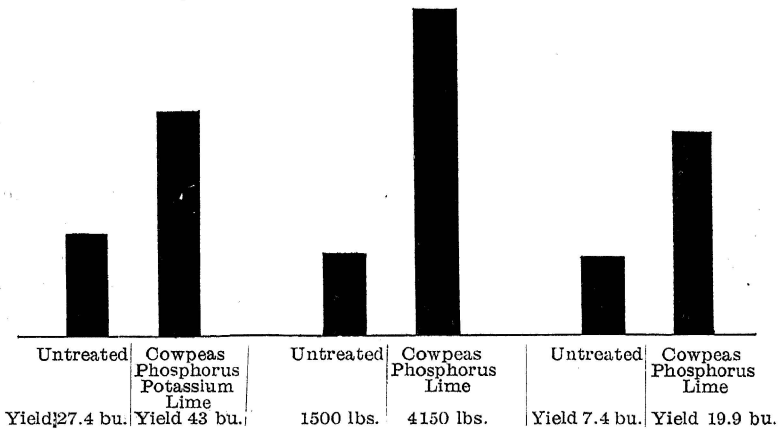


UNIVERSITY OF MISSOURI  
 COLLEGE OF AGRICULTURE  
 Agricultural Experiment Station

BULLETIN NO. 122

CORN\_LAMAR FIELD    CLOVER\_VICTORIA FIELD    WHEAT\_MONROE FIELD



How Yields Are Increased on the Soil and Crops Experiment Fields  
 of the College of Agriculture.

# Inspection of Commercial Fertilizers

FOR THE YEAR 1914

COLUMBIA, MISSOURI  
 January, 1915

UNIVERSITY OF MISSOURI  
COLLEGE OF AGRICULTURE  
Agricultural Experiment Station

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## THE MISSOURI FERTILIZER LAW

The commercial fertilizer law, approved March 14, 1903, provides for the registration and inspection of brands of fertilizers offered for sale in Missouri. Under the provisions of this act, before a fertilizer can be sold in the State the manufacturer or dealer must meet the following requirements:

1. The brand of fertilizer to be offered for sale in Missouri must be registered with the Director of the Agricultural Experiment Station.
2. The registration must include a guaranteed chemical composition.
3. Each package or parcel of fertilizer must have affixed thereto a registration tag furnished by the Agricultural Experiment Station.

Manufacturers of and dealers in commercial fertilizers may sell commercial fertilizers in Missouri after they have complied with the above requirements.

For the protection of farmers who purchase fertilizers, the General Assembly of the State of Missouri has provided that "It shall be the duty of the Agricultural Experiment Station to collect or cause to be collected from the open market each year one or more samples of each and every brand of fertilizer sold in this state during that year, and make or cause to be made a chemical analysis of the same; to publish each year a full and detailed report giving the names and addresses of all the manufacturers of fertilizers selling or offering for sale commercial fertilizer in this state, a list of the brands thereof; the guaranteed composition of the same and the composition as found by the chemical analysis herein required; also an itemized statement of the receipts and expenditures under this act."

In accordance with the requirements of this section of the fertilizer law, I am submitting herewith the report of the Chemist of the Agricultural Experiment Station who has had charge of collecting the samples of commercial fertilizers for analysis, and has made the analyses in the chemical laboratory of the Agricultural Experiment Station.

The operation of the fertilizer law has resulted in practically driving fraudulent dealers out of the State. The Missouri farmer is now able to purchase fertilizers with the assurance that all reputable fertilizer firms doing business in Missouri are selling materials which contain the ingredient claimed for them.

F. B. MUMFORD,  
Director Agricultural Experiment Station.

## INSPECTION AND ANALYSIS OF COMMERCIAL FERTILIZERS, 1914

P. F. TROWBRIDGE

Chemist

In sampling fertilizers in the hands of dealers or farmers thruout the state the inspectors have found almost no failures on the part of the manufacturers to have their brands properly registered and tagged. In some of the larger cities quite a trade has been worked up by certain dealers supplying fertilizer material for lawns and plants. These fertilizers are usually put up in small packages and in quite a number of cases there has been a failure to comply with the requirements of the fertilizer law. We would like to call the the attention of those wishing to purchase small amounts of fertilizer material for plants and lawns, to the exorbitant price they are usually called upon to pay. A bone meal fertilizer will rarely cost a dealer more than \$30 a ton or one and one-half cents a pound. It is scarcely sold for less than five cents a pound in small packages. The most flagrant example of this kind is 'ammoniated food for flowers' put out by the Bowker Fertilizer Company, found by one of our inspectors in St. Louis. This fertilizer is not registered for sale in Missouri. It was found to sell at twenty-five cents a pound in small packages. Its guaranteed value is \$19.88 a ton or one cent a pound. Its found value is less than one-half cent a pound.

The use of fertilizers in the state for 1914 shows a considerable increase over 1913. Between 700 and 800 samples were collected and about 500 samples were analyzed. On page 132 of this bulletin is given the detailed report of analyses of samples collected by our regular inspectors. Under the miscellaneous samples, page 155, will be found the report of samples analyzed which were not collected by the regular inspectors. The summaries of the results of the analyses will be found on pages 129 and 130.

In 1913, 36.2 per cent of the nitrogen determinations gave results below the manufacturers' guarantee. For 1914, 49.4 per

cent of the nitrogen determinations are below the manufacturers' guarantee. The corresponding figure for the five years prior to 1914 was 40.1 per cent. For total phosphoric acid the results show 28.2 per cent of all determinations below the manufacturers' guarantee. For 1913 only 17.7 per cent were below the manufacturers' guarantee. The five year average prior to 1914 was 22.4 per cent. For available phosphoric acid 54.1 per cent of all analyses are below the guarantee. The corresponding figure for 1913 was 22.4 per cent, and the five year average was 22.6 per cent. In the potash analyses 27.6 per cent of all determinations are below the guarantee. The corresponding figure for 1913 was 16.6 per cent, while the five year average prior to 1914 was 33.2 per cent. This summary shows all results to be below the corresponding results for 1913 and in all except potash below the five year average.

Of the 1380 analyses reported, 542, or 39.3 per cent, gave results below the manufacturers' guarantee. The corresponding figure for 1913 was 22.7 per cent.

In 1913, 485 samples were examined, and 78, or 16.08 per cent, gave a valuation below the manufacturers' guarantee. For 1914, of 424 samples, 163 or 38.4 per cent gave a valuation below the manufacturers' guarantee. In 1913 the average loss per ton to the farmers on those samples showing a valuation below the guarantee was 74 cents. In 1914 this average loss per ton is \$0.88. In 1913 the average value of all fertilizers examined was \$1.62 per ton above the manufacturers' guarantee. For 1914 the average value of all fertilizers is 57 cents per ton above the guarantee.

**Registration.** On page 116 is given a tabulation of all fertilizers registered for sale during 1914. While all of these brands are offered for sale, many of these same brands find practically no sale within the state. Some of them are bought in relatively small quantities and by only a few individuals. For these reasons it is not possible for the inspectors to find samples of all brands registered. This information is published, however, so that dealers and farmers may know approximately what brands can be purchased in the state. Fertilizers not registered can not legally be sold in the state. Registration must be made each year by every manufacturer before sales are made. The registration is a guarantee on the part of the manufacturer that he will offer for sale only those brands registered and that each brand shall have the composition guaranteed in the registration.

Every sack of fertilizer sold in the state must have the composition plainly printed either on the sack or on a tag attached to the sack. There must also appear on each sack a tag issued by the

Agricultural Experiment Station showing that the brand of fertilizer represented has been registered by the manufacturer. This tag issued by the Agricultural Experiment Station is not a guarantee to the dealer or farmer that the fertilizer contains the amount of plant food as indicated on the sack or tag, but that such a brand of fertilizer has been registered and that its sale is permitted.

