

A STATISTICAL STUDY OF POULTRY PRODUCTION IN KANSAS

by

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INTRODUCTION

A Statistical Study of Poultry Production in Kansas

This thesis is a study of the production and use of farm poultry in nine counties in Kansas for the twelve month period from March 1, 1928 to March 1, 1929, based upon information gathered each month from 400 to 600 poultry producers.

The poultry industry is rapidly changing from a comparatively unimportant side line to an enterprise of major importance on most Kansas farms. In 1910, Kansas poultry numbered 15,736,038 and were valued at \$7,033,469, or only 5 per cent of the total livestock valuation. By 1920 they numbered 17,298,041 and the valuation had increased to \$15,453,540, or 5 per cent of the livestock valuation, while the 1925 federal census shows that of the total livestock valuation of \$195,161,000, 9 per cent, or \$17,161,000, was credited to poultry. In 1925 cattle ranked first with 46 per cent of the total livestock valuation; horses were credited with 22 per cent; hogs, 13 per cent; mules, 8 per cent; and sheep 2 per cent. Poultry on Kansas farms in 1925 numbered 21,609,776. Since 1925 poultry numbers have been steadily increasing. Estimates made by the United States Department of Agriculture show 21,389,000 chickens

on Kansas farms January 1, 1926; 22,030,000 January 1, 1927; 22,495,000 January 1, 1928; and 22,557,000 January 1, 1929. Kansas ranks high among the states of the Union in the production of poultry. In 1925 the federal census showed the state ranking fourth in poultry on farms; seventh in egg production and fourth in poultry raised.

PURPOSE OF STUDY

The purpose of this study is to statistically analyze the poultry industry in nine representative Kansas counties for a period of twelve months. Such an analysis involves an attempt to answer certain practical questions with reference to the farm flock: What changes in size and composition of the flock may be expected to occur at certain seasons? How much does the poultry industry 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 is the source of chickens grown on the farm?

Poultry statistics giving numbers and valuation are gathered annually by the Kansas assessors, and similar information is collected as a part of the federal census every five or ten years. Such information, although of

great value, does not reflect the changes that occur from month to month in the industry. So far as could be determined, no detailed statistical study of the poultry industry throughout the year has been made previous to the present study. In this study data covering individual farm poultry flocks were collected monthly from 600 poultry producers over the nine counties included. Changes in size and composition of flock, source of additions to the farm flock, disposition and consumption of poultry and eggs, rate of egg production, and hatching of baby chicks have been given particular attention.

The methods used in this study involved an analysis of the monthly poultry reports from individual farmers in the nine counties included; a study of historical poultry data taken from the annual reports of the Kansas State Board of Agriculture and Federal Census reports; consideration of bulletins and circulars published by various state experiment stations, extension divisions and departments of Agriculture, personal interviews and correspondence with county agents, poultry specialists, and poultry producers.

ACKNOWLEDGEMENTS

The writer wishes to express his appreciation to Doctor W. E. Grimes, under whose direction and guidance this thesis

was prepared, and to Professor Morris Evans for many helpful criticisms and suggestions.

STATEMENT OF THE SURVEY METHODS USED

This study was conducted by the writer for the United States Department of Agriculture, the Kansas State Board of Agriculture and the Kansas State Agricultural College.

For convenience in weighting and analysis of data, the Federal Department of Agriculture has divided Kansas into nine crop reporting districts. One representative county in each district was chosen for this survey. (See Figure 1) Rawlins, Ness and Gray counties represent the western wheat belt, Sumner and McPherson the central wheat belt, Jewell and Marshall counties typify the corn belt, and Franklin and Wilson counties the general farming section, the latter county bordering on the Blue Stem Region of Kansas. Each of the counties named has an active Farm Bureau organization. Before the project was undertaken, the various county agents were interviewed and their approval and assurance of cooperation in the project was secured.

A mailing list of 10,000 poultry producers was used for the initial inquiry. A letter explaining the purpose of the study accompanied the schedules mailed. It was stated that those who answered the first inquiry would be expected to report regularly each month during the twelve month period

the study was to continue. About 500 schedules were returned. After the second month a list of about 700 correspondents was established. The schedules were changed in form from time to time as occasion demanded. (See Appendix for copies of all schedules used).

DESCRIPTION OF AREA

Marshall and Jewell are typical corn belt counties. Both produce large acreages of corn and considerable alfalfa and rank high in hog production. Rawlins County, although located in the western wheat belt, is important in the production of corn and hogs as well as wheat. Limited rainfall in the western counties makes diversification of farming more difficult. Ness and Gray counties, the two other western counties studied, are also a part of the western wheat belt. Wheat is the leading crop, and corn is second. Gray County produces a substantial acreage of sorghums. McPherson and Sumner counties in the eastern wheat belt are heavy producers of wheat with a considerable acreage of corn, oats, and hay crops. Corn, hay, and pasture are the crops of greatest importance in Wilson and Franklin counties.

THE CLIMATE OF KANSAS

Kansas has a typically continental climate, character-

Table I. Average Number and Value of Chickens and Eggs Produced and the Value of Livestock
Per Farm in Nine Kansas Counties and the Entire State (a)

Items per Farm	Franklin County	Gray County	Jewell County	McPherson County	Marshall County	Ness County	Rawlins County	Sumner County	Wilson County	State
Number of chickens	146	113	151	160	142	140	129	114	110	131
Value of chickens	\$123	92	116	124	107	106	98	93	84	103
Number of chickens raised	186	183	177	223	210	201	178	201	158	191
Value of chickens raised	\$124	124	115	156	147	125	116	137	107	129
Dozens of eggs produced	735	524	583	788	589	627	530	571	492	610
Value of eggs produced	\$191	126	145	197	147	151	122	149	128	155
Value of horses	197	328	249	283	269	347	413	226	162	252
Value of mules	63	126	102	79	82	69	88	132	69	100
Value of cattle	491	543	403	553	486	754	545	363	358	543
Value of sheep	35	4	5	29	12	14	44	16	11	18
Value of hogs	137	57	360	96	240	72	213	112	83	153

(a) Source--1925 Federal Census

ized by wide extremes in temperature, great variations in rain and snowfall from season to season. It has much sunshine, and dry, bracing air, with a good wind movement.

The eastern part of the state is favored with a combination of sunshine and abundant rainfall during the growing season. The western half receives considerably less moisture.

The topography of the state consists of rolling plains broken by wooded streams with an average elevation of a little less than 1000 feet in the eastern part and treeless plains in the west, which attain an altitude of more than 3000 feet near the Colorado line.

Precipitation decreases with remarkable rapidity from 42 inches in the southeastern counties to just a little more than 15 inches along the western boundary. (Figure 2 and Table II) The monthly precipitation is usually lower in January and greatest in June. Seventy-one to seventy-eight per cent of the annual rainfall over the state is in the six crop-growing months.

The average annual temperature ranges from 58 degrees in the southeastern counties to 52 degrees in the northwestern, with a mean of 54 degrees for the state as a whole. The coolest month is January with an average temperature of 30 degrees. July has the highest average temperature, 78 degrees.

Table II. Monthly Rainfall in Inches for 1928 and Departure from Normal in Nine Kansas Counties

Months	Franklin		Gray		Jewell		McPherson		Marshall	
	Precipi- tation	Depar- ture from Normal	Precipi- tation	Depar- ture from Normal	Precipi- tation	Depar- ture from Normal	Precipi- tation	Depar- ture from Normal	Precipi- tation	Depar- ture from Normal
January	.32	-0.99	T.	-0.31	.19	-0.40	.12	-0.73	.11	-0.40
February	2.88	+1.35	1.21	+0.18	1.90	+0.78	1.99	+0.59	2.15	+1.18
March	0.82	-1.68	0.87	+0.14	.74	-0.38	1.40	-0.21	0.64	-0.63
April	1.72	-1.47	2.71	+0.91	0.66	-1.81	2.88	+0.18	2.60	-0.08
May	2.39	-2.90	4.01	+1.79	2.78	-1.18	2.73	-1.94	1.96	-2.65
June	5.70	+0.34	8.40	+4.97	8.14	+4.41	8.06	+2.88	5.97	+1.57
July	3.26	-1.04	6.82	+3.63	4.49	+0.60	2.49	-1.04	5.41	+1.88
August	3.90	-0.55	2.77	-0.35	3.75	+0.46	2.51	-0.71	4.15	+1.63
September	2.78	-1.53	1.75	-0.24	1.07	-1.63	2.67	-0.54	1.40	-2.28
October	2.44	-0.09	3.27	+1.95	3.11	+1.18	1.31	-1.38	.88	-1.37
November	10.75	+9.17	3.23	+2.23	3.52	+2.54	3.52	+2.34	5.31	+4.01
December	2.21	+0.98	0.29	-0.49	0.02	-0.60	0.36	-0.75	0.19	-0.72
Annual	39.17	+1.59	35.33	+14.41	30.37	+3.97	30.04	-1.31	30.77	+2.14

Source: U. S. Weather Bureau Records

Table II Continued

Months	Ness		Rawlins		Sumner		Wilson	
	Precipi- tation	Depar- ture from Normal	Precipi- tation	Depar- ture from Normal	Precipi- tation	Depar- ture from Normal	Precipi- tation	Depar- ture from Normal
January	0.02	-0.35	T.	-0.23	0.20	-0.42	.30	-1.04
February	1.87	+1.02	0.28	-0.21	2.13	+0.80	2.02	+0.28
March	2.23	+1.67	0.67	-0.01	2.15	+0.90	2.10	-0.20
April	1.55	-0.70	0.31	-2.09	2.88	-0.12	3.34	-0.14
May	3.33	+0.16	4.81	+2.46	2.10	-2.29	3.37	-1.82
June	5.98	+2.36	5.62	+2.82	12.10	+7.20	10.51	+5.38
July	3.67	+0.79	3.69	+0.94	3.94	+0.81	2.87	-1.20
August	2.11	-0.37	2.81	+0.06	0.90	-2.34	2.79	-1.27
September	0.43	-1.80	0.27	-1.52	0.38	-2.88	1.78	-1.87
October	2.31	+1.04	2.20	+0.90	2.19	-0.41	4.38	+1.39
November	1.79	+0.94	0.71	+0.17	7.96	+6.73	6.42	+4.49
December	0.10	-0.54	T.	-0.60	2.47	+1.35	2.52	+1.35
Annual	25.39	+4.22	21.37	+2.69	39.40	+9.33	42.40	+5.35

Source: U. S. Weather Bureau Records

BREEDS OF CHICKENS PRODUCED

Reports concerning 400 flocks were listed. The flocks included an aggregate of 92,341 chickens. The Leghorn was the outstanding breed, being credited with 49,924 fowls, or 53.9 per cent of the total number. The Plymouth Rock ranked second with 16,572, or 19.7 per cent of the total, and the Rhode Island Red third with 13,650, 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 produced gave the Leghorn first place in all except Ness and Gray counties. (Table III) These two counties had more Rhode Island Reds than any other breed. The Plymouth Rocks were second in number in 8 of the 9 counties.

When grouped under the headings of certified, purebred, and mixed, it was found that nearly 9,000, or 7.9 per cent of all chickens included were certified. This is another evidence of the rapid growth and popularity of poultry certification in Kansas, which must be credited largely to the effective efforts of the Kansas State Agricultural College. The White Plymouth Rock flocks were 26.5 per cent certified compared with 14.8 per cent of the Orphingtons, 13.0 per cent of the Rhode Island Reds, 7.4 per cent of the Wyandottes, and 5.3 per cent of the Leghorns. The uniformly

Table III. The Three Leading Breeds of Chickens Produced in Nine Counties

	Total No. of Flocks	Ranking First		Ranking Second		Ranking Third	
		Breed	No. of Flocks	Breed	No. of Flocks	Breed	No. of Flocks
Franklin	69	Leghorn	34	Plymouth Rock	20	Rh. Isl. Reds	9
Gray	26	Rh. Isl. Reds	8	Leghorn	7	Orphington	5
Jewell	41	Leghorn	18	Plymouth Rock	8	Rh. Isl. Reds	7
McPherson	63	Leghorn	22	" "	18	" " "	11
Marshall	52	Leghorn	21	" "	10	" " "	9
Ness	23	Rh. Isl. Reds	10	" "	6	Leghorn	3
Rawlins	20	Leghorn	8	" "	5	Rh. Isl. Reds	2
Sumner	63	Leghorn	22	" "	15	" " "	11
Wilson	42	Leghorn	16	" "	13	" " "	7

Source of data - Poultry Survey, 1928.

high quality of Kansas flocks is shown by the fact that 80.7 per cent of all chickens were reported purebred (including 7.9 per cent certified) and only 19.3 per cent mixed.

The frequency of occurrence of the various classes and breeds of chickens as reported by the special survey is shown in the table below:

Table IV. The Number of Flocks and Percentage of Total Chickens of Each Breed Included in the Special Kansas Survey

Class	Breed	No. of Flocks	Per Cent of Total Chickens in Survey
American	Plymouth Rock	94	19.7
	Rhode Island Red	74	14.8
	Wyandotte	<u>25</u>	<u>3.3</u>
		193	37.8
Mediterranean	Leghorn	151	53.9
	Minorcas	7	1.4
	Anconas	7	.6
	Andalusian	<u>2</u>	<u>.9</u>
		167	56.8
English	Orphington	<u>29</u>	<u>4.8</u>
		29	4.8
Asiatic	Langshan	<u>4</u>	<u>.6</u>
		4	.6

SIZE OF FARMS

The average size of all farms studied was 284 acres, compared with the state average of 264 acres. In Ness county the size group 260-499 acres contained 43 per cent of the farms studied. (Table V) In Gray and Rawlins, the two other western counties, the size group 500-999 acres included considerably more than one third of the total farms reporting. In the remaining six counties, the 100-174 acre size group, which included the quarter section farm, was the most important one. For the nine counties combined the 100-174 acre size group contained the largest number of farms with the 260-499 acre group next in importance. The average acreage per farm varied from 158 acres in Franklin county to 578 acres in Rawlins county. The largest farm studied was a 3760 acre ranch in Ness county. The smallest farm was a 1 acre tract in Franklin county. There was a fairly normal frequency distribution between these limits.

NUMBER OF PERSONS EATING REGULARLY ON THE FARM

In order to secure a basis for determining the per capita production and utilization of poultry and poultry products, a question asking the number of persons eating regularly on the farm during the month was included as a part of the

Table V. Distribution of Farms According to Size (a)

Acres	Franklin County	Gray County	Jewell County	McPherson County	Marshall County	Ness County	Rawlins County	Sumner County	Wilson County	Nine Counties
0- 49	5	2	0	3	2	2	1	3	3	21
50- 99	21	2	12	3	8	1	1	5	5	58
100- 174	32	5	21	30	33	5	7	26	21	180
175- 259	11	0	13	19	16	2	1	15	10	87
260- 499	6	12	6	17	9	17	11	18	10	106
500- 999	2	16	7	4	1	9	14	2	2	57
1000-4999	—	2	1	1	—	3	6	1	—	14
Total Number of Farms	77	39	60	77	69	39	41	70	51	523
Average Acres per Farm	158	484	236	186	258	536	578	237	196	284

(a) Farms included in Poultry Survey

schedule. A yearly average of 4.8 persons per farm was reported by the 300 to 400 farms included in the survey. The largest number of persons were eating on the farms during the months of July and August. During this period thousands of additional men are employed on Kansas farms to aid in harvesting wheat and other small grains. Haying and general farm work also require additional help. With the completion of harvest the number of persons per farm decreased with only a slight increase during November and December while the corn crop of the state was being harvested. The low point of the year came in February and March when little additional help was used on the farm. The number of persons eating regularly on the farm ranged from 4.6 persons per farm in February and March to 5.4 persons in July. This is not an extreme fluctuation and aside from the increase in numbers during the harvest months, a variation of only .2 to .3 persons per farm was shown. This indicates that the farm population shifts but little throughout the year and that outside labor plays a minor role in the average farming operations.

The range among the counties was from 4.5 persons per farm in Franklin to 5.5 persons per farm in Ness. The three western counties all reported an average of 5 or more persons per farm for the year. In July Gray county had an average of 7.1 persons per farm, the highest reported for

any county, while in February Franklin had an average of only 3.4 persons eating regularly on the farm.

SIZE OF FLOCKS

Farm - Versus Commercial and Specialized Flocks

The United States Department of Agriculture defines a commercial flock as one having 400 or more hens and pullets of laying age as of January 1. All flocks containing from 400-999 hens are classed as commercial flocks and those with 1000 or more hens and pullets as big or specialized flocks. No specialized flocks were reported in this survey. Out of a total of 47,000 reports concerning Kansas flocks received by the United States Department of Agriculture during the four year period, 1924 to 1928, only 34 reports of specialized flocks were received indicating the relative unimportance of the extremely large flocks 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 commercial flocks made up 2.3 per cent of all flocks reporting; in 1926, 2.9 per cent; 1927, 3.8 per cent; and 1928, 3.9 per cent.

Comparisons of Size of Flocks. The survey January 1, 1929, showed an average of 243 chickens per farm, which was

the low point of the year. (See Table VI) The largest number per flock, 544, was reported on June 1st. The federal census on January 1, 1925, found an average of 131 chickens per farm in Kansas. The census and survey average size flocks are not comparable however, for in selecting the sample only flocks of one hundred chickens or more were included. This made it a selective group with a larger number of chickens per farm than the state average. The 1920 federal census found more than 125 chickens per farm in 10 counties; 100 to 125 in 37 counties; 75 to 99 in 39 counties and less than 75 in 19 counties. Counties averaging more than 125 chickens per farm were located largely in north-central and north-eastern sections of the state.

The reports from 318 farms for January 1, 1929, were divided into five groups, according to size of flock. As shown in Table VII, the smallest number of flocks was in the 0-99 group. This was because an attempt was made to exclude reports from small flocks in the study. The most frequent size group was 100-199 with the 200-299 group containing the next largest number of frequencies. Sixty-five per cent of the flocks were included in the 100-299 size groups. The average number of chickens per farm on January 1, 1929, varied from 196 in Ness county to 293 in Franklin county. There was an average of 86 chickens per 100 acres

Table VI. Average Number of Chickens per Farm and per 100 Acres in Farms;
318 Kansas Farms, January 1, 1929

County	No. of Flocks	Avg. Size of Farms	Chickens per Farm	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

Table VII Distribution of Flocks According to Size (a)

Size Group	Franklin County	Gray County	Jewell County	McPherson County	Marshall County	Ness County	Rawlins County	Sumner County	Wilson County	Total	Per Cent in Each Group
0- 99	2	2	3	3	5	2	3	3	1	24	8
100-199	11	12	16	15	11	13	10	18	10	116	37
200-299	15	7	11	12	10	10	5	12	9	91	28
300-399	12	1	6	8	6	3	-	6	3	45	14
400 and over	9	1	3	6	9	-	5	5	4	42	13
Total	49	23	39	44	41	28	23	44	27	318	100

(a) Flocks included in January 1, 1929 Survey

in farms with a range from 37 in Gray and Ness counties to 185 in Franklin county.

On January 1, 1925, the federal census made a study of selected counties in percentage of farms reporting chicken flocks of various sizes. McPherson county with 2,083 farms were included in this study. The following percentage distribution of flocks in the different size groups was found in the two counties:

Table VIII. Percentage Distribution of Farms in McPherson and Franklin Counties Reporting Flocks of Various Sizes (a)

County	Size of Flock Groups					
	1 to 25 Chickens	26 to 75 Chickens	76 to 175 Chickens	176 to 450 Chickens	451 to 900 Chickens	901 and Over
	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
McPherson	2.4	13.6	45.3	37.6	1.1	—
Franklin	3.6	18.8	44.3	32.0	1.2	.1

(a) Source: 1925 Federal Census

The United States Department of Agriculture records for the four year period 1925 to 1928 showed a range in size of from 123 hens and pullets in the average Kansas farm flock in 1926 to 127 in 1927. The commercial flocks varied from 462 hens and pullets per flock in 1925 to 479 in 1926.

Considering all available evidence, it is concluded that the farm flock of less than 400 hens and pullets is at the present time and will be for some years to come the dominating unit in both chicken and egg production in Kansas.

RANKING IN POULTRY NUMBERS OF COUNTIES SURVEYED

According to the 1925 federal census, the nine counties included in the survey varied in total number of chickens per farm from 4th place in Jewell county to 86th place in Gray county. All three of the western counties studied (Rawlins, Ness, and Gray) ranked below 65th place among the 105 counties of the state. According to the 1925 census about 92 per cent of all Kansas farms reported poultry. This compares with 90.8 per cent of all farms in the United States reporting poultry in 1925.

Composition of Flocks

To establish a basis for determining the variations in composition of poultry flocks and the relative importance of

units making up the flock, questions were asked regarding the number of hens, (including pullets of laying age), mature roosters, baby chicks, (under one month of age), and all other chickens not included under the other items in the flock the last day of each month.

As shown in Figure 3 there was a marked difference in the composition of the average farm flock from month to month. As was expected the number of mature fowls in the average flock showed the least monthly and seasonal variation. Baby chicks, only of seasonal importance, constituted as high as 39 per cent of the total flock numbers during the spring hatching season, while all other chickens, including those more than one month of age and not yet sufficiently matured for laying and breeding purposes, varied from 3 per cent in January to 65 per cent in July.

Number of Hens and Pullets per Flock. As previously indicated there was less monthly variation in the number of hens and pullets from month to month than in any other group in the farm flock, the range being from 144 on September 1 to 214 on December 1, with an average for the year of 181. There was a gradual downward trend from the December peak to the low point reached in August. At this time of year early culling of old hens for egg production is practiced, and only a few young pullets have come into the laying class.

