

UNIVERSITY OF MISSOURI COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION
BULLETIN 154

INSPECTION OF COMMERCIAL FERTILIZERS: 1917



The unfertilized plot on the left yielded 15.3 bushels of wheat to the acre and the fertilized plot on the right yielded 27.4 bushels to the acre.

COLUMBIA, MISSOURI
MARCH, 1918

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COLLEGE OF AGRICULTURE

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Inspection of Commercial Fertilizers: 1917

Report of the Chemist

P. F. TROWBRIDGE

INSPECTION

During 1917, 227 localities in 58 counties, were visited by the inspectors. Five hundred ninety-six samples, representing 181 different brands, were taken. Owing to unsettled conditions and the high price of sulphuric acid the manufacturers did not carry an excessive stock of acid phosphate. There was an increased demand for fertilizers for wheat. In attempting to meet this demand nearly every manufacturer sold out completely and some confusion resulted in making substitutions that would give as nearly as possible the fertilizer desired.

REGISTRATION

Twenty-three manufacturers registered a total of 427 brands for sale in Missouri, as compared with 27 manufacturers and 473 brands for 1916. Of the 427 brands registered for sale inspectors found samples of only 181 brands.

In Table 7, will be found a list of manufacturers and brands registered for sale in 1918 at the time this bulletin goes to press.

Fertilizers not registered cannot legally be sold in the state. Registration must be made each year by every manufacturer before sales are made. The registration is a guarantee on the part of the manufacturer that he will offer for sale only those brands registered and that each brand shall have the composition guaranteed in the registration.

Every sack of fertilizer sold in the state must have its composition plainly printed either on the sack or on a tag attached to the sack. There must also appear on each sack a tag issued by the Agricultural Experiment Station showing that the brand has been registered by the manufacturer. This tag issued by the Agricultural Experiment Station is not a guarantee to the dealer or farmer that the fertilizer

contains the amount of plant food as indicated on the sack or tag, but that such a brand of fertilizer has been registered and that its sale is permitted.

The purpose of the fertilizer inspection and analysis is to see that the certificate of registration is on each bag, that the guaranteed analysis is on each bag, and that this guaranteed analysis corresponds with the guaranteed analysis registered by the manufacturers. The sample is taken for analysis to determine if the composition of the fertilizer is in accordance with this guarantee. The publication of the results in the bulletin each year helps the dealer or farmer to determine how nearly he is obtaining the plant food which is guaranteed to him in the different brands.

COMPARATIVE VALUATION

During the year the cost of fertilizer nitrogen nearly doubled, so that the valuation in this report is increased to \$8.00 per unit or 40 cents per pound. No change has been made in the valuation for the various forms of phosphoric acid. The cost of potash has not increased appreciably during the year, but the value of \$5.00 per unit used last year appeared to be too low, and for this year a valuation of \$6.00 per unit is used.

It is not possible to use a set of valuations that will represent the cost to the farmer of the different fertilizers delivered at his railroad station. A study of Table 5 will show that the values adopted do fairly represent the cost to the farmer of the high-grade fertilizers, but fall far short of representing the cost to the farmer of the lower grades of fertilizers. In explanation of this it should be noted that the cost of manufacturing a ton of cheap fertilizer, aside from actual raw material, is as great as that of manufacturing a ton of a high-grade fertilizer. That is, the cost in labor, bags, use of machinery, interest, freight, depreciation, and other factors is as great on a ton of low-grade fertilizer as on a ton of high-grade.

To illustrate the use of the values, take as an example the second sample in Table 5. This is a complete fertilizer in the sense that it contains all three plant food constituents. The nitrogen guaranteed is 1.50 per cent, or 30 pounds per ton, worth \$12.00 at \$8.00 per unit (one per cent per ton) or at 40 cents per pound. The nitrogen found is 2.03 per cent, worth \$16.24 per ton. The average or gain to the farmer on the nitrogen is therefore \$4.24 per ton.

The guaranteed total phosphoric acid of 13.10 per cent is supposed to be 1 per cent insoluble and 12.1 per cent soluble or available.

The analysis showed 2.89 per cent insoluble and 11.77 per cent available. The guaranteed value of the insoluble is 40 cents and the found value is \$1.16, a gain of 76 cents. The value of the guaranteed 12.1 per cent available phosphoric acid is \$16.94, while the value of the 11.77 per cent found is \$16.48, showing a loss in value of 46 cents. The guaranteed 0.40 per cent potash at \$6.00 per unit is worth \$2.40; the 0.41 per cent potash found has a value of \$2.46, a gain of 6 cents. The gain in plant food value is \$4.24 for the nitrogen, 76 cents for the insoluble phosphoric acid, and 6 cents for the potash, a total of \$5.06. There is a loss of 46 cents in the value of the available phosphoric acid, which leaves a net gain over the guarantee of \$4.60 per ton. In the fertilizer represented by the sample the farmer is receiving 15 per cent more plant food than is guaranteed by the manufacturer.

This data is summarized in Table 1.

TABLE 1.—COMPARISON OF ACTUAL AND GUARANTEED VALUES IN FERTILIZER SAMPLE 1

Plant Food	Guaranteed Value	Found Value
Nitrogen	\$12.00	\$16.24
Insoluble phosphoric acid .....	.40	1.16
Available phosphoric acid	16.94	16.48
Potash	2.40	2.46
Total	\$31.74	\$36.34

As to the relative valuation for 1917 of 475 samples analyzed, 116 showed a valuation below the manufacturer's guarantee. This is 24.4 per cent of the samples analyzed, as compared with 15 per cent for samples analyzed in 1916; 35.5 per cent for the samples analyzed for 1915; and 38.4 per cent for the samples for 1914.

The total samples analyzed for 1917 showed an average valuation of \$1.58 per ton above the manufacturer's guarantee. For 1916 this average increased valuation was \$1.83 per ton; for 1915 it was \$0.53 per ton, and for 1914, \$0.57 per ton.

The average valuation was below the guarantee for one manufacturer in 1917, for one manufacturer in 1916, for three manufacturers in 1915, and for six manufacturers in 1914.

The summary of valuations for the year is shown in Table 2.

TABLE 2.—VARIATION IN VALUE FROM MANUFACTURER'S GUARANTEE

Manufacturer	No. of samples analyzed	Below guarantee		Average loss ¹ per ton	Average gain ² per ton
			Per cent		
Tuscarora Fertilizer Co.	8	0	0.0	\$0.00	\$4.29
Empire Guano Co.	12	2	16.7	1.17	3.82
Morris & Co.	26	2	7.7	2.62	3.45
Darling & Co.	10	1	10.0	1.59	2.92
Read Phosphate Co.	25	9	36.0	1.60	2.02
Commercial Fertilizer Co.	17	4	23.5	3.45	1.82
Armour Fertilizer Works	74	16	21.6	0.90	1.78
Tennessee Chemical Co.	3	1	33.3	2.35	1.48
Virginia-Carolina Chemical Co.	21	6	28.6	1.50	1.42
Swift & Co., Swift's Brands	147	46	31.3	2.00	1.27
Arkansas Fertilizer Co.	14	5	35.7	1.00	1.25
Empire Carbon Works, Horse Shoe Brands	26	5	19.2	0.96	1.12
Empire Carbon Works, Bradley's Brands	11	2	18.2	1.97	1.11
Empire Carbon Works, Boar's Head Brands	27	4	14.8	0.45	1.08
Empire Carbon Works, Empire Brands	49	9	18.4	4.48	1.05
Swift & Co., Pioneer Brands	4	3	75.0	6.13	-4.59
Total	475	116	24.4	2.00	+1.58

¹This is the average for those samples which show losses—not for all the samples of this company. The last column shows the average gain or loss for all samples secured from each manufacturer. The reader must remember that this table has no reference to the price paid on the market. The gain or loss per ton is the value of the plant food present above or below that guaranteed by the manufacturer. If the fertilizer contains 20 pounds, or one per cent more nitrogen per ton than guaranteed, the gain at 40 cents a pound is \$8.00 for the purposes of this table, even tho the price charged for the fertilizer is so high as to cause a loss or so low as to cause a gain of \$10 from the standpoint of market price.

²A minus sign (—) indicates a loss instead of a gain. This is the average for all samples analyzed.

CHEMICAL ANALYSES

Table 5 gives the detailed report of the results of the analysis of 511 samples of fertilizers. These results are listed alphabetically under the name of the manufacturer. Results below the amount guaranteed are indicated in heavy faced type.

At the end of the table under miscellaneous samples, are listed the samples analyzed which were not taken by regular inspectors. No charge is made for analyzing fertilizers and, while most of the samples to be analyzed must be taken by regularly delegated inspectors, we are glad to accommodate dealers and farmers by analyzing.

samples they may wish to send in unless such demand should be so great as to interfere with the care of the official samples.

When samples are sent in for analysis they should always be accompanied by a statement giving the name and address of the sender, the name of the manufacturer and the brand the sample is supposed to represent. If this information is not furnished, the sample will not be analyzed free of charge.

While limestones have not been classed as fertilizers in the usual use of the term, the quite general acidity of Missouri soils has shown the great need for this material. Missouri has an abundance of limestone deposits and they are quite generally distributed. Most agricultural communities can secure the rock within reasonable distance. The Station has been testing free of charge all samples sent in to determine the relative value for correcting soil acidity. The report on the 195 samples tested during the last year is given in Table 6 in which the results are expressed in terms of calcium carbonate equivalent. Samples showing an equivalent of more than 100 per cent contain a very considerable amount of magnesium carbonate.

In all plant food constituents except potash the percentage below the guarantee is almost identical with 1916. In potash the deficiency is very marked, dropping back nearly to the poor results of 1914.

TABLE 3.—SUMMARY OF DEFICIENCIES IN PLANT FOOD

Plant Food	Samples Analyzed 1917	Samples Deficient				Improvement 1917		
		1917 per cent	1916 per cent	1915 per cent	1914 per cent	Over 1916 per cent	Over 1915 per cent	Over 1914 per cent
Nitrogen	406	26.6	26.9	42.8	49.9	0.3	16.2	22.8
Total Phosphoric Acid	470	10.4	9.9	19.6	28.2	— 0.5	9.2	17.8
Available Phosphoric Acid	352	26.1	25.5	52.2	54.1	— 0.6	26.1	28.0
Potash	225	53.3	37.9	54.0	27.6	—15.4	0.7	—25.7
Total	1453	25.4	23.0	40.7	39.3	— 2.4	15.3	13.2

TABLE 4.—SAMPLES ANALYZED GIVING RESULTS BELOW THE GUARANTEE

Manufacturer	Nitrogen			Total Phosphoric Acid			Available Phosphoric Acid			Potash			All Analyses		
	Total	Deficient	Per cent	Total	Deficient	Per cent	Total	Deficient	Per cent	Total	Deficient	Per cent	Total	Deficient	Per cent
Tuscarora Fertilizer Co.	8	0	0.0	8	0	0.0	7	0	0.0	5	0	0.0	28	0	0.0
Empire Guano Co.	9	2	22.2	12	3	25.0	12	0	0.0	9	2	22.2	42	7	16.7
Morris & Co.	26	3	11.5	26	2	7.7	14	3	21.4	10	5	50.0	76	13	17.1
Empire Carbon Works, Empire Brands	40	6	15.0	48	1	2.1	38	7	18.4	20	12	60.0	146	26	17.8
Empire Carbon Works, Horse Shoe Brands	21	5	23.8	26	0	0.0	26	5	19.2	11	5	45.5	84	15	17.9
Darling & Co.	9	1	11.1	10	2	20.0	5	1	20.0	1	1	100.0	25	5	20.0
Virginia-Carolina Chemical Co.	9	6	66.7	21	0	0.0	20	1	5.0	15	7	46.7	65	14	21.5
Empire Carbon Works, Boar's Head Brands	20	4	20.0	27	0	0.0	27	10	37.0	16	6	37.5	90	20	22.2
Armour Fertilizer Works	66	11	16.7	74	12	16.2	55	20	36.4	43	13	30.2	238	56	23.5
Empire Carbon Works, Bradley's Standard Brands	9	1	11.1	11	0	0.0	11	2	18.2	6	6	100.0	37	9	24.3
Read Phosphate Co.	17	7	41.2	25	2	8.0	24	4	16.7	17	10	58.8	83	23	27.7
Commercial Fertilizer Co.	16	5	31.3	17	6	35.3	7	1	14.3	4	2	50.0	44	14	31.8
Swift & Co., Swift's Brands.....	139	49	35.3	146	18	12.3	94	29	30.9	58	45	77.6	437	141	32.3
Arkansas Fertilizer Co.	12	4	33.3	14	2	14.3	7	5	71.4	8	4	50.0	41	15	36.6
Swift & Co., Pioneer Brands.....	4	4	100.0	4	0	0.0	4	3	75.0	2	2	100.0	14	9	64.3
Total	406	108	26.6	470	49	10.4	352	92	26.1	225	120	53.3	1453	369	25.4

TABLE 5.—FERTILIZER ANALYSES AND GUARANTEES: 1917

Manufacturer and brands	Dealer	Nitrogen		Phosphoric Acid P ₂ O ₅						Potash (K ₂ O)		Value per ton	
				Total		Insoluble		Available					
		Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
		Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.
Arkansas Fertilizer Co., Little Rock, Ark.													
White Diamond Brands													
Queen of the South	Al. Self, Laddonia	1.65	2.03	13.00	14.58	1.00	2.68	12.00	11.90	.....	.....	\$30.40	\$33.97
Blood and Bone Fertilizer 1916.....	Al. Self, Laddonia	1.50	2.03	13.10	14.66	1.00	2.89	12.10	11.77	0.40	0.41	31.74	36.34
Number 39	Farmers' Supply Co., Purcell	0.82	0.82	11.00	11.70	1.00	1.95	10.00	9.75	1.00	0.58	26.96	24.47
Number 39	Farmers' Coop. Elev. Co., Jasper.....	0.82	0.75	11.00	13.00	1.00	1.40	10.00	11.60	1.00	0.85	26.96	27.90
Raw Bone Meal Fertilizer	Farmers' Coop. Elev. Co., Jasper.....	3.30	3.23	20.00	21.66	.....	.....	.....	.....	.....	.....	42.40	43.17
Raw Bone Meal Fertilizer	Al. Self, Laddonia	3.30	3.16	20.00	20.21	.....	.....	.....	.....	.....	.....	42.40	41.45
Southwest Wheat Grower	Silex Grain Co., Silex	0.82	1.36	15.00	16.14	.....	.....	.....	.....	1.00	0.60	24.56	27.39
Special Acid Phosphate	Farmers' Coop. Elev. Co., Jasper.....	.....	.....	.....	17.40	.....	2.15	16.00	15.25	.....	.....	22.40	22.21
Special Acid Phosphate	Farmers' Supply Co., Purcell.....	.....	.....	.....	18.55	.....	1.95	16.00	16.60	.....	.....	22.40	24.02
Special Raw Bone Meal and Potash....	Farmers' Coop. Elev. Co., Jasper.....	1.65	1.68	18.00	20.74	.....	.....	.....	.....	1.00	1.04	33.60	36.27
Special Raw Bone Meal and Potash....	Farmers' Supply Co., Purcell.....	1.65	1.99	18.00	17.72	.....	.....	.....	.....	1.00	1.14	33.60	36.94
Special Raw Bone Meal and Potash....	Laverne Woody, Golden City.....	1.65	1.86	18.00	17.99	.....	.....	.....	.....	1.00	1.01	33.60	35.33
Economy Corn and Wheat Grower.....	Farmers' Coop. Elev. Co., Jasper.....	0.82	0.55	11.00	11.66	1.00	4.01	10.00	7.65	2.00	1.71	32.96	26.97
Steamed Bone Meal	N. Johannes & Sons, Lamar.....	0.82	1.44	29.00	29.06	.....	.....	.....	.....	.....	.....	29.76	34.77

TABLE 5.—FERTILIZER ANALYSES AND GUARANTEES: 1917

Laboratory Number	Manufacturer and brands	Dealer	Nitrogen		Phosphoric Acid P ₂ O ₅						Potash (K ₂ O)		Value per Value per	
					Total		Insoluble		Available					
			Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
	Armour Fertilizer Works, Chicago, Ill.		Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.			
	Armour Brands													
165	Grain Grower	F. Everett, Wellsville	1.65	1.27	8.50	8.73	0.50	0.64	8.00	8.09	2.00	1.99	36.60	33.69
44	Grain Grower	Marionville Hdwe. Co., Marionville.....	1.65	1.56	8.50	9.26	0.50	0.95	8.00	8.31	2.00	2.51	36.60	39.55
43	Grain Grower	Timberlake & Burnett, Ava	1.65	1.68	8.50	9.63	0.50	2.10	8.00	7.53	2.00	1.83	36.60	35.86
42	Grain Grower	T. M. Renfro, West Plains.....	1.65	1.64	8.50	8.81	0.50	1.43	8.00	7.38	2.00	2.37	36.60	38.24
12	Grain Grower	Ellerton, Otterville	1.65	1.66	8.50	8.42	0.50	0.30	8.00	8.12	2.00	1.96	36.60	36.53
13	Grain Grower	Vick & Buckholz, New Haven.....	1.65	1.75	8.50	9.62	0.50	1.21	8.00	8.41	2.00	2.21	36.60	39.51
14	Special Grain Grower	John Glenn, Troy	1.65	1.88	8.50	9.27	0.50	0.58	8.00	8.69	1.00	1.28	30.60	35.12
40	Special Grain Grower	Herman & Herbst, Farmington	1.65	1.41	8.50	8.68	0.50	0.42	8.00	8.26	1.00	1.29	30.60	30.75
41	Special Grain Grower	Marionville Hdwe. Co., Marionville.....	1.65	1.58	8.50	9.06	0.50	0.47	8.00	8.59	1.00	1.69	30.60	35.00
166	Special Grain Grower	J. San bothe, Martinsburg	1.65	1.79	8.50	9.04	0.50	0.64	8.00	8.40	1.00	1.03	30.60	32.52
39	Special Grain Grower	W. F. Frame, Springfield.....	1.65	1.71	8.50	9.15	0.50	0.50	8.00	8.65	1.00	1.05	30.60	32.29
162	Ammoniated Phosphate	Potter Lbr., Hdwe. & Grain Co., Iantha...	1.65	1.75	10.50	11.02	0.50	0.30	10.00	10.72	.....	.....	27.40	29.13
159	Ammoniated Phosphate	Asbury Lumber Co., Asbury.....	1.65	1.79	10.50	10.46	0.50	1.91	10.00	8.55	.....	.....	27.40	27.05
157	Ammoniated Phosphate	Buckner & Son, Pierce City.....	1.65	1.61	10.50	11.07	0.50	0.76	10.00	10.31	.....	.....	27.40	27.61
35	Ammoniated Phosphate	John W. Asher Store Co., Gibson.....	1.65	1.60	10.50	10.58	0.50	0.36	10.00	10.22	.....	.....	27.40	27.25