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

**Calculation of Values.** The calculated value of fertilizers is based upon the same relative values as used for a number of years. For example:

Nitrogen is figured at 20 cents per pound or \$4 for each per cent per ton.

Phosphoric acid from bone,  $3\frac{1}{2}$  cents per pound or 70 cents for each per cent per ton.

Phosphoric acid, insoluble, 2 cents per pound or 40 cents for each per cent per ton.

Phosphoric acid, available, 6 cents per pound or \$1.20 for each per cent per ton.

Potash, 6 cents per pound or \$1.20 for each per cent per ton.

The available phosphoric acid is the difference between the total phosphoric acid and the insoluble phosphoric acid. Therefore, if the available phosphoric acid is guaranteed the total is not valued, since the available and insoluble give the entire phosphoric acid valuation. For example, take the fourth sample, No. 383, on page 132.

The nitrogen guaranteed is 2.50 per cent or 50 pounds per ton, at 20 cents per pound, \$10.

Nitrogen found is 2.45 per cent or 49 pounds per ton, at 20 cents per pound, \$9.80.

The total phosphoric acid, 18 per cent, is supposed to consist of 8 per cent, 160 pounds per ton insoluble; and 10 per cent, 200 pounds per ton available (soluble). The analysis showed 8.39 per cent, 167.8 pounds, to be insoluble and 10.67 per cent, 213.4 pounds per ton, to be available (soluble). The 8 per cent insoluble at 2 cents per pound would have a guaran-

teed value of \$3.20. The 8.39 per cent insoluble found gives a value of \$3.36 per ton. The 10 per cent available guaranteed at 6 cents per pound would give a value of \$12.00 per ton. The 10.67 per cent available found at 6 cents per pound gives a value of \$12.80 per ton.

The 2 per cent potash guaranteed, at 6 cents per pound would give a value of \$2.40 per ton. The 2.34 per cent potash found at 6 cents per pound gives a value of \$2.81 per ton.

The total guaranteed value is:

Nitrogen.....	\$10 00
Insoluble phosphoric acid.....	3 20
Available phosphoric acid.....	12 00
Potash.....	2 40
	<hr/>
Total.....	\$27 60

The total found value is:

Nitrogen.....	\$ 9 80
Insoluble phosphoric acid.....	3 36
Available phosphoric acid.....	12 80
Potash.....	2 81
	<hr/>
Total.....	\$28 77

A ton of this fertilizer would give to the farmer \$1.17 more plant food value than guaranteed. This illustration will enable every farmer or dealer to calculate the relative value of different fertilizers he contemplates purchasing. The valuation will not necessarily give the valuation at which the farmer should be able to purchase the fertilizer at his station. With the lower grade of fertilizers the valuation is never equal to the selling price. With high grade fertilizers the valuation, as can be seen by consulting the table, quite closely corresponds to the usual selling price of such fertilizers. This emphasizes the importance of purchasing only high grade fertilizers.

## BRANDS OF FERTILIZERS REGISTERED FOR MISSOURI, 1914

Manufacturers	Nitro- gen per cent	Phosphoric Acid P <sub>2</sub> O <sub>5</sub>			Potash K <sub>2</sub> O per cent
		Total per cent	Insolu- ble per cent	Avail- able per cent	
<b>American Glue Co., Hammond, Indiana Union Brands</b>					
Pure Raw Bone Meal.....	3.70	20.00	.....	.....	.....
Steamed Bone Meal.....	.41	30.00	.....	.....	.....
Pure Bone Meal and Potash.....	.82	20.00	.....	.....	3.00
<b>Arkansas Fertilizer Co., Little Rock, Ark. White Diamond Brands</b>					
Acid Phosphate.....	.....	14.00	.....	.....	.....
Ammoniate Bone Superphosphate.....	1.65	.....	1.00	9.00	2.00
Blood, Bone and Potash.....	2.00	.....	1.00	12.00	1.50
Corn Fertilizer.....	2.00	.....	1.00	9.50	3.50
Corn Grower.....	1.65	.....	1.00	8.00	3.00
Economy Fertilizer.....	.82	.....	1.00	10.00	2.00
Early Potato and Truck Fertilizer.....	2.50	.....	1.00	8.00	4.00
"Gro-Fast" Fertilizer.....	1.65	.....	1.00	8.00	2.00
High Grade Acid Phosphate.....	.....	.....	.....	16.00	.....
Corn and Wheat Fertilizer.....	1.70	.....	1.00	10.00	4.00
Potash Special.....	2.00	.....	1.00	9.00	5.00
Kali Bone Meal.....	1.65	.....	6.00	8.00	4.00
Kali Superphosphate.....	.....	.....	1.00	11.00	3.00
Number 39.....	.82	.....	1.00	10.00	1.00
Phospho-Kainit.....	.....	.....	1.00	11.50	4.00
Raw Bone and Potash.....	2.50	.....	8.00	10.00	2.00
Raw Bone Meal Fertilizer.....	3.30	.....	10.00	10.00	.....
Soluble Bone and Blood.....	1.65	.....	1.00	8.00	2.00
20th Century Fertilizer.....	1.65	.....	1.00	9.00	2.00
Vegetable Fertilizer.....	2.00	.....	.50	7.50	3.00
<b>White Diamond Materials</b>					
Kainit.....	.....	.....	.....	.....	12.00
Muriate of Potash.....	.....	.....	.....	.....	50.00
Sulphate of Potash.....	.....	.....	.....	.....	48.00
Nitrate of Soda.....	15.60	.....	.....	.....	.....
<b>Armour Fertilizer Works, Chicago, Ill. Shield Brands</b>					
Sulphate of Ammonia.....	20.57	.....	.....	.....	.....
Nitrate of Soda.....	14.81	.....	.....	.....	.....
Dried Blood.....	13.16	.....	.....	.....	.....



Manufacturers	Nitro- gen per cent	Phosphoric Acid P <sub>2</sub> O <sub>5</sub>			Potash K <sub>2</sub> O per cent
		Total per cent	Insolu- ble per cent	Avail- able per cent	
<b>Armour Fertilizer Works—Cont.</b>					
Acid Phosphate.....			.50	16.00	.....
Star Phosphate.....			.50	14.00	.....
U. S. Phosphate.....			.50	12.00	.....
Cereal Phosphate.....			.50	10.00	.....
Muriate of Potash.....					50.00
Sulphate of Potash.....					48.00
German Kainit.....					12.00
Raw Bone Meal.....	3.70	22.00			.....
Bone Meal.....	2.47	24.00			.....
Armour's Bone Meal.....	1.65	27.00			.....
Steamed Bone Meal.....	1.65	20.00			.....
Soluble Phosphate and Potash.....			.50	10.00	4.00
Phosphate and Potash.....			.50	10.00	2.00
Bone, Blood and Potash.....	4.11		.50	8.00	7.00
No. 583 Fertilizer.....	4.11		.50	8.00	3.00
Odorless Lawn and Garden.....	3.29		.50	9.00	3.00
All Soluble Fertilizer.....	2.88		.50	8.00	4.00
Lawn and Garden Fertilizer.....	2.88		.50	8.00	4.00
African Cotton Grower.....	2.47		.50	9.00	3.00
No. 386 Fertilizer.....	2.47		.50	8.00	6.00
No. 362 Fertilizer.....	2.47		.50	6.00	2.00
Ammoniated Dissolved Phos. and Potash..	1.65		.50	10.00	2.00
High Grade Potato.....	1.65		.50	8.00	10.00
Fruit and Root Crop Special.....	1.65		.50	8.00	5.00
Grain Grower.....	1.65		.50	8.00	2.00
No. 274 Fertilizer.....	1.65		.50	7.00	4.00
No. 271 Fertilizer.....	1.65		.50	7.00	1.00
Crop Grower.....	1.23		.50	8.00	2.00
Mixed Bone Phosphate and Potash.....	.82	18.00			4.00
1-10-5 Fertilizer.....	.82		.50	10.00	5.00
Record Brand.....	.82		.50	10.00	2.00
Potash Trucker.....	.82		.50	8.00	8.00
No. 185 Fertilizer.....	.82		.50	8.00	5.00
No. 184 Fertilizer.....	.82		.50	8.00	4.00
Standard Fertilizer.....	.82		.50	8.00	3.00
Wheat, Corn and Oats Fertilizer.....	.82		.50	7.00	1.00
1-5-10 Fertilizer.....	.82		.50	5.00	10.00
Armour's Bone Meal, Phosphate and Potash	.82	18.00			3.00

