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The Feed-Purchasing Power of a Hen's Egg Production

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The Feed-Purchasing Power of a Hen's Egg Production

H. L. KEMPSTER

PURPOSE OF BULLETIN

The purpose of this bulletin includes three objectives: (1) To present the actual monthly prices paid to Missouri farmers for eggs, and also the prices of corn, wheat, and oats; (2) To show the purchasing power of the eggs produced by a hen; and (3) To show the egg-feed ratio.

SOURCES OF PRICE DATA

Data relative to the farm prices of various agricultural commodities as current on the middle of each successive month since January, 1910, have been gathered and compiled by the Missouri Office of the Bureau of Agricultural Economics, United States Department of Agriculture. This is the original source of the data relative to the farm prices of corn, wheat, oats and eggs from 1910 to 1925 quoted in this bulletin from Research Bulletin 84 (D. R. Cowan) of this station, as well as those for the last three years furnished by Mr. E. A. Logan, United States Agricultural Statistician for Missouri. Tables 1, 2, 3, and 4 show the monthly prices of corn, wheat, oats, and eggs from January, 1910, to December, 1927. It was on the basis of these prices that the studies reported in the present bulletin were made.

TABLE 1.—FARM PRICES PER BUSHEL OF CORN

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1910	.62	.64	.65	.64	.66	.68	.69	.68	.64	.54	.46	.43
1911	.42	.44	.44	.44	.46	.52	.62	.64	.60	.59	.60	.60
1912	.61	.64	.67	.74	.80	.81	.80	.78	.72	.58	.48	.46
1913	.47	.48	.49	.52	.57	.51	.64	.71	.78	.76	.74	.74
1914	.74	.72	.73	.75	.77	.78	.78	.80	.80	.75	.70	.68
1915	.72	.76	.76	.76	.78	.80	.80	.80	.74	.64	.58	.58
1916	.63	.68	.70	.72	.73	.74	.78	.83	.84	.86	.89	.90
1917	.94	.99	1.07	1.32	1.58	1.66	1.84	1.84	1.66	1.42	1.18	1.23
1918	1.34	1.46	1.50	1.47	1.47	1.46	1.52	1.64	1.70	1.56	1.44	1.46
1919	1.48	1.46	1.48	1.59	1.71	1.79	1.90	1.96	1.80	1.51	1.36	1.42
1920	1.48	1.50	1.54	1.65	1.82	1.90	1.79	1.62	1.36	.98	.72	.64
1921	.62	.60	.60	.59	.58	.58	.58	.56	.50	.42	.38	.42
1922	.44	.50	.57	.60	.62	.64	.66	.64	.62	.62	.66	.71
1923	.74	.74	.75	.80	.88	.90	.89	.88	.87	.86	.80	.75
1924	.78	.80	.79	.80	.82	.85	1.04	1.09	1.10	1.09	.95	1.05
1925	1.13	1.16	1.11	1.04	1.06	1.12	1.09	1.07	.97	.81	.75	.69
1926	.73	.72	.67	.67	.70	.73	.76	.86	.83	.84	.70	.68
1927	.69	.70	.70	.70	.78	.96	1.01	1.06	1.00	.98	.77	.78

TABLE 2.—FARM PRICES PER BUSHEL OF WHEAT

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1910	1.10	1.10	1.10	1.06	1.02	.98	.96	.93	.91	.90	.88	.88
1911	.88	.88	.86	.83	.83	.82	.78	.78	.82	.88	.89	.88
1912	.90	.92	.93	.98	1.04	1.03	.95	.92	.92	.93	.92	.92
1913	.94	.96	.95	.95	.94	.88	.78	.76	.82	.84	.84	.84
1914	.86	.87	.86	.86	.86	.78	.72	.82	.94	.97	.98	1.03
1915	1.19	1.34	1.36	1.36	1.36	1.18	1.02	1.01	1.00	1.02	1.01	1.05
1916	1.10	1.10	1.05	1.04	1.05	1.02	1.06	1.25	1.42	1.56	1.66	1.62
1917	1.66	1.72	1.83	2.28	2.62	2.41	2.23	2.16	2.02	1.99	1.97	1.98
1918	2.00	2.00	2.00	2.00	1.98	1.97	2.02	2.08	2.07	2.06	2.06	2.02
1919	2.06	2.12	2.17	2.27	2.32	2.24	2.12	2.07	2.05	2.05	2.07	2.17
1920	2.32	2.36	2.32	2.44	2.59	2.60	2.48	2.30	2.24	2.13	1.81	1.64
1921	1.67	1.66	1.53	1.28	1.22	1.20	1.08	1.02	1.06	1.06	1.00	.99
1922	1.00	1.09	1.17	1.18	1.18	1.08	.98	.91	.91	.98	1.04	1.06
1923	1.09	1.11	1.12	1.14	1.13	1.04	.89	.85	.92	.98	.98	1.00
1924	1.00	1.02	1.02	1.00	.89	1.00	1.06	1.19	1.20	1.32	1.37	1.47
1925	1.72	1.71	1.66	1.50	1.54	1.61	1.42	1.53	1.50	1.47	1.49	1.57
1926	1.68	1.60	1.53	1.50	1.52	1.40	1.28	1.24	1.22	1.25	1.25	1.22
1927	1.23	1.23	1.21	1.14	1.22	1.31	1.30	1.26	1.28	1.27	1.20	1.25