36	Ammoniated Phosph'ate	Burnett & Sims, Wheaton	1.65	1.49	10.50	10.21	0.50	0.41	10.00	9.80	.....	.....	27.40	25.80
34	Ammoniated Phosphate	F. M. Shoffner, Bolivar	1.65	1.67	10.50	11.41	0.50	1.58	10.00	9.83	.....	.....	27.40	27.75
45	Ammoniated Phosphate Special	W. F. Frame, Springfield	0.82	0.93	12.50	12.76	0.50	0.62	12.00	12.14	.....	.....	23.56	24.69
6	Ammoniated Phosphate Special	A. E. Klingenberg, Truesdale	0.82	1.16	12.50	13.88	0.50	0.64	12.00	13.24	.....	.....	23.56	28.08
48	Ammoniated Phosphate Special	J. E. Perringer, Fredericktown	0.82	1.05	12.50	12.90	0.50	0.86	12.00	12.04	.....	.....	23.56	25.60
46	Ammoniated Phosphate Special	T. M. Renfro, West Plains	0.82	0.94	12.50	13.31	0.50	1.85	12.00	11.46	.....	.....	23.56	24.30
163	1-12-1 Fertilizer	Zane-Wetherall Impl. House, Carthage	0.82	0.73	12.50	13.27	0.50	0.61	12.00	12.66	1.00	1.07	29.56	30.22
32	1-12-1 Fertilizer	Marionville Hdwe. Co., Marionville	0.82	0.98	12.50	12.20	0.50	0.85	12.00	11.35	1.00	1.50	29.56	33.07
31	1-12-1 Fertilizer	Burnett & Sims, Wheaton	0.82	1.01	12.50	12.32	0.50	0.45	12.00	11.97	1.00	1.29	29.56	32.76
15	New Record Brand	J. F. Coontz, Vandalia	0.82	0.97	10.50	10.90	0.50	0.45	10.00	10.45	1.00	1.05	26.76	28.87
16	New Record Brand	Ellerton, Otterville	0.82	0.90	10.50	12.39	0.50	0.30	10.00	12.09	1.00	0.96	26.76	30.01
30	New Record Brand	Marionville Hdwe. Co., Marionville	0.82	0.92	10.50	10.80	0.50	0.80	10.00	10.00	1.00	1.17	26.76	28.70
29	New Record Brand	John Ruckert, Mt. Vernon	0.82	0.90	10.50	10.55	0.50	0.76	10.00	9.79	1.00	1.15	26.76	28.11
28	New Record Brand	C. F. Neiheiser, St. Clair	0.82	0.90	10.50	11.28	0.50	0.74	10.00	10.54	1.00	1.15	26.76	29.16
27	New Record Brand	J. F. Coontz, Vandalia	0.82	1.02	10.50	11.60	0.50	1.41	10.00	10.19	1.00	1.37	26.76	31.21
17	Wheat, Corn and Oat Special	Jas. Tomek Bargain Store, Hawk Point	0.82	1.16	8.50	9.61	0.50	2.10	8.00	7.51	1.00	1.13	23.96	27.41
18	Wheat, Corn and Oat Special	E. K. Ham, Buel	0.82	0.88	8.50	9.72	0.50	0.87	8.00	8.85	1.00	1.00	23.96	25.78
19	Wheat, Corn and Oat Special	Archias Seed Store, Sedalia	0.82	0.84	8.50	8.75	0.50	0.61	8.00	8.14	1.00	0.90	23.96	23.76
20	Wheat, Corn and Oat Special	Ellerton, Otterville	0.82	0.96	8.50	7.16	0.50	0.37	8.00	6.79	1.00	0.96	23.96	23.10
21	Wheat, Corn and Oat Special	Heath & Roth, California	0.82	0.85	8.50	9.39	0.50	0.69	8.00	8.70	1.00	1.16	23.96	26.22
22	Wheat, Corn and Oat Special	C. M. Lovell, Enon	0.82	0.82	8.50	8.64	0.50	0.94	8.00	7.70	1.00	0.94	23.96	23.36
23	Wheat, Corn and Oat Special	John Glenn, Troy	0.82	0.86	8.50	9.15	0.50	0.50	8.00	8.65	1.00	1.05	23.96	26.29
24	Wheat, Corn and Oat Special	A. E. Klingenberg, Truesdale	0.82	0.93	8.50	9.15	0.50	0.87	8.00	8.28	1.00	0.87	23.96	26.20
25	Wheat, Corn and Oat Special	J. H. Miller, High Hill	0.82	0.83	8.50	9.19	0.50	1.48	8.00	7.71	1.00	0.82	23.96	22.94
172	Wheat, Corn and Oat Special	F. Everett, Wellsville	0.82	0.74	8.50	8.50	0.50	0.52	8.00	7.98	1.00	1.06	23.96	23.66
170	Wheat, Corn and Oat Special	Henry Tiemann, Gerald	0.82	0.90	8.50	8.95	0.50	1.39	8.00	7.56	1.00	0.66	23.96	22.30
168	Wheat, Corn and Oat Special	Potter Lbr., Hdwe. & Grain Co., Iantha	0.82	0.91	8.50	8.52	0.50	0.52	8.00	8.00	1.00	1.01	23.96	24.75
25	Wheat, Corn and Oat Special	John Ruckert, Mt. Vernon	0.82	0.96	8.50	8.14	0.50	0.57	8.00	7.57	1.00	1.04	23.96	24.75
19	Wheat, Corn and Oat Special	Wilke & Shamburg, Perryville	0.82	0.95	8.50	8.15	0.50	1.01	8.00	7.14	1.00	1.01	23.96	24.06
21	Wheat, Corn and Oat Special	J. W. Frame, Springfield	0.82	0.93	8.50	9.02	0.50	0.99	8.00	8.03	1.00	1.05	23.96	25.38
156	Phosphate and Potash Special	Geo. W. Williams, Foristell	.....	.....	10.50	10.92	0.50	0.74	10.00	10.18	1.00	0.94	20.20	20.19
17	Phosphate and Potash Special	Evans & Son, Eunice	.....	.....	10.50	10.74	0.50	0.83	10.00	9.91	1.00	0.77	20.20	18.82
5	16 Per Cent Acid Phosphate	Archias Seed Store, Sedalia	.....	.....	16.50	17.35	0.50	1.00	16.00	16.35	.....	.....	22.60	23.29
33	16 Per Cent Acid Phosphate	Cannon Bros., Butler	.....	.....	16.50	16.24	0.50	0.75	16.00	15.49	.....	.....	22.60	21.99
155	16 Per Cent Acid Phosphate	Archias Seed Store, Sedalia	.....	.....	16.50	18.19	0.50	0.90	16.00	17.29	.....	.....	22.60	24.57
4	Star Phosphate	P. M. Lovell, Enon	.....	.....	14.50	16.00	0.50	0.45	14.00	15.55	.....	.....	19.80	21.95
16	Star Phosphate	J. E. Perringer, Fredericktown	.....	.....	14.50	15.11	0.50	0.77	14.00	14.34	.....	.....	19.80	20.39

TABLE 5.—FERTILIZER ANALYSES AND GUARANTEES: 1917

Laboratory Number	Manufacturer and brands	Dealer	Nitrogen		Phosphoric Acid P ₂ O ₅				Potash (K ₂ O)		Value per ton			
					Total		Insoluble		Available					
			Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found		
				Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.		
	Armour Fertilizer Works,													
	Armour Brands—Continued.													
3	Cereal Phosphate	Vick & Buckholz, New Haven			10.50	11.45	0.50	3.50	10.00	10.95			\$14.20	\$15.53
10	Raw Bone Meal	Herth & Roth, California	3.70	3.78	22.00	25.06							47.20	50.29
175	Raw Bone Meal	Cassville Produce & Seed Co., Cassville... ..	3.70	3.41	22.00	22.46							47.20	45.25
174	Raw Bone Meal	Farmers' Elevator Co., Purdy	3.70	3.93	22.00	26.05							47.20	52.28
15	Raw Bone Meal	J. M. Jamison, Irondale	3.70	3.97	22.00	23.33							47.20	50.42
9	Bone Meal	J. H. Miller, High Hill	2.47	2.78	24.00	27.02							38.96	43.86
183	Bone Meal	J. Sandbothe, Martinsburg	2.47	3.27	24.00	23.07							38.96	44.62
181	Bone Meal	J. H. Miller, High Hill	2.47	2.62	24.00	24.93							38.96	40.90
180	Bone Meal	Cassville Produce & Seed Co., Cassville	2.47	2.62	24.00	25.55							38.96	41.40
176	Bone Meal	Farmers' Co-op. Elev. Co., Jasper	2.47	2.58	24.00	25.04							38.96	40.67
13	Bone Meal	D. B. Beeny & Sons, Sheldon	2.47	2.74	24.00	24.24							38.96	41.31
9	Bone Meal	Evans & Son., Eunice	2.47	2.95	24.00	26.80							38.96	45.04
8	Bone Meal	J. E. Perringer, Fredericktown	2.47	2.53	24.00	27.67							38.96	42.38
7	Bone Meal	Archias Seed Store, Sedalia	2.47	2.76	24.00	25.39							38.96	42.39
8	Bone Meal	P. M. Lovell, Enon	2.47	2.64	24.00	26.89							38.96	42.63
164	Bone Meal, Phosphate and Potash.....	Henry Tiemann, Gerald	0.82	1.02	18.00	19.19					1.00	1.34	26.96	31.55
7	Bone Meal, Phosphate and Potash	John Ruckert, Mt. Vernon	0.82	0.84	18.00	16.95					1.00	1.34	26.96	28.32
54	Bone Meal, Phosphate and Potash.....	C. F. Neiheiser, St. Clair	0.82	1.00	18.00	18.37					1.00	1.24	26.96	30.14
53	Bone Meal, Phosphate and Potash.....	Herman & Herbst, Farmington.....	0.82	1.09	18.00	17.33					1.00	1.10	26.96	29.18
52	Special Tomato Grower	Timberlake & Burnett, Ava	1.65	1.81	8.50	9.20	0.50	2.22	8.00	6.98	1.00	1.22	30.60	32.46
11	Steamed Bone Meal	Bronestine Grain Co., Lewiston	1.65	2.05	20.00	29.70							29.20	40.22
49	Standard	Wilke & Shamburg, Perryville	0.82	0.97	8.50	10.11	0.50	1.01	8.00	9.10	3.00	2.65	35.96	36.80

Ash Grove Lime and Portland Cement Co., Kansas City, Missouri																	
57	Limash	D. B. Beeny & Sons, Sheldon						0.52	1.08			1.79	2.57	10.95	15.85		
59	Limash	Lipscomb Grain & Seed Co., Irvin.....						0.52	1.12			1.79	2.81	10.95	17.31		
Cochrane Packing Co., Kansas City, Kansas																	
60	1-8-1 Brand	Ozark Exchange, Bolivar	0.82	1.47	8.50	11.97	0.50	1.49	8.00	10.48	1.00	0.70	23.96	31.23			
Commercial Fertilizer Co., St. Louis, Mo.																	
Commercial Brands																	
63	Special Wheat Grower, Grade B.	Estes Bros., Marble Hill	1.00	1.03	9.00	9.30	2.00	1.15	7.00	8.15	1.00	1.04	24.60	26.35			
144	Bone and Potash	W. C. Bratton, Wayne	1.00	1.00	9.00	7.90	2.00	1.89	7.00	6.01	1.00	0.88	24.60	22.45			
145	All Crop Fertilizer	P. O. Foristell, Foristell	0.82	0.85		11.31		1.65	7.00	9.66	0.50	0.34	19.36	23.02			
146	All Crop Fertilizer	W. C. Bratton, Wayne	0.82	0.88		11.87		1.29	7.00	10.58	0.50	0.57	19.36	25.79			
2	Farmer's Friend	Lochner Bros., Clarence	0.82	0.92		15.00		2.61	10.00	12.39			20.56	25.75			
61	Farmer's Friend	Estes Bros., Marble Hill	0.82	1.17		11.74		1.45	10.00	10.29			20.56	24.35			
147	Available Bone Phosphate	P. O. Foristell, Foristell			17.00	17.68	1.00	0.38	16.00	17.30			22.80	24.37			
151	Raw Bone Meal	P. O. Foristell, Foristell	3.25	2.87	20.00	22.05							42.00	40.60			
152	Raw Bone Meal	W. C. Bratton, Wayne	3.25	3.17	20.00	21.76							42.00	42.77			
62	Raw Bone Meal	Estes Bros., Marble Hill	3.25	3.82	20.00	22.58							42.00	48.62			
153	Commercial Bone Meal	W. C. Bratton, Wayne	3.00	2.81	18.00	21.41							38.40	39.61			
148	Steamed Bone Meal	P. O. Foristell, Foristell	0.82	1.52	29.00	27.49							29.76	34.15			
149	Steamed Bone Meal	W. C. Bratton, Wayne	0.82	0.51	29.00	24.74							29.76	23.87			
26	Phosphate Bone Meal, Grade A	R. L. Clark, Montgomery City	1.65	2.01	20.00	20.24							29.20	32.27			
150	Phosphate Bone Meal, Grade A	P. O. Foristell, Foristell	1.65	1.16	20.00	19.47							29.20	24.86			
154	Phosphate Bone Meal, Grade A	W. C. Bratton, Wayne	1.65	1.83	20.00	18.64							29.20	29.55			
27	Phosphate Bone Meal, Grade B	R. L. Clark, Montgomery City	0.82	2.10	25.00	19.56							26.56	32.45			

TABLE 5.—FERTILIZER ANALYSES AND GUARANTEES: 1917

Laboratory Number	Manufacturer and brands	Dealer	Nitrogen		Phosphoric Acid P ₂ O ₅				Potash (K ₂ O)		Value per ton			
					Total		Insoluble		Available					
			Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
			Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.				
	Darling & Co., Chicago., Ill.													
	Darling's Brands													
31	Sure Winner	W. R. Noel, Stoutsville	0.82	0.78	12.00	13.57	2.00	2.00	10.00	11.57	0.50	0.41	\$24.36	\$25.70
32	General Crop	Cartright & Cunningham, Holliday	1.60	2.08	14.00	16.56	2.00	3.74	12.00	12.82	.....	.....	30.40	36.09
33	General Crop	W. R. Noel, Stoutsville	1.60	1.92	14.00	15.91	2.00	3.34	12.00	12.57	.....	.....	30.40	34.30
142	Little Giant	August Holtier, Beaufort	0.80	0.81	12.00	11.69	2.00	3.24	10.00	8.45	.....	.....	21.20	19.61
143	16% Acid Phosphate	August Holtier, Beaufort .....	.....	.....	.....	18.30	.....	0.86	16.00	17.44	.....	.....	22.40	24.76
28	Pure Ground Bone	Cartwright & Cunningham, Holliday.....	1.80	2.32	28.00	28.58	.....	.....	.....	.....	.....	.....	36.80	41.42
29	Pure Ground Bone	Farnen Bros., Mon gomery City	1.80	2.14	28.00	28.16	.....	.....	.....	.....	.....	.....	36.80	39.65
30	Pure Ground Bone	Self & Akridge, Laddonia	1.80	2.18	28.00	27.33	.....	.....	.....	.....	.....	.....	36.80	39.30
141	Pure Ground Bone	August Holtier, Beaufort	1.80	2.27	28.00	28.48	.....	.....	.....	.....	.....	.....	36.80	40.94
64	Pure Ground Bone	Cartwright & Cunningham, Holliday	1.80	2.20	28.00	28.20	.....	.....	.....	.....	.....	.....	36.80	40.16
	Empire Carbon Works East St. Louis, Ill.													
	Boar's Head Brands													
71	W. of G. Corn and Wheat Grower 1916	Brown & Dyer, Mt. Vernon	1.65	1.61	8.50	9.77	0.50	2.09	8.00	7.68	1.00	0.98	30.60	30.35
103	Ammoniated Bone and Potash	Adam Eimer, Wentworth	0.82	0.90	10.50	11.60	0.50	1.55	10.00	10.05	1.00	0.97	26.76	27.71
108	Ammoniated Bone and Potash	Wilson Bros., Jonesburg	0.82	1.05	10.50	12.43	0.50	1.94	10.00	10.49	1.00	1.36	26.76	32.03
66	Ammoniated Bone and Potash	W. E. Beard, Knob Lick.....	0.82	0.84	10.50	11.64	0.50	1.92	10.00	9.72	1.00	0.99	26.76	27.04
70	Ammoniated Bone and Potash	Boyd & Baldwin, Miller	0.82	0.84	10.50	11.67	0.50	1.80	10.00	9.87	1.00	1.00	26.76	27.26

68	Ammoniated Bone and Potash	Bennett-Wheeler Merc. Co., Butler	0.82	0.85	10.50	11.03	0.50	1.86	10.00	9.17	1.00	1.04	26.76	26.62
67	Ammoniated Bone and Potash	W. A. Hoffarth, Mountain Grove	0.82	1.02	10.50	12.05	0.50	1.98	10.00	10.07	1.00	1.00	26.76	29.05
102	Seeding Down Guano 1916	Wilson Bros., Jonesburg	0.82	0.84	8.50	9.94	0.50	1.17	8.00	8.77	1.00	0.94	23.96	25.11
76	Seeding Down Guano 1916	L. F. Dreibelbis, Sarcoxie	0.82	0.95	8.50	9.58	0.50	1.96	8.00	7.62	1.00	1.01	23.96	25.11
75	Seeding Down Guano 1916	Brown & Dyer, Mt. Vernon	0.82	0.76	8.50	8.98	0.50	1.67	8.00	7.31	1.00	1.00	23.96	22.98
97	Seeding Down Guano 1916	Adam Eimer, Wentworth	0.82	0.78	8.50	9.97	0.50	0.98	8.00	8.99	1.00	0.80	23.96	24.02
84	Faultless Grain Grower	Long Hdwe. & Impl. Co., Bourbon	0.82	0.88	7.50	9.10	0.50	1.08	7.00	8.02	1.00	1.00	22.56	24.70
83	Faultless Grain Grower	W. E. Beard, Knob Lick	0.82	0.82	7.50	8.29	0.50	1.01	7.00	7.28	1.00	1.00	22.56	23.15
82	Faultless Grain Grower	J. W. Dvorak, Karlin	0.82	0.86	7.50	8.42	0.50	1.19	7.00	7.23	1.00	0.92	22.56	23.00
69	Ammoniated Phosphate	Brown & Dyer, Mt. Vernon	1.65	1.76	12.50	13.92	0.50	1.67	12.00	12.25	.....	.....	30.20	31.90
73	Good as Bone	L. F. Dreibelbis, Sarcoxie	1.65	1.54	10.50	11.34	0.50	1.23	10.00	10.11	.....	.....	27.40	26.96
120	Upland Special	Wilson Bros., Jonesburg	0.82	0.91	10.50	11.94	0.50	1.81	10.00	10.13	.....	.....	20.76	22.18
121	Upland Special	R. S. Wilson, Portland	0.82	0.87	10.50	12.16	0.50	1.70	10.00	10.46	.....	.....	20.76	22.28
81	Upland Special	L. F. Dreibelbis, Sarcoxie	0.82	1.01	10.50	12.15	0.50	2.09	10.00	10.06	.....	.....	20.76	23.00
80	Upland Special	W. A. Hoffarth, Mountain Grove	0.82	0.85	10.50	11.23	0.50	1.42	10.00	9.81	.....	.....	20.76	21.10
86	Potash Phosphate	W. E. Beard, Knob Lick	.....	.....	12.50	12.74	0.50	1.15	12.00	11.59	1.00	1.07	23.00	23.11
74	Potash Phosphate	Bennett-Wheeler Merc. Co., Butler	.....	.....	12.50	12.68	0.50	0.98	12.00	11.70	1.00	1.11	23.00	23.43
79	Tip Top Phosphate	W. E. Beard, Knob Lick	.....	.....	16.50	18.86	0.50	2.03	16.00	16.83	.....	.....	22.60	24.37
78	Tip Top Phosphate	L. F. Dreibelbis, Sarcoxie	.....	.....	16.50	19.80	0.50	2.02	16.00	17.78	.....	.....	22.60	25.70
77	Tip Top Phosphate	Brown & Dyer, Mt. Vernon	.....	.....	16.50	18.88	0.50	1.65	16.00	17.23	.....	.....	22.60	24.78
65	Gilt Edge Phosphate	W. E. Beard, Knob Lick	.....	.....	14.50	15.42	0.50	1.54	14.00	13.88	.....	.....	19.80	20.05
72	Gilt Edge Phosphate	W. A. Hoffarth, Mountain Grove	.....	.....	14.50	16.26	0.50	1.77	14.00	14.49	.....	.....	19.80	21.00
Empire Carbon Works														
Bradley's Standard Brands														
107	Wheat and Clover Fertilizer	L. H. Oltmann, Gerald	0.82	0.91	10.50	12.02	0.50	2.00	10.00	10.02	1.00	0.66	26.76	26.07
44	Best Grain Grower 1916	W. H. Yancey, LaBelle	1.65	1.58	10.50	10.80	0.50	2.00	10.00	8.80	1.00	0.40	33.40	30.16
34	Corn and Wheat Phosphate 1916	Pete Erdle, Rush Hill	0.82	1.02	8.50	9.98	0.50	1.76	8.00	8.22	1.00	0.78	23.96	25.05
35	Corn and Wheat Phosphate 1916	E. K. Ham, Buel	0.82	1.17	8.50	9.83	0.50	2.08	8.00	7.75	1.00	0.83	23.96	26.02
112	B. D. Sea Fowl Guano No. 2	L. H. Oltmann, Gerald	2.06	2.26	8.50	11.46	0.50	2.38	8.00	9.08	.....	.....	27.88	31.74
37	Niagara Phosphate	Pete Erdle, Rush Hill	0.82	1.00	7.50	9.22	0.50	2.05	7.00	7.17	1.00	0.85	22.56	23.96
38	Niagara Phosphate	E. K. Ham, Buel	0.82	1.09	7.50	8.97	0.50	1.70	7.00	7.27	1.00	0.91	22.56	25.04
36	Bradley's Special	Nicklin & Himmel, Hawk Point	1.65	1.83	12.50	15.25	0.50	2.90	12.00	12.35	.....	.....	30.20	33.09
39	Binfiller	Nicklin & Himmel, Hawk Point	1.65	1.65	10.50	12.63	0.50	2.03	10.00	10.60	.....	.....	27.40	28.85
125	Soluble Dissolved Bone	L. H. Oltmann, Gerald	.....	.....	14.50	15.58	0.50	1.46	14.00	14.12	.....	.....	19.80	20.35
124	Soluble Dissolved Bone	N. I. Rowan, Meta	14.50	15.36	0.50	1.36	14.00	14.00	19.80	20.14