Manufacturers	Nitrogen per cent	Phosphoric Acid P <sub>2</sub> O <sub>5</sub>			Potash K <sub>2</sub> O per cent
		Total per cent	Insoluble per cent	Available per cent	
<b>Blood and Bone Fertilizer Co., St. Louis, Mo. Steer Head Brands.</b>					
Ammoniated Bone, H. G. ....	1.65	12.00	2.00	10.00	.....
Ammoniated Bone, M. G. ....	1.00	12.00	2.00	10.00	.....
Special Wheat Grower, H. G. ....	1.00	12.00	2.00	10.00	3.00
Special Wheat Grower, M. G. ....	1.00	9.00	2.00	7.00	1.00
Special Corn Grower, H. G. ....	2.00	9.00	1.00	8.00	3.00
Special Corn Grower, M. G. ....	1.65	10.00	2.00	8.00	2.00
Special Oat Grower, H. G. ....	1.65	10.00	2.00	8.00	2.00
Special Oat Grower, M. G. ....	1.00	9.00	2.00	7.00	1.00
Special Truck Grower, H. G. ....	3.26	10.00	2.00	8.00	5.00
Special Truck Grower, M. G. ....	2.00	9.00	1.00	8.00	3.00
Soluble Bone Phosphate, H. G. ....		16.00			.....
Soluble Bone Phosphate, M. G. ....		14.00			.....
<b>Central Phosphate Co., Mt. Pleasant, Tenn.</b>					
Tennessee Phosphate. ....			28.00		.....
Tennessee Phosphate. ....			32.00		.....
<b>Chicago Feed and Fertilizer Co., Chicago, Ill.</b>					
Magic Brand Fertilizer. ....	2.65		1.00	8.00	3.00
<b>Commercial Fertilizer Co., St. Louis, Mo. Clover Brands</b>					
Special Corn Grower. ....	2.00		1.00	8.00	3.00
Complete Fertilizer. ....	1.65		2.00	8.00	2.00
Bone and Potash. ....	1.00		2.00	7.00	1.00
Special Truck Grower. ....	3.25		2.00	8.00	5.00
Special Wheat Grower. ....	1.00		2.00	10.00	3.00
Special Berry and Fruit Grower. ....	1.65		1.00	10.00	6.00
Special Grain Grower. ....	1.00		2.00	7.00	1.00
Tobacco Dust. ....	1.00				1.00
Standard Acid Phosphate. ....				14.00	.....
High Grade Acid Phosphate. ....				16.00	.....
Powdered Phosphate. ....			28.00		.....
Muriate of Potash. ....					50.00
Nitrate of Soda. ....	15.00				.....
Special. ....	.82			10.00	2.00
Raw Bone Meal. ....	3.50	21.00			.....
Commercial Bone Meal. ....	3.00	18.00			.....
Standard Bone Meal. ....	1.65	20.00			.....
Steamed Bone Meal. ....	.82	29.00			.....

Manufacturers	Nitrogen per cent	Phosphoric Acid P <sub>2</sub> O <sub>5</sub>			Potash K <sub>2</sub> O per cent
		Total per cent	Insoluble per cent	Available per cent	
<b>Continental Fertilizer Co., Chicago, Ill. Bear Brands</b>					
Nitrate of Soda.....	14.81				
Acid Phosphate 16%.....			.50	16.00	
High Grade Phosphate.....			.50	14.00	
Phosphate.....			.50	12.00	
Raw Bone Meal.....	3.70	22.00			
Bone Meal.....	2.47	24.00			
Steamed Bone Meal.....	1.65	20.00			
Phosphate and Potash.....			.50	10.00	2.00
Grain Grower.....	.41		.50	8.00	4.00
Ammoniated Phosphate and Potash.....	.82		.50	7.00	1.00
Bone, Phosphate and Potash.....	.82	18.00			4.00
Grain and Grass Grower.....	1.65		.50	8.00	2.00
Truck Grower.....	1.65		.50	8.00	5.00
Standard Fertilizer.....	1.65		.50	10.00	2.00
No. 386 Fertilizer.....	2.47		.50	8.00	6.00
Special Grain Grower.....	.41		.50	8.00	3.00
Bone Meal, Phosphate and Potash.....	.82		.50	8.00	3.00
High Grade Phosphate and Potash.....			.50	10.00	4.00
<b>Darling and Co., Chicago, Ill.</b>					
Blood, Bone and Potash.....	3.3		2.00	8.00	7.00
Farmer's Favorite Brand.....	2.4		2.00	8.00	4.00
Big Harvest Brand.....	1.6		2.00	12.00	4.00
Sure Winner Brand.....	.8		2.00	8.00	3.00
Chicago Brand.....	1.6		2.00	8.00	2.00
General Crop Brand.....	.8		2.00	8.00	6.00
Big Potash Brand.....	1.2		2.00	8.00	10.00
Sugar Beet and Root Grower.....	1.6		2.00	8.00	5.00
Pure Bone and Potash.....	1.6	24.25			6.00
Bone Blend.....	.8	16.00			3.00
Pure Ground Bone.....	1.8	28.00			
Ground Raw Bone.....	3.3	21.00			
High Grade Acid Phosphate.....				14.00	
Phosphate and Potash.....				10.00	2.00
Ten Five Brand.....				10.00	5.00
Blood and Bone.....	4.94	14.00			
Sulphate of Potash.....					48.00
Muriate of Potash.....					50.00
Kainit.....					12.00
Nitrate of Soda.....	14.80				
Pure Bone and Potash Special.....	1.647	26.50			3.00