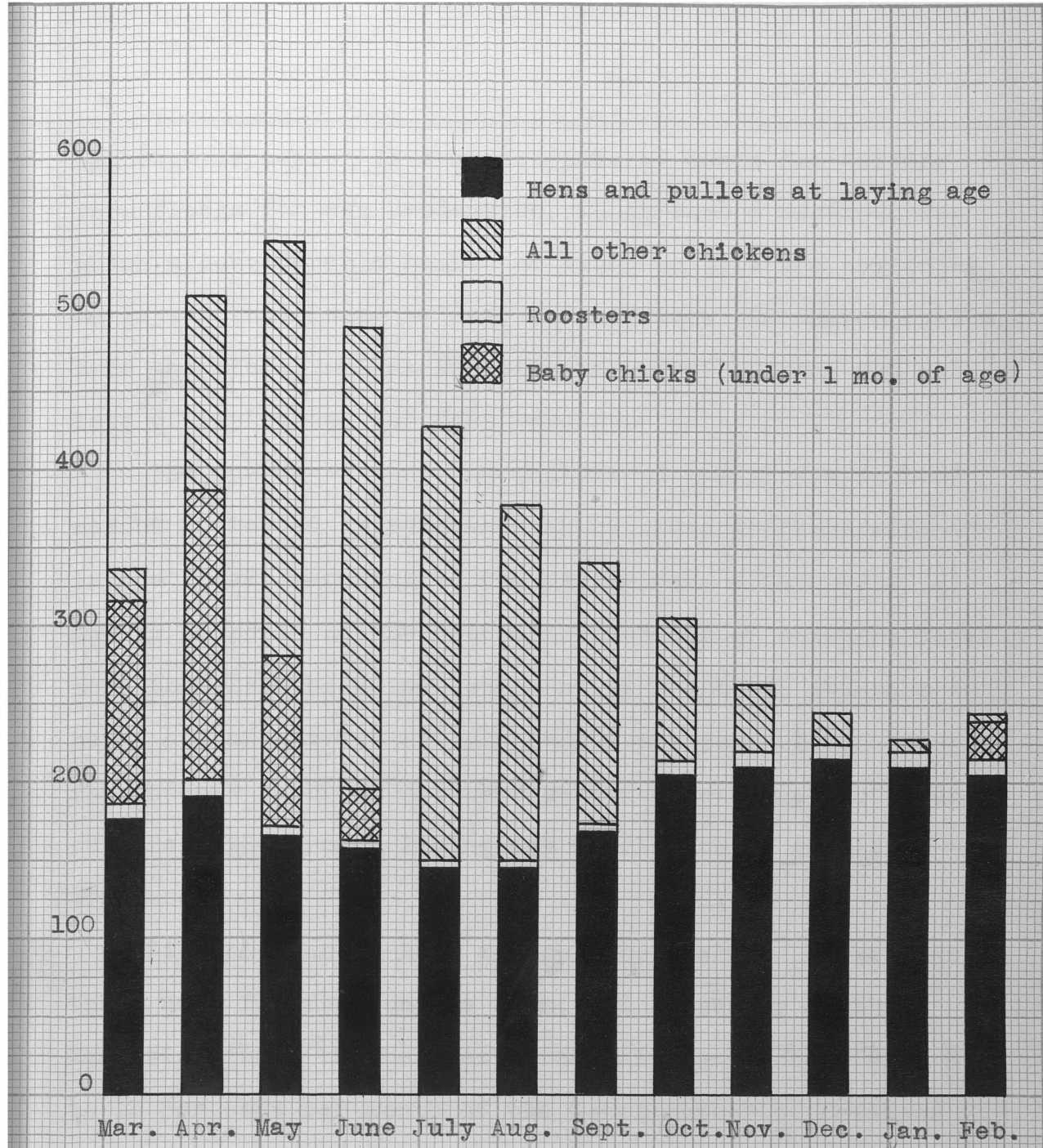


Fig.3--Monthly Changes in the Number and Composition of the Average Kansas Farm Flocks

Although September is the most popular month for culling farm flocks for egg production, it is also a month during which a considerable number of young pullete are beginning to lay. This increase more than offsets the number culled from the flock, and an increase in number of hens and pullets of laying age per farm results.

The number of hens and pullets of laying age on hand may be increased by purchases or by young chickens already in the flock, maturing to the laying age. (See Table IX) During no month of the year did purchases of chickens total more than 3/10ths of one per cent of the total chickens on hand, and an average of less than 2 per cent of all correspondents reported chickens purchased each month. Young pullets seldom reach laying age until late in August or September.

Dispositions of hens and pullets include marketings, those used for food on the farm, and losses by deaths. Marketings were the heaviest from July to October, when 9 to 12 per cent per month of the total number of chickens on hand were sold. The average per month for the year was 6.1 per cent. An average of 1.4 per cent of the flock was reported used for food each month. A large percentage of these were spring chickens used during the summer and early fall months. The number of hens and pullets consumed was relatively small.

Table IX. Number of Chickens* and Baby Chicks Purchased Each Month
per Farm and per 100 Hens

	Chickens Purchased		Baby Chicks Purchased	
	Per Farm	Per 100 Hens	Per Farm	Per 100 Hens
January	.43	.20		
February	.83	.40	6.0	2.90
March	.59	.34	30.0	17.25
April	.61	.32	26.0	13.68
May	.82	.50	13.0	7.88
June	1.11	.70	4.0	2.53
July	1.66	1.14		
August	.88	.61		
September	1.33	.80		
October	1.58	.77		
November	1.67	.79		
December	1.09	.51		
Total	12.60	7.08	79.0	44.24
Monthly Avg.	1.05	.59		

* Chickens include all those over 1 month of age

The question: "The number of other chickens (not baby chicks) that died or were otherwise lost from the flock during the month"(See Schedule in Appendix) included only losses of chickens in the flock more than 1 month of age. As shown in Table XIV an average of 1.9 per cent of all chickens more than 1 month of age were lost each month. The range in losses was between narrow limits, varying from 1.3 per cent in November and December to 2.6 per cent in July. The losses per farm varied from 3.3 chickens in December to 12.2 in July.

Roosters per Flock. There were about ten roosters kept per farm from December 1 until April 1 or an average of five per 100 hens. After the breeding season was over the number dropped sharply and from July to October only four per farm, or three per 100 hens, were kept in the flocks. The number of roosters varied from 1 to 4 per cent of the total number of fowls in the average flock.

Baby Chicks. Aside from exceptional cases all baby chicks were incubated from February to June, with 90 per cent of the hatching occurring during March, April and May. More than one-third of the average flock was composed of baby chicks less than one month of age during March and April and one-fifth during June.

Other Chickens. This includes young chickens more than

1 month of age and not yet developed sufficiently for laying or breeding purposes. The number varied from three per farm on March 1, to 298 per farm on July 1. From June to October 57 per cent of the total number in the farm flocks was composed of chickens found in this group.

Egg Production

Data concerning egg production were available from the special monthly poultry schedules and the regular monthly crop schedules received by the United States Department of Agriculture. The special schedules included the following question: "Number of chicken eggs produced by your flock the last day of the month (one day only)?" (See schedule in Appendix) Questions regarding the number of eggs used for food and hatching purposes on the farm and sold were also asked. The United States Department of Agriculture crop schedule asked the question: "Number of eggs produced by your flock yesterday?" As the questionnaires were both filled out the last of each month the results obtained were comparable. A summary of from 600 to 800 crop schedules received monthly from Kansas farmers by the United States Department of Agriculture and containing egg production information was available for the four year period 1925 to 1928.

Egg Production--Farm Versus Commercial Flocks. According to records of the United States Department of Agriculture the range of average daily production for farm flocks was from 31.5 eggs per 100 hens each day during 1925 to 34 eggs each day during 1926 and 1928. The commercial flocks (flocks with 400-999 hens and pullets on January 1) showed a range from 29.5 per cent in 1925 to 34 per cent in 1926 and 1928. A comparison of Figures 4 and 5 shows that the rate of production for commercial flocks was usually higher during all except the fall and early winter months, when they were exceeded in production by the farm flocks (flocks with less than 400 hens and pullets on January 1). A similar situation was observed in a study of the United States Department of Agriculture records for the four year period 1925 to 1928. The only logical explanation for this seems to be that during the spring and summer months 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 farm flock, thereby reducing the number of hens and pullets sufficiently in certain flocks to place them in the farm flock size group. On the other hand a few farm flock owners have failed to eliminate the non-producers from their flocks. A large enough number of hens and pul-

lets are retained in these flocks to place them in the commercial flock group. Insufficient data are available to determine the extent or effect of this inter-group movement upon the average size flock within the group or the change in rate of egg production.

Rate of Egg Production

The special survey showed a rate of production equivalent to each hen and pullet of laying age, laying 33 per cent of the time during the entire year. This compares with an average of 31.5 per cent production for 1925, 34.0 per cent for 1926, 33.4 per cent for 1927, and 33.8 per cent in 1928 as reported by the United States Department of Agriculture. According to the survey the average hen and pullet produced 120 eggs during the 12 months period from March, 1928, to March, 1929, or an average of 10 eggs per month. The United States Department of Agriculture summary indicated an average annual production of 115 eggs for 1925, 124 for 1926, 122 for 1927, and 123 for 1928. From the above data it might be estimated that the average Kansas hen and pullet of laying age produces about 120 eggs per year or one egg for every three days.

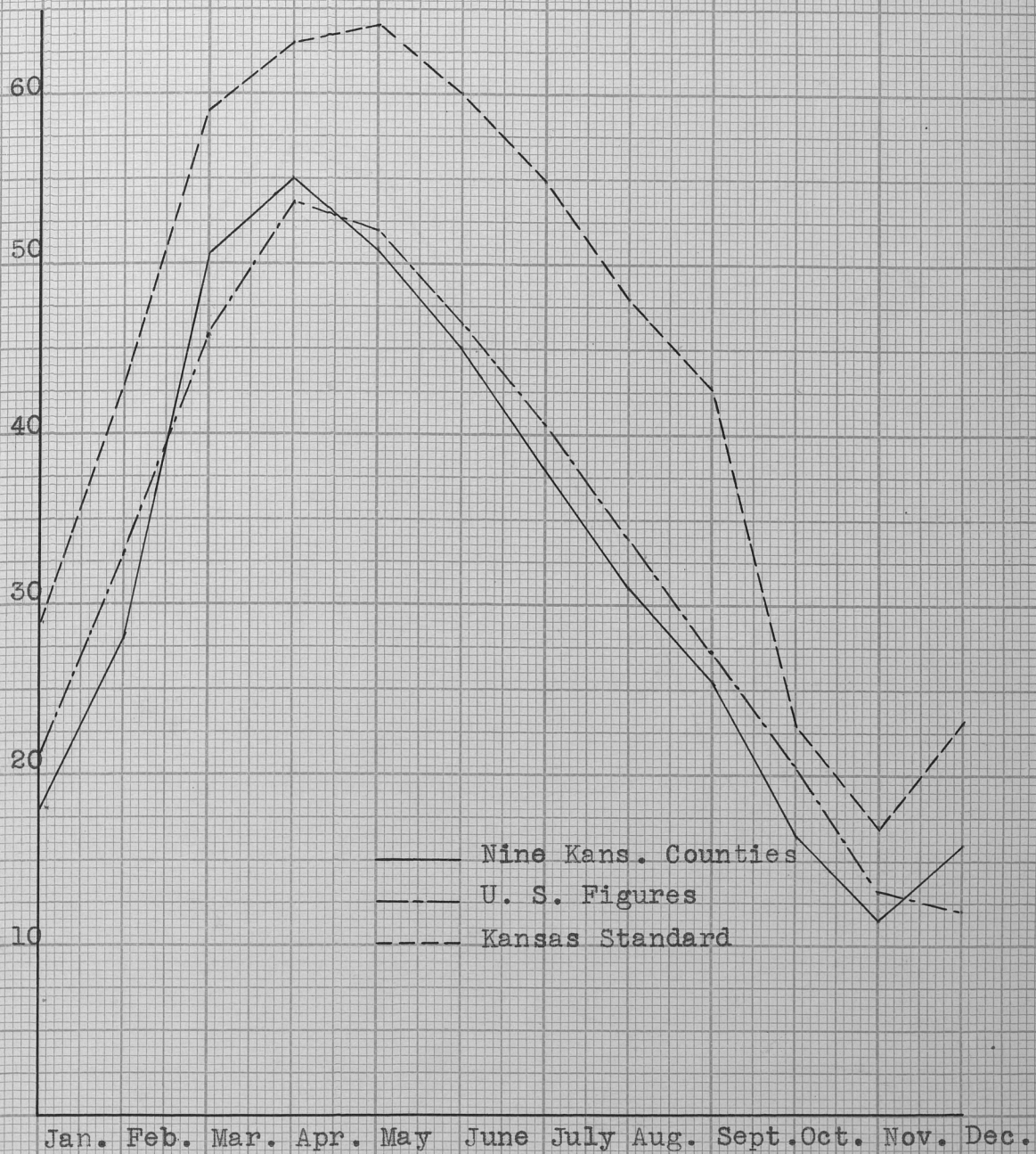


Fig.4--Average Daily Production per 100 Hens and Pullets in Flocks of Less than 400 Birds

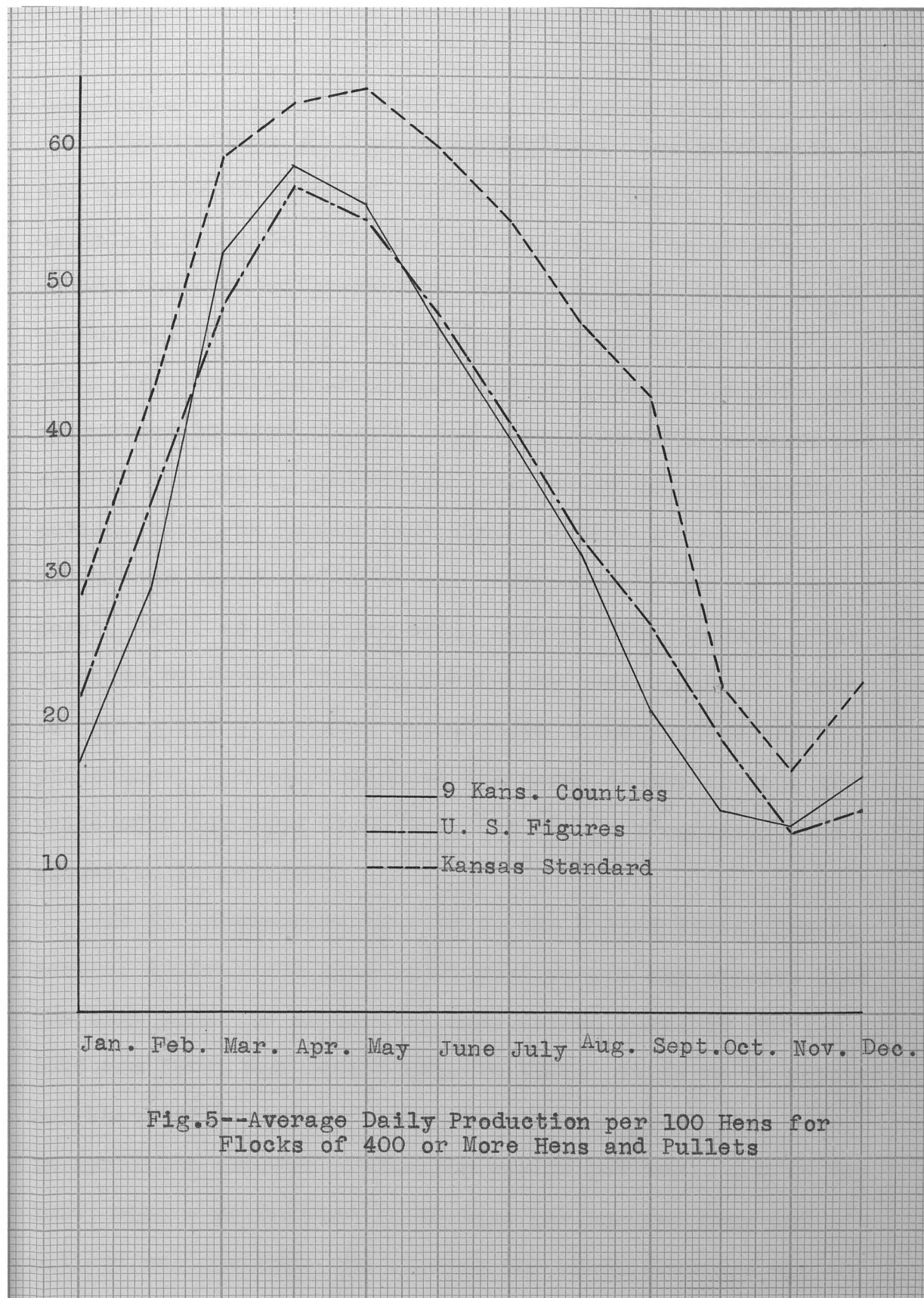


Fig.5--Average Daily Production per 100 Hens for Flocks of 400 or More Hens and Pullets

Fluctuations in Rate of Production. Egg production is not distributed uniformly throughout the year. There are certain pronounced seasonal fluctuations. The survey showed the peak of production coming in April with a daily production of 56 eggs per hundred hens and pullets of laying age. The production declined gradually until November when only about 13 eggs per 100 hens were produced. Seventy per cent of the yearly production came during the six months period, March to August inclusive. Figure 6 gives the percentage distribution of egg production by months from March, 1928, to February, 1929, and the average farm price received by Kansas farmers during the same months. There is apparently an inverse correlation between price and production, for as production increases in the spring, the price paid for eggs drops. As the season progresses, the situation is reversed.

It is interesting to note in the United States Department of Agriculture summary of poultry and egg reports that the high point in production came during April in 1925, 1926 and 1928; and during May, in 1927. It is to be pointed out that all three years when the peak of production came in April the average production was 54 per cent, and in May, 1927, when a production of 60 eggs per hundred hens and pullets was reached, the average the month previous was 53 per cent. (See Figures 4 and 5) The low point was reached

all three years in December, when from 11 to 14 per cent of all hens and pullets were laying, and in November, 1928, when 9 per cent were reported producing.

Assuming that an equal number of hens and pullets were producing each month, it was found in the survey that 71 per cent of the year's production came during the six months period, March to August inclusive. The United States Department of Agriculture's summary showed 73 per cent of the production during the same period in 1925; 70 per cent in 1926; 71 per cent in 1927; and 72 per cent in 1928. The above data show that an average of 120 eggs per year, or 10 eggs per month, is the usual production of hens and pullets under Kansas conditions and that there is little variation from 71 per cent of the total production occurring during the six months period, March to August.

The time of heaviest production is influenced more by temperature than any other factor. An unusually mild winter and early spring will encourage early production with 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 control in a measure the time of heaviest production. By systematic

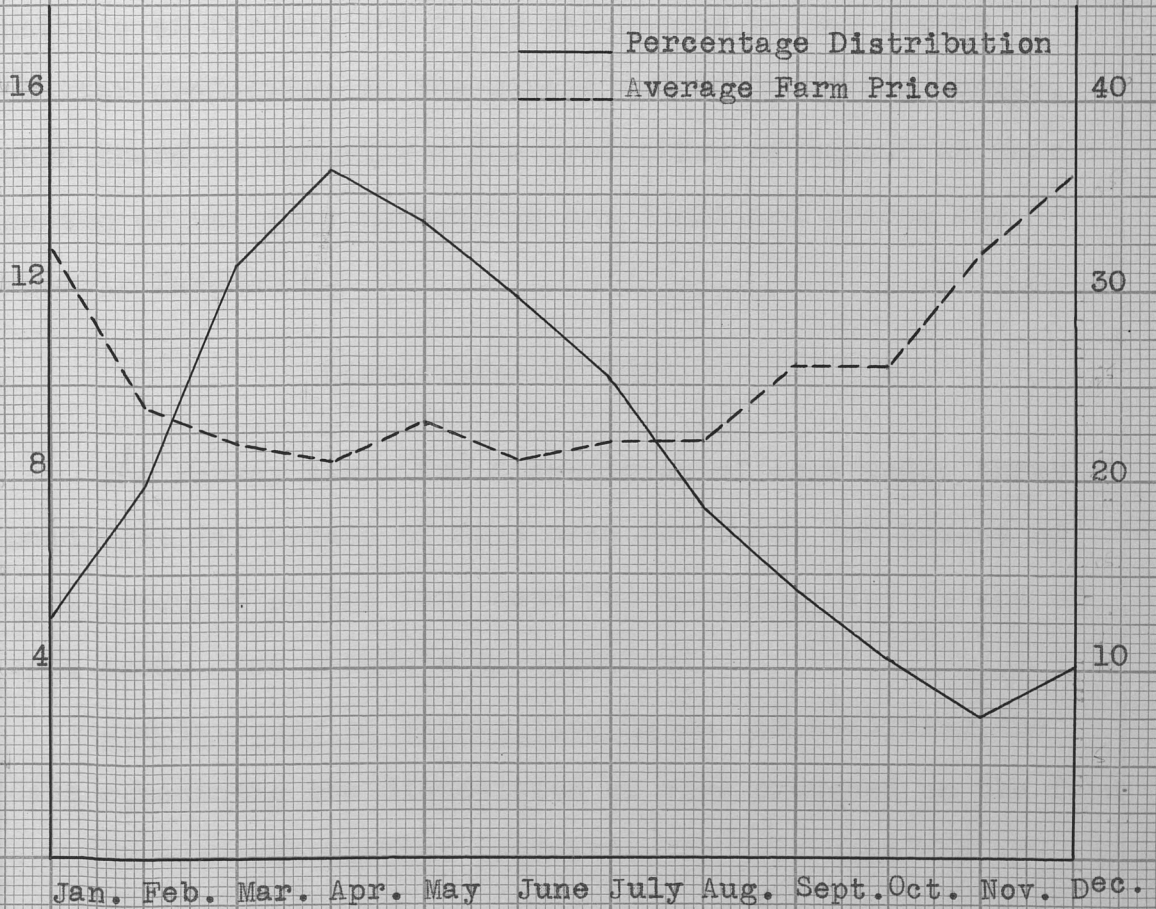


Fig.6--Percentage Distribution of Egg Production and Average Price Paid Farmers by Months in 9 Kansas Counties

culling and improvement of breeding he may bring his flock to a higher plane of production. By following better methods of feeding and flock management he may secure heavier production in the winter and early spring months, when there is normally a low production of eggs. At this season of the year marketings are light and prices are usually favorable.