TABLE 5.—FERTILIZER ANALYSES AND GUARANTEES: 1917

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					Total		Insoluble		Available					
			Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
	Empire Carbon Works		Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.			
	Empire Brands													
121	Nitrate of Soda	L. F. Dreibelbis, Searcoix	15.00	10.50								120.00	\$84.00	
128	Special Bone Meal	Wilson Bros., Jonesburg	1.65	1.83	20.00	20.59						29.20	31.11	
130	Special Bone Meal	Owensville Roller Mills, Owensville.....	1.65	1.90	20.00	22.64						29.20	33.31	
132	Special Bone Meal	Phil Ratliff, Neosho	1.65	2.01	20.00	21.10						29.20	32.96	
115	Special Bone Meal	Tetley & Klein, Farmington	1.65	2.06	20.00	22.22						29.20	34.26	
118	Special Bone Meal	Boyd & Baldwin, Miller	1.65	1.70	20.00	18.52						29.20	28.42	
43	Pure Raw Bone Meal	Wilson Bros., Jonesburg	3.29	3.28	20.00	21.82						42.32	43.70	
133	Pure Raw Bone Meal	Wilson Bros., Jonesburg	3.29	3.86	20.00	22.58						42.32	48.94	
134	Pure Raw Bone Meal	L. H. Oltmann, Gerald	3.29	3.77	20.00	20.06						42.32	46.21	
140	Pure Raw Bone Meal	Farmers' Elevator Co., Purdy	3.29	3.44	20.00	22.68						42.32	45.66	
113	Pure Raw Bone Meal	Long Hdwe Impl. Co., Bourbon	3.29	3.65	20.00	21.13						42.32	46.10	
109	Crop Grower 1916	Phil Ratliff, Neosho	1.65	1.71	8.50	9.99	0.50	1.83	8.00	8.16	1.00	0.79	30.60	30.57
99	Crop Grower 1916	R. L. Harris, Stark City	1.65	1.68	8.50	9.47	0.50	1.41	8.00	8.06	1.00	1.06	30.60	31.64
110	Bone Black Fertilizer 1916	Rocky Comfort & Wheaton Hdwe. Co., Wheaton	2.06	1.96	8.50	9.94	0.50	1.90	8.00	8.04	1.00	1.12	33.88	34.42
42	Farmers' Favorite	Jackson Lumber Co., Smithton	0.82	1.09	10.50	11.95	0.50	1.92	10.00	10.03	1.00	1.30	26.76	31.33
105	Farmers' Favorite	Jackson Lumber Co., Smithton	0.82	0.99	10.50	11.76	0.50	2.09	10.00	9.67	1.00	0.57	26.76	25.72
106	Farmers' Favorite	N. I. Rowan, Meta	0.82	0.90	10.50	11.83	0.50	1.86	10.00	9.97	1.00	0.94	26.76	27.54
95	Farmers' Favorite	R. L. Harris, Stark City.....	0.82	1.10	10.50	11.70	0.50	2.48	10.00	9.22	1.00	1.08	26.76	29.18
94	Farmers' Favorite	Moudy Grain Co., Adrian	0.82	0.82	10.50	12.20	0.50	1.98	10.00	10.22	1.00	0.90	26.76	27.06
40	Wheat and Clover 1916	W. W. Butts, Vandalia	0.82	1.15	8.50	9.65	0.50	1.89	8.00	7.76	1.00	0.91	23.96	26.28

96	Wheat and Clover 1916	Winter Bros., Rosebud	0.82	0.80	8.50	9.24	0.50	1.01	8.00	8.23	1.00	0.83	23.96	23.30
98	Wheat and Clover 1916	Phil Ratliff, Neosho	0.82	0.97	8.50	10.79	0.50	1.51	8.00	9.28	1.00	0.82	23.96	26.27
90	Wheat and Clover 1916	E. M. Gentry, Clara	0.82	0.83	8.50	9.42	0.50	1.42	8.00	8.00	1.00	1.09	23.96	24.95
88	Wheat and Clover 1916	R. Smith Store, Glen Allen	0.82	0.88	8.50	9.86	0.50	1.84	8.00	8.02	1.00	0.75	23.96	23.51
87	Wheat and Clover 1916	W. W. Butts Milling Co., Vandalia.....	0.82	0.82	8.50	9.20	0.50	1.04	8.00	8.16	1.00	1.11	23.96	25.06
41	Bone Black Fertilizer No. 2	W. W. Butts Milling Co., Vandalia.....	2.06	2.18	8.50	10.18	0.50	1.77	8.00	8.41	.....	.....	27.88	29.92
114	Bone Black Fertilizer No. 2	Farmers' Elevator Co., Purdy	2.06	2.28	8.50	10.44	0.50	2.09	8.00	8.35	.....	.....	27.88	30.77
105	Bone Black Fertilizer No. 2	Home Hdwe. Co., Aurora	2.06	2.07	8.50	10.59	0.50	2.15	8.00	8.44	.....	.....	27.88	29.24
104	Bone Black Fertilizer No. 2	J. E. Hendrickson, Bolivar	2.06	2.23	8.50	10.27	0.50	1.95	8.00	8.32	.....	.....	27.88	30.27
94	Complete Manure	Phil Ratliff, Neosho	0.82	1.11	7.50	9.46	0.50	1.28	7.00	8.18	1.00	0.97	22.56	26.66
95	Complete Manure	N. I. Rowan, Meta	0.82	0.84	7.50	8.66	0.50	1.05	7.00	7.61	1.00	0.92	22.56	23.31
96	Nitrophos	S. J. Trail, Raymondville	1.65	1.70	12.50	13.96	0.50	1.85	12.00	12.11	.....	.....	30.20	31.29
269	Nitrophos	Lee Lumber Co., Ludlow	1.65	1.76	12.50	14.44	0.50	2.08	12.00	12.36	.....	.....	30.20	32.21
122	Steam Bone Substitute	Jackson Lumber Co., Smithton .....	.65	1.55	10.50	11.26	0.50	1.24	10.00	10.02	.....	.....	27.40	26.93
108	Steam Bone Substitute	Tetley & Klein, Farmington	1.65	1.67	10.50	12.64	0.50	2.28	10.00	10.36	.....	.....	27.40	28.77
92	Steam Bone Substitute	R. L. Harris, Stark City	1.65	1.73	10.50	12.40	0.50	2.23	10.00	10.17	.....	.....	27.40	28.97
270	Steam Bone Substitute	Lee Lumber Co., Ludlow	1.65	1.88	10.50	12.16	0.50	2.48	10.00	9.68	.....	.....	27.40	29.58
118	Economy Mixture	Winter Bros., Rosebud	0.82	0.88	10.50	12.02	0.50	1.97	10.00	10.05	.....	.....	20.76	21.90
119	Economy Mixture	Jackson Lumber Co., Smithton	0.82	0.82	10.50	11.97	0.50	1.40	10.00	10.57	.....	.....	20.76	21.92
100	Economy Mixture	J. E. Perringer, Fredericktown	0.82	0.80	10.50	12.23	0.50	1.83	10.00	10.40	.....	.....	20.76	21.69
115	Phospho Potash	Farmers' Cooperative Co., Windsor .....	.....	.....	12.50	13.79	0.50	1.75	12.00	12.04	1.00	0.99	23.00	23.50
116	Phospho Potash	Louis Ritterbusch, Bland .....	.....	.....	12.50	12.82	0.50	1.07	12.00	11.75	1.00	0.91	23.00	22.34
120	Phospho Potash	J. E. Hendrickson, Bolivar .....	.....	.....	12.50	13.94	0.50	1.41	12.00	12.53	1.00	1.13	23.00	24.88
119	Phospho Potash	S. J. Trail, Raymondville.....	.....	.....	12.50	14.16	0.50	1.14	12.00	13.02	1.00	1.16	23.00	25.65
107	16 Per Cent Phosphate	E. M. Gentry, Clara .....	.....	.....	16.50	19.78	0.50	2.29	16.00	17.49	.....	.....	22.60	25.41
106	16 Per Cent Phosphate	E. M. Gentry, Clara .....	.....	.....	16.50	18.68	0.50	1.71	16.00	16.97	.....	.....	22.60	24.44
127	16 Per Cent Phosphate	J. L. Boland, Webster Groves .....	.....	.....	16.50	26.65	0.50	9.24	16.00	17.41	.....	.....	22.60	28.07
97	Dissolved Bone	J. E. Hendrickson, Bolivar .....	.....	.....	14.50	16.64	0.50	1.87	14.00	14.77	.....	.....	19.80	21.43
98	Dissolved Bone	S. J. Trail, Raymondville .....	.....	.....	14.50	15.07	0.50	1.55	14.00	13.52	.....	.....	19.80	19.55
Empire Carbon Works														
Horse Shoe Brands														
132	Corn and Wheat Grower 1916.....	McDowell-Keithley Merc. Co., Cabool.....	1.65	1.47	8.50	9.61	0.50	1.60	8.00	8.01	1.00	0.77	30.60	28.23
51	National Bone Dust 1916	Silex Grain Co., Silex	2.06	2.12	8.50	10.91	0.50	1.85	8.00	9.06	1.00	0.92	33.88	35.90
128	Pioneer Wheat Grower 1916	McDowell-Keithley Merc. Co., Cabool.....	1.65	1.82	10.50	11.13	0.50	2.60	10.00	8.53	1.00	1.14	33.40	34.38
133	Acidulated Bone and Potash	McDowell-Keithley Merc. Co., Cabool.....	0.82	0.77	10.50	12.43	0.50	1.98	10.00	10.45	1.00	1.07	26.76	28.00

TABLE 5.—FERTILIZER ANALYSES AND GUARANTEES: 1917

Laboratory Number	Manufacturer and brands	Dealer	Nitrogen		Phosphoric Acid P ₂ O ₅						Potash (K ₂ O)		Value per ton	
					Total		Insoluble		Available					
			Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
	Empire Carbon Works,		Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.			
	Horse Shoe Brands—Continued.													
45	Reliable Wheat Grower 1916	Eolia Elevator Co., Eolia	0.82	0.92	8.50	9.48	0.50	1.00	8.00	8.48	1.00	0.93	\$23.96	\$25.21
46	Reliable Wheat Grower 1916	Silex Grain Co., Silex	0.82	0.91	8.50	9.44	0.50	0.85	8.00	8.59	1.00	1.00	23.96	25.65
130	Reliable Wheat Grower 1916.....	Thompson & Sutter Mach. Co., Springfield	0.82	0.90	8.50	9.65	0.50	1.11	8.00	8.54	1.00	1.00	23.96	75.60
129	Reliable Wheat Grower 1916	Farmers' Union Store, De Soto	0.82	0.91	8.50	9.26	0.50	1.01	8.00	8.25	1.00	1.01	23.96	25.29
127	Reliable Wheat Grower 1916	McDowell-Keithley Merc. Co., Cabool.....	0.82	0.89	8.50	9.38	0.50	1.94	8.00	7.44	1.00	0.77	23.96	22.94
49	National Bone Dust No. 2.....	Silex Grain Co., Silex	2.06	2.27	8.50	10.44	0.50	1.41	8.00	9.03	.....	.....	27.88	31.36
50	National Bone Dust No. 2.....	Johnson & Romans, Benton City	2.06	2.18	8.50	9.75	0.50	1.34	8.00	8.41	.....	.....	27.88	29.75
111	National Bone Dust No. 2.....	Johnson & Romans, Benton City	2.06	1.89	8.50	9.46	0.50	1.45	8.00	8.01	.....	.....	27.88	26.91
123	National Bone Dust No. 2.....	Thompson & Sutter Mach. Co., Springfield	2.06	1.95	8.50	9.53	0.50	1.47	8.00	8.06	.....	.....	27.88	27.47
125	War Brand	Farmers' Union Store, De Soto	1.65	1.77	12.50	13.74	0.50	1.50	12.00	12.24	.....	.....	30.20	31.90
126	War Brand	Hunter Mercantile Co., Bismarck.....	1.65	1.72	12.50	14.17	0.50	2.10	12.00	12.07	.....	.....	30.20	31.50
124	War Brand	Winkleblack & Son, West Plains	1.65	1.71	12.50	13.33	0.50	1.86	12.00	11.47	.....	.....	30.20	30.48
53	Soil Builder	Johnson & Romans, Benton City	1.65	1.81	10.50	13.70	0.50	1.96	10.00	11.74	.....	.....	27.40	31.70
123	Soil Builder	Johnson & Romans, Benton City	1.65	1.72	10.50	12.73	0.50	1.78	10.00	10.95	.....	.....	27.40	29.80
135	Soil Builder	E. J. Shobe, Laddonia	1.65	1.53	10.50	12.21	0.50	1.39	10.00	10.82	.....	.....	27.40	27.95
134	Soil Builder	Thompson & Sutter Mach. Co., Springfield	1.65	1.72	10.50	11.03	0.50	1.35	10.00	9.68	.....	.....	27.40	27.85
136	Thinland Special	E. J. Shobe, Laddonia	0.82	0.85	10.50	11.83	0.50	1.62	10.00	10.21	.....	.....	20.76	21.74
48	High Phosphate and Potash	Silex Grain Co., Silex .....	.....	.....	12.50	14.09	0.50	1.21	12.00	12.88	1.00	1.16	23.00	25.47
47	High Phosphate and Potash	Whiteside Elevator Co., Whiteside .....	.....	.....	12.50	13.50	0.50	0.93	12.00	12.57	1.00	0.95	23.00	23.67
126	Economy Phosphate	Owensville Roller Mills, Owensville.....	.....	.....	16.50	17.17	0.50	1.11	16.00	16.06	.....	.....	22.60	22.92
52	Square Deal Phosphate	Whiteside Elevator Co., Whiteside .....	.....	.....	14.50	17.50	0.50	1.69	14.00	15.81	.....	.....	19.80	22.81
122	Square Deal Phosphate	Winkleblack & Son, West Plains .....	.....	.....	14.50	15.16	0.50	1.44	14.00	13.72	.....	.....	19.80	19.79

	Empire Guano Co., Nashville, Tenn.																	
197	Soluble Bone Guano	Factory Sample	0.82	0.99	13.00	16.40	5.00	7.80	8.00	8.60	2.00	2.31	31.76	36.94				
194	Wheat, Oat, and Corn Grower	Factory Sample	0.82	1.00	17.00	19.66	10.00	10.10	7.00	9.56	1.00	1.29	26.36	33.16				
141	Wheat, Oat, and Corn Grower	W. A. Holstein, Karlin	0.82	0.77	17.00	15.70	10.00	6.35	7.00	9.35	1.00	0.85	26.36	26.89				
198	Clover and Wheat Special	Factory Sample	0.87	1.10	15.00	15.64	3.00	3.27	12.00	12.37	1.00	1.30	30.56	35.23				
140	Clover and Wheat Special	W. A. Holstein, Karlin	0.82	0.83	15.00	13.83	3.00	1.54	12.00	12.29	1.00	0.89	30.56	29.81				
193	H. G. Grain Grower	Factory Sample	0.82	1.09	17.00	19.40	4.00	5.70	13.00	13.70	.....	.....	26.36	30.18				
139	H. G. Grain Grower	W. A. Holstein, Karlin	0.82	0.73	17.00	14.53	4.00	1.40	13.00	13.13	.....	.....	26.36	24.78				
196	Missouri Grain Grower	Factory Sample	0.41	0.63	15.00	17.93	3.00	5.35	12.00	12.58	1.00	1.21	27.28	32.05				
195	Blood, Bone, and Potash	Factory Sample	1.65	1.66	13.00	14.60	5.00	6.09	8.00	8.51	2.00	2.12	38.40	40.35				
199	Climax Potash Mixture	Factory Sample .....	.....	.....	15.00	19.98	4.00	8.38	11.00	11.60	1.00	1.31	23.00	27.45				
138	Climax Potash Mixture	W. A. Holstein, Karlin .....	.....	.....	15.00	20.44	4.00	2.14	11.00	18.30	1.00	1.25	23.00	33.98				
137	Climax Phosphate	W. A. Holstein, Karlin .....	.....	.....	20.00	20.78	10.00	6.11	10.00	14.67	.....	.....	18.00	22.98				
	Federal Chemical Co., Louisville, Kentucky.																	
142	Daybreak Tennessee Brown Phosphate Rock	Newton Grain Co., Springfield .....	.....	.....	.....	.....	29.75	30.34	.....	.....	.....	.....	11.90	12.14				
143	Daybreak Tennessee Brown Phosphate Rock	L. F. Dreibelbis, Sarcoxie .....	.....	.....	.....	.....	29.75	29.61	.....	.....	.....	.....	11.90	11.84				
	Hirsh, Stein & Co., Chicago, Ill.																	
93	Bone Phosphate and Potash Mixture.....	W. L. Gibson Elevator Co., Portland.....	0.41	0.76	11.00	14.17	1.00	2.89	10.00	11.28	1.00	0.61	23.68	26.69				
54	Corn Fertilizer	J. H. Kissinger, Clarksville.....	0.82	1.02	11.00	13.68	1.00	2.84	10.00	10.84	0.50	0.54	23.96	27.72				
	Morris & Co., Chicago, Ill.,																	
	Big Brands																	
55	Big One—Ground Raw Bone	J. Cunningham, Montgomery City.....	3.30	4.00	24.00	24.35	.....	.....	.....	.....	.....	.....	45.60	51.48				
56	Big Two—Pure Bone Meal	J. Cunningham, Montgomery City.....	2.00	1.99	28.00	30.03	.....	.....	.....	.....	.....	.....	38.40	39.94				