Manufacturers	Nitro- gen per cent	Phosphoric Acid P <sub>2</sub> O <sub>5</sub>			Potash K <sub>2</sub> O per cent
		Total per cent	Insolu- ble per cent	Avail- able per cent	
<b>Empire Carbon Works, National Stock Yards, Ill. Boar's Head Brands</b>					
4-8-4 Fertilizer.....	3.29	.....	2.00	8.00	4.00
2-8-5 Fertilizer.....	1.65	.....	2.00	8.00	5.00
World of Good Potato and Veg. Grower....	1.65	.....	2.00	8.00	5.00
World of Good Superphosphate.....	2.06	.....	2.00	8.00	1.50
World of Good Corn and Wheat Grower...	1.65	.....	2.00	8.00	2.00
Ammoniated Bone and Potash.....	.82	.....	2.00	10.00	1.00
Seeding Down Guano.....	.82	.....	2.00	8.00	2.00
Faultless Grain Grower.....	.82	.....	2.00	7.00	1.00
Sure Growth.....	.....	.....	2.00	10.00	2.00
Gilt Edge Phosphate.....	.....	.....	2.00	14.00	.....
Pure Raw Bone Meal.....	3.29	20.00	.....	.....	.....
Special Bone Meal.....	1.65	20.00	.....	.....	.....
Sure Growth Potash Manure.....	.82	.....	2.00	8.00	3.00
2-8-3 Mixture.....	1.65	.....	2.00	8.00	3.00
<b>Empire Carbon Works, National Stock Yards, Ill. Bradley's Standard Brands</b>					
4-8-4 Fertilizer.....	3.29	.....	2.00	8.00	4.00
2-8-5 Fertilizer.....	1.65	.....	2.00	8.00	5.00
B. D. Sea Fowl Guano.....	2.06	.....	2.00	8.00	2.50
Potato and Root Phosphate.....	.82	.....	2.00	8.00	4.00
Wheat and Clover Fertilizer.....	.82	.....	2.00	10.00	1.00
Corn and Wheat Phosphate.....	.82	.....	2.00	8.00	2.00
Niagara Phosphate.....	.82	.....	2.00	7.00	1.00
Alkaline Bone and Potash.....	.....	.....	2.00	10.00	2.00
Soluble Dissolved Bone.....	.....	.....	2.00	14.00	.....
Pure Raw Bone Meal.....	3.29	20.00	.....	.....	.....
Special Bone Meal.....	1.65	20.00	.....	.....	.....
2-8-3 Mixture.....	1.65	.....	2.00	8.00	3.00
Special Grain Mixture.....	.82	.....	2.00	8.00	3.00
<b>Empire Carbon Works, National Stock Yards, Ill. Empire Brands</b>					
Dissolved Animal Bone.....	3.29	.....	2.00	8.00	4.00
Truck and Vegetable Grower.....	2.47	.....	2.00	8.00	4.00
2-8-5 Fertilizer.....	1.65	.....	2.00	8.00	5.00
Potato and Truck Special.....	.82	.....	2.00	8.00	7.00
Bone Black Fertilizer.....	2.06	.....	2.00	8.00	1.50
Lint Maker.....	1.65	.....	2.00	9.00	2.00

Manufacturers	Nitrogen per cent	Phosphoric Acid P <sub>2</sub> O <sub>5</sub>			Potash K <sub>2</sub> O per cent
		Total per cent	Insolu- ble per cent	Avail- able per cent	
<b>Empire Carbon Works—Cont.</b>					
Crop Grower.....	1.65		2.00	8.00	2.00
Wheat and Clover Fertilizer.....	.82		2.00	8.00	2.00
Complete Manure.....	.82		2.00	7.00	1.00
Phosphate with Potash.....			2.00	10.00	2.00
Dissolved Bone.....			2.00	14.00	
Pure Raw Bone Meal.....	3.29	20.00			
Special Bone Meal.....	1.65	20.00			
16% Phosphate.....			.50	16.00	
A-1 Potash Fertilizer.....	.82		2.00	8.00	3.00
2-8-3 Mixture.....	1.65		2.00	8.00	3.00
Better Than Bone.....	2.46		2.00	8.00	3.00
<b>Empire Carbon Works, National Stock Yards, Ill. Horse Shoe Brands</b>					
4-8-4 Fertilizer.....	3.29		2.00	8.00	4.00
2-8-5 Fertilizer.....	1.65		2.00	8.00	5.00
Special Potato and Vegetable Grower.....	1.65		2.00	8.00	5.00
National Bone Dust.....	2.06		2.00	8.00	1.50
Corn and Wheat Grower.....	1.65		2.00	8.00	2.00
Acidulated Bone and Potash.....	.82		2.00	10.00	1.00
Reliable Wheat Grower.....	.82		2.00	8.00	2.00
Animal Bone Manure.....	.82		2.00	7.00	1.00
Bone and Potash.....			2.00	10.00	2.00
Pure Raw Bone Meal.....	3.29	20.00			
Special Bone Meal.....	1.65	20.00			
2-8-3 Mixture.....	1.65		2.00	8.00	3.00
Potash Manure.....	.82		2.00	8.00	3.00
<b>Empire Guano Co., Nashville, Tenn.</b>					
Pure Raw Bone Meal.....	3.75	22.00			
Half and Half.....	1.65	14.00			4.00
Blood, Bone and Potash.....	1.65		3.00	8.00	2.00
H. G. Ammoniated Dissolved Bone.....	1.65		3.00	10.00	2.00
Farmers Favorite Manure.....	.82		3.00	10.00	3.00
Wheat, Oat and Corn Special.....	.82		3.00	7.00	1.00
Peruvian Guano Mixture.....	.82		3.00	11.00	4.00
Missouri Truck Special.....	1.65		3.00	11.00	5.00
H-G-Melon and Truck Special.....	2.47		3.00	6.00	6.00
Special Potato and Truck Grower.....	1.65		3.00	8.00	8.00

Manufacturers	Nitro- gen per cent	Phosphoric Acid P <sub>2</sub> O <sub>5</sub>			Potash K <sub>2</sub> O per cent
		Total per cent	Insolu- ble per cent	Avail- able per cent	
<b>Empire Guano Co.—Cont.</b>					
Clover and Wheat Special.....	.82		3.00	12.00	2.00
Missouri Grain Grower.....	.41		3.00	8.00	4.00
Corn and Wheat Special.....	.41		3.00	9.00	2.00
Corn, Wheat and Clover Grower.....			3.00	10.00	8.00
H-G-Potash Mixture.....			3.00	10.00	4.00
Bone and Potash.....			3.00	10.00	2.00
H-G-Dissolved Bone.....			3.00	14.00	
XXX Dissolved Bone.....			3.00	10.00	
H-G-Bone and Potash.....			3.00	10.00	6.00
Muriate Potash.....					50.00
Sulphate Potash.....					50.00
German Kainit.....					12.00
Special Grain Grower.....	.82		3.00	8.00	2.00
Nitrate Soda.....	15.25				
<b>Federal Chemical Co., Columbia, Tenn.</b>					
"Daybreak Tennessee Brown Phosphate Rock".....		29.75			
<b>German Kali Works, Inc., New York, N. Y.</b>					
Muriate of Potash.....					48.00
Sulfate of Potash.....					47.00
Kainit.....					12.00
<b>Hirsh, Stein and Co., Chicago, Ill. Calumet Brands</b>					
Complete Fertilizer.....	1.64		1.00	8.00	2.00
Special Corn Grower.....	.82		1.00	8.00	4.00
Potato, Tobacco and Onion Grower.....	1.64		1.00	8.00	5.00
Special Wheat Grower.....	.82		1.00	8.00	4.00
Ammoniated Dis. Pure Bone and Potash..	1.64		1.00	10.00	2.00
Bone Phosphate and Potash.....	.41		1.00	10.00	2.00
Sure Growth Fertilizer.....	.82		1.00	8.00	2.00
Phosphate and Potash.....			1.00	10.00	2.00
High Grade Phosphate and Potash.....			1.00	10.00	5.00
Special Pure Bone Meal and Potash.....	.82	20.00			4.00
Pure Bone Meal.....	2.40	22.00			
Special Pure Bone Meal.....	.82	29.00			
Pure Raw Bone Meal.....	3.70	20.00			
Sulphate of Potash.....					49.00
Kainit.....					12.00

