

UNIVERSITY OF MISSOURI COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION

E. A. TROWBRIDGE, *Director*

Fertilizer Inspection, Analysis and Use; 1945

E. A. TROWBRIDGE, *Director*
L. D. HAIGH AND E. W. COWAN, *Chemists*

COLUMBIA, MISSOURI

FERTILIZER CONTROL FUND

Financial Report

For the year ended December 31, 1945

Balance January 1, 1945		\$38,645.22
Receipts:		
Receipts from the sale of Tags	\$45,788.32	
Disbursements:		
Personal Service	\$13,160.49	
Travel	1,438.58	
Transportation of Things	86.70	
Communications	563.98	
Rents and Utility Service	117.30	
Printing and Binding	4,230.21	
Other Contractual Service	2,774.96	
Supplies and Materials	4,780.98	
Equipment	1,919.33	
Land and Structures	284.10	29,356.63
Excess Receipts		16,431.69
Balance December 31, 1945		\$55,076.91

Fertilizer Inspection, Analysis and Use; 1945

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War conditions continued to stimulate the use of fertilizer, and the total tonnage increased from 120,937 tons in 1944 to nearly 135,000 tons in 1945. The shortage of food supplies for both man and farm stock is worldwide and will continue therefore to maintain and even increase fertilizer usage for some time to come. With the cessation of war activities, factors of readjustment to peace conditions continue to limit the production and distribution of fertilizer as with all commercial commodities. Farmers should be planning for their fertilizer needs well in advance of the sowing season to insure a sufficient supply being available for their use. The trade is still calling for the grades of mixed fertilizer established during the war period, which were chosen in the interest of efficiency, economy of production, and handling. The list of these grades was published in Bulletin 493, covering the report on fertilizer inspection for 1944. The list of fertilizer grades offered for sale in 1946 by the registered companies will be found on pages 40 to 45 of this report.

INSPECTION

The inspection travel in 1945 reached 215 towns and communities in the state, covering in both spring and fall a total of 5374 miles. On these trips 368 dealers, handlers, and users were contacted and a total of 679 samples were collected for analysis.

THE MISSOURI FERTILIZER LAW

Since the quality of fertilizer cannot be judged by the user from its physical qualities and appearance, laws have been framed which require the producer to indicate its value by stating its plant food content. The manufacturer is required to register the product, to label the container, and attach a registration tag to each package. The state laboratories then sample and analyze the registered, labeled, and tagged material for the benefit of the consumer. It is highly important then that every buyer purchase only materials which are registered, labeled, and tagged as the law requires. Only in this way can he be assured of getting what he has paid for. Table 4 in this report lists

the brands registered for sale in 1946. This list should be the guide for all buyers.

A number of discrepancies on the part of both manufacturers and dealers in carrying out the provisions of the fertilizer law, were found by the inspectors. Labor problems, delays in obtaining supplies, and transportation troubles all contributed to increase the number of violations found throughout the state. These factors explain the unusual conditions found but in no way excuse operators from their responsibility in obeying the law. With the return of industrial conditions to a more normal commercial activity, we shall expect a better showing in meeting these legal provisions in the sale of fertilizer.

Fertilizer stocks throughout the state have been examined by the inspectors to ascertain if these have been registered, properly labeled, and are carrying registration stamps or tags of the proper kind for the package in question. The facts found are listed in the following paragraphs:

Violations with Respect to Registration:—Following are the found cases of brands supplied by the manufacturer before a registration had been filed with the Missouri Agricultural Experiment Station:—

American Agricultural Chemical Company sold 45 per cent Superphosphate to Farmers Equity Exchange, Bowling Green.

Armour Fertilizer Works had sold Big Crop 0-9-27 to E. P. Coleman and Company, Sikeston, Big Crop 0-20-20 fertilizer to R. M. Hart of Holcomb; 22 per cent Manure Salt to Jonesway Gin Company, Kennett; 25 per cent Manure Salts to Clay County Cotton Company, Neelyville; 50 per cent Muriate of Potash to Hall Gin Company, Cardwell, to Edmondson and Son, Hornersville, and to Jonesway Gin, Kennett; and 45 per cent Superphosphate to Schulte's Feed Store, Argyle.

Comfort Manufacturing Company, Chicago, supplied Craig's Liquid Plant Food to S. S. Kresge Company stores at St. Louis and St. Joseph.

Economy Nursery Company, Little Silver, New Jersey, had sold Balanced Rose Food to McCrory's 5 and 10 cent store, St. Louis.

Federal Chemical Company had sold 10-6-9 fertilizer to Chas. Lemon, New London, and H. Verfurth, Billings.

International Minerals and Chemical Corporation had sold 50 per cent and 60 per cent Muriate of Potash to Kennett Grain and Seed Company, Kennett.

Lange Brothers sold 45 per cent Superphosphate to Perry County Cooperative Association, Perryville.

Kemical Corporation sold Kem Liquid Plant Food to S. S. Kresge Store, St. Louis.

Missouri Chemical Company sold 25 per cent Manure Salts to M. F. A. Central Cooperative, Lancaster.

Temple Cotton Oil Company sold Quapaw 6-8-8 to Bertrand Cotton Company, Bertrand.

Virginia Carolina Chemical Corporation sold Victory Garden Fertilizer 4-12-4 carrying registration tags 1945 on part of stock to Central Feed Company, Springfield.

Violations with Respect to Labeling:—Armour Fertilizer Works shipped 25 per cent Manure Salts to Clay County Cotton Company and Muriate of Potash to Hall Gin Company, Cardwell; Edmondson and Son, Hornersville; Frisbie Gin Company, Holcomb; Jonesway Gin Company, Kennett. No labels were attached to the bags of these shipments. Five sacks of Armour's Blood Bone and Tankage at the warehouse of St. Louis Seed Company did not carry labels showing guaranteed analysis.

Lipscomb Grain and Seed Company, Irwin, had resacked Big Crop 2-12-6 fertilizer in new labeled sacks reading 16 and 20 per cent Superphosphate.

A supply of forty sacks Cudahy's Steam Bone Meal sold to Bartels and Shores, Kansas City, carried tag labels reading 125 lbs. The contents of these sacks weighed 100 lbs. They were sold as 100 lbs. by Bartels and Shores.

Violations with Respect to Registration Tags:—The following stocks of fertilizer did not have the registration tags attached to the sacks when inspected: Twelve sacks of Agrico for Top Dressing at the warehouse of T. R. Legg, Monticello; 10 sacks of Big Crop 4-12-4 at Paul Peabody, Bowling Green; 550 sacks of Big Crop 2-12-6, Richards Brothers, Mansfield; 500 Big Crop 4-12-4 at R. R. Carter Elevator Company, Jasper; 150 sacks 20 per cent Superphosphate, 50 sacks of Big Crop 2-12-6, and 25 sacks of Big Crop 20 per cent Superphosphate at H. L. Emery, Milo; 75 sacks of Big Crop 0-14-7 at Thomas Schoonover, Osceola; 45 sacks of Big Crop 3-9-18 at Oliver Feed Store, Fulton; 200 sacks of Big Crop 2-12-6 and 20 per cent Superphosphate at the Prairie Milling Company, Montgomery; 125 sacks of Big Crop 20 per cent Superphosphate at the Ralls County Farm Bureau Service Company, New London; 700 sacks of 50 per cent Muriate of Potash at Clay County Cotton Company, Neelyville; 160 sacks of Big Crop 3-9-18, and 60 sacks of Muriate of Potash at Frisbie Gin Company, Holcomb; 1000 sacks of Big Crop 20 per cent Superphosphate, and 20 sacks of Big Crop 0-9-27 at the E. P. Coleman

warehouse, Sikeston; 90 sacks of Big Crop 3-12-12, 16 sacks Big Crop 20 per cent Superphosphate, 40 sacks of Big Crop 4-12-4 at the warehouse of Lipscomb Grain and Seed Company, Irwin; 150 sacks of Big Crop 2-12-6 at the Callaway Implement Company, Nevada; 9 sacks of Big Crop 2-12-6 at Malone Feed Company, St. James; 4 sacks Ammonium Nitrate fertilizer at Bartels and Shores, Kansas City; 31 sacks of Big Crop 0-20-20, 50 sacks of Big Crop 0-10-20, 150 sacks of Big Crop 3-9-18 at the warehouse of R. M. Hart, Holcomb; 50 sacks of Big Crop 4-12-4 with Orvil Dickinson, Doniphan; 50 sacks of Armours Sheep Manure at Montgomery Ward and Company, Kansas City; 150 sacks of Big Crop 2-12-6, and 150 sacks of Big Crop 0-14-7 at the Farmers Exchange, Buffalo; 2 sacks Ammonium Nitrate Fertilizer at the Briggs Seed Store, Joplin. Four sacks Armour Victory Garden fertilizer at the Huntsville Feed and Elevator, Huntsville; 13 sacks Big Crop 2-12-6 and 12 sacks of Big Crop 20 per cent Superphosphate at the Walter Myers Feed Store, Excello; 5 sacks Armours Victory Garden Fertilizer at the store of Dewey Miller, Macon; 450 sacks of Big Crop 2-12-6 and 75 sacks of Big Crop 4-12-4 at Craig Bros., Memphis; 25 sacks of Big Crop 3-12-12, 275 sacks of Big Crop 4-12-4, and 600 sacks of Big Crop 0-14-7 at Kahoka Implement Company, Kahoka; 40 sacks of Big Crop 2-12-6 at West and Son, La Belle; ten 5-pound packages Armours Bone Meal at the Famous-Barr Store, St. Louis; 20 sacks of Big Crop 0-12-12, 15 sacks Armours Special Ornamental fertilizer, 25 sacks of Armours Florist Bone fertilizer, 30 sacks of Big Crop 4-12-4, 39 sacks of Armours Sheep Manure, 3 sacks of Big Crop 4-12-8, and 2 sacks of Ammonium Nitrate fertilizer at the Hummert Seed Company, St. Louis; 100 sacks of Armours Bone Meal in assorted size packages at Palmer Seed Co. store, St. Louis; 40 sacks Big Crop 20 per cent Superphosphate at Jackson Feed and Supply Company, Jackson; 200 sacks of Muriate of Potash, 23 sacks of Armours Special Ornamental fertilizer 6-12-4, 27 sacks of Big Crop 3-9-18 at the Hall Gin Company, Cardwell; 30 sacks of Big Crop 4-12-4, 500 sacks of Muriate of Potash at L. Edmondson and Son, Hornersville; 300 sacks of Big Crop 3-9-18, 40 sacks of Big Crop 0-10-20, 160 sacks of Big Crop 4-12-4, 50 sacks of Muriate of Potash 50 per cent at the Jonesway Gin Company, Kennett; 160 sacks of Big Crop 3-9-18, 75 sacks of Big Crop 0-10-20 at the Frisbie Gin Company, Holcomb; 10 sacks of Ammonium Nitrate fertilizer at Palmer Seed Company, St. Louis.

One-hundred sacks Darlings 0-14-7, 150 sacks Darlings 2-12-6 at the Greene Co. Farmers Sales Association, Springfield; 80 sacks Darlings 2-12-6 at Cooperative Association, Queen City; 150 sacks Dar-

lings 2-12-6, and 25 sacks of Darlings 3-12-12 at the M. F. A. Central Cooperative, Kahoka; 75 sacks Darlings 0-14-7 and 50 sacks of Darlings 2-12-6 at the Farmers Exchange, Lewistown. Fifteen sacks Darlings 3-9-18 at the store of T. A. Ahearn, Novelty; 30 sacks Darlings 18 per cent Superphosphate at the Farmers Exchange, Shelbyville; 140 sacks Darlings 18 per cent Superphosphate at the Farmers Exchange, Mansfield; 73 sacks Darlings 2-12-6 Farmers Exchange, Ozark; 15 sacks Darlings Field Marshall 4-12-4 at the Farmers Exchange, Lewistown; 12 sacks Darlings 0-14-7 at the Farmers Exchange, Novinger; 19 sacks of Darlings 4-12-4 at the Farmers Exchange, Niangua; 225 sacks of Darlings 0-10-20, and 20 sacks of Darlings 0-9-27 at Worley Implement Company, Dexter; 140 sacks Darlings 0-12-12 and 30 sacks of Darlings 3-9-18 at the Farmers Elevator, Vandalia; 10 sacks Darlings 20 per cent Superphosphate at M. F. A. Cooperative, Springfield.

Eight sacks of Uramon fertilizer sold to D. B. Bell and Son, Kansas City and 20 sacks by By-Product Nitrate of Soda, sold to Springfield Seed Company by Pearson-Ferguson Chemical Company, Kansas City.

Fifty sacks of V. C. Victory Garden fertilizer 4-12-4 at Central Feed Company store, Springfield, and 5 sacks Nitrate of Soda at Haubein Hardware Company, Lockwood, sold by Virginia Carolina Chemical Corporation.

New Plant Life in 4 ounce and 8 ounce bottles at the Kresge Store, Kansas City; 65 sacks Quapaw 3-9-18 at E. P. Coleman and Company, Sikeston.

Two-hundred sacks of Ruhm's Phosphate Rock at the warehouse of the Dunklin County Farm Bureau Service Company; Ovene fertilizer in 2 ounce and 7 ounce packages at Kresge Stores, Kansas City and St. Joseph. Twenty sacks of Anaconda 20 per cent Superphosphate at the Central Cooperative, Versailles.

Twenty sacks Loma 5-10-5 at St. Louis Seed Company; 8 ounce bottles of Craigs Liquid Plant Food at Kresge stores, St. Louis, and St. Joseph.

One-hundred sacks of Federal 0-10-20 at the warehouse of S. E. Missouri Farm Bureau Service Company, Sikeston; 45 sacks Federal 20 per cent uperphosphate at the Ralls County Farm Bureau Service Co., New London; 53 sacks of Federal 20 per cent Superphosphate and 300 sacks of Federal 2-12-6 at G. B. Beany and Sons, Sheldon.

Five-hundred sacks of 50 per cent Muriate of Potash and 600 sacks of 60 per cent Muriate of Potash at Kennett Grain and Seed Company, Kennett.

Twenty sacks of Red Steer 0-10-20 at Kennett Cotton Company; 700 sacks of Muriate of Potash at Clay County Cotton Company; at Neelyville; 30 sacks of Red Steer 4-12-4 at Orvil Dickinson store, Doniphan; Vigoro in 1 lb. packages at Emery, Bird and Thayer and Jones Store, Kansas City. One-hundred 100-lb. sacks Vigoro at Chesmore Seed Co., St. Joseph; 30 packages Vigoro tablets at Kresge Store, St. Joseph; 80 sacks Vigoro, in 25 and 50 lb. sacks, at Springfield Seed Company, Springfield.

Five and 10-pound packages Vigoro on counters of F. W. Woolworth and J. J. Newberry stores, Springfield, and Scotts Store and Kresge Store, Nevada; 175 sacks of Red Steer 2-12-6 and 120 sacks of Red Steer 3-12-12 at the store of Wiss and Wiss, Kahoka; 80 sacks of Red Steer 2-12-6 at Taylor Bros., Edina; 7 sacks Vigoro at Branson Canning Co., and 3 sacks of Vigoro at Farmers Exchange, Branson; 200 sacks Red Steer 2-12-6 at Sands Grocery, Cassville; 350 sacks Red Steer 0-14-7 at Norris Grain Company, Nevada; 1500 sacks Red Steer 3-9-18, 250 sacks Red Steer 4-12-4 and 27 sacks Vigoro at J. P. Ross Cotton Company, Essex; 20 sacks Red Steer 0-10-20 at the Kennett Cotton Company. Vigoro in 1 pound package at Kresge Store, St. Louis and Kansas City; 60 sacks of Red Steer 2-12-6 at Roy Harting Store, Bourbon; 20 sacks Red Steer 20 per cent Superphosphate and ten 25-lb. sacks Vigoro at the St. Louis Seed Company; cartons of Vigoro tablets at Stix Baer and Fuller, St. Louis, and at Kress' Store, Nevada; Vigoro in 10 lb. packages at Scruggs-Vandervoort-Barney Store, St. Louis; in 25 and 50 lb. sacks at Palmer Seed Company; in 1 lb. package at Hummert Seed Store and Palmer Seed Company, St. Louis; seven 100-pound sacks of Vigoro at Shelby Hardware Store, Charleston; and Vigoro Victory Garden fertilizer in 100 lb. sacks at Corneli Seed Co., St. Louis; 50 sacks of assorted sizes Vigoro shipped from Tennessee to Harley Hardware Company, Senath.

In the following cases registration tags for the state of Illinois were found in place of Missouri tags.

Sacks of 18 per cent Normal Superphosphate and Vigoro in 25 and 50 lb. sacks at the Farmers Equity Exchange, Bowling Green; six sacks of Agrico for Cereals 4-12-4 and a part of the supply of Big Crop 2-12-6 at the Henry Lamb Store, Hurdland, and at the Ralls County Farm Bureau Service Company, New London; 75 sacks of Big Crop 0-14-7 at the store of R. E. Larkin, Esther; 50 sacks of Big Crop 2-12-6 at the Schemel Feed Store, Perryville; 4 sacks of Nitraprills fertilizer supplied by Armour Fertilizer Works to Bartels and Shores, Kansas City; part of stock of 200 sacks of Big Crop 0-10-20 at the R. M. Hart Store, Holcomb; sacks of Armours Victory Garden

Fertilizer at Huntsville Mill and Elevator, Huntsville; sacks of Big Crop 10-6-4 and 3-12-12 at the Kahoka Implement Co., Kahoka; most of the 70 sacks of Big Crop 0-14-7 at the Farmers Produce Co., Shelbyville; many of the 75 sacks of Big Crop 2-12-6 at Fortuna; a part of the stock of 26 sacks of Big Crop 0-12-12 at Hummert Seed Company, St. Louis; part of 100 sacks of Big Crop 2-12-6 on hand at the O. E. Bollinger Store, Millersville; 80 sacks of Darling 2-12-6 at the Cooperative Association, Queen City; 90 sacks of Darling 3-12-12 and 15 sacks Darling 3-9-18 at the T. A. Ahearn Store, Novelty; 25 sacks of Darling 2-12-6 at the Farmers Exchange, Shelbyville; a part of the stock of 1500 sacks of Darling 2-12-6 at the Farmers Exchange, Strafford; part of the stock of Darling 0-9-27 at the Worley Implement Company, Dexter; 20 sacks of Lange Bros. 2-12-6 at the J. E. Osborn Store, Fredericktown; a part of the 190 sacks of Red Steer 2-12-6 at the store of Wiss and Wiss, Kahoka.

Kansas State tags were found on the following stocks: 25 sacks of Agrico for Grain 2-12-6 at Geo. B. Reynolds, Clifton Hill; 52 sacks of Big Crop 20 per cent Superphosphate at Craig Bros., Memphis; a part of the 120 sacks of Darlings 18 per cent Superphosphate at Farmers Elevator and Supply Company, Troy; Packages of Vigoro tablets at Kresge's Store, St. Joseph, and sacks of Anaconda 20 per cent Superphosphate at M. F. A. Central Cooperative, Versailles, carried Kansas sticker registration labels.

Several 100-pound sacks of Davco 19 per cent Superphosphate and Reads 0-14-7 and 2-12-6 at the Goode and Harriman store, Center-view, and the Farmers Exchange, Everton, carried registration tags for 10-50 lb. sacks.

ANALYSIS RESULTS—FERTILIZER SAMPLES; 1945

Tables 1, 2, and 3 are based upon the analytical results obtained on the fertilizer samples collected during the year. Table 2 summarizes the results running under the guarantee in comparison with the total results obtained for each plant food nutrient for the samples of each company. Table 1 summarizes by means of an index number the value of the plant food nutrient in each kind of fertilizer for each company taking into account both the overrun and shortage which may have been formed by analysis. The amount guaranteed is the basis, represented by the index figure of 100. Index figures of more than 100 represent excess values and those less than 100, deficient values. The average index figure for most of the individual companies, and also the average index figure for all companies together is greater than

100, namely, 104.9. Thus the excess value in certain samples clearly exceeds the total deficiency in others. This points toward an attempt of the companies to give full value in comparison with their guarantees.

Table 3 gives in detail the results of the analysis of the samples collected in the work of inspection in the spring of 1945 indicated by laboratory numbers 5-000; and in the fall of 1945 by the laboratory numbers 11-000.

At the end of each series of analyses of any one brand of any manufacturer, the average analysis and the guaranteed analysis of that brand is given for ready comparison. The constituent plant nutrients in the fertilizers, determined and reported here are total nitrogen, total phosphoric acid in bone, available phosphoric acid in superphosphates, mixed fertilizers and miscellaneous fertilizer materials not bone, and potash in mixed grades and simple materials. For nitrogen an additional determination is made to determine what percentage of the total amount present is water soluble. This is the important part of the nitrogen as long as this is two-thirds or more of the total. When the water soluble is less than two-thirds of the total, the remaining portion,—the water insoluble nitrogen—must show sufficient activity as an assimilable material to be rated as valuable to plant growth. This is determined by the permanganate laboratory treatments which in all cases have given satisfactory results for all fertilizer mixtures, on the samples collected.

As compared with mixed fertilizers which contain largely water soluble nitrogen, certain nitrogen carriers organic in nature contain smaller amounts of water soluble nitrogen. Such materials in this report may be recognized by the lower figure in the right hand nitrogen column. Some of these materials show active nitrogen as a fertilizer nutrient; others carry nitrogen comparatively inactive.