TABLE 3.—FARM PRICES PER BUSHEL OF OATS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1910	.46	.48	.49	.48	.48	.46	.42	.36	.32	.30	.31	.32
1911	.32	.32	.33	.32	.34	.37	.41	.42	.42	.42	.44	.45
1912	.46	.50	.52	.56	.56	.52	.44	.34	.33	.34	.34	.34
1913	.34	.34	.36	.38	.40	.40	.40	.42	.44	.42	.44	.44
1914	.44	.44	.45	.46	.46	.44	.40	.40	.43	.44	.44	.46
1915	.49	.54	.58	.58	.56	.53	.48	.42	.38	.36	.36	.39
1916	.42	.46	.46	.46	.45	.44	.42	.40	.42	.46	.51	.52
1917	.54	.60	.64	.68	.72	.71	.68	.60	.54	.56	.58	.64
1918	.70	.76	.80	.79	.75	.72	.69	.68	.70	.70	.70	.70
1919	.70	.68	.68	.71	.74	.74	.74	.72	.70	.68	.70	.73
1920	.78	.82	.89	.94	1.00	1.03	.90	.72	.66	.59	.51	.42
1921	.48	.46	.46	.43	.42	.42	.36	.29	.28	.27	.30	.31
1922	.33	.37	.40	.42	.42	.42	.42	.40	.40	.42	.43	.46
1923	.50	.52	.54	.53	.54	.51	.44	.38	.40	.42	.44	.48
1924	.48	.52	.54	.55	.56	.54	.54	.52	.52	.52	.53	.58
1925	.60	.61	.62	.56	.55	.55	.50	.46	.45	.45	.45	.45
1926	.45	.49	.48	.47	.48	.47	.44	.43	.43	.45	.41	.44
1927	.47	.48	.50	.48	.50	.55	.50	.46	.50	.51	.51	.50

TABLE 4.—FARM PRICE PER DOZEN EGGS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1910	.26	.24	.20	.18	.16	.16	.14	.14	.17	.20	.23	.26
1911	.22	.16	.12	.12	.12	.11	.10	.12	.14	.18	.22	.26
1912	.26	.24	.19	.16	.16	.14	.14	.15	.17	.20	.24	.24
1913	.21	.18	.16	.15	.15	.15	.12	.12	.15	.22	.28	.29
1914	.27	.23	.20	.15	.16	.15	.14	.15	.18	.19	.23	.28
1915	.30	.21	.15	.16	.15	.14	.13	.14	.18	.20	.24	.26
1916	.25	.21	.16	.17	.17	.17	.17	.16	.20	.27	.30	.34
1917	.35	.34	.23	.29	.29	.28	.26	.24	.32	.33	.35	.41
1918	.49	.43	.30	.28	.28	.24	.28	.30	.33	.40	.47	.56
1919	.53	.31	.32	.36	.38	.32	.33	.34	.36	.45	.53	.65
1920	.57	.43	.37	.34	.35	.30	.33	.38	.45	.49	.58	.62
1921	.53	.31	.26	.19	.16	.15	.20	.23	.25	.34	.46	.44
1922	.26	.28	.17	.18	.19	.17	.17	.14	.21	.29	.37	.42
1923	.31	.26	.21	.21	.20	.20	.17	.20	.26	.28	.43	.40
1924	.32	.31	.17	.17	.18	.19	.20	.23	.29	.34	.44	.45
1925	.47	.31	.23	.22	.24	.24	.25	.26	.26	.34	.35	.41
1926	.29	.23	.21	.23	.24	.23	.21	.23	.29	.33	.39	.40
1927	.33	.25	.19	.19	.18	.16	.18	.21	.27	.33	.36	.37

DETERMINING THE PURCHASING POWER

It seems that some idea relative to the purchasing power of a hen's annual egg production would be of economic importance in determining the place poultry should occupy in a system of agriculture. Knowing the price of various feeds and the price of eggs, and assuming a certain egg production per hen by months, it would be possible to determine the amount of feed a hen's eggs would buy for a given period. Since the production of eggs is seasonal, the figures are based on monthly calculations.