Manufacturers	Nitrogen per cent	Phosphoric Acid P <sub>2</sub> O <sub>5</sub>			Potash K <sub>2</sub> O per cent
		Total per cent	Insoluble per cent	Available per cent	
<b>P. B. Mathiason Mfg. Co., St. Louis, Mo. Incescent Brands</b>					
Raw Bone Meal.....	3.29		13.00	7.00	
Pure Bone Meal.....	2.47		15.00	8.00	
Bone Meal.....	1.65	20.00			
Extra Fine Ground Bone Meal.....	2.06		13.00	9.00	
Raw Bone Meal and Potash.....	2.47		12.00	6.00	3.00
Alkaline Bone.....				10.00	3.00
Grain Grower.....	1.65		2.00	8.00	2.00
Acidulated Bone and Potash.....	2.47		2.00	9.00	2.00
Special Corn and Oats Grower.....	.83		1.00	7.00	1.00
Complete Fertilizer.....	.83		1.00	8.00	3.00
Lawn Fertilizer.....	4.00			9.00	5.00
Potato and Tobacco Grower.....	1.65		2.00	7.00	4.50
Dissolved Bone.....	3.09		2.00	9.00	4.00
Bearing Tree Mixture.....	2.00		2.00	10.00	7.50
Acidulated Bone Meal.....	2.47		2.00	10.00	
Special Wheat Grower.....	1.65		2.00	9.00	1.00
No. 1 Wheat Grower.....	1.00			9.00	3.00
Kainit.....					12.00
Muriate of Potash.....					48.00
Nitrate of Soda.....	15.50				
Acid Phosphate.....				14.00	
St. Louis Fertilizer.....	1.65		2.00	8.00	2.00
Basing Mixture.....	2.88			19.00	15.00
<b>Morris &amp; Co., Chicago, Ill.</b>					
Big One—Ground Raw Bone.....	3.30	24.00			
Big Two—Pure Bone Meal.....	2.00	28.00			
Big Three.....	2.50		3.00	7.00	2.00
Big Four—Bone, Tankage and Potash.....	3.30		5.00	7.00	6.50
Big Five.....	2.50		3.00	7.00	1.00
Big Six—Special Bone Meal and Potash....	.41	16.00			2.00
Big Seven—Bone Meal and Potash.....	1.24	16.00			3.00
Big Eight—Ammoniated Acid Phosphate and Potash.....	.82		1.00	7.00	1.00
Big Nine—Prepared Manure with Phos- phate and Potash.....	.82		2.00	7.00	7.00
Big Ten—Prepared Manure with Phosphate and Potash.....	1.65		2.00	8.00	2.00
Big Eleven—Bone Meal and Potash.....	.82	16.00			10.00
Big Twelve—Prepared Manure with Phos- phate and Potash.....	.82		2.00	7.00	3.00

Manufacturers	Nitro- gen per cent	Phosphoric Acid P <sub>2</sub> O <sub>5</sub>			Potash K <sub>2</sub> O per cent
		Total per cent	Insolu- ble per cent	Avail- able per cent	
<b>Pulverized Manure Co., National Stock Yards, Ill.</b>					
Wizard Brand Manure.....	1.80			1.00	1.00
<b>Read Phosphate Co., Nashville, Tenn.</b>					
Pure Raw Bone Meal.....	3.75	22.00			
Half and Half.....	1.65	14.00			4.00
Missouri Wheat Grower.....	1.65		3.00	12.00	3.00
Blood and Bone No. 1.....	1.65		3.00	8.00	2.00
H. G. Ammoniated Dissolved Bone.....	1.65		3.00	10.00	2.00
Farmers Special Manure.....	.82		3.00	10.00	3.00
Corn, Wheat and Oat Grower.....	.82		3.00	7.00	1.00
Nitro Phospho Potasso.....	.82		3.00	8.00	4.00
Missouri Truck Grower.....	1.65		3.00	8.00	5.00
H. G. Melon and Truck Grower.....	2.47		3.00	6.00	3.00
H. G. Potato and Tobacco Grower.....	1.65		3.00	8.00	8.00
Wheat and Clover Grower.....	.82		3.00	12.00	2.00
Standard Grain Grower.....	.41		3.00	11.00	4.00
Wheat and Corn Grower.....	.41		3.00	9.00	2.00
Wheat, Corn, and Clover Special.....			3.00	10.00	8.00
H-G-Special Potash Mixture.....			3.00	10.00	4.00
Alkaline Bone.....			3.00	10.00	2.00
H. G. Acid Phosphate.....			3.00	14.00	
Dissolved Bone.....			3.00	10.00	
H-G-Bone and Potash.....			3.00	10.00	6.00
Special Grain Grower.....	.82		3.00	8.00	2.00
Muriate Potash.....					50.00
Sulphate Potash.....					50.00
Nitrate Soda.....	15.25				
German Kainit.....					12.00
<b>Ruhm Phosphate Mining Co., Mt. Pleasant, Tenn.</b>					
Ground Phosphate Rock (crude).....			28.00		
<b>St. Louis Seed Co., St. Louis, Mo.</b>					
Pulverized Sheep Manure.....	1.80			1.00	1.00
Bone Meal.....	1.65	20.00			
Evergreen Fertilizer.....	8.00			14.50	15.00
Bonora.....	15.00			3.00	3.00
Walker's Excelsior Plant Food.....	10.00			12.00	11.00



Manufacturers	Nitro- gen per cent	Phosphoric Acid P <sub>2</sub> O <sub>5</sub>			Potash K <sub>2</sub> O per cent
		Total per cent	Insolu- ble per cent	Avail- able per cent	
<b>Sulzberger and Sons Co., Chicago, Ill. S. &amp; S. Brands</b>					
Pure Raw Bone Meal.....	3.75	23.00	.....	.....	.....
Pure Raw Bone Meal and Plant Potash....	1.65	14.00	.....	.....	2.00
Pure Bone Meal.....	2.50	24.00	.....	.....	.....
Bone Grain Grower.....	1.65	10.00	.....	.....	2.00
Blood and Bone.....	4.94	13.50	.....	.....	.....
Popular Bone Meal.....	1.65	20.00	.....	.....	.....
Special Bone Meal.....	1.23	28.00	.....	.....	.....
Corn and Wheat Special.....	1.65	.....	2.00	8.00	2.00
Trucker.....	.82	.....	2.00	8.00	4.00
Corn and Oat Grower.....	.82	.....	1.00	9.00	1.00
Onion, Potato and Tobacco Special.....	1.65	.....	2.00	8.00	10.00
Phosphate and Potash.....	.....	.....	1.00	10.00	4.00
Champion Vegetable Grower.....	2.47	.....	2.00	8.00	6.00
Special Grain Fertilizer.....	1.65	.....	2.00	10.00	2.00
<b>Swift and Co., East St. Louis, Ill. Swift's Brands</b>					
Pure Bone Meal and Blood.....	3.75	23.00	.....	.....	.....
Pure Bone Meal and Potash.....	1.85	25.00	.....	.....	3.00
Ground Steamed Bone.....	1.65	20.00	.....	.....	.....
Pure Special Bone Meal.....	.82	29.00	.....	.....	.....
Special Bone Meal and Potash.....	.82	18.00	.....	.....	4.00
Ground Dried Blood.....	13.17	.....	.....	.....	.....
Pulverized Sheep Manure.....	2.05	1.50	.....	.....	1.50
Pulverized Cattle Manure.....	2.05	1.50	.....	.....	1.50
Tomato and Vegetable Grower.....	1.65	.....	1.00	8.00	5.00
High Grade Acid Phosphate.....	.....	.....	.....	16.00	.....
High Grade Phosphate and Potash.....	.....	.....	.....	10.00	4.00
Champion Wheat and Corn Grower.....	1.65	.....	1.00	12.00	2.00
Superphosphate.....	1.65	.....	1.00	8.00	2.00
Complete Fertilizer.....	.82	.....	.50	8.00	1.00
Onion, Potato and Tobacco Fertilizer.....	1.65	.....	1.00	8.00	7.00
Special Grain Fertilizer.....	1.65	.....	1.00	10.00	2.00
Truck Grower.....	.82	.....	.50	8.00	4.00
Diamond "A" Fertilizer.....	2.47	.....	1.00	8.00	3.00
Diamond "B" Fertilizer.....	2.47	.....	1.00	8.00	5.00
Corn, Wheat and Oats Fertilizer.....	.82	.....	.50	11.00	4.00
Special Orchard Fertilizer.....	1.65	.....	1.00	12.00	10.00