MISSOURI FERTILIZER SHIPMENTS; 1945

Fertilizer coming into Missouri through regular trade channels is indicated in Table 5a and 5b. Table 5a gives the total tonnage shipped into each county, in the spring and fall season of 1945, while Table 5b gives the tonnage classified by kinds in the two seasons. The basis of the first table is series of weekly reports from the fertilizer companies submitted through the shipping seasons; for the second table a summary report of the tonnage of all grades shipped is given by each fertilizer company at the close of each shipping season. The data of Table 5b is arranged in Table 6 to show the tonnage of plant

nutrients distributed throughout the state. In Table 7, the tonnage of each grade of superphosphate and fertilizer mixture is given for each season of the year.

Federal Distribution of Superphosphates:—In addition to the tonnage reported in the above tables, the federal agencies shipped in and distributed directly to fertilizer users, 11,840 tons of Superphosphate in the spring and 20,780 tons of Superphosphate in the fall. This brings the total shipments of fertilizer to 167,758.9 tons which were delivered in Missouri in 1945.

TABLE I.—SUMMARY OF AVERAGE VARIATIONS FROM MANUFACTURERS' GUARANTEE, 1945

Manufacturer	Superphosphate		No. samples	Mixed Fertilizer			No. samples	Miscellaneous Material incl. Bone		All Fertilizer No. samples	All Nutrients		
	No. Avail. samples	Avail. Phos. Acid		Nitrogen	Avail. Phos. Acid	Potash		Nitrogen	Total Phos. Acid from bone			Avail. Phos. Acid	Potash
	Index	Index	Index	Index	Index	Index	Index	Index	Index	Index	Index		
	No. of Found Value	No. of Found Value	No. of Found Value	No. of Found Value	No. of Found Value	No. of Found Value	No. of Found Value	No. of Found Value	No. of Found Value	No. of Found Value	No. of Found Value		
American Agri. Chem. Co.	12	106.7	52	101.1	109.0	106.2	0	....	....	....	....	64	107.1
Arkansas Fertilizer Co.	0	....	5	98.7	101.8	111.0	3	....	....	....	101.3	8	103.7
Armour Fertilizer Works	32	104.2	93	101.4	106.5	106.7	9	119.4	74.0	138.5	104.6	134	104.7
Ashcraft-Wilkinson Co.	0	....	0	....	....	....	3	100.6	....	....	....	3	100.6
Comfort Manufacturing Co.	0	....	2	105.3	135.5	128.8	0	....	....	....	....	2	113.7
Darling and Company	30	105.9	96	96.6	107.2	103.8	0	....	....	....	....	126	104.6
Davison Chemical Corp.	4	101.9	7	115.6	103.1	98.6	0	....	....	....	....	11	102.5
Excell Laboratories	0	....	2	127.0	155.0	117.8	0	....	....	....	....	2	128.9
Farm Bureau Coop. Assn.	3	105.6	14	112.5	104.4	105.0	0	....	....	....	....	17	105.4
Federal Chemical Co.	17	105.2	41	105.5	105.9	103.5	0	....	....	....	....	58	105.1
A. H. Hoffman, Inc.	0	....	1	147.5	113.8	108.0	5	105.8	113.1	202.3	115.3	6	119.8
International Minerals and Chemical Corp.	1	103.0	0	....	....	....	2	....	....	....	100.8	3	101.3
Lange Brothers	3	96.7	6	105.7	103.0	111.4	0	....	....	....	....	9	101.5
Missouri Chemical Co.	5	102.5	25	98.1	102.5	101.7	1	....	....	....	112.8	31	102.4
Pulverized Manure Co.	0	....	0	....	....	....	3	90.7	....	148.3	177.4	3	134.0
Sears, Roebuck and Co.	0	....	1	107.0	105.3	102.5	1	126.7	....	243.0	163.2	2	117.0
Sewerage Commission, Milwaukee	0	....	0	....	....	....	2	98.1	....	115.3	....	2	102.4
Standard Wholesale Phosphate & Acid Works ...	4	99.6	1	99.5	106.2	126.0	0	....	....	....	....	5	101.5
Stockdale Fertilizer Co.	0	....	0	....	....	....	3	107.0	....	133.7	133.2	3	122.8
Swift and Company	16	105.6	94	103.0	105.3	102.8	0	....	....	....	....	110	104.4
Tennessee Chemical Corp.	0	....	2	103.9	121.3	96.1	0	....	....	....	....	2	110.6
Virginia Carolina Chem. Corp. ...	23	109.7	41	104.9	104.3	101.2	0	....	....	....	....	64	106.5
Totals.....	150	105.3	483	102.3	105.8	104.2	32	102.3	90.0	152.1	105.5	665	104.9

TABLE 2.—SUMMARY OF TOTAL AND DEFICIENT FERTILIZER NUTRIENTS (1945 Samples)

Manufacturer	Nitrogen			Total Phosphoric Acid (from Bone)			Available Phosphoric Acid			Potash			All Analyses		
	Total		Deficient	Total		Deficient	Total		Deficient	Total		Deficient	Total		Deficient
	No.	%		No.	%		No.	%		No.	%		No.	%	
Allied Chemical and Dye Corp., (Barrett Div.)	1	0	...	0	0	...	0	0	...	0	0	...	1	0	...
American Cyanamid Co.	1	1	...	0	0	...	0	0	...	0	0	...	1	1	...
American Agricultural Chem. Co.	41	7	...	0	0	...	63	0	...	52	3	...	156	10	...
Anaconda Copper Mining Co.	0	0	...	0	0	...	1	0	...	0	0	...	1	0	...
Arkansas Fertilizer Co.	4	2	...	0	0	...	5	1	...	8	0	...	17	3	...
Armour Fertilizer Works	76	28	...	2	2	...	126	2	...	100	6	...	304	38	...
Ashcraft-Wilkinson Co.	3	0	...	0	0	...	0	0	...	0	0	...	3	0	...
Chilean Nitrate Sales Corporation	1	0	...	0	0	...	0	0	...	0	0	...	1	0	...
Comfort Mfg. Company	2	0	...	0	0	...	2	0	...	2	0	...	6	0	...
Cudahy Packing Co.	1	0	...	1	1	...	0	0	...	0	0	...	2	1	...
Darling and Company	74	27	...	0	0	...	126	3	...	94	13	...	294	43	...
Davison Chemical Corp.	5	0	...	0	0	...	11	0	...	7	3	...	23	3	...
Economy Nursery Co.	1	0	...	0	0	...	1	0	...	1	1	...	3	1	...
Excell Laboratories	2	0	...	0	0	...	2	0	...	2	0	...	3	1	...
Farm Bureau Cooperative Assn.	8	0	...	0	0	...	17	0	...	14	2	...	6	0	...
Federal Chemical Co.	37	4	...	0	0	...	60	1	...	43	2	...	39	2	...
J. Harris Manure Co.	1	1	...	0	0	...	1	0	...	1	1	...	140	7	...
A. H. Hoffman, Inc.	6	1	...	2	0	...	4	0	...	4	0	...	3	2	...
Hydroponic Chemical Co.	1	0	...	0	0	...	1	0	...	1	0	...	16	1	...
International Minerals and Chem. Corp.	0	0	...	0	0	...	1	0	...	1	0	...	3	0	...
Kemical Corporation	1	0	...	0	0	...	1	0	...	2	0	...	3	0	...
Lange Bros.	1	0	...	0	0	...	1	1	...	1	0	...	3	1	...
Missouri Chemical Co.	5	1	...	0	0	...	10	3	...	6	0	...	21	4	...
Plantabbs Co.	19	9	...	0	0	...	29	6	...	25	5	...	73	20	...
Pulverized Manure Co.	1	0	...	0	0	...	1	1	...	1	0	...	3	1	...
Sears, Roebuck and Co.	3	2	...	0	0	...	3	0	...	3	0	...	9	2	...
Sewerage Commission, Milwaukee	2	0	...	0	0	...	2	0	...	2	0	...	6	0	...
Standard Wholesale Phos. & Acid. Wks.	2	2	...	0	0	...	2	0	...	0	0	...	4	2	...
Stockdale Fertilizer Co.	1	1	...	0	0	...	5	2	...	1	0	...	7	3	...
Swift & Co.	3	0	...	0	0	...	3	0	...	2	0	...	8	0	...
Temple Cotton Oil Co.	82	14	...	0	0	...	111	5	...	95	11	...	288	30	...
Tennessee Chemical Corp.	1	0	...	0	0	...	1	0	...	1	0	...	3	0	...
Virginia-Carolina Chemical Corp.	2	0	...	0	0	...	2	0	...	2	2	...	6	2	...
	38	2	...	0	0	...	64	8	...	41	5	...	143	15	...
Totals	425	102	24.0	5	3	60.0	655	33	5.0	511	54	10.6	1596	192	12.0

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
Allied Chemical & Dye Corporation (Barrett Division) New York, N. Y.								
5-130	By-Product Nitrate of Soda ¹	Springfield Seed Co., Springfield	15.13	100.00	.....	.....	.....	.....
		Guaranteed Analysis	15.00	.....	.....	.....	.....	.....
American Agricultural Chemical Co. National Stock Yards, Ill. A.A. Brands								
5-2	18% Normal Superphosphate	Lipscomb Grain and Seed Co., Irwin	.....	.....	.....	1.28	19.32	.....
5-3	18% Normal Superphosphate	Baumgardner Produce Co., Poplar Bluff	.....	.....	.....	1.18	19.47	.....
5-4	18% Normal Superphosphate	Finch Produce Co., Doniphan	.....	.....	.....	1.25	19.55	.....
5-5	18% Normal Superphosphate	Flower City Hatchery, Palmyra	.....	.....	.....	0.88	19.42	.....
5-6	18% Normal Superphosphate	Farmers Equity Exchange, Bowling Green	.....	.....	.....	0.63	20.12	.....
5-7	18% Normal Superphosphate	Roy Jones, Clever	.....	.....	.....	0.57	19.98	.....
		Average Analysis	.....	.....	.....	0.97	19.64	.....
		Guaranteed Analysis	.....	.....	.....	.....	18.00	.....
11-1	18% Normal Superphosphate	Farmers Elevator & Supply Co., Hawk Point	.....	.....	.....	1.15	19.35	.....
11-2	18% Normal Superphosphate	Farmers Equity Exchange, Bowling Green	.....	.....	.....	0.80	19.30	.....
11-3	18% Normal Superphosphate	Farmers Elevator, Pilot Grove	.....	.....	.....	1.16	19.04	.....
11-4	18% Normal Superphosphate	Drexel Elevator & Merc. Co., Drexel	.....	.....	.....	1.16	19.04	.....
11-5	18% Normal Superphosphate	Burchfield Mill, Marshfield	.....	.....	.....	0.94	19.36	.....
		Average Analysis	.....	.....	.....	1.04	19.22	.....
		Guaranteed Analysis	.....	.....	.....	.....	18.00	.....
5-8	45% Superphosphate ¹	Farmers Equity Exchange, Bowling Green	.....	.....	.....	1.08	45.32	.....
		Guaranteed Analysis	.....	.....	.....	.....	45.00	.....
5-9	Quality Fertilizer 0-14-7.	Fred Lange, Sedalia	.....	.....	.....	0.70	14.93	7.60
5-10	Quality Fertilizer 0-14-7.	Elbert Green, Millersville	.....	.....	.....	0.77	15.21	7.56
5-11	Quality Fertilizer 0-14-7.	Finch Produce Co., Doniphan	.....	.....	.....	0.75	15.63	7.86
5-12	Quality Fertilizer 0-14-7.	Ralls County Farm Bureau Service Co., New London	.....	.....	.....	0.75	15.00	7.79
		Average Analysis	.....	.....	.....	0.74	15.19	7.70
		Guaranteed Analysis	.....	.....	.....	.....	14.00	7.00
11-6	Quality Fertilizer 0-14-7.	Lipscomb Grain & Seed Co., Irwin	.....	.....	.....	.....	14.33	7.76
		Guaranteed Analysis	.....	.....	.....	.....	14.00	7.00
11-7	Quality Fertilizer 2-12-6.	Farmers Equity Exchange, Bowling Green	2.04	84.3	.....	1.19	12.54	6.65
11-8	Quality Fertilizer 2-12-6 ⁴ .	T. R. Legg, Monticello	2.00	92.0	.....	0.85	12.95	6.64

¹Not determined, all water soluble.⁴Registration tags not attached.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES, 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble (to Total)	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
11-9	Quality Fertilizer	2-12-6. Farmers Elevator, Pilot Grove	2.18	90.8	....	1.25	13.33	6.46
11-10	Quality Fertilizer	2-12-6. Lipscomb Grain & Seed Co., Irwin	2.04	92.7	....	0.95	12.98	6.32
11-11	Quality Fertilizer	2-12-6. Farmers Grain & Supply Co., Golden City	1.92	85.9	....	0.63	13.07	5.77
11-12	Quality Fertilizer	2-12-6. Burchfield Mill, Marshfield	2.07	89.4	....	0.95	12.98	6.47
11-182	Quality Fertilizer	2-12-6. Huntsville Flour & Feed, Huntsville	2.15	92.6	....	1.32	13.03	6.35
		Average Analysis	2.06	89.7	....	1.02	12.93	6.38
		Guaranteed Analysis	2.00	....	....	....	12.00	6.00
5-13	Quality Fertilizer	4-12-4. Finch Produce Co., Doniphan	4.14	96.9	....	0.44	13.53	4.93
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
11-13	Quality Fertilizer	4-12-4. Farmers Elevator & Supply Co., Hawk Point	4.09	92.2	....	1.28	12.77	4.46
11-14	Quality Fertilizer	4-12-4. Lipscomb Grain & Seed Co., Irwin	4.23	89.4	....	0.72	12.58	4.27
11-15	Quality Fertilizer	4-12-4. Burchfield Mill, Marshfield	4.08	92.4	....	1.50	12.65	4.21
		Average Analysis	4.13	91.3	....	1.17	12.67	4.31
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
Agrico Brands								
5-14	Phosphate and Potash, 0-14-7	Baumgardner Produce Co., Poplar Bluff	....	....	....	0.80	15.38	7.44
5-15	Phosphate and Potash, 0-14-7 ²	Joseph P. Netzer, Billings	....	....	....	0.70	15.31	7.62
5-16	Phosphate and Potash, 0-14-7	Roy Jones, Clever	....	....	....	0.50	15.70	7.34
5-17	Phosphate and Potash, 0-14-7	Allman Produce and Feed Co., Wheaton	....	....	....	0.83	16.91	7.66
5-18	Phosphate and Potash, 0-14-7	Producers Grain Co., Eldorado Springs	....	....	....	0.94	15.21	7.08
		Average Analysis	....	....	....	0.75	15.70	7.43
		Guaranteed Analysis	....	....	....	....	14.00	7.00
11-16	Phosphate and Potash, 0-14-7	Farmers Equity Exchange, Bowling Green	....	....	....	....	15.78	7.28
		Guaranteed Analysis	....	....	....	....	14.00	7.00
5-19	Agrico for Corn, 2-12-6.	Baumgardner Produce Co., Poplar Bluff	2.00	87.0	....	0.63	13.62	6.05
5-20	Agrico for Corn, 2-12-6.	Finch Produce Co., Doniphan	2.08	86.1	....	0.50	13.06	6.44
5-21	Agrico for Corn, 2-12-6.	Farmers Elev. and Exchange, Monroe City	1.98	85.9	....	0.46	13.46	6.38
5-22	Agrico for Corn, 2-12-6.	Joseph P. Netzer, Billings	2.02	86.1	....	0.25	13.14	5.85
5-23	Agrico for Corn, 2-12-6.	Nixa Hardware Co., Nixa	2.05	84.4	....	0.58	13.06	6.21
5-24	Agrico for Corn, 2-12-6.	Roy Jones, Clever	2.05	85.9	....	0.23	13.27	6.21
5-25	Agrico for Corn, 2-12-6.	Jasper Implement Co., Jasper	2.04	83.8	....	0.55	13.23	6.00
		Average Analysis	2.03	85.6	....	0.46	13.26	6.16
		Guaranteed Analysis	2.00	....	....	....	12.00	6.00
11-17	Agrico for Grain, 2-12-6.	Farmers Equity Exchange, Bowling Green	2.02	88.6	....	1.27	12.88	6.38
11-18	Agrico for Grain, 2-12-6 ³	Chas. Lemon, New London	2.21	90.1	....	1.30	13.23	6.79
11-19	Agrico for Grain, 2-12-6 ⁴	T. R. Legg, Monticello	2.03	89.6	....	1.05	13.40	6.15
11-20	Agrico for Grain, 2-12-6.	Engendorf Truck Service, Lewistown	2.03	89.7	....	1.19	13.31	6.04

²Some registration tags missing.⁴Registration tags not attached.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
11-21	Agrico for Grain, 2-12-6 ³	Huntsville Flour & Feed Co., Huntsville	2.01	90.1	....	1.03	13.52	6.31
11-22	Agrico for Grain, 2-12-6.	Drexel Elevator & Merc. Co., Drexel	2.23	87.4	....	1.11	13.32	6.53
11-23	Agrico for Grain, 2-12-6 ³	Mosher Bros., Schell City	2.08	86.5	....	1.02	13.36	6.41
11-24	Agrico for Grain, 2-12-6.	Farmers Grain & Supply Co., Golden City	1.95	91.3	....	0.83	13.10	6.62
11-25	Agrico for Grain, 2-12-6.	Greenfield Milling Co., Greenfield	2.13	90.0	....	0.78	13.42	6.95
		Average Analysis	2.08	89.7	....	1.06	13.28	6.46
		Guaranteed Analysis	2.00	....	....	....	12.00	6.00
5-26	Agrico for Tomatoes, 2-12-6	Chamberlain Canning Co., Anderson	2.03	87.2	....	0.47	12.97	6.50
		Guaranteed Analysis	2.00	....	....	....	12.00	6.00
5-27	Agrico for Cereals, 4-12-4	Baumgardner Produce Co., Poplar Bluff	4.13	96.1	....	0.33	13.07	4.55
5-28	Agrico for Cereals, 4-12-4	Joseph P. Netzer, Billings	4.01	97.0	....	0.37	12.47	4.57
5-29	Agrico for Cereals, 4-12-4	Jasper Implement Co., Jasper	4.06	91.1	....	0.34	12.80	4.18
		Average Analysis	4.07	94.7	....	0.35	12.78	4.43
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
11-26	Agrico for Cereals, 4-12-4 ²	Ralls Co. Farm Bureau Service Co., New London	4.27	96.7	....	0.89	13.16	4.65
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
5-30	Agrico for Truck, 4-12-8 ²	Baumgardner Produce Co., Poplar Bluff	4.03	98.3	....	0.57	12.95	8.12
5-31	Agrico for Truck, 4-12-8.	Finch Produce Co., Doniphan	4.05	98.3	....	0.58	12.96	8.32
5-32	Agrico for Truck, 4-12-8 ⁴	Joseph P. Netzer, Billings	4.02	98.3	....	0.55	12.81	7.77
5-33	Agrico for Truck, 4-12-8.	Roy Jones, Clever	4.09	98.0	....	0.63	13.07	8.22
5-34	Agrico for Truck, 4-12-8.	Chamberlain Canning Co., Anderson	4.12	97.6	....	0.61	12.69	8.42
		Average Analysis	4.06	98.1	....	0.59	12.90	8.17
		Guaranteed Analysis	4.00	....	....	....	12.00	8.00
5-35	Agrico for Top Dressing, 8-8-8	Nixa Hardware Co., Nixa	7.88	97.2	....	0.33	8.15	8.47
5-36	Agrico for Top Dressing, 8-8-8	Jasper Implement Co., Jasper	7.87	97.7	....	0.33	8.21	8.67
		Average Analysis	7.88	97.5	....	0.33	8.18	8.57
		Guaranteed Analysis	8.00	....	....	....	8.00	8.00
11-27	Agrico for Top Dressing, 8-8-8	T. R. Legg, Monticello	7.41	96.6	....	0.60	8.88	8.01
11-28	Agrico for Top Dressing, 8-8-8	Lipscomb Grain & Seed Co., Irwin	7.67	97.3	....	0.50	8.58	8.10
		Average Analysis	7.54	97.2	....	0.55	8.73	8.06
		Guaranteed Analysis	8.00	....	....	....	8.00	8.00
	American Cyanamid Co.							
	New York, N. Y.							
5-1	"Aero" Cyanamid Granular	Dannen Mills, St. Joseph	19.54	97.9	....	....	....	....
		Guaranteed Analysis	20.60	....	....	....	....	....
	Anaconda Copper Mining Co.							
	Anaconda, Montana							
5-37	Anaconda 20% Superphosphate ³	M. F. A. Central Co-Operative Versailles	....	....	....	1.18	21.07	....
		Guaranteed Analysis	....	....	....	....	20.00	....