Disposition of Eggs

The survey asked for disposition of eggs under three headings: (a) Dozens of eggs used for food; (b) Dozens of eggs produced on the farm used for hatching; (c) Dozens of eggs sold. (See Schedule in Appendix)

Completeness of Disposition Data. In analyzing the data concerning the disposition of eggs produced on the farm a check was made against production to determine the approximate completeness of the number of eggs accounted for in the above three groups. An average daily rate of production per 100 hens and pullets for each month was determined by obtaining an average of the rate of production reported the last day of the previous month and the last day of the month considered. Multiplying the rate of production by hens and pullets of laying age on farms the last day of the month gave the total daily production, and this

multiplied by the number of days in the month gave approximate total monthly production for the flocks in the survey. Using the monthly totals obtained in this manner as a base and expressing the total of dozens of eggs used for food, used for hatching, and sold, in terms of per cent of total production, the results shown in Table X were secured.

Table X. Percentage of the Computed Total Number of Eggs Produced Each Month Accounted for in the Disposition Records (a)

Month	Disposition in per cent of Total Produced	Month	Disposition in per cent of Total Produced
January	87.9	July	91.9
February	100.4	August	89.7
March	101.2	September	89.0
April	98.4	October	75.9
May	93.4	November	78.2
June	93.8	December	83.1

Total for Year----- Straight Average 90.2
Total for Year----- Weighted Average 93.2

(a) Source:--Special Poultry Survey

Monthly production weights were used in securing the weighted average of 93.2 per cent. The straight average is 3 points lower than the weighted because of incomplete disposition records from August until January, or months with

low weights. The records were relatively complete for the remaining months, when egg production was high. This deviation of dispositions from the computed total production of less than 7 per cent indicates that the total number of eggs produced was as nearly accounted for in disposition as could reasonably be expected.

Eggs Sold. More eggs were sold per farm each month during the four months period March to June than were used for food on the average farm during the entire year. Most of the eggs produced on the farm go into market channels to be consumed as food. As shown in Table XI and Figure 7, marketings range from about 80 per cent of total production in March and April to 90 per cent in January. It is also interesting to note that more eggs were marketed during March and April than any other two months of the year. The number marketed per farm varied from 40 dozen in November to 188 dozen in March. An average of 113 dozen per month, or 1357 dozen per year, entered market channels from the average farm included in the survey. An average of 85.3 per cent of the eggs produced on farms were sold.

With an estimated yearly production of 120 eggs per hen or pullet, the average fowl so classified produced 14 eggs that were used for food on the farm, 4 eggs for hatching purposes on the farm, and 102 eggs that were sold.

Eggs Used for Food. Only about one-eighth as many eggs were used for food on the farm during the year as were marketed. As shown in Table XI the number used varied from 6.6 per cent, or 16.5 dozen per farm, during March, to 17.3 per cent, or 8.5 dozen, during December with an average of 11.4 per cent of the total number produced, or 13.3 dozen, consumed per month. (The high production during March accounts for the low per cent of total production used for food during that month). During the six month period from September to February an average of 10 dozen eggs was consumed per farm each month; from March to August the average was 16.7 dozen eggs per farm. An average of 160 dozen eggs per farm was used for food during the twelve month period. The per capita consumption varied from 21 eggs in November to 45 eggs in April. (See Figure 8) An average of 10.6 eggs was used during the year for each hen or pullet of laying age.

Eggs Used for Hatching Purposes on the Farm. As shown in Figures 9 and 10 the hatching of baby chicks is practically confined to the five month period, February to June, with 90 per cent of the chicks being hatched in March, April and May. The range in per cent of total eggs produced that were used for hatching purposes was from 2 per cent in June to 13.7 per cent in March, or an average for

Table XI-Disposition of Eggs Produced on the Average Farm

	Used for Food on the Farm		Used for Hatching Purposes on the Farm		Sold		Dozens of Eggs
	Dozens of Eggs	Per Cent	Dozens of Eggs	Per Cent	Dozens of Eggs	Per Cent	Total Produced
January	10.0	10.2			88.0	89.8	98.0
February	10.5	8.5	.5	5.9	106.0	85.6	117.0
March	16.5	6.6	34.0	13.7	188.0	79.7	238.0
April	18.0	7.7	27.5	11.9	186.0	80.4	232.0
May	16.5	8.1	8.5	4.2	180.0	87.7	205.0
June	16.5	10.0	3.5	2.0	177.0	88.0	197.0
July	18.0	12.6			119.0	87.4	137.0
August	15.0	14.6			86.0	85.4	101.0
September	12.0	13.9			74.0	86.1	86.0
October	10.0	16.7			50.0	83.3	60.0
November	8.5	17.3			40.0	82.7	48.0
December	8.5	11.9			63.0	88.1	72.0
Total for Year	160.0		74.0		1357.0		1591.0
Monthly Average	13.3	11.5	6.2	3.2	113.1	85.3	132.6

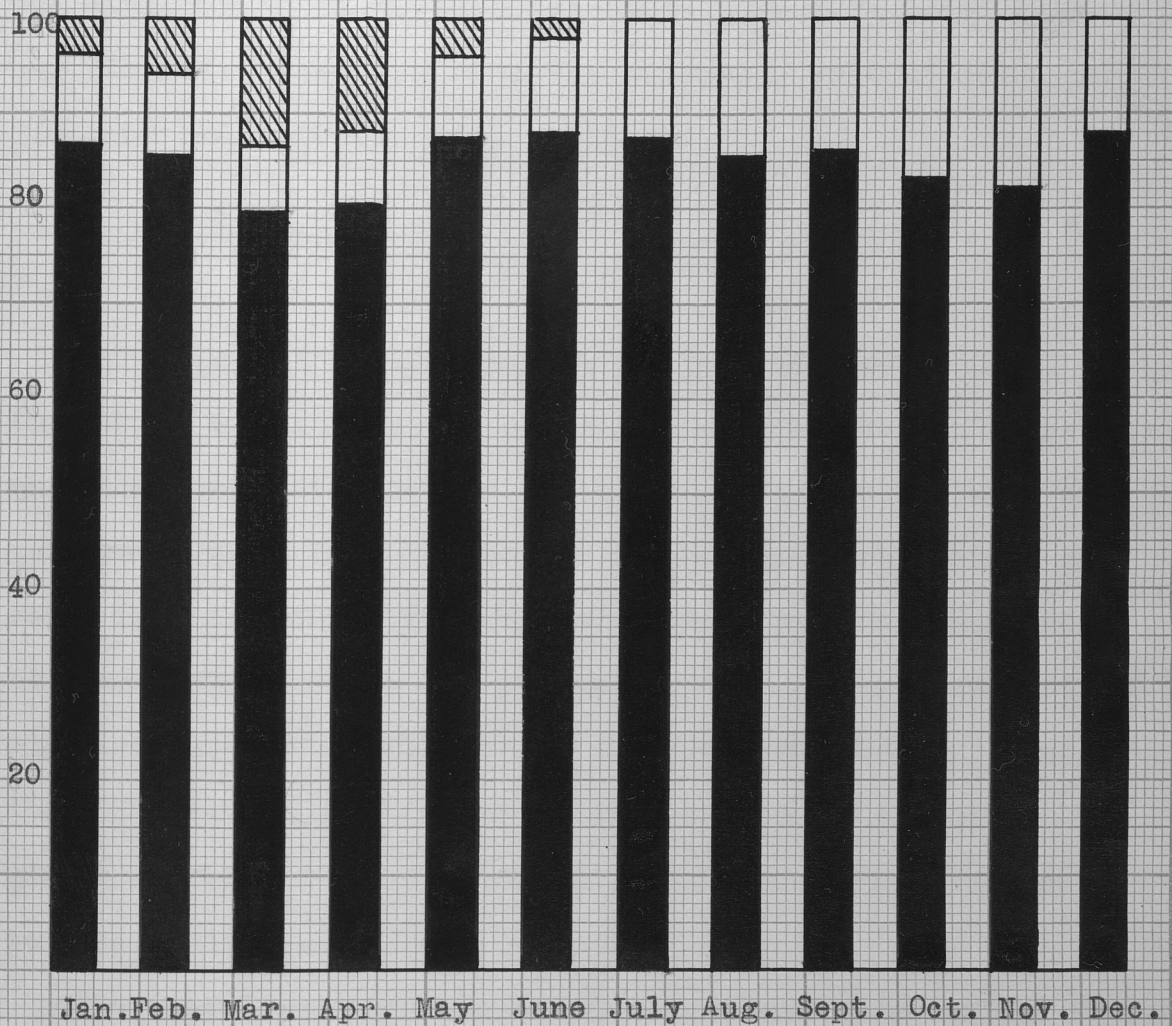


Fig.7--Percentage of Eggs Sold and Used for Food and Hatching on the Farm

-  Sold
-  Used on farm for food
-  Hatching purposes

the five month period of about 7.5 per cent. The average for March and April was 12.8 per cent. About 74 dozen eggs per farm were used for hatching purposes, or 40.5 dozen per 100 hens and pullets. (See Table XI)

BABY CHICKS

The special poultry survey was started March, 1928. From March until June, or until the hatching season closed, questions regarding baby chick production were included on the schedules. (See Appendix) To determine the extent of early hatching the questions were resumed in December and continued for January and February, 1929. As no comparable figures were available for January and February, 1928, the 1929 data collected those two months were included, giving a study of baby chicks for six months from January to June unclusive.

December returns from 318 flocks found only six correspondents reporting baby chicks hatched during the month, and these showed only an average of six chicks hatched per flock. During the month of January few chicks were hatched. As in December, only six from a group of 326 farms replied that hatching was a part of their month's poultry program. These six reported an average of 140 chicks produced. As

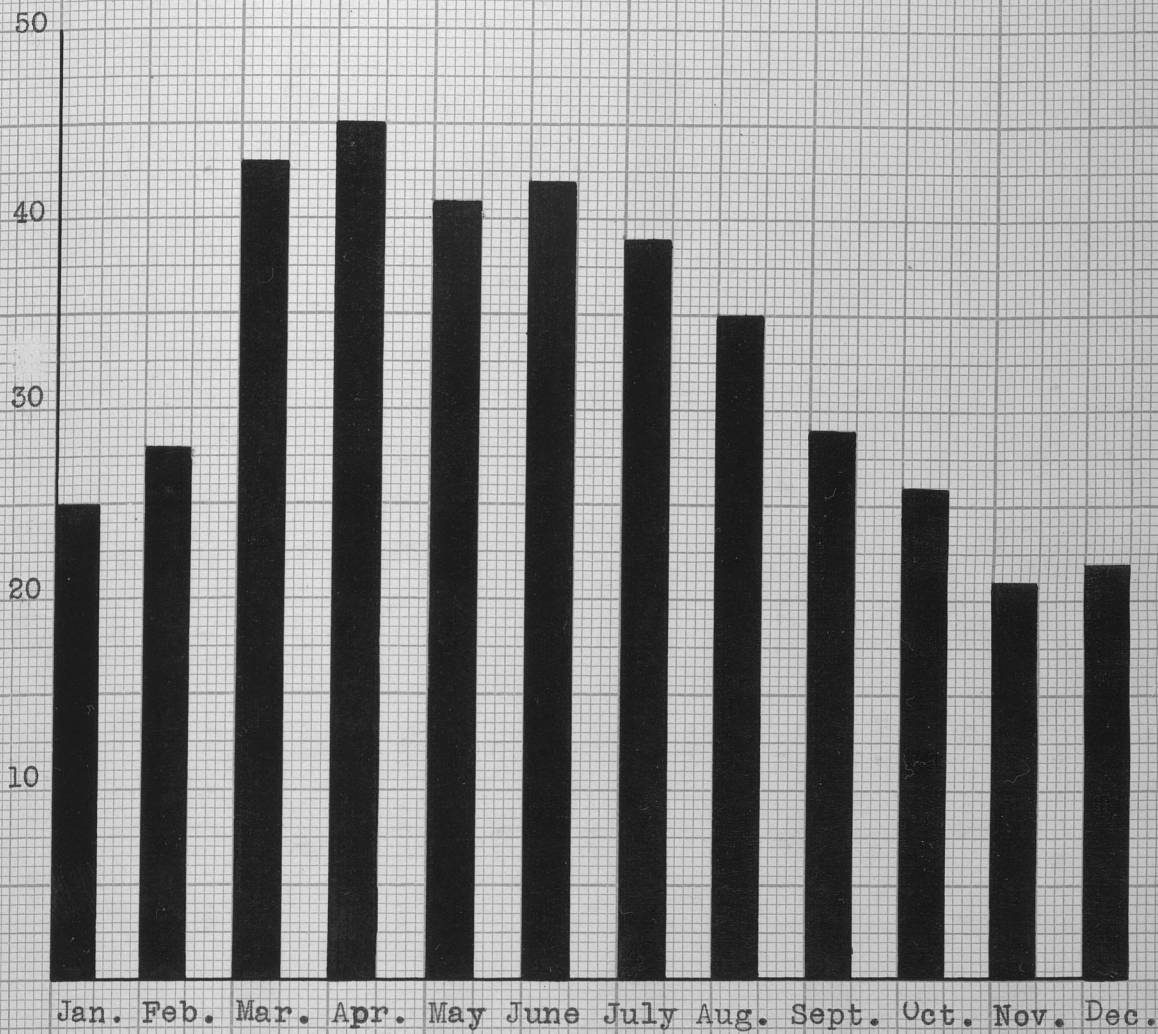


Fig.8--Average No. of Eggs Used for Food per Person on Farms

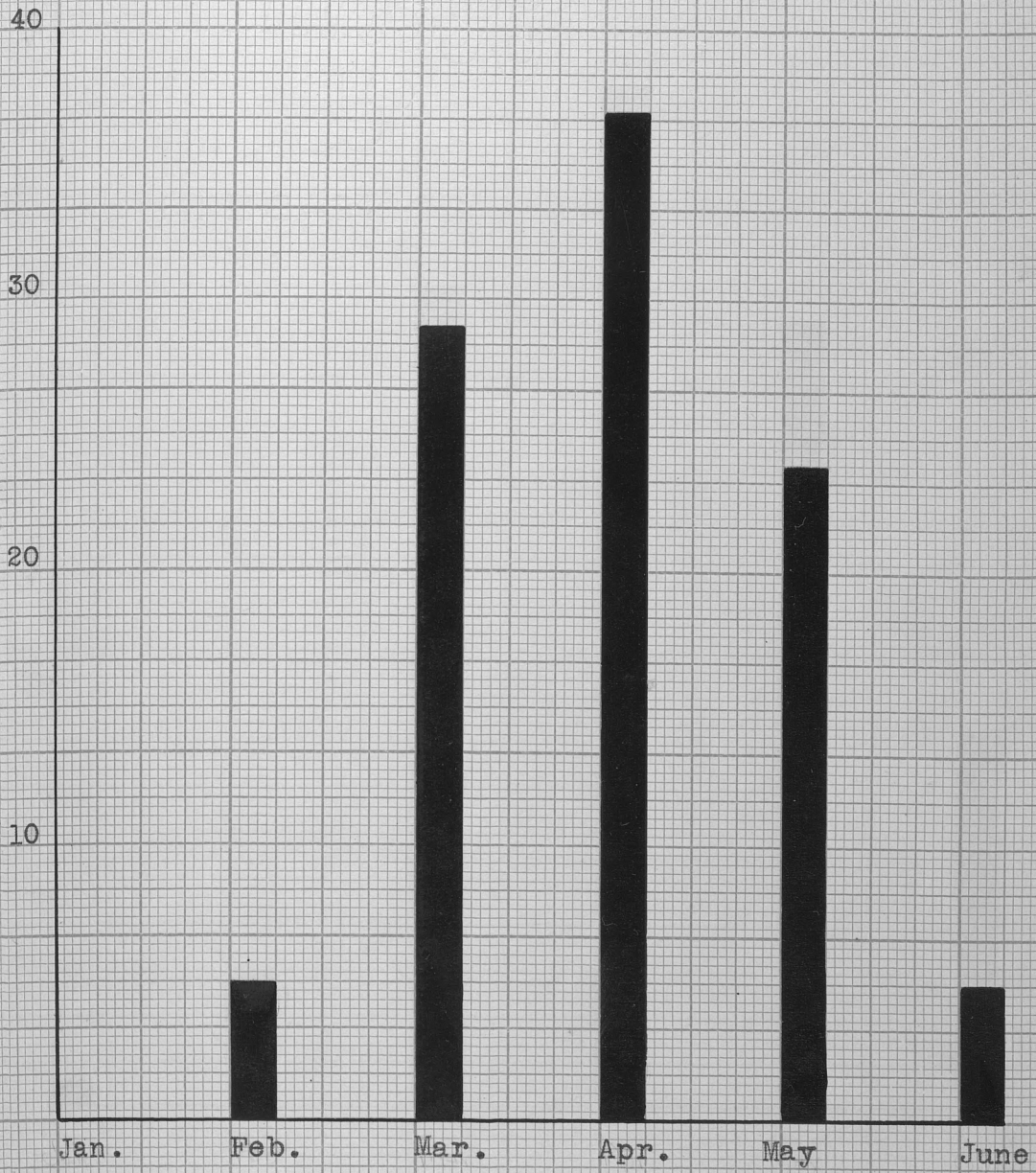


Fig.9--Percentage Distribution of Chicks Hatched Each Month

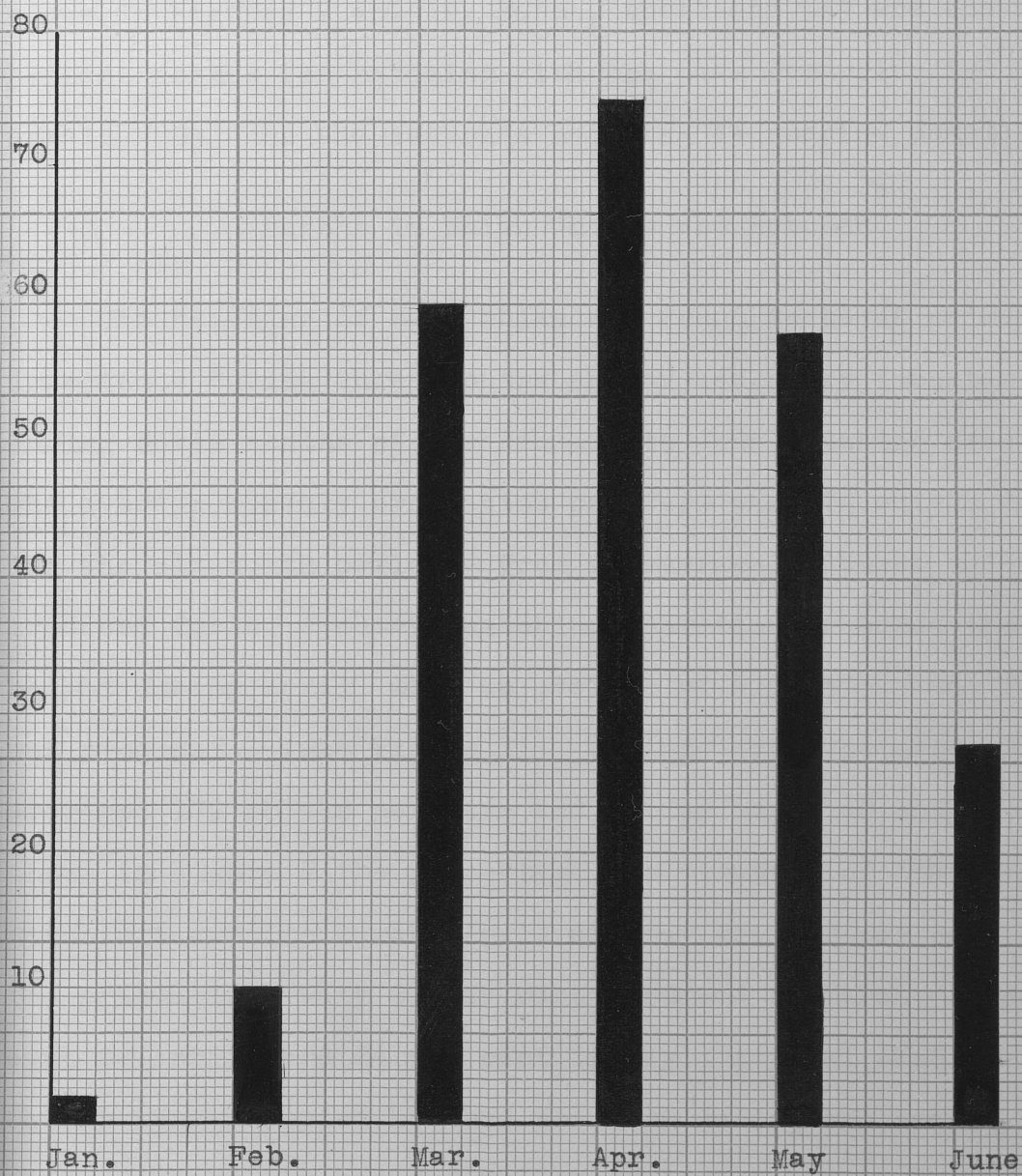


Fig.10--Percentage of Farm Hatching Chicks Each Month

shown in Figures 9 and 10, March, April and May are the important months for hatching with the peak occurring in April. By June the season's hatching is nearing completion.