Manufacturers	Nitro- gen per cent	Phosphoric Acid P <sub>2</sub> O <sub>5</sub>			Potash K <sub>2</sub> O per cent
		Total per cent	Insolu- ble per cent	Avail- able per cent	
<b>Swift and Co.—Cont.</b>					
Special Phosphate and Potash.....				10.00	2.00
Garden City Phosphate.....				14.00	
Pure Bone Meal.....	2.47	24.00			
Ground Beef Bone.....	2.05	27.00			
Pure Raw Bone Meal.....	3.75	23.00			
Special Bone Meal and Potash Wheat Grower.....	.82	18.00			3.00
1-11-3.....	.82		.50	11.00	3.00
1-8-3.....	.82		.50	8.00	3.00
10-3.....				10.00	3.00
Red Steer Wheat and Corn Grower.....	1.65		1.00	8.00	2.00
No. 3 Manure Mixture.....	1.65		5.00	5.00	2.00
No. 2 Manure Mixture.....	2.05		4.00	4.00	5.00
<b>Pioneer Brands</b>					
General Crop Grower.....	1.65		1.00	8.00	2.00
Truck and Corn Grower.....	.82		.50	8.00	4.00
1-7-1 Fertilizer.....	.82		.50	7.00	1.00
3-8-5 Fertilizer.....	2.47		1.00	8.00	5.00
Potato and Vegetable Grower.....	1.65		1.00	8.00	7.00
High Grade Acid Phosphate.....				14.00	
High Grade Phosphate and Potash.....				10.00	4.00
10-2 Fertilizer.....				10.00	2.00
Bone Meal.....	2.47	24.00			
Chicago Bone Meal.....	1.65	20.00			
High Grade Sulphate of Potash.....					48.00
Grain Grower.....	1.65		1.00	10.00	2.00
Special Bone Meal and Potash.....	.82	18.00			4.00
2½-27 Bone Meal.....	2.05	27.00			
Bone Meal and Blood.....	3.75	23.00			
Raw Bone Meal.....	3.75	23.00			
Bone Meal and Potash.....	1.85	25.00			3.00
Special Bone Meal and Potash Wheat Grower.....	.82	18.00			3.00
Wheat and Corn Grower.....	1.65		1.00	10.00	2.00
1-8-3.....	.82		.50	8.00	3.00

Manufacturers	Nitro- gen per cent	Phosphoric Acid P <sub>2</sub> O <sub>5</sub>			Potash K <sub>2</sub> O per cent
		Total per cent	Insolu- ble per cent	Avail- able per cent	
<b>Tennessee Chemical Co., Chicago, Ill. Ox Brands</b>					
Nitrate of Soda.....	14.81				
16% Acid Phosphate.....			.50	16.00	
High Grade Phosphate.....			.50	14.00	
Phosphate.....			.50	12.00	
Raw Bone Meal.....	3.70	22.00			
Bone Meal.....	2.47	24.00			
Steamed Bone Meal.....	1.65	20.00			
Phosphate and Potash.....			.50	10.00	2.00
High Grade Phosphate and Potash.....			.50	12.00	2.00
Grain Grower.....	.41		.50	8.00	4.00
Bone Phosphate and Potash.....	.82	18.00			4.00
Wheat and Grass Fertilizer.....	1.65		.50	8.00	2.00
Tomato and Truck Fertilizer.....	1.65		.50	8.00	5.00
Ammoniated Phosphate and Potash.....	1.65		.50	10.00	2.00
High Grade Vegetable Grower.....	2.47		.50	8.00	6.00
Bone Meal, Phosphate and Potash.....	.82	18.00			3.00
*Special Wheat Grower.....	.41		.50	8.00	3.00
*Canceled by Special Grain Grower—regis- tered Sept. 9, 1914.....	.41		.50	8.00	3.00
H. G. Phosphate and Potash.....			.50	10.00	4.00
<b>Tuscarora Fertilizer Co., Chicago, Ill. Tuscarora Brands</b>					
Nitrate of Soda.....	14.81				
16% Acid Phosphate.....			.50	16.00	
14% Acid Phosphate.....			.50	14.00	
Acid Phosphate.....			.50	10.00	
Sulphate of Potash.....					48.00
Muriate of Potash.....					50.00
Kainit.....					12.00
Raw Bone Meal.....	3.70	22.00			
Animal Bone.....	2.47	24.00			
Steamed Bone Meal.....	1.65	20.00			
Phosphate and Potash.....			.50	10.00	2.00
Soluble Phosphate with Potash.....			.50	10.00	4.00
High Grade Fertilizer.....			.50	10.00	8.00
Ammoniated Phosphate.....	.82		.50	7.00	1.00
Grain Special.....	.82		.50	8.00	3.00
Chief Fertilizer.....	.82		.50	8.00	4.00
Bone Phosphate and Potash.....	.82	18.00			4.00

Manufacturers	Nitro- gen per cent	Phosphoric Acid P <sub>2</sub> O <sub>5</sub>			Potash K <sub>2</sub> O per cent
		Total per cent	Insolu- ble per cent	Avail- able per cent	
<b>Tuscarora Fertilizer Co.—Cont.</b>					
Big Four Fertilizer.....	1.65		.50	7.00	4.00
Standard Fertilizer.....	1.65		.50	8.00	2.00
Canners' Crop Special.....	1.65		.50	8.00	5.00
Fruit and Potato Fertilizer.....	1.65		.50	8.00	10.00
Wheat and Corn Grower.....	1.65		.50	10.00	2.00
Garden Fertilizer.....	2.88		.50	8.00	4.00
No. 386 Fertilizer.....	2.47		.50	8.00	6.00
Trucker.....	4.11		.50	8.00	7.00
Lincoln County Special.....	1.23		.50	8.00	2.00
Bone Meal, Phosphate and Potash.....	.82	18.00			3.00
<b>Union Stock Yards Co., (Ltd.), So. Omaha, Neb.</b>					
Concentrated Manure.....			3.00	3.00	5.00
Lawn and Garden.....				3.50	3.00
Sheep Guano.....	2.00	1.00			1.00
<b>Virginia-Carolina Chemical Co., Memphis, Tenn.</b>					
Royal High Grade Guano.....	1.65			10.00	2.00
Beef, Blood and Bone Fertilizer BBB.....	1.65			8.00	2.00
Scott's State Standard Guano.....	1.65			8.00	2.00
Champion Corn and Wheat Grower.....	.82			8.00	2.00
Royal Vegetable Fertilizer.....	2.47			8.00	4.00
V-C Garden Truck Special.....	4.95			6.00	4.00
V-3-C Fruit and Truck Special.....	3.30			6.00	8.00
Memphis Truck Special.....	3.30			8.00	4.00
Progressive Farmer Compound.....	4.94			6.00	1.50
Victor Bone and Potash Compound.....				15.00	3.00
Royal Grain Grower.....				10.00	4.00
Capital Bone and Potash Compound.....				10.00	2.00
Virginia-Carolina Superphosphate.....				16.00	
Victor High Grade Acid Phosphate.....				14.00	
Tip Top Nitrogen Compound.....	13.20	2.00			
Ground Animal Bone.....	3.30	20.00			
<b>Whitelaw Bros., St. Louis, Mo.</b>					
In Clover.....	2.06		2.00	8.50	2.00
Frubacto.....	3.09		2.00	9.00	4.00
English Park Lawn.....	1.65		2.00	8.00	2.00
Acid Phosphate.....				14.00	
Raw Bone Meal.....	3.29		13.00	7.00	
<b>Wing Seed Co., Mechanicsburg, Ohio.</b>					
Thomas Phosphate Powder (Basic Slag Phosphate).....		17.00			

