.								
March.....	6.2	\$5.46	4.6	\$4.05	74	1.6	\$1.41	26
April.....	7.7	6.54	6.1	5.18	79	1.6	1.36	21
May.....	16.8	13.60	14.4	11.66	86	2.4	1.94	14
June.....	35.7	24.99	29.6	20.72	83	6.1	4.27	17
July.....	43.1	25.86	31.6	18.96	73	11.5	6.90	27
August.....	37.8	23.43	25.2	15.62	67	12.6	7.81	33
September.....	37.9	22.74	27.4	16.44	72	10.5	6.30	28
October.....	35.0	23.10	27.0	17.82	77	8.0	5.28	23
November.....	20.7	15.53	15.3	11.48	74	5.4	4.05	26
December.....	14.0	10.50	10.8	8.10	77	3.2	2.40	23
1929.								
January.....	10.1	9.90	8.4	8.23	83	1.7	1.67	17
February.....	6.2	6.20	5.1	5.10	82	1.1	1.10	18
Total for year....	271.2	\$187.85	205.5	\$143.36	.....	65.7	\$44.49	.....
Monthly av.	22.6	15.67	17.1	11.95	76	5.5	3.71	24

CHICKENS FOR FOOD ON FARM

One of the important reasons for farm poultry production is that poultry produce a large quantity of meat and eggs for food on the farm. The number of chickens used for food varies with the season of heaviest production of young chickens. There were on the farms included in this study an average of 4.8 persons per family, including that part of the hired help which received meals. Sixty-six chickens per farm were used for food, which was an average per capita consumption of $13\frac{1}{4}$ chickens. (Table XI and figure 10.)

The lowest rate of consumption was in February, when only one-fourth of a chicken per person was used for food. The highest number eaten in any month was in August, when 12.6 chickens were used for food or 2.48 per person. (Fig. 11.) These figures on farm consumption of poultry do not fully bear out the current belief that poultry is raised to a large extent as a source of food for the farm family. Less than $1\frac{1}{3}$ chickens per week cannot be called heavy consumption of poultry. This study was made when live poultry was bringing high prices and the number consumed was probably less than would be the case when there is a surplus of poultry and prices are low.

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TABLE XI.—PER CAPITA CONSUMPTION AND VALUE OF EGGS AND CHICKENS USED FOR FOOD ON THE FARM BY MONTHS.

Average for nine Kansas counties.

MONTH.	Number of persons per farm.	Eggs used for food.			Chickens used for food.			Total value, eggs and chickens.
		Number.	Price per dozen.	Value.	Number.	Price each.	Value.	
1928.								
March.....	4.6	43	\$0.22	\$0.78	.35	\$0.88	\$0.31	\$1.09
April.....	4.7	45	.21	.78	.34	.85	.29	1.07
May.....	4.9	41	.23	.78	.49	.81	.40	1.18
June.....	5.0	42	.21	.74	1.22	.70	.85	1.59
July.....	5.4	39	.22	.72	2.13	.60	1.28	2.00
August.....	5.1	35	.22	.64	2.48	.62	1.54	2.18
September.....	4.9	29	.26	.63	2.14	.60	1.28	1.91
October.....	4.7	26	.26	.56	1.70	.66	1.12	1.68
November.....	4.8	21	.32	.56	1.12	.75	.84	1.40
December.....	4.8	22	.36	.66	.67	.75	.50	1.16
1929.								
January.....	4.7	25	.32	.67	.36	.98	.35	1.02
February.....	4.6	28	.24	.56	.24	1.00	.24	.80
Total for year.....		396		\$8.08	13.24		\$9.00	\$17.08
Monthly av.....	4.8	33	(a) \$0.256	.67	1.10	(b) \$0.77	.75	1.42

(a) Simple average monthly price. The average value of eggs used was 24.5 cents per dozen.

(b) Simple average monthly price. The average value of chickens used was 68 cents each.

LOSSES OF CHICKENS

The loss from death or other causes was higher than would have been the case with mature birds only, since it included those between one month and laying or breeding age. The total loss from all causes of all the chickens more than one month of age was approximately 23 per cent. The heaviest losses occurred during the summer months, when there were many young chickens on hand and the old hens were not yet all culled out. The losses ranged from 1.3 per cent of the flock on hand in December and January, to 2.6 per cent in July, with a monthly average for the year of 1.9 per cent. (Table IX.)