Months in Which Chicks are Hatched

The hatching of baby chicks was found to be of primary importance during three months and of secondary importance during three months of the January to June hatching season. The average monthly production per farm was 103 chicks during the six month period. From an average of three chicks produced during January, hatching operations reached their height during April, when an average of 230 chicks per farm was produced. (See Figure 11) During March the production averaged 179 chicks per farm and during May, 145 chicks. As shown in Figure 9 the percentage distribution of the season's hatchings credits March, April and May with 90 per cent of the production, with 29 per cent produced in March, 37 per cent in April, and 24 per cent in May. A total of 618 chicks were reported hatched per farm during the season, or 3.3 chicks per hen and pullet of laying age in the average flock.

Referring to page 118 of "Poultry in Kansas", "The approximate dates at which reporters prefer to have the chicks

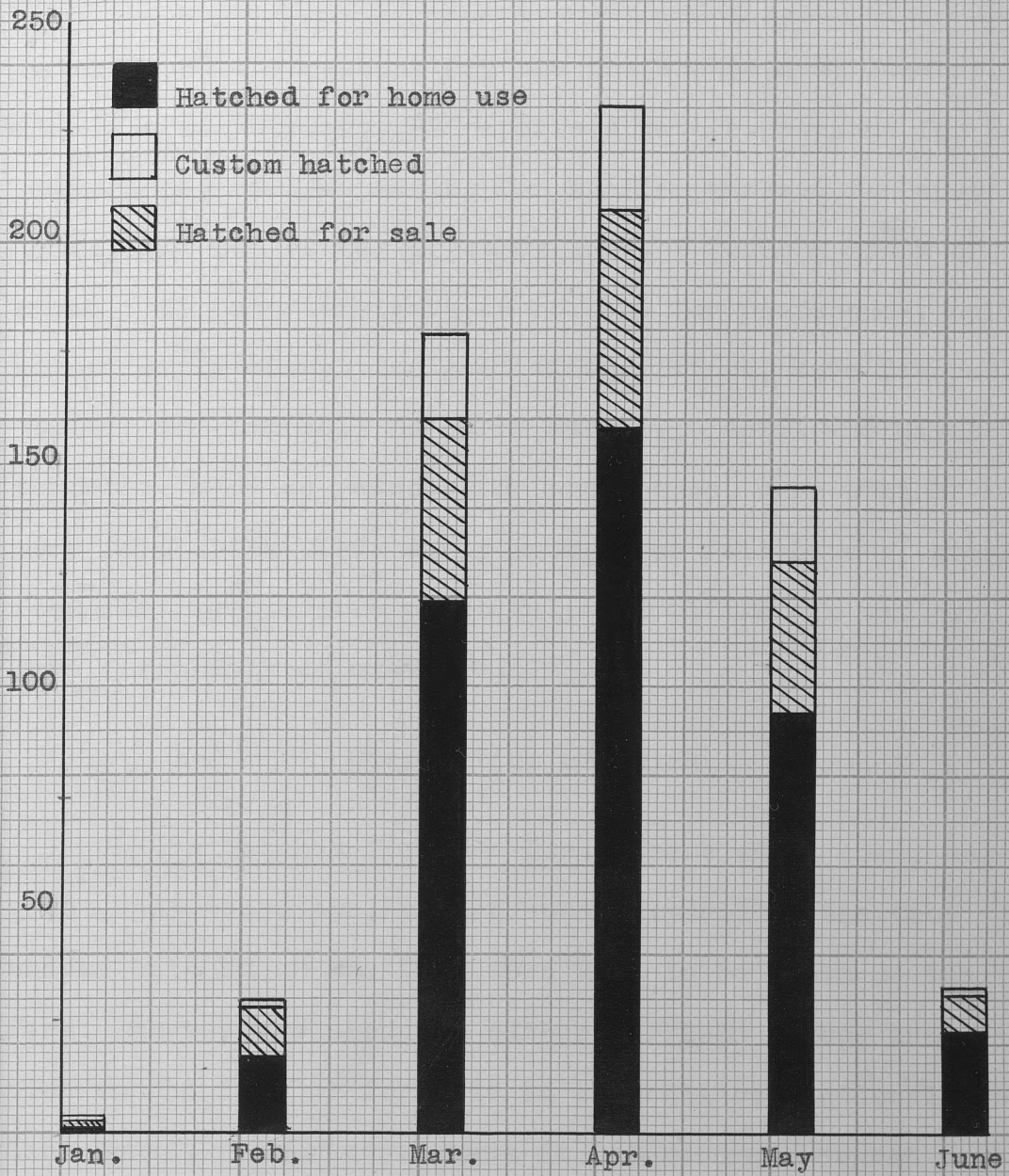


Fig.11--Distribution of Chicks Hatched on the Average Kansas Farm

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 weather and can sell on early market. April and May 1371 reporters gave as reasons for preference, warm weather and more favorable, birds early enough for fall layers, green feed and insects more plentiful, and chicks can get out more for plenty of exercise."

Disposition of Chicks

Chicks Hatched for Home Use. There was a time, not a great many years ago, when practically all of the baby chicks hatched on the farm were kept to be grown on the farm. These were produced either for food or egg production on the farm or for sale in the fall to the local produce house. In recent years it has become a common practice to dispose of a part of the season's hatching either by selling as baby chicks or by custom hatching for others. A majority of the chicks hatched on the farms, however, are still retained to be grown on the farm where hatched.

As shown in Table XII, two-thirds of the total chicks hatched were kept for home use on the farm. Out of an average of 103 chicks hatched per farm each month during the January to June hatching season 69, or 66.8 per cent, were retained to be grown on the farm. By months the range was from 33 per cent in January to 72 per cent in June. Only six farms reported incubations during January, 31 during February, and 32 during June. Excluding these three months of March, April and May, when 90 per cent of the total season's chicks were hatched, 66 per cent of the chicks hatched during March were retained for home use, 69 per cent during April, and 65 per cent during May. Among the counties the percentage of chicks retained varied from 50 per cent in Marshall county to 93 per cent in Wilson county. Five counties reported more than the average of 66.8 per cent, and in four counties less than 66.8 per cent were retained.

Baby Chicks Sold. The percentage of chicks hatched on farms and sold varied from none in Wilson county to 37 per cent in Ness county with a mean of 23 per cent. By months less variation was indicated. Excluding January the range in chicks sold was from 21 per cent in April to 37 per cent in February. During the months of March, April and May, when 86 per cent of those sold during the season were dis-

Table XII Number and Value by Months of Baby Chicks Hatched per Farm
for Home Use, Custom Hatched for Others and Sold

	Hatched for Home Use		Sold		Custom Hatched for Others		Total for Season	
	Number	Value	Number	Value	Number	Value	Number	Value
January	1	\$.10	1	\$.10	1	\$.10*	3	\$.30
February	17	1.70	11	1.10	1	.10	29	2.90
March	119	11.90	41	4.10	19	1.90	179	17.90
April	158	15.80	49	4.90	23	2.30	230	23.00
May	94	9.40	34	3.40	17	1.70	145	14.50
June	23	2.30	8	.80	1	.10	32	3.20
Total for Season	412	41.20	144	14.40	62	6.20	618	61.80

* A fee of about 5 cents per chick is usually charged for custom hatching

posed of, the variation was from 21 per cent in April to 23 per cent in March and May.

Custom Hatching Baby Chicks for Others. The custom hatching of baby chicks is becoming more popular, particularly in the mid-western states. It is commonly an important feature of the poultryman's operations. In this practice the eggs are furnished by the party for whom the hatching is being done. A normal fee of about 5 cents per chick is usually charged for this service. Custom hatching has many advantages. It enables the poultryman equipped with incubators and incubation equipment to utilize his plant to full capacity and with less overhead expense. It is an economical and convenient way of obtaining baby chicks and at the same time of using eggs of known origin for hatching. During the months of March, April and May, the period of heavy production, the percentage of custom hatched chicks of the total chicks hatched on farms varied only from 10 to 12 per cent. The average for the season was 62 chicks per farm, or 10.2 per cent of the total number hatched. (See Table XII) Marshall and Franklin counties lead in the percentage of chickens custom hatched, while Rawlins and Jewell counties indicated that this practice was of little importance in their hatching program.

Source of Chicks to be Grown on Farm

A summary of 2311 reports covering the months from January to June showed that 541 chicks per farm were secured to be grown on the farm, of which 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 and brought on to the farm. (See Table XIII) During January there was an average of only one chick hatched per farm, to be grown on farm. During February this number was increased by 26, during March by 151, during April, the high month of production, by 212, during May by 123, and during June by 28, making a season's total of 541 chicks hatched on the farm by self, custom hatched, or purchased to be grown on the farm. Thirty-nine per cent of the chicks to be grown on the farm were produced during April, while during the three month period, March to May, 90 per cent of the total chicks to be grown on the farm during the season were hatched.

Chicks Hatched for Self. More than three-fourths of the chicks grown in the nine counties studied were hatched on the farm where grown. Table XIII shows that during March an average of 119 chicks per farm, or 79 per cent of the chicks grown, were hatched on the farm; in April

Table XIII. Source and Value of Baby Chicks to be Grown on the Average Farm

	Hatched on Farm Where Grown		Purchased		Custom Hatched by Others		Total	
	No.	Value	No.	Value	No.	Value	No.	Value
January	1	\$.10	—	\$ —	—	\$ —	1	\$.10
February	17	1.70	6	.60	3	.30	26	2.60
March	119	11.90	30	3.00	2	.20	151	15.10
April	158	15.80	26	2.60	28	2.80	212	21.20
May	94	9.40	13	1.30	16	1.60	123	12.30
June	23	2.30	4	.40	1	.10	28	2.60
Total	412	\$41.20	79	\$7.90	50	\$5.00	541	\$54.10

158, or 75 per cent of the chicks; in May 94, or 76 per cent were hatched on the farm. Among the counties a much greater variation was indicated. The range was from 48 per cent of total chicks grown hatched on the home farm in Gray County to 87 per cent in Rawlins and Wilson counties. Five counties reported more than the mean of 76.2 per cent and four counties less than 76.2 per cent.

Chicks Purchased. As shown in Table XIII an average of 79 chicks, or 14.5 per cent of total chicks on farms were purchased. 44 chicks per 100 hens were purchased during the season. The variation during important hatching months was from 11 per cent purchased in May to 20 per cent in March. Assuming the average selling price of 10 cents per chick to be the purchase price of baby chicks, then the average farm purchased about \$7.90 worth of baby chicks, during the season. The range was 9 per cent of chicks purchased in Wilson county to 33 per cent in Gray county.

Chicks Custom Hatched by Others. Fifty chicks, or 9.3 per cent of the total grown, were custom hatched by others and brought on to the farm. (See Table XIII) This compares with 10.2 per cent of the chicks that were custom hatched on the farm for others. In Rawlins county only 1 per cent of the chicks were custom hatched by others, while in Gray county 19 per cent of the total number were accounted for in that manner. In only three counties were

Table XIV. The Number and Percentage of Chickens* and Baby Chicks Lost Each Month

	Chickens Lost		Baby Chicks Lost	
	Per Farm	Per Cent Lost More than 1 Month of Age	Per Farm	Per Cent of Baby Chicks Lost
January	4.1	1.7		
February	3.9	1.7	3.0	
March	4.8	2.2	20.0	13.5
April	4.0	2.0	37.0	15.8
May	6.2	1.9	29.0	23.6
June	9.3	2.1	18.0	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		
Total for Year	74.3		107.0	
Monthly Average	6.2	1.9	21.4	19.7+

*All over one month of age

+Average for 5 month period

more than 10 per cent of the chicks secured through custom hatching by others.

Chick Losses. Table XIV shows that one-fifth of all baby chicks died before reaching one month of age. The losses of chickens over one month of age ranged from 1.3 per cent in November and December to 2.6 per cent in July. The average was 1.9 per cent. Losses during March were 13.5 per cent of total chicks under one month of age on hand; during April 15.8 per cent, and during May 23.6 per cent. June found the losses amounting to 64.2 per cent. Between counties the range of losses was from 15.5 per cent in Franklin county to 31.6 per cent in Rawlins county.

The heaviest losses, which amounted to an average of 24 per cent, were reported in the three western counties included in the study. Five counties reported a loss of more than the average of 19.7 per cent and four counties less than 19.7 per cent.

Disposition of Chickens Produced

Chickens Sold. The average number of chickens sold per farm each month varied from 5.1 during February to 31.6 during July with an average of 17.1 for each month of the year. (See Table XV) From 67 to 86 per cent of the total chickens disposed of were marketed, the balance being used

Table XV. Number, Value, and Percentage Distribution of Chickens Sold
and Used for Food per Farm Each Month

	Chickens Sold		Used for Food on Farm		Total		Percentage	
	No.	Value	No.	Value	No.	Value	Sold	For Food on Farm
January	8.4	\$ 8.23	1.7	\$ 1.67	10.1	\$ 9.90	83	17
February	5.1	5.10	1.1	1.10	6.2	6.20	82	18
March	4.6	4.05	1.6	1.41	6.2	5.46	74	26
April	6.1	5.18	1.6	1.36	7.7	6.54	79	21
May	14.4	11.66	2.4	1.94	16.8	13.60	86	14
June	29.6	20.72	6.1	4.27	35.7	24.99	83	17
July	31.6	18.96	11.5	6.90	43.1	25.86	73	27
August	25.2	15.62	12.6	7.81	37.8	23.43	67	33
September	27.4	16.44	10.5	6.30	37.9	22.74	72	28
October	27.0	17.82	8.0	5.28	35.0	23.10	77	23
November	15.3	11.48	5.4	4.05	20.7	15.53	74	26
December	10.8	8.10	3.2	2.40	14.0	10.50	77	23
Total for Yr.	205.5	\$143.36	65.7	\$44.49	271.2	\$187.85		
Monthly Av.	17.1	11.95	5.5	3.71	22.6	15.67	75.8	24.2

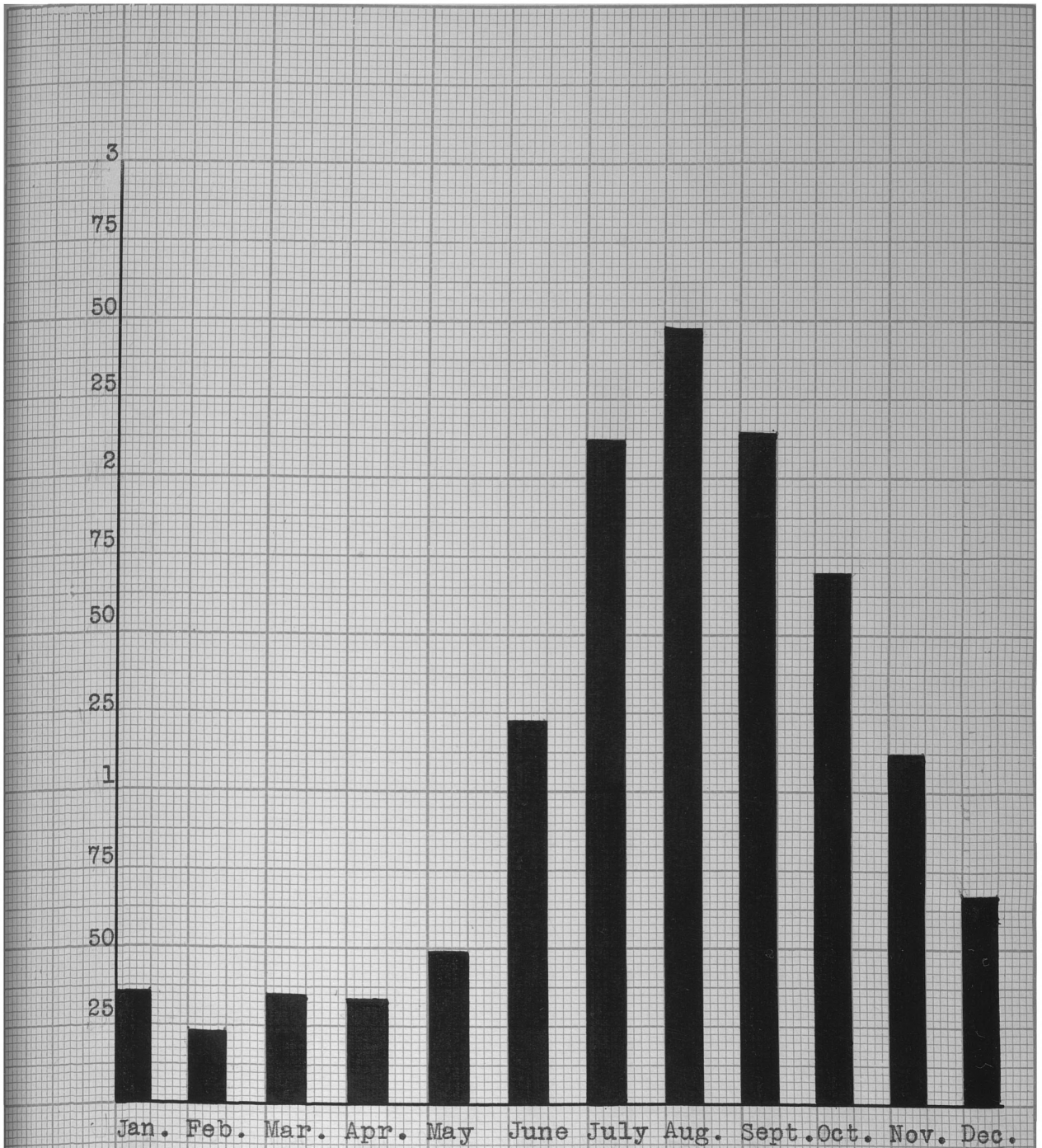
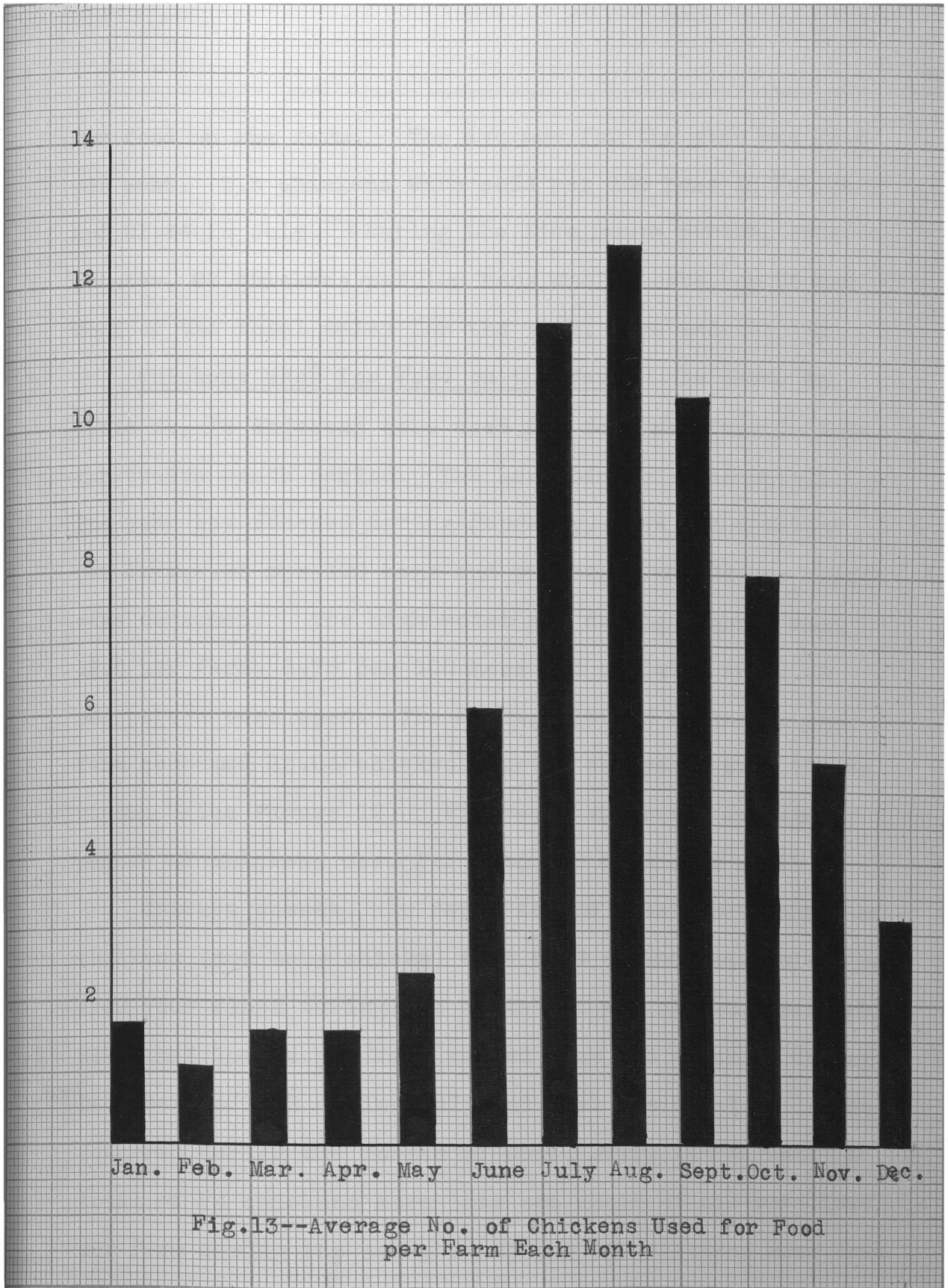


Fig.12--Average No. of Chickens Used for Food
per Person Each Month



for food on the farm. The average for the year was 75.8 per cent. 2.5 chickens were sold per 100 hens in February and 21.64 in July. During the five month period, June to October, 87 chickens per 100 hens and pullets, or 76 per cent of the total sales for the year, were made.