³Wrong registration tags.⁴Registration tags not attached.⁵Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
Arkansas Fertilizer Co.								
Little Rock, Ark.								
White Diamond Brands								
5-38	0-10-20	Farmers Union Gin Co., Senath	.....	.....	.....	0.42	10.08	20.92
		Guaranteed Analysis	.....	.....	.....	.....	10.00	20.00
5-39	2-12-6	Farmers Union Gin Co., Senath	1.94	93.8	.....	0.67	12.19	9.38
5-40	2-12-6	Stroud Canning Co., Fairview	2.09	93.3	.....	1.40	11.80	6.08
		Average Analysis	2.02	93.6	.....	1.04	12.00	7.73
		Guaranteed Analysis	2.00	.....	.....	.....	12.00	6.00
5-41	3-9-18	Boeving Bros., Campbell	3.00	96.3	.....	0.88	9.34	18.23
		Guaranteed Analysis	3.00	.....	.....	.....	9.00	18.00
5-42	4-12-4	L. E. Webb, White Oak	3.83	97.9	.....	1.00	12.60	5.34
		Guaranteed Analysis	4.00	.....	.....	.....	12.00	4.00
5-43	25% Manure Salts	L. E. Webb, White Oak	.....	.....	.....	.....	.....	25.26
5-44	25% Manure Salts	Boeving Bros., Campbell	.....	.....	.....	.....	.....	25.78
		Average Analysis	.....	.....	.....	.....	.....	25.52
		Guaranteed Analysis	.....	.....	.....	.....	.....	25.00
5-45	50% Muriate of Potash	Farmers Union Gin Co., Senath	.....	.....	.....	.....	.....	50.30
		Guaranteed Analysis	.....	.....	.....	.....	.....	50.00
Armour Fertilizer Works								
East St. Louis, Ill.								
Big Crop Brands								
5-46	20% Superphosphate ⁴	Jackson Feed and Supply Co., Jackson	.....	.....	.....	0.39	20.16	.....
5-47	20% Superphosphate ⁴	E. P. Coleman & Co., Sikeston	.....	.....	.....	0.63	21.92	.....
5-48	20% Superphosphate	Jonesway Gin Co., Kennett	.....	.....	.....	0.30	20.45	.....
5-49	20% Superphosphate ⁴	Walter Myers Feed Store, Excello	.....	.....	.....	0.38	21.82	.....
5-50	20% Superphosphate ³	Craig Bros., Memphis	.....	.....	.....	1.03	21.92	.....
5-51	20% Superphosphate	C. H. Stephens, Wayland	.....	.....	.....	0.53	21.02	.....
5-52	20% Superphosphate	Marlin Milling Co., Seymour	.....	.....	.....	0.58	21.77	.....
5-53	20% Superphosphate	Richard Bros., Mansfield	.....	.....	.....	1.45	20.85	.....
5-54	20% Superphosphate ³	C. F. Witter, Asbury	.....	.....	.....	1.15	20.70	.....
5-55	20% Superphosphate ⁴	H. L. Emery, Milo	.....	.....	.....	1.29	21.73	.....
5-56	20% Superphosphate	Thomas Schoonover, Osceola	.....	.....	.....	1.40	21.90	.....
5-57	20% Superphosphate	Fortuna Elevator Co., Fortuna	.....	.....	.....	0.94	21.41	.....
		Average Analysis	.....	.....	.....	0.84	21.30	.....
		Guaranteed Analysis	.....	.....	.....	.....	20.00	.....
11-29	20% Superphosphate	Agres Feed Store, Fulton	.....	.....	.....	1.11	20.59	.....
11-30	20% Superphosphate	Prairie Milling Co., Montgomery City	.....	.....	.....	1.19	20.56	.....
11-31	20% Superphosphate ⁴	Ralls Co., Farm Bureau Service Co., New London	.....	.....	.....	1.25	22.00	.....
11-32	20% Superphosphate	J. W. West, La Belle	.....	.....	.....	1.44	20.56	.....
11-33	20% Superphosphate	Henry Lamb, Hurdland	.....	.....	.....	1.71	20.99	.....
11-34	20% Superphosphate	Ruby Green, Kirksville	.....	.....	.....	2.17	18.93	.....
11-35	20% Superphosphate	Wahlbrink Implement Co., Keytesville	.....	.....	.....	0.76	20.44	.....
11-36	20% Superphosphate	Farmers Elevator, Salisbury	.....	.....	.....	2.20	20.61	.....

³Wrong registration tags.
⁴Registration tags not attached.

⁵Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
11-37	20% Superphosphate	Beumel Bros., West-phalia	....	....	....	1.98	20.22	....
11-38	20% Superphosphate	Schultes Feed Store, Argyle	....	....	....	1.98	20.67	....
11-39	20% Superphosphate	E. C. Biles, Belle	....	....	....	1.26	20.04	....
11-40	20% Superphosphate	Malone Feed Co., St. James	....	....	....	1.48	21.42	....
11-41	20% Superphosphate	R. E. Larkin, Esther	....	....	....	0.87	21.28	....
11-42	20% Superphosphate	Schemel Feed Store, Perryville	....	....	....	1.36	21.19	....
11-43	20% Superphosphate	Lipscomb Grain & Seed Co., Irwin	....	....	....	1.37	19.61	....
11-44	20% Superphosphate ⁴	H. L. Emery & Son, Milo	....	....	....	1.99	20.86	....
11-45	20% Superphosphate	Greenfield Milling Co., Greenfield	....	....	....	1.85	21.00	....
11-46	20% Superphosphate	Dan Hokanson, Strafford	....	....	....	1.69	21.06	....
11-47	20% Superphosphate	Producers Exchange, Marshfield	....	....	....	1.94	20.71	....
		Average Analysis	....	....	....	1.56	20.67	....
		Guaranteed Analysis	....	....	....	....	20.00	....
11-48	45% Superphosphate ¹	Schultes Feed Store, Argyle	....	....	....	0.24	44.71	....
		Guaranteed Analysis	....	....	....	....	45.00	....
5-58	0-9-27	E. P. Coleman & Co. Sikeston	....	....	....	0.90	9.40	29.42
		Guaranteed Analysis	....	....	....	....	9.00	27.00
5-59	0-10-20	E. P. Coleman & Co., Sikeston	....	....	....	0.67	10.47	23.32
5-60	0-10-20	Farmers Union Gin Co., Senath	....	....	....	1.10	10.79	19.61
5-61	0-10-20	Roever Bros., Campbell	....	....	....	1.24	11.00	20.62
		Average Analysis	....	....	....	1.00	10.75	21.18
		Guaranteed Analysis	....	....	....	....	10.00	20.00
5-62	0-12-12 ⁸	St. Louis Seed Co., St. Louis	....	....	....	1.27	12.10	12.61
		Guaranteed Analysis	....	....	....	....	12.00	12.00
11-49	0-12-12	Producers Exchange, Marshfield	....	....	....	1.95	12.55	12.00
		Guaranteed Analysis	....	....	....	....	12.00	12.00
5-63	0-14-7	Fred Lange, Sedalia	....	....	....	0.59	14.83	7.68
5-64	0-14-7 ⁴	Farmers Exchange, Buffalo	....	....	....	0.81	14.46	7.28
5-65	0-14-7	Craig Bros., Memphis	....	....	....	1.49	15.31	7.00
5-66	0-14-7 ⁴	Kahoka Implement Co., Kahoka	....	....	....	1.60	14.08	7.51
5-67	0-14-7 ⁴	Prebe & Son, Edina	....	....	....	0.88	14.99	7.84
5-68	0-14-7	Farmers Produce Co., Shelbina	....	....	....	0.60	15.00	7.76
5-69	0-14-7	Tarah Tarbutton, Mansfield	....	....	....	0.66	14.71	7.38
5-70	0-14-7 ²	Thomas Schoonover, Osceola	....	....	....	1.48	15.30	7.05
		Average Analysis	....	....	....	1.01	14.84	7.44
		Guaranteed Analysis	....	....	....	....	14.00	7.00
11-50	0-14-7	Agres Feed Store, Fulton	....	....	....	1.84	14.11	7.62
11-51	0-14-7	Eugendorf Truck Lines, Lewistown	....	....	....	2.16	14.04	8.51
11-52	0-14-7	Wahlbrink Implement Co., Keytesville	....	....	....	2.07	14.58	7.72
11-53	0-14-7	Beumel Bros., West-phalia	....	....	....	1.84	14.81	7.50

¹Not registered.²Some registration tags missing.³Wrong registration tags.⁴Registration tags not attached.⁵Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
11-54	0-14-7 ²	R. E. Larkin, Esther	....	....	....	1.84	15.06	6.77
11-55	0-14-7	C. E. Famulene, Garden City	....	....	....	1.90	15.10	7.09
		Average Analysis	....	....	....	1.94	14.62	7.54
		Guaranteed Analysis	....	....	....	....	14.00	7.00
5-71	0-20-20 ³	R. M. Hart, Holcomb	....	....	....	0.83	21.07	20.11
		Guaranteed Analysis	....	....	....	....	20.00	20.00
5-72	2-12-6	Fred Lange, Sedalia	2.01	90.0	....	0.94	12.28	6.02
5-73	2-12-6 ⁴	Farmers Exchange, Buffalo	2.02	88.6	....	1.04	12.44	6.10
5-74	2-12-6	Lipscomb Grain & Seed Co., Irwin	2.02	93.1	....	1.14	12.56	6.71
5-75	2-12-6 ⁴	Callaway Implement Co., Nevada	2.08	91.8	....	1.07	12.75	6.26
5-76	2-12-6	O. E. Bollinger, Millersville	2.63	92.4	....	1.14	12.06	7.14
5-77	2-12-6	Jackson Feed & Supply Co., Jackson	1.96	88.8	....	1.12	12.76	6.18
5-78	2-12-6	Dewey Miller, Macon	2.05	89.8	....	1.02	12.44	6.13
5-79	2-12-6 ⁴	Walter Myers Feed Store, Excello	1.94	89.7	....	0.86	12.28	6.20
5-80	2-12-6 ⁴	Craig Bros., Memphis	1.99	94.0	....	0.91	12.77	6.47
5-81	2-12-6	Kahoka Implement Co., Kahoka	2.23	90.1	....	0.77	13.33	6.24
5-82	2-12-6 ⁴	West & Son, Labelle	2.06	87.4	....	0.87	12.43	6.15
5-83	2-12-6	Prebe & Son, Edina	2.09	89.5	....	1.10	12.50	6.83
5-84	2-12-6 ⁴	Richards Bros., Mansfield	2.10	89.5	....	1.16	12.12	6.09
5-85	2-12-6	A. P. Martin, Rogersville	2.12	89.2	....	0.95	12.29	6.56
5-86	2-12-6	Farmers Exchange, Republic	1.95	95.4	....	0.50	12.68	6.32
5-87	2-12-6	Thomas Feed Co., Cassville	2.42	90.9	....	0.65	12.51	6.43
5-88	2-12-6	Farmers Elevator, Purdy	2.20	93.6	....	0.97	12.99	6.90
5-89	2-12-6	C. F. Witter, Asbury	2.03	93.6	....	0.60	12.30	6.52
5-90	2-12-6 ⁴	H. L. Emery, Milo	1.97	91.4	....	0.92	12.52	6.40
5-91	2-12-6	Thomas Schoonover, Osceola	1.98	91.4	....	0.85	12.15	6.20
5-92	2-12-6 ³	Fortuna Elevator Co., Fortuna	2.10	93.3	....	0.99	13.01	6.96
		Average Analysis	2.09	91.1	....	0.93	12.53	6.42
		Guaranteed Analysis	2.00	....	....	....	12.00	6.00
11-56	2-12-6	Beumel Bros., Westphalia	1.95	86.2	....	0.90	13.90	6.10
11-57	2-12-6	B. C. Biles, Belle	2.02	83.7	....	1.44	13.04	6.28
11-58	2-12-6	Agres Feed Store, Fulton	2.03	83.7	....	1.47	12.01	6.27
11-59	2-12-6	Prairie Milling Co., Montgomery City	2.00	88.0	....	1.17	12.31	6.10
11-60	2-12-6	Ralls Co. Farm Bureau Service Co., New London	2.08	85.1	....	1.18	13.62	6.09
11-61	2-12-6	J. W. West, Labelle	1.98	84.9	....	1.75	12.23	6.85
11-62	2-12-6 ³	Henry Lamb, Hurdland	2.13	85.5	....	1.35	12.75	6.98
11-63	2-12-6 ³	Valone Feed Co., St. James	1.87	86.6	....	1.23	13.02	5.48
11-64	2-12-6	R. E. Larkin, Esther	1.96	86.7	....	1.77	13.18	5.91
11-65	2-12-6 ³	Schemel Feed Co., Perryville	2.04	83.8	....	1.52	13.26	6.56
11-66	2-12-6	Good News Feed Stores, Inc., Warrensburg	2.12	86.8	....	1.13	12.92	6.08
11-67	2-12-6	Lipscomb Garin & Seed Co., Irwin	1.90	86.8	....	0.79	13.79	7.05

¹Not registered.³Wrong registration tags.⁴Registration tags not attached.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
11-68	2-12-6	Greenfield Milling Co., Greenfield	2.28	81.6	....	1.48	13.07	6.90
11-69	2-12-6	Dan Hokansen, Strafford	2.12	85.9	....	1.18	13.55	6.70
11-70	2-12-6	Producers Exchange, Marshfield	2.05	84.9	....	1.28	12.62	6.48
		Average Analyses	2.04	85.3	....	1.31	13.02	6.43
		Guaranteed Analysis	2.00	....	....	....	12.00	6.00
5-93	3-9-18	Farmers Union Gin Co., Senath	3.13	96.2	....	0.87	9.55	19.64
5-94	3-9-18 ¹	Hall Gin Co., Cardwell	3.27	98.8	....	0.86	9.14	19.29
5-95	3-9-18	L. Edmondson & Son, Hornersville	3.05	95.1	....	0.85	9.57	19.59
5-96	3-9-18 ¹	Jonesway Gin Co., Kennett	3.07	93.8	....	0.83	10.07	18.03
5-97	3-9-18	Boeving Bros., Campbell	3.12	94.6	....	0.94	9.64	18.50
		Average Analysis	3.13	95.7	....	0.87	9.59	18.95
		Guaranteed Analysis	3.00	....	....	....	9.00	12.00
5-98	3-12-12 ¹	Lipscomb Grain & Seed Co., Irwin	3.30	97.9	....	1.10	12.12	10.66
5-99	3-12-12 ¹	Kahoka Implement Co., Kahoka	3.06	97.1	....	0.56	13.21	9.58
5-100	3-12-12	C. E. Ditter, Asbury	2.79	92.3	....	1.32	12.78	12.03
		Average Analysis	3.05	95.9	....	0.98	12.70	10.46
		Guaranteed Analysis	3.00	....	....	....	12.00	12.00
5-101	4-12-4	Fred Lange, Sedalia	3.51	92.9	....	1.25	12.61	4.99
5-102	4-12-4 ¹	Lipscomb Grain & Seed Co., Irwin	3.97	92.7	....	1.02	12.62	4.67
5-103	4-12-4	Jackson Feed & Supply Co., Jackson	3.88	91.2	....	0.98	12.88	4.33
5-104	4-12-4 ¹	L. C. Edmondson & Son, Hornersville	4.04	92.6	....	1.01	12.75	4.48
5-105	4-12-4 ¹	Jonesway Gin Co., Kennett	3.43	94.5	....	1.15	13.33	4.60
5-106	4-12-4 ¹	Orvil Dickerson, Doniphan	3.90	92.1	....	1.22	12.74	4.52
5-107	4-12-4 ¹	Craig Bros., Memphis	4.04	93.3	....	1.11	12.59	4.66
5-108	4-12-4	Kahoka Implement Co., Kahoka	4.36	93.8	....	1.01	12.67	5.59
5-109	4-12-4	Joseph P. Netzer, Billings	3.99	90.7	....	0.95	12.67	4.54
5-110	4-12-4	C. F. Witter, Asbury	3.97	91.7	....	0.95	12.57	4.82
5-111	4-12-4 ¹	R. R. Carter, Jasper	4.05	92.3	....	1.95	12.61	4.50
5-112	4-12-4 ¹	Dewey Miller, Macon	4.02	92.0	....	1.01	12.39	4.43
		Average Analysis	3.93	92.6	....	1.13	12.70	4.68
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
11-71	4-12-4	Prairie Milling Co., Montgomery City	4.02	84.8	....	1.55	12.75	4.03
11-72	4-12-4	Eugendorf Truck Line, Lewistown	3.60	88.9	....	1.39	13.56	5.04
11-73	4-12-4	J. W. West & Son, LaBelle	3.94	89.6	....	1.38	13.20	4.54
11-74	4-12-4	Farmers Elevator, Salisbury	4.07	89.7	....	1.48	13.17	4.27
11-75	4-12-4	Schultes Feed Store, Argyle	4.23	88.7	....	1.50	12.93	4.27
11-76	4-12-4	R. E. Larkin, Esther	3.85	90.7	....	1.29	13.56	4.85
11-77	4-12-4	Schemel Feed Store, Perryville	3.60	87.8	....	1.45	13.75	4.37
11-78	4-12-4	Economy Feed & Mills, Harrisonville	3.88	86.1	....	1.44	12.94	4.41
11-79	4-12-4	Lipscomb Grain & Seed Co., Irwin	3.20	89.4	....	1.26	13.34	5.50
11-80	4-12-4	Dan Hokanson, Strafford	3.86	88.6	....	1.40	13.18	4.60

¹Registration tags not attached.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued).

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
11-81	4-12-4	Farmers Exchange, Northview	3.83	88.8	....	1.42	13.61	4.23
		Average Analysis	3.83	88.4	....	1.41	13.27	4.56
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
5-113	4-12-8 ⁴	Hummert Seed Co., St. Louis	4.97	97.8	....	0.34	12.12	10.63
		Guaranteed Analysis	4.00	....	....	....	12.00	8.00
5-117	5-10-10	Joseph P. Netzer, Billings	5.14	98.8	....	0.45	11.49	10.43
		Guaranteed Analysis	5.00	....	....	....	10.00	10.00
5-114	Armour's Special Ornamental Fertilizer 6-12-4	Bartels and Shores, Kansas City	6.22	95.8	....	0.79	12.35	4.78
5-115	Armour's Special Ornamental Fertilizer 6-12-4 ⁴	Hall Gin Co., Cardwell	6.42	95.8	....	0.88	13.10	4.72
5-116	Armour's Special Ornamental Fertilizer 6-12-4	St. Louis Seed Co., St. Louis	6.68	95.8	....	0.72	12.02	4.52
		Average Analysis	6.44	95.8	....	0.80	12.49	4.67
		Guaranteed Analysis	6.00	....	....	....	12.00	4.00
5-118	Armour's Home Use Bone Meal	St. Louis Seed Co., St. Louis	4.10	8.5	22.20	....	....	....
		Guaranteed Analysis	2.00	....	27.00	....	....	....
5-119	Armour's Blood and Bone Tankage ⁵	St. Louis Seed Co., St. Louis	5.17	22.6	19.88	....	....	....
		Guaranteed Analysis	5.50	....	30.00	....	....	....
5-125	Armour's Pulverized Sheep Manure ⁴	Montgomery Ward & Co., Kansas City	1.68	17.3	....	0.16	1.43	3.98
5-126	Armour's Pulverized Sheep Manure ⁴	A. H. Hummert Seed Co., St. Louis	1.50	13.8	....	0.15	1.34	3.74
		Average Analysis	1.64	15.6	....	0.16	1.39	3.86
		Guaranteed Analysis	1.50	....	....	....	1.00	2.50
5-120	Manure Salts ¹	Jonesway Gin Co., Kennett	....	....	....	....	....	22.18
		Guaranteed Analysis	....	....	....	....	....	22.00
5-124	Manure Salts 25% ^{1 7}	Clay Co. Cotton Co., Neelyville	....	....	....	....	....	27.89
		Guaranteed Analysis	....	....	....	....	....	25.00
5-121	Muriate of Potash ^{1 7}	Hall Gin Co., Cardwell	....	....	....	....	....	50.18
5-122	Muriate of Potash ^{1 7}	L. Edmondson & Son, Hornersville	....	....	....	....	....	50.42
5-123	Muriate of Potash ^{1 7}	Jonesway Gin Co., Kennett	....	....	....	....	....	53.04
		Average Analysis	....	....	....	....	....	51.21
		Guaranteed Analysis	....	....	....	....	....	50.00
Ashcraft-Wilkinson Co. Atlanta, Georgia								
5-127	"Nitraprills" ^{1 4 8}	Palmer Seed Co., St. Louis	33.58	100.0 ⁰	....	....	....	....
5-128	"Nitraprills" ^{1 4 8}	Bartels and Shores, Kansas City	33.44	100.0 ⁰	....	....	....	....
5-129	"Nitraprills" ^{1 4 8}	Hummert Seed Co., St. Louis	34.09	100.0 ⁰	....	....	....	....
		Average Analysis	33.70	100.0 ⁰	....	....	....	....
		Guaranteed Analysis	33.50	....	....	....	....	....
Chilian Nitrate Sales Corp. 120 Broadway, New York, N. Y.								
11-82	Champion Brand, Chilean Nitrate of Soda ⁴	Haubein Hardware Co., Lockwood	16.05	100.0 ⁰	....	....	....	....
		Guaranteed Analysis	16.00	....	....	....	....	....