TABLE 5.—FERTILIZER ANALYSES AND GUARANTEES: 1917

Laboratory Number	Manufacturer and brands	Dealer	Nitrogen		Phosphoric Acid P ₂ O ₅						Potash (K ₂ O)		Value per ton		
					Total		Insoluble		Available						
			Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	
				Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	
	Morris & Co.,														
	Big Brands—Continued.														
88	Big Two—Pure Bone Meal	R. Ritchie Elevator Co., Eugene.....	2.00	2.15	28.00	30.01	.....	.....	.....	.....	.....	.....	.....	\$38.40	\$41.21
144	Big Two—Pure Bone Meal	J. E. Perringer, Fredericktown	2.00	2.13	28.00	31.04	.....	.....	.....	.....	.....	.....	.....	38.40	41.87
147	Big Two—Pure Bone Meal	Cannon Bros., Butler	2.00	2.70	28.00	29.71	.....	.....	.....	.....	.....	.....	.....	38.40	45.37
148	Big Two—Pure Bone Meal	Boyd & Baldwin, Miller	2.00	1.72	28.00	31.18	.....	.....	.....	.....	.....	.....	.....	38.40	38.70
57	Big Five—	J. B. Foster, Shelbyna	2.50	3.08	10.00	11.46	3.00	3.90	7.00	7.56	1.00	1.13	.....	37.00	43.56
152	Big Five—	Cannon Bros., Butler	2.50	2.77	10.00	11.75	3.00	4.06	7.00	7.69	1.00	1.27	.....	37.00	42.17
58	Special Big Six—Bone Meal and Potash	J. Cunningham, Montgomery City.....	0.41	0.53	.....	18.35	.....	1.11	16.00	17.24	1.00	0.86	.....	31.68	33.98
89	Special Big Six—Bone Meal and Potash	R. Ritchie Elevator Co., Eugene	0.41	0.56	16.00	16.25	.....	.....	.....	.....	1.00	0.93	.....	22.08	23.06
155	Special Big Six—Bone Meal and Potash	J. E. Perringer, Fredericktown	0.41	0.75	16.00	18.02	.....	.....	.....	.....	1.00	0.52	.....	22.08	23.54
156	Special Big Six—Bone Meal and Potash	L. P. Feherty, Perryville	0.41	0.42	16.00	16.36	.....	.....	.....	.....	1.00	0.50	.....	22.08	19.45
59	Special Big Seven—Bone Meal.....	J. Cunningham, Montgomery City.....	0.82	0.83	22.00	23.27	.....	.....	.....	.....	.....	.....	.....	24.16	25.26
90	Special Big Seven—Bone Meal.....	Winter Bros., Rosebud	0.82	0.91	22.00	23.70	.....	.....	.....	.....	.....	.....	.....	24.16	26.24
154	Special Big Seven—Bone Meal.....	L. P. Feherty, Perryville	0.82	0.75	22.00	23.17	.....	.....	.....	.....	.....	.....	.....	24.16	24.54
60	Big Eight—Phosphate and Potash.....	J. Cunningham, Montgomery City.....	0.82	1.39	8.00	10.60	1.00	2.68	7.00	7.92	1.00	1.36	.....	22.76	31.44
61	Special Big Nine—Manure and Potash.....	Silex Grain Co., Silex	0.41	0.75	13.00	11.67	2.00	0.17	11.00	11.50	1.00	1.48	.....	25.48	31.05
150	Special Big Nine—Manure and Potash.....	Chas. Derossett, Bolivar	0.41	0.45	13.00	13.20	2.00	4.19	11.00	9.01	1.00	0.83	.....	25.48	22.87
151	Big Ten—Manure and Potash	Chas. Derossett, Bolivar	1.65	2.01	10.00	10.69	2.00	3.19	8.00	7.50	2.00	2.56	.....	37.20	43.22

63	Special Big Eleven—Phosphated Manure	Green & Torley Elev. Co., Monroe City..	0.82	1.35	11.00	12.30	1.00	0.62	10.00	11.68	.....	.....	20.96	27.40
62	Special Big Eleven—Phosphated Manure	J. B. Foster, Shelbina	0.82	0.93	11.00	10.30	1.00	0.30	10.00	10.00	.....	.....	20.96	21.56
91	Special Big Eleven—Phosphated Manure	Winter Bros., Rosebud	0.82	1.08	11.00	11.93	1.00	3.17	10.00	8.76	.....	.....	20.96	22.17
153	Special Big Eleven—Phosphated Manure	L. P. Feherty, Perryville	0.82	1.31	11.00	12.51	1.00	0.62	10.00	11.89	.....	.....	20.96	27.38
64	Special Big Twelve—Phosphated Manure	J. Cunningham, Montgomery City.....	1.65	2.22	14.00	15.65	2.00	1.79	12.00	13.86	.....	.....	30.80	37.88
92	Special Big Twelve—Phosphated Manure	J. Cunningham, Montgomery C'ty.....	1.65	2.03	14.00	16.13	2.00	1.58	12.00	14.55	.....	.....	30.80	37.24
149	Special Big Twelve—Phosphated Manure	Boyd & Baldwin, Miller	1.65	2.10	14.00	14.87	2.00	1.40	12.00	13.47	.....	.....	30.80	36.22
Read Phosphate Co., Nashville, Tenn.														
65	Corn, Wheat, and Oat Grower.....	Farmers' Elev. Co., Silox	0.82	0.71	17.00	17.38	10.00	7.80	7.00	9.58	1.00	0.68	26.36	26.29
157	Corn, Wheat, and Oat Grower	Ozark Exchange, Bolivar	0.82	0.92	17.00	16.78	10.00	8.34	7.00	8.44	1.00	0.58	26.36	26.00
158	Corn, Wheat, and Oat Grower.....	N. Johannes & Sons, Nevada	0.82	0.96	17.00	17.56	10.00	7.86	7.00	9.70	1.00	0.93	26.36	29.98
170	Wheat and Clover Grower	People's Elevator Co., Reeds	0.82	0.71	15.00	15.15	3.00	3.16	12.00	11.99	1.00	0.59	30.56	27.27
171	Wheat and Clover Grower	Ozark Exchange, Bolivar	0.82	0.65	15.00	15.04	3.00	2.96	12.00	12.08	1.00	0.53	30.56	26.47
207	Blood and Bone No. 1	Factory Sample	1.65	1.69	13.00	14.31	5.00	5.72	8.00	8.59	2.00	1.27	38.40	35.46
201	Missouri Grain Special	Factory Sample	0.41	0.63	15.00	17.32	3.00	4.85	12.00	12.47	1.00	1.05	27.28	30.74
164	Missouri Grain Special	Thompson & Sutter Mach. Co., Springfield	0.41	0.46	15.00	16.46	3.00	4.43	12.00	12.03	1.00	0.82	27.28	27.21
166	Missouri Grain Special	Michener Bros., Horton	0.41	0.42	15.00	16.13	3.00	3.26	12.00	12.87	1.00	1.09	27.28	29.22
167	Missouri Grain Special	People's Elevator Co., Reeds	0.41	0.32	15.00	17.78	3.00	5.10	12.00	12.68	1.00	0.61	27.28	26.01
169	Missouri Grain Special	N. Johannes & Sons, Nevada	0.41	0.33	15.00	17.78	3.00	5.66	12.00	12.12	1.00	0.68	27.28	25.95
204	Special H. G. Phosphate	Factory Sample .....	.....	.....	18.00	18.22	2.00	3.30	16.00	14.92	.....	.....	23.20	22.21
160	Special H. G. Phosphate	Thompson & Sutter Mach. Co., Springfield	.....	.....	18.00	20.18	2.00	4.34	16.00	15.84	.....	.....	23.20	23.92
162	Special H. G. Phosphate	People's Elevator Co., Reeds .....	.....	.....	18.00	20.85	2.00	5.24	16.00	15.61	.....	.....	23.20	23.95
205	H. G. Phosphate	Factory Sample .....	.....	.....	18.00	22.26	4.00	7.34	14.00	14.92	.....	.....	21.20	23.83
161	H. G. Phosphate	Winkleblack & Son, West Plains.....	18.00	20.70	4.00	5.34	14.00	15.36	22.20	23.64

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Laboratory Number	Manufacturer and brands	Dealer	Nitrogen		Phosphoric Acid P ₂ O ₅						Potash (K ₂ O)		Value per ton			
					Total		Insoluble		Available							
			Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found		
				Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	
	Read Phosphate Co.,															
	Continued.															
202	50-50 Phosphate	Factory Sample			20.00	25.89	10.00	10.20	10.00	15.69					\$18.00	\$26.05
159	50-50 Phosphate	Ozark Exchange, Bolivar			20.00	20.98	10.00	8.74	10.00	12.24					18.00	20.64
206	Standard Potash Acid	Factory Sample			15.00	20.71	4.00	8.48	11.00	12.23	1.00	1.17			23.00	27.53
203	C-O-W Special	Factory Sample			1.65	2.08	17.00	18.78							26.80	31.66
200	Melon and Trucker Grower	Factory Sample			2.47	2.35	12.00	16.26	5.00	8.24	7.00	8.02	1.00	1.22	37.56	40.65
208	Soluble Bone	Factory Sample			0.82	1.75	13.00	16.89	5.00	7.28	8.00	9.61	2.00	2.31	31.76	44.22
209	Standard Grain Mixture	Factory Sample			1.65	1.91	13.00	16.54	4.00	4.15	9.00	12.39	1.00	0.26	33.40	35.85
210	Bone Meal Mixture	Factory Sample			1.65	1.95	17.00	16.20	10.00	4.89	7.00	11.31			27.00	33.39
211	Half and Half	Factory Sample			1.65	1.56	17.00	19.38	10.00	10.20	7.00	9.18	1.00	1.59	33.00	38.95
	Sterling Fertilizer Co., Chicago, Ill.,															
	Sterling Brands															
173	Little Giant	McFarlan Bros., Monroe City.....			0.80	0.61	12.00	11.48	2.00	3.19	10.00	8.29			21.20	17.77
	Swift & Co., East St. Louis, Ill.,															
	Swift's Brands															
18	Special Grain Fertilizer	Farmers' Elev. & Supply Co., Montrose			1.65	1.38	11.00	11.79	1.00	2.10	10.00	9.69	2.00	1.19	39.60	32.59

112	Special Grain Fertilizer	M. Rothing, Bonnots Mill	1.65	1.77	11.00	11.31	1.00	1.28	10.00	10.03	2.00	1.98	39.60	40.59
182	Superphosphate	Deepwater Mill & Elev. Co., Deepwater..	1.65	1.48	9.00	9.58	1.00	2.20	8.00	7.38	2.00	1.38	36.80	31.33
86	Superphosphate	Enterprise Store, Hawk Point	1.65	1.73	9.00	11.46	1.00	1.10	8.00	10.36	2.00	1.87	36.80	40.00
14	Superphosphate	Strehlman & Gerken, Leslie	1.65	1.41	9.00	11.62	1.00	1.20	8.00	10.42	2.00	0.36	36.80	28.51
183	Superphosphate	Allen Store Co., Malden	1.65	1.56	9.00	9.27	1.00	2.06	8.00	7.21	2.00	1.33	36.80	31.37
66	Truck Fertilizer	Taylor-Estes Lumber Co., Columbia.....	2.47	1.54	9.00	14.56	1.00	1.79	8.00	12.77	1.00	0.27	37.36	32.54
20	Truck Fertilizer	D. G. Evans, Carl Junction	2.47	2.75	9.00	10.96	1.00	2.73	8.00	8.23	1.00	0.69	37.36	38.75
21	Truck Fertilizer	E. T. Robbins, St. Charles	2.47	1.69	9.00	10.60	1.00	1.29	8.00	9.31	1.00	0.75	37.36	31.57
271	Truck Fertilizer	Lee Lumber Co., Ludlow	2.47	2.47	9.00	13.67	1.00	1.37	8.00	12.30	1.00	0.98	37.36	43.41
98	Special Grain and Grass Grower.....	Morrison Milling Co., Morrison.....	1.65	1.87	11.00	14.49	1.00	1.88	10.00	12.61	1.50	1.09	36.60	39.90
17	Special Grain and Grass Grower.....	C. N. Ellston, Exeter	1.65	1.55	11.00	10.91	1.00	1.54	10.00	9.37	1.50	1.08	36.60	32.62
19	Diamond "M" Grain Grower	Wildor, Wright, & Hunter Impl. Co. Clinton	1.65	1.45	12.00	12.49	1.00	1.96	11.00	10.53	1.00	0.68	35.00	31.20
273	Diamond "M" Grain Grower	Lee Lumber Co., Ludlow	1.65	2.02	12.00	12.30	1.00	1.26	11.00	11.04	1.00	1.07	35.00	38.54
95	Red Steer Grain Grower	J. L. Wilkins, Laddonia	1.65	1.44	10.00	11.75	1.00	1.60	9.00	10.15	1.00	0.79	32.20	31.11
15	Red Steer Grain Grower	Frank J. Gittings, Neosho	1.65	1.43	10.00	9.90	1.00	1.36	9.00	8.54	1.00	0.75	32.20	28.44
16	Red Steer Grain Grower	D. G. Evans, Carl Junction	1.65	2.02	10.00	13.19	1.00	2.50	9.00	10.69	1.00	1.13	32.20	38.91
179	Red Steer Grain Grower	Timberlake & Burnett, Ava	1.65	1.60	10.00	11.80	1.00	2.38	9.00	9.42	1.00	1.06	32.20	33.30
180	Red Steer Grain Grower	Mansfield Produce Co., Mansfield	1.65	1.43	10.00	10.65	1.00	2.00	9.00	8.65	1.00	0.74	32.20	28.79
67	Tomato Grower	Weber, Tipton	1.65	1.50	9.00	12.12	1.00	1.56	8.00	10.56	1.00	0.62	30.80	31.12
13	Tomato Grower	Livingston Trading Co., Windsor	1.65	2.19	9.00	10.03	1.00	1.52	8.00	8.51	1.00	0.40	30.80	32.44
174	Tomato Grower	Newton Grain Co., Springfield	1.65	1.77	9.00	11.85	1.00	1.71	8.00	10.14	1.00	0.99	30.80	34.98
175	Tomato Grower	A. J. Tucker, Mtn. Grove	1.65	1.41	9.00	10.55	1.00	2.30	8.00	8.25	1.00	0.76	30.80	28.31
87	Special Superphosphate	F. W. Schulze, Moscow	1.65	0.93	9.00	10.92	1.00	0.89	8.00	10.03	1.00	1.95	30.80	33.54
88	Special Superphosphate	O. E. Grannemann, New Haven	1.65	1.79	9.00	10.00	1.00	2.03	8.00	7.97	1.00	0.60	30.80	29.89
89	Special Superphosphate	C. F. Meyer, Pendleton	1.65	1.78	9.00	11.61	1.00	1.40	8.00	10.21	1.00	0.57	30.80	32.51
176	Special Superphosphate	Newton Grain Co., Springfield	1.65	1.53	9.00	9.81	1.00	2.12	8.00	7.69	1.00	1.18	30.80	30.94
177	Special Superphosphate	Farmers' Supply Co., Sullivan	1.65	1.76	9.00	9.66	1.00	1.57	8.00	8.09	1.00	0.73	30.80	30.42
68	Ammoniated Bone Phosphate and Potash	Weber, Tipton	1.65	1.45	11.00	11.60	1.00	1.60	10.00	10.00	0.50	0.51	30.60	29.30
70	Diamond "K" Grain Grower	F. W. Schulze, Moscow	0.82	0.72	12.50	14.99	0.50	1.15	12.00	13.84	1.00	0.97	29.56	31.42
23	Diamond "K" Grain Grower	Wildor, Wright & Hunter Impl. Co. Clinton	0.82	0.77	12.50	13.09	0.50	1.47	12.00	11.62	1.00	0.92	29.56	28.54
24	Diamond "K" Grain Grower	Jchn H. Rodeman, Jefferson City.....	0.82	0.91	12.50	13.11	0.50	1.52	12.00	11.59	1.00	0.79	29.56	28.86
100	Diamond "K" Grain Grower	J. R. Croy, Piedmont	0.82	0.91	12.50	14.25	0.50	2.10	12.00	12.15	1.00	0.81	29.56	29.99
198	Diamond "K" Grain Grower	Deepwater Mill & Elev. Co., Deepwater	0.82	0.94	12.50	13.59	0.50	1.97	12.00	11.62	1.00	0.77	29.56	29.20
73	Blood and Phosphate	Taylor Estes Lbr. Co., Columbia.....	1.65	1.57	13.00	13.32	1.00	1.58	12.00	11.74	.....	.....	30.40	29.63

TABLE 5.—FERTILIZER ANALYSES AND GUARANTEES: 1917

Laboratory Number	Manufacturer and brands	Dealer	Nitrogen		Phosphoric Acid P ₂ O ₅						Potash (K ₂ O)		Value per ton	
					Total		Insoluble		Available					
			Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
	Swift & Co.,													
	Swift's Brands—Continued													
74	Blood and Phosphate	Hawkins Hdwe. Co., Bunceton	1.65	1.63	13.00	13.87	1.00	1.74	12.00	12.13	.....	.....	\$30.40	\$30.72
75	Blood and Phosphate	W. H. Yancey, La Belle	1.65	1.65	13.00	13.54	1.00	1.35	12.00	12.19	.....	.....	30.40	30.81
32	Blood and Phosphate	Webb Bros., Jasper	1.65	1.47	13.00	13.60	1.00	1.56	12.00	12.04	.....	.....	30.40	29.24
34	Blood and Phosphate	Wilder, Wright, & Hunter Impl. Co., Clinton	1.65	1.61	13.00	13.48	1.00	2.09	12.00	11.39	.....	.....	30.40	29.67
35	Blood and Phosphate	D. G. Evans, Carl Junction	1.65	4.43	13.00	13.73	1.00	1.53	12.00	12.20	.....	.....	30.40	29.13
222	Blood and Phosphate	O Hickman & Son, Golden City	1.65	1.91	13.00	14.38	1.00	1.65	12.00	12.73	.....	.....	30.40	33.76
221	Blood and Phosphate	Forsythe-Miller Grain Co., Fairview.....	1.65	1.62	13.00	13.58	1.00	1.74	12.00	11.84	.....	.....	30.40	30.24
218	Blood and Phosphate	People's Elevator Co., Rich Hill.....	1.65	1.59	13.00	13.87	1.00	1.81	12.00	12.06	.....	.....	30.40	30.32
216	Blood and Phosphate	G. A. Brimm & Son, Walnut Grove	1.65	1.55	13.00	13.47	1.00	1.94	12.00	11.53	.....	.....	30.40	29.32
76	Blood and Phosphate	G. H. Schulze, Truesdale	1.65	1.30	13.00	11.96	1.00	1.60	12.00	10.36	.....	.....	30.40	25.54
105	Complete Fertilizer	Troy Commercial Co., Troy	0.82	1.00	8.50	11.09	0.50	0.86	8.00	10.23	1.00	1.41	23.96	31.12
104	Complete Fertilizer	Frankford Elevator Co., Frankford.....	0.82	0.83	8.50	9.70	0.50	1.08	8.00	8.62	1.00	0.82	23.96	24.06
103	Complete Fertilizer	Russellville Hdwe. Co., Russellville.....	0.82	0.87	8.50	9.67	0.50	1.20	8.00	8.47	1.00	1.00	23.96	25.30
102	Complete Fertilizer	Enterprise Store, Hawk Point	0.82	1.03	8.50	10.72	0.50	1.03	8.00	9.69	1.00	0.86	23.96	27.38
101	Complete Fertilizer	Wm. Pollock Mill & Elev. Co., Mexico....	0.82	0.98	8.50	9.32	0.50	0.94	8.00	8.38	1.00	0.80	23.96	24.75
106	Complete Fertilizer	C. F. Myers, Pendleton	0.82	0.72	8.50	9.95	0.50	1.04	8.00	8.91	1.00	0.64	23.96	22.49
9	Complete Fertilizer	Wm. Pollock Mill & Elev. Co., Mexico....	0.82	0.89	8.50	10.23	0.50	0.46	8.00	9.77	1.00	0.57	23.96	24.40
12	Complete Fertilizer	O. Grannemann & Co., New Haven.....	0.82	1.13	8.50	9.93	0.50	1.78	8.00	8.15	1.00	0.75	23.96	25.66
194	Complete Fertilizer	Allen Store Co., Malden	0.82	0.91	8.50	10.65	0.50	1.41	8.00	9.24	1.00	0.89	23.96	26.12
191	Complete Fertilizer	J. B. Boyer & Son, Potosi	0.82	0.83	8.50	9.42	0.50	1.84	8.00	7.58	1.00	0.77	23.96	22.61
190	Complete Fertilizer	Farmers' Supply Co., Sullivan	0.82	1.10	8.50	10.91	0.50	1.50	8.00	9.41	1.00	0.91	23.96	28.03