Chickens Used for Food on the Farm. As shown in Table XV, 66 chickens were used for food per farm during the twelve month period. The low point of consumption for the year was reached during February, when 1.1 chickens per farm, .53 per 100 hens and pullets, and .24 per capita were consumed. The high point was during August, when 12.6 per farm, 8.75 per 100 hens and pullets, and 2.48 per person were used. The average person eating on the farm consumed 13.24 chickens during the year, or 1.10 per month. (See Figure 12) Figure 13 shows the average number of chickens used for food per farm each month.

Chicken Losses. In reply to the question: "Number of chickens (not baby chicks) that died or were otherwise lost from your flock during the month" it was stated, (See Table XIV) that losses per farm ranged from 3.3 chickens during December to 12.2 during July and that the greatest losses occurred during the months of June, July, and August. A total of 74 chickens more than one month of age were lost per farm during the year, or 23 per 100 chickens more than

one month of age in the flock. Losses ranged from 1.3 per cent in November and December to 2.6 per cent in July, or an average of 1.9 per cent each month.

WHAT THE POULTRY FLOCK CONTRIBUTES TO THE FARM INCOME

Monthly production and disposition records received from 300 to 500 farm flocks during a twelve month period showed that the annual valuation of baby chicks, chickens, and eggs produced was \$585.98 per farm; \$329.52 per hundred hens and pullets; and \$3.30 for each hen and pullet of laying age kept on the farm. (See Figure 14 and Table XVI).

The poultry flock contributes in more than one way to the needs of the farm family. Eggs and chicken meat are two of the most popular articles in the human diet. The per capita consumption has been increasing annually. Eggs and meat are furnished regularly as a part of the food supply of the family. Furthermore, products of the flock are sold or are frequently exchanged in the market for groceries and for clothing. The values that enter into these exchanges should therefore be included as a part of the farm income. Cash sales are usually much larger than the value of the products used at home. As shown in Figure 15 and Table XVII, from 75.6 per cent during August to 89.4 per cent during February of all receipts from the poultry flock were credited to products sold. The average for the year was 83

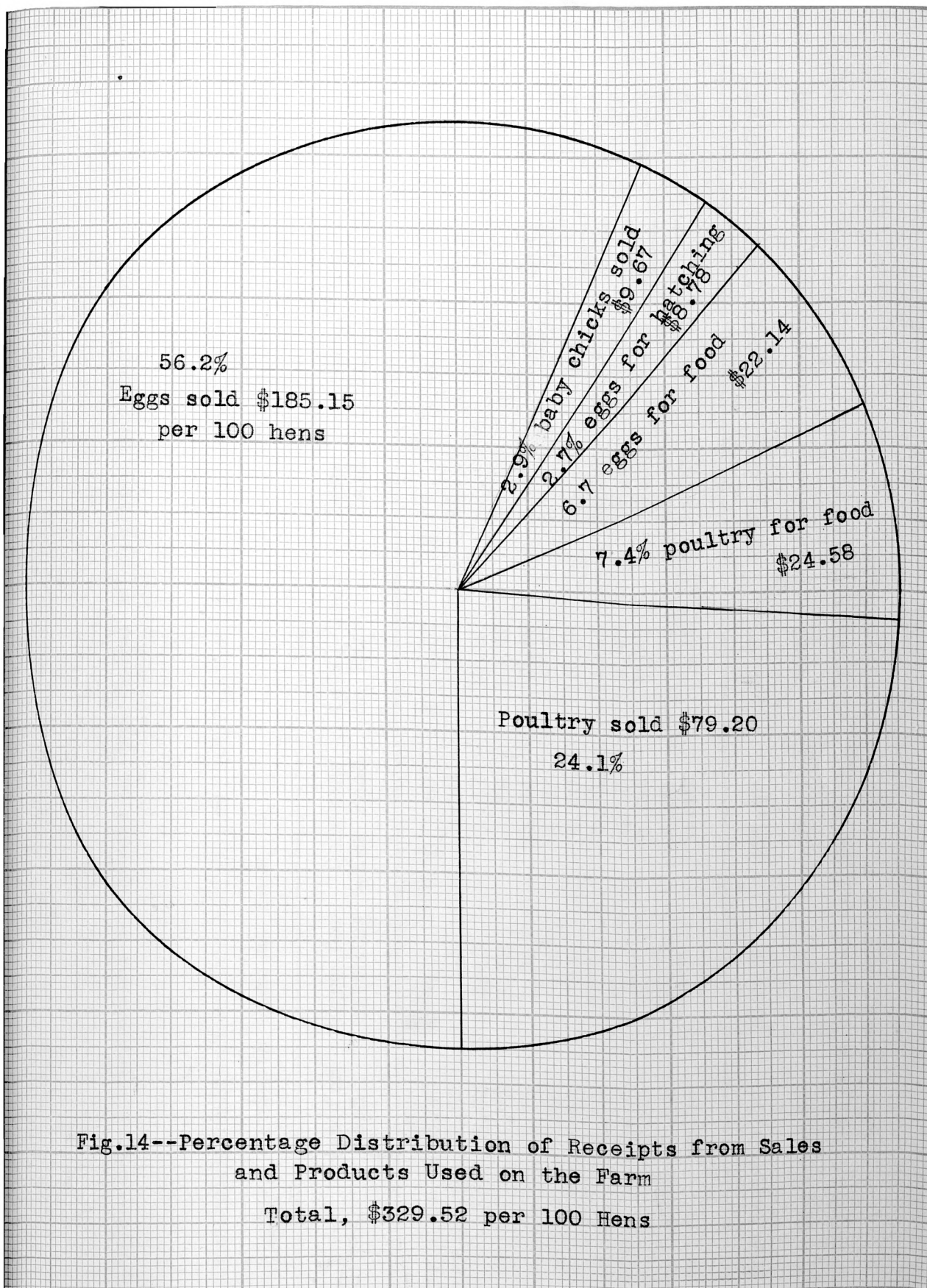


Fig.14--Percentage Distribution of Receipts from Sales and Products Used on the Farm

Total, \$329.52 per 100 Hens

Table XVI Distribution by Months of the Value of Poultry and Eggs Used on Farm and Sold per Farm (a)

	Products Used at Home				Products Sold			Total Products Sold and Used on Farm	
	Eggs for Food	Eggs for Hatching	Chickens for Food	Total Used on Farm	Eggs Sold	Chickens Sold	Chicks Sold*	Total Sold	
January	\$ 3.20	\$ --	\$ 1.67	\$ 4.87	\$ 28.16	\$ 8.23	\$.15	\$ 36.54	\$ 41.41
February	2.52	.12	1.10	3.74	25.44	5.10	1.15	31.69	35.43
March	3.63	7.48	1.41	12.52	41.36	4.05	5.05	50.46	62.98
April	3.78	5.78	1.36	10.92	39.06	5.18	6.05	50.29	61.21
May	3.79	1.96	1.94	7.69	41.40	11.66	4.25	57.31	65.00
June	3.46	.74	4.27	8.47	37.17	20.72	.85	58.74	67.21
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
Total for Year	\$39.14	\$16.08	\$44.49	\$99.71	\$325.41	\$143.36	\$17.50	\$486.27	\$585.98
Monthly Avg.	3.26	1.34	3.71	8.31	27.12	11.95	1.46	40.52	48.83

*Custom hatched chicks valued at 5 cents each
(a) Source--Survey of Nine Kansas Counties

per cent.

Value of Poultry and Eggs Produced

The Value of Eggs Produced. Analysis of the poultry industry in nine counties showed that eggs produced were valued at 65.6 per cent of the total poultry products. (See Table XVII) As shown in Table XVIII, the 1591 dozen eggs produced per farm during the year were valued at an average of 28 cents per dozen, making a total valuation of \$380.63. The average monthly valuation was \$31.72. The range in valuation was from \$15.52 during November to \$52.47 during March. Although the price per dozen fluctuated from 21 cents during April and June to 36 cents during December, the variation in total valuation of eggs produced at various seasons of the year was influenced to a greater extent by the changes in rate of egg production than by changes in the farm price of eggs.

About 11.5 per cent of the eggs produced during the year were used for food on the farm where produced; 3.2 per cent were used for hatching purposes, and 85.3 per cent entered commercial channels. Table XIX shows the disposition and value of eggs produced per 100 hens.

The Value of Chickens Produced. Chickens produced (not including baby chicks) were credited with 31.5 per

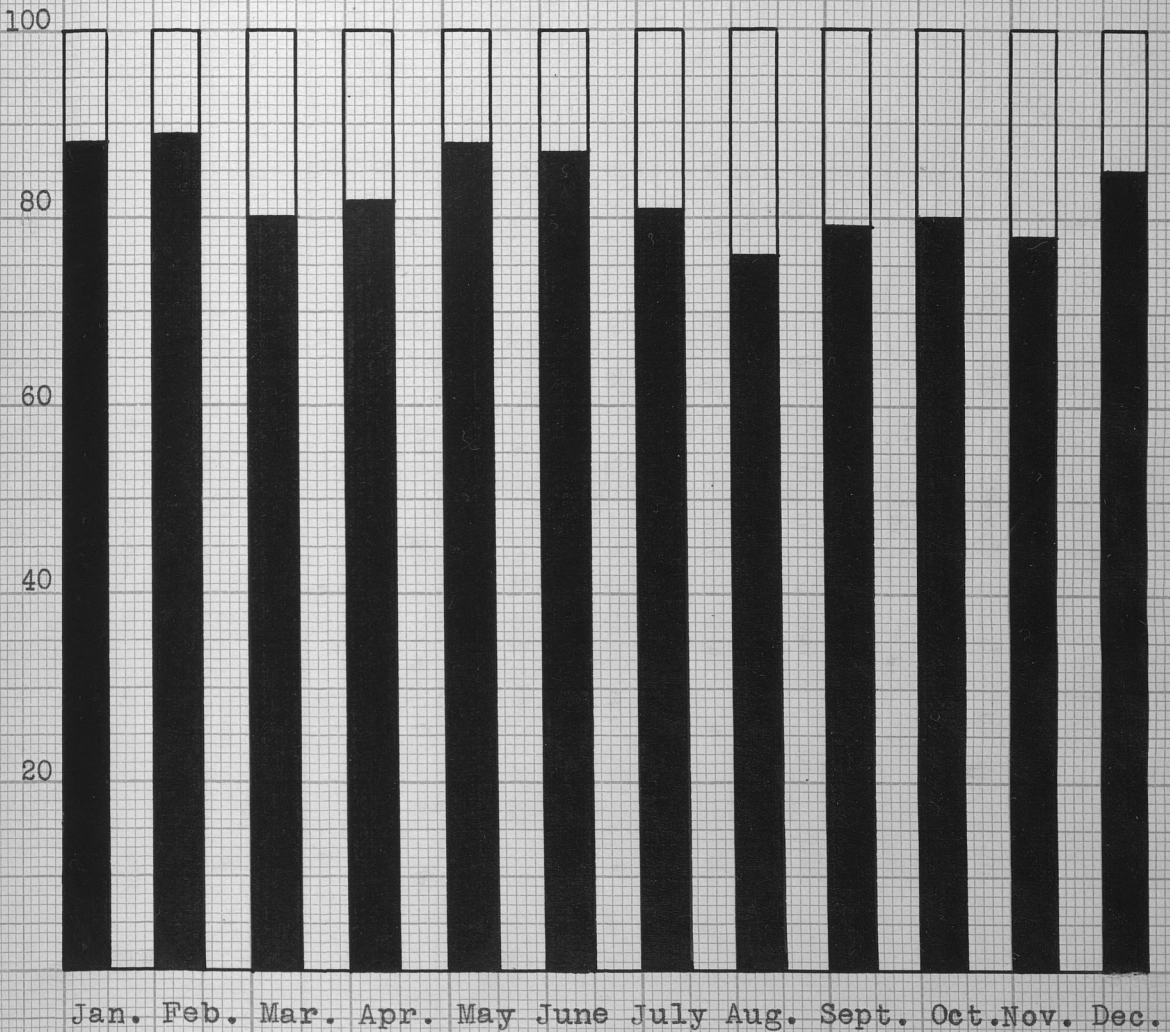


Fig.15--Percentage of Total Receipts from Sales and Value of Chickens & Eggs Used on the Farm



Per Cent of receipts from sales



Per Cent from poultry & eggs used on farm

Table XVII. Percentage Distribution by Months of the Value of Poultry and Eggs
Sold and Used on the Farm

	Sold - Per Cent				Used on the Farm - Per Cent				Total Per Cent Sold and Used on Farm
	Chickens	Eggs	Baby Chicks	Total Sold	Chickens for Food	Eggs for Food	Eggs for Hatching	Total Used on Farm	
January	19.9	68.0	.4	88.3	4.0	7.7	—	11.7	100.0
February	14.4	71.8	3.2	89.4	7.1	3.2	.3	10.6	100.0
March	6.4	65.7	8.0	80.1	2.2	5.8	11.9	19.9	100.0
April	8.5	63.8	9.9	82.2	2.2	6.2	9.4	17.8	100.0
May	18.0	63.7	6.5	88.2	3.0	5.8	3.0	11.8	100.0
June	30.8	55.3	1.3	87.4	6.4	5.1	1.1	12.6	100.0
July	33.9	46.8	—	80.7	12.3	7.1	—	19.3	100.0
August	34.2	41.2	—	75.6	17.1	7.3	—	24.4	100.0
September	36.4	42.7	—	79.1	14.0	6.9	—	20.9	100.0
October	33.6	46.0	—	79.6	13.7	6.7	—	20.4	100.0
November	37.0	41.2	—	78.2	13.0	8.8	—	21.8	100.0
December	22.4	62.6	—	85.0	6.6	8.4	—	15.0	100.0
Monthly Avg.	24.1	56.2	2.9	83.0	7.4	6.7	2.7	17.0	100.0

Table XVIII-Disposition and Value of Eggs Produced per Farm

	Average Farm Price per Doz.	Used for Food on the Farm		Used for Hatching on the Farm		Sold		Total	
		Dozens	Value	Dozens	Value	Dozens	Value	Dozens	Value
January	.32	10.0	\$3.20		\$	88.0	\$28.16	98.0	\$31.36
February	.24	10.5	2.52	.5	.12	106.0	25.44	117.0	28.08
March	.22	16.5	3.63	34.0	7.48	188.0	41.36	238.5	52.47
April	.21	18.0	3.78	27.5	5.78	186.0	39.06	231.5	48.62
May	.23	16.5	3.79	8.5	1.96	180.0	41.40	205.0	47.15
June	.21	16.5	3.46	3.5	.74	177.0	37.17	197.0	41.37
July	.22	18.0	3.96			119.0	26.18	137.0	30.14
August	.22	15.0	3.30			86.0	18.92	101.0	22.22
September	.26	12.0	3.12			74.0	19.24	86.0	22.36
October	.26	10.0	2.60			50.0	13.00	60.0	15.60
November	.32	8.5	2.72			40.0	12.80	48.5	15.52
December	.36	8.5	3.06			63.0	22.68	71.5	25.74
Total for Year		160.0	\$39.14	74.0	\$16.08	1357.0	\$325.41	1591.0	\$380.63
Monthly Avg.	.28	13.3	3.26	6.2	1.34	113.1	27.12	132.6	31.72

cent of the total farm income from the poultry flock. As shown in Table XV, 271 chickens per year with a total valuation of \$187.85 were either marketed or used for food on the average Kansas farm. During the five month period from June to October, chickens valued at \$120.12, or 64 per cent of the annual chicken production were either marketed or used for food on farms. Chickens with a valuation of \$103.78 for the year, or an average of \$8.65 per month, were produced for every 100 hens and pullets in farm flocks.

Poultry and Eggs Sold

As shown in Table XVI, sales of chickens and eggs amounted to \$486.27 per farm for the year, or an average of \$40.52 per month. The variation in total sales was from \$24.28 in November to \$58.74 in June. Products valued at \$274.02 per 100 hens and pullets were sold during the year, or an average of \$22.83 per month. Sales comprised 83 per cent of the total receipts from the poultry flock. Of the products sold 67.6 per cent of the total receipts were derived from the eggs, 28.9 per cent from chickens, and 3.5 per cent from baby chicks. (See Figure 16) The value of chickens, chicks, and eggs sold per farm per 100 hens is shown in Figures 18 and 19.