THE POULTRY FLOCKS CONTRIBUTION TO THE FARM INCOME

The poultry flock contributes in more than one way to the support of the farm family. Eggs and poultry are two of the popular articles in the human diet. The per capita consumption of these products has been increasing. Products of the poultry flock are frequently exchanged for groceries and other necessities. The values that enter into these exchanges are a part of the farm income.

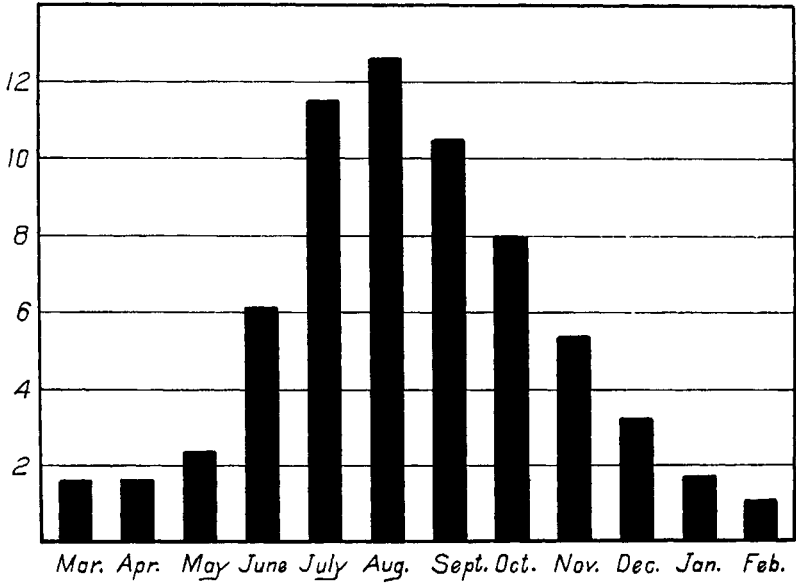


FIG. 10.—Average number of chickens per farm used for food in nine Kansas counties, March, 1928, to February, 1929.

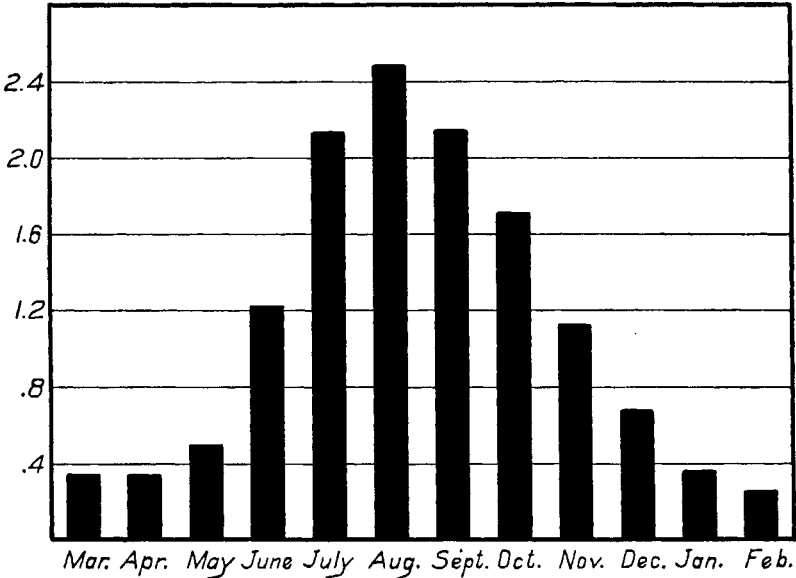


FIG. 11.—Average number of chickens eaten per person each month on farms in nine Kansas counties, March, 1928, to February, 1929.

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TABLE XII.—DISTRIBUTION OF THE VALUE OF POULTRY AND EGGS USED ON FARM OR SOLD.

Average per farm for each month, March, 1928, to February, 1929, in nine Kansas counties.