189	Complete Fertilizer	Farmers' Equity Exchange, Bowling Green	0.82	0.91	8.50	10.00	0.50	1.49	8.00	8.51	1.00	0.71	23.96	24.05
188	Complete Fertilizer	Chas. Renfrow Com. Co., West Plains...	0.82	0.94	8.50	10.78	0.50	1.64	8.00	9.14	1.00	0.82	23.96	25.90
60	1½-30 Bone Meal	Webb Bros., Jasper	1.22	1.22	30.00	28.65	.....	.....	.....	.....	.....	.....	33.76	32.68
61	1½-30 Bone Meal	Farmers' Equity & Grain Supply Co., Appleton City	1.22	1.28	30.00	29.60	.....	.....	.....	.....	.....	.....	33.76	33.92
228	1½-30 Bone Meal	Mt. Vernon Feed Mill, Mt. Vernon.....	1.22	0.99	30.00	30.16	.....	.....	.....	.....	.....	.....	33.76	32.05
226	1½-30 Bone Meal	People's Elevator Co., Metz	1.22	1.40	30.00	31.68	.....	.....	.....	.....	.....	.....	33.76	36.54
225	1½-30 Bone Meal	People's Elevator Co., Rich Hill	1.22	1.28	30.00	29.41	.....	.....	.....	.....	.....	.....	33.76	33.77
26	Diamond "G" Grain Grower	Crump & Humphrey, Centralia	0.82	0.92	12.50	14.52	0.50	1.78	12.00	12.74	.....	.....	23.56	25.91
28	Diamond "G" Grain Grower	Farmers' Equity & Grain Supply Co., Appleton City	0.82	0.81	12.50	13.25	0.50	1.53	12.00	11.72	.....	.....	23.56	23.50
197	Diamond "G" Grain Grower	Mell & Phillips, Farmington	0.82	0.84	12.50	14.34	0.50	1.62	12.00	12.72	.....	.....	23.56	25.18
196	Diamond "G" Grain Grower	Farmers' Equity Exch., Bowling Green...	0.82	0.99	12.50	14.33	0.50	2.74	12.00	11.59	.....	.....	23.56	25.25
195	Diamond "G" Grain Grower	Newton Grain Co., Springfield	0.82	0.81	12.50	13.97	0.50	2.52	12.00	11.45	.....	.....	23.56	23.52
78	Bone Meal and Blood	G. H. Schulze, Truesdale	3.70	3.89	23.00	23.46	.....	.....	.....	.....	.....	.....	48.00	49.89
77	Bone Meal and Blood	Imperial Milling Co., Clarksville.....	3.70	4.06	23.00	23.17	.....	.....	.....	.....	.....	.....	48.00	51.02
79	Bone Meal and Blood	Johnson & Romans, Benton City.....	3.70	3.89	23.00	23.17	.....	.....	.....	.....	.....	.....	48.00	49.66
78	Bone Meal and Blood	Rocky Comfort & Wheaton Hardware Co., Wheaton	3.70	3.74	23.00	24.35	.....	.....	.....	.....	.....	.....	48.00	49.40
209	Bone Meal and Blood	O. Hickman & Son, Golden City	3.70	3.90	23.00	24.04	.....	.....	.....	.....	.....	.....	48.00	50.43
208	Bone Meal and Blood	Mell & Phillips, Farmington	3.70	4.03	23.00	23.75	.....	.....	.....	.....	.....	.....	48.00	51.24
82	Raw Bone Meal Fertilizer	Troy Commercial Co., Troy	3.70	3.70	23.00	23.99	.....	.....	.....	.....	.....	.....	48.00	48.79
73	Raw Bone Meal Fertilizer	Wm. Pollock, Mexico	3.70	3.80	23.00	23.40	.....	.....	.....	.....	.....	.....	48.00	49.12
76	Raw Bone Meal Fertilizer	O. Grannemann & Co., New Haven.....	3.70	3.78	23.00	25.04	.....	.....	.....	.....	.....	.....	48.00	50.27
77	Raw Bone Meal Fertilizer	Rocky Comfort & Wheaton Hardware Co., Wheaton	3.70	3.76	23.00	24.81	.....	.....	.....	.....	.....	.....	48.00	49.93
82	Raw Bone Meal Fertilizer	Farmers' Elevator Co., Purdy	3.70	2.79	23.00	24.88	.....	.....	.....	.....	.....	.....	48.00	42.22
58	Ground Beef Bone	Webb Bros., Jasper	2.06	2.05	27.00	27.06	.....	.....	.....	.....	.....	.....	38.08	38.37
59	Ground Beef Bone	Rocky Comfort & Wheaton Hardware Co., Wheaton	2.06	2.64	27.00	26.99	.....	.....	.....	.....	.....	.....	38.08	42.71
215	Ground Beef Bone	U. L. Coleman Hdwe. Co., Marionville...	2.06	2.32	27.00	26.40	.....	.....	.....	.....	.....	.....	38.08	39.68
214	Ground Beef Bone	Mt. Vernon Feed Mill, Mt. Vernon.....	2.06	2.26	27.00	27.63	.....	.....	.....	.....	.....	.....	38.08	40.18
211	Ground Beef Bone	Farmers' Equity Exch., Bowling Green...	2.06	1.94	27.00	28.35	.....	.....	.....	.....	.....	.....	38.08	38.20
213	Ground Beef Bone	Forsythe-Miller Grain Co., Fairview.....	2.06	2.14	27.00	27.36	.....	.....	.....	.....	.....	.....	38.08	39.01
83	Bone Meal Fertilizer	Hawkins Hdwe. Co., Bunceton	2.47	2.66	24.00	24.19	.....	.....	.....	.....	.....	.....	38.96	40.63
85	Bone Meal Fertilizer	L. D. Cochran, Kirksville	2.47	3.12	24.00	21.44	.....	.....	.....	.....	.....	.....	38.96	42.11

TABLE 5.—FERTILIZER ANALYSES AND GUARANTEES: 1917

Laboratory Number	Manufacturer and brands	Dealer	Nitrogen		Phosphoric Acid P ₂ O ₅						Potash (K ₂ O)		Value per ton		
					Total		Insoluble		Available						
			Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	
				Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.			
	Swift & Co.,														
	Swift's Brands—Continued														
63	Bone Meal Fertilizer	J. Cunningham, Montgomery City	2.47	2.48	24.00	24.09	.....	.....	.....	.....	.....	.....	.....	\$38.96	\$39.11
65	Bone Meal Fertilizer	John H. Rodeman, Jefferson City	2.47	3.05	24.00	22.76	.....	.....	.....	.....	.....	.....	.....	38.96	42.61
69	Bone Meal Fertilizer	Farmers' Elev. & Supply Co., Montrose..	2.47	3.34	24.00	23.78	.....	.....	.....	.....	.....	.....	.....	38.96	45.74
72	Bone Meal Fertilizer	Farmers' Elevator Co., Purdy.....	2.47	2.45	24.00	25.40	.....	.....	.....	.....	.....	.....	.....	38.96	39.92
272	Bone Meal Fertilizer	Lee Lumber Co., Ludlow	2.47	3.21	24.00	21.23	.....	.....	.....	.....	.....	.....	.....	38.96	42.66
84	Bone Meal Fertilizer	L. O. Bradney, Paris	2.47	3.04	24.00	24.04	.....	.....	.....	.....	.....	.....	.....	38.96	43.55
80	Ground Steamed Bone Fertilizer.....	St. Louis Seed Co., St. Louis.....	1.65	1.52	20.00	19.56	.....	.....	.....	.....	.....	.....	.....	29.20	27.81
81	Ground Steamed Bone Fertilizer	J. H. Miller, High Hill	1.65	1.79	20.00	20.77	.....	.....	.....	.....	.....	.....	.....	29.20	30.94
52	Ground Steamed Bone Fertilizer	P. O. Foristell, Foristell	1.65	1.71	20.00	20.34	.....	.....	.....	.....	.....	.....	.....	29.20	29.95
53	Ground Steamed Bone Fertilizer.....	Strehlman & Gerken, Leslie	1.65	1.60	20.00	20.28	.....	.....	.....	.....	.....	.....	.....	29.20	29.02
54	Ground Steamed Bone Fertilizer.....	Thomas Egger, Lamar	1.65	1.66	20.00	20.42	.....	.....	.....	.....	.....	.....	.....	29.20	29.62
232	Ground Steamed Bone Fertilizer.....	Farmers' Equity Exch., Bowling Green..	1.65	1.71	20.00	21.82	.....	.....	.....	.....	.....	.....	.....	29.20	31.14
231	Ground Steamed Bone Fertilizer.....	Mansfield Produce Co., Mansfield	1.65	2.55	20.00	19.83	.....	.....	.....	.....	.....	.....	.....	29.20	36.26
230	Ground Steamed Bone Fertilizer.....	Timberlake & Burnett, Ava	1.65	2.67	20.00	20.59	.....	.....	.....	.....	.....	.....	.....	29.20	37.83
39	Bone Meal and Phosphate Fertilizer.....	John H. Rodeman, Jefferson City.....	0.82	0.89	20.00	20.57	7.00	5.90	13.00	14.67	.....	.....	.....	27.56	30.02
40	Bone Meal and Phosphate Fertilizer.....	Crump & Humphrey, Centralia	0.82	0.97	20.00	20.57	7.00	6.80	13.00	13.77	.....	.....	.....	27.56	29.76
41	Bone Meal and Phosphate Fertilizer.....	Thomas Egger, Lamar	0.82	0.83	20.00	20.36	7.00	7.20	13.00	13.16	.....	.....	.....	27.56	27.94
45	Bone Meal and Phosphate Fertilizer.....	D. G. Evans, Carl Junction	0.82	0.83	20.00	20.11	7.00	6.20	13.00	13.91	.....	.....	.....	27.56	28.59
206	Bone Meal and Phosphate Fertilizer.....	Farmers' Supply Co., Sullivan	0.82	0.99	20.00	20.36	7.00	4.60	13.00	15.76	.....	.....	.....	27.56	31.82
99	Bone Meal and Phosphate Fertilizer.....	Taylor-Estes Lumber Co., Columbia.....	0.82	0.85	20.00	20.03	7.00	7.35	13.00	12.68	.....	.....	.....	27.56	27.49
100	Bone Meal and Phosphate Fertilizer.....	Alexander, Clarksburg	0.82	1.23	20.00	19.94	7.00	5.02	13.00	14.92	.....	.....	.....	27.56	32.74
205	Bone Meal and Phosphate Fertilizer.....	Farmers' Equity Exch., Bowling Green...	0.82	1.27	20.00	20.69	7.00	8.58	13.00	12.11	.....	.....	.....	27.56	30.54

207	Bone Meal and Phosphate Fertilizer.....	D. B. Beeny & Sons, Sheldon.....	0.82	1.12	20.00	20.42	7.00	7.61	13.00	12.81	.....	.....	27.56	29.93
71	Diamond "L" Grain Grower	C. F. Myers, Pendleton	1.65	1.55	10.00	12.12	1.00	1.37	9.00	10.75	.....	.....	26.20	28.00
72	Diamond "L" Grain Grower	Johnson & Romans, Benton City.....	1.65	1.45	10.00	10.82	1.00	1.50	9.00	9.32	.....	.....	26.20	25.25
204	Diamond "L" Grain Grower	O. Hickman & Son, Golden City.....	1.65	1.83	10.00	10.16	1.00	1.70	9.00	8.46	.....	.....	26.20	27.16
203	Diamond "L" Grain Grower	Reeds Grocery Co., Fairview	1.65	1.46	10.00	10.27	1.00	1.60	9.00	8.67	.....	.....	26.20	24.46
202	Diamond "L" Grain Grower	Forsythe Miller Grain Co., Fairview.....	1.65	1.53	10.00	10.80	1.00	1.78	9.00	9.02	.....	.....	26.20	25.58
93	Tankage and Bone Phosphate.....	F. W. Schulze, Moscow	0.82	0.68	12.50	13.24	0.50	1.57	12.00	11.67	.....	.....	23.56	22.41
94	Tankage and Bone Phosphate.....	Frankford Elevator Co., Frankford	0.82	1.00	12.50	14.34	0.50	2.06	12.00	12.28	.....	.....	23.56	26.01
27	Tankage and Bone Phosphate.....	Livingston Trading Co., Windsor	0.82	0.71	12.50	13.61	0.50	1.56	12.00	12.05	.....	.....	23.56	23.17
69	Ammoniated Bone Phosphate	Whiteside Elevator Co., Whiteside.....	0.82	0.83	10.50	11.52	0.50	1.23	10.00	10.29	.....	.....	20.76	21.54
25	Ammoniated Bone Phosphate	O. Granneman & Co., New Haven.....	0.82	0.72	10.50	11.38	0.50	1.36	10.00	10.02	.....	.....	20.76	20.33
245	Ammoniated Bone Phosphate	Forsythe-Miller Grain Co., Fairview	0.82	0.94	10.50	12.35	0.50	1.79	10.00	10.56	.....	.....	20.76	23.02
244	Ammoniated Bone Phosphate	A. J. Tucker, Mountain Grove	0.82	1.02	10.50	14.78	0.50	0.66	10.00	14.12	.....	.....	20.76	28.19
243	Ammoniated Bone Phosphate	Farmers' Supply Co., Sullivan	0.82	1.23	10.50	12.68	0.50	1.30	10.00	11.38	.....	.....	20.76	26.29
37	H. G. Acid Phosphate	O. Grannemann & Co., New Haven.....	.....	.....	.....	17.92	.....	0.60	16.00	17.32	.....	.....	22.40	24.49
38	H. G. Acid Phosphate	Farmers' Elevator Co., O'Fallon .....	.....	.....	.....	16.97	.....	0.38	16.00	16.59	.....	.....	22.40	23.38
185	H. G. Acid Phosphate	Timberlake & Burnett, Ava .....	.....	.....	.....	17.36	.....	0.37	16.00	16.99	.....	.....	22.40	23.94
184	H. G. Acid Phosphate.....	Mell and Phillips, Farmington.....	.....	.....	.....	16.94	.....	0.34	16.00	16.60	.....	.....	22.40	23.38
90	Garden City Phosphate	St. Louis Seed Co., St. Louis.....	.....	.....	.....	16.80	.....	1.16	14.00	15.64	.....	.....	19.60	22.36
91	Garden City Phosphate	Frankford Elevator Co., Frankford .....	.....	.....	.....	16.56	.....	1.11	14.00	15.45	.....	.....	19.60	22.07
92	Garden City Phosphate	Whiteside Elevator Co., Whiteside.....	.....	.....	.....	14.89	.....	1.29	14.00	13.60	.....	.....	19.60	19.56
36	Garden City Phosphate	Strehlman & Gerken, Leslie .....	.....	.....	.....	16.02	.....	0.40	14.00	15.62	.....	.....	19.60	22.03
239	Pure Raw Bone Meal	A. J. Tucker, Mountain Grove	3.70	3.72	23.00	25.67	.....	.....	.....	.....	.....	.....	48.00	50.30
238	Pure Raw Bone Meal	J. Mecker & Co., Perryville	3.70	3.74	23.00	25.03	.....	.....	.....	.....	.....	.....	48.00	49.94
234	Pure Bone Meal	T. F. Brewer, St. James	2.47	3.09	24.00	22.76	.....	.....	.....	.....	.....	.....	38.96	42.93
233	Pure Bone Meal	L. Q. Brodney, Paris	2.47	2.25	24.00	25.47	.....	.....	.....	.....	.....	.....	38.96	38.38
96	Pulverized Cattle Manure	St. Louis Seed Co., St. Louis.....	1.65	1.78	1.00	2.89	.....	.....	.....	1.50	2.57	.....	23.00	31.97
8	Pulverized Sheep Manure	Livingston Trading Co., Windsor	1.65	1.51	1.00	2.62	.....	.....	.....	1.50	2.64	.....	23.00	30.02
186	Pulverized Sheep Manure	A. J. Tucker, Mountain Grove	1.65	1.53	1.00	1.72	.....	.....	.....	1.50	2.53	.....	23.00	28.80
247	Grain Grower	Robinson Hdw. Co., Nevada	0.82	1.05	10.50	10.45	0.50	0.64	10.50	9.81	1.00	1.30	26.76	30.19
49	Bone Meal and Potash	Z. Lawson, Seneca	0.82	1.17	18.00	19.12	.....	.....	.....	.....	1.00	0.83	26.96	29.64
48	Bone Meal and Potash.....	Buckner & Son, Pierce City	0.82	1.17	18.00	18.30	.....	.....	.....	.....	1.00	0.87	26.96	29.22
50	Bone Meal and Potash.....	Farmers' Elevator Co., Purdy	0.82	1.99	18.00	19.31	.....	.....	.....	.....	1.00	0.74	26.96	35.81
51	Bone Meal and Potash.....	Webb Bros., Jasper	0.82	2.14	18.00	18.88	.....	.....	.....	.....	1.00	0.79	26.96	36.96
229	Bone Meal and Potash.....	Forsythe-Miller Grain Co., Fairview	0.82	1.08	18.00	18.43	.....	.....	.....	.....	1.00	0.94	26.96	29.02
46	Bone Meal and Potash.....	Thomas Egger, Lamar	0.82	1.35	18.00	20.03	.....	.....	.....	.....	1.00	2.41	26.96	41.28
97	Pulverized Sheep Manure	St. Louis Seed Co., St. Louis	1.65	1.34	2.00	1.71	.....	.....	.....	2.00	1.98	.....	26.80	23.97

