

UNIVERSITY OF MISSOURI COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION

M. F. MILLER, *Director*

Registration, Labeling and
Inspection of Commercial
Fertilizers; 1939

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COLUMBIA, MISSOURI

Agricultural Experiment Station

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Registration, Labeling and Inspection of Commercial Fertilizers; 1939

M. F. MILLER, *Director*

L. D. HAIGH, E. W. COWAN, AND L. L. WISEMAN, *Chemists*

This bulletin presents the results of inspection of fertilizer stocks on sale and samples collected, for the spring and fall season of 1939. The director of the Missouri Experiment Station is designated the administrator of the Missouri Fertilizer Law which calls for registration of all brands offered for sale and furnishing of tags and labels certifying to the registration of the brands sold. Funds thus provided meet the cost of inspection, analysis of the samples and publication of the results, also authorized in the law.

SOME FACTS ABOUT THE MISSOURI FERTILIZER LAW

The Missouri Fertilizer Law imposes no restrictions as to kind or grade of fertilizer which may be sold in the state. It does provide that every thing sold as a fertilizer must be labeled showing the essential plant food it contains, given in percentages of total nitrogen, available phosphoric acid and water soluble potash. There are, of course, other recognized plant foods which are essential to plant growth in much smaller amounts. They are often present in fertilizers as accidental constituents,—sometimes they are deliberately added. Their purpose may or may not exert a fertilizing effect,—depending upon their need to the plant grown or their presence in the soil treated. Materials making up the bulk of the prepared fertilizer, determine practically all of its market value as sold. Thus the fertilizer law deals only with these major plant foods.

Recently much interest has been aroused in the project of growing plants without soil, by immersing the roots in a water solution of chemical salts carrying the essential plant foods. This is known as tank farming, hydroponics, plant chemiculture, etc. Mixtures of chemical salts or solutions of such salts are now being offered to the public for use in tank growing of plants. These goods require registration under the Missouri Fertilizer Law, and prospective buyers should not purchase these materials unless properly stamped with the Missouri registration stamp.

Questions arise as to whether certain materials come under the fertilizer law. The law states that “any material to be used as a fertilizer the selling price of which exceeds five dollars per ton shall have stamped” etc.

Manure obtained at the source of supply which has not been artificially dried, mulching matter such as peat moss, or partly decayed vegetable matter which has not been reinforced by the addition of chemical salts of nitrogen, phosphoric acid or potash, may be sold without registration. If material of this kind, however, is labeled fertilizer, guano or plant food, or statements on the label declare its value in adding plant food to the soil, and if it sells for more than five dollars per ton, it must be regarded as a fertilizer and the regulations of the state fertilizer law will apply to it.

ADMINISTRATION AND INSPECTION

During the year 1939, 65 manufacturers, importers, and companies registered one to 57 brands each for sale in the state. Funds handled under this project by the Experiment Station are reported under "Financial Statement."

The work of inspection included during the spring season visits to 113 towns in 40 counties and the collection of 242 samples. 275 dealers and consumers were contacted in these trips. In the fall seasons, 92 towns in 39 counties were visited, 284 dealers and consumers were contacted and 294 samples were collected from dealers and buyers. Stocks being offered for sale at stores and warehouses or in the hands of consumers who had purchased same for their use, were examined and samples drawn for analysis. The following deviations from the requirements of the law for registration, labeling, and tagging of stocks were noted and are here reported.

VIOLATIONS OF THE MISSOURI FERTILIZER LAW

Violations with respect to registration.—Registration had not been filed prior to sale in the following cases:

Ackwa, for tank farming, on sale at F. W. Woolworth Stores, St. Joseph, furnished by Ackwa Chemical Co., Kansas City, Mo.; A. A. Challenge Fertilizer sold to L. Haubein, Lockwood, by American Chemical Co., National Stock Yards, Ill.; Big Crop 0-12-4 sold to G. B. Beeny and Sons, Sheldon, and Big Crop 0-16-6 sold to R. R. Carter Mill and Elevator Co., Jasper, both by Armour Fertilizer Works, E. St. Louis, Ill.; Grogreen Fern Food sold to the F. W. Woolworth Co., St. Louis, by American Soda Products Co., of Moorestown, New Jersey; Silver Tip Sulphate of Ammonia sold to Thompson Hayward Chemical Co., Kansas City, by Colorado Fuel and Iron Co., Pueblo, Colorado; Coy's Grain Grower sold by J. H. Coy, Lockwood, Mo; Red Diamond 0-14-6 sold to R. R. Carter Mill and Elevator Co., Jasper, and Red Diamond 2-14-4 sold to E. L. Theurer Grain and Elevator, Lockwood, both from Davison Chemical Corpo-

ration, Baltimore, Maryland; Globe 0-14-4 Fertilizer sold to T. R. Owens, Arcola, Daybreak 2-16-2 sold to A. M. Broughton, Harwood, and Floyd Money-Maker 0-16-6 sold to Monroe County Farm Bureau Service, Paris, all from Federal Chemical Co., E. St. Louis; Hampton Park Dried Manure sold to Corneli Seed Co., St. Louis, by the J. Harris Manure Co., E. St. Louis; Driconure sold to F. W. Woolworth Co., St. Louis, by Atkins and Durbrow, Inc., New York; Standard 0-14-6 Fertilizer sold to Monroe County Farm Bureau Service by Standard Wholesale Phosphate and Acid Works, Inc., of Baltimore, Md.; V. C. 0-20-10 Fertilizer sold to Lipscomb Grain and Seed Co., Irwin, by Virginia Carolina Chemical Corporation, E. St. Louis, Ill.

On notification to all these companies registration was filed by them for these brands; except that Ackwa Chemical Co., has not responded with a registration and this case is being given special consideration.

Violations with respect to labeling.—Forty-five per cent Superphosphate without labels sold to T. R. Owens, Arcola by the American Agricultural Chemical Co.; wrong statements of guaranteed analysis on the labels of Barco Brands put out during the spring season by J. Paul Bartz manufacturer, Rockville, Mo.; in the fall season all labels had been changed on these goods to read correctly. Darling's Pure Ground Bone sold to Producers Exchange, Marshfield by Darling and Co., East St. Louis, was without labels; Old Fort Rais-Mor fertilizer sold to Rush Canning Co., Washburn, and to Farmers Exchange, Seligman, had labels stamped on the back of the registration tag instead of on a separate label tag; Natures Plant Food Cattle Manure sold to Stix-Baer and Fuller, St. Louis, and to Henry Schulz Feed Co., Webster Groves; Missouri Dahlia Farms, St. Louis County, carried incomplete labels written in pencil on the back of the registration tag; Pulverized Sheep Guano sold to State Line Coal and Feed Co., Westport Road, Kansas City, by Independent Packing Co., 955 State Line, Kansas City, Mo., carried incomplete labels written on the back of the registration tag; and the same brand from the same manufacturer was sold to Alexander Fuel and Lumber Co., E. Highway 50, Kansas City, without labels and tags; stocks of Ruhms Phosphate in storage at the warehouse of Mo-Zel Chemical Products Co., Union Blvd., St. Louis, and sold to W. E. Bennett, Jasper, by Ruhm Phosphate and Chemical Co., Mt. Pleasant, Tennessee, did not carry labels as to guaranteed analysis as required by the Missouri Fertilizer Law.

Violations with respect to registration tags.—The following stocks carried the wrong registration tags: AA Red Dragon 2-12-2 Fertilizer sold to Schulte Feed Store, Argyle, by American Agricultural

Chemical Co., carried 1939 Illinois registration tags; a part of the stock of White Diamond Fertilizer brands sold to Harwood Elevator Co. and to M. D. Grider, Appleton City, in 125 lb. sacks by Arkansas Fertilizer Co., Little Rock, Arkansas, carried the registration tags for 100 lb. sacks; some lots of fertilizer sold by Crocker Packing Co. in the spring of 1939 carried 1938 registration tags; also stocks of Ruhms Phosphate Rock on hand at the warehouse of Mo-Zel Chemical Products Co., St. Louis, carried 1938 registration tags.

The following lots were without registration tags on the sacks when inspected: AA Steam Bone Meal sold by St. Louis Seed Co., St. Louis, and AA Muriate of Potash sold by Patterson Supply Co., Carthage; Agrico for Corn sold by M. D. Grider, Appleton City, and by Neosho Milling Co., Neosho; Agrico for Wheat sold by M. D. Grider and AA 20 per cent Superphosphate sold by Neosho Milling Co., Wheaton; Sulphate of Ammonia sold by Bristol Supply Co., St. Joseph; Armours Garden and Lawn Fertilizer in 25 and 50 lb. packages sold by Neudorff Hardware Co., St. Joseph; Stimuplant sold by Chesmore Seed Co., St. Joseph, by Springfield Seed Co., Springfield, and by Scruggs-Vandervoort-Barney, St. Louis; Barco Lime and Manure Phosphate on hand at the respective farms of Carl Bracker, Rockville, of Charles Martz, Altonia, of C. K. Hendrickson, Culver; of J. Peterman, Rich Hill; also Barco Lime and Manure Superphosphate at farm of Frank Peters, Nevada, and of Ed Marquadt, Nevada; Darling's Pure Ground Bone on sale at Farmers Exchange, Jasper, and a carload of Darling's brands at the warehouse of the Ray Carroll County Grain Growers Assoc., Norborne; Ford Ammonium Sulphate sold by Lewis Auto Sales Garage, Rolla, and by Love Johnson Motor Co., St. Louis; Lecco fertilizer sold by Palmer Seed Co., St. Louis; Red Steer 20 per cent Superphosphate trucked from Kansas City, Kansas warehouse and on sale by J. Herman, Culver; Vigoro sold by Chesmore Seed Co., St. Joseph; a part of stock of Standard 20 per cent Superphosphate sold by Arnold Feed Store, Butler; another stock sold to R. E. Lewis, Altonia; Standard 20 per cent Superphosphate and Standard 4-16-4 sold to F. M. Stamper, Moberly, and by them to H. E. Stone Produce Co., Centralia; V.C. 2-14-4 sold by Lipscomb Grain and Seed Co., Irwin.

Registration tags missing from resacked goods.—Davco Granulated Fertilizer resacked by Rice Mercantile Co., Passaic; V.C. Fertilizer resacked by Mann Grain Co., Clinton; AA 16 per cent Superphosphate resacked at the warehouse of Lipscomb Grain and Seed Co., Irwin; Agrico for Cereals resacked at warehouse of Loehner and Frechtel, Freeburg.

OPERATIONS OF THE MISSOURI FERTILIZER LAW SOME EXPLANATIONS

To Manufacturers.—All fertilizer brands which are to be sold must be registered before sale is made. This requirement applies to all mixtures or material regardless of the amount to be made and sold. Blanks for this purpose will be supplied by the Director's office. Statements required to be made in the registration are set forth in the Missouri Fertilizer Law, printed copies of which may be obtained on request.

Every package, sack or container must be labeled to show the same statements as are required in the registration. Any additional statements on the label concerning the required plant food elements must be given as equivalents (see Section 12588 of the law).

Every package, sack, or container as sold to consumer must carry a registration tag or gummed registration label of the proper size as designated by weight of the package (see Section 12592 of the law). These registration tags or labels are furnished by the director on application which is accompanied by remittance to cover cost of same, provided however, that registration of brands for which the tags or labels are to be used has been filed that year with the Missouri Agricultural Experiment Station.

To Dealers and Others handling fertilizer for sale.—Offer for sale only brands which have been previously registered in that year by the manufacturer, importer, corporation, or person responsible for their appearance on the market. If in doubt, obtain information from the Missouri Agricultural Experiment Station on this point before purchase. When stock is received see that each bag or package carries complete labels as provided by law, and a registration tag or label dated for that year. No stock should be accepted and sold which does not meet these conditions.

When necessary to place stocks of fertilizer in new sacks, such sacks should also bear complete labels. The registration tags on the old sacks should be transferred to the new sacks.

To Farmers and Other Consumers of Fertilizer.—It is important that all fertilizer be registered as shown by the attached registration tag, and fully labeled. Therefore no fertilizer should be accepted from any seller which does not carry registration tags on each sack or package and does not carry complete labels showing guaranteed analysis and name and address of manufacturer.

The label of guaranteed analysis is very important. The following items must appear under Guaranteed Analysis:

1.—Superphosphate and all other phosphate fertilizers carrying guarantees of phosphoric acid only, must show the percentage of Available Phosphoric Acid.

2.—Bone fertilizers (steam bone, raw bone, blood and bone) must show the percentage of nitrogen and the percentage of total phosphoric acid.

3.—All Mixed Fertilizers must show the percentage of nitrogen, the percentage of available phosphoric acid and the percentage of potash (water soluble).

EXPLANATION OF TABLES

The facts and data presented in this bulletin in the form of tables numbered 1 to 8 are grouped into three divisions, namely.

I. The Results of Analysis (Tables 1, 2 and 3).

II. Registered Fertilizer Companies and brands (Table 4).

III. Fertilizer Sales Statistics for 1939 (Table 5, 6, 7, 8).

Further detailed explanations follow.

I. Results of Analysis

In Table 3 are presented the complete data for each sample analyzed. The percentage of nitrogen, available phosphoric acid, total phosphoric acid (in bone only) and of water soluble potash are given as found. These are compared with the guarantee of the manufacturer. Since a large proportion of active nitrogen in a mixed fertilizer is water soluble the percentage of the total nitrogen which is water soluble is also given.

The samples of the spring inspection are indicated by the prefix figure 6 and the samples of the fall inspection by the prefix figure 11. These are reported separately. All are listed under the name of the manufacturer who registers and places the goods on the market. All analyses of brands, for which more than one sample is reported in any season, are averaged for comparison with the guarantee.

The footnotes of Table 3 refer largely to violations of the law found by the inspectors. More detailed information may be obtained by referring to the paragraphs under "Violations of the Missouri Fertilizer Law."

In addition to water soluble nitrogen many fertilizers carry nitrogen in other forms which may or may not be classed as "active." All fertilizers which carry less than 66 per cent of the total nitrogen in water soluble form are tested for the quality of the nitrogen not in water soluble form. The following numbered samples carry nitrogen of inferior quality as indicated by these tests:—6-64, 6-76, 6-77, 6-78, 6-85, 6-86, 6-135, 6-138, 6-139, 6-140, 6-141, 6-142, 6-143, 6-144, 6-145, 6-147, 6-152, 6-153, 6-154, 6-155, 6-206, 6-207, 11-205.

Percentages of constituents falling below the guaranteed figures are printed in bold faced type. Some of these figures are so close

to the guarantee that the amount of the discrepancy is insignificant. However, the common policy of the manufacturer is to hold this figure somewhat above the guarantee.

There are reported a number of samples of fertilizer at the end of Table 3, page 36, which were sent in by buyers. The samples were not drawn by the inspector and therefore are marked "Unofficial." If the sample was obtained so as to represent the entire lot, the results may be considered dependable. Of course the sender is the only one who can supply this information.

Tables 1 and 2 summarize values and results of Table 3 by manufacturer and by kind of fertilizer. Table 2 refers to the deficient results obtained on analysis from the samples of all the companies. This table shows that there are more deficient nitrogen determinations than of any other constituent. However, the percentage of total deficient results is less than the year before, amounting to only 8.2 per cent as compared to 10.5 per cent for the year 1938.

Table 1 summarizes all the results from all the companies for three general kinds of fertilizer—superphosphate, bone and mixed and simple materials. It shows by means of an index figure the value furnished by each company in each kind of fertilizer material, calling the guaranteed value 100 per cent. For example, the index figure for all the superphosphate sold in the state is 108.3. This means that on the average, the value of superphosphate sold in the state was 8.3 per cent more than was guaranteed. If one wishes to compare the relative money value of the superphosphate from the different companies, it is only necessary to select a standard selling price for the superphosphate and multiply this by the index figure of the company for superphosphate. Similar calculations can be for other kinds of fertilizer by means of the appropriate index figure.

II. Registered Fertilizer Companies and Brands

Table 4 lists all the companies which have filed registration for the brands they propose to sell in 1940. The Missouri Agricultural Experiment Station has emphasized each year in this report, the safe and sane policy of buying only registered brands, from companies who file their registration in advance of sales. This table is therefore information to all prospective buyers indicating the brands of fertilizer offered for sale, which are properly placed on the market, and which will be inspected in connection with the fertilizer value claimed for them.

III. Fertilizer Sales and Statistics: 1939.

The data on fertilizer sales in Missouri is compiled from reports submitted at weekly intervals thru the year by the fertilizer companies. A carbon copy of their shipping form is sent in, showing number of packages and size, consignee, destination, and analysis. At the end of the year the companies have kindly submitted a summary report of all their sales, as a check on the week by week reports. These summary reports, total somewhat higher than the other, and may be considered as the more nearly correct figure. The compilers of this bulletin are aware of the absence of reports from certain companies whose totals probably do not greatly exceed one thousand tons. All the figures are therefore marked "approximate." It is the desire of the Experiment Station to improve the accuracy of this data year by year by enlisting one hundred per cent cooperation.

The approximate tonnage distributed each season into each county in the state is given in Table 5. While the total of these separate tonnages is low, we believe that the figures given indicate quite accurately, the relative distribution thruout the state.

Table 6 is a report of the total tonnage in each season classified as to kind and grade. The summary report submitted at the close of the year is included, with the tonnage classified in the same way. The data of the summary report forms the basis of the figures shown in Tables 7 and 8.

Table 7 gives the tonnage of plant food in the fertilizers sold and the kind of material from which they were derived.

Table 8 gives the tonnage of all brands of mixed fertilizer and superphosphate amounting to ten tons or more. The brand 2-12-2 which has led for a number of years now falls into second place, its sales being exceeded by 20 per cent superphosphate.

The classification terms used in Tables 6 and 7 are defined as follows:

Bone.—Includes those brands sold as Raw Bone Meal, Steamed Bone Meal, Blood and Bone, Dried Blood, etc., or animal matter not treated chemically.

Superphosphate.—Includes Acid Phosphate with guarantees of 16, 20, 32, and 45 per cent Available Phosphoric Acid.

Mixed Fertilizer, High Grade.—Includes brands or mixtures carrying two or three fertilizer constituents whose guaranteed percentages total 20 or more units. This division includes bone and superphosphate mixture known as Half and Half.

Mixed Fertilizer, Medium Grade.—Includes brands or mixtures carrying two or three fertilizer constituents whose guaranteed percentages total less than 20 units but not less than 14 units.

Mixed Fertilizer, Low Grade.—Includes brands or mixtures carrying two or three fertilizer constituents whose guaranteed percentages total less than 14 units.

Miscellaneous.—Includes simple fertilizer materials, except bone and superphosphate; these include nitrate of soda, sulphate of ammonia, potash salts, dried manure, cyanamid, rock phosphate, and sewerage residues.

BASICITY OF FERTILIZER SAMPLES—1939

The residual effect of representative fertilizer samples collected in 1939 from the different companies has been tested by the Experiment Station Laboratories as in previous years. The results vary for the different companies, some being much more basic than others. Apparently all companies which conduct a significant proportion of their fertilizer business in Missouri are adding enough base to the largely used brands to prevent excessive acid residual effects from their use.

HIGH GRADE MIXED FERTILIZER ADVOCATED IN MISSOURI

The purchase and use of high grade mixed fertilizer has been consistently taught by the Missouri Agricultural Experiment Station as good agricultural practice. The data printed in last year's bulletin is again presented with the additional data for 1939. It illustrates that this tendency toward the use of high grade materials continues.