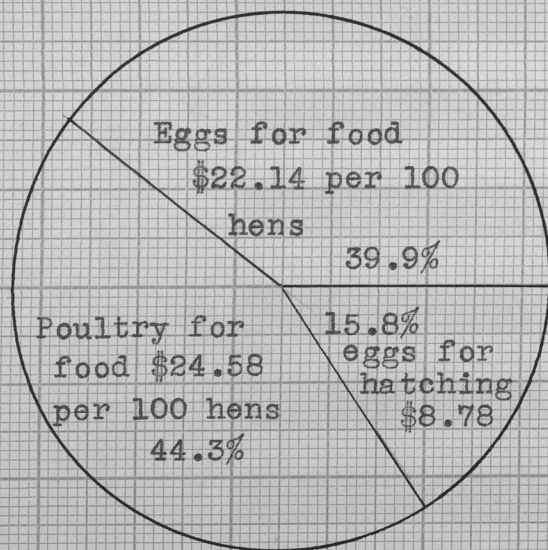


Fig.17--Distribution of Value of Poultry Products Used on Farm during the Year

Total, \$55.50 per 100 Hens

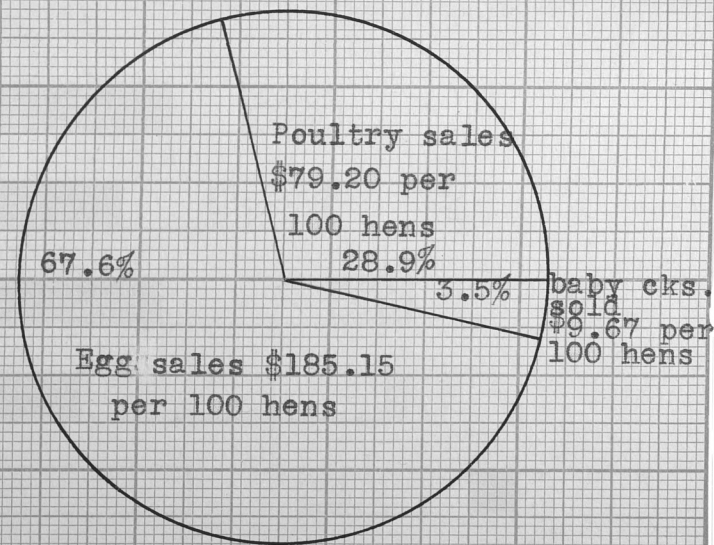


Fig.16--Percentage Distribution of Receipts from Sales during the Year

Total, \$274.02 per 100 Hens

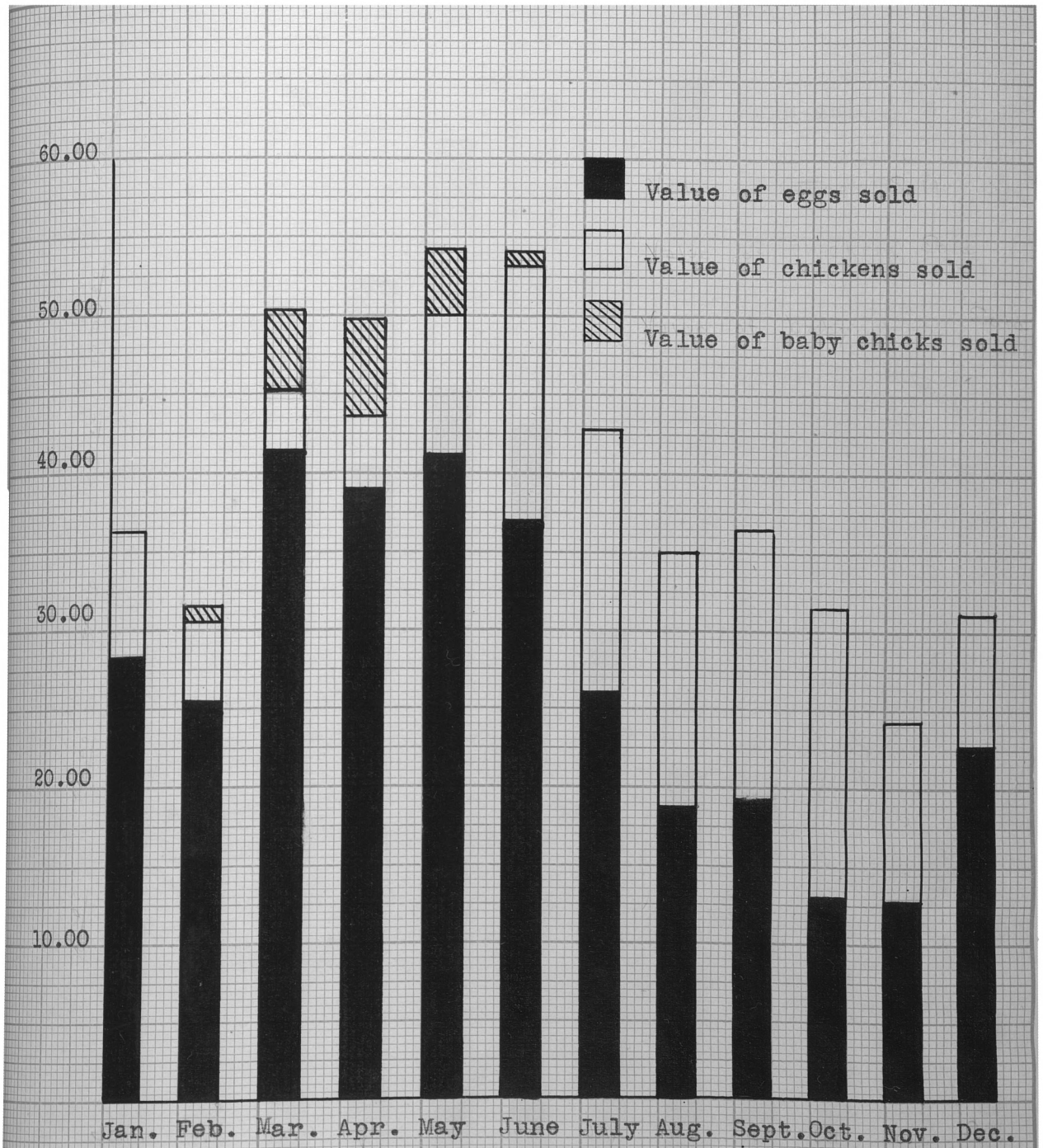


Fig.18--Value of Chickens, Chicks and Eggs Sold per Farm

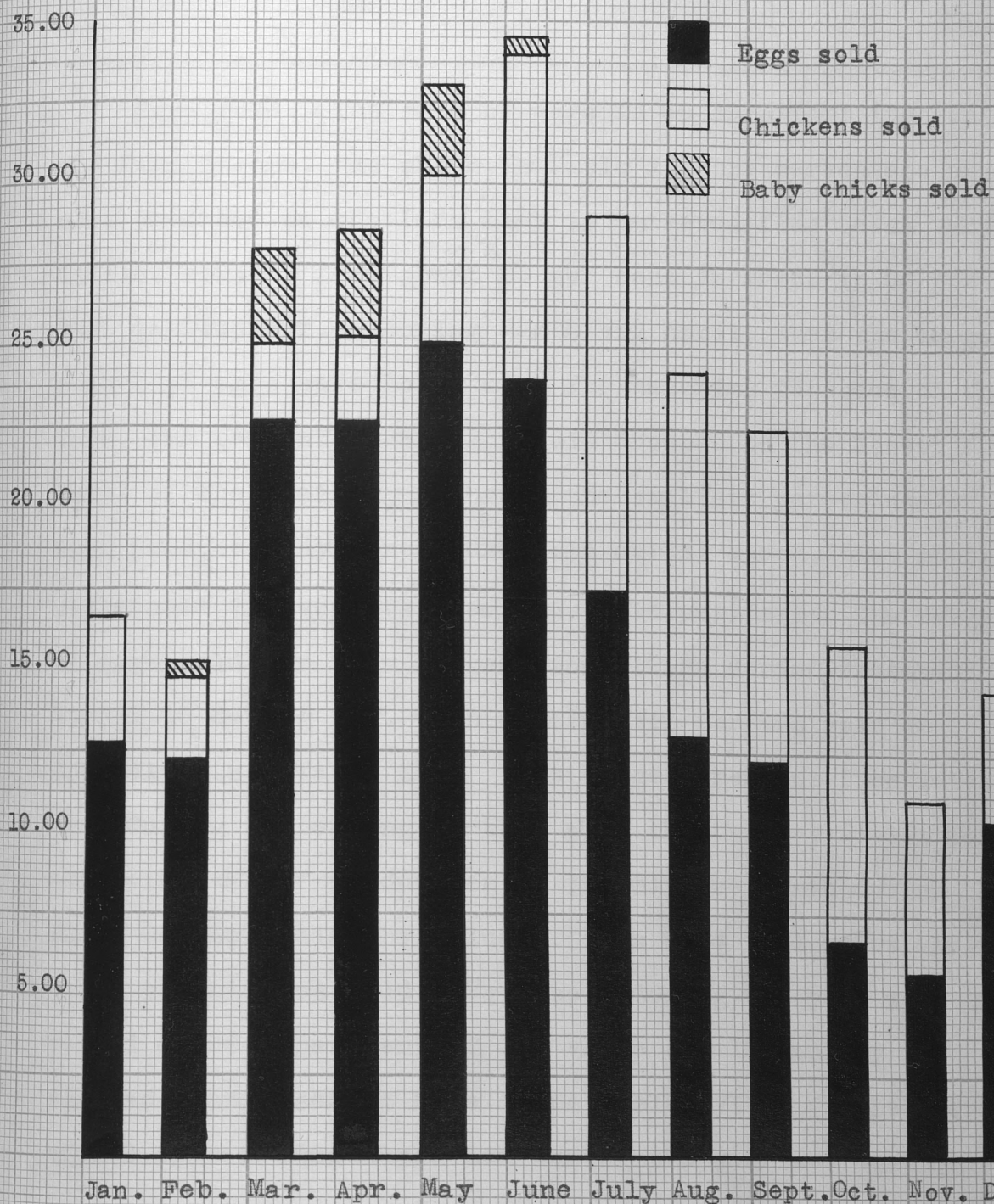


Fig.19--Value of Chickens, Chicks and Eggs Sold per 100 Hens

Eggs Sold. The sale of eggs is an important item in the farm income. As shown in Table XI, the percentage of eggs produced on the farm that is marketed fluctuates very little, varying from about 80 per cent in March to 88 per cent in December. During March and April, when the largest number of eggs were being used for hatching purposes on the farm, the percentage of eggs sold dropped to the lowest level of the season. Although the smallest percentage of eggs produced any month were sold during March, that month was second in receipts from eggs sold per farm. The value of eggs sold per farm ranged from \$12.80 during November to \$41.40 during May, with a valuation for the year of \$325.41. (See Table XVI) The largest returns from sales came during the spring months, when the poultry flocks were at their peak of production. In only one month during the year, October, did the value of eggs sold fall below the value of chickens sold. Eggs sold during the year were valued at 56.2 per cent of the value of all poultry and eggs sold and used at home. (See Table XVII) Of the average of 120 eggs produced per hen during the year 102 eggs are sold, 14 are used for food on the farm, and 4 are used for hatching purposes.

Chickens Sold. Chicken sales are a source of income every month of the year, although there are marked fluctu-

Table XIX-Disposition and Value of Eggs Produced per 100 Hens

	Average Farm Price	Used for Food on the Farm		Used for Hatching on Farm		Sold		Total	
	Per Dozen	Dozens	Value	Dozens	Value	Dozens	Value	Dozens	Value
January	.32	4.5	\$ 1.44	—	—	40.0	\$12.80	44.5	\$ 14.24
February	.24	5.0	1.20	—	—	51.0	12.24	56.0	13.44
March	.22	9.0	1.98	17.5	\$ 3.85	103.0	22.66	129.5	28.49
April	.21	10.0	2.10	16.0	3.36	108.0	22.68	134.0	28.14
May	.23	10.0	2.30	5.0	1.15	109.0	25.07	124.0	28.52
June	.21	10.5	2.20	2.0	.42	114.0	23.94	126.5	26.56
July	.22	12.0	2.64	—	—	80.0	17.60	92.0	20.24
August	.22	10.5	2.31	—	—	59.0	12.98	69.5	15.29
September	.26	7.5	1.95	—	—	47.0	12.22	54.5	14.17
October	.26	5.0	1.30	—	—	26.0	6.76	31.0	8.06
November	.32	4.0	1.28	—	—	18.0	5.76	22.0	7.04
December	.36	4.0	1.44	—	—	29.0	10.44	33.0	11.88
Total for Year		92.0	\$22.14	40.5	\$ 8.78	784.0	\$185.15	916.5	\$216.07
Monthly Average .28		7.7	1.85	3.4	.73	65.3	15.43	76.4	18.01

ations in the quantity of sales at different seasons of the year. Sales vary from 2.64 chickens per 100 hens and pullets in March to 21.64 in July. The average farm included in the survey sold 205 chickens during the 12 month period. About 141, or 70 per cent of the chickens, were marketed during the five month period from June to October, at which time there was a strong demand for broilers and fryers. As shown in Table XVI the chickens sold per farm during the year were valued at \$143.36 , or an average of \$11.95 per month. Sales ranged from \$4.05 per farm in March to \$20.72 in June. The sale of chickens comprised 24.1 per cent of the total income from the poultry flock. (See Table XVII)

Baby Chicks Sold. The hatching of baby chicks for sale is an important part of the poultry program on many farms. About 23 per cent of all chicks hatched were sold. During the hatching season questions regarding the price received for baby chicks sold were included. The average price and percentage of the total number of chicks hatched on farms that were sold are shown in Table XX.

Table XX. Average Price and Number of Baby Chicks
Sold per Farm Each Month

Month	Price (cents)	Average Number per Farm
January	11.7	1
February	10.0	11
March	9.7	41
April	10.1	49
May	10.2	34
June	8.3	8
Avg. Price for Year	9.9	
Total No. of Chicks sold per farm		144

As indicated in Table XX, the early hatched chicks commanded the highest market price with slight variation each month until June, when the low price of 8.3 cents per chick was reported. The average for the season was 9.9 cents per chick. For valuation purposes in this study a uniform price of 10 cents per chick was used. The average producer sold 144 chickens for \$14.40 during the January to June hatching season. Practically all of the chicks were sold during the months of March, April and May. April, the high month in number of chicks hatched, was also the high month in chick sales with 49 chicks being sold for a

total of \$4.90. The introduction and growth of commercial hatcheries in Kansas now with an annual capacity of about three million chicks annually will doubtless reduce to some extent the number of baby chicks farmers have been able to dispose of each year.

Custom Hatched Chicks for Sale. Custom hatching is becoming a practice of some importance, particularly in the middle western states. The poultryman charges a small fee, usually about 5 cents per chick for the hatching. The eggs are furnished by the persons for whom the chicks are being hatched. About 6 per cent of the reporters indicated custom hatching a part of their season's operations. An average of 62 chicks per farm or 10 per cent of the total produced during the season, were custom hatched.

Poultry and Eggs Used on the Farm

The importance of the poultry industry must be judged from the standpoint of both the products sold and those produced for home consumption. With respect to consumption there are few other products as widely used as chicken meat and eggs. They are a source of an important part of the farm family's food supply. As shown in Table XVII, 17 per cent of the chickens and eggs produced were used on the farm. This amounted annually to 55 cents per hen and pul-

let on hand, \$20.77 per person eating on the farm, and a total of \$99.71 per farm. Figure 17 shows the percentage distribution of the value of poultry products used on the farm during the year.

The value of poultry products used on the farm varied greatly from month to month. The low point of the year was during February, when \$3.74 or 10.6 per cent of the total products disposed of, were consumed on the farm. During March, when large numbers of eggs were used for hatching purposes on the farm, the greatest valuation, \$12.52, or 19.9 per cent of the total receipts for the month, were used on the home farm. Another peak was reached during July and August. Seasonal demands for extra help on the farm necessitates the preparation of larger quantities of food for the farm table. Poultry products play an important part in this increased food demand. The value of chickens and eggs used for food per person and for food and hatching per 100 hens on the farm is shown in Figures 20 and 21.

Eggs Used for Food. 10.4 per cent, or \$39.14 of the total income of \$380.63 derived from eggs, was accounted for by eggs used on the farm. The percentage of eggs produced that were used for food on the farm from month to month varied inversely with the rate of production. During

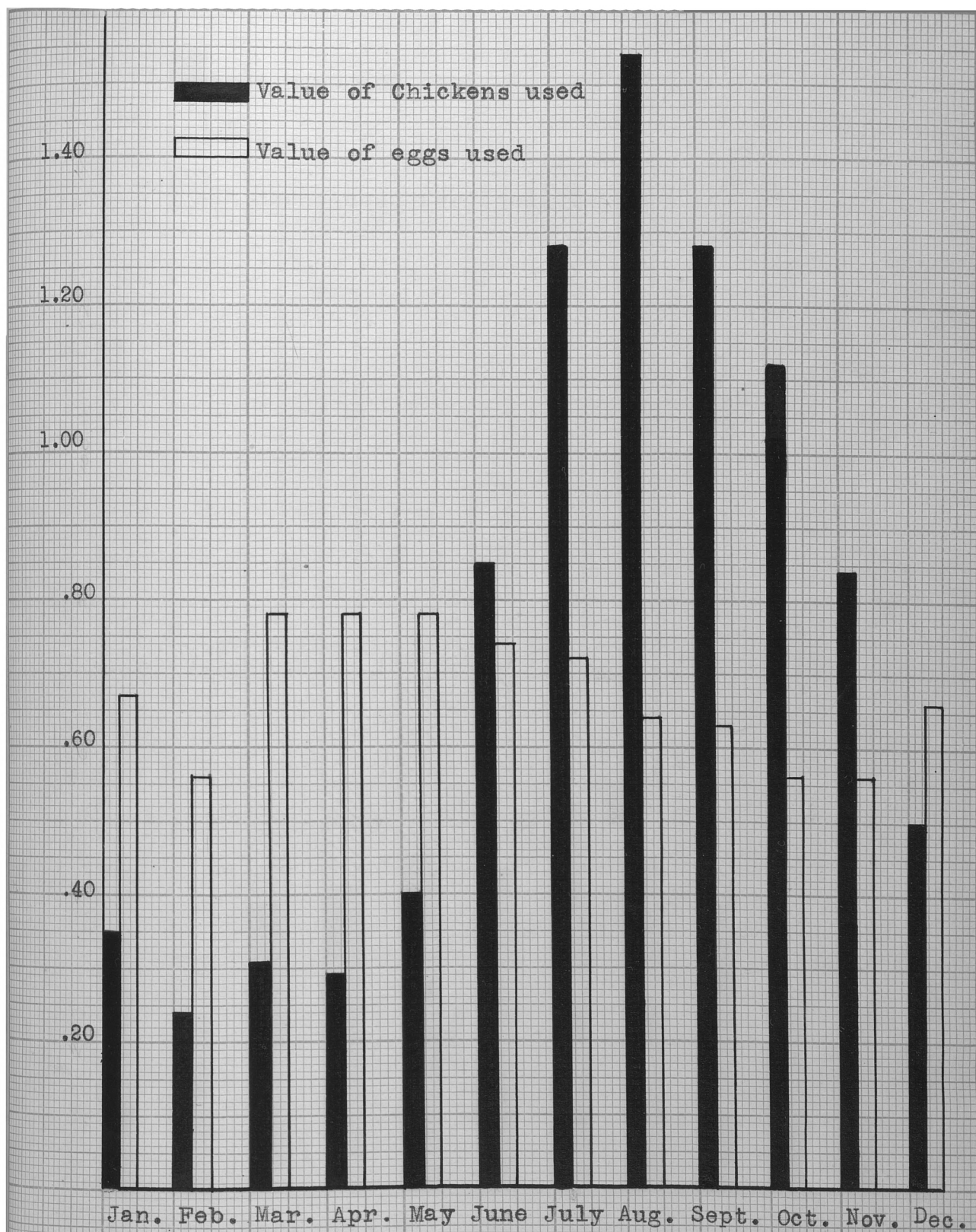


Fig.20--Value by Months of Eggs and Chickens
Used for Food per Person on the Farm

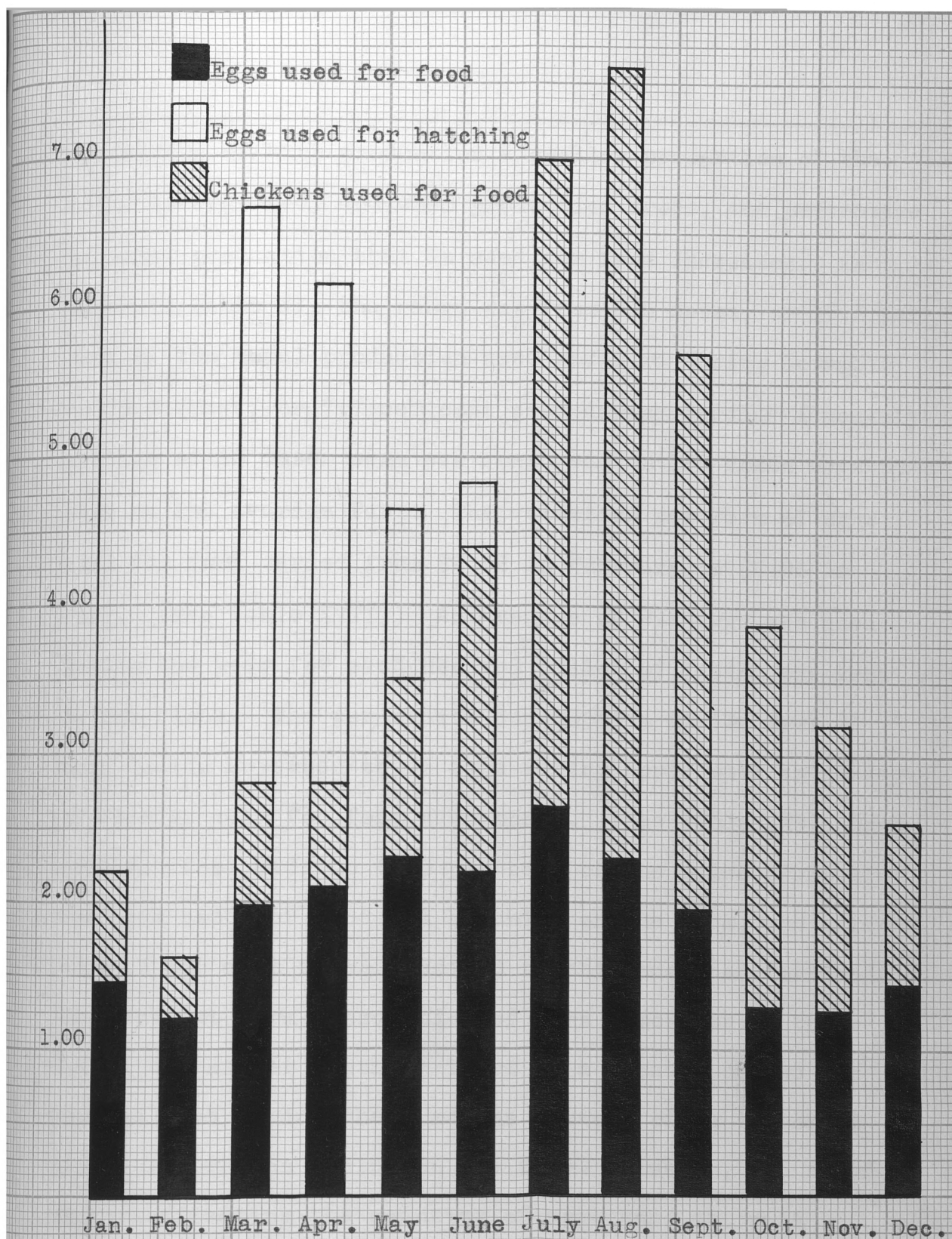


Fig.21--Value of Chickens and Eggs per 100 Hens
Used on Farm for Food and Hatching

the months of high production a smaller proportion of the total is consumed, and when production drops, the percentage of total production that is used for food increases. As shown in Table XI, the range was from 8.5 dozen, or 17.3 per cent of the total production used per farm during November, to 18.0 dozen, or 7.7 per cent used during April. A monthly average of 13 dozen eggs was consumed, or 160 dozen eggs per year on the average farm. The valuation per farm of eggs used for food varied from \$2.52 in February to \$3.96 in July. (See Table XVIII) An average of 9.2 eggs was used during the year for each hen and pullet of laying age kept in the flock. The per capita consumption varied from 21 eggs during November to 45 eggs during April with an average of 33 eggs used for food each month. (See Table XXI) Eggs used for food made up 44.3 per cent of the value of poultry and eggs used for food and hatching on the farm, the balance of 55.7 per cent being credited to chickens used for food. The heaviest farm consumption of eggs comes during the spring and summer months. There is a greater demand for eggs as food during these months because of an increased number of persons eating on the farm. However, the chief factors affecting the quantity of eggs used are rate of production and the market price of eggs. The greatest production, accompanied by the lowest price, is to be expected at this time of the year. The price per

dozen eggs paid Kansas farmers during the six month period, March to August, averaged slightly less than 22 cents with little variation. For the remaining months the average was slightly less than 27 cents a dozen. During November, December and January prices reached an average of more than 33 cents a dozen. During these months production had dropped to an average of 16 eggs per day for each 100 hens and pullets, and the peak month was April with about 58 eggs for 100 hens and pullets. (See Figures 4 and 5)

Eggs Used for Hatching Purposes. The hatching of baby chicks on the farm is a seasonal proposition. It is confined largely to March, April and May with less than 10 per cent of the hatching being accomplished during the months of January, February and June. The hatching required 889 eggs per farm during the hatching season, 845 of which were used during March, April and May. The eggs used in that manner were valued at \$16.08 per farm for the season, or \$8.78 per 100 hens. Of the total value of eggs used on the farm during March \$7.48 was credited to those used for hatching purposes compared with \$3.63 for food; during April \$5.78 for hatching and \$3.78 for food. (See Table XVIII) About 2.7 per cent of the total valuation of poultry products was credited to eggs used for hatching purposes on the farm.

Table XXI. Per Capita Consumption and Value of Chickens and Eggs Used for Food on the Farm
by Months

	No. Persons per Farm	Eggs Used for Food			Chickens Used for Food			Total Value
		No.	Price per Doz.	Value	No.	Price Each	Value	
January	4.7	25	.32	\$.67	.36	\$.98	\$.35	\$1.02
February	4.6	28	.24	.56	.24	1.00	.24	.80
March	4.6	43	.22	.78	.35	.88	.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
Total for Year		396		\$ 8.08	13.24		\$9.00	\$17.00
Average	4.8	33	.28	.67	1.10	.77	.75	1.42

Chickens Used for Food on the Farm. As shown in Table XV about 66 chickens were used for food on the average Kansas farm during the twelve month period. The range was from 1.1 chickens per farm during February to 12.6 chickens per farm during August. During the months of July, August and September 34 chickens, or 52 per cent of the total year's consumption, were accounted for. More chickens were used for food on the farm during August than during the six month period from December to May. The consumption of chickens was the heaviest during the months of July, August and September for two reasons. The average number of persons eating on the farm had increased from 4.6 persons to 5 or more persons per farm, thereby increasing the demand for chickens for food. These were also the months when most of the spring chickens were in their prime for table use.