TABLE 5.—FERTILIZER ANALYSES AND GUARANTEES: 1917

Laboratory Number	Manufacturer and brands	Dealer	Nitrogen		Phosphoric Acid P ₂ O ₅						Potash (K ₂ O)		Value per ton	
					Total		Insoluble		Available					
			Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
	Swift & Co.,		Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.		
	Swift's Brands—Continued													
210	Pure Ground Dried Blood	Mt. Vernon Feed Mill, Mt. Vernon.....	13.17	13.14									\$105.36	\$105.12
	Pioneer Brands													
87	No. 2 Grain Grower	Asbury Lumber Co., Asbury.....	0.82	0.77	12.50	12.76	0.50	0.95	12.00	11.81	1.00	0.53	29.56	26.25
84	Tomato and Vegetable Fertilizer.....	Wilder, Wright & Hunter Impl. Co., Clinton	2.47	0.83	9.00	12.18	1.00	1.52	8.00	10.66	0.50	0.19	34.36	23.31
85	2-12-0	E. C. Weeks, Eldon	1.65	1.16	12.50	12.84	0.50	1.09	12.00	11.75			30.20	26.17
86	2-12-0	Potter Lumber, Hdwe. & Grain Co. Iantha	1.65	1.62	12.50	13.41	0.50	1.50	12.00	11.91			30.20	30.23
	Tennessee Chemical Co., Chicago, Ill.													
	Ox Brands.													
6	New Grain Grower	Strehlman & Gerken, Leslie	1.65	1.78	8.50	8.48	0.50	0.49	8.00	7.99	1.00	1.13	30.60	32.41
7	New Phosphate and Potash	Strehlman & Gerken, Leslie			10.50	9.56	0.50	1.54	10.00	8.02	1.00	1.00	20.20	17.85
07	Bone Meal	L. Q. Brodney, Paris	2.47	2.83	24.00	26.64							38.96	43.95

Tuscarora Fertilizer Co., Chicago, Ill.,															
Tuscarora Brands.															
109	New Standard Fertilizer	John Glenn, Troy	1.65	1.73	8.50	8.73	0.50	0.68	8.00	8.05	1.00	1.49	30.60	34.28	
108	Ammoniated Phosphate	Eolia Elevator Co., Eolia	1.65	1.90	10.50	11.84	0.50	0.76	10.00	11.08	.....	.....	27.40	31.01
248	New Ammoniated Phosphate	C. P. Patton Hdwe. Co., Cabool	0.82	1.00	12.50	13.69	0.50	1.14	12.00	12.55	.....	.....	23.56	26.03
110	Wheat, Corn, and Oats Special.....	Eolia Elevator Co., Eolia	0.82	0.93	8.50	9.53	0.50	0.70	8.00	8.83	1.00	1.16	23.96	27.04	
249	Wheat, Corn, and Oats Special.....	Wilmesher & Co., Leasburg	0.82	1.20	8.50	10.49	0.50	1.27	8.00	9.22	1.00	1.28	23.96	30.70	
250	Wheat, Corn, and Oats Special.....	C. P. Patton Hardware Co., Cabool.....	0.82	0.96	8.50	9.19	0.50	0.60	8.00	8.59	1.00	1.39	23.96	28.29	
251	Wheat, Corn, and Oats Special.....	H. B. Cole, Lutesville	0.82	1.13	8.50	9.38	0.50	0.65	8.00	8.73	1.00	1.66	23.96	31.48	
246	Bone Meal	Robinson Hdwe. Co., Nevada	2.47	2.58	24.00	26.46	.....	.....	.....	.....	.....	.....	38.96	41.81
Virginia-Carolina Chemical Co., Memphis, Tennessee.															
2	Good Luck Guano	Cassville Produce Co., Cassville	0.82	0.79	.....	10.53	.....	1.73	8.00	8.80	1.00	0.97	23.76	25.15
260	Good Luck Guano	Chas. Renfrow Com. Co., West Plains....	0.82	0.74	.....	9.63	.....	1.21	8.00	8.42	1.00	1.30	23.76	25.99
256	Champion Corn and Wheat Grower.....	Robinson Hardware Co., Nevada	0.82	1.13	.....	11.80	.....	1.68	9.00	10.12	1.00	1.33	25.16	31.86
257	Crescent Complete Fertilizer	A. J. Tucker, Mountain Grove	1.65	1.63	.....	13.98	.....	0.66	12.00	13.32	.....	.....	30.00	31.95
258	Crescent Complete Fertilizer	C. P. Patton Hardware Co., Cabool	1.65	0.99	.....	14.11	.....	0.70	12.00	13.41	.....	.....	30.00	26.97
1	Capital Ammoniated Superphosphate	Cassville Produce Co., Cassville	1.65	0.99	.....	12.00	.....	1.14	10.00	10.86	.....	.....	27.20	23.58
4	Monarch Bone and Potash Compound.....	Webb Bros., Jasper .....	.....	.....	.....	15.91	.....	0.42	15.00	15.49	2.00	1.67	33.00	31.88
262	Monarch Bone and Potash Compound.....	E. C. Cherrington, Lowry City .....	.....	.....	.....	16.50	.....	0.37	15.00	16.13	2.00	1.57	33.00	32.15
263	Monarch Bone and Potash Compound.....	Robinson Hdwe. Co., Nevada .....	.....	.....	.....	16.42	.....	1.21	15.00	15.21	2.00	2.11	33.00	34.43
264	Monarch Bone and Potash Compound.....	Laverne Woody, Golden City .....	.....	.....	.....	15.56	.....	0.39	15.00	15.17	2.00	1.89	33.00	32.74
254	Capital Bone and Potash Compound.....	J. E. Hendrickson, Bolivar .....	.....	.....	.....	12.28	.....	1.28	10.00	11.00	2.00	1.84	26.00	26.95
255	Capital Bone and Potash Compound.....	E. C. Cherrington, Lowry City .....	.....	.....	.....	11.92	.....	0.92	10.00	11.00	2.00	2.14	26.00	28.61
252	Black D'amond Bone and Potash.....	J. E. Hendrickson, Bolivar .....	.....	.....	.....	11.67	.....	0.70	10.00	10.97	1.00	0.82	20.00	20.56
253	Black Diamond Bone and Potash.....	C. P. Patton Hdwe. Co., Cabool .....	.....	.....	.....	11.18	.....	0.74	10.00	10.44	1.00	0.94	20.00	20.56
265	Royal Bone and Potash Compound.....	J. E. Hendrickson, Bolivar .....	.....	.....	.....	12.82	.....	0.64	12.00	12.18	1.00	1.01	22.80	23.37
266	Royal Bone and Potash Compound.....	E. C. Cherrington, Lowry City .....	.....	.....	.....	13.13	.....	0.87	12.00	12.26	1.00	1.20	22.80	24.71
267	Victor H. G. Acid Phosphate.....	J. E. Hendrickson, Bolivar .....	.....	.....	.....	21.23	.....	7.41	14.00	13.82	.....	.....	19.60	22.31
261	I. X. L. Acid Phosphate	J. E. Hendrickson, Bolivar .....	.....	.....	.....	21.56	.....	6.58	12.00	14.98	.....	.....	16.80	23.60
5	Ground Animal Bone	Cassville Produce Co., Cassville.....	3.30	2.91	20.00	23.73	.....	.....	.....	.....	.....	.....	42.40	42.26
3	Good as Gold Standard Guano.....	Cassville Produce Co., Cassville.....	0.82	1.05	.....	13.70	.....	1.55	12.00	12.15	1.00	1.24	29.36	33.47
259	Good as Gold Standard Guano	A. J. Tucker Mountain Grove	0.82	0.84	.....	13.76	.....	1.16	12.00	12.60	1.00	1.50	29.36	33.82

TABLE 5.—FERTILIZER ANALYSES AND GUARANTEES: 1917

	Manufacturer and brands	Dealer	Nitrogen		Phosphoric Acid P ₂ O ₅						Potash (K ₂ O)		Value per ton	
					Total		Insoluble		Available					
			Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
	Wilson and Co., Kansas City, Kan., Wilson's Brands.													
111	Special Bone Meal	Crawford, California	0.82	1.72	30.00	31.14	.....	.....	.....	.....	.....	.....	\$30.56	\$38.67
	Miscellaneous Samples.													
6	Deposit from Cave	Wm. N. Taylor, Montgomery City.....	.....	1.45	.....	.....	.....	.....	.....	.....	.....	.....	.....	11.60
103	Fertilizer with Tankage Odor.....	K. W. Brown, Koshkonong .....	.....	6.42	.....	.....	.....	.....	.....	.....	.....	.....	.....	51.36
56	Bat Guano No. 1.....	G. D. Addison, Salem .....	.....	7.98	.....	.....	.....	.....	.....	.....	.....	.....	.....	63.84
57	Bat Guano No. 2	G. D. Addison, Salem .....	.....	0.03	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24
58	Bat Guano No. 3.....	G. D. Addison, Salem .....	.....	1.13	.....	.....	.....	.....	.....	.....	.....	.....	.....	9.04
59	Bat Guano No. 4.....	G. D. Addison, Salem .....	.....	0.91	.....	.....	.....	.....	.....	.....	.....	.....	.....	7.28
1	Bat Guano No. 1.....	E. A. Stackel, Richland .....	.....	1.86	.....	.....	.....	.....	.....	.....	.....	.....	.....	14.88
2	Bat Guano No. 2.....	E. A. Stackel, Richland .....	.....	6.34	.....	.....	.....	.....	.....	.....	.....	.....	.....	50.72
3	Bat Guano No. 3.....	E. A. Stackel, Richland .....	.....	8.78	.....	.....	.....	.....	.....	.....	.....	.....	.....	70.24
32	Bat Guano	P. H. Scott, Phillipsburg .....	.....	2.87	.....	.....	.....	.....	.....	.....	.....	.....	.....	22.96
1	Basic Phosphate (American Basic Phosphate Co.)	Soils Department, Columbia .....	.....	.....	.....	17.93	.....	3.00	.....	4.93	.....	.....	.....	22.10
301	Raw Bone and Potash (Arkansas Fert. Co.)	Meeks District Farm .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		Club, I. V. Stevenson, Sec'y., Neosho....	1.65	1.03	18.00	25.03	.....	.....	.....	.....	1.00	1.00	33.60	34.26
296	Commonwealth Wheat Grower (Arkan- sas Fertilizer Co.)	John F. Glenn, Troy	0.82	0.87	9.00	13.08	1.00	2.02	8.00	11.06	1.00	0.41	24.16	25.71

297	Commonwealth Corn Grower (Arkansas Fertilizer Co.)	John F. Glenn, Troy	0.82	0.87	9.00	12.82	1.00	1.67	8.00	11.15	2.00	0.39	30.16	25.58
298	Raw Bone Meal (Arkansas Fertilizer Co.)	John F. Glenn, Troy	3.30	3.06	20.00	20.90	.....	.....	.....	.....	.....	.....	42.40	41.20
300	Bone Meal (Arkansas Fertilizer Co.)	Meeks District Farm Club, I. V. Stevenson, Sec'y., Neosho	2.47	3.23	24.00	26.46	.....	.....	.....	.....	.....	.....	38.96	47.01
9	Limash (Ash Grove Lime and Portland Cement Co.)	R. Mumford, Lebanon	.....	.....	.....	.....	0.52	0.58	.....	.....	1.79	1.25	10.95	7.73
219	Champion Grain Grower No. 1 (Cochrane Packing Co.)	C. M. Wagy, Kearney	1.65	1.13	10.50	9.99	0.50	0.78	10.00	9.21	1.00	0.68	33.40	26.32
220	Champion Grain Grower No. 2 (Cochrane Packing Co.)	C. M. Wagy, Kearney	1.65	0.83	10.50	12.22	0.50	1.26	10.00	10.96	1.00	0.74	33.40	26.92
294	Commercial Steamed Bone Meal (Commercial Fertilizer Co.)	H. G. Lewis, Whiteside	0.82	1.25	29.00	24.77	.....	.....	.....	.....	.....	.....	29.96	29.82
229	Bone and Potash (Commercial Fertilizer Co.)	Theo. Doss, Monett	1.00	0.85	9.00	9.10	2.00	2.10	7.00	7.00	1.00	1.09	24.60	23.98
268	Half & Half (Darling & Co.)	Walter W. Brandes, Bunceton	0.80	0.98	23.00	23.02	11.00	8.52	12.00	14.50	.....	.....	27.60	31.55
221	Nitrophos (Empire Carbon Works)	J. W. McCutchen, Pilot Grove	1.65	1.80	12.50	14.08	0.50	1.80	12.00	12.28	.....	.....	30.20	32.31
222	Empire Pure Raw Bone Meal (Empire Carbon Works)	C. E. Messerly, Sedalia	3.29	4.28	20.00	20.74	.....	.....	.....	.....	.....	.....	42.32	50.83
21	Wheat, Oat, and Corn Grower (Empire Guano Co.)	Chas. Samek, Bolivar	0.82	0.66	17.00	19.95	10.00	8.24	7.00	11.71	1.00	0.76	26.36	29.53
30	Daybreak Rock Phosphate (Federal Chemical Co.)	A. D. Fel'ows, Fairfax	.....	.....	.....	.....	29.75	26.74	.....	.....	.....	.....	11.90	10.70
29	Special Big 3, No. 1 (Morris & Co.)	P. J. Murta, Cuba	0.41	0.64	13.00	14.42	2.00	0.72	11.00	13.70	3.00	2.74	37.48	41.03
30	Special Big 3, No. 2 (Morris & Co.)	P. J. Murta, Cuba	0.41	1.04	13.00	14.60	2.00	0.95	11.00	13.65	3.00	1.54	37.48	37.05
287	50-50 Phosphate (Read Phosphate Co.)	T. B. Browning, Foristell	.....	.....	20.00	22.97	10.00	10.33	10.00	12.64	.....	.....	18.00	21.83
286	Raw Bone Meal (Swift & Co.)	J. H. West, Ash Grove	3.70	3.93	23.00	23.24	.....	.....	.....	.....	.....	.....	48.00	50.03
278	Diamond "K" Grain Grower (Swift & Co.)	C. L. Wells & Co., Cowgill	0.82	0.88	12.50	14.56	0.50	1.95	12.00	12.61	1.00	0.93	29.56	31.05
218	Diamond "K" Grain Grower (Swift & Co.)	C. M. Wagy, Kearney	0.82	1.12	12.50	15.60	0.50	0.92	12.00	14.68	1.00	0.38	29.56	32.16
7	Raw Bone Meal (Swift & Co.)	Geo. W. Haney, Bois D'arc	3.70	3.93	23.00	23.11	.....	.....	.....	.....	.....	.....	48.00	49.93
10	Good Luck Guano (Va.-Carolina Chem. Co.)	R. Mumford, Lebanon	0.82	0.95	.....	10.72	.....	0.62	8.00	10.10	1.00	1.03	23.76	28.17

TABLE 6.—POWER OF LIMESTONE AND SIMILAR MATERIALS TO NEUTRALIZE SOIL ACIDITY

EXPRESSED IN PERCENTAGE OF CALCIUM CARBONATE

Lab. No.	Sender	Material	Calcium Carbonate Equivalent
2-115	Wm. C. Dahl, Berger	Crushed Limestone Number 1	89.33
2-116	Wm. C. Dahl, Berger	Limestone Number 2	85.62
2-117	H. A. Hennecke, Gerald	Limestone Number 1	98.81
2-118	H. A. Hennecke, Gerald	Limestone Number 2	98.77
2-119	Wm. Hambach, Pendleton	White Limestone	97.80
2-120	Wm. Hambach, Pendleton	Yellow Limestone	98.55
2-121	Wm. Hambach, Pendleton	Gray Limestone	93.35
2-123	Moss Gill, Perry	Cherty Limestone	1.76
2-124	Moss Gill, Perry	Crystalline Limestone	98.79
2-127	F. F. Forward, Huntsville	Limestone Number 1	84.44
2-128	F. F. Forward, Huntsville	Limestone Number 2	87.98
2-134	I. M. Friese, Sedgewickville	Limestone Number 1	91.47
2-135	I. M. Friese, Sedgewickville	Limestone Number 2	102.21
2-136	I. M. Friese, Sedgewickville	Limestone Number 3	98.88
2-141	Allison Gressley, Bolckow	Limestone	95.59
2-142	Kyle B. Foster, Puxico	Broken Limestone	102.68
2-143	Kyle B. Foster, Puxico	Limestone	103.02
2-144	P. R. Polley, Wooldridge	Limestone	98.21
2-148	H. B. Derr, S'keston	Chats from Mine Lamotte	67.40
2-149	W. Richl, Potosi	Limestone from Big River.....	107.13
2-151	J. A. Taylor, Marble Hill	Limestone Number 1	103.18
2-152	J. A. Taylor, Marble Hill	Limestone Number 2	97.50
2-153	J. P. Sonsom, La Grange	Ground Mussel Shell	93.72
2-156	J. L. Stillwell, Doniphan	Limestone	96.52
2-157	B. C. Munger, Warsaw	Ground Mussel Shell	91.15
2-159	Chas. N. Brose, LaGrange	Limestone	97.03
3- 35	C. L. Peterson, Kansas City	Crushed Limestone Number 1	84.18
3- 36	C. L. Petersen, Kansas City	Crushed Limestone Number 2	98.91
3- 40	Chris Schmidt, Palmyra	Limestone Number 1	98.18
3- 41	Chris Schmidt, Palmyra	Limestone Number 2	98.18
3- 42	Chris Schmidt, Palmyra	Limestone Number 3	94.63
3- 43	W. O. Redford, Warrensburg	Limestone Number 1	97.64
3- 44	F. A. Gougler, Warrensburg	Limestone Number 2	96.01
3- 45	F. A. Gougler, Warrensburg	Limestone Number 3	94.75
3- 46	F. A. Gougler, Warrensburg	Limestone Number 4	96.73
3- 47	F. A. Gougler, Warrensburg	Limestone Number 5	95.48
3- 48	F. A. Gougler, Warrensburg	Limestone Number 6	95.69
3- 49	F. A. Gougler, Warrensburg	Limestone Number 7	95.68
3- 50	F. A. Gougler, Warrensburg	Limestone Number 8	95.03
3- 51	F. A. Gougler, Warrensburg	Limestone Number 9	93.81
3- 52	F. A. Gougler, Warrensburg	Limestone Number 10	93.13
3- 53	F. A. Gougler, Warrensburg	Limestone Number 11	96.52
3- 54	W. J. Pickel & H. J. Walker, Kirkwood	Limestone	83.27
3- 57	Ernest Kulp, Hematite	Limestone	98.43
3- 60	H. H. Krusekopf, Columbia	Limes one Number 1	80.89
3- 61	H. H. Krusekopf, Columbia	Limestone Number 2	81.99
3- 62	H. H. Krusekopf, Columbia	Limestone Number 3	82.62
3- 63	H. H. Krusekopf, Columbia	Limestone Number 4	83.71
3- 64	H. H. Krusekopf, Columbia	Limestone Number 5	82.29
3- 65	H. H. Krusekopf, Columbia	Limestone Number 6	77.18
3- 66	H. H. Krusekopf, Columbia	Limestone Number 7	66.35
3- 67	H. H. Krusekopf, Columbia	Limestone Number 8	67.55
3- 68	Harry E. Gulliford, Moundville	Limestone Number 1	88.75
3- 69	Harry E. Gulliford, Moundville	Limestone Number 2	67.10
3- 70	Harry E. Gulliford, Moundville	Limestone Number 3	86.00
3- 71	Harry E. Gulliford, Moundville	Limestone Number 4	93.07
3- 73	Mrs. Lula Clinton, Shelbina	Limestone	96.53
3- 80	J. A. Hickman, Puxico	Limestone Number 1	65.74
3- 81	J. A. Hickman, Puxico	Limestone Number 2	97.97

TABLE 6.—POWER OF LIMESTONE AND SIMILAR MATERIALS TO NEUTRALIZE SOIL ACIDITY
EXPRESSED IN PERCENTAGE OF CALCIUM CARBONATE