Year	Mixed Fertilizer Total Tonnage	High Grade Total Tonnage	High Grade Per cent
1932	13160	2293	17.42
1933	15207	2710	17.82
1934	20649	4264	20.65
1935	28341	6011	21.21
1936	39739	9063	22.80
1937	37026	8770	23.68
1938	32198	8715	27.07
1939	30460	10364	34.02

TABLE 1.—SUMMARY OF AVERAGE VARIATIONS FROM MANUFACTURER'S GUARANTEE

Manufacturer	Superphosphate		Bone Fertilizer		Mixed Fertilizer and Simple Materials				All Fertilizers		
	No. Samples	Available P ₂ O ₅	No. Samples	Total Nitrogen	Total P ₂ O ₅	No. Samples	Total Nitrogen	Available P ₂ O ₅	Potash	No. Samples	All Constituents
		Ratio No. of found value		Ratio No. of found value	Ratio No. of found value		Ratio No. of found value	Ratio No. of found value	Ratio No. of found value		
American Agricultural Chemical Co.	18	107.3	1	137.0	98.0	56	103.2	108.2	108.5	75	107.5
American Cyanamid Co.	2	106.7	..	....	....	2	101.3	....	....	4	104.5
Anaconda Copper Mining Company	6	107.3	..	....	....	..	....	....	....	6	107.3
Arkansas Fertilizer Co.	2	110.7	..	....	....	2	103.0	105.6	130.0	4	109.4
Armour Fertilizer Works	8	108.4	1	110.0	107.0	29	101.6	108.5	113.7	38	108.1
Barrett Company ....	..	....	..	....	....	3	100.8	....	....	3	100.8
J. Paul Bartz	3	112.5	..	....	....	5	91.9	108.2	101.3	8	108.3
Chaumiere Farms ....	..	....	..	....	....	3	120.8	120.4	114.0	3	119.2
Colorado Fuel and Iron Company ....	..	....	..	....	....	2	103.9	....	....	2	103.9
Crocker Packing Company	4	106.9	1	106.6	128.9	6	101.2	117.3	108.7	11	112.7
Cudahy Packing Company ....	..	....	..	....	....	2	107.7	138.6	94.2	2	117.0
Darling and Co., Darling Brands	8	106.3	1	97.8	107.1	25	102.8	108.8	111.4	34	107.9
Darling and Co., M.F.A. Brands	19	107.2	1	95.6	109.3	35	100.7	104.4	114.2	55	106.5
Davison Chemical Corporation	7	105.4	..	....	....	12	107.7	106.0	118.3	19	107.3
Federal Chemical Co., Globe and Daybreak Brands	11	109.0	..	....	....	19	107.0	105.7	106.6	30	107.2
Federal Chemical Co., Floyd Money Maker Brands	1	102.9	..	....	....	12	103.4	104.8	104.0	13	104.4
Fort Smith Cotton Oil Co.	1	112.8	..	....	....	4	101.6	102.6	102.7	5	104.3
A. H. Hoffman, Inc. ....	..	....	1	105.9	113.7	3	101.6	129.3	103.5	4	112.5
Kansas City Fertilizer Co. ....	..	....	..	....	....	2	116.5	138.5	240.7	2	162.8
Missouri Dahlia Farms ....	..	....	..	....	....	3	126.7	185.0	171.3	3	160.7
Pearson and Ferguson Chemical Co. ....	..	....	1	107.4	110.6	3	100.5	105.7	137.6	4	109.3
Plantabbs Corporation ....	..	....	..	....	....	2	105.7	140.4	132.7	2	128.8
Pulverized Manure Co. ....	..	....	..	....	....	4	95.9	216.7	237.6	4	166.0
E. Rauh and Sons Co.	1	105.2	..	....	....	4	100.0	101.5	107.8	5	103.6
Sewerage Commission, Milwaukee, Wis. ....	..	....	..	....	....	2	100.2	125.2	....	2	106.4
Standard Wholesale Phosphate and Acid Works	4	109.8	..	....	....	4	101.2	108.6	114.0	8	109.3
Swift and Company Fertilizer Works	15	111.5	4	106.4	108.7	77	104.2	109.7	108.8	96	109.0
Tennessee Corporation ....	..	....	..	....	....	3	105.5	114.6	103.2	3	109.8
Virginia Carolina Chemical Corporation	9	111.8	..	....	....	45	102.8	108.2	108.8	54	108.3
Totals	119	108.3	11	107.6	109.7	369	103.2	108.5	111.1	499	108.3

TABLE 2.—SUMMARY OF TOTAL AND DEFICIENT FERTILIZER CONSTITUENTS (1939 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.	No.	%	No.	No.	%	No.	No.	%
American Agricultural Chemical Company	56	1	..	1	1	..	73	0	..	56	1	..	186	3	..
American Cyanamid Company	2	0	..	0	0	..	2	0	..	0	0	..	4	0	..
Anaconda Copper Mining Co.	0	0	..	0	0	..	6	0	..	0	0	..	6	0	..
Archias Seed Store Corporation	1	0	..	0	0	..	1	0	..	1	0	..	3	0	..
Arkansas Fertilizer Company	2	1	..	0	0	..	4	0	..	2	0	..	8	1	..
Armour Fertilizer Works	27	6	..	1	0	..	35	0	..	27	0	..	90	6	..
Barrett Company	3	0	..	0	0	..	0	0	..	0	0	..	3	0	..
J. Paul Bartz	4	3	..	0	0	..	1	0	..	4	3	..	9	6	..
Blood and Bone Products Co.	0	0	..	0	0	..	1	0	..	0	0	..	1	0	..
Chaumiere Farms	3	0	..	0	0	..	3	0	..	3	0	..	9	0	..
Colorado Fuel and Iron Corporation	2	0	..	0	0	..	0	0	..	0	0	..	2	0	..
J. H. Coy	0	0	..	0	0	..	1	0	..	0	0	..	1	0	..
Crocker Packing Company	7	3	..	1	0	..	10	0	..	5	0	..	23	3	..
Cudahy Packing Company	2	1	..	0	0	..	2	0	..	2	1	..	6	2	..
Darling and Company, Darling Brands	25	7	..	1	0	..	33	0	..	24	2	..	83	9	..
Darling and Company, M.F.A. Brands	33	10	..	1	0	..	55	2	..	36	1	..	125	13	..
Davison Chemical Corporation	11	4	..	0	0	..	19	1	..	12	1	..	42	6	..
Federal Chemical Company, Globe & Daybreak Brands	15	3	..	0	0	..	30	2	..	19	3	..	64	8	..
Federal Chemical Company, Floyd Money Maker Brands	10	2	..	0	0	..	13	2	..	12	0	..	35	4	..
Ford Motor Company	2	0	..	0	0	..	0	0	..	0	0	..	2	0	..
Fort Smith Cotton Oil Company	4	2	..	0	0	..	5	2	..	4	0	..	13	4	..
Harris Manure Co.	1	1	..	0	0	..	1	0	..	1	0	..	3	1	..
A. H. Hoffman, Inc.	4	0	..	1	0	..	3	1	..	3	0	..	11	1	..
Independent Packing and Storage Co.	1	1	..	0	0	..	1	1	..	1	1	..	3	3	..
Kansas City Fertilizer Company	2	0	..	0	0	..	2	0	..	2	0	..	6	0	..
Lyman Carrier	1	1	..	0	0	..	1	1	..	1	0	..	3	2	..
Missouri Dahlia Farms	3	1	..	0	0	..	3	0	..	3	0	..	9	1	..
Pearson Ferguson Chemical Co.	4	1	..	1	0	..	3	1	..	3	0	..	11	2	..
Plantabbs Corporation	2	0	..	0	0	..	2	0	..	2	0	..	6	0	..
Pulverized Manure Company	4	3	..	0	0	..	4	0	..	4	0	..	12	3	..
E. Rauh and Sons Fertilizer Company	2	1	..	0	0	..	5	0	..	4	0	..	11	1	..
Rynveld and Sons	1	0	..	1	0	..	0	0	..	0	0	..	2	0	..
O. M. Scott and Sons Co.	1	0	..	0	0	..	1	1	..	1	0	..	3	1	..
Sewerage Commission, Milwaukee, Wis.	2	1	..	0	0	..	2	0	..	0	0	..	4	1	..
Smith Agricultural Chemical Co.	1	0	..	0	0	..	1	0	..	1	0	..	3	0	..
Standard Wholesale Phosphate and Acid Works	3	0	..	0	0	..	8	0	..	4	0	..	15	0	..
Swift and Company Fertilizer Works	76	4	..	4	0	..	90	0	..	75	3	..	245	7	..
Tennessee Corporation	3	0	..	0	0	..	3	0	..	3	0	..	9	0	..
Virginia-Carolina Chemical Corporation	42	5	..	0	0	..	54	2	..	45	3	..	141	11	..
Wallace Bros. Packing Company	1	1	..	1	0	..	0	0	..	0	0	..	2	1	..
Total	363	68	17.4	13	1	7.7	478	16	3.3	360	19	5.3	1214	99	8.2

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939

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	
Agricultural Laboratories Columbus, Ohio								
6-3	Stim-U-Plant ⁷	Scruggs-Vandervoort-Barney, Inc., St. Louis	11.84	99.7	----	0.01	12.31	19.94
		Guaranteed Analysis	11.00	----	----	----	12.00	15.00
American Agricultural Chemical Co. National Stock Yards, Ill. AA Brands								
6-4	Superphosphate, 16%	Edmondson Feed Co., Springfield	----	----	----	1.23	17.22	----
		Guaranteed Analysis	----	----	----	0.50	16.00	----
11-1	Superphosphate, 16% ⁸	Lipscomb Grain & Seed Co., Irvin	----	----	----	1.16	16.84	----
11-2	Superphosphate, 16%	Lamar Mills, Lamar	----	----	----	1.06	16.84	----
11-3	Superphosphate, 16%	Owensville Roller Mills, Owensville	----	----	----	0.18	17.52	----
		Average Analysis	----	----	----	0.80	17.07	----
		Guaranteed Analysis	----	----	----	0.50	16.00	----
6-5	Superphosphate, 20%	Polo Elevator Co., Polo	----	----	----	1.40	21.85	----
6-6	Superphosphate, 20%	Patterson Supply Co., Carthage	----	----	----	1.72	21.43	----
6-7	Superphosphate, 20%	Neosho Milling Co., Neosho	----	----	----	1.69	21.61	----
6-8	Superphosphate, 20% ¹	Neosho Milling Co., Wheaton	----	----	----	1.22	21.88	----
		Average Analysis	----	----	----	1.51	21.69	----
		Guaranteed Analysis	----	----	----	0.50	20.00	----
11-4	Superphosphate, 20%	Lamar Mills, Lamar	----	----	----	1.05	21.25	----
11-5	Superphosphate, 20%	Meadville Grain Co., Meadville	----	----	----	0.90	21.10	----
11-6	Superphosphate, 20%	Taylor & Witte, Edina	----	----	----	0.93	21.52	----
11-7	Superphosphate, 20% ⁷	Russellville Farmers Shipping Assn., Russellville	----	----	----	1.43	21.42	----
11-8	Superphosphate, 20%	Lochner & Fechtel, Freeburg	----	----	----	1.10	21.55	----
11-9	Superphosphate, 20%	Fred Head, Golden City	----	----	----	1.06	21.09	----
11-10	Superphosphate, 20%	St. Thomas Mercantile Co., St. Thomas	----	----	----	1.06	21.59	----
11-11	Superphosphate, 20%	E. C. Biles, Belle	----	----	----	1.35	21.15	----
11-12	Superphosphate, 20% ⁷	Rosebud Feed Co., Rosebud	----	----	----	0.90	21.75	----
11-13	Superphosphate, 20%	West End Feed Store, Bourbon	----	----	----	0.92	21.58	----
		Average Analysis	----	----	----	1.07	21.40	----
		Guaranteed Analysis	----	----	----	0.50	20.00	----
6-9	Elm Mixture	Glen Allen Store Co., Glen Allen	----	----	----	0.65	17.15	7.48
		Guaranteed Analysis	----	----	----	0.50	16.00	6.00
11-14	Elm Mixture	Innes Roller Mills, Warrensburg	----	----	----	1.00	17.70	6.64
		Guaranteed Analysis	----	----	----	0.50	16.00	6.00
6-10	Red Dragon Fertilizer ⁷	Brookshire Hdwe Co., Diamond	2.16	89.4	----	1.29	12.63	2.43
6-11	Red Dragon Fertilizer	Neosho Milling Co., Neosho	2.06	88.8	----	1.23	12.51	2.41
6-12	Red Dragon Fertilizer	Perry County Milling Co., Perryville	2.09	87.1	----	1.39	12.55	2.32
6-13	Red Dragon Fertilizer	Neosho Milling Co., Wheaton	2.10	83.8	----	1.57	12.15	2.77
		Average Analysis	2.10	87.3	----	1.37	12.46	2.48
		Guaranteed Analysis	2.00	----	----	0.50	12.00	2.00
11-15	Red Dragon Fertilizer	Innes Roller Mills, Warrensburg	2.05	84.9	----	1.77	12.59	2.61
11-16	Red Dragon Fertilizer	Lamar Mills, Lamar	2.01	88.1	----	1.06	12.80	2.68
11-17	Red Dragon Fertilizer	Farmers Produce & Grain Co., Hamilton	2.17	88.9	----	1.73	13.13	2.79

1. Registration tags not attached. 7. Sample drawn from less than five containers.
8. Goods resacked.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
11-18	Red Dragon Fertilizer	Gallatin Flour & Feed Co., Gallatin	2.09	89.0	----	1.11	12.63	2.62
11-19	Red Dragon Fertilizer	Doscher & Henderson, Philadelphia	2.08	86.7	----	1.26	12.62	2.63
11-20	Red Dragon Fertilizer	St. Thomas Mercantile Co., St. Thomas	2.00	85.0	----	0.83	13.17	2.74
11-21	Red Dragon Fertilizer ⁶	Joe F. Schulte Feed Store, Argyle	2.10	87.6	----	1.45	12.47	2.62
11-22	Red Dragon Fertilizer	Cash Feed Store, St. Clair	2.15	84.2	----	2.03	12.59	2.84
		Average Analysis	2.08	86.8	----	1.41	12.75	2.69
		Guaranteed Analysis	2.00	----	----	0.50	12.00	2.00
11-23	Farmers Friend Fertilizer	Farmers Exchange, Nevada	2.10	92.4	----	1.25	12.41	4.43
11-24	Farmers Friend Fertilizer	R. R. Carter Mill & Elevator, Jasper	2.00	93.5	----	0.98	13.29	4.53
		Average Analysis	2.05	93.0	----	1.09	12.85	4.48
		Guaranteed Analysis	2.00	----	----	0.50	12.00	4.00
6-14	Antler Fertilizer	Neosho Milling Co., Wheaton	2.09	96.7	----	1.12	13.12	6.28
		Guaranteed Analysis	2.00	----	----	0.50	12.00	6.00
11-25	Antler Fertilizer	Geo. J. Chappel, Troy	2.08	95.1	----	0.75	12.91	6.57
11-26	Antler Fertilizer	E. W. Bueneman, Wright City	2.01	94.5	----	0.74	13.14	6.48
11-27	Antler Fertilizer	Nebel's Buying Station, Wellsville	2.04	93.1	----	0.85	12.91	6.51
		Average Analysis	2.04	94.2	----	0.78	12.99	6.52
		Guaranteed Analysis	2.00	----	----	0.50	12.00	6.00
11-28	Challenge Fertilizer ¹	L. Haubein, Lockwood	2.03	92.6	----	0.84	15.01	4.00
		Guaranteed Analysis	2.00	----	----	0.50	14.00	4.00
11-29	Gilt Edge Fertilizer	C. H. Honold, Beaufort	2.01	90.0	----	0.75	17.08	2.53
		Guaranteed Analysis	2.00	----	----	0.50	16.00	2.00
6-15	Steam Bone Meal, 2-27-0 ¹⁷	St. Louis Seed Co., St. Louis	2.74	12.4	26.45	----	----	----
		Guaranteed Analysis	2.00	----	27.00	----	----	----
6-16	Muriate of Potash ¹⁷	Patterson Supply Co., Carthage	----	----	----	----	----	46.84
		Guaranteed Analysis	----	----	----	----	----	50.00
6-17	Agrico for Cereals	E. L. Blodgett, Fairview	4.14	98.1	----	0.56	13.38	4.98
		Guaranteed Analysis	4.00	----	----	0.50	12.00	4.00
6-18	Agrico for Corn ¹	M. D. Grider, Appleton City	3.17	96.2	----	1.44	15.34	6.82
6-19	Agrico for Corn ¹	Neosho Milling Co., Neosho	3.01	96.3	----	1.43	14.80	6.74
6-20	Agrico for Corn	Cape Egg & Feed Co., Cape Girardeau	3.12	95.2	----	1.43	15.02	6.49
6-21	Agrico for Corn	Elfrink & Son, Leopold	3.11	94.5	----	1.60	14.83	6.17
6-22	Agrico for Corn	St. Francois Co. Farm Bureau Pur. & Sales Assn., Bismarck	3.23	96.3	----	1.51	15.29	6.46
6-23	Agrico for Corn ⁷	Schulte Feed Store, Argyle	3.22	96.3	----	1.20	15.65	6.32
6-24	Agrico for Corn	Neosho Milling Co., Wheaton	3.02	96.0	----	1.15	15.15	6.73
6-25	Agrico for Corn	Clever Hdwe Co., Clever	3.06	95.4	----	1.23	15.37	6.17
		Average Analysis	3.12	95.8	----	1.37	15.18	6.49
		Guaranteed Analysis	3.00	----	----	0.50	14.00	6.00
6-26	Agrico for Grain	Patterson Supply Co., Carthage	2.06	94.2	----	1.18	13.06	4.31
6-27	Agrico for Grain	Neosho Milling Co., Neosho	2.12	92.5	----	1.22	13.24	4.37
6-28	Agrico for Grain	Neosho Milling Co., Wheaton	2.03	94.1	----	1.18	13.34	4.21
		Average Analysis	2.07	93.6	----	1.19	13.21	4.30
		Guaranteed Analysis	2.00	----	----	0.50	12.00	4.00
11-30	Agrico for Grain	Lamar Mills, Lamar	2.11	90.5	----	1.06	12.56	4.45

1. Registration tags not attached. 4. Not registered. 6. Wrong registration tags.
7. Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
11-31	Agrico for Grain	Geo. J. Chappel, Troy ..	2.12	93.4	----	0.89	13.03	4.63
11-32	Agrico for Grain	St. Thomas Mercantile Co., St. Thomas	2.01	92.5	----	0.93	12.61	4.68
11-33	Agrico for Grain	R. R. Carter Mill & Elevator, Jasper	2.09	90.9	----	1.23	12.65	4.55
11-34	Agrico for Grain	T. R. Owens, Arcola	2.11	91.5	----	1.06	12.26	4.39
11-35	Agrico for Grain	Turk Milling Co., Mt. Vernon	2.18	91.3	----	0.85	12.95	4.77
		Average Analysis...	2.10	91.7	----	1.00	12.68	4.59
		Guaranteed Analysis	2.00	----	----	0.50	12.00	4.00
6-29	Agrico for Tobacco ⁷	Geo. Knighton, Platte City	4.06	96.8	----	0.56	11.00	6.34
6-30	Agrico for Tobacco	Weston Elevator, Weston	4.04	97.0	----	0.57	11.01	6.79
		Average Analysis...	4.05	96.9	----	0.57	11.01	6.57
		Guaranteed Analysis	4.00	----	----	0.50	10.00	6.00
6-31	Agrico for Tomatoes	Neosho Milling Co., Neosho	2.16	97.7	----	1.18	12.70	6.30
6-32	Agrico for Tomatoes	Neosho Milling Co., Wheaton	2.11	92.9	----	1.13	13.07	6.31
		Average Analysis...	2.14	95.3	----	1.16	12.89	6.31
		Guaranteed Analysis	2.00	----	----	0.50	12.00	6.00
6-33	Agrico for Truck	B. F. Larkin, Courtney .	4.11	96.4	----	0.83	12.07	6.03
6-34	Agrico for Truck	Patterson Supply Co., Carthage	4.11	96.8	----	0.76	11.70	6.29
6-35	Agrico for Truck	Neosho Milling Co., Neosho	4.12	96.6	----	0.71	11.55	6.34
6-36	Agrico for Truck	Neosho Milling Co., Wheaton	4.06	96.8	----	0.77	11.51	6.09
		Average Analysis...	4.10	96.7	----	0.77	11.71	6.20
		Guaranteed Analysis	4.00	----	----	0.50	10.00	6.00
6-37	Agrico for Wheat ¹	M. D. Grider, Appleton City	2.17	94.5	----	1.15	13.01	6.47
		Guaranteed Analysis	2.00	----	----	0.50	12.00	6.00
11-36	Agrico for Wheat	Lamar Mills, Lamar ..	2.00	94.5	----	0.63	13.23	6.30
11-37	Agrico for Wheat	Farmers Exchange No. 544, Shelbyville	2.12	92.5	----	0.93	13.07	6.66
11-38	Agrico for Wheat	Vandalia Roller Mills, Vandalia	2.04	93.1	----	0.70	13.22	6.57
11-39	Agrico for Wheat	J. R. Harness, Montgomery City	2.02	93.1	----	0.82	13.32	6.82
11-40	Agrico for Wheat	R. R. Carter Mill & Elevator, Jasper	2.12	93.4	----	0.95	13.23	6.79
11-41	Agrico for Wheat	Hokanson Bros., Strafford	2.13	93.4	----	0.96	12.90	6.63
		Average Analysis...	2.07	93.3	----	0.83	13.16	6.63
		Guaranteed Analysis	2.00	----	----	0.50	12.00	6.00
6-38	Agrinite, All Organic Turf Food ⁷	Henry Schulz Feed Co., Webster Groves	8.25	28.8	----	----	----	----
		Guaranteed Analysis	8.50	----	----	----	----	----
	American Cyanamid Co. 30 Rockefeller Plaza New York, New York							
6-39	32% Aero Superphosphate	Pearson Ferguson Chemical Co., Kansas City	----	----	----	0.39	33.81	----
6-40	32% Aero Superphosphate ⁷	Crocker Packing Co., Joplin	----	----	----	0.18	34.47	----
		Average Analysis...	----	----	----	0.29	34.14	----
		Guaranteed Analysis	----	----	----	----	32.00	----
6-41	Aero Cyanamid ⁵	B. F. Larkin, Courtney .	21.26	94.5	----	----	----	----
6-42	Aero Cyanamid ⁵	Thompson Hayward Chemical Co., Kansas City	21.28	94.5	----	----	----	----
		Average Analysis...	21.27	94.5	----	----	----	----
		Guaranteed Analysis	21.00	----	----	----	----	----

1. Registration tags not attached. 5. Registration tags concealed from view.

7. Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
	Anaconda Copper Mining Co.							
	Anaconda, Montana							
6-44	Anaconda Treble Superphosphate	Pearson Ferguson Chemical Co., Kansas City	----	----	----	2.83	45.67	----
6-45	Anaconda Treble Superphosphate	Dannen Grain & Milling Co., St. Joseph	----	----	----	2.63	46.42	----
6-46	Anaconda Treble Superphosphate	Thompson Hayward Chemical Co., Kansas City	----	----	----	2.99	45.46	----
		Average Analysis...	----	----	----	2.82	45.85	----
		Guaranteed Analysis	----	----	----	3.00	43.00	----
11-42	Anaconda Treble Superphosphate	New Florence Milling Co., New Florence ..	----	----	----	2.02	46.33	----
11-43	Anaconda Treble Superphosphate	W. C. White, Montgomery City	----	----	----	1.97	46.38	----
11-44	Anaconda Treble Superphosphate	Martinsburg Farmers Elevator, Martinsburg ..	----	----	----	1.70	46.60	----
		Average Analysis...	----	----	----	1.90	46.44	----
		Guaranteed Analysis	----	----	----	3.00	43.00	----
	Archias Seed Store Corporation							
	Sedalia, Missouri							
6-47	Archias Fairy Brand Plant Food ⁷	Archias Seed Store, Sedalia	13.70	99.9	----	0.02	26.06	16.23
		Guaranteed Analysis	10.00	----	----	----	12.00	11.00
	Arkansas Fertilizer Co.							
	Little Rock, Arkansas							
6-48	White Diamond 20% Superphosphate	Wise Feed & Seed Co., Springfield	----	----	----	0.76	21.94	----
		Guaranteed Analysis	----	----	----	0.50	20.00	----
11-45	White Diamond Fertilizer 0-20-0 ⁰	Harwood Elevator, Harwood	----	----	----	0.36	22.34	----
		Guaranteed Analysis	----	----	----	0.50	20.00	----
11-46	White Diamond Fertilizer 2-12-2 ⁰	Harwood Elevator, Harwood	2.18	98.2	----	0.36	12.76	2.27
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
11-47	White Diamond Fertilizer 2-16-2 ⁰	Harwood Elevator, Harwood	1.94	94.3	----	0.69	16.81	2.93
		Guaranteed Analysis	2.00	----	----	----	16.00	2.00
	Armour Fertilizer Works							
	Chicago Heights, Ill.							
6-49	Armour's Garden & Lawn Fertilizer ^{1 2}	Neudorff Hdwe. Co., St. Joseph	4.11	97.3	----	0.20	8.82	6.36
		Guaranteed Analysis	4.00	----	----	----	8.00	6.00
	Armour Fertilizer Works							
	East St. Louis, Ill.							
6-50	Armour's Special Tree Food	St. Louis Seed Co., St. Louis	10.44	99.1	----	0.06	8.88	6.45
		Guaranteed Analysis	10.00	----	----	----	8.00	6.00
6-51	Armour's Sulphate of Ammonia ¹	Bristol Supply Co., St. Joseph	20.94	100.0 ³	----	----	----	----