The average value of chickens consumed ranged from \$1.10 per farm during February to \$7.81 during August with an annual valuation of \$44.49 per farm, \$24.58 per hundred hens and pullets kept on the farm, and \$9.00 per person eating on the farm. Chickens constituted 44.3 per cent of the value of poultry and eggs used on the farm and 7.4 per cent of the total income from the poultry flock.

SUMMARY AND CONCLUSIONS

The following conclusions are based upon an analysis of the special poultry survey with the exception of numbers three, four and part of six, where credit is given to the United States Department of Agriculture.

1. The Leghorn breed was credited with 53.9 per cent of the total number of chickens included in the study. The Plymouth Rock ranked second with 19.7 per cent of the total, and the Rhode Island Red third with 14.8 per cent.

2. The number of persons eating on the farms varied from 4.6 persons during February and March to 5.4 persons during July. The average for the year was 4.8 persons on each farm.

3. Of 47,000 poultry reports received from Kansas farmers by the United States Department of Agriculture during the four years, 1925 to 1928, only 3/10ths of 1 per cent were from flocks with more than 1000 chickens on January 1, and 3.2 per cent from flocks with more than 400 chickens. The reports showed an increase in the number of large flocks from 2.3 per cent of the total in 1925 to 3.9 per cent in 1928.

4. According to the special survey on January 1, 1929, an average of 243 chickens per farm was reported, of which

214 were hens and pullets, 11 mature roosters, and 18 other chickens.

5. The rate of production, as shown by four years' records of the United States Department of Agriculture, varied from 9 to 14 eggs each day per 100 hens in November and December to from 54 to 60 eggs in April and May. The high point of production was usually during April and the low point during December. This compares very closely with the results of the special survey.

6. The special survey found an average production of about 33 eggs a day per 100 hens and pullets, or 120 eggs per year for each hen or pullet of laying age. The average annual egg production per hen for the four year period 1925 to 1928, as found by the United States Department of Agriculture, varied only from 115 eggs to 123 eggs.

7. A total of 1591 dozen eggs were produced per farm and 916.5 dozen per 100 hens, of which 85.3 per cent were sold, 11.5 per cent were used for food on the farm, and 3.2 per cent were used for hatching purposes.

8. Ninety per cent of the baby chicks produced are hatched during March, April and May. Sixty-seven per cent of the baby chicks hatched are retained on the farm, twenty-three per cent are sold, and about ten per cent custom hatched for others.

9. Of the chickens grown on the farm seventy-six per

cent are hatched on the farm, fifteen per cent are purchased and nine per cent are custom hatched.

10. One-fifth of all baby chicks died before one month of age. The heaviest losses occurred in the western countries.

11. Seventy-four chickens more than one month of age were lost per farm during the year, or about 1.9 per cent of the total number of chickens on hand each month.

12. Seventy-six per cent of the chickens disposed of during the year were marketed, and twenty-four per cent were used for food on the farm. The largest number of chickens were marketed from July to October.

13. Sixty-six chickens were used for food on the farm during the year. The per capita consumption was 13.24 chickens per year, or 1.10 per month.

14. Chickens contribute to the farm income by supplying eggs and meat for the family and products for sale. The annual valuation of baby chicks, chickens, and eggs produced amounted to \$585.98 per farm, or \$329.52 per 100 hens and pullets.

15. The eggs produced were valued at \$380.63, the chickens sold and used at \$187.85 and the baby chicks sold at \$17.50.

16. Poultry and eggs sold during the twelve month period from March 1, 1928 to March 1, 1929, amounted to

\$486.27 per farm, or \$274.02 per 100 hens. Sixty-seven and six-tenths per cent of the total receipts from products sold were from eggs, 28.9 per cent from chickens, and 3.5 per cent from baby chicks.

17. The price received for baby chicks varied from 11.7 during January to 8.3 during June. The average was 9.9 cents.

18. Chickens and eggs used at home were valued at 55 cents per hen and pullet, \$20.77 per person eating on the farm, and a total of \$99.71 per farm.

BIBLIOGRAPHY

Biennial Reports of the Kansas State Board of Agriculture, 1925-1928.

Climatological Data, United States Weather Bureau, 1919 to 1928.

Crops and Markets. United States Department of Agriculture, 1928, 1929.

Kansas Monthly Poultry Production Records, United States Department of Agriculture, 1925-1928.

Mohler, J. C., Poultry in Kansas.

Moorhouse, L. A., The Management of the Farm.

Payne, L. F., and Steup, H. H., A Poultry Survey in Kansas. Bulletin 245, Kansas State Agricultural Experiment Station.

Reports of County Assessors, 1928.

United States Census of Agriculture, 1910, 1920, 1925.

Yearbook, United States Department of Agriculture, 1925.

APPENDIX

Special Chicken and Egg Questionnaire

Attached are copies of each of the monthly schedules used in securing information reported in this thesis. The initial letter to correspondents and a sample of the follow-up letter mailed about the tenth of each month to those who had failed to reply are also included.

Thirteen schedules were mailed from March 1928 to March 1929. During the hatching season questions were asked regarding the hatching of baby chicks. The September schedule included questions concerning the breeds of chickens produced.

COPY

United States Department of Agriculture, Bureau of Agricultural Economics, Kansas State Agricultural College,
Department of Agricultural Economics, The Kansas
State Board of Agriculture Cooperating

Topeka, Kan., March 28, 1928.

Office of the Agricultural Statistician,
State Board of Agriculture, State House.

Dear Sir- There is an increasing demand for more complete and accurate information concerning the poultry industry in Kansas. In response to these requests the Federal Department of Agriculture in cooperation with the Kansas State Agricultural College and the Kansas State Board of Agriculture are undertaking a series of twelve monthly surveys of chicken and egg production in nine typical Kansas counties. The inclosed inquiry is the first of this series of twelve which will be used the first of each month.

In order to make this study worth while, it is essential that we obtain the regular cooperation of a fairly large and representative group of farmers who are producing chickens and eggs under normal Kansas farm conditions. As one such farmer, your cooperation is solicited and will be greatly appreciated. Since this survey cannot be worth while until a full twelve-month period is covered, it is essential that we have assurance that you are willing to cooperate regularly for that length of time. Your response to this present and first inquiry will be taken as expression of your willingness to continue for a year.

When the year is up and the study is completed, the results will be made available to all those who cooperate. It is believed that a picture of the Kansas poultry industry can

be obtained that will help to make that side line of farming one of the most profitable for you.

These surveys will have the support of your County Agent and Farm Bureau. Please feel free to consult with your County Agent in filling out this inquiry.

Very truly yours,

Edward C. Paxton
Agricultural Statistician
For the State Board of Agriculture

12-2540

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF AGRICULTURAL ECONOMICS, KANSAS STATE
AGRICULTURAL COLLEGE, DEPARTMENT OF AGRICULTURAL ECONOMICS, THE KANSAS
STATE BOARD OF AGRICULTURE COOPERATING

Office of Agricultural Statistician, State Board of Agriculture, State House.

TOPEKA, KAN., March 28, 1928.
Please return by April 5.

SPECIAL MONTHLY CHICKEN AND EGG SURVEY

DEAR SIR—This is the first of a series of twelve monthly inquiries designed to supply basic data for calculating poultry and egg production in the State of Kansas. If you agree to coöperate in the plan outlined in the accompanying letter, your answer to the questions below, mailed to the Agricultural Statistician in the inclosed envelope, which requires no postage, will be taken as your consent to the plan.

Very truly yours,

H. L. COLLINS, Asst. Agricultural Statistician.

ALL QUESTIONS REFER TO CHICKENS, CHICKEN EGGS AND BABY CHICKS

1. Number of HENS (including pullets of laying age) in your flock the last day of MARCH.....
2. Number of MATURE ROOSTERS in your flock the last day of MARCH
3. Number of BABY CHICKS (under 1 month old) in your flock the last day of MARCH.....
4. Number of ALL OTHER CHICKENS (than those given above under items 1, 2 and 3) in your flock the last day of MARCH
5. Total CHICKENS AND CHICKS (sum of item 1 to 4).....
6. Number of CHICKEN EGGS PRODUCED by your flock the last day of MARCH.....
7. Number of CHICKENS (not baby chicks) PURCHASED for your flock DURING MARCH
8. Number of CHICKENS (either alive or dressed) SOLD from your flock DURING MARCH.....
9. Number of CHICKENS USED FOR FOOD on your farm DURING MARCH
10. Number of OTHER CHICKENS (not baby chicks) that DIED or were otherwise lost from your flock DURING MARCH
11. Total VALUE OF CHICKENS SOLD from your flock DURING MARCH
12. Number of CHICKS HATCHED on your farm DURING MARCH
13. Number of BABY CHICKS PURCHASED for your flock DURING MARCH
14. Number of BABY CHICKS from your flock that DIED DURING MARCH
15. Number of BABY CHICKS SOLD from your flock DURING MARCH
16. Total VALUE OF BABY CHICKS SOLD from your flock DURING MARCH
17. Dozens of EGGS USED FOR FOOD on your farm DURING MARCH
18. Dozens of EGGS USED FOR HATCHING on your farm DURING MARCH
19. Dozens of EGGS SOLD from your farm DURING MARCH.....

Name..... County.....

Post office..... Acres in your farm.....

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF AGRICULTURAL
ECONOMICS, KANSAS STATE AGRICULTURAL COLLEGE, DEPARTMENT OF
AGRICULTURAL ECONOMICS, KANSAS STATE BOARD OF
AGRICULTURE COOPERATING

Office of Agricultural Statistician,
State Board of Agriculture,
State House

Topeka, Kan., May 15, 1928

SPECIAL MONTHLY CHICKEN AND EGG SURVEY, No. 2

Dear Sir: This is the second of a series of monthly inquiries on poultry and egg production in nine Kansas counties. Most of those to whom this inquiry is mailed signified willingness to cooperate in this survey by answering a similar inquiry last month. A return envelope requiring no postage is inclosed for your reply.

Very truly yours,
H. L. Collins, Asst.
Agricultural Statistician

ALL QUESTIONS REFER TO CHICKENS, CHICKEN EGGS, AND BABY CHICKS

1. Number of HENS(including pullets of laying age) in your flock the last day of APRIL.....
2. Number of MATURE ROOSTERS in your flock the last day of APRIL.....
3. Number of BABY CHICKS(Under 1 month old) in your flock the last day of APRIL.....
4. Number of ALL OTHER CHICKENS(than those given above under items 1,2, and 3)in your flock the last day of APRIL.....
5. Total CHICKENS AND CHICKS (sum of items 1 to 4).....
- *****
6. Number of CHICKEN EGGS PRODUCED by your flock on APRIL 30(one day only).....
- *****
7. Number of CHICKENS(not baby chicks)PURCHASED for your flock DURING APRIL.....
8. Number of CHICKENS(either alive or dressed) SOLD from your flock DURING APRIL.....
9. Number of CHICKENS USED FOR FOOD on your farm DURING APRIL.....
10. Number of OTHER CHICKENS(not baby chicks) that DIED or were otherwise lost from your flock DURING APRIL.....
11. Total VALUE OF CHICKENS(not baby chicks)SOLD from your flock DURING APRIL.....
- *****
12. Number of CHICKS HATCHED on your farm for home use or sale DURING APRIL.....
13. Number of CHICKS CUSTOM HATCHED on your farm for OTHER PARTIES DURING APRIL.....
14. Number of BABY CHICKS PURCHASED for your flock DURING APRIL.....
15. Number of BABY CHICKS CUSTOM HATCHED, brought into your flock DURING APRIL.....
16. Number of BABY CHICKS from your flock that DIED DURING APRIL.....
17. Number of BABY CHICKS SOLD from your flock DURING APRIL.....
18. Total VALUE OF BABY CHICKS SOLD from your flock DURING APRIL.....
- *****
19. Dozens of EGGS USED FOR FOOD on your farm DURING APRIL.....
20. Dozens of EGGS(produced on your farm) USED FOR HATCHING on your farm DURING APRIL.....
21. Dozens of EGGS PURCHASED FOR HATCHING on your farm DURING APRIL.....
22. Dozens of EGGS SOLD from your farm DURING APRIL.....

Name _____ County _____

Post Office _____ Acres in your farm _____

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF AGRICULTURAL ECONOMICS, KANSAS STATE
AGRICULTURAL COLLEGE, DEPARTMENT OF AGRICULTURAL ECONOMICS, THE KANSAS
STATE BOARD OF AGRICULTURE COOPERATING

Office of Agricultural Statistician, State Board of Agriculture, State House.

TOPEKA, KAN., May 28, 1928.
Please return by June 5.

SPECIAL MONTHLY CHICKEN AND EGG SURVEY, No. 3

DEAR SIR: This is the third of a series of monthly inquiries on poultry and egg production in nine Kansas counties. Those to whom this inquiry is mailed signified willingness to cooperate in these surveys by answering similar inquiries in former months. A return envelope requiring no postage is inclosed for your reply.

Very truly yours,
H. L. COLLINS, Asst. Agricultural Statistician.

ALL QUESTIONS REFER TO CHICKENS, CHICKEN EGGS AND BABY CHICKS

1. Number of HENS (including pullets of laying age) in your flock the last day of MAY.....

2. Number of MATURE ROOSTERS in your flock the last day of MAY.....

3. Number of BABY CHICKS (under 1 month old) in your flock the last day of MAY.....

4. Number of ALL OTHER CHICKENS (than those given above under items 1, 2 and 3) in your flock the last day of MAY.....

5. Total CHICKENS AND CHICKS (sum of items 1 to 4).....
6. Number of CHICKEN EGGS PRODUCED by your flock on MAY 31 (one day only).....eggs

7. Number of CHICKENS (not baby chicks) PURCHASED for your flock DURING MAY.....

8. Number of CHICKENS (either alive or dressed) SOLD from your flock DURING MAY.....

9. Number of CHICKENS USED FOR FOOD on your farm DURING MAY.....

10. Number of OTHER CHICKENS (not baby chicks) that DIED or were otherwise lost from your flock DURING MAY.....

11. Total VALUE OF CHICKENS (not baby chicks) SOLD from your flock DURING MAY.....
12. Number of CHICKS HATCHED on your farm for home use or sale DURING MAY.....

13. Number of CHICKS CUSTOM HATCHED on your farm for OTHER PARTIES DURING MAY.....

14. Number of BABY CHICKS PURCHASED for your flock DURING MAY.....

15. Number of BABY CHICKS CUSTOM HATCHED, brought into your flock DURING MAY.....

16. Number of BABY CHICKS from your flock that DIED DURING MAY.....

17. Number of BABY CHICKS SOLD from your flock DURING MAY.....

18. Total VALUE OF BABY CHICKS SOLD from your flock DURING MAY.....
19. Dozens of EGGS USED FOR FOOD on your farm DURING MAY.....doz.

20. Dozens of EGGS (produced on your farm) USED FOR HATCHING on your farm DURING MAY.....doz.

21. Dozens of EGGS PURCHASED FOR HATCHING on your farm DURING MAY.....doz.

22. Dozens of EGGS SOLD from your farm DURING MAY.....doz.

Name..... County.....
Post office..... Acres in your farm.....

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF AGRICULTURAL ECONOMICS, KANSAS STATE AGRICULTURAL COLLEGE, DEPARTMENT OF AGRICULTURAL ECONOMICS, THE KANSAS STATE BOARD OF AGRICULTURE COOPERATING

Office of Agricultural Statistician, State Board of Agriculture, State House.

TOPEKA, KAN., JUNE 27, 1928.
Please return by July 5.

SPECIAL MONTHLY CHICKEN AND EGG SURVEY, No. 4

DEAR SIR: This is the fourth of a series of monthly inquiries on poultry and egg production in nine Kansas counties. Those to whom this inquiry is mailed signified willingness to cooperate in these surveys by answering similar inquiries in former months. A return envelope requiring no postage is inclosed for your reply.

Very truly yours,
H. L. COLLINS, Asst. Agricultural Statistician.

ALL QUESTIONS REFER TO CHICKENS, CHICKEN EGGS AND BABY CHICKS

1. Number of HENS (including pullets of laying age) in your flock the last day of JUNE.....
2. Number of MATURE ROOSTERS in your flock the last day of JUNE.....
3. Number of BABY CHICKS (under 1 month old) in your flock the last day of JUNE.....
4. Number of ALL OTHER CHICKENS (than those given above under items 1, 2 and 3) in your flock the last day of JUNE.....
5. Total CHICKENS AND CHICKS (sum of items 1 to 4).....
6. Number of CHICKEN EGGS PRODUCED by your flock on JUNE 30 (one day only).....eggs
7. Number of CHICKENS (not baby chicks) PURCHASED for your flock DURING JUNE.....
8. Number of CHICKENS (either alive or dressed) SOLD from your flock DURING JUNE.....
9. Number of CHICKENS USED FOR FOOD on your farm DURING JUNE.....
10. Number of OTHER CHICKENS (not baby chicks) that DIED or were otherwise lost from your flock DURING JUNE.....
11. Total VALUE OF CHICKENS (not baby chicks) SOLD from your flock DURING JUNE.....
12. Number of CHICKS HATCHED on your farm for home use or sale DURING JUNE.....
13. Number of CHICKS CUSTOM HATCHED on your farm for OTHER PARTIES DURING JUNE.....
14. Number of BABY CHICKS PURCHASED for your flock DURING JUNE.....
15. Number of BABY CHICKS CUSTOM HATCHED, brought into your flock DURING JUNE.....
16. Number of BABY CHICKS from your flock that DIED DURING JUNE.....
17. Number of BABY CHICKS SOLD from your flock DURING JUNE.....
18. Total VALUE OF BABY CHICKS SOLD from your flock DURING JUNE.....
19. Dozens of EGGS USED FOR FOOD on your farm DURING JUNE.....doz.
20. Dozens of EGGS (produced on your farm) USED FOR HATCHING on your farm DURING JUNE.....doz.
21. Dozens of EGGS PURCHASED FOR HATCHING on your farm DURING JUNE.....doz.
22. Dozens of EGGS SOLD from your farm DURING JUNE.....doz.

Name..... County.....
Post office..... Acres in your farm.....

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF AGRICULTURAL ECONOMICS, KANSAS STATE
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STATE BOARD OF AGRICULTURE COOPERATING

Office of Agricultural Statistician, State Board of Agriculture, State House.

TOPEKA, KAN., JULY 28, 1928.
Please return by August 5.

SPECIAL MONTHLY CHICKEN AND EGG SURVEY, No. 5

DEAR SIR: This is the fifth of a series of monthly inquiries on poultry and egg production in nine Kansas counties. Those to whom this inquiry is mailed signified willingness to cooperate in these surveys by answering similar inquiries in former months. A return envelope requiring no postage is inclosed for your reply.

Very truly yours,
H. L. COLLINS, Asst. Agricultural Statistician.

ALL QUESTIONS REFER TO CHICKENS, CHICKEN EGGS AND BABY CHICKS

1. Number of HENS (including pullets of laying age) in your flock the last day of JULY.....
2. Number of MATURE ROOSTERS in your flock the last day of JULY.....
3. Number of ALL OTHER CHICKENS (than those given above under items 1 and 2) in your flock the last day of JULY.....
4. Total CHICKENS AND CHICKS (sum of items 1 to 3).....
5. Number of CHICKEN EGGS PRODUCED by your flock on JULY 31 (one day only).....eggs
6. Number of CHICKENS (not baby chicks) PURCHASED for your flock DURING JULY.....
7. Number of MATURE CHICKENS (either alive or dressed) SOLD from your flock DURING JULY.....
8. Number of YOUNG CHICKENS (either alive or dressed) SOLD from your flock DURING JULY.....
9. Number of CHICKENS USED FOR FOOD on your farm DURING JULY.....
10. Number of CHICKENS that DIED or were otherwise lost from your flock DURING JULY.....
11. Total VALUE OF MATURE CHICKENS (either alive or dressed) SOLD from your flock DURING JULY..
12. Total VALUE OF YOUNG CHICKENS (either alive or dressed) SOLD from your flock DURING JULY....
13. Dozens of EGGS USED FOR FOOD on your farm DURING JULY.....doz.
14. Dozens of EGGS SOLD from your farm DURING JULY.....doz.
15. NUMBER of PERSONS (including hired help) eating regularly in your home DURING JULY.....

Name..... County.....

Post office.....

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF AGRICULTURAL ECONOMICS, KANSAS STATE
AGRICULTURAL COLLEGE, DEPARTMENT OF AGRICULTURAL ECONOMICS, THE KANSAS
STATE BOARD OF AGRICULTURE COOPERATING

Office of Agricultural Statistician, State Board of Agriculture, State House.

TOPEKA, KAN., AUGUST 28, 1928.
Please return by September 5.

SPECIAL MONTHLY CHICKEN AND EGG SURVEY, No. 6

DEAR SIR: This is the sixth of a series of monthly inquiries on poultry and egg production in nine Kansas counties. Those to whom this inquiry is mailed signified willingness to coöperate in these surveys by answering similar inquiries in former months. A return envelope requiring no postage is inclosed for your reply.

Very truly yours,
H. L. COLLINS, Asst. Agricultural Statistician.