Lab. No.	Sender	Material	Calcium Carbonate Equivalent
3- 82	J. A. Hickman, Puxico	Limestone Number 4	101.10
3- 83	J. A. Hickman, Puxico	Limestone Number 5	102.96
3- 84	J. A. Hickman, Puxico	Limestone Number 6	100.84
3- 85	J. A. Hickman, Puxico	Limestone Number 7	69.76
3- 86	J. A. Hickman, Puxico	Limestone Number 8	80.65
3- 87	J. A. Hickman, Puxico	Limestone Number 9	99.11
3- 88	H. C. Blanc, Gerald	Limestone Number 1	90.67
3- 89	H. C. Blanc, Gerald	Limestone Number 2	97.23
3- 91	H. H. Krusekopf, Columbia	Limestone	97.95
3- 96	Mt. Vernon Stock Farm, Milan.....	Limestone Number 1	95.31
3- 97	Mt. Vernon Stock Farm, Milan.....	Limestone Number 2	80.93
3-102	C. M. Long, Sedalia	Ground Limestone	81.19
4- 1	B. S. Hume, St. Clair	Limestone Number 1	85.51
4- 2	B. S. Hume, St. Clair	Limestone Number 2	99.63
4- 3	B. S. Hume, St. Clair	Limestone Number 3	91.25
4- 4	B. S. Hume, St. Clair	Limestone Number 4	88.19
4- 5	John M. Coleman, Villa Ridge	Limestone Number 1	96.67
4- 6	John M. Coleman, Villa Ridge	Limestone Number 2	97.59
4- 7	John M. Coleman, Villa Ridge	Limestone Number 3	1.74
4- 8	Savannah Stone Co., Savannah	Crushed Limestone	69.10
4- 9	F. P. Wherry, Ironton	Limestone	96.12
4-10	H. Wiener, Warrenton	Limestone	97.13
4-11	Henry Niewald, Owensville	Limestone Number 1	88.33
4-12	Henry Niewald, Owensville	Limestone Number 2	100.86
4-19	John L. Smith, Smithville	Limestone	75.48
4-21	Christ Kesting, Ferguson	Limestone	92.69
4-23	U. S. Durbin, St. Louis	Limestone	73.00
4-28	H. H. Krusekopf, Columbia	Limestone Number 1	98.36
4-29	H. H. Krusekopf, Columbia	Limestone Number 2	98.44
4-30	H. H. Krusekopf, Columbia	Limestone Number 3	98.50
4-31	H. H. Krusekopf, Columbia	Limestone Number 4	98.11
4-32	H. H. Krusekopf, Columbia	Limestone Number 5	98.35
4-33	H. H. Krusekopf, Columbia	Limestone Number 6	98.15
4-34	H. H. Krusekopf, Columbia	Limestone Number 7	98.29
4-35	H. H. Krusekopf, Columbia	Limestone Number 8	98.32
4-36	H. H. Krusekopf, Columbia	Limestone Number 9	98.29
4-37	H. H. Krusekopf, Columbia	Limestone Number 10	98.37
4-38	H. H. Krusekopf, Columbia	Limestone Number 11	97.90
4-50	Penitentiary, Jefferson City	Dolomite Limestone Number 1	98.37
4-51	Penitentiary, Jefferson City	Dolomite Limestone Number 2	93.03
4-52	Penitentiary, Jefferson City	Dolomite Limestone Number 3	95.24
4-53	Penitentiary, Jefferson City	Dolomite Limestone Number 4	88.10
4-54	Penitentiary, Jefferson City	Dolomite Limestone Number 5	90.65
4-55	Penitentiary, Jefferson City	Dolomite Limestone Number 6	95.08
4-60	F. T. Haile, Bonne Terre	Limestone	104.38
4-61	W. A. Holstein, Bolivar	Limestone	97.80
5- 4	E. A. Steckel, Richland	Limestone Number 4	0.81
5- 5	E. A. Steckel, Richland	Limestone Number 5	0.00
5- 6	Lone Elm Farm Club, Tipton	Limestone	83.03
5-14	F. J. Schlup, Tipton	Limestone Number 1	98.15
5-15	F. J. Schlup, Tipton	Limestone Number 2	97.24
5-17	M. D. Bash, Kahoka	Ground Limestone	93.91
5-22	Geo. A. Morrison, Windsor	Limestone	98.04
5-25	James Stetzer, Elmont	Limestone Number 1	96.85
5-26	James Stetzer, Elmont	Limestone Number 2	94.54
5-27	James Stetzer, Elmont	Limestone Number 3	83.03
5-28	Ross Meyers, Brunswick	Limestone	75.90
5-32	Geo. D. Cramer, Eagleville	Limestone Number 1	79.63
5-33	Geo. D. Cramer, Eagleville	Limestone Number 2	85.21

TABLE 6.—POWER OF LIMESTONE AND SIMILAR MATERIALS TO NEUTRALIZE SOIL ACIDITY
EXPRESSED IN PERCENTAGE OF CALCIUM CARBONATE

Lab. No.	Sender	Material	Calcium Carbonate Equivalent
5-37	H. R. Campbell, Bowers Mill	Limestone	97.00
6-25	Edward Johnson, Union	Limestone Number 1	91.53
6-26	Edward Johnson, Union	Limestone Number 2	100.49
6-27	Edward Johnson, Union	Limestone Number 3	102.21
6-28	Edward Johnson, Union	Limestone Number 4	98.57
6-31	H. C. Hunter, Clarksville	Limestone	97.00
6-33	Louis Hustedde, Bowling Green	Limestone Number 1	99.15
6-34	Louis Hustedde, Bowling Green	Limestone Number 2	99.20
6-35	J. C. Wells, Bowling Green	Limestone	81.42
6-41	Newell & Stewart, Amagonia	Limestone	79.75
6-42	J. T. Scherder, Bowling Green	Limestone Number 1	84.62
6-43	J. T. Scherder, Bowling Green	Limestone Number 2	91.71
6-57	Geo. T. Groves, Cabool	Crushed Limestone	80.07
7-115	L. C. Roberts, Mingo	Limestone Number 1	91.72
7-116	L. C. Roberts, Mingo	Limestone Number 2	103.85
7-117	L. C. Roberts, Mingo	Limestone Number 3	103.52
7-118	L. C. Roberts, Mingo	Limestone Number 4	101.77
7-119	L. C. Roberts, Mingo	Limestone Number 5	102.22
7-120	L. C. Roberts, Mingo	Limestone Number 6	103.56
7-121	Soils Dept., Columbia	Limestone Number 1	94.72
7-122	Soils Dept., Columbia	Limestone Number 2	80.16
7-124	S. M. Jordan, Keytesville	Limestone Number 1	94.01
7-125	S. M. Jordan, Keytesville	Limestone Number 2	96.48
7-126	Penny Jett, Cyrene	Limestone	97.13
1-127	East St. Louis Stone Co., E. St. Louis	Limestone	79.42
7-128	Casper Stalle Quarry Co., E. St. Louis	Limestone	89.61
7-129	Columbia Quarry Co., Krause, Ill.	Limestone	88.96
7-130	McManers Quarries Co., Keokuk, Iowa	Limestone	81.14
7-132	George Drurr, Leslie	Limestone	96.06
8-64	J. C. Conrad, Alliance	Limestone Number 1	100.70
8-65	J. C. Conrad, Alliance	Limestone Number 2	91.30
8-66	J. C. Conrad, Alliance	Limestone Number 3	104.90
8-67	J. C. Conrad, Alliance	Limestone Number 4	92.30
8-68	J. C. Conrad, Alliance	Limestone Number 5	96.20
8-69	J. C. Conrad, Alliance	Limestone Number 6	91.80
8-70	E. A. Cockefair, Springfield	Limestone Number 1	101.60
8-71	E. A. Cockefair, Springfield	Limestone Number 2	93.90
8-72	E. A. Cockefair, Springfield	Limestone Number 3	93.10
8-73	W. O. Crawford, Mingo	Limestone Number 1	105.20
8-74	W. O. Crawford, Mingo	Limestone Number 2	104.60
8-75	W. O. Crawford, Mingo	Limestone Number 3	105.00
8-76	W. O. Crawford, Mingo	Limestone Number 4	105.20
8-77	C. E. Laffoon, Houston	Limestone	98.89
8-82	E. J. Huber, Perryville	Dark Limestone	97.70
8-83	E. J. Huber, Perryville	Light Limestone	89.02
8-84	J. D. Gerlach, Doniphan	Limestone	90.49
8-86	E. A. Cockefair, Springfield	Limestone	97.45
8-87	John P. Kennedy, Fairview	Limestone	97.76
8-90	John W. Niemann, Washington	Limestone Number 1	89.17
8-91	John W. Niemann, Washington	Limestone Number 2	91.63
8-96	J. Timothy Allen, Mingo	Limestone Number 1	80.84
8-97	J. Timothy Allen, Mingo	Limestone Number 2	89.52
8-98	J. Timothy Allen, Mingo	Limestone Number 3	89.87
8-101	W. T. Elliott, Houston	Limestone	88.95
8-102	Edw. B. Jackson, Vandalia	Limestone	95.52
9-216	F. L. Duley, Soils Dept., Columbia.....	Limestone	75.43
9-217	P. K. Gibbons, Edina	Limestone	97.65
9-223	J. C. Ruhmedel, Foristell	Limestone	93.95
9-224	John H. Green, Fruitland	Rock	98.85

TABLE 6.—POWER OF LIMESTONE AND SIMILAR MATERIALS TO NEUTRALIZE SOIL ACIDITY
EXPRESSED IN PERCENTAGE OF CALCIUM CARBONATE

Lab. No.	Sender	Material	Calcium Carbonate Equivalent
9-225	Jacob Barzen, Kansas City	Limestone	85.20
10-289	Arnold Rohlfing, Berger	Limestone Number 1	92.10
10-290	Arnold Rohlfing, Berger	Limestone Number 2	91.56
10-291	Arnold Rohlfing, Berger	Limestone Number 3	87.65
10-292	Arnold Rohlfing, Berger	Limestone Number 4	95.20
10-293	Platte Co. State Bank, Smithville	Limestone	83.68
10-295	W. E. Hendrix, Anderson	Limestone	95.75
10-302	F. L. Duley, Soils Dept., Columbia ...	Limestone Number 1	94.02
10-303	F. L. Duley, Soils Dept., Columbia.....	Limestone Number 2	80.40
11- 5	R. A. Kinnaird, Columbia	Limestone	98.83
11- 6	S. W. Hurst, Tipton	Limestone	98.23
11-152	Walt. Monroe, Tipton	Limestone Number 1	98.53
11-153	Walt. Monroe, Tipton	Limestone Number 2	104.18
11-154	Walt. Monroe, Tipton	Limestone Number 3	93.40
11-155	Walt. Monroe, Tipton	Limestone Number 4	98.50
11-156	Walt. Monroe, Tipton	Limestone Number 5	94.43
11-157	Walt. Monroe, Tipton	Limestone Number 6	63.40

TABLE 7.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI: 1918

Fertilizer	Nitro- gen	Phosphoric Acid (P_2O_6)			Potash (K_2O)
		Total	Insol- uble	Avail- able	
Arkansas Fertilizer Co., Little Rock, Ark.					
White Diamond Brands	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Special Acid Phosphate .....	.....	.....	.....	16.00	.....
Acid Phosphate .....	.....	.....	.....	14.00	.....
Corn and Wheat Fertilizer	2.00	10.50	1.00	9.50	3.50
Farmers' Choice Fertilizer	2.00	11.00	1.00	10.00	3.00
Common calth Corn Grower	0.82	9.00	1.00	8.00	2.00
Commonwealth Wheat Grower	0.82	9.00	1.00	8.00	1.00
Ammoniated Bone Superphosphate	1.65	10.00	1.00	9.00	2.00
20th Century Fertilizer	1.65	10.00	1.00	9.00	2.00
Ammoniated Bone Superphos- phate 1916	1.65	11.60	1.00	10.60	0.40
20th Century Fertilizer 1916.....	1.65	11.60	1.00	10.60	0.40
Blood and Bone Fertilizer	1.50	12.00	1.00	11.00	1.50
Blood and Bone Fertilizer 1916	1.50	13.10	1.00	12.10	0.40
Early Potato and Truck Fertilizer....	2.50	9.00	1.00	8.00	4.00
Early Potato and Truck Fertilizer 1916	2.50	12.50	1.00	11.50	0.50
"Gro-fast" Fertilizer 1916	1.65	10.60	1.00	9.60	0.40
"Gro-fast" Fertilizer	1.65	9.00	1.00	8.00	2.00
Soluble Bone and Blood Fertilizer....	1.65	9.00	1.00	8.00	2.00
Soluble Bone and Blood Fertilizer 1916	1.65	10.60	1.00	9.60	0.40
Kali Superphosphate .....	.....	12.00	1.00	11.00	3.00
Phospho-Kainit .....	.....	12.50	1.00	11.50	4.00
New South Fertilizer	1.65	11.00	1.00	10.00	.....
Orchard Fertilizer	1.65	9.00	1.00	8.00	7.00
Number 39 Fertilizer	0.82	11.00	1.00	10.00	1.00
Economy Corn and Wheat Fertilizer	0.82	11.00	1.00	10.00	2.00
Potash Special	2.00	10.00	1.00	9.00	5.00
Queen of the South Fertilizer	1.65	13.00	1.00	12.00	.....
Southern Queen Fertilizer	1.65	11.00	1.00	10.00	2.00
Vegetable Fertilizer	2.00	8.00	0.50	7.50	3.00
Vegetable Fertilizer 1916	2.00	11.10	1.00	10.10	0.40
Raw Bone Meal Fertilizer	3.30	20.00	.....	.....	.....
Raw Bone and Potash Fertilizer	2.50	18.00	.....	.....	2.00
Special Row Bone and Potash Fert- ilizer	1.65	18.00	.....	.....	1.00
Steamed Bone	0.82	29.00	.....	.....	.....
Blood, Bone and Potash	2.00	13.00	1.00	12.00	1.50
Corn Grower	1.65	9.00	1.00	8.00	3.00
Superphosphate .....	.....	.....	.....	10.00	2.00
Phosphate and Potash .....	.....	.....	.....	10.00	1.00
Southwest Wheat Grower	0.82	15.00	.....	.....	1.00
Ammoniated Phosphate	0.82	.....	.....	10.00	.....
The American Agricultural Chemical Co.					
Empire Carbon Works, East St. Louis, Ill.					
Boar's Head Brands					
Gilt Edge Phosphate .....	.....	14.50	0.50	14.00	.....
16 Per Cent. Phosphate .....	.....	16.50	0.50	16.00	.....
Upland Special	0.82	10.50	0.50	10.00	.....

TABLE 7.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI: 1918

Fertilizer	Nitrogen	Phosphoric Acid (P_2O_5)			Potash (K_2O)
		Total	Insoluble	Available	
Good as Bone	1.65	10.50	0.50	10.00	.....
Ammoniated Phosphate	1.65	12.50	0.50	12.00	.....
World of Good Superphosphate No. 2	2.06	8.50	0.50	8.00	.....
Faultless Grain Grower	0.82	7.50	0.50	7.00	1.00
Seeding Down Guano 1916	0.82	8.50	0.50	8.00	1.00
Ammoniated Bone and Potash	0.82	10.50	0.50	10.00	1.00
Harvest King 1916	1.65	10.50	0.50	10.00	1.00
World of Good Superphosphate 1916	2.06	8.50	0.50	8.00	1.00
World of Good Corn and Wheat Grower 1916	1.65	8.50	0.50	8.00	1.00
Special Tomato Grower 1918	1.65	8.50	0.50	8.00	1.00
Pure Raw Bone Meal	3.29	20.00	.....	.....	.....
Special Bone Meal	1.65	20.00	.....	.....	.....
Bradley's Brands					
Soluble Dissolved Bone .....	.....	14.50	0.50	14.00	.....
High Grade Phosphate .....	.....	16.50	0.50	16.00	.....
Farm Mixture	0.82	10.50	0.50	10.00	.....
Binfiller	1.65	10.50	0.50	10.00	.....
Bradley's Special	1.65	12.50	0.50	12.00	.....
B D Sea Fowl Guano No. 2	2.06	8.50	0.50	8.00	.....
Niagara Phosphate	0.82	7.50	0.50	7.00	1.00
Corn and Wheat Phosphate 1916	0.82	8.50	0.50	8.00	1.00
Wheat and Clover Fertilizer	0.82	10.50	0.50	10.00	1.00
Best Grain Grower 1916	1.65	10.50	0.50	10.00	1.00
B D Sea Fowl Guano 1916	2.06	8.50	0.50	8.00	1.00
Old Reliable 1916	1.65	8.50	0.50	8.00	1.00
Pure Raw Bone Meal	3.29	20.00	.....	.....	.....
Special Bone Meal	1.65	20.00	.....	.....	.....
Empire Brands					
Dissolved Bone .....	.....	14.50	0.50	14.00	.....
16 Per Cent. Phosphate .....	.....	16.50	0.50	16.00	.....
Economy Mixture	0.82	10.50	0.50	10.00	.....
Steam Bone Substitute	1.65	10.50	0.50	10.00	.....
Nitrophos	1.65	12.50	0.50	12.00	.....
Complete Manure	0.82	7.50	0.50	7.00	1.00
Bone Black Fertilizer No. 2	2.06	8.50	0.50	8.00	.....
Wheat and Clover 1916	0.82	8.50	0.50	8.00	1.00
Farmers' Favorite	0.82	10.50	0.50	10.00	1.00
Middle West Grain Grower 1916	1.65	10.50	0.50	10.00	1.00
Bone Black Fertilizer 1916	2.06	8.50	0.50	8.00	1.00
Crop Grower 1916	1.65	8.50	0.50	8.00	1.00
Pure Raw Bone Meal	3.29	20.00	.....	.....	.....
Special Bone Meal	1.65	20.00	.....	.....	.....
Horse Shoe Brands					
Square Deal Phosphate .....	.....	14.50	0.50	14.00	.....
Economy Phosphate .....	.....	16.50	0.50	16.00	.....
Thinland Special	0.82	10.50	0.50	10.00	.....
Soil Builder	1.65	10.50	0.50	10.00	.....
War Brand	1.65	12.50	0.50	12.00	.....
National Bone Dust No. 2	2.06	8.50	0.50	8.00	.....
Animal Bone Manure	0.82	7.50	0.50	7.00	1.00
Reliable Wheat Grower 1916	0.82	8.50	0.50	8.00	1.00
Acidulated Bone and Potash	0.82	10.50	0.50	10.00	1.00
Pioneer Grain Grower 1916	1.65	10.50	0.50	10.00	1.00
National Bone Dust 1916	2.06	8.50	0.50	8.00	1.00
Corn and Wheat Grower 1916	1.65	8.50	0.50	8.00	1.00
Special Tomato Grower 1918	1.65	8.50	0.50	8.00	1.00
Pure Raw Bone Meal	3.29	20.00	.....	.....	.....
Special Bone Meal	1.65	20.00	.....	.....	.....