1. Registration tags not attached. 2. Labels incorrect or incomplete. 3. Not actually determined.
 6. Wrong registration tags. 7. Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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	
6-52	Armour's Sulphate of Ammonia	Central Hardware Co., St. Louis	20.59	100.0 ³	---	---	---	---
		Average Analysis	20.77	100.0 ³	---	---	---	---
		Guaranteed Analysis	20.50	---	---	---	---	---
6-53	Armour's 18-12-6 Fertilizer ²	Hurst John, Columbia	17.84	99.9	---	0.00	12.08	6.58
		Guaranteed Analysis	18.00	---	---	---	12.00	6.00
6-54	16% Superphosphate	J. B. Heckmaster, Diamond	---	---	---	0.47	17.83	---
		Guaranteed Analysis	---	---	---	---	16.00	---
11-48	16% Superphosphate	Farmers Exchange, Nevada	---	---	---	0.43	17.62	---
		Guaranteed Analysis	---	---	---	---	16.00	---
6-55	20% Superphosphate	J. B. Heckmaster, Diamond	---	---	---	0.40	22.40	---
		Guaranteed Analysis	---	---	---	---	20.00	---
11-49	20% Superphosphate	Jewell Davis, Rockville	---	---	---	0.40	21.75	---
11-50	20% Superphosphate	Karrenbrock Milling Co., Wentzville	---	---	---	0.33	21.57	---
11-51	20% Superphosphate	Prairie Milling Co., Montgomery City	---	---	---	0.38	21.42	---
11-52	20% Superphosphate	Nebels Buying Station, Wellsville	---	---	---	0.26	21.54	---
11-53	20% Superphosphate	George J. Marr, Cuba	---	---	---	0.29	20.71	---
		Average Analysis	---	---	---	0.33	21.40	---
		Guaranteed Analysis	---	---	---	---	20.00	---
11-54	0-12-4 ¹	G. B. Beeny & Sons, Sheldon	---	---	---	0.14	12.26	4.53
		Guaranteed Analysis	---	---	---	---	12.00	4.00
11-55	0-14-6	Lipscomb Grain & Seed Co., Irwin	---	---	---	0.14	15.36	6.20
		Guaranteed Analysis	---	---	---	---	14.00	6.00
11-56	0-16-6 ⁴	R. R. Carter Mill & Elevator, Jasper	---	---	---	0.46	17.02	6.55
		Guaranteed Analysis	---	---	---	---	16.00	6.00
6-56	2-12-2	B. H. Feed & Produce Co., Farmington	2.10	83.3	---	1.01	13.07	2.58
6-57	2-12-2	R. E. Larkin, Esther	2.15	86.5	---	0.88	12.62	3.22
6-58	2-12-2	Farrall Feed Mill, Belgrade	2.01	82.1	---	1.06	12.70	2.59
6-59	2-12-2	Spear Brand Mills, Inc., Springfield	2.07	82.6	---	0.82	13.34	2.98
		Average Analysis	2.08	83.6	---	0.94	12.93	2.84
		Guaranteed Analysis	2.00	---	---	---	12.00	2.00
11-57	2-12-2	G. Lawrence Hines, Harwood	2.02	87.1	---	0.80	12.92	3.16
11-58	2-12-2	H. L. Emery & Sons, Milo	2.02	82.2	---	0.70	12.78	2.40
11-59	2-12-2	Karrenbrock Milling Co., Wentzville	1.88	83.0	---	0.66	13.38	2.55
11-60	2-12-2	H. E. Diekroeger, Wright City	2.08	84.1	---	0.50	13.34	2.57
11-61	2-12-2	Harry Wilmesher Implement Co., Cuba	1.98	82.8	---	0.57	12.71	2.60
		Average Analysis	2.00	83.8	---	0.65	13.03	2.66
		Guaranteed Analysis	2.00	---	---	---	12.00	2.00
11-62	2-12-4	Lipscomb Grain & Seed Co., Irwin	2.04	89.7	---	0.95	12.81	4.28
		Guaranteed Analysis	2.00	---	---	---	12.00	4.00
6-60	2-12-6 ²	J. B. Heckmaster, Diamond	2.00	90.0	---	0.37	12.99	6.62
		Guaranteed Analysis	2.00	---	---	---	12.00	6.00
11-63	2-12-6	G. Lawrence Hines, Harwood	2.04	90.2	---	1.00	12.92	7.17
11-64	2-12-6	P. O. Foristell, Foristell	1.89	91.0	---	0.96	13.60	6.38
		Average Analysis	1.97	90.6	---	0.98	13.26	6.78
		Guaranteed Analysis	2.00	---	---	---	12.00	6.00

2. Labels incorrect or incomplete. 3. Not actually determined. 4. Not registered.
7. Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
6-61	3-9-18	Glenn Matthews, Sikeston	3.00	95.7	----	0.13	10.21	18.96
		Guaranteed Analysis	3.00	----	----	----	9.00	18.00
11-65	3-18-3	P. O. Foristell, Foristell	3.16	94.0	----	0.67	19.03	3.90
		Guaranteed Analysis	3.00	----	----	----	18.00	3.00
6-62	4-8-6	C. E. Lankford, Bertrand	3.97	96.2	----	0.16	8.60	6.27
6-63	4-8-6	Spear Brand Mills, Inc., Springfield	4.03	95.3	----	0.25	9.01	6.34
		Average Analysis...	4.00	95.8	----	0.21	8.81	6.31
		Guaranteed Analysis	4.00	----	----	----	8.00	6.00
11-66	4-12-4	Haubein & Son Hardware Co., Lockwood	4.11	93.7	----	0.40	13.06	4.46
		Guaranteed Analysis	4.00	----	----	----	12.00	4.00
11-67	4-16-4	Ruby Green, Kirksville	4.02	96.0	----	0.26	17.94	4.35
11-68	4-16-4	R. R. Carter Mill & Elevator, Jasper	3.97	94.2	----	0.51	17.19	4.56
		Average Analysis...	4.00	95.1	----	0.39	17.57	4.46
		Guaranteed Analysis	4.00	----	----	----	16.00	4.00
11-69	Bone Meal 2-27	Prairie Milling Co., Montgomery City	2.20	8.2	23.90	----	----	----
		Guaranteed Analysis	2.00	----	27.00	----	----	----
6-64	Shredded Cattle Manure	Knaup Floral Co., Cape Girardeau	2.61	22.2	----	0.18	2.04	2.99
		Guaranteed Analysis	2.00	----	----	----	1.00	2.00
The Barrett Co. 40 Rector St. New York, New York								
6-65	Arcadian Nitrate of Soda ¹ 7	Chesmore Seed Co., St. Joseph	16.21	100.0 ³	----	----	----	----
6-66	Arcadian Nitrate of Soda ⁷	Corneli Seed Co., St. Louis	16.11	100.0 ³	----	----	----	----
6-67	Arcadian Nitrate of Soda ¹	Thompson Hayward Chemical Co., Kansas City	16.08	100.0 ³	----	----	----	----
		Average Analysis...	16.13	100.0 ³	----	----	----	----
		Guaranteed Analysis	16.00	----	----	----	----	----
J. Paul Bartz Rockville, Missouri								
6-68	Barco XX Lime and Manure Phosphate ² 7	Geo. Siegesmund, Rockville	----	----	----	19.25	2.15	----
6-70	Barco XX Lime and Manure Phosphate ² 7	H. A. Nolte, Appleton City	----	----	----	20.80	4.60	----
		Average Analysis...	----	----	----	20.03	3.38	----
		Guaranteed Analysis	----	----	----	20.00	0.00	----
11-70	Barco XX Lime and Manure Phosphate ²	Jewell Davis, Rockville	----	----	----	19.80	2.80	----
11-71	Barco XX Lime and Manure Phosphate ^{1 2}	Carl Bracker, Rockville	----	----	----	20.00	2.35	----
11-72	Barco XX Lime and Manure Phosphate ²	J. Herman, Culver	----	----	----	19.65	1.30	----
11-73	Barco XX Lime and Manure Phosphate ^{1 2}	Chas. Martz, Altonia	----	----	----	19.30	1.55	----
11-74	Barco XX Lime and Manure Phosphate ^{1 2}	C. K. Hendrickson, Butler	----	----	----	19.90	2.65	----
11-75	Barco XX Lime and Manure Phosphate ^{1 7 2}	J. Peterman, Rich Hill	----	----	----	19.00	3.05	----
11-77	Barco XX Lime and Manure Phosphate ²	Herbert Brokaw, Nevada	----	----	----	19.50	2.60	----
		Average Analysis...	----	----	----	19.59	2.33	----
		Guaranteed Analysis	----	----	----	20.00	0.00	----
11-76	Barco XXX Lime and Manure Phosphate ²	Joe Hockstetter, Nevada	----	----	----	27.45	5.60	----

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7. Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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	
11-78	Barco XXX Lime and Manure Phosphate ^{1 2}	Carl Bracker, Rockville	----	----	----	26.90	4.70	----
		Average Analysis...	----	----	----	27.18	5.15	----
		Guaranteed Analysis	----	----	----	30.00	0.00	----
11-79	Barco XX Lime and Manure Superphosphate ²	Joe Hockstetter, Nevada	----	----	----	0.10	22.90	----
11-80	Barco XX Lime and Manure Superphosphate ²	Frank Peters, Nevada	----	----	----	0.10	22.20	----
11-81	Barco XX Lime and Manure Superphosphate ^{1 2}	Ed Marquadt, Nevada	----	----	----	0.08	22.42	----
		Average Analysis...	----	----	----	0.09	22.51	----
		Guaranteed Analysis	----	----	----	----	20.00	----
6-71	Barco "204" Lime and Manure Fertilizer ^{2 7}	Geo. Siegesmund, Rockville	----	----	----	20.80	3.25	3.80
		Guaranteed Analysis	----	----	----	20.00	0.00	4.00
11-82	Barco LimeAnure 2-12-2	Joe Hockstetter, Nevada	2.01	92.5	----	2.26	12.99	3.01
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
6-72	Barco 220 Fertilizer ^{2 7}	H. A. Nolte, Appleton City	1.60	97.5	----	20.34	2.86	----
		Average Analysis...	2.00	----	----	20.00	0.00	----
6-73	Barco 226 Fertilizer ²	Geo. Siegesmund, Rockville	1.90	97.9	----	19.35	2.75	5.49
6-74	Barco 226 Fertilizer ²	J. Paul Bartz, Rockville	1.84	98.9	----	19.34	2.76	5.93
		Average Analysis...	1.87	98.4	----	19.35	2.76	5.71
		Guaranteed Analysis	2.00	----	----	20.00	0.00	6.00
	Blood & Bone Products, Inc.							
	East St. Louis, Illinois							
11-83	Steer Head 20% Superphosphate ²	F. W. Merk, Gerald	----	----	----	0.44	19.06	----
		Guaranteed Analysis	----	----	----	----	20.00	----
	Chaumiere Farms Steelville, Missouri							
6-76	Poul-A-Nure	Palmer Seed Co., St. Louis	3.39	46.6	----	0.22	2.94	1.92
6-77	Poul-A-Nure	Wilbur Nursery, Clayton	3.27	50.8	----	0.21	3.08	1.69
6-78	Poul-A-Nure	Chaumiere Farms, Steelville	3.31	43.8	----	0.24	3.01	1.52
		Average Analysis...	3.32	47.1	----	0.22	3.01	1.71
		Guaranteed Analysis	2.75	----	----	----	2.50	1.50
	Colorado Fuel & Iron Corporation Pueblo, Colorado							
6-79	Silver Tip Sulphate of Ammonia ⁴	Unity Farms, Jackson County	20.77	100.0 ³	----	----	----	----
6-80	Silver Tip Sulphate of Ammonia ⁴	Thompson Hayward Chemical Co., Kansas City	20.82	100.0 ³	----	----	----	----
		Average Analysis...	20.80	100.0 ³	----	----	----	----
		Guaranteed Analysis	20.00	----	----	----	----	----
	Coy Rock and Grain Grower Works Lockwood, Missouri							
11-84	J. H. Coy's Grain Grower	J. H. Coy, Lockwood	----	----	----	0.55	6.21	----
		Guaranteed Analysis	----	----	----	----	6.00	----
	Crocker Packing Company Joplin, Missouri							
	Interstate Brands							
6-81	Superphosphate, 16%	Factory, Joplin	----	----	----	0.51	17.79	----
6-82	Superphosphate, 16%	Brookshire Hdwe. Co., Diamond	----	----	----	0.52	16.98	----
		Average Analysis...	----	----	----	0.52	17.33	----
		Guaranteed Analysis	----	----	----	----	16.00	----
6-83	Superphosphate, 20%	Factory, Joplin	----	----	----	0.82	21.53	----
		Guaranteed Analysis	----	----	----	----	20.00	----

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4. Not registered. 7. Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
11-85	Superphosphate 20%	J. H. Coy, Lockwood	----	----	----	0.42	20.68	----
		Guaranteed Analysis	----	----	----	----	20.00	----
6-84	Potato Special 2-8-10	Carlson Seed Co., Joplin	2.44	66.8	----	0.16	8.38	10.40
		Guaranteed Analysis	2.00	----	----	----	8.00	10.00
6-85	2-12-2	Factory, Joplin	1.82	51.1	----	0.35	12.23	2.80
6-86	2-12-2	Carlson Seed Co., Joplin	2.00	57.5	----	0.45	12.53	2.80
		Average Analysis	1.91	54.3	----	0.40	12.38	2.80
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
6-87	Lawn, Vegetable & Flower Grower	Factory, Joplin	3.90	50.5	----	0.37	9.51	6.04
		Guaranteed Analysis	4.00	----	----	----	8.00	6.00
6-88	4-16-4	Factory, Joplin	4.04	77.7	----	0.25	17.75	4.04
		Guaranteed Analysis	4.00	----	----	----	16.00	4.00
6-89	Steam Bone 2½-24	Factory, Joplin	2.40	50.4	30.95	----	----	----
		Guaranteed Analysis	2.25	----	24.00	----	----	----
6-90	Half and Half	Factory, Joplin	1.19	47.9	----	4.00	21.70	----
		Guaranteed Analysis	1.20	----	----	6.00	14.00	----
Cudahy Packing Co. Kansas City, Kansas Bigwin Brands								
6-91	4-8-6 Fertilizer ⁶	Parkview Pharmaciés, Kansas City	3.84	74.5	----	2.00	12.46	6.03
6-92	4-8-6 Fertilizer ⁶	Dannen Grain & Milling Co., St. Joseph	4.78	51.5	----	1.44	9.72	5.28
		Average Analysis	4.31	63.0	----	1.72	11.09	5.66
		Guaranteed Analysis	4.00	----	----	----	8.00	6.00
Darling & Company Chicago, Illinois Darling's Brands								
6-93	16% Superphosphate	P. A. Fassold, Perryville	----	----	----	0.63	17.87	----
		Guaranteed Analysis	----	----	----	----	16.00	----
11-86	16% Superphosphate	W. A. Bingaman, Gerald	----	----	----	0.72	16.63	----
		Guaranteed Analysis	----	----	----	----	16.00	----
6-94	20% Superphosphate	Farmers Grain Elevator, Butler	----	----	----	0.68	21.77	----
6-95	20% Superphosphate	Newton County Livestock & Whse. Assn., Neosho	----	----	----	0.68	22.12	----
		Average Analysis	----	----	----	0.68	21.95	----
		Guaranteed Analysis	----	----	----	----	20.00	----
11-87	20% Superphosphate	Farmers Elevator & Exchange, Clinton	----	----	----	0.63	20.77	----
11-88	20% Superphosphate	Meta Roller Mills, Meta	----	----	----	0.65	20.95	----
11-89	20% Superphosphate	W. G. Schmidt Mercantile Co., Gerald	----	----	----	0.42	21.48	----
		Average Analysis	----	----	----	0.57	21.07	----
		Guaranteed Analysis	----	----	----	----	20.00	----
11-90	45% Superphosphate	Farmers Exchange, Brookfield	----	----	----	1.45	46.50	----
		Guaranteed Analysis	----	----	----	----	45.00	----
11-91	Twelve Twelve	Farmers Exchange No. 280, Freeburg	----	----	----	0.16	12.80	12.78
		Guaranteed Analysis	----	----	----	----	12.00	12.00
6-96	Big Harvest ¹	Ray Carroll County Grain Growers, Inc., Norborne	1.97	88.8	----	0.27	18.53	2.07
6-97	Big Harvest	Allman Grain Co., Stark City	2.08	84.6	----	0.55	12.88	2.64
		Average Analysis	2.03	86.7	----	0.41	13.18	2.36
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
11-92	Big Harvest	Carl Bracker, Rockville	2.04	87.3	----	0.59	12.09	2.32
11-93	Big Harvest	Farmers Exchange, Milo	1.83	84.2	----	0.65	13.07	3.53
11-94	Big Harvest	Curryville Elevator, Curryville	2.15	84.7	----	0.86	12.44	2.76
11-95	Big Harvest	Farmers Produce Exchange, St. James	1.94	89.2	----	0.71	13.11	2.75

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7. Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
11-96	Big Harvest	W. S. Mott, Vichy	2.01	89.6	----	0.58	12.40	2.15
		Average Analysis	1.99	87.0	----	0.68	12.62	2.70
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
11-97	2-12-4 Fertilizer	Farmers Elevator, Rockville	2.01	88.6	----	0.74	12.82	4.52
		Guaranteed Analysis	2.00	----	----	----	12.00	4.00
6-98	Crop King ¹	Ray Carroll County Grain Growers, Inc., Norborne	2.00	94.0	----	0.46	13.14	6.49
6-99	Crop King	M. A. Malloy, Piedmont	2.13	92.0	----	0.55	12.59	6.88
		Average Analysis	2.07	93.0	----	0.51	12.87	6.69
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
11-98	Crop King	Farmers Elevator, Rockville	1.97	89.9	----	0.95	12.01	6.55
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
11-99	Tomato Grower	Farmers Exchange, Milan	1.98	88.4	----	0.58	12.48	6.81
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
6-100	General Crop	Mosher Bros., Schell City	2.10	87.1	----	1.25	15.71	4.65
6-101	General Crop	Farmington Milling Co., Farmington	2.06	85.4	----	1.92	14.98	4.46
		Average Analysis	2.08	86.3	----	1.59	15.35	4.56
		Guaranteed Analysis	2.00	----	----	----	14.00	4.00
11-100	General Crop	Farmers Elevator, Rockville	2.07	88.9	----	0.90	14.63	4.88
11-101	General Crop	Farmers Exchange, Brookfield	2.07	87.9	----	0.25	15.68	4.68
		Average Analysis	2.07	88.4	----	0.58	15.16	4.78
		Guaranteed Analysis	2.00	----	----	----	14.00	4.00
11-102	Bumper Crop	Farmers Elevator, Rockville	2.01	83.6	----	1.61	16.77	2.61
		Guaranteed Analysis	2.00	----	----	----	16.00	2.00
6-102	Farmer's Favorite	Keys Milling Co., Platte City	3.33	96.4	----	0.18	8.48	6.37
		Guaranteed Analysis	3.00	----	----	----	8.00	6.00
6-103	Ace 4-8-7	Farmers Cooperative Exchange, Windsor	3.80	96.6	----	0.24	9.94	6.70
6-104	Ace 4-8-7 ¹	Ray Carroll County Grain Growers, Inc., Norborne	4.22	99.5	----	0.15	9.11	7.24
6-105	Ace 4-8-7	Robinson Bros., Patton	4.47	97.3	----	0.15	8.53	6.90
		Average Analysis	4.16	97.5	----	0.18	9.19	6.95
		Guaranteed Analysis	4.00	----	----	----	8.00	7.00
6-106	All Crop 4-16-4	Hustedde Feed Store, Steelville	4.31	96.5	----	0.40	17.28	4.37
		Guaranteed Analysis	4.00	----	----	----	16.00	4.00
11-103	All Crop 4-16-4	Farmers Elevator, Rockville	4.10	96.3	----	0.64	17.36	4.08
		Guaranteed Analysis	4.00	----	----	----	16.00	4.00
11-104	Bone & Superphosphate, Half & Half	Producers Grain Co. No. 31, Montgomery City	1.00	52.0	----	4.44	16.16	----
		Guaranteed Analysis	1.00	----	----	6.00	14.00	----
11-105	Pure Ground Bone	Farmers Exchange 544, Shelbyville	1.81	16.6	30.00	----	----	----
		Guaranteed Analysis	1.85	----	28.00	----	----	----
M.F.A. Brands								
6-107	16% Superphosphate	Farmers Exchange, Crane	----	----	----	0.77	18.38	----
		Guaranteed Analysis	----	----	----	----	16.00	----
11-106	16% Superphosphate	Farmers Exchange, Adrian	----	----	----	0.63	18.22	----
11-107	16% Superphosphate	Russellville Farmers Shipping Assn., Russellville	----	----	----	0.61	17.52	----

1. Registration tags not attached.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
11-108	16% Superphosphate	Greene County Farmers Sales Assn., Springfield	----	----	----	0.45	17.45	----
11-109	16% Superphosphate	Farm Club Exchange, Owensville	----	----	----	0.63	16.65	----
		Average Analysis...	----	----	----	0.58	17.46	----
		Guaranteed Analysis	----	----	----	----	16.00	----
6-108	20% Superphosphate	Farmers Exchange, Exeter	----	----	----	0.78	21.87	----
6-109	20% Superphosphate	Farmers Exchange, Cassville	----	----	----	0.45	22.20	----
		Average Analysis...	----	----	----	0.62	22.03	----
		Guaranteed Analysis	----	----	----	----	20.00	----
11-110	20% Superphosphate	Farmers Cooperative Assn., Montrose	----	----	----	0.65	21.85	----
11-111	20% Superphosphate	Browning Farm Club, Browning	----	----	----	0.69	21.36	----
11-112	20% Superphosphate	Farmers Exchange, Kirksville	----	----	----	0.55	21.00	----
11-113	20% Superphosphate	Producers Grain Co., Centralia	----	----	----	0.50	20.90	----
11-114	20% Superphosphate	Lohman Producers Exchange, Lohman	----	----	----	0.40	21.45	----
11-115	20% Superphosphate	Meta Farmers Exchange, Meta	----	----	----	0.74	20.86	----
11-116	20% Superphosphate	Farmers Exchange, Lockwood	----	----	----	0.51	20.99	----
11-117	20% Superphosphate	Greene County Farmers Sales Assn., Springfield	----	----	----	0.45	21.50	----
11-118	20% Superphosphate	Producers Exchange, Richland	----	----	----	0.52	21.13	----
11-119	20% Superphosphate	Farm Club Exchange, Bland	----	----	----	0.63	20.97	----
11-120	20% Superphosphate	Farmers Exchange, Sullivan	----	----	----	0.65	20.60	----
11-121	20% Superphosphate	Vienna Producers Exchange, Vienna	----	----	----	0.63	21.22	----
		Average Analysis...	----	----	----	0.58	21.15	----
		Guaranteed Analysis	----	----	----	----	20.00	----
11-122	0-14-4	Farmers Exchange, Lamar	----	----	----	0.73	14.53	3.77
		Guaranteed Analysis	----	----	----	----	14.00	4.00
6-110	0-14-6	Greene Co. Farmers Sales Assn., Springfield	----	----	----	0.52	14.46	6.14
		Guaranteed Analysis	----	----	----	----	14.00	6.00
11-123	0-14-6	Lohman Producers Exchange, Lohman	----	----	----	0.75	14.37	6.77
		Guaranteed Analysis	----	----	----	----	14.00	6.00
11-124	0-16-6	Farmers Exchange, Lamar	----	----	----	0.73	16.77	6.54
		Guaranteed Analysis	----	----	----	----	16.00	6.00
6-111	2-12-2	Farmers Exchange, Carthage	1.97	96.4	----	0.51	12.61	2.48
6-112	2-12-2	Farmers Elevator Co., Argyle	2.18	88.5	----	0.53	13.23	3.02
6-113	2-12-2	Farmers Exchange, Cassville	2.03	85.2	----	0.51	12.33	2.32
6-114	2-12-2	Greene County Farmers Sales Assn., Springfield	2.11	84.8	----	0.51	13.03	2.49
		Average Analysis...	2.07	83.7	----	0.52	12.80	2.58
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
11-125	2-12-2	Farmers Cooperative Assn., Montrose	2.47	87.9	----	0.88	12.08	2.77
11-126	2-12-2	Farmers Cooperative Assn. No. 82, Brunswick	2.01	85.6	----	0.57	13.11	2.43
11-127	2-12-2	Farmers Exchange, Perry	1.96	86.7	----	0.83	12.83	2.27
11-128	2-12-2	Farmers Exchange, Vandalia	1.79	87.2	----	0.96	12.70	2.51