In determining the number of eggs laid, the eight-year monthly average of the Missouri demonstration farm poultry flocks was used in the case of the 122-egg hen, while the distribution of egg production for the 93-egg hen is based on estimates by Mr. E. A. Logan, Missouri Office, Bureau of Agricultural Economics, U. S. Department of Agriculture, Columbia, Missouri.

TABLE 5.—THE DISTRIBUTION OF EGG PRODUCTION

Month	122-egg hen	93-egg hen
January	6	3.2
February	9.57	4.24
March	15.92	9.88
April	16.62	12.67
May	15.73	13.84
June	12.4	12.67
July	12.3	9.88
August	10.14	8.65
September	8.6	7.17
October	7.1	5.43
November	3	3
December	4.2	2.22
Total	121.6	93.

It will be observed that the estimates for the two groups practically coincide for June and November. For the other months the Demonstration Farm Flock average is the highest.

THE PRICE OF FEED

The average price of a pound of feed is the average price of a mixture of 5 pounds of corn, 3 pounds of wheat, and 3 pounds of oats. Thus for January, 1927:

500	pounds Corn	@ $1.04	=	$ 5.20
300	pounds Wheat	@ 2.06	=	6.18
300	pounds Oats	@ 1.43	=	4.23
1100	pounds Feed	@ 1.42	=	$15.61

While the above combination would not be considered a suitable ration for egg production,* it represents practically the av-

*See Missouri Agricultural Experiment Station Circular 163.

erage farm cost of a ration which could be supplied that would adequately care for the hen's needs. Wheat is not extensively used in feeding poultry because of the high price, but this compensates for some more expensive feed which might be used to balance up the ration.

TABLE 6.—MONTHLY VARIATION IN POUNDS OF FEED THE PRODUCTION OF A 122-EGG HEN WOULD PURCHASE
(17-Year Average)

January	11.2	July	11.9
February	13.	August	10.6
March	17.4	September	10.8
April	17.1	October	11.3
May	15.8	November	6.1
June	12.	December	8.5

TABLE 7.—SHOWS THE GENERAL SUMMARY FOR THE 18-YEAR PERIOD

Year	Price of Feed	Pounds Feed Eggs Would Purchase		Price of Eggs	
		122-egg hen	93-egg hen	122-egg hen	93-egg hen
1910	1.28	140	-----	18.4	----
1911	1.15	124	-----	13.7	----
1912	1.36	132	-----	18.	----
1913	1.23	137	----	16.3	----
1914	1.38	132	-----	18.	----
1915	1.52	111	-----	17.1	----
1916	1.58	128	----	19.1	----
1917	2.59	112	-----	29.1	----
1918	2.75	119	91	32.7	31.6
1919	2.90	129	97	37.2	36.9
1920	2.82	142	104	39.3	38.3
1921	1.38	191	143	25.	23.7
1922	1.31	163	118	20.7	20.
1923	1.53	154	113	23.2	22.5
1924	1.71	133	102.4	23.	22.4
1925	1.96	143	103.6	27.1	26.4
1926	1.50	169	130.	25.	24.6
1927	1.62	141	103.	22.1	21.5

Table 7 and Figure 1 show the variations in the price of feed with a marked increase beginning in 1917, and reaching its peak in 1919. An abrupt drop occurred from 1920 to 1921. From that time until 1925 there was a gradual increase in the price of feed until 1925. The year 1926 was a period of comparatively low feed costs, while in 1927 feed prices were approximately 10 per cent higher than in the previous year.

Figure 1 also shows the relation between feed and egg prices (based on production of 122-egg hen). These are usually parallel; when feed increases in price, eggs show a corresponding increase, and *vice versa*. It will be observed that the high egg prices were not reached until a year after the peak in feed prices. One can

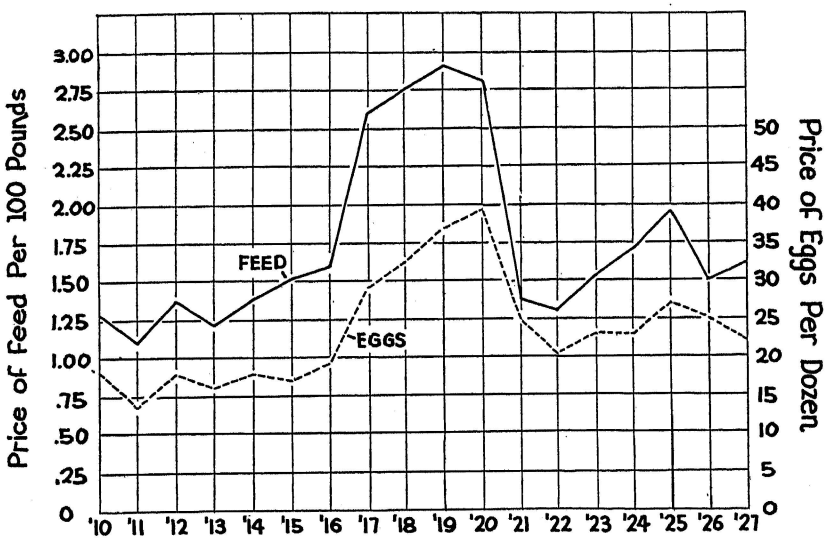

Fig. 1.—Price of feed is based on the average monthly price of a mixture of corn 500 pounds, wheat 300 pounds, and oats 300 pounds. Price of eggs is based on a seasonable production of 122 eggs.