TABLE 7.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI: 1918

Fertilizer	Nitro- gen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total	Insol- uble	Avail- able	
Armour Fertilizer Works, Chicago, Ill.,					
Armour Brands					
Special Grain Grower	1.65	8.50	0.50	8.00	1.00
Ammoniated Phosphate	1.65	10.50	0.50	10.00	.....
Ammoniated Phosphate Special	0.82	12.50	0.50	12.00	.....
1-12-1 Fertilizer	0.82	12.50	0.50	12.00	1.00
New Record Brand	0.82	10.50	0.50	10.00	1.00
Wheat, Corn and Oats Special	0.82	8.50	0.50	8.00	1.00
Phosphate and Potash Special .....	.....	10.50	0.50	10.00	1.00
16 Per Cent. Acid Phosphate .....	.....	16.50	0.50	16.00	.....
Star Phosphate .....	.....	14.50	0.50	14.00	.....
Cereal .....	.....	10.50	0.50	10.00	.....
Bone Meal	2.47	24.00	.....	.....	.....
Tuscarora Brands					
New Standard Fertilizer	1.65	8.50	0.50	8.00	1.00
Ammoniated Phosphate	1.65	10.50	0.50	10.00	.....
New Ammoniated Phosphate	0.82	12.50	0.50	12.00	.....
1-12-1 Fertilizer	0.82	12.50	0.50	12.00	1.00
Grain Grower	0.82	10.50	0.50	10.00	1.00
Wheat, Corn and Oats Special	0.82	8.50	0.50	8.00	1.00
Special Phosphate and Potash .....	.....	10.50	0.50	10.00	1.00
16 Per Cent. Acid Phosphate .....	.....	16.50	0.50	16.00	.....
14 Per Cent. Acid Phosphate .....	.....	14.50	0.50	14.00	.....
Bone Meal	2.47	24.00	.....	.....	.....
Cochrane Packing Co., Kansas City, Kansas,					
Cochrane's Brands					
Champion Grain Grower	1.65	11.00	1.00	10.00	1.00
Corn and Wheat Grower	1.00	9.00	1.00	8.00	1.25
Special Pure Bone Meal, Tankage, and Potash	1.25	14.00	.....	.....	1.00
Special Wheat Grower	0.41	11.00	1.00	10.00	2.00
Pulverized Sheep Guano	2.00	3.00	1.00	2.00	1.00
Commercial Fertilizer Co., North Little Rock, Arkansas,					
Commercial Brands					
Special Wheat Grower, Grade A.....	1.00	12.00	2.00	10.00	3.00
Special Wheat Grower, Grade B.....	1.00	9.00	2.00	7.00	1.00
Special Corn Grower, Grade A	2.00	9.00	1.00	8.00	3.00
Special Corn Grower, Grade B.....	1.65	10.00	2.00	8.00	2.00
Special Grain Grower	1.65	12.00	2.00	10.00	2.00
Special Berry and Fruit Grower	1.65	11.00	1.00	10.00	6.00
Complete Fertilizer	1.65	10.00	2.00	8.00	2.00
Special Truck Grower, Grade A	3.25	10.00	2.00	8.00	5.00
Special Truck Grower, Grade B	2.00	9.00	1.00	8.00	3.00
Bone and Potash	1.00	8.00	1.00	7.00	1.00
All Crop Fertilizer	0.82	.....	.....	7.00	0.50
Farmers' Friend	0.82	.....	.....	10.00	.....
Square Deal	0.82	10.00	2.00	8.00	.....
"Crop Getter"	1.65	.....	.....	8.00	0.50
Black Ammoniated Phosphate	2.00	.....	.....	8.00	.....

TABLE 7.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI: 1918

Fertilizer	Nitro- gen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total	Insol- uble	Avail- able	
Acid Phosphate				14.00	
Acid Phosphate				16.00	
Raw Bone Meal	3.25	20.00			
Commercial Bone Meal	3.00	18.00			
Steamed Bone Meal	0.82	29.00			
Phosphate Bone Meal, Grade A.....	1.65	20.00			
Phosphate Bone Meal, Grade B.....	0.82	25.00			
Nitrate of Soda	13.00				
Southwest Complete Fertilizer	0.82	15.00			1.00
Darling and Co., Chicago, Ill.					
Darling's Brands					
Farmers' Favorite	2.40	10.00	2.00	8.00	1.00
Big Harvest	1.60	14.00	2.00	12.00	1.00
Sure Winner	0.80	12.00	2.00	10.00	0.50
Grain Grower	0.80	11.00	2.00	9.00	1.00
General Crop	1.60	14.00	2.00	12.00	
Half and Half	0.80	23.00	11.00	12.00	
Little Giant	0.80	12.00	2.00	10.00	
One-Eight-Two	0.80	10.00	2.00	8.00	2.00
16 Per Cent. Acid Phosphate				16.00	
Pure Ground Bone	1.80	28.00			
Ground Raw Bone	3.70	22.00			
Blood and Bone	4.94	12.00			
Nitrate of Soda	14.80				
Sheep Manure	2.1	1.00			1.00
Empire Guano Co., Nashville, Tenn.					
Premium Formula	0.41	18.00	5.00	13.00	
High Grade Grain Grower	0.82	17.00	4.00	13.00	
Red Banner Favorite	1.65	16.00	4.00	12.00	
Wheat, Oat and Corn Grower	0.82	17.00	10.00	7.00	1.00
Clover and Wheat Special	0.82	15.00	3.00	12.00	1.00
Missouri Grain Grower	0.41	15.00	3.00	12.00	1.00
Corn and Wheat Special	0.41	13.00	4.00	9.00	2.00
Climax Grain Grower	1.65	13.00	4.00	9.00	1.00
Climax Cotton Grower	1.65	13.00	4.00	9.00	1.00
Soluble Bone Guano	0.82	12.00	4.00	8.00	2.00
Blood, Bone and Potash	1.65	12.00	4.00	8.00	2.00
Climax Potash Mixture		15.00	4.00	11.00	1.00
Climax Half and Half	1.65	17.00	10.00	7.00	1.00
Climax Bone Meal Mixture	1.65	17.00	10.00	7.00	
Pure Raw Bone Meal	3.70	21.00			
Climax Phosphate		20.00	10.00	10.00	
High Grade Phosphate		18.00	4.00	14.00	
Premium Phosphate		18.00	2.00	16.00	
Federal Chemical Co., Louisville, Ky.					
Daybreak Tennessee Brown Phosphate Rock			32.00		

TABLE 7.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI: 1918

Fertilizer	Nitrogen	Phosphoric Acid (P ₂ O ₆)			Potash (K ₂ O)
		Total	Insoluble	Available	
Gate City Fertilizer Co., Texarkana, Ark.,					
Red Ball Brands					
Acid Phosphate				14.00	
Acidulated Bone	0.82	11.00	1.00	10.00	1.00
Complete Fertilizer	1.65	11.00	1.00	10.00	1.00
Complete Fertilizer 1916	1.65	11.50	1.00	10.50	0.50
Corn Fertilizer	2.00	11.00	1.00	10.00	3.00
Diversified Croppers' Fertilizer	1.65	11.00	1.00	10.00	2.00
Diversified Croppers' 1916	1.65	12.60	1.00	11.60	0.40
Early Trucker	2.50	9.00	1.00	8.00	4.00
Early Trucker 1916	2.50	12.50	1.00	11.50	0.50
Extra Acid Phosphate				16.00	
Four States' Standard	1.65	9.50	1.00	8.50	2.50
Four States' Standard 1916	1.65	11.50	1.00	10.50	0.50
National Corn Grower	0.82	9.00	1.00	8.00	2.00
National Wheat Grower	0.82	9.00	1.00	8.00	1.00
"Old Time" Vegetable Grower	2.00	8.00	0.50	7.50	3.00
"Old Time" Vegetable Grower 1916	2.00	11.10	1.00	10.10	0.40
Phosphate and Potash				11.00	3.00
Potash-Acid				11.50	4.00
Raw Bone Fertilizer	3.30	20.00			
Raw Bone and Potash Fertilizer.....	2.50	18.00			2.00
Soluble Bone Fertilizer	1.65	9.00	1.00	8.00	2.00
Southern Corn Grower	1.65	9.00	1.00	8.00	3.00
Southern Corn Grower 1916	1.65	11.60	1.00	10.60	0.40
Stamed Bone	0.82	29.00			
Western Complete Fertilizer	0.82	15.00			1.00
Wheat Grower	0.82	11.00	1.00	10.00	2.00
Morris and Co., Chicago, Ill.					
Big Brands					
Big One—Ground Raw Bone	3.30	24.00			
Big Two—Pure Bone Meal	2.00	28.00			
Special Big Three	0.41	13.00	2.00	11.00	3.00
Special Big Four—Half and Half....	0.41	18.00	5.00	13.00	
Big Five—Bone, Tankage and Potash	2.50	10.00	3.00	7.00	1.00
Special Big Six—Bone Meal and Potash	0.41	16.00			1.00
Special Big Seven—Bone Meal	0.82	22.00			
Big Eight—Phosphate and Potash....	0.82	8.00	1.00	7.00	1.00
Special Big Nine—Manure and Potash	0.41	13.00	2.00	11.00	1.00
Big Ten—Manure and Potash	1.65	10.00	2.00	8.00	2.00
Special Big Eleven—Phosphated Manure	0.82	11.00	1.00	10.00	
Special Big Twelve—Phosphated Manure	1.65	14.00	2.00	12.00	
Pulverized Manure Co., Chicago, Ill.,					
Wizard Brand Manure	1.80			1.00	1.00
Wizard Brand Phosphated Manure....	0.82			9.00	1.00

TABLE 7.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI: 1918

Fertilizer	Nitrogen	Phosphoric Acid (P_2O_5)			Potash (K_2O)
		Total	Insoluble	Available	
Read Phosphate Co., Nashville, Tenn.					
Challenge Formula	0.41	18.00	5.00	13.00	.....
High Grade Grain Special	0.82	17.00	4.00	13.00	.....
Corn, Wheat and Oat Grower	0.82	17.00	10.00	7.00	1.00
Wheat and Clover Grower	0.82	15.00	3.00	12.00	1.00
Missouri Grain Special	0.41	15.00	3.00	12.00	1.00
Wheat and Corn Grower	0.41	13.00	4.00	9.00	2.00
Soluble Bone	0.82	12.00	4.00	8.00	2.00
Standard Grain Manure	1.65	13.00	4.00	9.00	1.00
Standard Cotton Grower	1.65	13.00	4.00	9.00	1.00
Blood and Bone No. 1	1.65	12.00	4.00	8.00	2.00
Read's Special Formula	1.65	16.00	4.00	12.00	.....
Standard Potash Acid .....	.....	15.00	4.00	11.00	1.00
Pure Raw Bone Meal	3.70	21.00	.....	.....	.....
Half and Half	1.65	17.00	10.00	7.00	1.00
Bone Meal Mixture	1.65	17.00	10.00	7.00	.....
50-50 Phosphate .....	.....	20.00	10.00	10.00	.....
High Grade Phosphate .....	.....	18.00	4.00	14.00	.....
Special High Grade Phosphate .....	.....	18.00	2.00	16.00	.....
Sterling Fertilizer Co., Chicago, Ill.,					
Sterling Brands					
Harvest King	2.4	10.00	2.00	8.00	1.00
Wonder Yield	1.6	14.00	2.00	12.00	1.00
Special Grain Grower	0.8	11.00	2.00	9.00	1.00
Universal	1.6	14.00	2.00	12.00	.....
Golden Harvest	0.8	12.00	2.00	10.00	0.50
16 Per Cent. Acid Phosphate .....	.....	.....	.....	16.00	.....
Pure Bone Meal	1.8	28.00	.....	.....	.....
Raw Bone Meal	3.7	22.00	.....	.....	.....
Half and Half	0.8	23.00	11.00	12.00	.....
One-Eight-Two	0.8	10.00	2.00	8.00	2.00
Little Giant	0.8	12.00	2.00	10.00	.....
Swift and Co., East St. Louis, Ill.,					
Swift's Brands					
Diamond "W" Tomato and Veg.					
Grower	1.65	9.00	1.00	8.00	3.00
Champion Wheat and Corn Grower	1.65	13.00	1.00	12.00	2.00
Special Grain Fertilizer	1.65	11.00	1.00	10.00	2.00
Superphosphate	1.65	9.00	1.00	8.00	2.00
Special Grain and Grass Grower	1.65	11.00	1.00	10.00	1.50
Truck Fertilizer	2.47	9.00	1.00	8.00	1.00
Diamond "M" Grain Grower	1.65	12.00	1.00	11.00	1.00
Tomato and Vegetable Fertilizer	2.47	9.00	1.00	8.00	0.50
Red Steer Grain Grower	1.65	10.00	1.00	9.00	1.00
Tomato Grower	1.65	9.00	1.00	8.00	1.00
Special Superphosphate	1.65	9.00	1.00	8.00	1.00
Ammoniated Bone Phosphate and Potash					
.....	1.65	11.00	1.00	10.00	0.50
Diamond "K" Grain Grower	0.82	12.50	0.50	12.00	1.00
Blood and Phosphate	1.65	13.00	1.00	12.00	.....
Complete Fertilizer	0.82	8.50	0.50	8.00	1.00

TABLE 7.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI: 1918

Fertilizer	Nitro- gen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total	Insol- uble	Avail- able	
Diamond "L" Grain Grower	1.65	10.00	1.00	9.00	.....
Tankage and Bone Phosphate	0.82	12.50	0.50	12.00	.....
Ammoniated Bone Phosphate	0.82	10.50	0.50	10.00	.....
Corn and Oats Special	1.65	11.00	1.00	10.00	.....
Diamond "O" Tomato Grower	1.65	10.00	1.00	9.00	.....
Pulverized Sheep Manure	1.65	1.00	.....	.....	1.50
High Grade Acid Phosphate .....	.....	.....	.....	16.00	.....
Garden City Phosphate .....	.....	.....	.....	14.00	.....
Raw Bone Meal Fertilizer	3.75	23.00	.....	.....	.....
Ground Beef Bone Fertilizer	2.06	27.00	.....	.....	.....
Bone Meal Fertilizer	2.47	24.00	.....	.....	.....
1 1/2-30 Bone Meal Fertilizer.....	1.23	30.00	.....	.....	.....
1 1/2-20 Bone Meal Fertilizer	1.23	20.00	.....	.....	.....
Pioneer Brands					
No. 1 Grain Grower	1.65	10.00	1.00	9.00	1.00
No. 2 Grain Grower	0.82	12.50	0.50	12.00	1.00
No. 3 Grain Grower	1.65	12.00	1.00	11.00	1.00
Wheat and Corn Grower	1.65	11.00	1.00	10.00	2.00
General Crop Grower	1.65	9.00	1.00	8.00	2.00
1-8-1 Brand	0.82	8.50	0.50	8.00	1.00
2-8-1 Brand	1.65	9.00	1.00	8.00	1.00
1-12-0 Brand	0.82	12.50	0.50	12.00	.....
1-10-0 Brand	0.82	10.50	0.50	10.00	.....
2-12-0 Brand	1.65	13.00	1.00	12.00	.....
Special Grain and Grass Grower	1.65	11.00	1.00	10.00	1.50
Garden City Phos. ....	.....	.....	.....	14.00	.....
High Grade Acid Phosphate .....	.....	.....	.....	16.00	.....
Raw Bone Meal Fertilizer	3.75	23.00	.....	.....	.....
Bone Meal Fertilizer	2.47	24.00	.....	.....	.....
Ground Beef Bone Fertilizer	2.06	27.00	.....	.....	.....
1 1/2-30 Bone Meal Fertilizer	1.23	30.00	.....	.....	.....
1 1/2-20 Bone Meal Fertilizer	1.23	20.00	.....	.....	.....
Tennessee Chemical Co., Chicago, Ill.,					
Ox Brands					
New Grain Grower	1.65	8.50	0.50	8.00	1.00
Ammoniated Phosphate	1.65	10.50	0.50	10.00	.....
New Ammoniated Phosphate	0.82	12.50	0.50	12.00	.....
1-12-1 Fertilizer	0.82	12.50	0.50	12.00	1.00
Ammoniated Phosphate and Potash	0.82	10.50	0.50	10.00	1.00
Wheat, Corn and Oats Fertilizer.....	0.82	8.50	0.50	8.00	1.00
New Phosphate and Potash .....	.....	10.50	0.50	10.00	1.00
16 Per Cent. Acid Phosphate .....	.....	16.50	0.50	16.00	.....
14 Per Cent. Acid Phosphate .....	.....	14.50	0.50	14.00	.....
12 Per Cent. Acid Phosphate .....	.....	12.50	0.50	12.00	.....
10 Per Cent. Acid Phosphate .....	.....	10.50	0.50	10.00	.....
Bone Meal	2.47	24.00	.....	.....	.....
United Chemical And Organic Products Co., Chicago, Ill.,					
Special Corn Fertilizer	0.60	9.00	1.00	8.00	.....
Hummer Wheat Grower	0.82	11.00	1.00	10.00	0.50
Bone Phosphate and Potash Mixture	0.40	11.00	1.00	10.00	1.00
Bone Grain Grower	0.40	13.00	1.00	12.00	.....

TABLE 7.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI: 1918

Fertilizer	Nitro- gen	Phosphoric Acid (P_2O_5)			Potash (K_2O)
		Total	Insol- uble	Avail- able	
Corn and Wheat Grower	0.82	11.00	1.00	10.00	.....
Acid Phosphate .....	.....	15.00	1.00	14.00	.....
Special Pure Bone Meal	0.82	29.77	15.77	12.00	.....
Pure Raw Bone Meal	3.77	20.00	14.00	6.00	.....
Virginia-Carolina Chemical Co., of Delaware, Memphis, Tennessee					
Good as Gold Sandard Guano	0.82	.....	.....	12.00	1.00
Good Luck Guano	0.82	.....	.....	8.00	1.00
Champion Corn and Wheat Grower	0.82	.....	.....	9.00	1.00
Owl Brand Ammoniated Bone	0.82	.....	.....	10.00	1.00
Scotts State Standard Guano	1.65	.....	.....	9.00	1.00
Game Cock High Grade Guano	1.65	.....	.....	10.00	1.00
Beef Blood and Bone Fertilizer BBB	1.65	.....	.....	8.00	2.00
Royal High Grade Guano	1.65	.....	.....	10.00	2.00
Eureka High Grade Guano	2.47	.....	.....	9.00	3.00
Memphis Truck Special	3.30	.....	.....	8.00	3.00
Progressive Farmer Compound	4.94	.....	.....	7.00	1.00
Crescent Complete Fertilizer	1.65	.....	.....	12.00	.....
Victor Ammoniated Superphosphate	1.65	.....	.....	11.00	.....
Capital Ammoniated Superphosphate	1.65	.....	.....	10.00	.....
Scotts Potasso Phospho .....	.....	.....	.....	12.00	2.00
Victor Bone and Potash Compound	.....	.....	.....	15.00	3.00
Monarch Bone and Potash Compound	.....	.....	.....	15.00	2.00
Capital Bone and Potash Compound	.....	.....	.....	10.00	2.00
Black Diamond Bone and Potash .....	.....	.....	.....	10.00	1.00
Royal Bone and Potash Compound	.....	.....	.....	12.00	1.00
V. C. Champion Superphosphate .....	.....	.....	.....	18.00	.....
Victor High Grade Superphosphate	.....	.....	.....	16.00	.....
Virginia-Carolina Superphosphate .....	.....	.....	.....	16.00	.....
Victor High Grade Ac'd Phosphate	.....	.....	.....	14.00	.....
I. X. L. Acid Phosphate .....	.....	.....	.....	12.00	.....
National Ammoniated Superphosphate	0.82	.....	.....	10.00	.....
Ground An'mal Bone	3.30	20.00	.....	.....	.....

FINANCIAL STATEMENT

MISSOURI AGRICULTURAL EXPERIMENT STATION

in account with

FERTILIZER CONTROL FUND

For Year 1917	Dr.	Cr.
RECEIPTS		
January 1, 1917, Balance on hand	\$3,054.94	.....
Receipts from sales of tags, 1917	27,892.12	.....
EXPENDITURES		
Salaries	\$3,770.53
Labor	5,008.26
Publications	560.41
Postage and stationery	1,274.59
Freight and express	360.21
Heat, light, and water	196.31
Chemical supplies	1,047.38
Seeds, plants and sundry supplies	557.38
Fertilizers	2.50
Library	14.50
Feeding stuffs	1,303.14
Tools, implements, and machinery	134.35
Furniture and fixtures	104.78
Contingent	5.00
Scientific apparatus	224.16
Live Stock
Traveling expenses	712.37
Buildings and repairs	455.68
Total Expenditures	15,731.55
Balance on hand Dec. 31, 1917	15,215.51
	30,947.06	30,947.06