⁴Registration tags not attached.⁵Incomplete labels.⁷Labels missing.⁸Sample drawn from less than five containers.⁰Not determined, all water soluble.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	
Comfort Manufacturing Co.								
Chicago, Illinois								
5-131	Craig's Liquid Plant Food ⁴ s	Kresge's 5 & 10, St. Joseph	9.33	100.0 ⁰	....	0.00	7.73	3.58
5-132	Craig's Liquid Plant Food ⁴ s	S. S. Kresge 5 & 10 Store, St. Louis	9.62	100.0 ⁰	....	0.04	6.53	4.15
		Average Analysis	9.48	100.0 ⁰	....	0.02	7.13	3.87
		Guaranteed Analysis	9.00	....	....	....	6.00	3.00
Cudaby Packing Co.								
Kansas City, Kansas								
5-133	Bigwin High Grade Fertilizer Steamed Bone Meal ⁶	Bartels and Shores, Kansas City	4.35	18.9	22.53	....	....	....
		Guaranteed Analysis	2.50	....	24.00	....	....	....
Darling & Company								
Chicago and East St. Louis								
Darling Brands								
5-134	18% Superphosphate	Greene County Farmers Sales Assn., Springfield	....	....	....	0.73	19.67	....
5-135	18% Superphosphate	Farmers Exchange, Lamar	....	....	....	0.79	19.41	....
5-136	18% Superphosphate	Co-op Assn. 276, Downing	....	....	....	0.96	19.24	....
5-137	18% Superphosphate	Farmers Exchange, Shelbyville	....	....	....	0.68	19.67	....
5-138	18% Superphosphate	Farmers Exchange, Rogersville	....	....	....	0.67	19.08	....
5-139	18% Superphosphate	Farmers Exchange, Fordland	....	....	....	0.94	19.41	....
5-140	18% Superphosphate	Farmers Exchange, Ozark	....	....	....	0.85	19.80	....
5-141	18% Superphosphate	Farmers Exchange, Jasper	....	....	....	0.85	18.70	....
		Average Analysis	....	....	....	0.81	19.37	....
		Guaranteed Analysis	....	....	....	....	18.00	....
11-83	18% Superphosphate	Producers Grain Co., Montgomery City	....	....	....	1.30	18.45	....
11-84	18% Superphosphate	Farmers Coop. No. 24, Liege	....	....	....	1.30	18.30	....
11-85	18% Superphosphate	Farmers Elevator & Supply Co., Troy	....	....	....	0.83	19.82	....
11-86	18% Superphosphate	Farmers Elevator & Exchange, Ewing	....	....	....	1.00	18.30	....
11-87	18% Superphosphate	Farmers Exchange, No. 59, Lewistown	....	....	....	0.86	18.04	....
11-88	18% Superphosphate	Farmers Exchange, Kirksville	....	....	....	1.00	19.15	....
11-89	18% Superphosphate	M. F. A. Central Co-op., Browning	....	....	....	1.10	18.95	....
11-90	18% Superphosphate	Hummer Flour & Feed Store, Jefferson City	....	....	....	0.92	19.23	....
11-91	18% Superphosphate	Producers Exchange, Freeburg	....	....	....	0.28	19.92	....
11-92	18% Superphosphate	Farmers Elevator, Argyle	....	....	....	0.77	19.13	....
11-93	18% Superphosphate	Farmers Co-op., Bourbon	....	....	....	1.15	18.90	....
11-94	18% Superphosphate	Farmers Feed & Produce Co., Steelville	....	....	....	1.07	19.43	....
11-95	18% Superphosphate	Paul Skaggs & Co., Fredericktown	....	....	....	0.90	18.65	....
11-96	18% Superphosphate	Farmers Exchange, Ste. Genevieve	....	....	....	1.00	17.85	....

⁴Registration tags not attached.⁶Labels partly wrong.⁵Sample drawn from less than five containers.⁰Not determined, all water soluble.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
11-97	18% Superphosphate	Farmers Co-op. Elevator Assn., Harrisonville	.....	.....	.....	1.23	19.07	.....
11-98	18% Superphosphate	Farmers Elevator Co., Butler	.....	.....	.....	0.83	19.87	.....
11-99	18% Superphosphate	Farmers Elevator, Rockville	.....	.....	.....	0.93	19.27	.....
11-100	18% Superphosphate	Farmers Exchange, Ash Grove	.....	.....	.....	0.93	19.27	.....
11-101	18% Superphosphate	Farmers Exchange, Strafford	.....	.....	.....	0.97	19.18	.....
11-102	18% Superphosphate	Farmers Exchange, Niangua	.....	.....	.....	0.85	18.05	.....
		Average Analysis	.....	.....	.....	0.96	18.94	.....
		Guaranteed Analysis	.....	.....	.....	.....	18.00	.....
5-142	20% Superphosphate	Farmers Exchange, Kirksville	.....	.....	.....	0.82	20.93	.....
5-143	20% Superphosphate	Farmers Exchange, Fordland	.....	.....	.....	0.63	21.12	.....
		Average Analysis	.....	.....	.....	0.73	21.03	.....
		Guaranteed Analysis	.....	.....	.....	.....	20.00	.....
5-144	Nine Twenty-seven 0-9-27 ²	Worley Implement Co., Dexter	.....	.....	.....	0.31	10.15	24.29
5-145	Nine Twenty-seven 0-9-27	Raspberry Gin Co., Holcomb	.....	.....	.....	0.45	9.75	23.89
		Average Analysis	.....	.....	.....	0.38	9.95	24.09
		Guaranteed Analysis	.....	.....	.....	.....	9.00	27.00
5-146	Ten Twenty 0-10-20 ⁴	Worley Implement Co., Dexter	.....	.....	.....	0.62	11.92	18.71
		Guaranteed Analysis	.....	.....	.....	.....	10.00	20.00
5-147	Twelve Twelve 0-12-12 ⁴	Farmers Elevator, Vandalla	.....	.....	.....	0.83	12.67	12.00
5-148	Twelve Twelve 0-12-12	Farmers Exchange, Jasper	.....	.....	.....	0.34	12.46	12.69
		Average Analysis	.....	.....	.....	0.59	12.57	12.35
		Guaranteed Analysis	.....	.....	.....	.....	12.00	12.00
11-103	Twelve-Twelve 0-12-12	Farmers Exchange No. 59, Lewistown	.....	.....	.....	0.79	13.84	9.33
11-104	Twelve-Twelve 0-12-12	Producers Exchange MFA, Freeburg	.....	.....	.....	0.49	13.01	5.78
		Average Analysis	.....	.....	.....	0.64	13.43	7.60
		Guaranteed Analysis	.....	.....	.....	.....	12.00	12.00
5-149	Fourteen Seven 0-14-7	Producers Exchange No. 85, Warsaw	.....	.....	.....	0.26	14.59	7.17
5-150	Fourteen Seven 0-14-7 ⁴	Greene County Farmers Sales Assn., Springfield	.....	.....	.....	0.64	14.11	7.53
5-151	Fourteen Seven 0-14-7	Absogood Packing Co., Jackson	.....	.....	.....	1.25	14.00	7.30
5-152	Fourteen Seven 0-14-7	Perkins Produce, Renick	.....	.....	.....	0.40	14.90	7.27
5-153	Fourteen Seven 0-14-7	Central Co-op., M.F.A., Lancaster	.....	.....	.....	0.75	15.50	6.97
5-154	Fourteen Seven 0-14-7 ⁴	Farmers Exchange Lewistown	.....	.....	.....	0.42	14.61	7.46
5-155	Fourteen Seven 0-14-7	Farmers Exchange Rogersville	.....	.....	.....	0.55	14.78	8.50
5-156	Fourteen Seven 0-14-7	Farmers Exchange Crane	.....	.....	.....	0.55	14.83	7.65
		Average Analysis	.....	.....	.....	0.60	14.67	7.48
		Guaranteed Analysis	.....	.....	.....	.....	14.00	7.00
11-105	Fourteen-Seven 0-14-7 ⁴	Farmers Exchange Novinger	.....	.....	.....	0.56	13.57	8.22
11-106	Fourteen-Seven 0-14-7	Producers Exchange MFA, Freeburg	.....	.....	.....	0.92	14.06	8.21
11-107	Fourteen-Seven 0-14-7	Farmer Club Exchange, Owensville	.....	.....	.....	0.57	14.28	8.14

²Wrong registration tags.⁴Registration tags not attached.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O	
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available		
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent		
11-108	Fourteen-Seven	0-14-7	.. Farmers Feed & Produce, Steelville	....	....	....	0.85	13.48	8.18
11-109	Fourteen-Seven	0-14-7	.. M.F.A. Co-op. Assn., Pilot Grove	....	....	....	0.40	14.90	7.25
11-110	Fourteen-Seven	0-14-7	.. Farmers Co-op., Harrisonville	....	....	....	0.76	13.18	7.97
11-111	Fourteen-Seven	0-14-7	.. Farmers Elevator, Rockville	....	....	....	0.74	14.26	8.42
			Average Analysis	....	....	....	0.69	13.06	8.06
			Guaranteed Analysis	....	....	....	....	14.00	7.00
5-157	Crop King	2-12-6	..... Producers Exchange No. 85, Warsaw	2.00	94.0	....	0.70	13.02	6.90
5-158	Crop King	2-12-6 ¹	..... Greene County Farmers' Sales Assn., Springfield	2.20	94.1	....	0.42	12.78	6.60
5-159	Crop King	2-12-6	..... Farmers Exchange, Lamar	2.11	90.5	....	0.42	12.94	6.35
5-160	Crop King	2-12-6	..... Absogood Packing Co., Jackson	1.74	96.0	....	0.83	13.37	6.45
5-161	Crop King	2-12-6	..... Worley Implement Co., Dexter	2.00	94.0	....	0.83	13.27	6.38
5-162	Crop King	2-12-6	..... Farmers Exchange, Macon	2.24	94.2	....	1.08	12.02	6.85
5-163	Crop King	2-12-6 ²	..... Co-op Association 300, Queen City	2.50	94.0	....	0.50	12.70	6.47
5-164	Crop King	2-12-6	..... Central Co-op. M.F.A., Lancaster	2.05	95.1	....	0.65	13.21	6.68
5-165	Crop King	2-12-6 ¹	..... M. F. A. Central Cooperative, Kahoka	2.03	95.1	....	0.53	12.77	6.56
5-166	Crop King	2-12-6	..... Farmers Exchange, Lewistown	1.89	93.1	....	0.64	13.12	6.94
5-167	Crop King	2-12-6	..... Farmers Exchange, Rogersville	1.91	95.3	....	0.63	12.71	6.95
5-168	Crop King	2-12-6	..... Farmers Exchange, Fordland	1.86	90.9	....	0.98	12.92	6.15
5-169	Crop King	2-12-6	..... Farmers Exchange, Republic	2.17	90.8	....	0.43	12.85	5.70
5-170	Crop King	2-12-6 ¹	..... Farmers Exchange, Ozark	2.04	91.2	....	0.76	12.52	5.76
5-171	Crop King	2-12-6	..... Farmers Exchange, Crane	2.11	93.8	....	0.80	12.72	6.66
5-172	Crop King	2-12-6	..... Farmers Exchange, Jasper	1.93	96.9	....	0.80	13.06	6.90
5-173	Crop King	2-12-6	..... Producers Grain Co., Eldorado Springs	1.93	94.3	....	0.72	13.10	6.43
			Average Analysis	2.04	93.7	....	0.69	12.89	6.52
			Guaranteed Analysis	2.00	....	....	....	12.00	6.00
11-112	Crop King	2-12-6	..... Producers Grain Co., M. F. A., Montgomery City	2.01	91.5	....	0.76	13.04	6.35
11-113	Crop King	2-12-6	..... Farmers Coop No. 24, Liege	2.09	90.0	....	0.77	12.83	6.18
11-114	Crop King	2-12-6	..... Farmers Elevator & Supply Co., Troy	2.02	91.1	....	0.70	13.10	6.06
11-115	Crop King	2-12-6	..... Farmers Elevator & Supply Co., Ewing	2.07	91.8	....	0.53	12.72	6.18
11-116	Crop King	2-12-6	..... Farmers Exchange No. 59, Lewistown	2.25	94.6	....	0.49	12.74	6.42
11-117	Crop King	2-12-6	..... Farmers Exchange, Kirksville	2.17	83.0	....	0.60	12.78	6.71
11-118	Crop King	2-12-6	..... Farmers Exchange, Novinger	2.06	92.7	....	0.74	12.26	6.14
11-119	Crop King	2-12-6	..... Farmers Exchange, Brookfield	2.21	92.8	....	0.61	12.92	6.94
11-120	Crop King	2-12-6	..... Sumners Elevator, Armstrong	2.14	93.0	....	0.40	12.81	6.82
11-121	Crop King	2-12-6	..... Hummer Flour & Feed Co., Jefferson City	1.93	91.7	....	0.57	12.81	6.00

¹Wrong registration tags.²Registration tags not attached.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES, 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
11-122	Crop King 2-12-6	Producers Exchange (M.F.A.) Freeburg	2.12	91.5	....	0.53	12.37	6.08
11-123	Crop King 2-12-6	Farmers Feed & Produce, Steelville	2.03	93.6	....	0.65	12.98	6.58
11-124	Crop King 2-12-6	Paul Skaggs & Co., Fredericktown	2.25	91.6	....	0.43	12.72	6.35
11-125	Crop King 2-12-6	Farmers Elevator, Boonville	2.12	93.4	....	0.50	13.20	6.28
11-126	Crop King 2-12-6	Farmers Co-op. Elevator Assn., Harrisonville	2.15	94.0	....	0.74	12.41	6.66
11-127	Crop King 2-12-6	Farmers Elevator, Rockville	2.03	92.1	....	0.54	12.59	6.12
11-128	Crop King 2-12-6	Producers Grain Co., Iantha	1.10	89.1	....	0.80	12.06	7.27
11-129	Crop King 2-12-6	Chapman & Follmer, Avilla	2.01	93.5	....	0.53	12.67	6.08
11-130	Crop King 2-12-6	Farmers Exchange, Lockwood	2.12	92.9	....	0.80	12.20	6.50
11-131	Crop King 2-12-6	Farmers Exchange, Ash Grove	1.91	93.2	....	0.87	12.03	7.03
11-132	Crop King 2-12-6	Farmers Exchange, Strafford	2.06	92.2	....	0.57	12.48	6.24
11-133	Crop King 2-12-6	Farmers Exchange, Northview	2.15	94.0	....	0.80	12.70	6.48
11-134	Crop King 2-12-6	Farmers Exchange, Niangua	2.05	93.2	....	0.68	12.80	6.22
		Average Analysis	2.05	92.0	....	0.64	12.66	6.42
		Guaranteed Analysis	2.00	....	....	....	12.00	6.00
5-174	Big Potash 3-9-18	Hunterville Gin Co., Essex	3.02	97.7	....	0.47	9.75	18.59
5-175	Big Potash 3-9-18	Worley Implement Co., Dexter	2.92	98.6	....	0.31	10.31	18.00
5-176	Big Potash 3-9-18	Raspberry Gin Co., Holcomb	3.06	97.7	....	0.38	9.92	18.28
5-177	Big Potash 3-9-18 ⁴	Farmers Elevator, Vandalia	3.24	98.5	....	0.20	9.88	18.88
		Average Analysis	3.06	98.1	....	0.34	9.97	18.46
		Guaranteed Analysis	3.00	....	....	....	9.00	18.00
5-178	Sure Winner 3-12-12	Absogood Packing Co., Jackson	2.66	97.7	....	1.10	13.00	12.08
5-179	Sure Winner 3-12-12	Worley Implement Co., Dexter	2.93	97.6	....	0.79	12.71	12.07
5-180	Sure Winner 3-12-12	Co-op Association 300, Queen City	2.81	97.5	....	0.53	12.97	12.26
5-181	Sure Winner 3-12-12	Farmers Exchange, Macon	2.87	96.5	....	0.50	12.42	12.80
5-182	Sure Winner 3-12-12 ⁴	M. F. A. Central Co-operative, Kahoka	2.74	97.5	....	0.45	12.75	11.95
5-183	Sure Winner 3-12-12	Wiss & Wiss, Kahoka	2.79	96.1	....	0.29	13.01	12.05
5-185	Sure Winner 3-12-12	Farmers Exchange, Fordland	2.95	97.3	....	0.49	12.91	12.22
5-186	Sure Winner 3-12-12	Farmers Exchange, Jasper	3.04	96.1	....	0.60	13.00	12.09
		Average Analysis	2.85	97.0	....	0.59	12.85	12.19
		Guaranteed Analysis	3.00	....	....	....	12.00	12.00
11-135	Sure Winner 3-12-12	Farmers Exchange, Niangua	2.70	94.8	....	.50	12.68	12.01
		Guaranteed Analysis	3.00	....	....	....	12.00	12.00
5-187	Field Marshal 4-12-4	Farmers Exchange, Fordland	2.79	95.3	....	1.68	12.26	4.32
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
11-136	Field Marshal 4-12-4	Producers Grain Co. M. F. A., Montgomery City	3.97	95.2	....	.77	12.41	4.38
11-137	Field Marshal 4-12-4	Farmers Exchange, Troy	3.99	94.5	....	.52	12.58	4.02

⁴Registration tags not attached.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	
11-138	Field Marshal 4-12-4 ²	... Farmers Exchange No. 59, Lewistown	3.00	92.3	....	.80	13.10	5.03
11-139	Field Marshal 4-12-4	... Farmers Exchange, Kirksville	3.90	98.0	....	0.53	12.87	3.78
11-140	Field Marshal 4-12-4	... M.F.A. Central Co-op., Browning	4.07	96.8	....	0.49	12.51	4.07
11-141	Field Marshal 4-12-4	... Farmers Exchange, Brookfield	4.06	96.3	....	0.73	12.50	4.14
11-142	Field Marshal 4-12-4	... Hummer Flour & Feed Co., Jefferson City	3.98	96.2	....	0.49	12.51	4.43
11-143	Field Marshal 4-12-4	... Farm Club Exchange, Owensville	3.85	96.1	....	0.80	12.15	4.70
11-144	Field Marshal 4-12-4	... Farmers Feed & Produce, Steelville	4.08	96.6	....	0.44	12.61	4.46
11-145	Field Marshal 4-12-4	... M. F. A. Co-op. Assn., Pilot Grove	3.94	96.2	....	0.83	12.02	4.85
11-146	Field Marshal 4-12-4	... Farmers Co-op Elevator Assn., Harrisonville	4.09	96.6	....	0.50	12.70	4.14
11-147	Field Marshal 4-12-4	... Farmers Elevator Co., Butler	4.06	96.1	....	0.55	12.55	4.51
11-148	Field Marshal 4-12-4	... Farmers Exchange, Rockville	3.54	95.8	....	0.80	12.26	4.83
11-149	Field Marshal 4-12-4	... Farmers Exchange, Strafford	3.88	97.2	....	0.83	12.03	4.85
11-150	Field Marshal 4-12-4 ⁴	... Farmers Exchange, Niangua	0.73	87.7	....	0.75	13.18	8.88
		Average Analysis	3.68	95.4	....	0.66	12.53	4.74
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
5-188	Four Twelve Eight 4-12-SF	... Farmers Exchange, Lamar	3.54	97.5	....	0.39	13.23	7.58
5-189	Four Twelve Eight 4-12-SF	... Farmers Exchange, Macon	3.76	97.3	....	0.55	13.15	8.06
5-190	Four Twelve Eight 4-12-S	... Central Co-op. M.F.A., Lancaster	3.60	97.8	....	0.51	12.85	7.56
5-191	Four Twelve Eight 4-12-SF	... Farmers Exchange, Jasper	3.77	97.6	....	0.79	13.11	7.72
		Average Analysis	3.69	97.6	....	0.56	13.09	7.73
		Guaranteed Analysis	4.00	....	....	....	12.00	8.00
Davison Chemical Corporation								
Nashville, Tennessee								
5-192	Davco Granulated 19% Superphosphate	... Marlin Milling Co., Seymour	....	....	....	1.92	19.33	....
		Guaranteed Analysis	....	....	....	....	19.00	....
11-151	Davco Granulated 19% Superphosphate	... Goode & Harriman, Centerview	....	....	....	0.72	19.93	....
11-152	Davco Granulated 19% Superphosphate	... Breed Milling Co., Garden City	....	....	....	1.40	19.00	....
11-153	Davco Granulated 19% Superphosphate	... Farmers Exchange, Everton	....	....	....	1.31	19.19	....
		Average Analysis	....	....	....	1.14	19.37	....
		Guaranteed Analysis	....	....	....	....	19.00	....
Read Brands								
5-193	0-14-7	... Farmers Seed & Supply Co., Dexter	....	....	....	0.81	14.77	5.91
		Guaranteed Analysis	....	....	....	....	14.00	7.00
11-154	0-14-7	... Goode & Harriman, Centerview	....	....	....	1.18	14.65	6.75
		Guaranteed Analysis	....	....	....	....	14.00	7.00
5-194	2-12-6	... Farmers Seed & Supply Co., Dexter	2.38	97.1	....	1.49	12.37	6.46