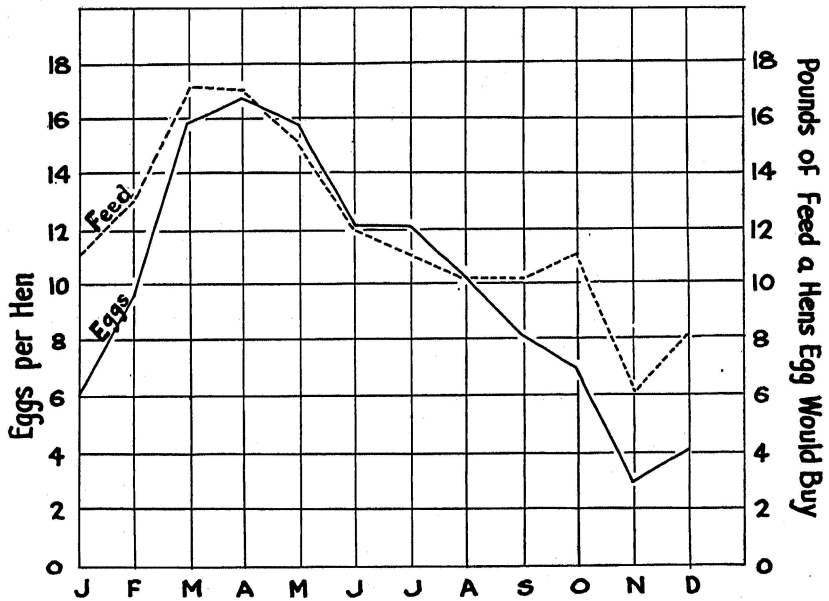

Fig. 2.—The production curve and the feed purchasing power of the eggs are nearly parallel except during the late fall and early winter months when high egg prices prevail.

remember the concern of poultrymen during 1917, 1918, and 1919, when extreme difficulty was encountered because of the relatively low prices for eggs and high prices for feed. This was compensated for in 1921 and 1922, when more favorable conditions occurred and the poultryman was prosperous.

It will be observed from Table 5 and Figure 2 that there is a seasonal distribution of egg production. This is fairly constant from year to year. The purchasing power of a hen's eggs closely parallels the production curve, although there is a tendency for the purchasing power of the eggs to be relatively higher than the production curve from August to the following March. March appears to be the most profitable month of the year when considering the purchasing power of the eggs produced, while the greatest egg production occurs in April. November is the lowest month, both in egg production and the amount of feed the eggs would purchase.

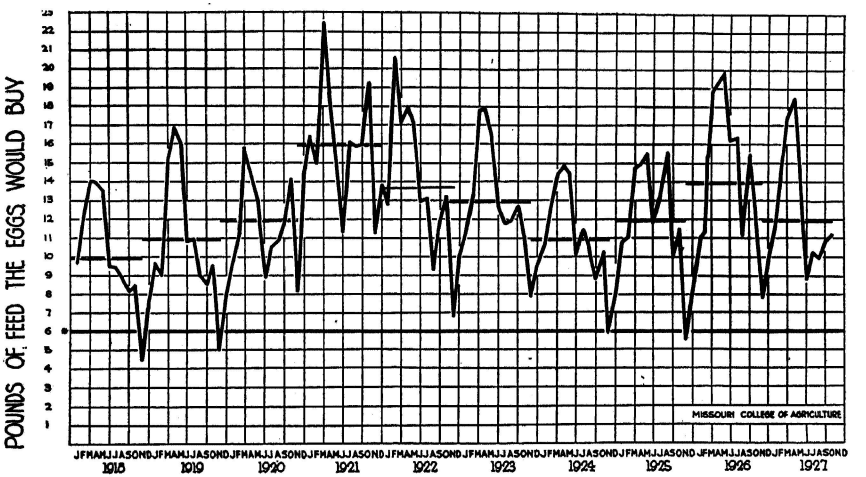

Fig. 3.—The production of eggs is a reliable source of income. Note that if it is assumed that a hen eats 6 pounds of feed per month that there are only 4 months since January, 1918 when a hen's eggs did not pay for feed These occurred in November 1918, 1919, 1925, and 1927. The extent to which the curve extends above the base line of 6 pounds indicates the income above feed cost, in terms of feed. The data are based on the production of 122 eggs per hen.