## AVERAGE GAIN OR LOSS PER TON FROM GUARANTEE FOR EACH MANUFACTURER

Manufacturers	Number of samples analyzed	Number of samples showing a value below guarantee	Per cent of samples showing a value below guarantee	Average loss per ton to purchaser on samples below guarantee	Average gain or loss per ton on samples analyzed
Sulzberger and Sons Co.....	7	1	14.3	\$1.31	\$3.22
Pulverized Manure Co.....	3	1	33.3	0.87	1.40
American Glue Co.....	3	1	33.3	0.11	1.36
Morris and Co.....	20	5	25	1.05	1.17
Arkansas Fertilizer Co.....	1	0	0	0	1.17
Hirsch Stein and Co.....	19	5	26.3	1.56	1.04
Darling and Co.....	22	4	18.2	0.90	1.03
Empire Carbon Works, Empire.....	30	8	26.7	0.93	0.89
Armour Fertilizer Works.....	68	25	36.8	0.74	0.89
Empire Carbon Works, Boar's Head.....	24	9	37.5	0.60	0.86
Swift and Co., Pioneer.....	9	2	22.2	0.64	0.67
Empire Carbon Works, Horseshoe.....	21	9	42.9	0.38	0.50
Commercial Fertilizer Co.....	16	3	18.8	0.70	0.42
Swift and Co.....	93	37	39.8	0.84	0.35
Empire Carbon Works, Bradley.....	7	4	57.1	0.83	0.35
Blood and Bone Fertilizer Co.....	4	2	50.	1.32	0.18
Continental Fertilizer Co.....	17	8	47.1	1.07	0.17
Tennessee Chemical Co.....	10	7	70.	0.71	0.14
Tuscarora Fertilizer Co.....	15	6	40.0	0.66	0.02
Read Phosphate Co.....	22	14	63.6	0.69	-0.03
Empire Guano Co.....	1	1	100	0.22	-0.22
Federal Chemical Co.....	2	1	50	0.85	-0.33
P. B. Mathiason Mfg. Co.....	6	5	83.3	2.16	-1.72
Union Stock Yards Co.....	1	1	100	2.52	-2.52
Whitlaw Bros.....	4	3	75	2.75	-2.75
Total.....	424	163	38.4	\$0.88	\$0.57

## NUMBER OF ANALYSES GIVING RESULTS BELOW THE GUARANTEE

Manufacturers	Nitrogen			Total Phosphoric Acid			Available Phosphoric Acid			Potash			Total Analyses		
	Number of analyses	Number of analyses below guarantee	Per cent of analyses below guarantee	Number of analyses	Number of analyses below guarantee	Per cent of analyses below guarantee	Number of analyses	Number of analyses below guarantee	Per cent of analyses below guarantee	Number of analyses	Number of analyses below guarantee	Per cent of analyses below guarantee	Total number of analyses	Total number of analyses below guarantee	Per cent of analyses below guarantee
Pulverized Manure Co.....	3	1	33.3	3	0	0				3	0	0	9	1	11.1
American Glue Co.....	3	1	33.3	3	0	0	0	0	0	1	0	0	7	1	14.3
Morris & Co.....	20	11	55.0	20	2	10.0	10	3	30.0	15	0	0	65	16	24.6
Arkansas Fert. Co.....	1	1	100.0	1	0	0	1	0	0	1	0	0	4	1	25.0
Hirsh Stein & Co.....	18	8	44.4	19	2	10.5	13	3	23.1	15	5	33.3	65	18	27.7
Empire Carbon Works, Horseshoe.....	19	7	36.8	21	12	57.1	21	4	19.0	21	4	19.0	82	27	32.9
Empire Carbon Works, Empire.....	29	8	27.6	30	14	46.7	23	9	39.1	23	5	21.7	105	36	34.3
Darling & Co.....	18	12	66.7	18	2	11.1	13	6	46.2	15	3	20.0	64	23	35.9
Empire Carbon Works, Boar's Head.....	21	7	33.3	24	15	62.5	23	6	26.1	22	5	22.7	90	33	36.7
Sulzberger & Sons Co.....	7	4	57.1	7	1	14.3	1	1	100.0	4	1	25.0	19	7	36.8
Armour Fertilizer Works.....	63	31	49.2	68	9	13.2	41	22	53.7	44	18	40.9	216	80	37.0
Continental Fert. Co.....	17	10	58.8	17	2	11.8	12	8	66.7	12	3	25.0	58	23	39.7
Commercial Fert. Co.....	14	5	35.7	14	3	21.5	11	7	63.6	9	1	11.1	52	16	30.8
Swift & Co.....	84	39	46.5	84	25	29.8	51	40	78.4	59	12	20.3	278	116	41.7
Swift & Co., Pioneer.....	8	3	37.5	8	4	50.0	3	2	66.7	5	1	20.0	24	10	41.7
Tuscarora Fert. Co.....	15	8	53.3	15	3	20.0	10	8	80.0	10	2	20.0	50	21	42.0
Blood and Bone Fert. Co.....	4	3	75.0	4	1	25.0	4	2	50.0	4	2	50.0	16	8	50.0
Federal Chemical Co.....				2	1	50.0							2	1	50.0

Read Phosphate Co.....	16	12	75.0	22	4	18.2	17	10	58.8	19	12	63.2	74	38	51.4
Empire Carbon Works, Bradley's.....	7	4	57.1	7	6	85.7	7	2	28.6	7	3	42.9	28	15	53.6
Tennessee Chemical Co.....	8	4	50.0	10	5	50.0	7	6	85.7	7	3	42.9	32	18	56.3
Whitelaw Bros.....	3	3	100.0	3	0	0	3	2	66.7	3	2	66.7	12	7	58.3
P. B. Mathiason Mfg. Co.....	6	4	66.7	6	3	50.0	5	4	80.0	3	1	33.3	21	12	57.1
Union Stk. Yds. Co.....				1	1	100.0	1	1	100.0	1	0	0	3	2	66.7
Empire Guano Co.....	1	1	100.0	1	0	0	1	1	100.0	1	1	100.0	4	3	75.0
Total.....	385	187	48.6	408	115	28.2	278	147	52.9	304	84	27.6	1380	533	38.6

## REPORT OF ANALYSES OF FERTILIZERS FOR THE YEAR 1914

Laboratory Number	Manufacturer and Brands	From Whom Collected	Nitrogen		Phosphoric Acid P <sub>2</sub> O <sub>5</sub>						Potash K <sub>2</sub> O		Value per ton			
					Total		Insoluble		Available							
			Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Guaranteed	Found		
370	American Glue Co. Hammond, Ind.	Jas. Cunningham, Montgomery.....	0.41	0.54	30.00	33.40									\$22.64	\$25.54
368		Jas. Cunningham, Montgomery.....	3.70	3.71	20.00	21.79									28.80	30.09
369		Jas. Cunningham, Montgomery.....	.82	.65	20.00	20.16					3.00	3.38	20.88	20.77		
383	Arkansas Fertilizer Co. Little Rock, Ark.	J. E. Perringer, Fredericktown.....	2.50	2.45	18.00	19.06	8.00	8.39	10.00	10.67	2.00	2.34	27.60	28.77		
16	Armour Fertilizer Works, Chicago, Ill. Shield Brands	Clay Underhill and Son, Ely.....			14.50	15.62	0.50	0.37	14.00	15.25			17.00	18.45		
385		J. E. Perringer, Fredericktown.....			10.50	9.68	0.50	0.54	10.00	9.14			12.20	11.19		
29		Callaway Hardware Co., Fulton.....	3.70	3.63	22.00	23.78							30.20	31.17		
28		Frank Everett, Wellsville.....	3.70	3.54	22.00	26.99							30.20	33.05		
27		Frank Everett, Wellsville.....	3.70	3.67	22.00	27.54							30.20	33.96		
26		Vick and Bucholz, New Haven.....	3.70	3.70	22.00	24.86							30.20	32.20		
25		Joe Tomek, Hawk Point.....	3.70	3.59	22.00	23.12							30.20	30.54		