MONTH.	Products used at home.			Products sold.				Total of products used and sold.
	Eggs for food.	Chickens for food.	Total for home use.	Eggs.	Chickens.	Baby chicks.	Total sales.	
1928.								
March.....	\$3.63	\$1.41	\$5.04	\$41.36	\$4.05	\$5.05	\$50.46	\$55.50
April.....	3.78	1.36	5.14	39.06	5.18	6.05	50.29	55.43
May.....	3.79	1.94	5.73	41.40	11.66	4.25	57.31	63.04
June.....	3.46	4.27	7.73	37.17	20.72	.85	58.74	66.47
July.....	3.96	6.90	10.86	26.18	18.96	.....	45.14	56.00
August.....	3.30	7.81	11.11	18.92	15.62	.....	34.54	45.65
September.....	3.12	6.30	9.42	19.24	16.44	.....	35.68	45.10
October.....	2.60	5.28	7.88	13.00	17.82	.....	30.82	38.70
November.....	2.72	4.05	6.77	12.80	11.48	.....	24.28	31.05
December.....	3.06	2.40	5.46	22.68	8.10	.....	30.78	36.24
1929.								
January.....	3.20	1.67	4.87	28.16	8.23	.15	36.54	41.41
February.....	2.52	1.10	3.62	25.44	5.10	1.15	31.69	35.31
Total for year.	\$39.14	\$44.49	\$83.63	\$325.41	\$143.36	\$17.50	\$486.27	\$569.90
Monthly av..	3.26	3.71	6.97	27.12	11.95	(a) 2.92	40.52	47.50

(a) Average of six months.

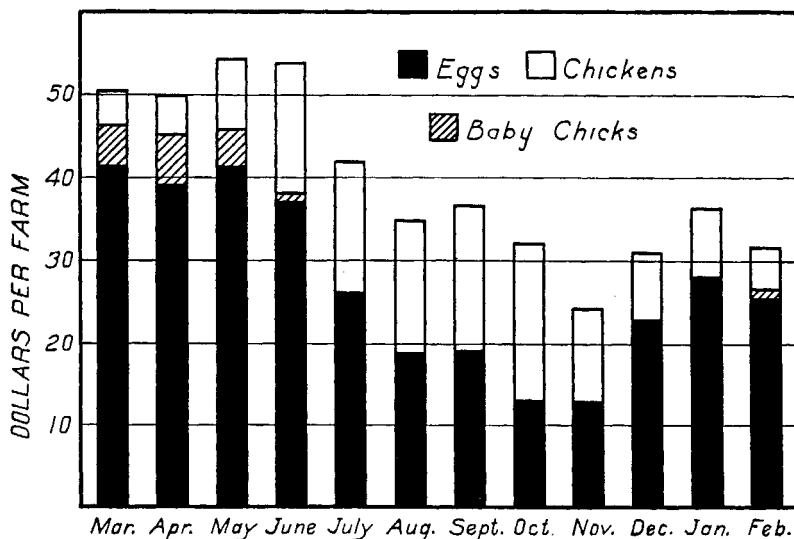


FIG. 12.—Monthly value of eggs, chickens, and baby chicks sold per farm in nine Kansas counties, March, 1928, to February, 1929.

TOTAL INCOME

A study of the records on the farms in the nine counties shows that the poultry enterprise brought in a large amount of income, both from cash sales and from the value of poultry and eggs consumed for food. For the average of these farms the poultry enterprise assumed the importance of a major enterprise. The valuation for each farm of chicks, chickens, and eggs produced was \$570 on the basis of hens and pullets kept through the year. This was an average of \$3.30 per hen. (Table XII and figure 12.)

CASH SALES

The cash sales of poultry and eggs greatly exceed the value of products used for food. For the entire year 85.4 per cent of the receipts were from cash sales. The range of sales was from 75.7 per cent in August to 91 per cent in March. (Table XIII.) The

TABLE XIII.—PER CENT OF TOTAL VALUE OF POULTRY AND EGGS SOLD OR USED ON THE FARM.

Average per farm for each month, March, 1928, to February, 1929, in nine Kansas counties.

MONTH.	Sales—Per cent of total value.				Used on farm— Per cent of total value.		
	Chickens.	Eggs.	Baby chicks.	Total sales.	Chickens used for food.	Eggs used for food.	Total used on farm.
1928.							
March.....	7.3	72.6	9.1	91.0	2.5	6.5	9.0
April.....	9.3	70.5	10.9	90.8	2.4	6.8	9.2
May.....	18.5	65.7	6.7	90.9	3.1	6.0	9.1
June.....	31.2	56.0	1.2	88.4	6.4	5.2	11.6
July.....	33.8	46.8	.....	80.6	12.3	7.1	19.4
August.....	34.2	41.5	.....	75.7	17.1	7.2	24.3
September.....	36.5	42.6	.....	79.1	13.9	7.0	20.9
October.....	46.0	33.6	.....	79.6	13.7	6.7	20.4
November.....	37.0	41.2	.....	78.2	13.0	8.8	21.8
December.....	22.4	62.6	.....	85.0	6.6	8.4	15.0
1929.							
January.....	20.0	68.0	.3	88.3	4.0	7.7	11.7
February.....	14.5	72.0	3.3	89.8	3.1	7.1	10.2
Monthly average.....	25.2	57.1	3.1	85.4	7.8	6.8	14.6

receipts from the sale of eggs amounted to \$235.41 per farm, for chickens sold, \$143.36, and for baby chicks sold, \$17.50. May was the high month in sale of eggs with \$41.40. (See Table XII for sales per month.) June was the high month in chickens sold with \$20.72. In only one of the 12 months did the average sales of all products fall below \$30.