A study of Figure 3 will show that in a number of years, there was a summer slump in the feed purchasing power of a hen's lay. This slump was usually of one or two months' duration. Such slumps are marked in the years 1920, 1921, 1922, 1925, 1926, and 1927, occurring in June for 1920, 1921, 1925, and 1927. In the years 1922 and 1926, the slumps occurred in August.

TABLE 8.—AVERAGE FARM PRICE PER 100 POUNDS OF FEED*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ave.
1910	1.38	1.41	1.44	1.40	1.40	1.37	1.34	1.27	1.20	1.10	1.05	1.04	1.28
1911	1.03	1.04	1.04	1.01	1.05	1.10	1.20	1.22	1.21	1.24	1.36	1.27	1.15
1912	1.29	1.36	1.41	1.52	1.60	1.57	1.45	1.33	1.27	1.16	1.28	1.08	1.36
1913	1.10	1.11	1.14	1.17	1.23	1.15	1.12	1.28	1.37	1.36	1.35	1.35	1.23
1914	1.36	1.35	1.36	1.39	1.41	1.36	1.30	1.36	1.44	1.42	1.38	1.40	1.38
1915	1.54	1.69	1.73	1.73	1.73	1.63	1.52	1.47	1.38	1.33	1.23	1.27	1.52
1916	1.27	1.44	1.43	1.45	1.45	1.44	1.47	1.58	1.70	1.88	1.91	1.91	1.58
1917	1.98	2.00	2.24	2.63	3.09	3.05	3.09	2.98	2.73	2.53	2.34	2.43	2.59
1918	2.59	2.79	2.81	2.77	2.72	2.64	2.71	2.85	2.92	2.80	2.70	2.70	2.75
1919	2.72	2.73	2.79	2.95	3.07	3.10	3.11	3.22	2.97	2.75	2.64	2.80	2.90
1920	2.95	3.04	3.10	3.30	3.53	3.48	3.18	2.92	2.72	2.19	1.76	1.66	2.82
1921	1.61	1.63	1.54	1.41	1.38	1.37	1.27	1.16	1.12	1.05	1.02	1.05	1.38
1922	1.08	1.21	1.32	1.39	1.39	1.36	1.33	1.27	1.26	1.30	1.37	1.45	1.31
1923	1.53	1.55	1.57	1.62	1.68	1.63	1.49	1.42	1.46	1.50	1.47	1.47	1.53
1924	1.50	1.55	1.56	1.57	1.63	1.59	1.78	1.85	1.88	1.93	1.84	1.83	1.71
1925	2.21	2.23	2.18	2.03	2.02	2.10	1.95	1.95	1.86	1.71	1.67	1.65	1.96
1926	1.64	1.61	1.48	1.54	1.58	1.55	1.38	1.67	1.31	1.58	1.31	1.42	1.50
1927	1.42	1.44	1.45	1.42	1.61	1.78	1.80	1.78	1.80	1.75	1.60	1.62	1.62

*Corn 500 pounds, oats 300 pounds, wheat 300 pounds.

TABLE 9.—POUNDS OF FEED A 122-EGG HEN WOULD PURCHASE

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1910	9.4	13.6	18.4	17.7	15.0	12.0	10.6	8.3	10.1	10.7	5.5	8.75	140
1911	10.6	12.3	15.3	16.5	14.9	10.3	8.5	8.3	8.3	8.0	4.0	7.1	124
1912	10.0	13.9	17.6	14.6	13.1	9.2	10.0	11.7	9.6	10.0	4.7	7.8	132
1913	9.5	13.0	18.6	17.8	16.0	13.5	11.0	7.9	7.8	9.5	5.2	7.5	137
1914	9.9	13.6	19.5	15.0	14.9	13.4	11.0	9.3	8.9	7.9	4.2	7.0	132.6
1915	9.9	10.0	11.6	12.8	11.1	8.9	8.8	8.0	9.3	8.9	4.9	7.1	111
1916	9.9	11.7	14.8	16.2	15.4	12.2	11.8	8.5	8.4	8.5	3.9	6.2	128
1917	8.8	13.6	13.6	15.3	12.3	9.5	7.6	6.2	8.4	7.7	3.3	5.9	112
1918	9.6	12.2	14.2	14.0	13.5	9.4	9.4	8.9	8.1	8.4	4.3	7.2	119
1919	9.7	9.0	15.2	16.9	16.2	10.7	10.9	8.9	8.7	9.7	5.0	8.1	129
1920	9.7	11.2	15.8	14.3	13.0	8.9	10.6	11.0	11.9	14.3	8.2	13.0	142
1921	16.4	15.2	22.4	18.6	15.2	11.3	16.1	15.9	16.0	19.1	11.3	13.9	191
1922	12.8	20.7	17.0	17.9	17.0	12.9	13.1	9.3	11.9	13.2	6.7	10.0	163
1923	11.3	13.4	17.7	17.9	16.4	12.7	11.7	11.9	12.8	11.0	7.9	9.5	154
1924	10.7	12.7	14.4	14.9	14.4	12.5	11.5	10.5	8.8	10.4	6.0	8.6	135
1925	10.7	11.0	14.7	15.0	15.6	11.8	13.1	15.5	10.0	11.8	5.5	8.2	143
1926	10.9	11.4	18.8	19.3	19.9	16.2	16.3	11.1	15.3	12.3	7.8	9.8	169
1927	11.6	14.4	17.4	18.5	14.6	8.7	10.2	10.0	10.7	11.1	5.6	8.0	141