²Some registration tags missing.⁴Registration tags not attached.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₆			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
5-195	2-12-6	Producers Grain Co., Eldorado Springs	2.45	98.4	....	1.45	12.45	6.20
		Average Analysis	2.42	97.8	....	1.47	12.41	6.33
		Guaranteed Analysis	2.00	....	....	....	12.00	6.00
11-155	2-12-6	Gcode & Harriman, Centerview	2.16	92.6	....	1.11	12.04	6.20
11-156	2-12-6	Farmers Exchange, Everton	2.17	94.5	....	0.96	12.09	5.49
		Average Analysis	2.16	93.6	....	1.04	12.07	5.85
		Guaranteed Analysis	2.00	....	....	....	12.00	6.00
5-196	4-12-4	Farmers Seed & Sup- ply Co., Dexter	4.71	98.5	....	1.60	12.35	4.40
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
		Economy Nursery Co. Little Silver, N. J.						
5-197	Balanced Rose Food ^a	McGrory 5 & 10c Store, St. Louis	5.09	68.2	....	0.22	9.94	2.86
		Guaranteed Analysis	5.00	....	....	....	8.00	3.00
		Excell Laboratories Chicago, Illinois						
5-198	New Plant Life ^a	S. S. Kresge 5 & 10c St. Louis	2.52	100.0 ^b	....	0.00	1.55	2.35
5-199	New Plant Life ^a	S. S. Kresge 5 & 10c St. Joseph	2.56	100.0 ^b	....	....	1.55	2.36
		Average Analysis	2.54	100.0 ^b	....	....	1.55	2.36
		Guaranteed Analysis	2.00	....	....	....	1.00	2.00
		Farm Bureau Co-op. Assn., Inc. Columbus, Ohio						
11-157	20% Granular Super- phosphate	Marion Co. Farm Bu- reau Service Co., Palmyra	....	....	....	0.60	21.50	....
11-158	20% Granular Super- phosphate	Farm Bureau, Linneus	....	....	....	0.60	20.75	....
11-159	20% Granular Super- phosphate	Good News Feed Store, Inc., Warrensburg	....	....	....	0.42	21.13	....
		Average Analysis	....	....	....	0.54	21.13	....
		Guaranteed Analysis	....	....	....	....	20.00	....
5-200	0-10-20	S. E. Missouri Farm Bureau Service Co., Sikeston	....	....	....	0.08	11.56	17.84
5-201	0-10-20	Dunklin Co. Farm Bu- reau Service Co., Senath	....	....	....	0.12	11.10	22.84
5-202	0-10-20	Marion Co. Farm Bu- reau Service Co., Palmyra	....	....	....	0.17	11.13	20.53
		Average Analysis	....	....	....	0.12	11.26	20.40
		Guaranteed Analysis	....	....	....	....	10.00	20.00
5-203	0-14-7	S. E. Missouri Farm Bureau Service Co., Sikeston	....	....	....	0.31	14.77	7.60
5-204	0-14-7	Marion Co. Farm Bu- reau Service Co., Pal- myra	....	....	....	0.28	14.30	7.46
		Average Analysis	....	....	....	0.30	14.54	7.53
		Guaranteed Analysis	....	....	....	....	14.00	7.00
11-160	0-14-7	Marion Co. Farm Bu- reau Service Co., Pal- myra	....	....	....	0.37	14.53	6.58
		Guaranteed Analysis	....	....	....	....	14.00	7.00
5-205	3-9-18	Dunklin Co. Farm Bu- reau Service Co., Senath	3.19	99.1	....	0.19	9.11	19.66

^aSample drawn from less than five containers. ^bNot determined, all water soluble.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
5-206	3-9-18	L. E. Webb, White Oak	3.19	98.8	....	0.27	9.13	19.37
5-207	3-9-18	Marion Co. Farm Bureau Service Co., Palmyra	3.51	98.9	....	0.18	9.36	18.44
		Average Analysis	3.30	98.9	....	0.21	9.20	19.16
		Guaranteed Analysis	3.00	....	....	....	9.00	18.00
5-208	4-12-4	Marion Co. Farm Bureau Service Co., Palmyra	4.38	98.9	....	0.31	13.39	4.39
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
11-161	4-12-4	Farm Bureau Service Co., Troy	4.46	97.1	....	0.17	12.63	4.88
11-162	4-12-4	Marion Co. Farm Bureau Service Co., Palmyra	4.42	98.0	....	0.16	12.14	4.76
11-163	4-12-4	Farm Bureau, Keytesville	4.13	92.7	....	0.29	13.06	4.13
		Average Analysis	4.34	95.9	....	0.21	12.61	4.59
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
11-164	4-12-8	Marion Co. Farm Bureau Service Co., Palmyra	4.36	97.0	....	0.29	14.81	8.43
		Guaranteed Analysis	4.00	....	....	....	12.00	8.00
Federal Chemical Co., Inc.								
East St. Louis, Illinois								
Federal Brands								
5-209	20% Superphosphate	F. N. Whitwell & Co., Doniphan	....	....	....	0.03	21.87	....
5-210	20% Superphosphate	C. M. Dungan, Lentner	....	....	....	0.70	22.30	....
5-211	20% Superphosphate	Ralls Co. Farm Bureau Service Co., New London	....	....	....	0.63	20.62	....
5-212	20% Superphosphate	Marlin Milling Co., Seymour	....	....	....	0.05	20.95	....
		Average Analysis	....	....	....	0.35	21.44	....
		Guaranteed Analysis	....	....	....	....	20.00	....
11-165	20% Superphosphate	Farm Bureau Service Co., Troy	....	....	....	1.94	20.81	....
11-166	20% Superphosphate ⁴	Ralls Co. Farm Bureau Service Co., New London	....	....	....	1.90	21.15	....
11-167	20% Superphosphate	Canton Co-op. Elevator Co., Canton	....	....	....	0.70	20.50	....
11-168	20% Superphosphate	Engendorf Truck Line Lewistown	....	....	....	1.24	20.01	....
11-169	20% Superphosphate	Huntsville Flour & Feed Co., Huntsville	....	....	....	1.20	20.25	....
11-170	20% Superphosphate	Farm Bureau Service Co., Jefferson City	....	....	....	0.48	20.72	....
11-171	20% Superphosphate	Cuba Roller Mills, Cuba	....	....	....	1.15	20.75	....
11-172	20% Superphosphate	Merkel Bros., Bourbon	....	....	....	1.50	21.70	....
11-173	20% Superphosphate	R. W. Black Feed Store, Farmington	....	....	....	1.40	20.90	....
11-174	20% Superphosphate	Herbert Upchurch, Lutesville	....	....	....	0.25	21.00	....
11-175	20% Superphosphate	Arnold Elevator & Mill, Butler	....	....	....	0.27	21.73	....
11-176	20% Superphosphate ⁴	G. B. Beeny & Son, Sheldon	....	....	....	0.32	20.83	....
11-177	20% Superphosphate	H. W. Arthur, Niangua	....	....	....	0.36	21.44	....
		Average Analysis	....	....	....	0.98	20.90	....
		Guaranteed Analysis	....	....	....	....	20.00	....
5-213	0-10-20	S. E. Missouri Farm Bureau Service Co., Sikeston	....	....	....	0.26	11.42	20.16

⁴Registration tags not attached.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
5-214	0-10-20	Kennett Grain & Seed Co., Kennett	.....	.....	.....	0.17	11.15	20.14
5-215	0-10-20	F. N. Whitwell & Co., Doniphan	.....	.....	.....	0.04	11.30	21.93
		Average Analysis	.....	.....	.....	0.16	11.29	20.74
		Guaranteed Analysis	.....	.....	.....	.....	10.00	20.00
5-216	0-14-7	J. M. Dungan, Lentner	.....	.....	.....	0.77	14.48	7.20
11-178	0-14-7	Guaranteed Analysis	.....	.....	.....	.....	14.00	7.00
11-179	0-14-7	Herbert Upchurch, Lutesville	.....	.....	.....	0.72	14.78	7.86
		Arnold Elevator & Mill, Butler	.....	.....	.....	1.48	14.05	7.21
		Average Analysis	.....	.....	.....	1.10	14.42	7.54
		Guaranteed Analysis	.....	.....	.....	.....	14.00	7.00
5-217	2-12-6	Roy Means, Lamar	2.40	95.8	.....	0.21	12.59	6.10
5-218	2-12-6	F. N. Whitwell & Co., Doniphan	2.46	95.5	.....	0.20	13.70	6.18
5-219	2-12-6	J. M. Dungan, Lentner	2.13	91.1	.....	1.21	13.19	6.04
5-220	2-12-6	Marion Co. Farm Bureau Service Co., Palmyra	2.15	93.0	.....	0.84	13.06	6.06
5-221	2-12-6	S. H. Tulley, Monroe City	2.05	92.2	.....	1.26	13.22	6.07
5-222	2-12-6	Clay H. Moore, McCredie	2.08	93.6	.....	0.92	12.82	6.53
5-223	2-12-6	Hart Canning Co., Seymour	2.34	92.3	.....	2.86	12.69	6.04
5-224	2-12-6	H. Verforth, Billings	2.22	95.9	.....	0.16	13.44	6.20
5-225	2-12-6	Reeds Spring Canning Co., Reeds Spring	2.01	95.0	.....	1.06	12.52	6.04
5-226	2-12-6	F. L. Mease, Reeds Spring	2.26	95.1	.....	0.27	12.10	6.35
5-227	2-12-6	Norris Grain Co., Webb City	2.33	95.3	.....	0.10	12.36	6.18
5-228	2-12-6	Versailles Feed & Produce Co., Versailles	2.14	95.3	.....	0.11	12.35	6.09
		Average Analysis	2.21	94.6	.....	0.77	12.84	6.16
		Guaranteed Analysis	2.00	.....	.....	.....	12.00	6.00
11-180	2-12-6	Canton Co-op. Elevator Co., Canton	2.43	86.8	.....	1.31	14.09	6.22
11-181	2-12-6	Huntsville Elevator & Feed Co., Huntsville	2.56	78.9	.....	1.51	12.69	5.84
11-183	2-12-6	Farm Bureau Service Co., Jefferson City	2.23	89.7	.....	0.75	13.35	6.26
11-184	2-12-6	Merkel Bros., Bourbon	2.10	86.7	.....	1.00	12.95	6.64
11-185	2-12-6	R. W. Black Feed Store, Farmington	2.25	87.6	.....	1.46	12.72	6.42
11-186	2-12-6	Herbert Upchurch, Lutesville	2.12	83.5	.....	0.77	12.21	6.08
11-187	2-12-6	G. B. Beeny & Sons, Sheldon	2.28	92.1	.....	0.72	12.13	6.06
11-188	2-12-6	H. W. Arthur, Niangua	2.23	87.4	.....	1.31	12.37	6.25
		Average Analysis	2.28	86.6	.....	1.10	12.81	6.29
		Guaranteed Analysis	2.00	.....	.....	.....	12.00	6.00
5-229	3-9-18	Kennett Grain & Seed, Kennett	3.03	98.7	.....	0.14	9.56	18.01
5-230	3-9-18	Harper Implement Co., Campbell	3.36	94.6	.....	0.80	9.14	18.09
5-231	3-9-18	F. N. Whitwell & Co., Doniphan	3.29	97.3	.....	0.39	9.31	18.34
		Average Analysis	3.23	96.9	.....	0.44	9.34	18.15
		Guaranteed Analysis	3.00	.....	.....	.....	9.00	18.00
5-232	4-12-4	Harper Implement Co., Campbell	4.24	96.0	.....	1.13	12.30	4.28
5-233	4-12-4	Butler Co. Farm Bureau Service Co., Poplar Bluff	4.32	94.2	.....	1.23	12.03	4.45
5-234	4-12-4	F. N. Whitwell & Co., Doniphan	4.30	96.5	.....	1.58	11.29	4.88

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	Potash K ₂ O
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
5-235	4-12-4	Ralls Co. Farm Bureau Service Co., New London	3.99	93.7	....	1.15	12.35	4.07
5-236	4-12-4	H. Verfurth, Billings	4.19	97.1	....	0.95	12.04	4.26
5-237	4-12-4	Reeds Spring Canning Co., Reeds Spring	4.03	96.0	....	0.90	12.60	4.06
5-238	4-12-4	Norris Grain Co., Webb City	4.44	96.0	....	2.26	10.86	4.17
		Average Analysis	4.21	95.6	....	1.31	11.92	4.31
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
11-189	4-12-4	Farm Bureau Service Co., Troy	3.83	88.3	....	1.39	13.24	4.17
11-190	4-12-4	Ruby Green, Kirksville	4.16	91.6	....	0.71	12.06	4.45
11-191	4-12-4	Farm Bureau Service Co., Jefferson City	3.97	91.7	....	0.58	12.42	4.54
11-192	4-12-4	G. B. Beeny & Son, Sheldon	4.02	91.5	....	1.02	12.23	3.89
		Average Analysis	4.00	90.8	....	0.93	12.49	4.26
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
5-239	8-8-8	H. Verfurth, Billings	3.07	98.9	....	0.18	9.52	8.14
		Guaranteed Analysis	3.00	....	....	....	8.00	8.00
5-240	10-6-4 ¹	Charles Lemon, New London	10.11	99.1	....	0.40	6.92	4.14
5-241	10-6-4 ¹	H. Verfurth, Billings	9.56	99.5	....	0.07	6.93	4.14
		Average Analysis	9.84	99.3	....	0.24	6.13	4.14
		Guaranteed Analysis	10.00	....	....	....	6.00	4.00
		J. Harris Manure Co. East St. Louis, Ill.						
5-242	Hampton Park Cattle Manure	Corneli Seed Co., St. Louis	1.46	17.1	....	0.16	1.92	1.53
		Guaranteed Analysis	2.00	....	....	....	1.00	2.00
		A. H. Hoffman, Inc. Landisville, Pennsylvania						
5-243	Hoffman's Bone Meal ² ...	F. W. Woolworth Co., St. Louis	4.00	6.0	22.75	....	....	....
5-244	Hoffman's Bone Meal ² ...	F. W. Woolworth Co., Kansas City	3.97	6.8	22.50	....	....	....
		Average Analysis	3.99	6.4	22.63	....	....	....
		Guaranteed Analysis	3.70	....	20.00	....	....	....
5-245	Hoffman's Sheep Manure ² ...	F. W. Woolworth 5 & 10, Kansas City	1.46	27.4	....	0.14	2.00	3.29
		Guaranteed Analysis	1.50	....	....	....	1.00	2.50
5-246	Hoffman's Cow Manure ² ...	W. T. Grant Co., St. Joseph	2.08	28.9	....	0.10	2.05	2.07
5-247	Hoffman's Cow Manure ² ...	Neisner Bros., St. Louis	2.14	27.1	....	0.08	2.02	2.08
		Average Analysis	2.11	23.0	....	0.09	2.04	2.08
		Guaranteed Analysis	2.00	....	....	....	1.00	1.00
5-248	Hoffman's Victory Garden Fertilizer ²	McGrory's 5 & 10c Store, St. Louis	5.90	95.3	....	0.04	13.66	4.32
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
		Hydroponic Chemical Co., Inc. 315 West 39th Street New York, N. Y.						
5-249	Hyponex ³	Chesmore Seed Co., St. Joseph	7.28	100.0 ⁰	....	0.03	7.53	19.10
		Guaranteed Analysis	7.00	....	....	....	6.00	19.00
		International Minerals & Chemical Corp. 20 N. Wacker Drive Chicago 6, Illinois						

¹Not registered.²Sample drawn from less than five containers.⁰Not determined, all water soluble.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
5-250	50% Muriate of Potash ¹ .	Kennett Grain & Seed Co., Kennett	....	....	....	....	....	50.58
		Guaranteed Analysis	....	....	....	....	....	50.00
5-251	60% Muriate of Potash ¹ .	Kennett Grain & Seed Co., Kennett	....	....	....	....	....	60.29
		Guaranteed Analysis	....	....	....	....	....	60.00
Kemical Corporation East Paterson, N. J.								
5-252	Kem Liquid Plant Food ¹ 8S.	S. S. Kresge 5 & 10c Store, St. Louis	0.10	100.0 ⁰	....	....	0.14	0.25
		Guaranteed Analysis	0.08	....	....	....	0.16	0.10
Lange Brothers St. Louis, Missouri								
11-194	Lange Bros. (L.B.) 20% Superphosphate	Frank Cunningham, Montgomery City	....	....	....	0.33	19.62	....
11-195	Lange Bros. (L.B.) 20% Superphosphate	Farmers Warehouse, Fredericktown	....	....	....	0.90	20.10	....
11-196	Lange Bros. (L.B.) 20% Superphosphate	Perry Co. Co-op., Perryville	....	....	....	0.89	18.26	....
		Average Analysis	....	....	....	0.71	19.33	....
		Guaranteed Analysis	....	....	....	....	20.00	....
11-197	Lange Bros. (L.B.) 45% Superphosphate ¹ .	Perry Co. Co-op., Perryville	....	....	....	1.12	43.58	....
		Guaranteed Analysis	....	....	....	....	45.00	....
5-253	Lange Bros. (L.B.) 0-14-7 ⁸	Sisson & Doyle Elevator, Curryville	....	....	....	1.03	14.07	8.09
		Guaranteed Analysis	....	....	....	....	14.00	7.00
5-254	Lange Bros. (L.B.) 2-12-6 ⁸	Northern Feed Co., Springfield	2.11	98.6	....	1.73	12.02	6.52
5-255	Lange Bros. (L.B.) 2-12-6 ⁸	J. E. Osborn, Fredericktown	2.12	98.1	....	0.82	12.51	6.27
5-256	Lange Bros. (L.B.) 2-12-6 ⁸	Sisson & Doyle Elevator, Curryville	2.32	98.7	....	1.07	12.61	7.34
		Average Analysis	2.18	98.5	....	1.21	12.38	6.71
		Guaranteed Analysis	2.00	....	....	....	12.00	6.00
5-257	Lange Bros. (L.B.) 4-12-4 ⁸	Northern Feed Co., Springfield	3.96	99.2	....	0.90	12.80	4.23
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
11-198	Lange Bros. (L.B.) 4-12-4 ⁸	Perry Co. Co-op., Perryville	4.29	94.4	....	0.50	12.21	4.32
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
Missouri Chemical Co. Atlas, Mo.								
Merco Brands								
5-258	20% Superphosphate	Farmers Elevator & Exchange Co., Monroe City	....	....	....	0.10	21.55	....
		Guaranteed Analysis	....	....	....	....	20.00	....
11-199	20% Superphosphate	Salisbury Milling Co., Salisbury	....	....	....	1.30	20.51	....
11-200	20% Superphosphate	Good News Food Store Inc., Warrensburg	....	....	....	0.93	20.77	....
11-201	20% Superphosphate	Arnolds Elevator & Mill, Butler	....	....	....	1.26	19.54	....
11-202	20% Superphosphate	Farmers Elevator Co., Butler	....	....	....	1.48	20.12	....
		Average Analysis	....	....	....	1.27	20.24	....
		Guaranteed Analysis	....	....	....	....	20.00	....
5-259	0-14-7 ⁸	Perkins Produce Co., Renick	....	....	....	0.50	14.14	8.18
5-260	0-14-7	M. F. A., Cairo	....	....	....	0.60	14.15	7.24

¹Not registered.⁸Wrong registration tags.⁸Sample drawn from less than five containers.⁰Not determined, all water soluble.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble [to Total]	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
5-261	0-14-7	Farmers Elevator & Exchange Co., Monroe City	.....	.....	.....	0.89	13.91	7.25
		Average Analysis	.....	.....	.....	0.66	14.07	7.56
		Guaranteed Analysis	.....	.....	.....	.....	14.00	7.00
11-203	0-14-7	Good News Feed Store Inc., Warrensburg	.....	.....	.....	1.42	15.33	5.49
11-204	0-14-7	Farmers Elevator Co., Butler	.....	.....	.....	0.59	14.96	6.03
		Average Analysis	.....	.....	.....	1.01	15.15	5.76
		Guaranteed Analysis	.....	.....	.....	.....	14.00	7.00
5-262	2-12-6	Northern Feed Co., Springfield	2.15	97.7	.....	0.40	12.28	6.00
5-263	2-12-6 ^a	Kelso Feed Co., Joplin	1.79	98.3	.....	0.60	12.03	7.33
5-264	2-12-6	Carlson Seed Co., Joplin	1.90	97.9	.....	0.51	12.14	7.35
5-265	2-12-6	Lipscomb Grain & Seed Co., Irwin	1.75	97.7	.....	0.51	12.04	7.90
5-266	2-12-6	Farmers Elevator & Exchange Co., Monroe City	2.16	97.7	.....	0.53	12.00	6.90
5-267	2-12-6	H. L. Eckert M. F. A., Diggins	2.17	97.2	.....	0.60	11.09	7.34
5-268	2-12-6	Branson Canning Co., Branson	2.34	97.9	.....	0.29	12.15	6.23
5-269	2-12-6	D. Stuckey, Carl Junction	2.49	99.2	.....	0.69	11.27	6.56
		Average Analysis	2.09	97.9	.....	0.52	11.88	6.95
		Guaranteed Analysis	2.00	.....	.....	.....	12.00	6.00
11-205	2-12-6	Farmers Co-op Elevator Assn., Harrisonville	1.92	93.2	.....	0.63	12.49	6.04
11-206	2-12-6	Breed Milling Co., Garden City	1.95	94.4	.....	1.12	12.76	6.00
11-207	2-12-6	Arnold Elevator & Mill Butler	2.10	91.4	.....	0.51	12.99	6.07
11-208	2-12-6	Farmers Elevator Co., Butler	2.00	95.0	.....	1.46	12.44	5.87
11-209	2-12-6	Calloway Implement Co., Nevada	2.06	91.8	.....	0.96	11.96	6.07
11-210	2-12-6	Lipscomb Grain & Seed Co., Irwin	2.03	91.1	.....	1.04	12.10	6.06
11-211	2-12-6	Farmers Grain & Supply Co., Golden City	1.85	93.5	.....	1.17	12.76	6.05
11-212	2-12-6	Producers Exchange, Marshfield	2.03	93.6	.....	1.17	12.16	6.19
		Average Analysis	1.99	93.0	.....	1.01	12.46	6.04
		Guaranteed Analysis	2.00	.....	.....	.....	12.00	6.00
5-270	3-12-12	D. Stuckey, Carl Junction	2.67	98.1	.....	0.40	11.82	12.39
		Guaranteed Analysis	3.00	.....	.....	.....	12.00	12.00
11-213	3-12-12	Good News Feed Store Inc., Warrensburg	2.39	93.3	.....	0.80	13.43	9.18
11-214	3-12-12	Farmers Co-op. Elevator, Harrisonville	2.48	94.0	.....	0.89	13.04	10.13
		Average Analysis	2.44	93.7	.....	0.85	13.24	9.66
		Guaranteed Analysis	3.00	.....	.....	.....	12.00	12.00
5-271	Manure Salts ¹	Central Co-op M.F.A., Lancaster	.....	.....	.....	.....	.....	28.20
		Guaranteed Analysis	.....	.....	.....	.....	.....	25.00
Plantabbs Company Baltimore, Maryland								
5-272	Fulton's Plantabbs ²	S. S. Kresge Co., Kansas City	4.80	*	.....	0.32	11.98	18.07
		Guaranteed Analysis	4.00	.....	.....	.....	12.00	18.00