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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	
11-129	2-12-2	Foristell Farmers Elevator Co., Foristell	1.86	87.1	----	0.82	12.48	2.40
11-130	2-12-2	Lohman Producers Exchange, Lohman	2.02	87.1	----	0.73	12.13	2.17
11-131	2-12-2	Meta Farmers Exchange, Meta	2.14	85.1	----	1.19	12.18	2.61
11-132	2-12-2	Farmers Exchange, Mt. Vernon	2.03	88.2	----	0.55	12.40	2.49
11-133	2-12-2	Greene County Farmers Sales Assn., Springfield	1.95	86.7	----	0.69	12.61	2.87
11-134	2-12-2	Farmers Elevator, Argyle	1.66	88.0	----	0.81	12.71	2.64
11-135	2-12-2	Farmers' Grain & Produce Exchange, Rosebud	2.00	85.0	----	0.73	12.35	2.29
11-136	2-12-2	Farmers Cooperative Assn., No. 17, St. Clair	2.00	88.5	----	0.65	12.27	2.44
		Average Analysis...	1.99	86.9	----	0.78	12.49	2.49
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
11-137	2-12-4	Farmers Exchange, Lamar	2.00	86.0	----	0.67	12.79	4.59
11-138	2-12-4	Farmers Cooperative Exchange No. 245, Bourbon	2.01	88.1	----	0.66	12.66	4.66
		Average Analysis...	2.01	87.1	----	0.67	12.73	4.63
		Guaranteed Analysis	2.00	----	----	----	12.00	4.00
6-115	2-12-6	Farmers Exchange, Exeter	2.15	92.1	----	0.30	13.38	6.14
6-116	2-12-6	Farmers Exchange, Cassville	2.02	89.1	----	0.44	12.62	6.21
6-117	2-12-6	Farmers Exchange, Crane	2.04	91.2	----	0.44	12.82	6.25
		Average Analysis...	2.07	90.8	----	0.39	12.94	6.20
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
11-139	2-12-6	Farmers Produce & Grain Exchange, Chillicothe	2.18	90.8	----	0.86	12.74	6.14
11-140	2-12-6	Farmers Elevator Co., Wright City	1.97	90.4	----	0.79	12.11	6.63
11-141	2-12-6	Farmers Exchange, Lockwood	2.02	88.6	----	1.03	11.91	7.00
11-142	2-12-6	M. F. A. Milling Co., Springfield	2.01	88.6	----	1.05	12.20	6.74
11-143	2-12-6	Farmers Cooperative Assn. No. 28, Beaufort	2.00	89.0	----	0.82	11.44	7.26
		Average Analysis...	2.04	89.5	----	0.91	12.08	6.75
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
11-144	2-14-4	Farmers Exchange, Jasper	2.00	87.0	----	1.22	14.18	4.77
		Guaranteed Analysis	2.00	----	----	----	14.00	4.00
6-118	4-8-7	Farmers Cooperative Assn. No. 245, Bourbon	4.12	97.1	----	0.34	8.84	7.08
		Guaranteed Analysis	4.00	----	----	----	8.00	7.00
6-119	4-12-4	Farmers Exchange, Cassville	3.90	93.8	----	0.79	12.87	4.62
6-120	4-12-4	Greene County Farmers Sales Assn., Springfield	3.85	94.5	----	0.85	12.73	4.63
		Average Analysis...	3.88	94.2	----	0.87	12.80	4.63
		Guaranteed Analysis	4.00	----	----	----	12.00	4.00
11-145	4-12-4	Greene Co. Farmers Sales Assn., Springfield	4.04	94.3	----	0.92	12.50	5.07
		Guaranteed Analysis	4.00	----	----	----	12.00	4.00
11-146	4-16-4	Farmers Produce & Grain Exchange, Chillicothe	4.06	95.8	----	0.64	16.66	5.25
		Guaranteed Analysis	4.00	----	----	----	16.00	4.00
11-147	Pure Ground Bone ⁹	Producers Exchange, Marshfield	1.77	15.8	30.60	----	----	----
		Guaranteed Analysis	1.85	----	28.00	----	----	----

9. Without labels.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
	Davison Chemical Corporation Nashville, Tennessee							
	Davco Granulated Brands							
11-148	Davco Granulated Superphosphate	20% Harriman Elevator Co., Adrian	---	---	---	1.03	20.77	---
11-149	Davco Granulated Superphosphate	20% Rice Mercantile Co., Passaic	---	---	---	1.49	20.36	---
11-150	Davco Granulated Superphosphate	20% Ingram Implement Co., Chillicothe	---	---	---	1.05	20.95	---
11-151	Davco Granulated Superphosphate	20% Producers Exchange, No. 285, Truesdale	---	---	---	1.07	20.63	---
11-152	Davco Granulated Superphosphate	20% Champion Roller Mills, Sullivan	---	---	---	0.75	20.65	---
		Average Analysis...	---	---	---	1.08	20.67	---
		Guaranteed Analysis	---	---	---	---	20.00	---
6-121	Davco Granulated Fertilizer 2-12-2	H. T. Cooper & Son, Fredericktown	2.01	94.5	---	0.37	12.73	2.06
		Guaranteed Analysis	2.00	---	---	---	12.00	2.00
11-153	Davco Granulated Fertilizer 2-12-2	Harriman Elevator Co., Adrian	2.01	93.5	---	1.08	12.56	2.48
11-154	Davco Granulated Fertilizer 2-12-2	Montgomery Feed Store, Rich Hill	1.82	87.4	---	1.38	13.66	2.43
11-155	Davco Granulated Fertilizer 2-12-2	Champion Roller Mills, Sullivan	2.10	92.9	---	0.95	12.97	2.71
		Average Analysis...	1.98	91.3	---	1.14	13.06	2.54
		Guaranteed Analysis	2.00	---	---	---	12.00	2.00
11-156	Davco Granulated Fertilizer 2-12-4	Montgomery Feed Store, Rich Hill	1.93	96.9	---	0.82	13.10	4.01
11-157	Davco Granulated Fertilizer 2-12-4	E. L. Theurer Grain & Elevator, Lockwood	2.00	91.5	---	0.74	12.16	4.23
		Average Analysis...	1.97	94.2	---	0.78	12.63	4.15
		Guaranteed Analysis	2.00	---	---	---	12.00	4.00
11-158	Davco Granulated Fertilizer 2-12-6	R. R. Carter Mill & Elevator, Jasper	1.55	94.8	---	1.14	13.60	5.89
		Guaranteed Analysis	2.00	---	---	---	12.00	6.00
11-159	Davco Granulated Fertilizer 4-12-4	Montgomery Feed Store, Rich Hill	3.77	95.3	---	1.10	13.50	5.03
		Guaranteed Analysis	4.00	---	---	---	12.00	4.00
	Red Diamond Brands							
11-160	Red Diamond 16% Superphosphate	G. B. Beeny & Sons, Sheldon	---	---	---	1.70	17.63	---
		Guaranteed Analysis	---	---	---	---	16.00	---
11-162	Red Diamond 20% Superphosphate	Farmers Exchange, Nevada	---	---	---	1.15	22.40	---
		Guaranteed Analysis	---	---	---	---	20.00	---
11-163	Red Diamond 0-14-6 ⁴	R. R. Carter Mill & Elevator, Jasper	---	---	---	1.23	14.72	9.39
		Guaranteed Analysis	---	---	---	---	14.00	6.00
11-164	Premium Grain Grower	Farmers Exchange, Nevada	2.00	85.5	---	1.23	12.81	2.33

4. Not registered.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
11-165	Premium Grain Grower	H. L. Emery, Milo	2.43	86.8	----	1.05	12.23	2.66
		Average Analysis	2.22	86.2	----	1.14	12.52	2.50
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
11-166	Red Diamond 2-14-4 ¹	E. L. Theurer Grain & Elevator, Lockwood	2.07	88.4	----	1.05	12.83	4.04
		Guaranteed Analysis	2.00	----	----	----	14.00	4.00
	Federal Chemical Co. E. St. Louis, Illinois Globe and Daybreak Brands							
6-122	16% Superphosphate	Glen E. Grindstaff, Paton	----	----	----	0.57	17.68	----
		Guaranteed Analysis	----	----	----	----	16.00	----
11-167	16% Superphosphate	Nevada Flour & Feed Co., Nevada	----	----	----	0.47	17.16	----
11-168	16% Superphosphate	G. B. Beeny & Sons, Sheldon	----	----	----	2.08	18.80	----
11-169	16% Superphosphate	Johnson Produce Co., Lebanon	----	----	----	0.51	17.74	----
11-170	16% Superphosphate	Lohman Milling Co., Lohman	----	----	----	0.50	17.25	----
		Average Analysis	----	----	----	0.89	17.61	----
		Guaranteed Analysis	----	----	----	----	16.00	----
11-171	20% Superphosphate	G. A. Darling, Milo	----	----	----	0.44	21.91	----
11-172	20% Superphosphate	G. B. Beeny & Sons, Sheldon	----	----	----	0.54	21.81	----
11-173	20% Superphosphate	Lohman Milling Co., Lohman	----	----	----	0.53	21.47	----
11-174	20% Superphosphate	Fisher Bros. & Kirchner, Russellville	----	----	----	0.38	21.62	----
11-175	20% Superphosphate	Geo. Koelling, Sullivan	----	----	----	0.35	22.00	----
11-176	20% Superphosphate	Merkel Bros., Bourbon	----	----	----	0.44	21.16	----
		Average Analysis	----	----	----	0.45	21.66	----
		Guaranteed Analysis	----	----	----	----	20.00	----
11-177	0-12-4 Fertilizer	G. B. Beeny & Sons, Sheldon	----	----	----	2.75	11.73	3.45
		Guaranteed Analysis	----	----	----	----	12.00	4.00
11-178	0-12-6 Fertilizer	Lohman Milling Co., Lohman	----	----	----	0.19	12.51	6.81
		Guaranteed Analysis	----	----	----	----	12.00	6.00
11-179	0-14-4 Fertilizer ⁴	T. R. Owens, Arcola	----	----	----	2.15	15.23	4.26
		Guaranteed Analysis	----	----	----	----	14.00	4.00
11-180	0-14-6 Fertilizer	T. R. Owens, Arcola	----	----	----	2.13	15.25	5.26
		Guaranteed Analysis	----	----	----	----	14.00	6.00
11-181	Loam Land Fertilizer	Nevada Flour & Feed Co., Nevada	2.40	73.8	----	1.58	12.22	2.07
11-182	Loam Land Fertilizer	Fisher Bros. & Kirchner, Russellville	2.04	83.3	----	1.12	12.78	2.29
11-183	Loam Land Fertilizer	Peter Heckman, Meta	2.56	73.8	----	1.40	12.82	2.29
11-184	Loam Land Fertilizer	Adams Produce Co., Iberia	2.25	85.3	----	0.67	13.17	2.22
11-185	Loam Land Fertilizer	John Dill, Westphalia	2.10	86.2	----	0.89	13.11	2.15
11-186	Loam Land Fertilizer	Geo. J. Redell, Vienna	2.09	82.3	----	0.76	12.98	2.31
		Average Analysis	2.24	80.8	----	1.07	12.76	2.22
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
6-123	2-12-4 Fertilizer	Bourbon Roller Mills, Bourbon	2.21	88.7	----	0.68	13.14	5.28
		Guaranteed Analysis	2.00	----	----	----	12.00	4.00
11-187	2-12-4 Fertilizer	Lohman Milling Co., Lohman	1.93	88.6	----	1.08	12.70	4.17
11-188	2-12-4 Fertilizer	Young Bros., Jasper	2.29	79.9	----	0.90	12.84	4.40
		Average Analysis	2.11	84.3	----	0.99	12.52	4.29
		Guaranteed Analysis	2.00	----	----	----	12.00	4.00
6-124	Official Formula 2-12-6	J. H. Straud, Fairview	2.05	88.8	----	1.58	12.68	6.80
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
11-189	Official Formula 2-12-6	Peter Heckman, Meta	2.14	70.6	----	1.24	12.26	6.00

4. Not registered.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (Continued)

Lab. No.	Manufacturers 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
11-190	Official Formula 2-12-6	Merkel Bros., Bourbon	1.97	88.9	----	1.38	12.24	6.00
		Average Analysis	2.06	79.8	----	1.31	12.25	6.00
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
11-191	2-16-2 Fertilizer ¹	A. M. Broughton, Harwood	2.50	90.4	----	1.37	15.91	2.83
		Guaranteed Analysis	2.00	----	----	----	16.00	2.00
6-125	Truckers Special 4-8-6	J. H. Straud, Fairview	4.15	93.0	----	0.98	9.43	5.96
		Guaranteed Analysis	4.00	----	----	----	8.00	6.00
6-126	4-12-4 Double Duty ⁷	Fred Ruck, Belton	3.76	84.0	----	1.73	13.33	4.86
		Guaranteed Analysis	4.00	----	----	----	12.00	4.00
Floyds Money-Maker Brands								
11-192	16% Superphosphate	Frank Raper, Irwin	----	----	----	0.55	16.47	----
		Guaranteed Analysis	----	----	----	----	16.00	----
11-193	0-14-6 Fertilizer	Frank Raper, Irwin	----	----	----	1.61	14.94	6.03
		Guaranteed Analysis	----	----	----	----	14.00	6.00
11-194	0-16-6 Fertilizer ⁴	Monroe Farm Bureau Service Co., Paris	----	----	----	0.14	16.84	6.38
		Guaranteed Analysis	----	----	----	----	16.00	6.00
6-127	2-12-2 Fertilizer	Ed McCormick Canning Co., Reed Springs	1.90	83.7	----	1.48	13.32	2.24
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
11-195	2-12-2 Fertilizer	Mays Cash Feed Store, Centralia	2.06	66.5	----	1.39	12.45	2.00
		Frank Raper, Irwin	2.04	72.1	----	1.25	12.71	2.01
		Average Analysis	2.05	69.3	----	1.32	12.58	2.01
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
11-197	2-12-4 Fertilizer	Glenn Buchman, Shelbyna	2.48	68.6	----	2.07	11.88	4.09
11-198	2-12-4 Fertilizer	Frank Raper, Irwin	2.18	64.2	----	2.10	11.58	4.00
11-199	2-12-4 Fertilizer	Jasper Implement Co., Jasper	2.22	72.1	----	0.99	12.61	4.32
		Average Analysis	2.29	68.3	----	1.72	12.02	4.14
		Guaranteed Analysis	2.00	----	----	----	12.00	4.00
6-128	2-12-6 Fertilizer	Ed McCormick Canning Co., Reed Springs	2.00	87.0	----	1.71	13.25	6.09
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
11-200	2-12-6 Fertilizer	Clifford Willis, Northview	2.00	72.0	----	1.59	12.03	6.41
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
11-201	Truckers Special	Clifford Willis, Northview	4.14	95.7	----	0.41	9.57	6.12
		Guaranteed Analysis	4.00	----	----	----	8.00	6.00
11-202	4-16-4 Fertilizer	Glenn Buchman, Shelbyna	3.80	87.9	----	0.50	16.13	4.40
		Guaranteed Analysis	4.00	----	----	----	16.00	4.00
Ford Motor Company Dearborn, Michigan								
6-129	Ford Ammonium Sulphate	Fred R. Groves Motor Co., Cape Girardeau	20.92	100.0 ³	----	----	----	----
		Guaranteed Analysis	20.80	----	----	----	----	----
11-203	Ford Ammonium Sulphate ⁷	Lewis Auto Sales, Rolla	20.85	100.0 ³	----	----	----	----
		Guaranteed Analysis	20.80	----	----	----	----	----
Fort Smith Cotton Oil Co. Fort Smith, Arkansas								
6-130	Old Fort Rais More 20% Superphosphate	Farmers Exchange, Seligman	----	----	----	0.13	22.57	----
		Guaranteed Analysis	----	----	----	----	20.00	----
6-131	Old Fort Rais More 2-12-2	Rush Canning Co., Washburn	1.97	80.7	----	0.42	12.46	2.11
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
6-132	Old Fort Rais More 2-12-6	Rush Canning Co., Washburn	2.22	84.2	----	0.42	11.84	6.24
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
6-133	Old Fort Rais More 4-8-6 ⁷	Rush Canning Co., Washburn	3.67	82.8	----	0.25	6.63	6.21
		Guaranteed Analysis	4.00	----	----	----	8.00	6.00

1. Registration tags not attached. 3. Not actually determined. 4. Not registered.
7. Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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	
6-184	Old Fort Rais More 8-16-16	Farmers Exchange, Seligman	8.39	90.8	----	0.41	18.34	16.25
			8.00	----	----	----	16.00	16.00
	J. Harris Manure Co. 920 N. 1st Street E. St. Louis, Illinois							
6-185	Hampton Park Sheep Manure ⁴	Corneli Seed Co., St. Louis	1.63	22.1	----	0.23	1.45	1.90
			1.85	----	----	----	1.00	1.75
	A. H. Hoffman, Inc. Landisville, Pennsylvania							
6-136	Bone Meal ⁷	F. W. Woolworth Co., Kansas City	3.92	9.4	22.75	----	----	----
			3.70	----	20.00	----	----	----
6-137	Hoffmans Plant Food ⁷ ...	S. S. Kresge 5 & 10c Store, St. Louis	5.13	74.7	----	1.71	11.27	6.09
			5.00	----	----	----	8.00	6.00
6-138	Cow Manure ⁷	F. W. Woolworth Co., Kansas City	2.01	31.3	----	0.15	1.88	2.16
			2.00	----	----	----	2.00	2.00
6-139	Sheep Manure ⁷	S. S. Kresge Co., Kansas City	1.85	16.8	----	0.30	1.08	2.10
			1.85	----	----	----	1.00	2.00
	Independent Packing Co. 955 State Line Kansas City, Missouri							
6-140	Pulverized Sheep Guano ² ..	State Line Coal & Feed Co., Kansas City	1.57	22.9	----	0.21	0.75	1.02
			2.08	----	----	----	1.30	1.36
	Kansas City Fertilizer Co. 7117 Troost Ave. Kansas City, Missouri							
6-141	Archer Brand Cattle Manure	Soil Service Co. Warehouse, Kansas City ...	2.61	23.0	----	0.21	1.57	2.37
5-127	Archer Brand Cattle Manure*	Soil Service Co. Warehouse, Kansas City. . .	1.79	20.7	----	0.21	1.10	1.33
		Guaranteed Analysis	2.00	----	----	----	1.00	1.00
6-142	Archer Brand Pulverized Sheep Manure	Archias Seed Store, Sedalia	2.05	26.3	----	0.20	1.20	4.35
			2.00	----	----	----	1.00	2.00
	Lyman Carrier Granger, Indiana							
6-143	Lecco ¹	Palmer Seed Co., St. Louis	6.25	37.0	----	0.63	6.09	1.30
			7.00	----	----	----	7.00	1.00
	Missouri Dahlia Farms, Inc. 8601 St. Charles Road St. Louis, Missouri							
6-144	Natures Plant Food Cattle Manure ²	Henry Schulz Feed Co., Webster Groves	1.87	25.7	----	0.18	1.35	4.08
			1.00	----	----	----	1.00	2.00
11-205	Natures Plant Food Cattle Manure ⁷	Peoples Hardware, Wellsville	1.44	14.6	----	0.15	2.27	2.01
			1.00	----	----	----	1.00	2.00
6-145	Natures Plant Food Sheep Manure ²	Henry Schulz Feed Co., Webster Groves	1.76	30.1	----	0.17	1.93	4.19
			2.00	----	----	----	1.00	2.00

1. Registration tags not attached. 2. Labels incorrect or incomplete. 4. Not registered.
7. Sample drawn from less than five containers.