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There was not a great deal of monthly variation in the value of eggs used for food. In nine of the 12 months the value of eggs used exceeded \$3 per farm. July was the high month with \$3.96. May and April were close with \$3.79 and \$3.78, respectively. The total value of eggs consumed was \$39.14, or about 24½ cents per dozen. The per capita value of eggs used for food was 80 cents per month. The value of chickens used for food varied greatly from month to month and totaled \$44.49 per farm, or 93 cent's per person per month. The total value of eggs and poultry consumed by each person on the farm amounted to \$1.73 per month.

VALUE OF POULTRY AND EGGS PRODUCED

VALUE OF EGGS

The records secured from the farms in the nine counties show that eggs were 65.6 per cent of the total value and poultry 34.4 per cent. The average egg production per farm was 1,591 dozen valued at \$380.63. This was an average value per dozen of 23.9 cents and an average monthly value of \$31.72. The variation in price per dozen ranged from 21 cents in April and June to 36 cents in December.¹⁰ March was the high month in value of eggs produced with \$52.47 per farm, and November the low month with only \$15.52. Although there was a wide variation in price per dozen, the total value of eggs produced was influenced to a greater extent by the change in the rate of egg production. Table XIV shows the average farm price of eggs for Kansas for the period 1924 to 1929 and indicates the wide seasonal variation in egg prices in Kansas.

VALUE OF CHICKENS

The value of chickens produced (not including baby chicks) was 31.5 per cent of the total income from the flock. The value of chickens sold was more than three times the value of those used for food. Sales per farm amounted to \$143.36 with June the high month. The total valuation of chickens sold and those used for food was \$187.85. Sixty-four per cent of those sold or used were disposed of in the months of June to October, inclusive. The average value of chickens sold was 70 cents each, and of those used for food 67 cents. The variation in price per pound for chickens was much smaller than for eggs. During the period of this study the Kansas average farm price per month for chickens varied from 17.4 cents in March to 19.4 cents in September, with a simple monthly average of 18.7 cents per pound. Table XV shows the average monthly price for the period of this study and for 1924 to 1929, inclusive.

¹⁰. Farm prices reported by United States Department of Agriculture for the 15th of the month.

TABLE XIV.—AVERAGE KANSAS FARM PRICE OF EGGS BY MONTHS, 1924 TO 1929. (a)

Cents per dozen.

YEAR.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1929	(b) 27	29	23	21	22	23	23	24	27	32	38	39
1928	32	24	22	21	23	21	22	22	26	26	32	36
1927	31	24	18	18	17	14	17	18	24	30	34	28
1926	30	23	21	23	23	23	22	21	26	32	39	40
1925	44	28	23	21	23	23	24	25	24	32	34	39
1924	31	29	17	17	18	18	19	22	27	34	39	42

(a) Reports of the United States Department of Agriculture.

(b) Figures in italics are for months included in this study.

TABLE XV.—AVERAGE KANSAS FARM PRICE OF LIVE POULTRY BY MONTHS, 1924 TO 1929. (a)

Cents per pound.

YEAR.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1929.....	(b) 18.9	19.3	19.7	20.9	21.4	21.9	20.8	20.1	19.5	18.2	17.3	15.6
1928.....	17.2	17.5	17.4	17.8	18.3	18.6	18.7	18.8	19.4	19.2	19.2	18.5
1927.....	18.7	18.8	18.8	18.8	18.6	16.3	16.9	17.3	16.4	16.8	16.9	16.5
1926.....	19.4	19.8	20.1	21.4	22.0	21.0	20.7	19.5	18.9	18.3	17.7	16.8
1925.....	15.2	16.6	18.3	19.1	21.2	18.3	18.9	18.0	17.5	17.5	16.6	18.1
1924.....	15.2	16.6	16.8	17.2	18.2	17.8	17.4	18.2	17.5	16.9	16.4	15.5

(a) Reports of the United States Department of Agriculture.

(b) Figures in italics are for months included in this study.