TABLE 10.—POUNDS OF FEED A 93-EGG HEN WOULD PURCHASE

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1918	5.0	6.4	8.8	10.6	11.9	9.6	9.4	7.6	6.7	6.5	4.3	3.8	91
1919	5.2	4.0	9.4	12.9	14.2	10.7	8.7	7.6	7.2	7.4	5.0	4.3	97
1920	5.2	5.0	9.8	10.8	11.3	8.9	8.5	9.4	9.8	10.0	8.2	6.9	104
1921	9.1	6.7	13.9	14.2	13.3	11.3	13.0	14.3	13.3	14.7	11.5	7.7	143
1922	6.4	8.2	10.6	13.7	15.7	12.9	10.5	7.9	10.0	10.0	6.8	5.4	118
1923	5.4	5.9	11.0	13.6	13.7	12.7	9.4	10.0	10.6	8.5	7.3	5.0	113
1924	5.7	7.0	9.0	11.4	12.7	12.6	9.2	9.0	7.2	8.0	6.0	4.6	102
1925	5.7	4.9	8.7	11.3	13.7	11.8	10.6	9.6	8.2	9.0	5.5	4.6	103.6
1926	4.9	5.0	11.7	15.0	18.1	16.6	13.2	10.0	12.7	9.4	7.8	5.2	130.
1927	6.2	6.4	10.7	14.0	12.8	8.9	8.2	8.5	8.9	8.5	5.7	4.2	103

Using an estimated feed consumption of six pounds of feed per hen per month, it is interesting to note that in the ten-year period there are only four months in which a 122-egg hen did not lay enough eggs to more than pay for her feed. This fact should create confidence on the part of poultrymen in the stability of the poultry business. Details by years and months will be found in Table 9. On this basis, the years 1921, 1926, 1922, 1925, 1920, and 1927 proved the most profitable, while the general tendency has been for the hen's eggs to purchase more feed during the last six years as compared with the period from 1910 to 1917. When one considers the financial returns, without reference to the purchasing power in terms of feed, the years 1920, 1919, and 1921 made the greatest returns.

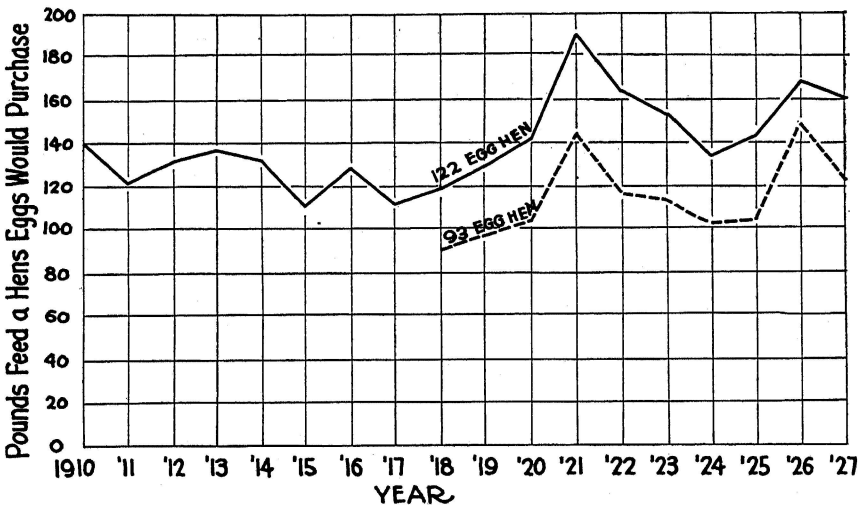

Fig. 4.—The purchasing power of a hen's eggs is increasing. Using 1910-14 as 100, the last five years show an average of 111 or an increase of 11 per cent.

COMPARISON OF THE 93- AND 122-EGG HENS

It is further observed that Table 7 presents a comparison of two types of hens. This is further illustrated in Figure 4 which also shows the general trend for the 18-year period. (Ten years for the 93-egg hen). It will be observed that on the basis of the purchasing power of eggs in terms of feed, poultry keeping for the last five years has been more profitable than for the period from 1910 to 1920.