ALL QUESTIONS REFER TO CHICKENS, CHICKEN EGGS AND BABY CHICKS

1. Number of HENS (including pullets of laying age) in your flock the last day of AUGUST.....
2. Number of MATURE ROOSTERS in your flock the last day of AUGUST.....
3. Number of ALL OTHER CHICKENS (than those given above under items 1 and 2) in your flock the last day of AUGUST.....
4. Total CHICKENS AND CHICKS (sum of items 1 to 3).....
5. Number of CHICKEN EGGS PRODUCED by your flock on AUGUST 31 (one day only).....eggs
6. Number of CHICKENS (not baby chicks) PURCHASED for your flock DURING AUGUST.....
7. Number of MATURE CHICKENS (either alive or dressed) SOLD from your flock DURING AUGUST.....
8. Number of YOUNG CHICKENS (either alive or dressed) SOLD from your flock DURING AUGUST.....
9. Number of CHICKENS USED FOR FOOD on your farm DURING AUGUST.....
10. Number of CHICKENS that DIED or were otherwise lost from your flock DURING AUGUST.....
11. Total VALUE OF MATURE CHICKENS (either alive or dressed) SOLD from your flock DURING AUGUST.....
12. Total VALUE OF YOUNG CHICKENS (either alive or dressed) SOLD from your flock DURING AUGUST.....
13. Dozens of EGGS USED FOR FOOD on your farm DURING AUGUST.....doz.
14. Dozens of EGGS SOLD from your farm DURING AUGUST.....doz.
15. NUMBER of PERSONS (including hired help) eating regularly in your home DURING AUGUST.....

Name..... County.....

Post office.....

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF AGRICULTURAL ECONOMICS, KANSAS STATE
AGRICULTURAL COLLEGE, DEPARTMENT OF AGRICULTURAL ECONOMICS, THE KANSAS
STATE BOARD OF AGRICULTURE COOPERATING

Office of Agricultural Statistician, State Board of Agriculture, State House.

TOPEKA, KAN., SEPTEMBER 27, 1928.
Please return by October 5.

SPECIAL MONTHLY CHICKEN AND EGG SURVEY, No. 7

DEAR SIR: This is the seventh of a series of monthly inquiries on poultry and egg production in nine Kansas counties. Those to whom this inquiry is mailed signified willingness to coöperate in these surveys by answering similar inquiries in former months. A return envelope requiring no postage is inclosed for your reply.

Very truly yours,
H. L. COLLINS, Asst. Agricultural Statistician.

ALL QUESTIONS REFER TO CHICKENS, CHICKEN EGGS AND BABY CHICKS

1. Number of HENS (including pullets of laying age) in your flock the last day of SEPTEMBER.....
2. Number of MATURE ROOSTERS in your flock the last day of SEPTEMBER.....
3. Number of ALL OTHER CHICKENS (than those given above under items 1 and 2) in your flock the last day of SEPTEMBER.....
4. Total CHICKENS AND CHICKS (sum of items 1 to 3).....
5. Number of CHICKEN EGGS PRODUCED by your flock on SEPTEMBER 30 (one day only).....eggs
6. Number of CHICKENS (not baby chicks) PURCHASED for your flock DURING SEPTEMBER.....
7. Number of MATURE CHICKENS (either alive or dressed) SOLD from your flock DURING SEPTEMBER.....
8. Number of YOUNG CHICKENS (either alive or dressed) SOLD from your flock DURING SEPTEMBER..
9. Number of CHICKENS USED FOR FOOD on your farm DURING SEPTEMBER.....
10. Number of CHICKENS that DIED or were otherwise lost from your flock DURING SEPTEMBER.....
11. Total VALUE OF MATURE CHICKENS (either alive or dressed) SOLD from your flock DURING SEP-
TEMBER..... \$.....
12. Total VALUE OF YOUNG CHICKENS (either alive or dressed) SOLD from your flock DURING SEP-
TEMBER..... \$.....
13. Dozens of EGGS USED FOR FOOD on your farm DURING SEPTEMBER.....doz.
14. Dozens of EGGS SOLD from your farm DURING SEPTEMBER.....doz.
15. Breeds of CHICKENS composing your flock (a) Breed..... Number.....
(b) Breed..... Number.....
(c) Mixed..... Number.....
[If you have but one breed, fill in only the blanks following (a).]
16. Is your flock (a) Certified..... (b) Standard bred (purebred)..... (c) Mixed.....
(Answer Yes or No)

Name..... County.....

Post office.....

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF AGRICULTURAL ECONOMICS, KANSAS STATE
AGRICULTURAL COLLEGE, DEPARTMENT OF AGRICULTURAL ECONOMICS, THE KANSAS
STATE BOARD OF AGRICULTURE COOPERATING

Office of Agricultural Statistician, State Board of Agriculture, State House.

TOPEKA, KAN., OCTOBER 28, 1928.
Please return by November 5.

SPECIAL MONTHLY CHICKEN AND EGG SURVEY, No. 8

DEAR SIR: This is the eighth of a series of monthly inquiries on poultry and egg production in nine Kansas counties. Those to whom this inquiry is mailed signified willingness to coöperate in these surveys by answering similar inquiries in former months. A return envelope requiring no postage is inclosed for your reply.

Very truly yours,
H. L. COLLINS, Asst. Agricultural Statistician.

ALL QUESTIONS REFER TO CHICKENS, CHICKEN EGGS AND BABY CHICKS

1. Number of HENS (including pullets of laying age) in your flock the *last day* of OCTOBER.....
2. Number of MATURE ROOSTERS in your flock the *last day* of OCTOBER.....
3. Number of ALL OTHER CHICKENS (than those given above under items 1 and 2) in your flock the *last day* of OCTOBER.....
4. Total CHICKENS AND CHICKS (sum of items 1 to 3).....
5. Number of CHICKEN EGGS PRODUCED by your flock on OCTOBER 31 (one day only).....eggs
6. Number of CHICKENS (not baby chicks) PURCHASED for your flock DURING OCTOBER.....
7. Number of CHICKENS NOT of this year's hatching (either alive or dressed) SOLD from your flock DURING OCTOBER.....
8. Number of YOUNG CHICKENS OF this year's hatching (either alive or dressed) SOLD from your flock DURING OCTOBER.....
9. Number of CHICKENS USED FOR FOOD on your farm DURING OCTOBER.....
10. Number of CHICKENS that DIED or were otherwise lost from your flock DURING OCTOBER.....
11. Total VALUE OF CHICKENS NOT of this year's hatching (either alive or dressed) SOLD from your flock DURING OCTOBER..... \$.....
12. Total VALUE OF YOUNG CHICKENS OF this year's hatching (either alive or dressed) SOLD from your flock DURING OCTOBER..... \$.....
13. Dozens of EGGS USED FOR FOOD on your farm DURING OCTOBER.....doz.
14. Dozens of EGGS SOLD from your farm DURING OCTOBER.....doz.
15. NUMBER of PERSONS (including hired help) eating regularly in your home DURING OCTOBER.....

Name..... County.....

Post office.....

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF AGRICULTURAL ECONOMICS, KANSAS STATE
AGRICULTURAL COLLEGE, DEPARTMENT OF AGRICULTURAL ECONOMICS, THE KANSAS
STATE BOARD OF AGRICULTURE COOPERATING

Office of Agricultural Statistician, State Board of Agriculture, State House.

TOPEKA, KAN., NOVEMBER 28, 1928.
Please return by December 5.

SPECIAL MONTHLY CHICKEN AND EGG SURVEY, No. 9

DEAR SIR: This is the ninth of a series of monthly inquiries on poultry and egg production in nine Kansas counties. Those to whom this inquiry is mailed signified willingness to coöperate in these surveys by answering similar inquiries in former months. A return envelope requiring no postage is inclosed for your reply.

Very truly yours,
H. L. COLLINS, Asst. Agricultural Statistician.

ALL QUESTIONS REFER TO CHICKENS, CHICKEN EGGS AND BABY CHICKS

1. Number of HENS (including pullets of laying age) in your flock the *last day* of NOVEMBER.....
2. Number of MATURE ROOSTERS in your flock the *last day* of NOVEMBER.....
3. Number of ALL OTHER CHICKENS (than those given above under items 1 and 2) in your flock the *last day* of NOVEMBER.....
4. Total CHICKENS AND CHICKS (sum of items 1 to 3).....
5. Number of CHICKEN EGGS PRODUCED by your flock on NOVEMBER 31 (one day only).....eggs
6. Number of CHICKENS (not baby chicks) PURCHASED for your flock DURING NOVEMBER.....
7. Number of CHICKENS NOT of this year's hatching (either alive or dressed) SOLD from your flock DURING NOVEMBER.....
8. Number of YOUNG CHICKENS OF this year's hatching (either alive or dressed) SOLD from your flock DURING NOVEMBER.....
9. Number of CHICKENS USED FOR FOOD on your farm DURING NOVEMBER.....
10. Number of CHICKENS that DIED or were otherwise lost from your flock DURING NOVEMBER.....
11. Total VALUE OF CHICKENS NOT of this year's hatching (either alive or dressed) SOLD from your flock DURING NOVEMBER..... \$.....
12. Total VALUE OF YOUNG CHICKENS OF this year's hatching (either alive or dressed) SOLD from your flock DURING NOVEMBER..... \$.....
13. Dozens of EGGS USED FOR FOOD on your farm DURING NOVEMBER.....doz.
14. Dozens of EGGS SOLD from your farm DURING NOVEMBER.....doz.
15. NUMBER of PERSONS (including hired help) eating regularly in your home DURING NOVEMBER.....

Name..... County.....

Post office.....

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF AGRICULTURAL ECONOMICS, KANSAS STATE
AGRICULTURAL COLLEGE, DEPARTMENT OF AGRICULTURAL ECONOMICS, THE KANSAS
STATE BOARD OF AGRICULTURE COOPERATING

Office of Agricultural Statistician, State Board of Agriculture, State House.

TOPEKA, KAN., DECEMBER 28, 1928.
Please return by January 5.

SPECIAL MONTHLY CHICKEN AND EGG SURVEY, No. 10

DEAR SIR: This is the tenth of a series of monthly inquiries on poultry and egg production in nine Kansas counties. Those to whom this inquiry is mailed signified willingness to coöperate in these surveys by answering similar inquiries in former months. A return envelope requiring no postage is inclosed for your reply.

Very truly yours,
H. L. COLLINS, Asst. Agricultural Statistician.

ALL QUESTIONS REFER TO CHICKENS, CHICKEN EGGS AND BABY CHICKS

1. Number of HENS (including pullets of laying age) in your flock the last day of DECEMBER.....
2. Number of MATURE ROOSTERS in your flock the last day of DECEMBER.....
3. Number of ALL OTHER CHICKENS (than those given above under items 1 and 2) in your flock the last day of DECEMBER.....
4. Total CHICKENS AND CHICKS (sum of items 1 to 3).....
5. Number of CHICKEN EGGS PRODUCED by your flock on DECEMBER 31 (one day only).....eggs
6. Number of CHICKENS (not baby chicks) PURCHASED for your flock DURING DECEMBER.....
7. Number of CHICKENS NOT of this year's hatching (either alive or dressed) SOLD from your flock DURING DECEMBER.....
8. Number of YOUNG CHICKENS OF this year's hatching (either alive or dressed) SOLD from your flock DURING DECEMBER.....
9. Number of CHICKENS USED FOR FOOD on your farm DURING DECEMBER.....
10. Number of CHICKENS that DIED or were otherwise lost from your flock DURING DECEMBER.....
11. Total VALUE OF CHICKENS NOT of this year's hatching (either alive or dressed) SOLD from your flock DURING DECEMBER..... \$.....
12. Total VALUE OF YOUNG CHICKENS OF this year's hatching (either alive or dressed) SOLD from your flock DURING DECEMBER..... \$.....
13. Number of CHICKS HATCHED, if any, on your farm DURING DECEMBER.....
14. Dozens of EGGS USED FOR FOOD on your farm DURING DECEMBER.....doz.
15. Dozens of EGGS SOLD from your farm DURING DECEMBER.....doz.
16. NUMBER of PERSONS (including hired help) eating regularly in your home DURING DECEMBER.....

Name..... County.....

Post office.....

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF AGRICULTURAL ECONOMICS, KANSAS STATE
AGRICULTURAL COLLEGE, DEPARTMENT OF AGRICULTURAL ECONOMICS, THE KANSAS
STATE BOARD OF AGRICULTURE COOPERATING

Office of Agricultural Statistician, State Board of Agriculture, State House.

TOPEKA, KAN., JANUARY 28, 1929.
Please return by February 5.

SPECIAL MONTHLY CHICKEN AND EGG SURVEY, No. 11

DEAR SIR: This is the eleventh of a series of monthly inquiries on poultry and egg production in nine Kansas counties. Those to whom this inquiry is mailed signified willingness to coöperate in these surveys by answering similar inquiries in former months. A return envelope requiring no postage is inclosed for your reply.

Very truly yours,
H. L. COLLINS, Asst. Agricultural Statistician.

ALL QUESTIONS REFER TO CHICKENS, CHICKEN EGGS AND BABY CHICKS

1. Number of HENS (including pullets of laying age) in your flock the last day of JANUARY
2. Number of MATURE ROOSTERS in your flock the last day of JANUARY
3. Number of BABY CHICKS (under 1 month old) in your flock the last day of JANUARY
4. Number of ALL OTHER CHICKENS (than those given above under items 1, 2 and 3) in your flock the last day of JANUARY
5. Total CHICKENS AND CHICKS (sum of items 1 to 4).....
6. Number of CHICKEN EGGS PRODUCED by your flock on JANUARY 31 (one day only).....eggs
7. Number of CHICKENS (not baby chicks) PURCHASED for your flock DURING JANUARY
8. Number of CHICKENS (either alive or dressed) SOLD from your flock DURING JANUARY.....
9. Number of CHICKENS USED FOR FOOD on your farm DURING JANUARY.....
10. Number of OTHER CHICKENS (not baby chicks) that DIED or were otherwise lost from your flock DURING JANUARY
11. Total VALUE OF CHICKENS (not baby chicks) SOLD from your flock DURING JANUARY..... \$.....
12. Number of CHICKS HATCHED on your farm for home use or sale DURING JANUARY.....
13. Number of CHICKS CUSTOM HATCHED on your farm for OTHER PARTIES DURING JANUARY....
14. Number of BABY CHICKS PURCHASED for your flock DURING JANUARY.....
15. Number of BABY CHICKS, CUSTOM HATCHED, brought into your flock DURING JANUARY.....
16. Number of BABY CHICKS from your flock that DIED DURING JANUARY
17. Number of BABY CHICKS SOLD from your flock DURING JANUARY
18. Total VALUE OF BABY CHICKS SOLD from your flock DURING JANUARY..... \$.....
19. Dozens of EGGS USED FOR FOOD on your farm DURING JANUARY.....doz.
20. Dozens of EGGS (produced on your farm) USED FOR HATCHING on your farm DURING JANUARY ... doz.
21. Dozens of EGGS PURCHASED FOR HATCHING on your farm DURING JANUARY.....doz.
22. Dozens of EGGS SOLD from your farm DURING JANUARYdoz.
23. NUMBER of PERSONS (including hired help) eating regularly in your home DURING JANUARY.....

Name..... County.....

Post office.....

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF AGRICULTURAL ECONOMICS, KANSAS STATE
AGRICULTURAL COLLEGE, DEPARTMENT OF AGRICULTURAL ECONOMICS, THE KANSAS
STATE BOARD OF AGRICULTURE COOPERATING

Office of Agricultural Statistician, State Board of Agriculture, State House.

TOPEKA, KAN., FEBRUARY 25, 1929.
Please return by March 5.

SPECIAL MONTHLY CHICKEN AND EGG SURVEY, No. 12

DEAR SIR: This is the twelfth of a series of monthly inquiries on poultry and egg production in nine Kansas counties. Those to whom this inquiry is mailed signified willingness to coöperate in these surveys by answering similar inquiries in former months. A return envelope requiring no postage is inclosed for your reply.

Very truly yours,
H. L. COLLINS, Asst. Agricultural Statistician.

ALL QUESTIONS REFER TO CHICKENS, CHICKEN EGGS AND BABY CHICKS

- 1. Number of HENS (including pullets of laying age) in your flock the last day of FEBRUARY.....
- 2. Number of MATURE ROOSTERS in your flock the last day of FEBRUARY.....
- 3. Number of BABY CHICKS (under 1 month old) in your flock the last day of FEBRUARY.....
- 4. Number of ALL OTHER CHICKENS (than those given above under items 1, 2 and 3) in your flock the last day of FEBRUARY.....
- 5. Total CHICKENS AND CHICKS (sum of items 1 to 4).....
- 6. Number of CHICKEN EGGS PRODUCED by your flock on FEBRUARY 28 (one day only).....eggs
- 7. Number of CHICKENS (not baby chicks) PURCHASED for your flock DURING FEBRUARY.....
- 8. Number of CHICKENS (either alive or dressed) SOLD from your flock DURING FEBRUARY.....
- 9. Number of CHICKENS USED FOR FOOD on your farm DURING FEBRUARY.....
- 10. Number of OTHER CHICKENS (not baby chicks) that DIED or were otherwise lost from your flock DURING FEBRUARY.....
- 11. Total VALUE OF CHICKENS (not baby chicks) SOLD from your flock DURING FEBRUARY..... \$.....
- 12. Number of CHICKS HATCHED on your farm for home use or sale DURING FEBRUARY.....
- 13. Number of CHICKS CUSTOM HATCHED on your farm for OTHER PARTIES DURING FEBRUARY.....
- 14. Number of BABY CHICKS PURCHASED for your flock DURING FEBRUARY.....
- 15. Number of BABY CHICKS, CUSTOM HATCHED, brought into your flock DURING FEBRUARY.....
- 16. Number of BABY CHICKS from your flock that DIED DURING FEBRUARY.....
- 17. Number of BABY CHICKS SOLD from your flock DURING FEBRUARY.....
- 18. Total VALUE OF BABY CHICKS SOLD from your flock DURING FEBRUARY..... \$.....
- 19. Dozens of EGGS USED FOR FOOD on your farm DURING FEBRUARY.....doz.
- 20. Dozens of EGGS (produced on your farm) USED FOR HATCHING on your farm DURING FEBRUARY.....doz.
- 21. Dozens of EGGS PURCHASED FOR HATCHING on your farm DURING FEBRUARY.....doz.
- 22. Dozens of EGGS SOLD from your farm DURING FEBRUARY.....doz.
- 23. NUMBER of PERSONS (including hired help) eating regularly in your home DURING FEBRUARY.....

Name..... County.....

Post office.....

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF AGRICULTURAL ECONOMICS, KANSAS STATE
AGRICULTURAL COLLEGE, DEPARTMENT OF AGRICULTURAL ECONOMICS, THE KANSAS
STATE BOARD OF AGRICULTURE COOPERATING

Office of Agricultural Statistician, State Board of Agriculture, State House.

TOPEKA, KAN., MARCH 28, 1929.
Please return by April 5.

SPECIAL MONTHLY CHICKEN AND EGG SURVEY, No. 13

DEAR SIR: This is the last of a series of monthly inquiries on poultry and egg production in nine Kansas coun-
ties. The splendid cooperation of those who have answered these surveys from month to month has been greatly
appreciated. A return envelope requiring no postage is inclosed for your reply.

Very truly yours,
H. L. COLLINS, Asst. Agricultural Statistician.

ALL QUESTIONS REFER TO CHICKENS, CHICKEN EGGS AND BABY CHICKS

1. Number of HENS (including pullets of laying age) in your flock the last day of MARCH.....
2. Number of MATURE ROOSTERS in your flock the last day of MARCH.....
3. Number of BABY CHICKS (under 1 month old) in your flock the last day of MARCH.....
4. Number of ALL OTHER CHICKENS (than those given above under items 1, 2 and 3) in your flock the last
day of MARCH.....
5. Total CHICKENS AND CHICKS (sum of items 1 to 4).....
6. Number of CHICKEN EGGS PRODUCED by your flock on MARCH 31 (one day only).....eggs
7. Number of CHICKENS (not baby chicks) PURCHASED for your flock DURING MARCH.....
8. Number of CHICKENS (either alive or dressed) SOLD from your flock DURING MARCH.....
9. Number of CHICKENS USED FOR FOOD on your farm DURING MARCH.....
10. Number of OTHER CHICKENS (not baby chicks) that DIED or were otherwise lost from your flock DUR-
ING MARCH.....
11. Total VALUE OF CHICKENS (not baby chicks) SOLD from your flock DURING MARCH..... \$.....
12. Number of CHICKS HATCHED on your farm for home use or sale DURING MARCH.....
13. Number of CHICKS CUSTOM HATCHED on your farm for OTHER PARTIES DURING MARCH.....
14. Number of BABY CHICKS PURCHASED for your flock DURING MARCH.....
15. Number of BABY CHICKS, CUSTOM HATCHED, brought into your flock DURING MARCH.....
16. Number of BABY CHICKS from your flock that DIED DURING MARCH.....
17. Number of BABY CHICKS SOLD from your flock DURING MARCH.....
18. Total VALUE OF BABY CHICKS SOLD from your flock DURING MARCH..... \$.....
19. Dozens of EGGS USED FOR FOOD on your farm DURING MARCH.....doz.
20. Dozens of EGGS (produced on your farm) USED FOR HATCHING on your farm DURING MARCH.....doz.
21. Dozens of EGGS PURCHASED FOR HATCHING on your farm DURING MARCH.....doz.
22. Dozens of EGGS SOLD from your farm DURING MARCH.....doz.
23. NUMBER of PERSONS (including hired help) eating regularly in your home DURING MARCH.....

Name..... County.....
Post office.....
12-6259

OFFICE OF AGRICULTURAL STATISTICIAN
STATE BOARD OF AGRICULTURE
STATE HOUSE
Topeka, Kansas

June 18, 1928

Dear Cooperator:

I have not yet received the June poultry schedule which was mailed to you about June 1. Perhaps it did not reach you or your reply may not have reached this office. I am sending you a duplicate blank and would appreciate very much having you fill out and return it at your earliest convenience so that our records may be kept up-to-date.

Thanking you for the interest which you have shown in this matter, I am

Yours very truly,

H. L. Collins.

H. L. Collins,
Assistant Agricultural
Statistician.

HLC:F