*Reprinted from Bulletin 403 because of error.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
Pearson Ferguson Chemical Co. Kansas City, Missouri								
6-146	P. F. Bone Meal	Pearson Ferguson Chemical Co., Kansas City .	1.02	8.8	36.50	----	----	----
		Guaranteed Analysis	0.95	----	33.00	----	----	----
6-147	P. F. Pulverized Sheep Manure	Pearson Ferguson Chemical Co., Kansas City .	2.06	31.1	----	0.20	2.15	4.48
		Guaranteed Analysis	2.00	----	----	----	1.00	2.00
6-148	P. F. Fertilizer 4-12-4	Unity Farms, Jackson County	4.39	83.1	----	1.18	11.41	4.29
		Guaranteed Analysis	4.00	----	----	----	12.00	4.00
6-149	P. F. Fertilizer 9-18-18	Pearson Ferguson Chemical Co., Kansas City .	8.63	90.4	----	0.56	19.20	19.45
		Guaranteed Analysis	9.00	----	----	----	18.00	18.00
6-43	Muriate of Potash ¹	Pearson Ferguson Chemical Co., Kansas City .	----	----	----	----	----	61.03
		Guaranteed Analysis	----	----	----	----	----	60.00
6-219	Tecmaugam Fertilizer ⁷ ..	Pearson Ferguson Chemical Co., Kansas City .	2.63	100.0	----	----	----	----
		Guaranteed Analysis	2.00	----	----	----	----	----
Plantabbs Corporation Baltimore, Maryland								
6-150	Fultons Plantabbs ⁷	S. S. Kresge Co., Kansas City	11.85	100.0	----	0.02	21.31	26.75
6-151	Fultons Plantabbs ⁷	S. S. Kresge Co., St. Joseph	11.40	99.9	----	0.01	20.82	26.34
		Average Analysis...	11.63	100.0	----	0.02	21.07	26.55
		Guaranteed Analysis	11.00	----	----	----	15.00	20.00
Pulverized Manure Co. Chicago, Illinois								
Wizard Brands								
6-152	Cow Manure	St. Louis Seed Co., St. Louis	1.82	42.3	----	0.17	2.09	2.88
6-153	Cow Manure	Palmer Seed Co., St. Louis	1.98	17.2	----	0.17	2.79	2.67
		Average Analysis...	1.90	29.8	----	0.17	2.44	2.78
		Guaranteed Analysis	2.00	----	----	----	1.00	1.00
6-154	Pulverized Sheep Manure ..	St. Louis Seed Co., St. Louis	1.86	28.0	----	0.20	2.09	3.75
		Guaranteed Analysis	2.00	----	----	----	1.00	2.00
6-155	Garden Mulch	St. Louis Seed Co., St. Louis	2.01	17.9	----	0.19	1.70	2.58
		Guaranteed Analysis	2.00	----	----	----	1.00	1.00
E. Rauh & Sons Fertilizer Co. Indianapolis, Indiana								
Red Star Brands								
11-206	20% Superphosphate	Geo. Newell, Rockville .	----	----	----	1.06	21.04	----
		Guaranteed Analysis	----	----	----	----	20.00	----
11-207	0-14-6	Chas. Huffman, Rockville	----	----	----	0.86	14.37	6.35
11-208	0-14-6	G. K. Means, Harwood .	----	----	----	0.85	14.20	6.52
		Average Analysis...	----	----	----	0.86	14.29	6.44
		Guaranteed Analysis	----	----	----	----	14.00	6.00
11-209	2-12-2	Chas. Huffman, Rockville	2.01	91.0	----	0.67	12.03	2.27
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
11-210	2-12-6	G. K. Means, Harwood .	1.99	92.0	----	0.78	12.20	6.43
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
Ruhm Phosphate & Chemical Co. Mt. Pleasant, Tennessee								
6-156	Ruhms Phosphate Rock ⁶ ..	St. Louis Seed Co., St. Louis	----	----	----	31.20	6.75	----
6-157	Ruhms Phosphate Rock ⁶ ..	MoZel Chemical Products, St. Louis	----	----	----	31.65	5.55	----
		Average Analysis...	----	----	----	31.43	6.15	----
		Guaranteed Analysis	----	----	----	34.30	----	----

1. Registration tags not attached. 4. Not registered. 6. Wrong registration tags.
7. Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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	
11-211	Ruhms Phosphate Rock ² ..	W. C. Bennett, Jasper ..	-----	-----	-----	30.80	4.75	-----
	F. Rynveld & Sons, Inc. New York, New York	Guaranteed Analysis	-----	-----	-----	34.30	-----	-----
6-158	Bone Meal Fertilizer ^{1, 7} ..	F. W. Woolworth Co., St. Louis	2.84	22.2	27.90	-----	-----	-----
	O. M. Scott & Sons Co. Marysville, Ohio	Guaranteed Analysis	2.47	-----	22.00	-----	-----	-----
6-159	Scotts Turf Builder	Stix Baer & Fuller, St. Louis	10.57	66.8	-----	0.11	5.37	5.05
	Severage Commission Milwaukee, Wisconsin	Guaranteed Analysis	10.00	-----	-----	-----	6.00	4.00
6-160	Milorganite	Soil Service Co., Kansas City	6.03	12.8	-----	0.53	2.46	-----
6-161	Milorganite	Cornell Seed Co., St. Louis	5.99	12.7	-----	0.67	2.55	-----
	Smith Agricultural Chemical Co. Columbus, Ohio	Average Analysis...	6.01	12.8	-----	0.60	2.51	-----
		Guaranteed Analysis	6.00	-----	-----	0.75	2.00	-----
6-162	Wedo	Thompson Haywood Chemical Co., Kansas City	8.20	64.6	-----	0.25	5.60	3.12
	Standard Wholesale Phos- phate and Acid Works, Inc. Baltimore, Maryland	Guaranteed Analysis	8.00	-----	-----	-----	5.00	3.00
11-212	Standard 20% Super- phosphate	Arnold Feed Store, Butler	-----	-----	-----	0.48	22.32	-----
11-213	Standard 20% Super- phosphate ¹	R. E. Lewis, Altonia ...	-----	-----	-----	0.46	21.94	-----
11-214	Standard 20% Super- phosphate ¹	H. E. Stone Produce Co., Centralia	-----	-----	-----	0.64	21.26	-----
11-215	Standard 20% Super- phosphate	Walter Barrett, Elwood . Average Analysis...	-----	-----	-----	0.91	22.34	-----
		Guaranteed Analysis	-----	-----	-----	0.62	21.97	-----
			-----	-----	-----	-----	20.00	-----
11-216	0-14-6 ¹	Monroe Farm Bureau Service Co., Paris ...	-----	-----	-----	0.70	15.73	6.29
		Guaranteed Analysis	-----	-----	-----	-----	14.00	6.00
11-217	2-12-2	Farmers Equity Ex- change, Bowling Green	2.02	90.6	-----	0.16	13.14	2.43
		Guaranteed Analysis	2.00	-----	-----	-----	12.00	2.00
11-218	4-16-4	Monroe Farm Bureau Service Co., Paris ...	4.09	92.7	-----	0.57	17.11	4.84
11-219	4-16-4 ¹	H. E. Stone Produce Co., Centralia	4.01	92.3	-----	0.51	16.99	4.69
		Average Analysis...	4.05	92.5	-----	0.54	17.05	4.77
		Guaranteed Analysis	4.00	-----	-----	-----	16.00	4.00
	Swift & Co. Fertilizer Works National Stock Yards, Ill. Red Steer Brands							
11-220	16% Superphosphate	Omer Webb, Jasper	-----	-----	-----	0.51	17.14	-----
11-221	16% Superphosphate	Hood Milling Co., Miller	-----	-----	-----	0.42	17.68	-----
11-222	16% Superphosphate	Farmers Grain & Eleva- tor Co., Owensville ...	-----	-----	-----	0.40	17.53	-----
11-223	16% Superphosphate	Strehlman & Gerken, Leslie	-----	-----	-----	0.50	17.38	-----
		Average Analysis...	-----	-----	-----	0.46	17.43	-----
		Guaranteed Analysis	-----	-----	-----	-----	16.00	-----
6-164	20% Superphosphate ^{1, 7} ..	John Klaus, Greenwood	-----	-----	-----	0.50	23.60	-----

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TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
6-165	20% Superphosphate	Kellogg Kelly Seed Co., St. Joseph	----	----	----	0.71	23.24	----
6-166	20% Superphosphate	Phil Ratliff, Neosho	----	----	----	0.52	23.43	----
6-167	20% Superphosphate	Williams & Son, Seligman	----	----	----	0.57	20.28	----
		Average Analysis	----	----	----	0.58	22.64	----
		Guaranteed Analysis	----	----	----	----	20.00	----
11-224	20% Superphosphate	J. B. Whitehead, Altonia	----	----	----	0.56	22.59	----
11-225	20% Superphosphate ¹	J. Herman, Culver	----	----	----	0.57	22.08	----
11-226	20% Superphosphate	C. Q. Meyer, Knox City	----	----	----	0.46	22.64	----
11-227	20% Superphosphate	Omer Webb, Jasper	----	----	----	0.51	22.49	----
11-228	20% Superphosphate	Hood Milling Co., Miller	----	----	----	0.53	22.52	----
11-229	20% Superphosphate	Anchor Milling Co., Tusculumbia	----	----	----	0.62	21.83	----
11-230	20% Superphosphate	Rolla Exchange Mill, Rolla	----	----	----	0.55	22.05	----
		Average Analysis	----	----	----	0.54	22.81	----
		Guaranteed Analysis	----	----	----	----	20.00	----
11-231	0-14-4	Omer Webb, Jasper	----	----	----	0.40	15.43	4.37
		Guaranteed Analysis	----	----	----	----	14.00	4.00
11-232	0-14-7 ¹	Omer Webb, Jasper	----	----	----	0.35	15.28	7.76
11-233	0-14-7	Farmers Equity Exchange, Bowling Green	----	----	----	0.39	15.11	7.36
		Average Analysis	----	----	----	0.50	15.30	8.02
11-234	0-14-7	L. Haubein, Lockwood	----	----	----	0.41	15.23	7.71
		Average Analysis	----	----	----	----	14.00	7.00
		Guaranteed Analysis	----	----	----	----	12.00	4.00
11-235	1-12-4	Omer Webb, Jasper	1.80	73.1	----	0.45	13.25	4.43
		Guaranteed Analysis	1.00	----	----	----	12.00	4.00
6-168	2-12-2	Kellogg Kelly Seed Co., St. Joseph	2.15	83.1	----	0.96	13.44	3.23
6-169	2-12-2	Phil Ratliff, Neosho	2.10	80.5	----	1.29	13.03	2.15
6-170	2-12-2	Roy Hartung, Bourbon	2.11	82.9	----	1.23	13.09	2.13
6-171	2-12-2	Perry County Cooperative Whse. & Elev., Perryville	2.04	82.8	----	1.28	13.00	2.05
6-172	2-12-2	R. E. Strickland, Greenville	2.05	81.5	----	1.31	12.53	2.23
6-173	2-12-2	Farmers Elevator, Purdy	2.04	81.4	----	1.03	12.81	2.09
6-174	2-12-2	Wheaton Hardware Company, Wheaton	2.13	86.4	----	0.93	13.07	2.22
6-175	2-12-2	Farmers Exchange, Exeter	2.09	83.3	----	1.02	13.43	2.23
6-176	2-12-2	Williams & Son, Seligman	2.07	81.2	----	0.60	13.32	2.15
		Average Analysis	2.09	82.6	----	1.07	13.09	2.28
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
11-236	2-12-2	J. B. Whitehead, Altonia	2.04	82.4	----	1.28	13.23	2.24
11-237	2-12-2	Omer Webb, Jasper	2.11	82.0	----	1.09	13.25	2.43
11-238	2-12-2	Swift & Co. Dairy & Poultry Plant, Trenton	2.01	78.6	----	1.26	13.38	2.35
11-239	2-12-2	Farmers Elevator, Shelbyville	2.04	82.8	----	0.98	13.32	2.55
11-240	2-12-2	Anchor Milling Co., Eugene	2.11	81.0	----	1.19	12.63	2.25
11-241	2-12-2	Morton Baumbaer, Meta	2.07	83.1	----	1.25	12.23	2.19
11-242	2-12-2	Greenfield Milling Co., Greenfield	2.14	83.2	----	1.01	12.79	2.29
		Average Analysis	2.14	83.2	----	1.21	13.09	2.29
11-243	2-12-2	Albert Wycoff, St. James	2.08	82.0	----	1.16	13.00	2.32
		Average Analysis	2.00	----	----	----	12.00	2.00
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
6-177	2-12-4	Corneli Seed Co., St. Louis	2.16	83.8	----	0.57	13.37	4.49
6-178	2-12-4	Williams & Son, Seligman	2.13	84.5	----	0.51	12.89	4.18
		Average Analysis	2.15	84.2	----	0.54	13.13	4.34
		Guaranteed Analysis	2.00	----	----	----	12.00	4.00
11-244	2-12-4	James Young, Paris	2.01	86.1	----	1.03	13.13	4.46
		Guaranteed Analysis	2.00	----	----	----	12.00	4.00

1. Registration tags not attached. 7. Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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	
11-246	2-14-4	T. R. Owens, Arcola	2.18	86.7	----	1.26	14.67	4.59
		Guaranteed Analysis	2.00	----	----	----	14.00	4.00
6-179	2-12-6	Kellogg Kelly Seed Co., St. Joseph	2.32	85.8	----	0.45	12.89	6.47
6-180	2-12-6 ⁷	Phil Ratliff, Neosho	2.12	85.9	----	0.55	13.01	6.33
6-181	2-12-6	Farmers Elevator, Purdy	2.10	82.4	----	0.51	12.89	6.06
6-182	2-12-6	Williams & Son, Seligman	2.17	84.8	----	0.50	13.12	6.23
		Average Analysis	2.18	84.7	----	0.50	12.98	6.27
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
11-245	2-12-6	Rolla Exchange Mill, Rolla	2.00	84.5	----	1.17	12.83	6.55
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
6-183	2-16-2	Nixa Hardware Co., Nixa	2.16	84.3	----	0.56	17.29	2.19
		Guaranteed Analysis	2.00	----	----	----	16.00	2.00
6-184	3-8-6	Phil Ratliff, Neosho	3.04	90.8	----	0.28	8.52	6.04
6-185	3-8-6	Madison Co. Farmers Warehouse Assn., Fred- ericktown	2.94	92.2	----	0.29	9.33	5.92
6-186	3-8-6	C. A. Hedspeth, Wil- liamsville	3.05	91.8	----	0.23	9.29	6.04
		Average Analysis	3.01	91.6	----	0.27	9.05	6.00
		Guaranteed Analysis	3.00	----	----	----	8.00	6.00
6-187	4-8-6 ⁷	Lees Summit Elev. & Grain Co., Lees Sum- mit	4.22	97.4	----	0.15	8.75	6.22
6-188	4-8-6	Cornell Seed Co., St. Louis	4.06	91.9	----	0.14	8.80	6.04
6-189	4-8-6	W. R. Morgan, E. Prairie	4.00	92.5	----	0.12	9.12	5.96
6-190	4-8-6	Farmers Exchange, Exeter	3.91	91.6	----	0.14	9.26	6.06
6-191	4-8-6	Springfield Seed Co., Springfield	4.07	92.5	----	0.24	8.86	6.28
		Average Analysis	4.05	93.2	----	0.16	8.96	6.11
		Guaranteed Analysis	4.00	----	----	----	8.00	6.00
6-192	4-8-8	Weston Milling Co., Weston	4.11	91.4	----	0.20	9.30	8.08
6-193	4-8-8	Weston Coal & Grain Co., Weston	4.07	92.6	----	0.21	9.15	8.09
6-194	4-8-8	Springfield Seed Co., Springfield	4.18	92.8	----	0.21	9.07	8.49
		Average Analysis	4.12	92.3	----	0.21	9.17	8.22
		Guaranteed Analysis	4.00	----	----	----	8.00	8.00
11-247	4-8-8	Wise Feed & Seed Co., Springfield	4.11	89.5	----	0.44	8.62	8.60
		Guaranteed Analysis	4.00	----	----	----	8.00	8.00
6-195	4-10-6	Weston Milling Co., Weston	4.13	91.8	----	0.42	11.48	6.34
		Guaranteed Analysis	4.00	----	----	----	10.00	6.00
6-196	4-12-4	I. H. Shell & Son, Lutes- ville	4.02	94.0	----	0.59	13.31	4.01
6-197	4-12-4	Springfield Seed Co., Springfield	4.05	91.4	----	0.40	13.24	4.28
		Average Analysis	4.04	92.7	----	0.50	13.28	4.15
		Guaranteed Analysis	4.00	----	----	----	12.00	4.00
11-248	4-12-4	Joe Hockstetter, Nevada	4.10	89.0	----	0.77	13.15	4.62
11-249	4-12-4	Omer Webb, Jasper	4.13	89.8	----	1.00	12.64	4.32
11-250	4-12-4	Homer Smith Milling Co., Mt. Vernon	4.31	90.0	----	1.08	12.46	4.32
		Average Analysis	4.18	89.6	----	0.95	12.75	4.42
		Guaranteed Analysis	4.00	----	----	----	12.00	4.00
6-198	4-16-4	St. Francois Co. Farm Bur. Pur. & Sales Assn., Farmington	4.27	93.2	----	0.88	17.60	4.27
6-199	4-16-4	Eggiman Feed & Pro- duce Co., Cape Girar- deau	4.25	92.9	----	1.16	17.52	4.43

7. Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
6-200	4-16-4	L. L. Bales Cash Store, Ellington	4.00	92.8	----	0.84	17.79	4.14
6-201	4-16-4	Farmers Exchange, Exeter	4.01	93.5	----	0.75	17.65	4.22
6-202	4-16-4	Springfield Seed Co., Springfield	4.17	93.5	----	0.79	17.69	4.23
		Average Analysis	4.14	93.2	----	0.88	17.65	4.26
		Guaranteed Analysis	4.00	----	----	----	16.00	4.00
11-251	4-16-4	Farmers Elevator Co., Gerald	4.01	94.0	----	1.01	16.87	4.61
11-252	4-16-4	Joe Hockstetter, Nevada	4.15	94.0	----	0.96	16.99	4.39
11-253	4-16-4	Omer Webb, Jasper	4.00	93.3	----	1.00	16.70	4.60
11-254	4-16-4	Sandbothe Feed Store, Martinsburg	4.01	93.3	----	1.06	17.07	4.15
		Average Analysis	4.04	93.7	----	1.01	16.78	4.44
		Guaranteed Analysis	4.00	----	----	----	16.00	4.00
11-255	Half and Half	St. Clair Feed Co., St. Clair	1.16	72.4	----	3.88	17.67	----
		Guaranteed Analysis	1.00	----	----	8.00	12.00	----
6-203	Blood and Bone Tankage ⁷	A. J. Butterfield, Farmington	6.00	34.0	18.30	----	----	----
		Guaranteed Analysis	5.50	----	18.00	----	----	----
11-256	Raw Bone ¹	P. O. Foristell, Foristell	4.24	4.7	26.15	----	----	----
		Guaranteed Analysis	3.70	----	23.00	----	----	----
6-204	Bone Meal for Home & Garden Use ⁷	S. S. Kresge Co., Kansas City	2.04	23.0	29.25	----	----	----
		Guaranteed Analysis	2.25	----	26.00	----	----	----
11-257	Steam Bone Fertilizer 2-26	High Grain Co., High Hill	2.04	20.1	27.40	----	----	----
		Guaranteed Analysis	2.00	----	26.00	----	----	----
6-205	Kainit ⁷	C. D. Heath, E. Prairie	----	----	----	----	----	21.31
		Guaranteed Analysis	----	----	----	----	----	20.00
6-206	Shredded Cattle Manure	Henry Schulz Feed Co., Webster Groves	2.44	22.1	----	0.25	1.65	2.73
		Guaranteed Analysis	1.85	----	----	----	1.00	1.75
6-207	Pulverized Sheep Manure ¹	Chesmore Seed Co., St. Joseph	1.98	20.2	----	0.18	1.63	2.62
		Guaranteed Analysis	1.85	----	----	----	1.00	1.75
6-208	Special Golf Fertilizer ¹	Chesmore Seed Co., St. Joseph	12.16	98.7	----	0.12	7.04	4.45
		Guaranteed Analysis	12.00	----	----	----	6.00	4.00
6-209	Sulphate of Ammonia	Corneli Seed Co., St. Louis	20.82	100.0 ³	----	----	----	----
		Guaranteed Analysis	20.50	----	----	----	----	----
6-210	Vigoro ⁷	Jones Store Co., Kansas City	4.47	96.4	----	0.87	12.93	4.31
6-211	Vigoro ⁷	Weston Milling Co., Weston	4.44	95.3	----	0.84	13.60	4.63
6-212	Vigoro ⁷	Steubner & Bergman, Perryville	4.38	96.3	----	0.83	13.05	4.92
6-213	Vigoro ⁷	Sunny Hill Farms Seed & Feed Store, Cape Girardeau	4.38	95.7	----	0.92	13.00	4.87
6-214	Vigoro ⁷	Shelby Hardware Co., Charleston	4.36	98.0	----	0.90	13.40	4.74
6-215	Vigoro ⁷	Flat River Hdwe. & Furn. Co., Flat River	4.41	95.5	----	0.79	13.71	4.67
		Average Analysis	4.41	96.2	----	0.86	13.28	4.69
		Guaranteed Analysis	4.00	----	----	----	12.00	4.00
11-258	Vigoro ⁷	Hunker Hdwe. Co., Salisbury	4.40	95.2	----	1.14	12.94	4.84
11-259	Vigoro ⁷	Marceline Greenhouse, Marceline	3.60	91.9	----	1.73	12.91	4.77
11-260	Vigoro ⁷	Stobbert Floral Co., Brookfield	4.04	91.6	----	1.23	13.61	3.89
11-261	Vigoro ⁷	Bailey Seed Store, Chillicothe	4.36	94.3	----	1.43	12.69	4.34