The average number of pounds of feed purchased by the 93-egg hen for the 10-year period was 112.5 pounds of feed per year,

as compared to 148.4 for the 122-egg hen. Assuming an annual food consumption of 72 pounds of feed for the better hen and 60 pounds for the poorer, the average return above feed cost for the one would be 76.4 pounds per year, as compared to 52.5 pounds for the other; or, generally speaking, it took three 93-egg hens to do the work of two 122-egg hens. The 93-egg hen not only produced fewer eggs, but the eggs were worth less per dozen. (Table 7) This is due to the fact that the hen laying fewer eggs pro-

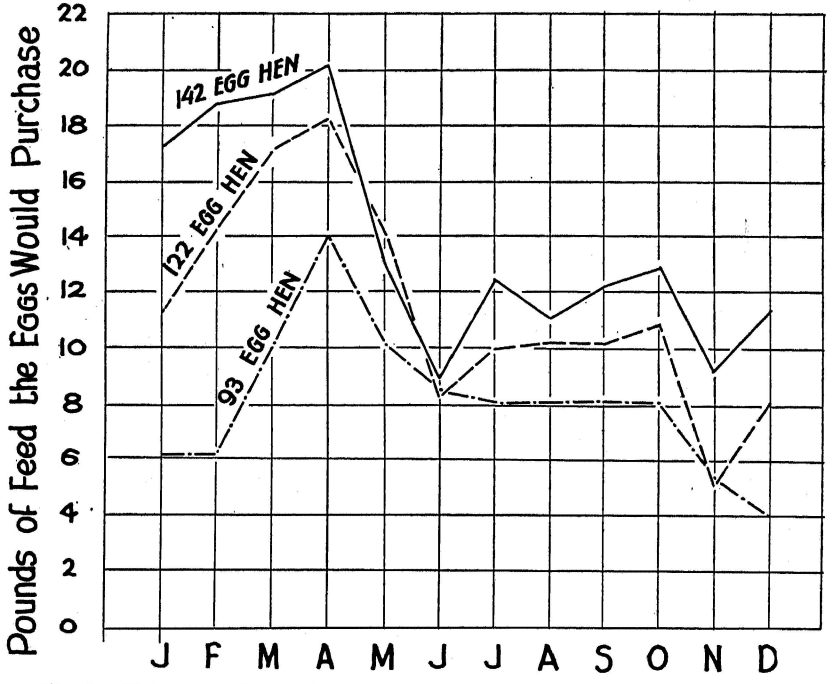

Fig. 5.—High egg production is essential. The eggs from a 93-egg hen would purchase 103 pounds of feed as compared to 141 for the 122-egg hen, and 168 for the 142 egg hen.

duces a larger portion of them during the months of lower prices. This suggests the desirability of managing the flock in such a way that a maximum number of eggs is produced during the early fall and winter months. The average winter egg production per hen from the demonstration farm flock hens for the eight-year period was 23 eggs, while for the last three years it has been slightly more than 30. This represents an increase of 30% in winter egg production for the last three years as compared to the eight-year average. The same period showed an increase of only 11 per cent in annual production. Hatching and housing the pullets earlier,

the keeping of a larger proportion of pullets, and good management during the growing period as well as keeping a strain of hens which naturally lay during the winter are all factors which will increase the winter lay.

The importance of a high winter egg production is clearly shown in Figure 5 comparing the 93-, 122-, and 142-egg hens for 1927. The 142-egg hen is the average hen in the demonstration farm flock for that year. From January 1 to April 30 a 93-egg hen's

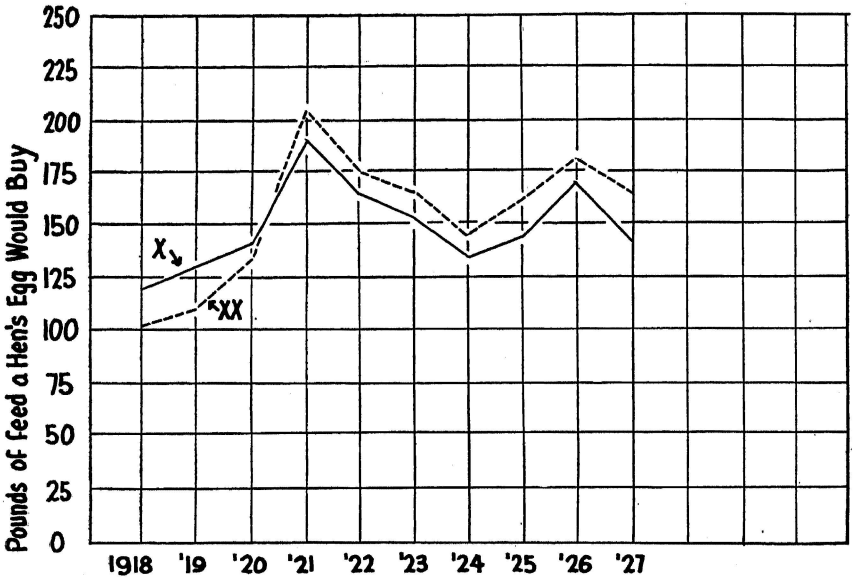

Fig. 6—Comparison of the 122-egg hen (X) with the demonstration farm flock hen (XX).