¹Not registered.²Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	
Pulverized Manure Co.								
Chicago, Illinois								
Wizard Brands								
5-273	Pulverized Sheep Manure	Palmer Seed Co., St. Louis	1.61	23.0	....	0.10	1.45	2.95
5-274	Pulverized Sheep Manure	St. Louis Seed Co., St. Louis	1.77	29.9	....	0.14	1.69	3.53
		Average Analysis	1.69	26.5	....	0.12	1.57	3.24
		Guaranteed Analysis	2.00	....	....	....	1.00	2.00
5-275	Cow Manure	St. Louis Seed Co., St. Louis	2.06	17.0	....	0.14	1.31	2.39
		Guaranteed Analysis	2.00	....	....	....	1.00	1.00
Sears, Roebuck & Company								
Chicago, Illinois								
5-276	Garden Master Plant Food 4-12-4 ¹	Sears, Roebuck & Co., Warehouse, Kansas City	4.28	95.3	....	1.09	12.63	4.10
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
5-277	Garden Master Sheep Manure ¹	Sears, Roebuck & Co., Warehouse, Kansas City	1.90	43.2	....	0.19	2.43	4.08
		Guaranteed Analysis	1.50	....	....	....	1.00	2.50
The Sewerage Commission								
Milwaukee, Wisconsin								
5-278	Milorganite	Missouri Seed Co., St. Louis	5.89	11.4	....	0.40	2.40	....
5-279	Milorganite	D. B. Bell & Son, Kansas City	5.88	9.7	....	0.38	2.21	....
		Average Analysis	5.89	10.6	....	0.39	2.31	....
		Guaranteed Analysis	6.00	....	....	....	2.00	....
Standard Wholesale Phosphate & Acid Works								
Baltimore, Maryland								
Standard Brands								
5-280	20% Superphosphate	Farmers Exchange, Kirksville	....	....	....	0.40	19.58	....
5-281	20% Superphosphate	Walter Meyer Feed Store, Excello	....	....	....	0.36	19.54	....
5-282	20% Superphosphate	Central Co-op M.F.A., Lancaster	....	....	....	0.20	20.00	....
		Average Analysis	....	....	....	0.32	19.71	....
		Guaranteed Analysis	....	....	....	....	20.00	....
11-215	20% Superphosphate	M.F.A. Central Co-op, Browning	....	....	....	0.75	20.60	....
		Guaranteed Analysis	....	....	....	....	20.00	....
5-283	4-12-4	Pearson Ferguson Chemical Co., Kansas City	3.98	93.5	....	0.80	12.74	5.04
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
Stockdale Fertilizer Co.								
Morris, Illinois								
5-284	Ovene ²	S. S. Kresge 5 & 10c Store, St. Louis	2.16	20.4	....	0.14	1.44	2.61
5-285	Ovene ⁴ ³	S. S. Kresge 5 & 10c Store, Kansas City	2.05	21.0	....	0.16	1.26	2.61
5-286	Ovene ⁴ ³	S. S. Kresge 5 & 10c Store, St. Joseph	2.21	17.7	....	0.19	1.31	2.77
		Average Analysis	2.14	19.7	....	0.16	1.34	2.66
		Guaranteed Analysis	2.00	....	....	....	1.00	2.00
Swift & Co. Fertilizer Works								
National Stock Yards, Ill.								
Red Star Brands								
5-287	18% Superphosphate	Farmers Warehouse, *Fredericktown	....	....	....	0.04	19.06	....

¹Registration tags not attached.²Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
5-288	18% Superphosphate	Planters Cotton Co., Sikeston	.....	.....	.....	0.04	19.31	.....
5-289	18% Superphosphate	Omer Webb, Jasper	.....	.....	.....	0.01	19.99	.....
		Average Analysis	.....	.....	.....	0.03	19.45	.....
		Guaranteed Analysis	.....	.....	.....	.....	18.00	.....
11-216	18% Superphosphate	Farmers Elevator & Supply Co., Hawk Point	.....	.....	.....	0.37	18.88	.....
11-217	18% Superphosphate	T. R. Legg, Monticello	.....	.....	.....	0.55	19.30	.....
11-218	18% Superphosphate	C. Q. Myers, Knox City	.....	.....	.....	0.37	17.83	.....
11-219	18% Superphosphate	Dennis Truck Service, Salisbury	.....	.....	.....	0.65	19.15	.....
11-220	18% Superphosphate	Farmers Grain & Elevator Co., Owensville	.....	.....	.....	0.51	19.14	.....
11-221	18% Superphosphate	Roy Hartung, Bourbon	.....	.....	.....	0.49	19.21	.....
11-222	18% Superphosphate	Farm Bureau Sales & Pur. Assn., Farmington	.....	.....	.....	0.02	20.18	.....
11-223	18% Superphosphate	Lopez Store Co., Iron-ton	.....	.....	.....	0.62	19.18	.....
11-224	18% Superphosphate	I. H. Shell, Lutesville	.....	.....	.....	0.76	18.34	.....
11-225	18% Superphosphate	Lipscomb Grain & Seed Co., Irwin	.....	.....	.....	0.86	18.94	.....
11-226	18% Superphosphate	Norris Grain Co., Nevada	.....	.....	.....	0.76	18.59	.....
11-235	18% Superphosphate	Rozell and Davis, Ash Grove	.....	.....	.....	0.67	18.08	.....
		Average Analysis	.....	.....	.....	0.55	18.90	.....
		Guaranteed Analysis	.....	.....	.....	.....	18.00	.....
5-290	20% Superphosphate	John Cowan Hardware Co., Auxvasse	.....	.....	.....	0.01	20.99	.....
		Guaranteed Analysis	.....	.....	.....	.....	20.00	.....
5-291	0-10-20	R. C. Davis Cotton & Grain Co., Charleston	.....	.....	.....	0.24	10.22	20.20
5-292	0-10-20 ⁴	Kennett Cotton Co., Kennett	.....	.....	.....	0.09	11.01	18.75
		Average Analysis	.....	.....	.....	0.17	10.62	19.48
		Guaranteed Analysis	.....	.....	.....	.....	10.00	20.00
11-227	0-12-12	Frank Cunningham, Montgomery City	.....	.....	.....	0.34	12.36	12.42
		Guaranteed Analysis	.....	.....	.....	.....	12.00	12.00
5-293	0-14-7	Farmers Elevator & Exchange Co., Palmyra	.....	.....	.....	0.14	14.81	6.51
5-294	0-14-7	Vandalia Roller Mills, Vandalia	.....	.....	.....	0.43	14.75	7.57
5-295	0-14-7	Omer Webb, Jasper	.....	.....	.....	0.25	14.70	6.62
		Average Analysis	.....	.....	.....	0.27	14.75	6.90
		Guaranteed Analysis	.....	.....	.....	.....	14.00	7.00
11-228	0-14-7	Farmers Equity Exchange, Bowling Green	.....	.....	.....	0.49	14.01	6.54
11-229	0-14-7	C. Q. Myers, Knox City	.....	.....	.....	0.17	13.31	7.76
11-230	0-14-7	Farm Bureau Purchase & Sales Assn., Farmington	.....	.....	.....	0.48	15.17	7.22
11-231	0-14-7	I. H. Shell, Lutesville	.....	.....	.....	0.64	14.86	7.22
11-232	0-14-7 ⁴	Norris Grain Co., Nevada	.....	.....	.....	0.54	14.51	7.18
11-233	0-14-7	Greenfield Milling Co., Greenfield	.....	.....	.....	0.67	15.03	7.12
11-234	0-14-7	Rozell & Davis, Ash Grove	.....	.....	.....	0.50	14.45	7.09
		Average Analysis	.....	.....	.....	0.50	14.48	7.16
		Guaranteed Analysis	.....	.....	.....	.....	14.00	7.00
5-296	2-12-6	Marsh Hardware Co., Buffalo	2.00	93.5	.....	0.25	12.25	6.00
5-297	2-12-6	Lipscomb Grain & Feed Co., Irwin	2.13	93.4	.....	0.26	13.00	6.12

⁴Registration tags not attached.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES, 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
5-298	2-12-6	Cape County Milling Co., Jackson	2.27	98.0	....	0.18	12.62	6.20
5-299	2-12-6	Louise Hering, Naylor	2.12	94.8	....	0.21	13.05	6.07
5-300	2-12-6	Orvil Dickerson, Doniphan	2.04	92.7	....	0.37	12.69	5.96
5-301	2-12-6	Shaw Produce, Greentop	2.20	90.9	....	0.50	11.76	6.03
5-302	2-12-6 ³	Wiss & Wiss, Kahoka	2.19	93.6	....	0.36	12.60	6.40
5-303	2-12-6	Haldeman & Sons, Labelle	2.11	91.5	....	0.38	12.48	6.12
5-304	2-12-6 ⁴	Taylor Bros., Edina	2.23	91.9	....	0.19	12.33	6.07
5-305	2-12-6	Farmers Elevator Co., Shelbyville	2.03	93.6	....	0.29	12.67	6.12
5-306	2-12-6	Farmers Elevator & Exchange Co., Palmyra	2.13	95.3	....	0.37	12.45	6.23
5-307	2-12-6	Farmers Equity Exchange, Bowling Green	2.25	92.9	..	0.17	12.37	6.11
5-308	2-12-6	Marlin Milling Co., Seymour	2.23	89.7	....	0.42	12.06	6.12
5-309	2-12-6	Nixa Hardware Co., Nixa	2.02	92.1	....	0.28	12.52	5.92
5-310	2-12-6	Farmers, Elevator, Purdy	2.29	93.0	....	0.20	12.28	6.13
5-311	2-12-6	Allman Produce & Feed Co., Wheaton	2.03	88.7	....	0.31	12.89	5.40
		Average Analysis	2.14	92.5	....	0.30	12.54	6.07
		Guaranteed Analysis	2.00	....	....	....	12.00	6.00
11-236	2-12-6	Frank Cunningham, Montgomery City	1.92	93.8	....	0.55	12.00	6.28
11-237	2-12-6	Farmers Elevator & Supply Co., Hawk Point	2.09	94.3	....	0.46	12.62	6.18
11-238	2-12-6	Farmers Elevator & Exchange, Palmyra	2.07	94.2	....	0.36	12.59	6.28
11-239	2-12-6	Porter Seed & Feed Store, Canton	2.06	92.2	....	0.57	12.41	6.14
11-240	2-12-6	T. R. Legg, Monticello	1.92	93.2	....	0.17	12.56	6.06
11-241	2-12-6	C. Q. Myers, Knox City	2.09	91.4	....	0.17	12.56	6.18
11-242	2-12-6	Farmers Grain & Elevator Co., Owensville	2.00	94.5	....	0.34	13.34	6.05
11-243	2-12-6 ⁴	Roy Hasting, Bourbon	1.99	94.5	....	0.27	10.99	6.16
11-244	2-12-6	Farm Bureau Sales & Serv. Assn., Farmington	2.05	94.6	....	0.21	12.87	6.58
11-245	2-12-6	Lopez Store Co., Ironton	2.05	92.7	....	0.14	12.56	6.43
11-246	2-12-6	Drexel Elevator & Merc. Co., Drexel	2.05	86.8	....	0.39	12.21	6.61
11-247	2-12-6	Lipscomb Grain & Seed Co., Irwin	2.14	84.2	....	0.27	12.23	6.28
11-248	2-12-6	Norris Grain Co., Nevada	1.99	89.5	....	0.18	11.86	6.40
11-249	2-12-6	Greenfield Milling Co., Greenfield	2.00	99.0	....	0.18	12.77	6.23
11-250	2-12-6	Kozell & Davis, Ash Grove	2.02	86.0	....	0.14	12.07	6.35
		Average Analysis	2.03	92.1	....	0.29	12.38	6.28
		Guaranteed Analysis	2.00	....	....	....	12.00	6.00
5-312	3-9-18	Shelby Hardware Co., Charleston	3.02	94.7	....	0.18	10.42	17.97
5-313	3-9-18	Bertrand Cotton Co., Bertrand	3.05	96.7	....	0.10	9.38	18.17
5-314	3-9-18	R. C. Davis Cotton & Grain Co., Charleston	3.02	94.0	....	0.20	9.56	17.64
5-315	3-9-18	Planters Cotton Co., Sikeston	2.95	94.9	....	0.13	9.85	18.63
5-316	3-9-18	J. P. Ross Cotton Co., Essex	2.98	94.6	....	0.15	10.35	18.17
5-317	3-9-18	Farmers Union Gin Co., Senath	3.02	96.7	....	0.08	9.72	18.11

³Wrong registration tags.⁴Registration tags not attached.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
5-318	3-9-18	Kennett Cotton Co., Kennett	3.07	97.1	.....	0.12	10.22	16.85
5-319	3-9-18	Clay Co. Cotton Co., Neelyville	3.17	93.7	.....	0.21	10.69	14.22
		Average Analysis ..	3.04	95.3	.....	0.15	10.02	17.47
		Guaranteed Analysis	3.00	.....	.....	.....	9.00	18.00
5-320	3-12-12	Shaw Produce, Green- top	3.08	95.8	.....	0.17	12.67	12.01
5-321	3-12-12 ¹	Wiss & Wiss, Ka- hoka	3.43	92.1	.....	0.32	12.58	12.07
		Average Analysis ..	3.26	94.0	.....	0.25	12.63	12.04
		Guaranteed Analysis	3.00	.....	.....	.....	12.00	12.00
11-251	3-12-12	C. Q. Myers, Knox City	3.13	93.3	.....	0.19	12.81	12.33
11-252	3-12-12	Farm Bureau Purchase & Sales Assn., Farm- ington	3.04	94.7	.....	0.40	12.05	12.07
		Average Analysis ..	3.09	94.0	.....	0.30	12.43	12.20
		Guaranteed Analysis	3.00	.....	.....	.....	12.00	12.00
5-322	4-12-4	Marsh Hardware Co., Buffalo	3.90	93.3	.....	0.26	12.62	4.12
5-323	4-12-4	Winscomb Grain & Seed Co., Irwin	4.13	93.5	.....	0.25	12.51	4.07
5-324	4-12-4	Farmers Warehouse, Fredericktown	4.26	94.4	.....	0.12	12.72	4.09
5-325	4-12-4	Cape Co. Milling Co., Jackson	4.03	93.6	.....	0.24	12.24	4.26
5-326	4-12-4	Planters Cotton Co., Sikeston	3.82	92.7	.....	0.23	12.61	4.36
5-327	4-12-4 ¹	J. P. Ross Cotton Co., Essex	3.56	93.8	.....	0.17	12.93	4.76
5-328	4-12-4	Clay County Cotton Co., Neelyville	3.96	93.7	.....	0.43	12.73	4.11
5-329	4-12-4 ¹	Orvil Dickerson, Doni- phan	3.97	95.0	.....	0.19	12.69	4.08
5-330	4-12-4	Wiss & Wiss, Kahoka	3.91	97.4	.....	0.35	12.17	4.07
5-331	4-12-4	Farmers Elevator Co., Shelbyville	3.95	93.7	.....	0.46	12.46	4.07
5-332	4-12-4	Farmers Equity Ex- change, Bowling Green	4.14	97.1	.....	0.29	12.43	4.17
5-333	4-12-4	Vandalia Roller Mills, Vandalia	4.09	92.9	.....	0.34	12.74	4.13
5-334	4-12-4	Nixa Hardware Co., Nixa	4.00	94.5	.....	0.11	12.61	4.20
5-335	4-12-4	Omer Webb, Jasper	4.19	93.6	.....	0.51	12.25	4.09
		Average Analysis ..	3.99	94.2	.....	0.28	12.55	4.18
		Guaranteed Analysis	4.00	.....	.....	.....	12.00	4.00
11-253	4-12-4	Frank Cunningham, Montgomery City	4.22	94.1	.....	0.40	12.58	4.83
11-254	4-12-4	Farmers Equity Ex- change, Bowling Green	4.26	93.0	.....	0.40	12.38	4.44
11-255	4-12-4	C. Q. Myers, Knox City	3.62	93.4	.....	0.35	12.53	5.45
11-256	4-12-4	Farmers Grain and Elev. Co., Owensville	4.03	95.5	.....	0.17	12.43	4.46
11-257	4-12-4	H. A. Coleman, Steel- ville	4.37	87.2	.....	0.51	12.44	4.65
11-258	4-12-4	Farm Bureau Purchase & Sales Assn., Farm- ington	4.22	96.4	.....	0.91	12.07	4.76
11-259	4-12-4	Lopez Store Co., Iron- ton	4.31	93.0	.....	0.39	12.74	4.55
11-261	4-12-4	Rozell & Davis, Ash Grove	4.26	96.0	.....	0.09	11.81	4.58
		Average Analysis ..	4.16	93.6	.....	0.40	12.37	4.72
		Guaranteed Analysis	4.00	.....	.....	.....	12.00	4.00
5-336	4-12-8	Shaw Produce, Green- top	3.91	94.1	.....	0.14	13.14	8.04
		Guaranteed Analysis	4.00	.....	.....	.....	12.00	8.00
11-262	4-12-8	Taylor Bros., Edina	4.13	93.2	.....	0.55	12.65	8.54

¹Registration tags not attached.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble (to Total)	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
11-263	4-12-8	Lipscomb Grain & Seed Co., Irwin	4.18	93.1	....	0.43	12.30	8.03
		Average Analysis	4.16	93.2	....	0.49	12.48	8.28
		Guaranteed Analysis	4.00	....	....	....	12.00	8.00
5-337	Vigoro ¹ s	S. S. Kresge	4.37	94.5	....	0.20	12.92	4.40
5-338	Vigoro ⁴ s	St. Louis	4.31	92.6	....	0.06	13.90	4.60
5-339	Vigoro ⁸	Stix, Baer & Fuller Co., St. Louis	4.26	94.1	....	0.23	13.13	4.80
5-340	Vigoro	W. T. Grant Co., St. Joseph	4.31	93.7	....	0.19	12.81	4.60
5-341	Vigoro	Chesmore Seed Co., St. Joseph	4.12	93.9	....	0.25	13.51	4.73
5-342	Vigoro ⁴	Montgomery Ward & Co., Kansas City	4.17	94.0	....	0.43	13.37	4.43
5-343	Vigoro ⁸	Springfield Seed Co., Springfield	4.15	94.0	....	0.23	12.75	4.70
5-344	Vigoro ⁴	J. J. Newberry, Springfield	4.08	95.1	....	0.32	13.08	4.49
5-345	Vigoro	Shelby Hardware Co., Charleston	4.18	93.1	....	0.17	12.59	4.49
5-346	Vigoro	Planters Cotton Co., Sikeston	4.17	94.5	....	0.29	13.07	4.65
5-347	Vigoro	Farmers Elevator Co., Shelbyville	4.06	92.1	....	0.17	12.79	4.34
5-348	Vigoro ⁴	Nixa Hardware Co., Nixa	4.05	93.6	....	0.16	13.04	4.42
5-349	Vigoro	Branson Canning Co., Branson	4.00	95.0	....	0.08	13.60	4.97
		St. Louis Seed Co.	4.17	93.9	....	0.21	13.12	4.59
		Average Analysis	4.00	....	....	....	12.00	4.00
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
11-260	Vigoro	Greenfield Milling Co., Greenfield	4.23	91.7	....	0.43	13.00	4.16
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
		Temple Cotton Oil Co.						
		Little Rock, Arkansas						
5-350	Quapaw ¹	Bertrand Cotton Co., Bertrand	6.45	97.4	....	0.19	8.97	8.20
		Guaranteed Analysis	6.00	....	....	....	8.00	8.00
		Tennessee Corporation						
		Lockland, Ohio						
5-351	5-10-5 Loma	Palmer Seed Co., St. Louis	5.21	93.5	....	1.00	12.00	4.81
5-352	5-10-5 Loma	St. Louis Seed Co., St. Louis	5.18	93.1	....	0.81	12.25	4.80
		Average Analysis	5.20	93.3	....	0.91	12.13	4.89
		Guaranteed Analysis	5.00	....	....	....	10.00	5.00
		Virginia-Carolina Chemical Corp.						
		Memphis, Tennessee						
		V-C Brand						
5-353	18% Superphosphate	System Mills, Inc., Sedalia	....	....	....	1.10	20.65	....
5-354	18% Superphosphate	Lipscomb Grain & Seed Co., Irwin	....	....	....	0.35	20.40	....
5-355	18% Superphosphate	Brees Produce Co., Edina	....	....	....	1.96	19.39	....
5-356	18% Superphosphate	C. M. Dungan, Lentner	....	....	....	1.30	20.70	....
5-357	18% Superphosphate	R. R. Carter, Jasper	....	....	....	2.09	19.31	....
5-358	18% Superphosphate	H. L. Emery, Milo	....	....	....	0.29	20.56	....
		Average Analysis	....	....	....	1.18	20.17	....
		Guaranteed Analysis	....	....	....	....	18.00	....
11-264	18% Superphosphate	Goode & Harriman, Centerville	....	....	....	0.37	19.98	....
11-265	18% Superphosphate	Lipscomb Grain & Seed Co., Irwin	....	....	....	0.30	19.55	....