1. Registration tags not attached. 3. Not actually determined.
7. Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
11-262	Vigoro ⁷	Scott Store No. 89, Chillicothe	4.39	95.7	----	0.86	12.72	5.02
11-263	Vigoro ⁷	Peoples Hdwe., Wellsville	4.37	93.8	----	1.62	12.24	4.25
		Average Analysis...	4.19	93.8	----	1.35	12.85	4.52
		Guaranteed Analysis	4.00	----	----	----	12.00	4.00
Tennessee Corporation New York, New York								
6-216	Loma	Kellogg Kelly Seed Co., St. Joseph	5.29	91.3	----	0.43	11.81	4.10
6-217	Loma ⁷	McGrory's 5 & 10c Store, St. Louis	5.22	90.2	----	0.35	11.37	4.03
6-218	Loma	Tieman Hdwe. & Supply Co., St. Louis	5.31	90.8	----	0.15	11.19	4.26
		Average Analysis...	5.27	90.8	----	0.31	11.46	4.13
		Guaranteed Analysis	5.00	----	----	0.65	10.00	4.00
Virginia Carolina Chemical Corp. E. St. Louis, Illinois V-C Brands								
11-264	16% Superphosphate	Eugene Farmers Exchange, Eugene	----	----	----	0.17	17.83	----
11-265	16% Superphosphate	Frank Webb, Phelps	----	----	----	0.79	17.21	----
11-266	16% Superphosphate	Mesko & Malone Feed Stores, Rolla	----	----	----	0.14	17.91	----
		Average Analysis...	----	----	----	0.37	17.65	----
		Guaranteed Analysis	----	----	----	----	16.00	----
6-220	20% Superphosphate	Berry Cash Store, Fairview	----	----	----	0.22	23.13	----
6-221	20% Superphosphate	Meta Roller Mills, Meta	----	----	----	0.63	23.22	----
		Average Analysis...	----	----	----	0.43	23.18	----
		Guaranteed Analysis	----	----	----	----	20.00	----
11-267	20% Superphosphate	Lipscomb Grain & Seed Co., Irwin	----	----	----	0.46	22.69	----
11-268	20% Superphosphate	Farmers Elevator & Supply Co., Troy	----	----	----	0.17	21.98	----
11-269	20% Superphosphate	Gastler Bros., Wellsville	----	----	----	0.13	21.87	----
11-270	20% Superphosphate	Eugene Farmers Exchange, Eugene	----	----	----	0.40	22.00	----
		Average Analysis...	----	----	----	0.29	22.14	----
		Guaranteed Analysis	----	----	----	----	20.00	----
6-222	0-14-4	Rosser Produce Co., Farmington	----	----	----	0.61	15.67	4.22
		Guaranteed Analysis	----	----	----	----	14.00	4.00
11-271	0-14-6	Lipscomb Grain & Seed Co., Irwin	----	----	----	0.10	15.35	6.40
		Guaranteed Analysis	----	----	----	----	14.00	6.00
11-272	0-20-10 ⁴	Lipscomb Grain & Seed Co., Irwin	----	----	----	0.37	22.38	9.89
		Guaranteed Analysis	----	----	----	----	20.00	10.00
6-223	2-12-2	H. G. Loberg, Lixville	2.12	92.0	----	0.33	13.13	2.42
6-224	2-12-2	A. M. Rieffer, Caledonia	2.14	92.1	----	0.51	13.09	2.23
6-225	2-12-2	Berry Cash Store, Fairview	2.14	91.1	----	0.63	12.25	2.08
6-226	2-12-2	Thos. Bingham, Ozark	2.60	94.2	----	0.43	13.69	3.54
		Average Analysis...	2.25	92.4	----	0.48	13.04	2.58
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
11-273	2-12-2	Mann Grain Co., Clinton	2.19	90.9	----	0.73	12.81	2.34
11-274	2-12-2	Calvin Moore, Curryville	2.17	86.2	----	1.55	12.29	2.17
11-275	2-12-2	Lohman Milling Co., Lohman	2.01	93.0	----	0.21	12.91	2.22
11-276	2-12-2	Eugene Farmers Exchange, Eugene	2.01	91.6	----	0.34	12.98	2.08
11-277	2-12-2	Farmers Grain & Elevator Co., Golden City	2.06	91.8	----	0.35	13.25	2.06
11-278	2-12-2	Northern Feed Co., Springfield	2.10	92.4	----	0.34	12.98	2.39
11-279	2-12-2	Westphalia Milling Co., Westphalia	2.11	92.9	----	0.35	12.77	2.34

4. Not registered. 7. Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
11-280	2-12-2	Farmers Grain & Produce Exchange, Rosebud	1.89	89.4	----	0.47	13.37	2.33
11-281	2-12-2	Gerald Feed Store, Gerald	2.04	93.6	----	0.58	12.44	2.39
		Average Analysis...	2.06	91.3	----	0.55	12.87	2.26
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
6-227	2-12-4	Arthur W. Mease Canning Co., Reed Springs	2.12	92.0	----	0.34	13.32	4.13
		Guaranteed Analysis	2.00	----	----	----	12.00	4.00
11-282	2-12-4	Rice Milling Co., Lamar	2.16	92.6	----	0.31	13.01	4.77
11-283	2-12-4	Gastler Bros., Wellsville	2.09	91.9	----	0.33	12.31	4.38
		Average Analysis...	2.13	92.3	----	0.32	12.66	4.58
		Guaranteed Analysis	2.00	----	----	----	12.00	4.00
6-228	2-12-6	Berry Cash Store, Fairview	2.15	93.5	----	0.54	13.30	6.34
6-229	2-12-6	Rosser Produce Co., Farmington	2.09	93.2	----	0.33	13.43	6.04
6-230	2-12-6	P. O. Zimmerman, Glen Allen	2.15	94.0	----	0.52	13.04	6.45
6-231	2-12-6	J. W. McClure, Exeter	2.16	94.4	----	0.39	13.17	6.32
6-232	2-12-6	Washburn Coop. Assn., Washburn	2.09	92.3	----	0.39	13.01	6.28
		Average Analysis...	2.13	93.5	----	0.43	13.19	6.29
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
11-284	2-12-6	Rice Milling Co., Lamar	2.02	93.8	----	0.13	12.81	6.10
11-285	2-12-6	Farmers Grain & Elevator, Golden City	2.00	93.5	----	0.08	12.96	6.45
11-286	2-12-6	Cuba Roller Mills, Cuba	2.00	93.0	----	0.13	12.53	6.76
		Average Analysis...	2.01	93.4	----	0.11	12.77	6.44
		Guaranteed Analysis	2.00	----	----	----	12.00	6.00
6-233	2-14-4	Edwards Cash Store, Ellington	2.18	98.2	----	0.53	15.63	4.14
		Guaranteed Analysis	2.00	----	----	----	14.00	4.00
11-287	2-14-4 ¹	Lipscomb Grain & Seed Co., Irwin	2.01	93.0	----	0.17	16.13	4.23
11-288	2-14-4	Theurer Grain Co., Lockwood	2.06	91.3	----	0.50	15.15	4.08
		Average Analysis...	2.04	92.2	----	0.34	15.64	4.16
		Guaranteed Analysis	2.00	----	----	----	14.00	4.00
11-289	2-16-2	Lipscomb Grain & Seed Co., Irwin	2.02	93.6	----	0.27	16.53	2.77
		Guaranteed Analysis	2.00	----	----	----	16.00	2.00
6-234	3-8-6	Berry Cash Store, Fairview	2.83	95.4	----	0.30	9.24	5.70
6-235	3-8-6	J. W. McClure, Exeter	3.21	96.6	----	0.06	8.60	6.37
6-236	3-8-6	Washburn Coop. Assn., Washburn	3.04	96.1	----	0.25	8.63	6.14
		Average Analysis...	3.03	96.0	----	0.20	8.82	6.07
		Guaranteed Analysis	3.00	----	----	----	8.00	6.00
11-290	3-14-6 ⁷	J. W. West & Son, La Belle	2.97	96.6	----	0.24	15.09	7.08
		Guaranteed Analysis	3.00	----	----	----	14.00	6.00
6-237	4-8-7	Potosi Mill & Elevator Co., Potosi	3.86	96.6	----	0.15	8.61	7.32
6-238	4-8-7	Northern Feed Co., Springfield	4.09	99.8	----	0.28	8.56	7.18
		Average Analysis...	3.98	98.2	----	0.22	8.59	7.25
		Guaranteed Analysis	4.00	----	----	----	8.00	7.00
6-239	4-12-4	Madison County Farmers Warehouse Assn., Fredricktown	3.88	94.3	----	0.49	14.25	3.93
6-240	4-12-4	Dan McCoy Seed Co., Sikeston	4.26	93.9	----	0.51	11.79	4.85
		Average Analysis...	4.07	94.1	----	0.50	13.02	4.39
		Guaranteed Analysis	4.00	----	----	----	12.00	4.00
11-291	4-12-4	Frank Webb, Phelps	4.22	95.2	----	0.56	12.92	4.33
11-292	4-12-4	Northern Feed Co., Springfield	4.01	96.3	----	0.16	12.38	5.51

1. Registration tags not attached. 7. Sample drawn from less than five containers.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
11-293	4-12-4	Bumgarner Feed & Seed Store, Strafford	4.01	96.5	----	0.16	12.36	4.46
		Average Analysis	4.08	96.0	----	0.29	12.55	4.77
		Guaranteed Analysis	4.00	----	----	----	12.00	4.00
11-294	4-16-4	Lipscomb Grain & Seed Co., Irwin	4.10	96.3	----	0.16	16.57	4.76
11-295	4-16-4 ⁷	W. H. Funk, Kirksville	4.07	96.8	----	0.16	15.99	4.76
		Average Analysis	4.09	96.6	----	0.16	16.28	4.76
		Guaranteed Analysis	4.00	----	----	----	16.00	4.00
6-241	Fairway Fertilizer 6-8-4 ⁷	Ralph Carson, Charleston	5.65	95.6	----	0.20	10.36	4.03
		Guaranteed Analysis	6.00	----	----	----	8.00	4.00
		Wallace Bros. Packing Co. Joplin, Missouri						
6-242	Bone Meal Fertilizer	Plant, Joplin	2.90	47.9	28.55	----	----	----
		Guaranteed Analysis	3.22	----	25.94	----	----	----
		Unofficial Samples—Tested for Buyers						
		Armour Fertilizer Works E. St. Louis, Ill.						
4-107	Big Crop 3-9-18	Farmers Union Gin Co., Senath	3.07	----	----	0.10	9.07	19.62
		Guaranteed Analysis	3.00	----	----	----	9.00	18.00
4-108	Big Crop 0-10-20	Farmers Union Gin Co., Senath	----	----	----	0.17	9.79	21.25
		Guaranteed Analysis	----	----	----	----	10.00	20.20
		J. Paul Bartz Rockville, Missouri						
4-111	Barco XX Lime and Manure Phosphate ²	H. A. Nolte, Appleton City	----	----	----	19.38	1.21	----
6-69	Barco XX Lime and Manure Phosphate ²	George Seider, Rockville	----	----	----	19.10	6.15	----
		Guaranteed Analysis	----	----	----	20.00	0.00	----
4-112	Barco "220" Fertilizer	H. A. Nolte, Appleton City	1.90	----	----	19.55	1.53	----
		Guaranteed Analysis	2.00	----	----	20.00	0.00	----
10-53	Barco XX Lime and Manure Superphosphate ²	Raymond Rufenacht, Deepwater	----	----	----	19.37	2.76	----
12-133	Barco XX Lime and Manure Superphosphate ²	W. L. Ficklin, Adrian	2.13	----	----	0.25	12.71	2.36
		Guaranteed Analysis	----	----	----	----	20.00	----
12-134	Barco Limanure 2-12-2 ²	W. L. Ficklin, Adrian	2.11	----	----	5.80	6.53	2.47
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
		Chicagrow Corporation Chicago, Ill.						
6-310	Chicagrow Activated Sludge	sent in by company	4.51	----	----	0.59	2.74	----
		Guaranteed Analysis	3.50	----	----	0.75	2.00	----
		Ruhm Phosphate and Chemical Co. Mt. Pleasant, Tenn.						
12-271	Ruhms Phosphate Rock*	Walter Carr, Fayette	----	----	----	31.15	3.38	----
		Guaranteed Analysis	----	----	----	34.30	----	----
		Standard Wholesale Phosphate and Acid Works, Inc. Baltimore, Md.						
12-131	Standard 20% Superphosphate	Missouri Farm Bureau Federation	----	----	----	0.93	21.45	----
		Guaranteed Analysis	----	----	----	----	20.00	----
12-132	Standard 32% Superphosphate	Missouri Farm Bureau Federation	----	----	----	0.15	33.25	----
		Guaranteed Analysis	----	----	----	----	32.00	----

2. Labels incorrect or incomplete. 7. Sample drawn from less than five containers.

*Report of an official sample from this lot will be found in Bulletin 393.

TABLE 3.—FERTILIZER ANALYSES AND GUARANTEES; 1939 (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
Swift & Co. Fertilizer Works National Stock Yards, Illinois								
4-110	Kainit	Farmers Union Gin Co., Senath	----	----	----	----	----	21.20
		Guaranteed Analysis	----	----	----	----	----	20.00
7-109	Red Steer 2-12-2	L. H. Fortner, Willard .	2.16	----	----	0.93	18.84	2.30
		Guaranteed Analysis	2.00	----	----	----	12.00	2.00
Temple Cotton Oil Co. Little Rock, Arkansas ⁴								
4-109	Kainit	Farmers Union Gin Co., Senath	----	----	----	----	----	20.52
		Guaranteed Analysis	----	----	----	----	----	20.00
Lewis Treeland Kansas City, Kansas								
5-134	Sup-Ro	Peppard Seed Co., Kansas City	4.25	----	----	0.08	3.58	3.78
		Guaranteed Analysis	4.00	----	----	----	4.00	4.00

4. Not registered.

TABLE 4.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI; 1940

Fertilizer	Nitrogen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total in Bone	Available	Insoluble	
	Per cent	Per cent	Per cent	Per cent	Per cent
American Agricultural Chemical Company					
National Stock Yards, Ill.					
Agrico County Club Fertilizer	8.00	.....	6.00	0.50	2.00
Agrico for Grain	2.00	.....	12.00	0.50	4.00
Agrico for Wheat	2.00	.....	12.00	0.50	6.00
Agrico for Tomatoes	2.00	.....	12.00	0.50	6.00
Agrico for Corn	3.00	.....	14.00	0.50	6.00
Agrico for Potatoes	4.00	.....	8.00	0.50	6.00
Agrico for Gardens	4.00	.....	10.00	0.50	4.00
Agrico for Truck	4.00	.....	10.00	0.50	6.00
Agrico for Lawns, Trees and Shrubs	7.00	.....	7.00	0.50	5.00
Agrico for Pastures and Top Dressing	10.00	.....	6.00	0.50	4.00
Agrico for Tobacco	4.00	.....	10.00	0.50	6.00
AA 16 per cent Superphosphate	.....	.....	16.00	0.50	.....
AA 20 per cent Superphosphate	.....	.....	20.00	0.50	.....
AA Red Dragon Fertilizer	2.00	.....	12.00	0.50	2.00
AA Antler Fertilizer	2.00	.....	12.00	0.50	6.00
AA Laurel Fertilizer	3.00	.....	9.00	0.50	18.00
AA Hercules Fertilizer	3.00	.....	12.00	0.50	12.00
AA Excelsior Fertilizer	4.00	.....	8.00	0.50	12.00
AA Two-in-One Fertilizer	4.00	.....	16.00	0.50	4.00
Agrico for Cereals	4.00	.....	12.00	0.50	4.00
Sulphate of Ammonia	20.56	.....	.....	.....	.....
AA Elm Mixture	.....	.....	16.00	0.50	6.00
AA Hi-Test 9-18-18	9.00	.....	18.00	0.50	18.00
20 per cent Kainit	.....	.....	.....	.....	20.00
Steamed Bone Meal Fertilizer	1.65	27.00	.....	.....	.....
Muriate of Potash	.....	.....	.....	.....	50.00
AA Triumph Fertilizer	4.00	.....	12.00	0.50	4.00
American Cyanamid Company					
30 Rockefeller Plaza					
New York, New York					
21 per cent "Aero" Cyanamid Granular	21.00	.....	.....	.....	.....
"Ammo-Phos" 11-48-0	11.00	.....	48.00	.....	.....
"Ammo-Phos" 16-20-0	16.00	.....	20.00	.....	.....
Granular "Aero" 32 per cent Super Phosphate	.....	.....	32.00	.....	.....
Anaconda Copper Mining Company					
Anaconda, Montana					
Anaconda Treble Superphosphate	.....	.....	43.00	3.00	.....
Anaconda Ammoniated Phosphate	10.00	.....	52.00	1.00	.....
Archias' Seed Store					
Sedalia, Missouri					
Archias Fairy Brand Plant Food	10.00	.....	12.00	.....	11.00
Arkansas Fertilizer Company					
Little Rock, Arkansas					
White Diamond 10-6-4	10.00	.....	6.00	.....	4.00
White Diamond 6-8-12	6.00	.....	8.00	.....	12.00
White Diamond Economy	6.00	.....	12.00	.....	6.00
White Diamond 4-16-4	4.00	.....	16.00	.....	4.00
White Diamond Crop Getter	4.00	.....	12.00	.....	4.00
White Diamond 4-10-6	4.00	.....	10.00	.....	6.00
White Diamond Farmers' Choice	4.00	.....	10.00	.....	4.00
White Diamond Jack Rabbit	4.00	.....	8.00	.....	6.00
White Diamond Old Reliable	4.00	.....	8.00	.....	4.00
White Diamond Early Boll	3.00	.....	10.00	.....	3.00
White Diamond 3-8-6	3.00	.....	8.00	.....	6.00
White Diamond 2-16-0	2.00	.....	16.00	.....	.....
White Diamond Prize Wheat Grower	2.00	.....	16.00	.....	2.00
White Diamond 2-14-4	2.00	.....	14.00	.....	4.00
White Diamond Gro-Fast	2.00	.....	12.00	.....	6.00
White Diamond Southern King	2.00	.....	12.00	.....	2.00
White Diamond 2-10-2	2.00	.....	10.00	.....	2.00
White Diamond 0-15-6	.....	.....	15.00	.....	6.00
White Diamond 0-14-7	.....	.....	14.00	.....	7.00
White Diamond 0-14-4	.....	.....	14.00	.....	4.00
White Diamond 0-12-12	.....	.....	12.00	.....	12.00
White Diamond Kali-Superphosphate	.....	.....	12.00	.....	4.00
White Diamond 20 per cent Superphosphate	.....	.....	20.00	0.50	.....
White Diamond 18 per cent Superphosphate	.....	.....	18.00	0.50	.....
White Diamond 16 per cent Superphosphate	.....	.....	16.00	0.50	.....
White Diamond Steamed Bone Meal	1.65	27.00	.....	.....	.....
White Diamond Pure Raw Bone Meal	3.70	23.00	.....	.....	.....
White Diamond Muriate of Potash	.....	.....	.....	.....	50.00

TABLE 4.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI; 1940 (Continued)

Fertilizer	Nitrogen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total in Bone	Avail-able	Insol-uble	
	Per cent	Per cent	Per cent	Per cent	Per cent
White Diamond "Extra Dry" Sulphate of Ammonia	20.00	.....	.....	.....	.....
White Diamond 16 per cent Nitrate of Soda	16.00	.....	.....	.....	.....
White Diamond Kainit	.....	.....	.....	.....	20.00
White Diamond 2-12-4	2.00	.....	12.00	.....	4.00
Armour Fertilizer Works					
East St. Louis, Illinois					
Armour's Big Crop 9-18-18	9.00	.....	18.00	.....	18.00
Armour's Big Crop 8-16-16	8.00	.....	16.00	.....	16.00
Armour's Big Crop 4-16-8	4.00	.....	16.00	.....	8.00
Armour's Big Crop 4-16-4	4.00	.....	16.00	.....	4.00
Armour's Big Crop 4-12-12	4.00	.....	12.00	.....	12.00
Armour's Big Crop 4-16-0	4.00	.....	16.00	.....	.....
Armour's Big Crop 4-12-4	4.00	.....	12.00	.....	4.00
Armour's Big Crop 4-8-12	4.00	.....	8.00	.....	12.00
Armour's Big Crop 4-8-8	4.00	.....	8.00	.....	8.00
Armour's Big Crop 4-8-6	4.00	.....	8.00	.....	6.00
Armour's Big Crop 3-18-3	3.00	.....	18.00	.....	3.00
Armour's Big Crop 3-12-12	3.00	.....	12.00	.....	12.00
Armour's Big Crop 3-9-18	3.00	.....	9.00	.....	18.00
Armour's Big Crop 3-8-24	3.00	.....	8.00	.....	24.00
Armour's Big Crop 3-8-8	3.00	.....	8.00	.....	8.00
Armour's Big Crop 3-8-6	3.00	.....	8.00	.....	6.00
Armour's Big Crop 2-16-2	2.00	.....	16.00	.....	2.00
Armour's Big Crop 2-14-4	2.00	.....	14.00	.....	4.00
Armour's Big Crop 2-12-6	2.00	.....	12.00	.....	6.00
Armour's Big Crop 2-12-4	2.00	.....	12.00	.....	4.00
Armour's Big Crop 2-12-2	2.00	.....	12.00	.....	2.00
Armour's Big Crop 2-8-16	2.00	.....	8.00	.....	16.00
Armour's Big Crop 0-20-10	.....	.....	20.00	.....	10.00
Armour's Big Crop 0-10-20	.....	.....	10.00	.....	20.00
Armour's Big Crop 0-16-6	.....	.....	16.00	.....	6.00
Armour's Big Crop 0-14-6	.....	.....	14.00	.....	6.00
Armour's Big Crop 0-14-4	.....	.....	14.00	.....	4.00
Armour's Big Crop 0-12-12	.....	.....	12.00	.....	12.00
Armour's Big Crop 0-12-6 Fertilizer	.....	.....	12.00	.....	6.00
Armour's Big Crop 0-12-4 Fertilizer	.....	.....	12.00	.....	4.00
Armour's Big Crop 0-8-24 Fertilizer	.....	.....	8.00	.....	24.00
Armour's Big Crop 20 per cent Superphosphate	.....	.....	20.00	.....	.....
Armour's Big Crop 16 per cent Superphosphate	.....	.....	16.00	.....	.....
Armour's Big Crop Bone Meal	2.00	27.00	.....	.....	.....
Armour's Big Crop Raw Bone Meal	3.75	22.00	.....	.....	.....
Armour's Bone Meal and Superphosphate	1.00	.....	14.00	6.00	.....
Armour's Multiphos 45 per cent Superphosphate	.....	.....	45.00	.....	.....
Armour's Kainit	.....	.....	.....	.....	20.00
Armour's Sulphate of Ammonia	20.50	.....	.....	.....	.....
Armour's Special Tree Food 10-8-6	10.00	.....	8.00	.....	6.00
Armour's Special Turf Fertilizer 10-8-6	10.00	.....	8.00	.....	6.00
Armour's Special Florists Mixture 5-15-5	5.00	.....	15.00	.....	5.00
Armour's Garden and Lawn Fertilizer 4-8-6	4.00	.....	8.00	.....	6.00
Armour's Rose Grower Bone Meal	3.75	22.00	.....	.....	.....
Armour's Bone Blood and Sulphate of Potash 5-8-7	5.00	.....	8.00	.....	7.00†
Armour's Pulverized Sheep Manure	2.00	.....	1.00	.....	2.00
Armour's Shredded Cattle Manure	2.00	.....	1.00	.....	2.00
Armour's Florists' Bone Meal	2.00	27.00	.....	.....	.....
Armour's Home Use Bone Meal	2.00	27.00	.....	.....	.....
Armour's Bone and Blood	5.50	13.74	.....	.....	.....
Armour's Big Crop 10-6-4	10.00	.....	6.00	.....	4.00
Di-Ammonium Phosphate	20.50	.....	50.00	.....	.....
Barada and Page, Inc.					
Kansas City, Missouri					
B-P Ammonia Sulphate	20.50	.....	.....	.....	.....
The Barrett Company					
40 Rector Street					
New York, New York					
Arcadian the American Nitrate of Soda	16.00	.....	.....	.....	.....
Arcadian Sulphate of Ammonia	20.56	.....	.....	.....	.....
Sulphate of Ammonia	20.56	.....	.....	.....	.....
Bartels and Shores Chemical Co.					
Kansas City, Missouri					
Chemigro	6.00	.....	16.00	.....	4.00

†Potash from Sulphate.