eggs would buy 37 pounds of feed as compared to 62 and 75 pounds of feed for the 122- and 142-egg hens respectively. Again from July to December the three respective types of hens would buy 44, 56, and 70 pounds of feed. Certainly the poultryman can afford to exert every effort to obtain extra eggs during the late fall and winter months. It is safe to venture that the best hen returned an income above feed cost double that of the poor even though the egg production was but 49 per cent greater.

The discussion thus far, with one exception, has been on an annual egg production of 93 and 122 eggs per hen. It has been shown that while the 122-egg hen purchased 141 pounds of feed in 1927, the hen laying 142-eggs would purchase 168. Actual poultry conditions among the demonstration farm flocks show that due to more liberal egg production the hens have been more profitable

than previous figures would indicate. This comparison is shown in Table 11 and Figure 6.

Based on these figures the years 1921, 1926, 1922, and 1927 were the most profitable for the ten-year period. The increased cost of feeding suitable rations so as to stimulate production is certainly much less than the increased returns.

The poultryman in 1927, instead of having a flock 83.4 per cent as efficient as for the previous year, actually realized 92.3 per cent as much from his hens.

TABLE 11.—PURCHASING POWER OF THE EGGS PRODUCED BY A HEN

Year	93-Egg Hen	122-Egg Hen	Demonstration	Farm Flock Hen
1918	91 lbs.	119 lbs.	101 lbs.	100 eggs*
1919	97 lbs.	129 lbs.	109 lbs.	106 eggs
1920	104 lbs.	142 lbs.	133 lbs.	114 eggs
1921	143 lbs.	191 lbs.	205 lbs.	125 eggs
1922	118 lbs.	163 lbs.	175 lbs.	129.6 eggs
1923	113 lbs.	154 lbs.	165 lbs.	127 eggs
1924	102 lbs.	133 lbs.	145 lbs.	132 eggs
1925	103.6 lbs.	143 lbs.	161 lbs.	134 eggs
1926	130 lbs.	169 lbs.	181 lbs.	132 eggs
1927	103 lbs.	141 lbs.	168 lbs.	142 eggs

*The right-hand column shows the egg production per hen of the demonstration farm flock hen.

EGG-FEED RATIO

Figure 7 shows the relation between egg and feed prices. The measure used is the number of dozen eggs required to buy 100

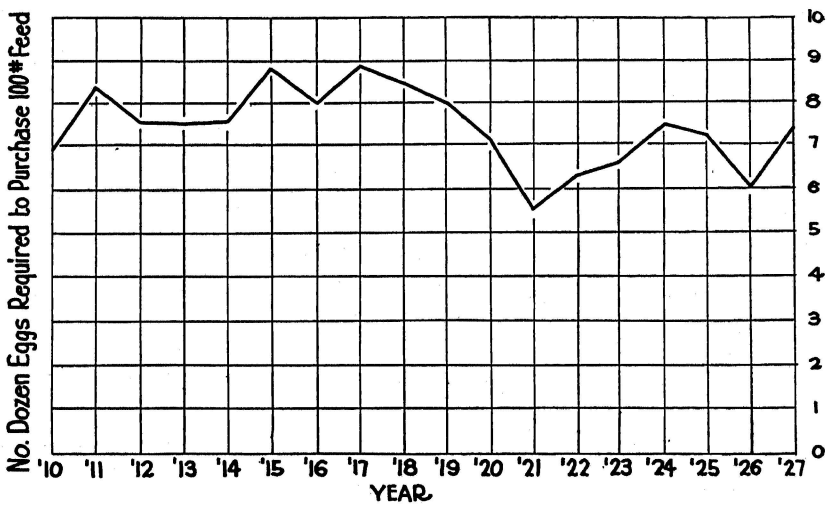

Fig. 7.—The feed-egg ratio; the number of dozens of eggs required to purchase 100 pounds of feed, in average terms for each year from 1910 to 1927, inclusive.

pounds of feed. Obviously when the ratio is high, poultry keeping is less profitable. Using this as a basis the years 1915 and 1917 were the least profitable years, while 1921 and 1926 were the most prosperous for the poultryman. The egg-feed ratio for 1927 was 7.3 which is practically the same as for 1920, 1924, and 1925. The last few years have shown a general trend toward a lower egg-feed ratio which means that the profits from poultry keeping are increasing.