¹Not registered.⁴Registration tags not attached.⁸Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	
11-266	18% Superphosphate ^a	Burehfield Mill, Marshfield	....	....	....	1.54	19.56	....
	Average Analysis		....	....	....	0.74	19.70	....
	Guaranteed Analysis		....	....	....	....	18.00	....
5-359	20% Superphosphate	L. V. Trogdon, Bois D'Arc	....	....	....	0.83	22.92	....
	Guaranteed Analysis		....	....	....	....	20.00	....
11-267	20% Superphosphate	C. S. Cardwell & Ruth Cardwell, New Florence	....	....	....	0.15	21.70	....
11-268	20% Superphosphate	Frank Cunningham, Montgomery City	....	....	....	0.67	21.18	....
11-269	20% Superphosphate	Brees Produce Co., Edina	....	....	....	2.85	20.85	....
11-270	20% Superphosphate	Cole Co. Farmers Cop., Jefferson City	....	....	....	1.11	21.74	....
11-271	20% Superphosphate	Cuba Roller Mills, Cuba	....	....	....	1.87	21.23	....
11-272	20% Superphosphate	Rosser Produce Co., Farmington	....	....	....	1.94	21.51	....
11-273	20% Superphosphate	Layton Devenyns, Perryville	....	....	....	1.53	21.87	....
11-274	20% Superphosphate	Schultice Produce Co., Boonville	....	....	....	2.67	21.48	....
11-275	20% Superphosphate	Olson Feed & Supply Co., Pilot Grove	....	....	....	2.82	21.93	....
11-276	20% Superphosphate	W. D. Delozier Implement Co., Harrisonville	....	....	....	0.67	22.53	....
11-277	20% Superphosphate	Arnold Elevator & Mill, Butler	....	....	....	0.23	21.97	....
11-278	20% Superphosphate	Peoples Elevator, Rich Hill	....	....	....	0.19	21.81	....
11-279	20% Superphosphate	L. V. Trogdon, Bois D'Arc	....	....	....	0.27	22.28	....
	Average Analysis		....	....	....	1.31	21.70	....
	Guaranteed Analysis		....	....	....	....	20.00	....
11-280	0-10-20	Cuba Roller Mills, Cuba	....	....	....	0.80	11.43	19.78
	Guaranteed Analysis		....	....	....	....	10.00	20.00
5-360	0-14-7	Producers Grain Co., Eldorado Springs	....	....	....	0.91	14.34	7.20
	Guaranteed Analysis		....	....	....	....	14.00	7.00
11-281	0-14-7	L. V. Trogdon, Bois D'Arc	....	....	....	1.01	15.34	7.56
	Guaranteed Analysis		....	....	....	....	14.00	7.00
5-361	2-12-6	Central Feed Co., Springfield	2.27	93.3	....	1.43	11.79	5.25
5-362	2-12-6	Brees Produce Co., Edina	2.07	90.3	....	0.92	12.84	6.09
5-363	2-12-6	Paul Peabody, Bowling Green	2.26	94.3	....	1.05	12.43	6.18
5-364	2-12-6	N. P. Jacobsen, Diggins	2.13	92.0	....	1.49	12.91	6.07
5-365	2-12-6	L. V. Trogdon, Bois D'Arc	2.13	87.3	....	0.55	12.87	5.77
5-366	2-12-6	Berry Cash Store, Fairview	2.35	94.9	....	0.75	12.55	6.54
5-367	2-12-6	R. R. Carter, Jasper	2.07	90.3	....	0.89	12.55	6.04
5-368	2-12-6	H. L. Emery, Milo	2.18	90.3	....	1.00	12.64	6.05
5-369	2-12-6	Produce Grain Co., Eldorado Springs	2.08	93.3	....	0.79	12.45	6.06
	Average Analysis		2.17	92.0	....	0.99	12.56	6.01
	Guaranteed Analysis		2.00	....	....	....	12.00	6.00
11-282	2-12-6	Frank Cunningham, Montgomery City	2.09	91.9	....	0.90	11.83	6.16
11-283	2-12-6	Paul Peabody, Bowling Green	2.21	91.0	....	1.03	11.86	6.02
11-284	2-12-6	Cole Co. Farmers Cop., Jefferson City	2.17	83.9	....	0.43	12.65	6.56
11-285	2-12-6	J. R. Kergan, St. James	2.03	93.1	....	0.89	11.85	6.31

^aSample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1945 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
11-286	2-12-6	Cuba Roller Mills, Cuba	2.10	87.6	....	0.94	12.11	6.24
11-287	2-12-6	Potosi Mill & Elevator Co., Potosi	2.11	89.1	....	0.96	11.99	6.25
11-288	2-12-6	Rosser Produce Co., Farmington	2.31	90.5	....	0.96	12.14	6.52
11-289	2-12-6	Robinson Bros., Patton	2.08	94.7	....	0.49	13.01	6.67
11-290	2-12-6	Schriner Lbr. Co., Marble Hill	2.16	90.3	....	0.90	12.18	6.44
11-291	2-12-6	Maness & Schmidt, Ste. Genevieve	2.18	89.5	....	1.76	11.12	6.33
11-292	2-12-6	Peoples Elevator, Rich Hill	2.17	94.0	....	0.18	13.82	6.18
11-293	2-12-6	Lipscomb Grain & Seed Co., Irwin	2.14	89.7	....	1.08	12.05	6.13
11-294	2-12-6	Farmers Grain & Supply Co., Golden City	2.07	87.9	....	0.55	12.70	6.19
11-295	2-12-6	L. V. Trogdon, Bois D'Arc	2.58	94.6	....	1.80	11.70	6.33
		Average Analysis	2.17	90.9	....	0.92	12.22	6.31
		Guaranteed Analysis	2.00	....	....	....	12.00	6.00
5-370	Ammoniated Phospho Tobacco	C. M. Dungan, Lenton	2.09	90.0	....	1.00	13.16	6.13
		Guaranteed Analysis	2.00	....	....	....	12.00	6.00
11-296	3-12-12	Frank Cunningham, Montgomery City	3.18	92.8	....	1.02	12.28	12.03
		Guaranteed Analysis	3.00	....	....	....	12.00	12.00
5-371	4-12-4	Central Feed Co., Springfield	4.38	95.9	....	0.91	12.40	4.05
5-372	4-12-4	Breese Produce Co., Edina	4.34	94.5	....	1.50	11.91	4.78
5-373	4-12-4	L. V. Trogdon, Bois D'Arc	4.00	93.3	....	0.49	12.71	4.05
5-374	4-12-4	R. R. Carter, Jasper	4.03	95.0	....	1.78	11.94	4.56
		Average Analysis	4.19	94.7	....	1.17	12.26	4.36
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00
11-297	4-12-4	Frank Cunningham, Montgomery City	4.13	94.9	....	0.49	12.34	4.59
11-298	4-12-4	Cole Co. Farmers Co-op., Jefferson City	4.13	93.2	....	0.42	13.18 ^a	4.22
11-299	4-12-4	Potosi Mill & Elevator Co., Potosi	4.41	93.0	....	0.43	12.65	4.69
11-300	4-12-4	Rosser Produce Co., Farmington	4.44	97.5	....	0.40	12.79	4.14
11-301	4-12-4	Schreiner Lbr. Co., Marble Hill	4.02	94.0	....	0.58	12.40	6.22
11-302	4-12-4	L. V. Trogdon, Bois D'Arc	4.22	93.8	....	0.67	12.41	4.49
		Average Analysis	4.23	94.4	....	0.51	12.63	4.73
		Guaranteed Analysis	4.00	....	....	..	12.00	4.00
5-375	8-8-8	L. V. Trogdon, Bois D'Arc	7.81	97.3	....	0.40	9.66	6.95
		Guaranteed Analysis	8.00	....	....	....	8.00	8.00
11-303	8-8-8	Haubein's Hardware Co., Lockwood	6.88	97.7	....	0.96	9.26	7.89
		Guaranteed Analysis	8.00	....	....	....	8.00	8.00
5-376	Victory Garden Fertilizer	Central Feed Co., Springfield	4.42	95.5	....	0.97	12.39	4.21
		Guaranteed Analysis	4.00	....	....	....	12.00	4.00

^aSample drawn from less than five containers.

TABLE 4.—FERTILIZERS, WITH GUARANTEED ANALYSES, REGISTERED AND OFFERED FOR SALE IN MISSOURI, 1946

Manufacturer and Brand Names	Nitrogen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total in Bone	Avail-able	Insolu-ble	
J. C. Adderley & Associates Pensacola, Florida					
Vitaloid Phosphate .....	.....	.....	.....	20.00	.....
Total Phosphoric Acid Equivalent to .....	.....	.....	.....	20.00	.....
Allied Chemical & Dye Corporation 40 Rector Street New York 6, N. Y.					
Arcadian The American Nitrate of Soda	16.00	.....	.....	.....	.....
Sulphate of Ammonia	20.60	.....	.....	.....	.....
Arcadian Sulphate of Ammonia	20.60	.....	.....	.....	.....
The American Agricultural Chemical Co. National Stock Yards, Illinois					
18% Normal Superphosphate 0-18-0 .....	.....	.....	18.00	.....	.....
Agrico Phosphate & Potash 0-14-7 .....	.....	.....	14.00	.....	7.00
AA Quality Fertilizer 0-14-7 .....	.....	.....	14.00	.....	7.00
Agrico for Corn 2-12-6	2.00	.....	12.00	.....	6.00
Agrico for Tomatoes 2-12-6	2.00	.....	12.00	.....	6.00
AA Quality Fertilizer 2-12-6	2.00	.....	12.00	.....	6.00
Agrico for Cotton 3-9-18	3.00	.....	9.00	.....	18.00
AA Quality Fertilizer 3-9-18	3.00	.....	9.00	.....	18.00
Agrico for Midwest 3-12-12	3.00	.....	12.00	.....	12.00
AA Quality Fertilizer 3-12-12	3.00	.....	12.00	.....	12.00
Agrico for Cereals 4-12-4	4.00	.....	12.00	.....	4.00
AA Quality Fertilizer 4-12-4	4.00	.....	12.00	.....	4.00
Agrico for Truck 4-12-8	4.00	.....	12.00	.....	8.00
Agrico for Tobacco 4-12-8	4.00	.....	12.00	.....	8.00
Agrico for Top Dressing 8-8-8	8.00	.....	8.00	.....	8.00
Agrico for Gardens 4-12-4	4.00	.....	12.00	.....	4.00
Agrico for Lawns, Trees & Shrubs 6-10-4	6.00	.....	10.00	.....	4.00
American Cyanamid Company 30 Rockefeller Plaza New York 20, N. Y.					
20.6% 'Aero' Cyanamid Granular	20.60	.....	.....	.....	.....
21% 'Aero' Cyanamid Pulverized	21.00	.....	.....	.....	.....
American Liquid Fertilizer Co., Inc. Marietta, Ohio					
Liqua-Vita	6.00	.....	9.00	.....	7.00
Arkansas Fertilizer Company Little Rock, Arkansas					
White Diamond 0-10-20 .....	.....	.....	10.00	.....	20.00
White Diamond 0-12-12 .....	.....	.....	12.00	.....	12.00
White Diamond 0-14-7 .....	.....	.....	14.00	.....	7.00
White Diamond 2-12-6	2.00	.....	12.00	.....	6.00
White Diamond 3-9-18	3.00	.....	9.00	.....	18.00
White Diamond 3-12-12	3.00	.....	12.00	.....	12.00
White Diamond 4-12-4	4.00	.....	12.00	.....	4.00
White Diamond 5-10-10	5.00	.....	10.00	.....	10.00
White Diamond 10-6-4	10.00	.....	6.00	.....	4.00
White Diamond 20% Superphosphate .....	.....	.....	20.00	.50	.....
White Diamond 45% Superphosphate .....	.....	.....	45.00	.50	.....
White Diamond Manure Salts 22% .....	.....	.....	.....	.....	22.00
White Diamond Manure Salts 25% .....	.....	.....	.....	.....	25.00
White Diamond Manure Salts 30% .....	.....	.....	.....	.....	30.00
White Diamond Muriate of Potash 50% .....	.....	.....	.....	.....	50.00
Nitrate of Soda 16%	16.00	.....	.....	.....	.....
Ammonium Nitrate 32½%	32.50	.....	.....	.....	.....
Armour Fertilizer Works East St. Louis, Illinois					
Armour's Big Crop 4-12-8 Fertilizer	4.00	.....	12.00	.....	8.00
Armour's Big Crop 8-8-8 Fertilizer	8.00	.....	8.00	.....	8.00
Armour's Big Crop 10-6-4 Fertilizer	10.00	.....	6.00	.....	4.00
Armour's Big Crop 4-12-4 Fertilizer	4.00	.....	12.00	.....	4.00
Armour's Big Crop 3-12-12 Fertilizer	3.00	.....	12.00	.....	12.00
Armour's Big Crop 3-9-18 Fertilizer	3.00	.....	9.00	.....	18.00

TABLE 4.—FERTILIZERS, WITH GUARANTEED ANALYSES, REGISTERED AND OFFERED FOR SALE IN MISSOURI; 1946 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
			Per cent	Per cent	Per cent	Per cent	Per cent	
Armour's Big Crop 2-12-6 Fertilizer			2.00	.....	12.00	.....	6.00	
Armour's Big Crop 0-14-7 Fertilizer			14.00	.....	7.00	
Armour's Big Crop 0-12-12 Fertilizer			12.00	.....	12.00	
Armour's Big Crop 0-10-20 Fertilizer			10.00	.....	20.00	
Armour's Big Crop 20% Superphosphate			20.00	.....	.....
Armour's Big Crop 0-9-27 Fertilizer			9.00	.....	27.00	
Armour's Big Crop 8-16-16 Fertilizer			8.00	.....	16.00	.....	16.00	
Armour's Raw Bone Meal			3.75	22.00	.....	.....	.....
Armour's Rose Grower Bone Meal			3.75	22.00	.....	.....	.....
Armour's Special Growers Mixture 4-12-8			4.00	.....	12.00	.....	8.00	
Armour's Victory Garden Fertilizer 4-12-4			4.00	.....	12.00	.....	4.00	
Armour's Home Use Bone Meal			2.00	27.00	.....	.....	.....
Armour's Steam Bone Meal			2.00	27.00	.....	.....	.....
Armour's Florist Bone Meal			2.00	27.00	.....	.....	.....
Armour's Shredded Cattle Manure			1.75	.....	1.00	.....	1.00	
Armour's Pulverized Sheep Manure			1.50	.....	1.00	.....	1.00	
Armour's Special Ornamental 10-8-6			10.00	.....	8.00	.....	6.00	
Armour's Big Crop 3-12-12S Fertilizer			3.00	.....	12.00	.....	12.00S	
Armour's Big Crop 5-10-10 Fertilizer			5.00	.....	10.00	.....	10.00	
Ashcraft-Wilkinson Co.								
Atlanta, Georgia								
"Nitraprills" Fertilizer Compound								
Chemically prepared			33.50	.....	.....	.....	.....
Associated Cooperatives, Inc.								
310 Montgomery Avenue								
Sheffield, Alabama								
Concentrated Phosphate Fertilizer			45.00	.....	.....
Ammonium Nitrate Fertilizer			32.50	.....	.....	.....	.....
Atkins & Durbrow, Inc.								
165 John Street								
New York, N. Y.								
Driconure			2.00	.....	1.00	.....	1.00	
F. B. Chamberlain Co.								
510 Bittner Street								
St. Louis, Mo.								
Bump-R-Crop			10.00	.....	52.00	.....	17.00	
Chaumiere Farms								
Steelville, Missouri								
Poul-A-Nure			3.00	.....	2.75	.....	1.50	
Chilean Nitrate Sales Corp.								
120 Broadway								
New York 5, N. Y.								
Chilean Nitrate of Soda—Champion Brand			16.00	.....	.....	.....	.....
Chilean Nitrate of Soda—Original Old Style			16.00	.....	.....	.....	.....
Cloverset Flower Farm								
Kansas City, Missouri								
Cloverset Rose Grower			4.00	.....	12.00	.....	4.00	
The Colorado Fuel and Iron Corporation								
Denver and Pueblo, Colorado								
Silver Tip Sulphate of Ammonia			20.50	.....	.....	.....	.....
Comfort Mfg. Co.								
500 S. Throop Street								
Chicago, Illinois								
Craig Liquid Plant Food			9.00	.....	6.00	.....	3.00	
Darling & Company								
4201 S. Ashland Ave.								
Chicago, Illinois								
Darling's Eight Eight Eight 8-8-8			8.00	.....	8.00	.....	8.00	
Darling's Four Twelve Eight 4-12-8			4.00	.....	12.00	.....	8.00	
Darling's Field Marshal 4-12-4			4.00	.....	12.00	.....	4.00	

TABLE 4.—FERTILIZERS, WITH GUARANTEED ANALYSES, REGISTERED AND OFFERED FOR SALE IN MISSOURI; 1946 (Continued)

Manufacturer and Brand Names	Nitrogen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total in Bone	Avail-able	Insolu-ble	
	Per cent	Per cent	Per cent	Per cent	Per cent
Darling's Sure Winner 3-12-12	3.00	....	12.00	....	12.00
Darling's Crop King 2-12-6	2.00	....	12.00	....	6.00
Darling's Big Potash 3-9-18	3.00	....	9.00	....	18.00
Darling's Fourteen Seven 0-14-7 .....	....	....	14.00	....	7.00
Darling's Twelve Twelve 0-12-12 .....	....	....	12.00	....	12.00
Darling's Ten Twenty 0-10-20 .....	....	....	10.00	....	20.00
Darling's Nine Twenty-Seven 0-9-27 .....	....	....	9.00	....	27.00
Darling's 20% Superphosphate .....	....	....	20.00	....	....
Darling's 18% Superphosphate .....	....	....	18.00	....	....
Darling's Three Twelve Eight 3-12-8	3.00	....	12.00	....	8.00
The Davison Chemical Corporation					
Nashville, Tennessee, and 20 Hopkins Pl. Baltimore, Md.					
Davco Red Diamond Fertilizer 0-14-7 .....	....	....	14.00	1.00	7.00
Davco Red Diamond Fertilizer 2-12-6	2.00	....	12.00	1.00	6.00
Davco Red Diamond Fertilizer 4-12-4	4.00	....	12.00	1.00	4.00
Davco Red Diamond Fertilizer 4-12-8	4.00	....	12.00	1.00	8.00
Davco Granulated Superphosphate 20% .....	....	....	20.00	....	....
Davco Granulated Superphosphate 18% .....	....	....	18.00	....	....
E. I. du Pont de Nemours and Co.					
Wilmington 98, Delaware					
Du Pont Uramon Fertilizer Compound	42.00	....	....	....	....
Excell Laboratories					
2623 Indiana Avenue Chicago, Illinois					
"New Plant Life"	2.00	....	1.00	....	2.00
Farm Bureau Cooperative Assn., Inc.					
Columbus, Ohio					
20% Granular Superphosphate .....	....	....	20.00	.50	....
20% Powdered Superphosphate .....	....	....	20.00	.50	....
0-14-7 .....	....	....	14.00	.50	7.00
0-10-20 .....	....	....	10.00	.50	20.00
0-20-10 .....	....	....	20.00	.50	10.00
0-20-20 .....	....	....	20.00	.50	20.00
3-9-18	3.00	....	9.00	.50	18.00
3-12-12	3.00	....	12.00	.50	12.00
4-12-4	4.00	....	12.00	.50	4.00
4-12-8	4.00	....	12.00	.50	8.00
5-10-10	5.00	....	10.00	.50	10.00
8-8-8	8.00	....	8.00	.50	8.00
8-24-8	8.00	....	24.00	.50	8.00
Federal Chemical Co., Inc.					
Louisville, Kentucky					
Federal 2-12-6	2.00	....	12.00	....	6.00
Federal 3-9-18	3.00	....	9.00	....	18.00
Federal 4-12-4	4.00	....	12.00	....	4.00
Federal 8-8-8	8.00	....	8.00	....	8.00
Federal 10-6-4	10.00	....	6.00	....	4.00
Federal 0-10-20 .....	....	....	10.00	....	20.00
Federal 0-12-12 .....	....	....	12.00	....	12.00
Federal 0-14-7 .....	....	....	14.00	....	7.00
Federal 20% Superphosphate .....	....	....	20.00	....	....
A. H. Hoffman, Inc.					
Landisville, Pa.					
Hoffman Bone Meal	3.70	20.00	....	....	....
Hoffman Cow Manure (Dehydrated)	2.00	....	1.00	....	1.00
Hoffman Sheep Manure (Kiln-Dried)	1.50	....	1.00	....	2.50
Hoffman Poultry Manure (Dehydrated)	3.00	....	1.00	....	1.50
Hydroponic Chemical Company, Inc.					
315 West 39th Street New York 18, N. Y.					
Hyponex	7.00	....	6.00	....	19.00

TABLE 4.—FERTILIZERS, WITH GUARANTEED ANALYSES, REGISTERED AND OFFERED FOR SALE IN MISSOURI, 1946 (Continued)