TABLE 4.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI; 1940 (Continued)

Fertilizer	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)	
	Nitrogen	Total in Bone	Avail-able		Insol-uble
	Per cent	Per cent	Per cent	Per cent	Per cent
John Paul Bartz					
Prairie City, Missouri					
Barco Brands					
XX Lime and Manure Superphosphate	.....	.....	20.00	.....	.....
XXX Lime and Manure Superphosphate	.....	.....	30.00	.....	.....
XXXX Lime and Manure Superphosphate	.....	.....	40.00	.....	.....
LimAnure 2-12-2 Fertilizer	2.00	.....	12.00	.....	2.00
LimAnure 2-12-4 Fertilizer	2.00	.....	12.00	.....	4.00
LimAnure 4-12-4 Fertilizer	4.00	.....	12.00	.....	4.00
LimAnure 4-16-4 Fertilizer	4.00	.....	16.00	.....	4.00
Lawn and Garden Fertilizer	4.00	.....	8.00	.....	6.00
XX Lime and Manure Phosphate	.....	.....	0.00	20.00	.....
XXX Lime and Manure Phosphate	.....	.....	0.00	30.00	.....
220 Fertilizer	2.00	.....	0.00	20.00	.....
222 Fertilizer	2.00	.....	0.00	20.00	2.00
224 Fertilizer	2.00	.....	0.00	20.00	4.00
424 Fertilizer	4.00	.....	0.00	20.00	4.00
B. and H. Fertilizer Co.					
1511 Genesee Street					
Kansas City, Missouri					
Growthy	11.00	.....	7.00	.....	6.00
The Grower	4.00	.....	8.00	.....	6.00
Blood and Bone Products, Inc.					
East St. Louis, Illinois					
Steer Head Brands					
Spécial Truck Grower	4.00	.....	8.00	.....	6.00
Two Twelve Six Fertilizer	2.00	.....	12.00	.....	6.00
Missouri Spécial Fertilizer	2.00	.....	12.00	.....	2.00
Twelve Six Fertilizer	.....	.....	12.00	.....	6.00
16 per cent Superphosphate	.....	.....	16.00	.....	.....
20 per cent Superphosphate	.....	.....	20.00	.....	.....
Raw Bone Meal	3.22	20.00	.....	.....	.....
Steam Bone Meal	1.00	30.00	.....	.....	.....
Phosphate and Bone Mixture, Half and Half	1.00	.....	12.00	8.00*	.....
Spécial Lawn Grower	2.00	.....	10.00	10.00*	.....
Flower Grower (Blood and Bone Tankage)	3.30	25.00	.....	.....	.....
Bone Products Company					
Washington, Missouri					
Raw Bone Meal	3.25	26.50	.....	.....	.....
Century Chemical Co.					
619 Ridge Bldg.					
Kansas City, Missouri					
Vita-Gro	10.00	.....	20.60	.....	12.00
Chaumiere Farm					
Steelville, Missouri					
Poulanure	3.00	.....	2.75	.....	1.50
Chilean Nitrate Sales Corp.					
120 Broadway					
New York, New York					
Champion Brand Chilean Nitrate of Soda	16.00	.....	.....	.....	.....
Old Style Chilean Nitrate of Soda	16.00	.....	.....	.....	.....
Cloverset Flower Farm					
105th Street and Broadway					
Kansas City, Missouri					
Cloverset Rose Grower	4.00	.....	12.00	.....	4.00
Cloverset Blood and Bone	4.63	22.40	.....	.....	.....
J. H. Coy					
Lockwood, Missouri					
Coy's Grain Grower	.....	.....	6.00	.....	.....
Crocker Packing Company					
Joplin, Missouri					
Inter-State Steam Bone	2.50	24.00	.....	.....	.....
Inter-State 4-16-4	4.00	.....	16.00	.....	4.00
Inter-State 4-12-8	4.00	.....	12.00	.....	8.00
Inter-State 4-12-4	4.00	.....	12.00	.....	4.00
Inter-State 4-12-2	4.00	.....	12.00	.....	2.00
Inter-State 4-8-6	4.00	.....	8.00	.....	6.00
Inter-State 4-8-4	4.00	.....	8.00	.....	4.00
Inter-State 3-12-4	3.00	.....	12.00	.....	4.00

*From bone.

TABLE 4.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI; 1940 (Continued)

Fertilizer	Nitrogen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total in Bone	Available	Insoluble	
	Per cent	Per cent	Per cent	Per cent	Per cent
Inter-State 2-14-4	2.00	.....	14.00	.....	4.00
Inter-State 2-16-6	2.00	.....	16.00	.....	6.00
Inter-State 2-16-2	2.00	.....	16.00	.....	2.00
Inter-State 2-12-8	2.00	.....	12.00	.....	8.00
Inter-State 2-12-4	2.00	.....	12.00	.....	4.00
Inter-State 2-12-2	2.00	.....	12.00	.....	2.00
Inter-State 2-12-6	2.00	.....	12.00	.....	6.00
Inter-State 2-8-2	2.00	.....	8.00	.....	2.00
Inter-State 2-8-5	2.00	.....	8.00	.....	5.00
Inter-State 2-8-6	2.00	.....	8.00	.....	6.00
Inter-State 2-8-10 Potato Special	2.00	.....	8.00	.....	10.00
Inter-State 1-12-4	1.00	.....	12.00	.....	4.00
Inter-State 0-12-6	.....	.....	12.00	.....	6.00
Inter-State 0-14-4	.....	.....	14.00	.....	4.00
Inter-State 0-14-6	.....	.....	14.00	.....	6.00
Inter-State 0-14-7	.....	.....	14.00	.....	7.00
Inter-State 0-16-4	.....	.....	16.00	.....	4.00
Inter-State 0-16-6	.....	.....	16.00	.....	6.00
Inter-State 0-16-0 Superphosphate 16 per cent	.....	.....	16.00	.....	.....
Inter-State 0-20-0 Superphosphate 20 per cent	.....	.....	20.00	.....	.....
Inter-State 0-45-0 Superphosphate 45 per cent	.....	.....	45.00	.....	.....
Inter-State 0.50-15-2	0.50	.....	15.00	.....	2.00
"Aero" Superphosphate granular	.....	.....	32.00	.....	.....
Lawn Vegetable and Flower Grower	4.00	.....	8.00	.....	6.00
Inter-State Half and Half	1.20	.....	14.00	6.00	.....
Milorganite	6.06	.....	2.15	0.65	.....
Muriate of Potash	.....	.....	.....	.....	60.72
Sulphate of Ammonia	20.60	.....	.....	.....	.....
Cudahy Packing Company					
221 North LaSalle Street					
Chicago, Illinois					
Bigwin Fertilizer Steamed Bone Meal	2.50	24.00	.....	.....	.....
Bigwin High Grade 16 per cent Superphosphate	.....	.....	16.00	1.00	.....
Bigwin High Grade 18 per cent Superphosphate	.....	.....	18.00	1.00	.....
Bigwin High Grade Fertilizer 2-12-2	2.00	.....	12.00	.....	2.00
Bigwin High Grade Fertilizer 2-16-2	2.00	.....	16.00	.....	2.00
Bigwin High Grade Fertilizer 2-12-6	2.00	.....	12.00	.....	6.00
Bigwin High Grade Fertilizer 4-8-6	4.00	.....	8.00	.....	6.00
Bigwin High Grade Fertilizer 2-12-4	.....	.....	20.00	1.00	.....
Bigwin High Grade 20 per cent Superphosphate	.....	.....	.....	.....	.....
Nitrate of Soda	15.00	.....	.....	.....	.....
Bigwin Fertilizer Half and Half 1-13-0	1.00	.....	13.00	7.00†	.....
Muriate of Potash	.....	.....	.....	.....	58.00
Sulphate of Ammonia	21.00	.....	.....	.....	.....
Bigwin High Grade Fertilizer 4-16-4	4.00	.....	16.00	.....	4.00
Bigwin High Grade Fertilizer 4-12-4	4.00	.....	12.00	.....	4.00
Bigwin High Grade Fertilizer 0-14-6	.....	.....	14.00	.....	6.00
Bigwin High Grade Fertilizer 2-12-4	2.00	.....	12.00	.....	4.00
Bigwin High Grade 45 per cent Superphosphate	.....	.....	45.00	2.00	.....
Bigwin High Grade Fertilizer Steamed Bone Meal with Potash added	2.50	22.00	.....	.....	6.00
Darling and Company					
4201 South Ashland Avenue					
Chicago, Illinois					
Darlings' Harvest Queen 2-16-8	2.00	.....	16.00	.....	8.00
Darling's Sixteen Six 0-16-6	.....	.....	16.00	.....	6.00
Darling's All Crop 4-16-4	4.00	.....	16.00	.....	4.00
Darling's Ace 4-8-7	4.00	.....	8.00	.....	7.00
Darling's Field Marshal 4-12-4	4.00	.....	12.00	.....	4.00
Darling's Farmers Favorite 3-8-6	3.00	.....	8.00	.....	6.00
Darling's Crop King 2-12-6	2.00	.....	12.00	.....	6.00
Darling's Tomato Grower 2-12-6	2.00	.....	12.00	.....	6.00
Darling's Bumper Crop 2-16-2	2.00	.....	16.00	.....	2.00
Darling's General Crop 2-14-4	2.00	.....	14.00	.....	4.00
Darling's Lawn and Garden Fertilizer 4-8-7	4.00	.....	8.00	.....	7.00
Darling's Big Harvest 2-12-2	2.00	.....	12.00	.....	2.00
Darling's Two Twelve Four 2-12-4	2.00	.....	12.00	.....	4.00
Darling's Fourteen Four 0-14-4	.....	.....	14.00	.....	4.00
Darling's Ten Ten 0-10-10	.....	.....	10.00	.....	10.00
Darling's Pure Ground Bone	1.85	28.00	.....	.....	.....
Darling's Superphosphate Half and Half	1.00	.....	14.00	6.00†	.....
Darling's Nitrate of Soda	16.00	.....	.....	.....	.....

†From Bone.

TABLE 4.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI; 1940 (Continued)

Fertilizer	Nitrogen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total in Bone	Avail-able	Insol-uble	
	Per cent	Per cent	Per cent	Per cent	Per cent
Darling's Sulphate of Ammonia	20.56	.....	.....	.....	.....
Darling's Muriate of Potash	.....	.....	.....	.....	50.00
Darling's Twelve Twelve 0-12-12	.....	.....	12.00	.....	12.00
Darling's 20 per cent Superphosphate	.....	.....	20.00	.....	.....
Darling's 16 per cent Superphosphate	.....	.....	16.00	.....	.....
Darling's 45 per cent Superphosphate	.....	.....	45.00	.....	.....
Darling's Potato Brand 4-8-6	4.00	.....	8.00	.....	6.00
Darling's Twenty Ten 0-20-10	.....	.....	20.00	.....	10.00
Darling's Fourteen Six 0-14-6	.....	.....	14.00	.....	6.00
Darling's Ten Twenty 0-10-20	.....	.....	10.00	.....	20.00
Darling's Big Potash 3-9-18	3.00	.....	9.00	.....	18.00
M.F.A. 0-16-6	.....	.....	16.00	.....	6.00
M.F.A. 4-16-4	4.00	.....	16.00	.....	4.00
M.F.A. 4-8-7	4.00	.....	8.00	.....	7.00
M.F.A. 4-12-4	4.00	.....	12.00	.....	4.00
M.F.A. 3-8-6	3.00	.....	8.00	.....	6.00
M.F.A. 2-12-6	2.00	.....	12.00	.....	6.00
M.F.A. 2-16-2	2.00	.....	16.00	.....	2.00
M.F.A. 2-14-4	2.00	.....	14.00	.....	4.00
M.F.A. 2-12-2	2.00	.....	12.00	.....	2.00
M.F.A. 2-12-4	2.00	.....	12.00	.....	4.00
M.F.A. 0-14-4	.....	.....	14.00	.....	4.00
M.F.A. 2-16-8	2.00	.....	16.00	.....	8.00
M.F.A. Pure Ground Bone	1.85	28.00	.....	.....	.....
M.F.A. Bone and Superphosphate Half and Half	1.00	.....	14.00	6.00†	.....
M.F.A. Nitrate of Soda	16.00	.....	.....	.....	.....
M.F.A. Sulphate of Ammonia	20.56	.....	.....	.....	.....
M.F.A. Muriate of Potash	.....	.....	.....	.....	50.00
M.F.A. 0-12-12	.....	.....	12.00	.....	12.00
M.F.A. 20 per cent Superphosphate	.....	.....	20.00	.....	.....
M.F.A. 16 per cent Superphosphate	.....	.....	16.00	.....	.....
M.F.A. 45 per cent Superphosphate	.....	.....	45.00	.....	.....
M.F.A. 4-8-6	4.00	.....	8.00	.....	6.00
M.F.A. 0-20-10	.....	.....	20.00	.....	10.00
M.F.A. 0-14-6	.....	.....	14.00	.....	6.00
M.F.A. 0-10-20	.....	.....	10.00	.....	20.00
M.F.A. 3-9-18	3.00	.....	9.00	.....	18.00
M.F.A. 0-10-10	.....	.....	10.00	.....	10.00
Davey Tree Expert Co.					
Kent, Ohio					
Davey Tree Food	10.00	.....	3.00	.....	3.00
Davey Tree Food (New Formula)	12.00	.....	4.00	.....	4.00
Davison Chemical Corporation					
Baltimore, Maryland and					
Nashville, Tennessee					
Read Brands					
6-8-4 Fertilizer	6.00	.....	8.00	1.00	4.00
2-12-2 Fertilizer	2.00	.....	12.00	.....	2.00
2-12-4 Fertilizer	2.00	.....	12.00	.....	4.00
2-12-6 Fertilizer	2.00	.....	12.00	.....	6.00
3-8-6 Fertilizer	3.00	.....	8.00	.....	6.00
4-12-4 Fertilizer	4.00	.....	12.00	.....	4.00
4-16-4 Fertilizer	4.00	.....	16.00	.....	4.00
0-14-4 Fertilizer	.....	.....	14.00	.....	4.00
0-14-7 Fertilizer	.....	.....	14.00	.....	7.00
16 per cent Superphosphate	.....	.....	16.00	.....	.....
20 per cent Superphosphate	.....	.....	20.00	.....	.....
Raw Bone Meal	3.70	20.00	.....	.....	.....
Steam Bone Meal	2.00	27.00	.....	.....	.....
Half and Half	1.00	.....	12.00	8.00	.....
Nitrate Soda	16.00	.....	.....	.....	.....
Sulphate Ammonia	20.50	.....	.....	.....	.....
Muriate Potash	.....	.....	14.00	.....	6.00
0-14-6 Fertilizer	.....	.....	14.00	.....	6.00
2-14-4 Fertilizer	2.00	.....	14.00	.....	4.00
10-6-4 Fertilizer	10.00	.....	6.00	1.00	4.00
3-9-18 Fertilizer	3.00	.....	9.00	1.00	18.00
0-10-20 Fertilizer	.....	.....	10.00	1.00	20.00
Davco Brands					
Granulated 20 per cent Superphosphate	.....	.....	20.00	.....	.....
Granulated Fertilizer 2-12-2	2.00	.....	12.00	.....	2.00

†Insoluble P₂O₅ is from Bone.

TABLE 4.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI; 1940 (Continued)

Fertilizer	Nitrogen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total in Bone	Avail-able	Insol-uble	
	Per cent	Per cent	Per cent	Per cent	Per cent
Granulated Fertilizer 2-12-4	2.00	.....	12.00	.....	4.00
Granulated Fertilizer 2-12-6	2.00	.....	12.00	.....	6.00
Granulated Fertilizer 3-8-6	3.00	.....	8.00	.....	6.00
Granulated Fertilizer 4-8-4	4.00	.....	8.00	.....	4.00
Granulated Fertilizer 4-12-4	4.00	.....	12.00	.....	4.00
Granulated Fertilizer 6-8-4	6.00	.....	8.00	1.00	4.00
Federal Chemical Co., Inc.					
Louisville, Kentucky					
Federal Brands					
2-12-2	2.00	.....	12.00	.....	2.00
2-12-4	2.00	.....	12.00	.....	4.00
2-12-6	2.00	.....	12.00	.....	6.00
2-14-4	2.00	.....	14.00	.....	4.00
3-8-6	3.00	.....	8.00	.....	6.00
4-8-6	4.00	.....	8.00	.....	6.00
4-12-4	4.00	.....	12.00	.....	4.00
4-16-4	4.00	.....	16.00	.....	4.00
0-14-6 .....	.....	.....	14.00	.....	6.00
0-16-6 .....	.....	.....	16.00	.....	6.00
0-12-6 .....	.....	.....	12.00	.....	6.00
Bone and Phosphate Mixture	1.00	.....	12.00	8.00	.....
Raw Bone Meal	3.30	.....	.....	.....	.....
Steamed Bone Meal	2.00	20.00	.....	.....	.....
16 per cent Superphosphate .....	.....	27.00	16.00	.....	.....
20 per cent Superphosphate .....	.....	.....	20.00	.....	.....
32 per cent Superphosphate .....	.....	.....	32.00	.....	.....
Floyd Money-Maker Brands					
2-12-2	2.00	.....	12.00	.....	2.00
2-12-4	2.00	.....	12.00	.....	4.00
2-12-6	2.00	.....	12.00	.....	6.00
2-14-4	2.00	.....	14.00	.....	4.00
3-8-6	3.00	.....	8.00	.....	6.00
4-8-6	4.00	.....	8.00	.....	6.00
4-12-4	4.00	.....	12.00	.....	4.00
4-16-4	4.00	.....	16.00	.....	4.00
0-12-6 .....	.....	.....	12.00	.....	6.00
0-14-6 .....	.....	.....	14.00	.....	6.00
0-16-6 .....	.....	.....	16.00	.....	6.00
16 per cent Superphosphate .....	.....	.....	16.00	.....	.....
20 per cent Superphosphate .....	.....	.....	20.00	.....	.....
32 per cent Superphosphate .....	.....	.....	32.00	.....	.....
Flower City Plant Food Co.					
Pittsford, New York					
Walker's Excelsior Plant Food	5.00	.....	8.00	.....	5.00
Fair Brand Fertilizer (Archias Seed Store)	10.00	.....	12.00	.....	11.00
Wondergro	10.00	.....	12.00	.....	11.00
Ford Motor Company					
Dearborn, Michigan					
Ford Ammonium Sulphate	20.80	.....	.....	.....	.....
Fort Smith Cotton Oil Company					
Fort Smith, Arkansas					
Rais-Mor Brands					
0-12-4 .....	.....	.....	12.00	.....	4.00
4-12-4	4.00	.....	12.00	.....	4.00
6-12-6	6.00	.....	12.00	.....	6.00
2-12-2	2.00	.....	12.00	.....	2.00
4-8-10	4.00	.....	8.00	.....	10.00
4-8-6	4.00	.....	8.00	.....	6.00
4-8-4	4.00	.....	8.00	.....	4.00
2-12-6	2.00	.....	12.00	.....	6.00
4-10-4	4.00	.....	10.00	.....	4.00
2-10-2	2.00	.....	10.00	.....	2.00
6-8-4	6.00	.....	8.00	.....	4.00
6-10-7	6.00	.....	10.00	.....	7.00
3-10-3	3.00	.....	10.00	.....	3.00
45 per cent Superphosphate .....	.....	.....	45.00	.....	.....
20 per cent Superphosphate .....	.....	.....	20.00	.....	.....
18 per cent Superphosphate .....	.....	.....	18.00	.....	.....
Nitrate of Soda 16 per cent	16.00	.....	.....	.....	.....
Sulphate of Ammonia 20 per cent	20.00	.....	.....	.....	.....
Muriate of Potash 50 per cent .....	.....	.....	.....	.....	50.00
Kainit 20 per cent .....	.....	.....	.....	.....	50.00

TABLE 4.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI; 1940 (Continued)

Fertilizer	Nitrogen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total in Bone	Available	Insoluble	
	Per cent	Per cent	Per cent	Per cent	Per cent
French Potash Company, Inc.					
30 Rockefeller Plaza					
New York, New York					
Muriate of Potash	.....	.....	.....	.....	50.00
Kainit	.....	.....	.....	.....	20.00
Manure Salts	.....	.....	.....	.....	30.00
Glyndale Hatchery					
Doe Run, Missouri					
Chickenure	2.75	.....	2.50	.....	1.50
J. Harris Manure Co.					
121 Baugh Avenue					
E. St. Louis, Illinois					
Hampton Park Pulverized Cattle and Sheep Fertilizer	2.00	.....	1.00	.....	2.00
A. H. Hoffman, Inc.					
Landisville, Pennsylvania					
Hoffman's Brands					
Bone Meal	3.70	20.00	.....	.....	.....
Cow Manure (Dehydrated)	2.00	.....	2.00	.....	2.00
Sheep Manure (Kiln-Dried)	1.85	.....	1.00	.....	2.00
Plant Food	5.00	.....	8.00	.....	6.00
Hydroponic Chemical Company, Inc.					
152 West 42nd Street					
New York, New York					
Hyponex	7.00	.....	6.00	.....	19.00
Jerreash Products Co.					
St. Louis, Missouri					
Jerreash (Vitaminized) Plant Food	4.00	.....	12.00	.....	4.00
Kansas City Fertilizer Company					
7117 Troost					
Kansas City, Missouri					
Archer Brand Sheep Manure	2.00	.....	1.00	.....	2.00
Archer Brand Cattle Manure	2.00	.....	1.00	.....	1.00
Lyman Carrier Products					
Granger, Indiana					
Lecco	7.00	.....	7.00	0.80	1.00
Missouri Dahlia Farms Co.					
8601 St. Charles Road					
St. Louis, Missouri					
Nature's Plant Food Cattle Manure	1.00	.....	1.00	.....	2.00
Nature's Plant Food Sheep Manure	2.00	.....	1.00	.....	2.00
Newhouse Chemical and Supply Co.					
Little Rock, Arkansas					
Triangle Brands					
2-12-4	2.00	.....	12.00	.....	4.00
10-6-4	10.00	.....	6.00	.....	4.00
Up-Ahead Fertilizer	6.00	.....	8.00	.....	12.00
Master Farmer	6.00	.....	12.00	.....	6.00
4-16-4	4.00	.....	16.00	.....	4.00
Complete Fertilizer	4.00	.....	12.00	.....	4.00
4-10-6	4.00	.....	10.00	.....	6.00
All Crop Fertilizer	4.00	.....	10.00	.....	4.00
Potato and Truck	4.00	.....	8.00	.....	6.00
Four State Cotton	4.00	.....	8.00	.....	4.00
Sandyland Fertilizer	3.00	.....	10.00	.....	3.00
3-8-6	3.00	.....	8.00	.....	6.00
2-16-2	2.00	.....	16.00	.....	2.00
2-16-0	2.00	.....	16.00	.....	.....
2-14-4	2.00	.....	14.00	.....	4.00
Tomato Fertilizer	2.00	.....	12.00	.....	6.00
Old Timer Fertilizer	2.00	.....	12.00	.....	2.00
Early Day Fertilizer	2.00	.....	10.00	.....	2.00
0-15-6	.....	.....	15.00	.....	6.00
0-14-7	.....	.....	14.00	.....	7.00
0-14-4	.....	.....	14.00	.....	4.00
0-12-12	.....	.....	12.00	.....	12.00
0-12-4	.....	.....	12.00	.....	4.00
16 per cent Superphosphate	.....	.....	16.00	0.50	.....
18 per cent Superphosphate	.....	.....	18.00	0.50	.....
20 per cent Superphosphate	.....	.....	20.00	0.50	.....
Steamed Bone Meal	1.65	27.00	.....	.....	.....
Pure Raw Bone Meal	3.70	23.00	.....	.....	.....
Muriate of Potash	.....	.....	.....	.....	50.00

TABLE 4.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI; 1940 (Continued)

Fertilizer	Nitrogen Per cent	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O) Per cent
		Total in Bone Per cent	Avail- able Per cent	Insol- uble Per cent	
Kainit .....	.....	.....	.....	.....	20.00
Sulphate of Ammonia	20.00	.....	.....	.....	.....
Nitrate of Soda	16.00	.....	.....	.....	.....
Pearson-Ferguson Chemical Company					
1400 Union Avenue					
Kansas City, Missouri					
P-F Brands					
10-20-10	10.00	.....	20.00	.....	10.00
9-27-9	9.00	.....	27.00	.....	9.00
9-18-18	9.00	.....	18.00	.....	18.00
8-24-8	8.00	.....	24.00	.....	8.00
8-16-16	8.00	.....	16.00	.....	16.00
6-12-4	6.00	.....	12.00	.....	4.00
5-15-5	5.00	.....	15.00	.....	5.00
4-16-4	4.00	.....	16.00	.....	4.00
4-12-4	4.00	.....	12.00	.....	4.00
4-8-6	4.00	.....	8.00	.....	6.00
2-6-6	2.00	.....	6.00	.....	6.00
0-20-20 .....	.....	.....	20.00	.....	20.00
Steamed Bone Meal	0.95	33.00	.....	.....	.....
Sheep Manure	2.00	.....	1.00	.....	2.00
Muriate of Potash (American Potash and Chem. Corp.) ..	.....	.....	.....	.....	60.00
Manganese Sulphate "Teemangum" (Harshaw Chem. Co.)	2.00	.....	.....	.....	.....
Plantabbs Company					
Baltimore, Maryland					
Fulton's Plantabbs	11.00	.....	15.00	.....	20.00
The Pulverized Manure Company					
Chicago, Illinois					
Wizard Brand Pulverized Sheep Manure	2.00	.....	1.00	.....	2.00
Wizard Brand Cow Manure	2.00	.....	1.00	.....	1.00
Garden Mulch (Pure Cow Manure) Unprocessed	2.00	.....	1.00	.....	1.00
Ra-Pid-Gro Corporation					
Dansville, New York					
Ra-Pid-Grow	23.00	.....	27.00	.....	17.00
E. Rauh and Sons Fertilizer Company					
Indianapolis, Indiana					
Red Star Brands					
16 per cent Superphosphate .....	.....	.....	16.00	.....	.....
20 per cent Superphosphate .....	.....	.....	20.00	.....	.....
0-12-12 .....	.....	.....	12.00	.....	12.00
0-14-6 .....	.....	.....	14.00	.....	6.00
0-16-8 .....	.....	.....	16.00	.....	8.00
1-11-5	1.00	.....	11.00	.....	5.00
Half and Half	1.00	.....	10.00	10.00	.....
2-12-2	2.00	.....	12.00	.....	2.00
2-12-6	2.00	.....	12.00	.....	6.00
2-16-2	2.00	.....	16.00	.....	2.00
4-8-6	4.00	.....	8.00	.....	6.00
4-16-4	4.00	.....	16.00	.....	4.00
4-24-12	4.00	.....	24.00	.....	12.00
Ruhm Phosphate and Chemical Co.					
Mt. Pleasant, Tennessee					
Red Seal Brand, Ruhm's Phosphate Rock (washed and ground) .....	.....	.....	4.00	29.00	.....
Equivalent to 33 per cent Total Phosphoric Acid.					
O. M. Scott and Sons Co.					
Maryville, Missouri					
Scott's Turf Builder	10.00	.....	6.00	.....	4.00
Sears, Roebuck and Co.					
Kansas City, Missouri					
Sears Guaranteed Fertilizer 5-8-7	5.00	.....	8.00	.....	7.00
Sewerage Commission					
Milwaukee, Wisconsin					
Milorganite	6.00	.....	2.00	0.75	.....
The Smith Agricultural Chemical Co.					
Columbus, Ohio					
Sacco Plant Food	4.00	.....	12.00	.....	4.00
Wedo	8.00	.....	5.00	.....	3.00
Soil Builders Inc.					
Dunnellon, Florida					
Mineral Colloids .....	.....	.....	5.00	17.00	.....

TABLE 4.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI; 1940 (Continued)

Fertilizer	Nitrogen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total in Bone	Avail-able	Insol-uble	
	Per cent	Per cent	Per cent	Per cent	Per cent
The Southern Cotton Oil Company					
Little Rock, Arkansas					
SCO-CO Brands					
10-6-4	10.00	.....	6.00	.....	4.00
Southern Big Chief	6.00	.....	8.00	.....	12.00
4-16-4	4.00	.....	16.00	.....	4.00
Progressive Farmer	4.00	.....	12.00	.....	4.00
4-10-6	4.00	.....	10.00	.....	6.00
Southern Special	3.00	.....	9.00	.....	18.00
Potato Special	4.00	.....	8.00	.....	10.00
Cotton Food	4.00	.....	8.00	.....	10.00
Truck Boomer	4.00	.....	8.00	.....	6.00
Cotton Hustler	4.00	.....	8.00	.....	6.00
3-8-6	3.00	.....	8.00	.....	6.00
2-16-2	2.00	.....	16.00	.....	2.00
2-14-4	2.00	.....	14.00	.....	4.00
2-12-6	2.00	.....	12.00	.....	6.00
2-12-2	2.00	.....	12.00	.....	2.00
0-14-7	.....	.....	14.00	.....	7.00
0-12-12	.....	.....	12.00	.....	12.00
0-12-4	.....	.....	12.00	.....	4.00
20 per cent Superphosphate	.....	.....	20.00	.....	.....
18 per cent Superphosphate	.....	.....	18.00	.....	.....
Kainit	.....	.....	.....	.....	20.00
Manure Salts	.....	.....	.....	.....	30.00
Muriate of Potash	.....	.....	.....	.....	50.00
Sulphate of Ammonia	20.00	.....	.....	.....	.....
Nitrate of Soda	16.00	.....	.....	.....	.....
Standard Wholesale Phosphate and Acid Works, Inc.					
Baltimore, Maryland					
Standard Brands					
16 per cent Superphosphate	.....	.....	16.00	.....	.....
20 per cent Superphosphate	.....	.....	20.00	.....	.....
32 per cent Superphosphate	.....	.....	32.00	.....	.....
45 per cent Superphosphate	.....	.....	45.00	.....	.....
20 per cent Kainit	.....	.....	.....	.....	20.00
50 per cent Muriate of Potash	.....	.....	.....	.....	50.00
2-12-2	2.00	.....	12.00	.....	2.00
4-12-4	4.00	.....	12.00	.....	4.00
4-8-6	4.00	.....	8.00	.....	6.00
0-10-20	.....	.....	10.00	.....	20.00
Stockdale Fertilizer Company					
Morris, Illinois					
Ovène (sheep) manure	2.00	.....	1.00	.....	2.00
Swift and Co. Fertilizer Works					
National Stock Yards, Illinois					
Red Steer Brands					
9-18-18	9.00	.....	18.00	.....	18.00
8-24-8	8.00	.....	24.00	.....	8.00
8-16-16	8.00	.....	16.00	.....	16.00
6-12-6	6.00	.....	12.00	.....	6.00
5-8-7	5.00	.....	8.00	.....	7.00
4-16-4	4.00	.....	16.00	.....	4.00
4-12-4	4.00	.....	12.00	.....	4.00
4-10-6	4.00	.....	10.00	.....	6.00
4-8-8	4.00	.....	8.00	.....	8.00
4-8-6	4.00	.....	8.00	.....	6.00
3-12-12	3.00	.....	12.00	.....	12.00
3-12-4	3.00	.....	12.00	.....	4.00
3-9-18	3.00	.....	9.00	.....	18.00
3-8-6	3.00	.....	8.00	.....	6.00
2-16-2	2.00	.....	16.00	.....	2.00
2-14-4	2.00	.....	14.00	.....	4.00
2-12-6	2.00	.....	12.00	.....	6.00
2-12-4	2.00	.....	12.00	.....	4.00
2-12-2	2.00	.....	12.00	.....	2.00
1-12-4	1.00	.....	12.00	.....	4.00
0-20-20	.....	.....	20.00	.....	20.00
0-16-6	.....	.....	16.00	.....	6.00
0-14-7	.....	.....	14.00	.....	7.00
0-14-4	.....	.....	14.00	.....	4.00
0-12-12	.....	.....	12.00	.....	12.00
0-10-10	.....	.....	10.00	.....	10.00
20 per cent Superphosphate	.....	.....	20.00	.....	.....

TABLE 4.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI; 1940 (Continued)

Fertilizer	Nitrogen Per cent	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O) Per cent
		Total in Bone Per cent	Avail- able Per cent	Insol- uble Per cent	
16 per cent Superphosphate	12.00	.....	16.00	.....	.....
Special Golf Fertilizer 12-6-4	12.00	.....	6.00	.....	4.00
Special Golf Fertilizer 6-12-4	6.00	.....	12.00	.....	4.00
Special Tree Fertilizer	12.00	.....	6.00	.....	4.00
Steam Bone Fertilizer 2-26-0	2.00	26.00	.....	.....	.....
Raw Bone Fertilizer 3.7-23-0	3.70	23.00	.....	.....	.....
Half and Half Fertilizer	1.00	.....	12.00	8.00	.....
Nitrate of Soda	15.00	.....	.....	.....	.....
Sulphate of Ammonia	20.50	.....	.....	.....	.....
Muriate of Potash	.....	.....	.....	.....	50.00
Sulphate of Potash	.....	.....	.....	.....	48.00
Blood and Bone Tankage Fertilizer	5.50	18.00	.....	.....	.....
Vigoro	4.00	.....	12.00	.....	4.00
Kainit	.....	.....	.....	.....	20.00
Triple Superphosphate 45 per cent	.....	.....	45.00	.....	.....
Pulverized Sheep Manure	1.85	.....	1.00	.....	1.75
Cattle Manure	1.85	.....	1.00	.....	1.75
Cyanamid (Aero Brand)	21.00	.....	.....	.....	.....
Bonro	12.00	.....	6.00	.....	4.00
10-6-4	10.00	.....	6.00	.....	4.00
Synthetic Nitrogen Products Corp. 285 Madison Avenue New York, New York					
Calcium Nitrate (Nitrate of Lime)	15.00	.....	.....	.....	.....
Cal-Nitro 16 per cent	16.00	.....	.....	.....	.....
Nitrophoska 15-30-15	15.00	.....	30.00	.....	15.00
Urea	46.00	.....	.....	.....	.....
Tennessee Corporation Lockland, Ohio					
Loma	5.00	.....	10.00	0.65	4.00
Soil-Prep	4.00	.....	2.00	.....	2.00
Terminal Warehouses of St. Joseph, Inc. South St. Joseph, Missouri					
Mokin	9.40	.....	3.06	.....	0.42
Lewis Treeland 1715 South 18th Street Kansas City, Kansas					
Sup-Ro	4.00	.....	4.00	.....	4.00
Virginia-Carolina Chemical Corp. E. St. Louis, Illinois					
V-C Brands					
9-13-18	9.00	.....	12.00	.....	18.00
8-16-16	8.00	.....	16.00	.....	16.00
4-16-4	4.00	.....	16.00	.....	4.00
2-16-2	2.00	.....	16.00	.....	2.00
3-14-6	3.00	.....	14.00	.....	6.00
2-14-4	2.00	.....	14.00	.....	4.00
4-12-4	4.00	.....	12.00	.....	4.00
2-12-6	2.00	.....	12.00	.....	6.00
2-12-4	2.00	.....	12.00	.....	4.00
2-12-2	2.00	.....	12.00	.....	2.00
1-12-4	1.00	.....	12.00	.....	4.00
Fairway Fertilizer 6-8-4	6.00	.....	8.00	.....	4.00
4-8-8	4.00	.....	8.00	.....	4.00
4-8-7	4.00	.....	8.00	.....	7.00
4-8-6	4.00	.....	8.00	.....	6.00
4-8-4	4.00	.....	8.00	.....	4.00
3-8-6	3.00	.....	8.00	.....	6.00
0-20-10	.....	.....	20.00	.....	10.00
0-14-6	.....	.....	14.00	.....	6.00
0-14-4	.....	.....	14.00	.....	4.00
0-14-2	.....	.....	14.00	.....	2.00
0-10-10	.....	.....	10.00	.....	10.00
45 per cent Superphosphate	.....	.....	45.00	.....	.....
20 per cent Superphosphate	.....	.....	20.00	.....	.....
16 per cent Superphosphate	.....	.....	16.00	.....	.....
20 per cent Kainit	.....	.....	.....	.....	20.00
Muriate of Potash	.....	.....	.....	.....	50.00
Sulphate of Ammonia	20.00	.....	.....	.....	.....
Nitrate of Soda	16.00	.....	.....	.....	.....
Steamed Bone Meal	2.00	27.00	.....	.....	.....
Cyanamid	21.00	.....	.....	.....	.....
Wallace Bros. Packing Co., Inc. Joplin, Missouri					
Wallace's Bone-Meal Fertilizer	3.38	24.78	.....	.....	.....

TABLE 4.—BRANDS AND GUARANTEED ANALYSES OF FERTILIZERS REGISTERED AND OFFERED FOR SALE IN MISSOURI; 1940 (Continued)

Fertilizer	Nitrogen	Phosphoric Acid (P ₂ O ₅)			Potash (K ₂ O)
		Total in Bone	Avail-able	Insol-uble	
	Per cent	Per cent	Per cent	Per cent	Per cent
Westover Nursery Co. 8100 Olive Street Road St. Louis, Missouri					
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	.....	.....	.....
Lawngro	2.00	.....	10.00	10.00*	.....

*From bone.

TABLE 5.—APPROXIMATE TONNAGE OF FERTILIZER SOLD IN THE STATE OF MISSOURI BY COUNTIES, BASED UPON REPORT OF SHIPMENTS BY THE FERTILIZER COMPANIES, 1939

County	Spring	Fall	Total	County	Spring	Fall	Total
Adair	71	51	122	Linn	127	136	263
Andrew	0	0	0	Livingston	16	63	79
Atchison	0	31	31	McDonald	10	1	11
Audrain	130	295	425	Macon	45	223	268
Barry	448	524	972	Madison	158	189	347
Barton	497	1546	2043	Maries	26	185	211
Bates	58	892	950	Marion	85	387	472
Benton	82	398	480	Mercer	10	5	15
Bollinger	319	504	823	Miller	42	377	419
Boone	59	268	327	Mississippi	166	5	171
Buchanan	120	250	370	Moniteau	22	363	385
Butler	133	23	156	Monroe	71	569	640
Caldwell	41	57	98	Montgomery	119	682	801
Callaway	32	302	334	Morgan	42	357	399
Camden	39	69	108	New Madrid	88	3	91
Cape Girardeau	175	422	597	Newton	288	1199	1487
Carrroll	24	142	166	Nodaway	7	40	47
Carter	33	9	42	Oregon	51	56	107
Cass	52	517	569	Osage	29	330	359
Cedar	156	426	582	Ozark	0	0	0
Chariton	22	183	205	Pemiscot	0	0	0
Christian	358	332	690	Perry	70	212	282
Clark	66	97	163	Pettis	177	586	763
Clay	83	37	120	Phelps	207	349	556
Clinton	9	41	50	Fike	241	617	858
Cole	86	509	595	Flatte	119	40	159
Cooper	40	126	166	Polk	372	796	1168
Crawford	113	258	371	Pulaski	47	187	234
Dade	197	801	998	Putnam	13	1	14
Dallas	37	106	143	Ralls	22	325	347
Daviess	10	15	25	Randolph	28	138	166
DeKalb	8	10	18	Ray	120	19	139
Dent	197	157	354	Reynolds	40	23	63
Douglas	62	36	98	Ripley	130	35	165
Dunklin	1850	102	1952	St. Charles	102	993	1095
Franklin	148	1179	1327	St. Clair	70	289	359
Gasconade	53	576	629	St. Francois	388	707	1095
Gentry	6	1	7	Ste. Genevieve	16	130	146
Greene	1186	1131	2317	St. Louis	1222	966	2188
Grundy	34	139	173	Saline	50	29	79
Harrison	44	48	92	Schuyler	19	35	54
Henry	65	628	693	Scotland	38	32	70
Hickory	76	121	197	Scott	127	22	149
Holt	0	0	0	Shannon	55	14	69
Howard	13	65	78	Shelby	50	278	328
Howell	215	141	356	Stoddard	17	51	68
Iron	70	110	180	Stone	172	41	213
Jackson	789	604	1393	Sullivan	25	45	70
Jasper	574	2750	3324	Taney	0	0	0
Jefferson	50	71	121	Texas	531	603	1134
Johnson	32	408	440	Vernon	329	1443	1772
Knox	52	49	101	Warren	56	535	591
Laclede	139	390	529	Washington	50	151	201
Lafayette	28	29	57	Wayne	42	89	131
Lawrence	786	1590	2376	Webster	472	360	832
Lewis	84	340	424	Worth	1	0	1
Lincoln	267	1406	1673	Wright	405	277	682
Grand Total	17543	36900	54443				

TABLE 6.—APPROXIMATE TONNAGE OF FERTILIZER SOLD IN MISSOURI IN 1939,
CLASSIFIED AS TO KIND AND GRADE

	Tonnage	Bone	Superphosphate	High Grade Mixed	Medium Grade Mixed	Low Grade Mixed	Misc.
Spring Sales	17,543	232	5,028	4,493	5,789	4	1,508
Fall Sales	36,900	312	15,259	5,871	14,295	8	1,065
Total Sales (1939)	54,443	544	20,287	10,364	20,084	12	2,573
1939 Sales (Summary Report)	57,317	620	22,319	10,777	20,965	6	2,630

TABLE 7.—TONNAGE OF PLANT FOOD CONSTITUENTS SOLD IN MISSOURI IN 1939
(APPROXIMATE)

	Fertilizer Tonnage	Plant Food Tonnage				Potash
		Nitrogen	Phosphoric Acid from Bone	Available Phosphoric Acid	Insoluble Phosphoric Acid	
Bone Fertilizer	619.9	15.12	157.12	.....	.....	.....
Half and Half	128.9	1.29	13.94	10.39	.....	.....
Superphosphate	22,319.5	.....	.....	4,480.14	.....	.....
High Grade Mixed	10,648.2	293.98	.....	1,374.74	.....	655.64
Medium Grade Mixed	20,965.0	433.15	.....	2,476.13	.....	547.26
Low Grade Mixed	6.0	0.13	.....	0.48	.....	0.12
Nitrate of Soda	155.9	24.94	.....	.....	.....	.....
Sulphate of Ammonia	165.7	34.13	.....	.....	.....	.....
Cyanamid	234.1	49.16	.....	.....	.....	.....
Dried Manure	414.8	8.59	.....	4.73	.....	6.62
Sewerage Residues	643.7	37.12	.....	12.87	.....	.....
Mineral Phosphates and Phosphatic Clays	572.1	.....	.....	.....	176.58	.....
Potash Salts	443.4	.....	.....	.....	.....	63.33
Totals	57,317.2	897.61	171.06	8,369.48	176.58	1,272.97

TABLE 8.—TONNAGE OF SUPERPHOSPHATE AND THE LEADING FERTILIZER MIXTURES (BRANDS) SOLD IN MISSOURI IN 1939 (APPROXIMATE)

Brand	Tonnage	Brand	Tonnage
0-20-0	15,997.7	0-12-6	83.2
2-12-2	15,834.8	3-12-12	76.9
0-16-0	5,262.4	1-12-4	67.9
2-12-4	3,543.9	10-8-6	57.0
2-12-6	3,500.9	3-18-3	55.0
4-12-4	1,842.4	11-48-0	44.5
4-16-4	1,189.1	0-12-12	37.4
0-14-6	848.0	16-20-0	37.3
0-45-0	843.2	9-18-18	34.1
4-8-6	554.6	6-18-18	28.0
2-14-4	478.2	5-10-4	27.2
3-9-18	471.3	8-16-16	26.5
0-16-6	305.0	4-12-6	25.5
4-8-7	287.2	0-12-4	23.0
3-14-6	272.5	12-6-4	17.1
2-16-2	267.1	7-7-5	17.0
0-14-4	234.9	1-16-2	15.4
3-8-6	225.3	0-14-2	15.0
0-32-0	216.2	4-16-0	15.0
0-14-7	203.4	6-30-0	13.0
4-10-6	176.2	0-16-8	12.0
4-8-12	163.0	2-8-16	12.0
0-10-20	133.6	0-20-10	10.0
10-6-4	129.9	4-24-12	10.0
Half and Half	128.9	8-6-4	10.0
4-8-8	106.8		

FINANCIAL STATEMENT

Fertilizer Control Fund
of the
Missouri Agricultural Experiment Station
For the year ending December 31, 1939

RECEIPTS

Balance January 1, 1939	\$15,037.59	
Receipts for the sale of Tags	23,786.21	\$38,823.80

DISBURSEMENTS

Salaries	\$13,753.38	
Labor	13,252.82	
Stationery and Office Supplies	55.08	
Scientific Supplies	328.55	
Feeding Stuffs	386.05	
Fertilizers	13.35	
Sundry Supplies	181.62	
Communication Service	158.85	
Travel Expense	993.27	
Transportation of Things	59.30	
Publications	690.04	
Heat, Light, Water & Power	371.59	
Contingent Expenses	28.41	
Purchase and repair of equipment:		
Automobiles	7.89	
Furniture and Fixtures	165.94	
Scientific Equipment	356.52	
Tools and Machinery	129.20	
Buildings	116.11	\$31,047.97
Balance, Cash on Hand December 31, 1939 -- April 1, 1940.		\$ 7,775.83