Manufacturer and Brand Names	Nitrogen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total in Bone	Avail-able	Insolu-ble	
	Per cent	Per cent	Per cent	Per cent	Per cent
The Hy-Trous Corporation 131 State Street Boston, Massachusetts					
Hy-Trous	4.00	....	8.00	....	4.00
Kansas City Fertilizer Co. 7117 Troost Avenue Kansas City, Mo.					
Archer Brand Sheep Manure	2.00	....	1.00	....	2.00
Archer Brand Cattle Manure	2.00	....	1.00	....	1.00
Lange Brothers 1 Angelica Street St. Louis 7, Missouri					
Lange Brothers (LB)	10.00	....	6.00	....	4.00
Lange Brothers (LB)	8.00	....	8.00	....	8.00
Lange Brothers (LB)	4.00	....	12.00	....	8.00
Lange Brothers (LB)	4.00	....	12.00	....	4.00
Lange Brothers (LB)	3.00	....	12.00	....	12.00
Lange Brothers (LB)	2.00	....	12.00	....	6.00
Lange Brothers (LB) .....	....	....	20.00	....	10.00
Lange Brothers (LB) .....	....	....	14.00	....	7.00
Lange Brothers (LB) .....	....	....	12.00	....	12.00
Lange Brothers (LB) .....	....	....	9.00	....	27.00
Lange Brothers (LB) .....	....	....	20.00	....	....
Lange Brothers (LB) .....	....	....	45.00	....	....
McCormick & Co., Inc. Baltimore 2, Maryland					
Hy-Gro	13.00	....	26.00	....	13.00
Midwestern Phosphate Corp. Madison, Wisconsin					
Midwestern 20% Superphosphate .....	....	....	20.00	....	....
Missouri Chemical Co. Joplin, Missouri					
Merco 20% Superphosphate .....	....	....	20.00	....	....
Merco 0-12-12 .....	....	....	12.00	....	12.00
Merco 0-14-7 .....	....	....	14.00	....	7.00
Merco 2-12-6	2.00	....	12.00	....	6.00
Merco 3-12-12	3.00	....	12.00	....	12.00
Merco 4-12-4	4.00	....	12.00	....	4.00
Merco 5-10-10	5.00	....	10.00	....	10.00
Merco 4-16-0	4.00	....	16.00	....	....
Mr. O's Distributor for Missouri 926 Woodruff Building Springfield, Missouri					
Mr. O's Liquid Fertilized	10.00	....	6.00	6.00	3.00
Plantabbs Company 1 W. Biddle Street Baltimore 1, Maryland					
Fulton's Plantabbs	11.00	....	15.00	....	20.00
Plant-Chem., Inc. Operating University Hydroponic Service 1855 Market Street San Francisco, California					
Plant-Chem Salts	4.00	....	7.00	....	10.00
The Pulverized Manure Co. East St. Louis, Ill., and 503 Exchange Bldg. Union Stock Yards, Chicago 9, Ill.					
Wizard Brand Pulverized Sheep Manure	2.00	....	1.00	....	2.00
Wizard Brand Cow Manure	2.00	....	1.00	....	1.00
Ralston Purina Company St. Louis, Mo.					
Purina Plant Food	5.00	....	10.00	1.00	5.00

TABLE 4.—FERTILIZERS, WITH GUARANTEED ANALYSES, REGISTERED AND OFFERED FOR SALE IN MISSOURI; 1946 (Continued)

Manufacturer and Brand Names	Nitrogen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total in Bone	Avail-able	Insolu-ble	
	Per cent	Per cent	Per cent	Per cent	Per cent
Ra-Pid-Gro Corporation Dansville, N. Y.					
Ra-Pid-Gro	23.00	....	21.00	....	17.00
Ruhm Phosphate & Chemical Co. Mt. Pleasant, Tennessee					
"Red Seal Brand Ruhm's Phosphate Rock 30%" ..	....	....	3.00	27.00	....
"Red Seal Brand Ruhm's Phosphate Rock 32%" ..	....	....	3.00	29.00	....
O. M. Scott & Sons Co. Marysville, Ohio					
Scotts Turf Builder 8-8-4	8.00	....	8.00	....	4.00
Sears, Roebuck and Co. 925 South Homan Chicago, Illinois					
Garden Master Plant Food	4.00	....	12.00	....	4.00
Garden Master Sheep Manure	1.50	....	1.00	....	2.50
The Sewerage Commission of City of Milwaukee Milwaukee, Wisconsin					
Milorganite	6.00	....	2.00	.75	....
Smith Agricultural Chem. Co. Columbus 16, Ohio					
Sacco	4.00	....	12.00	....	4.00
Smith-Douglass Company, Inc. Streator, Illinois					
S-D Soil Saver	8.00	....	8.00	....	8.00
S-D Big Yield	3.00	....	18.00	....	9.00
S-D Corn Grower	3.00	....	12.00	....	12.00
S-D Old Standby	2.00	....	12.00	....	6.00
S-D Gro-Grain .....	....	....	20.00	....	10.00
S-D Hi-Po .....	....	....	12.00	....	12.00
Spencer Chemical Co. 610 Dwight Building Kansas City, Missouri					
Ammonium Nitrate (fertilizer grade)	32.50	....	....	....	....
Standard Wholesale Phosphate & Acid Works, Inc. Curtis Bay P. O. Box 207 Baltimore 26, Maryland					
Standard 20% Superphosphate .....	....	....	20.00	....	....
Standard 2-12-6	2.00	....	12.00	....	6.00
Standard 3-18-9	3.00	....	18.00	....	9.00
Standard 4-10-6	4.00	....	10.00	....	6.00
Standard 4-12-4	4.00	....	12.00	....	4.00
Standard 0-12-12 .....	....	....	12.00	....	12.00
Standard 0-14-7 .....	....	....	14.00	....	7.00
Standard 50% Muriate of Potash .....	....	....	....	....	50.00
Stockdale Fertilizer Co. Morris, Illinois					
"Ovene" Sheep (Manure)	2.00	....	1.00	....	2.00
Swift & Co. Plant Food Division National Stock Yards, Illinois					
Red Steer 10-6-4	10.00	....	6.00	....	4.00
Red Steer 4-12-4	4.00	....	12.00	....	4.00
Red Steer 2-12-6	2.00	....	12.00	....	6.00
Red Steer 3-9-18	3.00	....	9.00	....	18.00
Red Steer 0-12-12 .....	....	....	12.00	....	12.00
Red Steer 3-12-12	3.00	....	12.00	....	12.00
Red Steer 0-14-7 .....	....	....	14.00	....	7.00
Red Steer 4-12-8 (Regular)	4.00	....	12.00	....	8.00

TABLE 4.—FERTILIZERS, WITH GUARANTEED ANALYSES, REGISTERED AND OFFERED FOR SALE IN MISSOURI, 1946 (Continued)

Lab. No.	Manufacturer and Brands	Dealer or Purchaser	Nitrogen		Phosphoric Acid P ₂ O ₅			Water Soluble Potash K ₂ O
			Total	Water Soluble to Total	Total in Bone	Insoluble	Available	
Red Steer 4-12-8 (Tobacco Grower)			Per cent 4.00	Per cent	Per cent 12.00	Per cent	Per cent 4.00	Per cent 4.00
Red Steer 8-8-8			8.00	.....	8.00	.....	.....	8.00
Red Steer 0-10-20			10.00	.....	.....	20.00
Red Steer Superphosphate 18%			18.00	.....	.....	.....
Red Steer Superphosphate 20%			20.00	.....	.....	.....
Vigoro			4.00	.....	12.00	.....	.....	4.00
Pulverized Sheep and Cattle Manure			1.50	.....	1.00	.....	.....	1.75
Nitrate of Soda			16.00	.....	.....	.....	.....	.....
Ammonium Nitrate			33.50	.....	.....	.....	.....	.....
Sulphate of Ammonia			20.50	.....	.....	.....	.....	.....
Manure Salts			25.00
Muriate of Potash			50.00
Steam Bone Fertilizer			2.00	26.00	.....	.....	.....	.....
Cyanamid			21.00	.....	.....	.....	.....	.....
Temple Cotton Oil Co.								
North Little Rock, Ark.								
Quapaw 4-12-4			4.00	.....	12.00	.....	.....	4.00
Quapaw 3-9-18			3.00	.....	9.00	.....	.....	18.00
Quapaw 0-14-7			14.00	.....	.....	7.00
Muriate of Potash			50.00
Superphos			20.00	.....	.....	.....
Kainit			22.00
Tennessee Corporation								
Lockland, Ohio								
5-10-5 Loma			5.00	.....	10.00	.....	.....	5.00
Thomson Phosphate Company								
407 South Dearborn St.								
Chicago 5, Illinois								
Four Leaf Powdered Rock Phosphate			2.00	28.00	.....	.....
Equivalent to 30 per cent Total Phosphoric Acid.								
City of Toledo								
Toledo, Ohio								
Tol-e-Gro			2.00	.....	2.00	.....	.....	0.30
Virginia-Carolina Chemical Corp.								
East St. Louis, Illinois								
V-C Ammoniated Phospho Tobacco 3-12-12			3.00	.....	12.00	.50	.....	12.00
V-C Ammoniated Phospho Tobacco 2-12-6			2.00	.....	12.00	.50	.....	6.00
V-C Potash Phospho Tobacco 0-12-12			12.00	.50	.....	12.00
V-C Phospho Tobacco 0-18-0			18.00	.50	.....	.....
V-C Fertilizer 10-6-4			10.00	.....	6.00	.50	.....	4.00
V-C Fertilizer 4-12-8			4.00	.....	12.00	.50	.....	8.00
V-C Fertilizer 4-12-4			4.00	.....	12.00	.50	.....	4.00
V-C Fertilizer 3-12-12			3.00	.....	12.00	.50	.....	12.00
V-C Fertilizer 3-9-18			3.00	.....	9.00	.50	.....	18.00
V-C Fertilizer 2-12-6			2.00	.....	12.00	.50	.....	6.00
V-C Fertilizer 0-20-10			20.00	.50	.....	10.00
V-C Fertilizer 0-14-7			14.00	.50	.....	7.00
V-C Fertilizer 0-12-12			12.00	.50	.....	12.00
V-C Fertilizer 0-10-20			10.00	.50	.....	20.00
V-C Plow Sole Fertilizer 8-8-8			8.00	.....	8.00	.50	.....	8.00
V-C 45% Superphosphate			45.00	.50	.....	.....
V-C 20% Superphosphate			20.00	.50	.....	.....
V-C 18% Superphosphate			18.00	.50	.....	.....
Wallace Bros. Packing Co., Inc.								
Joplin, Missouri								
Wallace's Bone-Meal Fertilizer			2.94	22.60	.....	.....	.....	.....
Westover Nursery Co.								
8100 Olive Street Road								
St. Louis, Mo.								
Wesgro Cattle Manure			1.00	.....	1.00	.....	.....	2.00
Wesgro Sheep Manure			2.00	.....	1.00	.....	.....	2.00
Rosegro—Special Rose Plant Food.								
A Blood and Bone Mixture			3.30	25.00	.....	.....	.....	.....

TABLE 5a.—APPROXIMATE TONNAGE OF FERTILIZER SHIPPED INTO THE STATE OF MISSOURI BY COUNTIES, BASED UPON REPORTS OF SHIPMENTS BY THE FERTILIZER COMPANIES, 1945.

County	Spring	Fall	Total	County	Spring	Fall	Total
Adair	667.7	185.5	853.2	Linn	1285.7	292.7	1578.4
Andrew	116.0	74.0	190.0	Livingston	236.7	173.2	409.9
Atchison	440.8	60.0	500.8	McDonald	219.1	80.5	299.6
Audrain	1439.1	556.8	1995.9	Macon	692.7	291.8	984.5
Barry	992.8	744.1	1736.9	Madison	258.0	314.6	572.6
Barton	1583.9	2275.7	3859.6	Maries	75.9	117.6	193.5
Bates	1024.1	1625.8	2649.9	Marion	521.2	692.7	1213.9
Benton	598.2	725.0	1323.2	Mercer	815.0	256.0	1071.0
Bollinger	689.3	653.7	1343.0	Miller	117.1	170.3	287.4
Boone	958.6	570.3	1528.9	Mississippi	1159.0	4.0	1163.0
Buchanan	806.9	697.5	1504.4	Moniteau	506.0	510.2	1016.2
Butler	641.2	88.1	729.3	Monroe	980.7	514.8	1495.5
Caldwell	268.0	235.0	503.0	Montgomery	891.0	805.5	1696.5
Callaway	515.3	475.1	990.4	Morgan	315.8	507.2	823.0
Camden	44.8	43.0	87.8	New Madrid	773.9	5.0	778.9
Cape Girardeau	1012.0	1136.0	2148.0	Newton	1122.3	1197.1	2319.4
Carroll	764.9	401.3	1166.2	Nodaway	701.0	117.2	818.2
Carter	26.0	11.5	37.5	Oregon	151.8	219.8	371.6
Cass	939.7	654.3	1594.0	Osage	276.5	647.9	924.4
Cedar	505.0	480.0	985.0	Ozark	0.0	0.0	0.0
Chariton	405.8	508.9	914.7	Pemiscot	502.5	0.0	502.5
Christian	969.1	610.6	1579.7	Perry	416.8	779.0	1195.8
Clark	1137.6	278.6	1411.2	Pettis	577.6	644.2	1221.8
Clay	559.2	594.2	1153.4	Phelps	372.2	378.3	750.5
Clinton	720.2	208.0	928.2	Pike	860.8	680.9	1541.7
Cole	492.6	737.0	1229.6	Platte	875.7	310.8	1186.5
Cooper	277.3	277.4	554.7	Polk	1560.1	1039.6	2599.7
Crawford	209.6	197.0	406.6	Pulaski	70.8	101.8	172.6
Dade	687.0	1083.0	1770.0	Putnam	115.0	90.0	205.0
Dallas	93.2	120.0	213.2	Ralls	203.0	236.6	439.6
Davies	432.0	305.0	737.0	Randolph	544.9	225.3	770.2
DeKalb	380.0	85.0	465.0	Ray	698.3	311.5	1009.8
Dent	408.1	189.2	597.3	Reynolds	82.9	18.8	101.7
Douglas	119.5	75.0	194.5	Ripley	257.8	127.7	385.5
Dunklin	4144.9	131.0	4275.9	Saint Charles	314.3	934.4	1248.7
Franklin	517.5	1423.3	2240.8	Saint Clair	442.7	853.5	1301.2
Gasconade	336.5	794.6	1131.1	Saint Francois	790.6	593.2	1383.8
Gentry	345.3	75.0	420.3	Ste. Genevieve	225.1	326.2	551.3
Greene	3715.7	2275.9	5991.6	Saint Louis	2223.9	1041.9	3265.8
Grundy	355.7	225.0	580.7	Saline	564.1	200.3	764.4
Harrison	796.0	260.0	1056.0	Schuyler	529.9	111.0	640.9
Henry	427.0	904.0	1331.0	Scotland	971.5	81.8	1053.3
Hickory	398.2	178.4	576.6	Scott	1574.6	93.5	1668.1
Holt	135.0	13.2	148.2	Shannon	75.3	31.0	106.3
Howard	248.4	218.0	466.4	Shelby	698.9	365.8	1064.7
Howell	1076.3	330.2	1406.5	Stoddard	748.9	239.7	988.6
Iron	154.5	89.1	243.6	Stone	311.2	127.4	438.6
Jackson	2287.3	1543.8	3831.1	Sullivan	342.2	126.5	468.7
Jasper	2301.4	3654.1	5955.5	Taney	85.9	0.0	85.9
Jefferson	220.2	302.0	522.2	Texas	938.0	637.7	1575.7
Johnson	660.5	570.5	1231.0	Vernon	1215.7	1413.5	2629.2
Knox	624.0	292.4	916.4	Warren	313.1	685.4	998.5
Laclede	727.6	293.8	1021.4	Washington	276.5	205.5	482.0
Lafayette	816.1	549.9	1366.0	Wayne	251.7	92.4	344.1
Lawrence	1876.2	1421.5	2997.7	Webster	1056.3	1860.0	2916.3
Lewis	747.5	632.3	1379.8	Worth	271.0	0.0	271.0
Lincoln	756.6	1102.6	1859.2	Wright	1110.8	592.0	1702.8
				Grand Total	78163.9	56727.5	134891.4

TABLE 5b.—SUMMARY REPORT OF TONNAGE, SUBMITTED BY FERTILIZER COMPANIES AT THE CLOSE OF EACH SEASON, 1945.

Season	Total Tonnage	Bone	Super-phosphate	Mixed Fertilizer				
				High Grade	Standard Grade	Medium Grade	Low Grade	Misc.
Spring—1945	78326.7	71.3	24173.9	7599.0	42895.7	0.0	0.0	3586.8
Fall—1945	56812.2	20.0	22056.7	861.5	32054.2	0.0	0.0	1519.8
Year—1945	135138.9	91.3	46230.6	8460.5	74949.9	0.0	0.0	5406.6

TABLE 6.—TONNAGE OF FOOD NUTRIENTS SHIPPED INTO MISSOURI IN 1945 (Approx.)

Kind of Fertilizer	Plant Nutrients, Tonnage											
	Fertilizer Tonnage		Nitrogen		Phosphoric Acid From Bone		Available Phosphoric Acid		Insoluble Phosphoric Acid		Potash	
	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
Bone	71.3	20.0	1.52	0.54	18.77	4.95	....	....	....	....	....	....
Superphosphate	24173.9	22056.7	....	....	....	....	4854.46	4390.54	....	....	....	....
High Grade, Mixed	7599.0	861.5	194.58	21.29	....	....	726.62	113.20	....	....	1336.59	105.84
Standard Grade Mixed	42895.7	32054.2	1054.87	703.10	....	....	5183.60	3904.08	....	....	2495.74	1867.96
Medium Grade, Mixed .....	....	....	....	....	....	....	....	....	....	....	....	....
Nitrate of Soda	57.7	16.5	9.23	2.64	....	....	....	....	....	....	....	....
Sulphate of Ammonia .....	....	0.5	....	0.10	....	....	....	....	....	....	....	....
Cyanamid	91.1	93.2	19.13	19.57	....	....	....	....	....	....	....	....
Tankage	12.0	....	0.77	....	....	....	....	....	....	....	....	....
Ammonium Nitrate	510.8	129.7	168.85	42.80	....	....	....	....	....	....	....	....
Dried Manure	406.3	167.2	8.17	3.34	....	....	4.13	1.67	....	....	0.69	2.51
Sewerage Residue	479.0	461.0	28.18	27.11	....	....	9.58	9.22	....	....	0.04	....
Muriate of Potash	596.2	46.0	....	....	....	....	....	....	....	....	298.10	23.00
Manure Salts	573.7	....	....	....	....	....	....	....	....	....	143.42	....
Rock Phosphate	860.0	905.7	....	....	....	....	24.85	26.17	233.15	245.54	....	....
Totals	78326.7	56812.2	1485.30	820.49	18.77	4.95	10803.24	844.88	233.15	245.44	4280.53	1999.31
Grand Total 1945	135133.9			2305.79		23.72		19248.12		478.69		6279.89

DEFINITIONS OF TERMS; TABLES 5b AND 6

Bone—Bone meals (raw and steamed), tankage, dried blood and all other animal products (not manure) used as fertilizer are included.

Superphosphate—All grades from 16 to 45 per cent available phosphoric acid are listed here.

Mixed Fertilizer, High Grade—Fertilizer mixtures carrying a total of more than 24 units of fertilizer nutrients.

Mixed Fertilizer, Standard Grade—Fertilizer mixture carrying percentage of fertilizer nutrients totaling 20 to 24 units inclusive.

Mixed Fertilizer, Medium Grade—Fertilizer mixtures carrying percentages of fertilizer nutrients totaling less than 20 but not less than 14 units.

Mixed Fertilizer, Low Grade—Fertilizer mixtures carrying percentages of fertilizer nutrient totaling less than 14 units.

Miscellaneous—The present report includes the following materials under this classification: nitrate of soda, sulphate of ammonia, ammonium nitrate, cyanamid, dried manure, sewerage residue, rock phosphate, and potash salts.

TABLE 7.—TONNAGE OF SUPERPHOSPHATE AND FERTILIZER MIXTURES REPORTED AS SHIPPED
INTO MISSOURI IN 1945 (Approx.)

Fertilizer Grade	Spring Tons	Fall Tons	Total Tons	Fertilizer Grade	Spring Tons	Fall Tons	Total Tons
2-12-6	24276.3	21882.0	46158.3	0-10-20	925.5	18.5	944.0
0-20-0	13706.8	12666.1	26372.9	0-12-12	612.4	313.1	925.5
0-18-0	8737.0	7773.0	16510.0	10-6-4	660.8	95.6	756.4
4-12-4	9641.2	5760.2	15401.4	5-10-10	523.0	60.0	583.0
0-14-7	5770.5	3590.5	9361.0	0-9-27	534.0	.5	534.5
3-9-18	4681.1	81.6	4762.7	0-20-10 .....	....	166.5	166.5
0-19-0	895.0	1037.5	1932.5	6-12-4	64.0	25.5	89.5
3-12-12	933.4	527.9	1461.3	5-10-5	33.7	3.0	36.7
0-45-0	815.1	580.1	1395.2	6-10-4	29.4	0.1	29.5
8-8-8	950.7	210.8	1161.5	4-10-6	29.4	....	18.0
4-12-8	838.7	173.4	1012.1	0-20-20	2.0	6.5	8.5