24	Raw Bone Meal	Bronestine Grain Co., Lewistown	3.70	3.77	22.00	22.33															\$30.20	\$30.71		
23	Raw Bone Meal	Rockingham Merc. Co., Hardin	3.70	3.64	22.00	21.66																30.20	29.72	
22	Raw Bone Meal	Henderson and Rood, Auxvasse	3.70	3.69	22.00	21.14																30.20	29.56	
21	Raw Bone Meal	Turner and Anderson, Center	3.70	3.84	22.00	23.53																30.20	31.83	
20	Raw Bone Meal	C. A. McClintic, Hunnewell	3.70	3.85	22.00	22.78																30.20	31.35	
19	Raw Bone Meal	Strehlman and Gherken, Leslie	3.70	3.27	22.00	24.06																30.20	29.92	
7	Bone Meal	Clay Underhill and Son, Ely	2.47	2.80	24.00	26.49																26.68	29.74	
6	Bone Meal	Archias Seed Co., Sedalia	2.47	2.86	24.00	26.64																26.68	30.09	
5	Bone Meal	J. F. Coontz, Vandalia	2.47	2.76	24.00	26.69																26.68	29.72	
4	Bone Meal	M. L. Klauber, Hofflins	2.47	2.83	24.00	27.79																26.68	30.77	
3	Bone Meal	Alexander and Son, Paris	2.47	2.05	24.00	25.62																26.68	26.13	
2	Bone Meal	W. T. Love, Warsaw	2.47	2.57	24.00	27.25																26.68	29.36	
1	Bone Meal	Rockingham Merc. Co., Hardin	2.47	2.54	24.00	24.81																26.68	27.53	
391	Steamed Bone Meal	D. L. Robertson Lbr. Co., Marshfield	1.65	1.67	20.00	19.79																20.60	20.53	
35	Steamed Bone Meal	Wm. Pollack Mill & Elev. Co., Mexico	1.65	1.77	20.00	31.16																20.60	28.89	
36	Steamed Bone Meal	A. H. Williams, Silex	1.65	1.91	20.00	29.74																20.60	28.46	
34	Steamed Bone Meal	C. A. McClintic, Hunnewell	1.65	1.98	20.00	20.24																20.60	22.09	
11	Phosphate and Potash	C. L. Labohn, Lincoln			10.50	10.72	0.50	0.42	10.00	10.30	2.00	2.01	14.60	14.94										
384	Phosphate and Potash	Edmond Casey, Potosi			10.50	9.82	0.50	0.43	10.00	9.39	2.00	1.99	14.60	13.83										
12	3-8-6	Archias Seed Co., Sedalia	2.47	2.03	8.50	11.10	0.50	2.31	8.00	8.79	6.00	4.97	26.88	25.55										
45	All Soluble	Callaway Hardware Co., Fulton	2.88	3.96	8.50	10.67	0.50	3.14	8.00	7.53	4.00	8.26	26.12	36.05										
17	Fruit and Root Crop Special	Callaway Hardware Co., Fulton	1.65	1.64	8.50	9.31	0.50	1.92	8.00	7.39	5.00	4.94	22.40	22.13										
396	Fruit and Root Crop Special	D. L. Patterson, Conway	1.65	1.47	8.50	10.08	0.50	2.07	8.00	8.01	5.00	5.53	22.40	22.96										
393	High Grade Potato	Edmond Casey, Potosi	1.65	1.53	8.50	9.67	0.50	1.10	8.00	8.57	10.00	7.77	28.40	26.16										
8	2-7-1	Thorp Bros., Versailles	1.65	1.55	7.50	8.14	0.50	1.01	7.00	7.13	1.00	1.42	16.40	16.84										

Laboratory Number	Manufacturer and Brands	From Whom Collected	Nitrogen		Phosphoric Acid P <sub>2</sub> O <sub>5</sub>						Potash K <sub>2</sub> O		Value per ton	
			Per cent guaranteed	Per cent found	Total		Insoluble		Available		Per cent guaranteed	Per cent found	Guaranteed	Found
					Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found				
	<b>Armour Fertilizer Works Shield Brands—Continued</b>													
52	Mixed Bone Phosphate and Potash . . .	Enon Merc. Co., Enon . . . . .	0.82	0.77	18.00	18.09	.....	.....	.....	.....	4.00	3.16	\$20.68	\$19.53
10	Crop Grower . . . . .	Jonesburg Merc. Co., Jonesburg . . . . .	1.23	1.39	8.50	8.70	0.50	0.79	8.00	7.91	2.00	1.92	17.12	17.67
9	Crop Grower . . . . .	C. E. Medcalf, Rensselaer . . . . .	1.23	1.19	8.50	9.10	0.50	0.79	8.00	8.31	2.00	1.98	17.12	17.43
395	Crop Grower . . . . .	J. E. Perringer, Fredericktown . . . . .	1.23	1.26	8.50	8.50	0.50	1.10	8.00	7.40	2.00	2.22	17.12	17.02
37	Grain Grower . . . . .	Alexander & Son, Paris . . . . .	1.65	1.66	8.50	8.65	0.50	1.52	8.00	7.13	2.00	2.04	18.80	18.26
38	Grain Grower . . . . .	James Long, New Florence . . . . .	1.65	1.63	8.50	9.31	0.50	1.71	8.00	7.60	2.00	2.52	18.80	19.34
39	Grain Grower . . . . .	Turner and Anderson, Center . . . . .	1.65	1.59	8.50	10.23	0.50	0.84	8.00	9.39	2.00	2.02	18.80	20.39
40	Grain Grower . . . . .	M. L. Klauber, Hofflins . . . . .	1.65	1.74	8.50	9.92	0.50	1.00	8.00	8.92	2.00	1.92	18.80	20.36
41	Grain Grower . . . . .	E. O. Gerdeman, Pendleton . . . . .	1.65	1.63	8.50	9.47	0.50	1.81	8.00	7.66	2.00	2.30	18.80	19.19
42	Grain Grower . . . . .	C. F. Turner, Wither's Mill . . . . .	1.65	1.39	8.50	10.11	0.50	2.14	8.00	7.97	2.00	2.14	18.80	18.55
43	Grain Grower . . . . .	Tillman Gehale, Belle . . . . .	1.65	1.32	8.50	10.31	0.50	1.54	8.00	8.77	2.00	1.96	18.80	18.77
44	Grain Grower . . . . .	Louis Ritterbusch, Bland . . . . .	1.65	1.32	8.50	10.59	0.50	1.53	8.00	9.06	2.00	1.73	18.80	18.84
437	Grain Grower . . . . .	Williamsville Supply Co., Williamsville . . . . .	1.65	1.75	8.50	9.07	0.50	1.88	8.00	7.19	2.00	2.41	18.80	19.27
47	Standard . . . . .	Whiteside Elev. Co., Whiteside . . . . .	0.82	0.83	8.50	8.62	0.50	1.44	8.00	7.18	3.00	3.38	16.68	16.58
46	Standard . . . . .	Enon Merc. Co., Enon . . . . .	0.82	0.82	8.50	8.02	0.50	0.87	8.00	7.15	3.00	2.94	16.68	15.74

392	Standard . . . . .	D. L. Patterson, Conway . . . . .	0.82	0.75	8.50	7.83	0.50	0.98	8.00	6.85	3.00	2.37	\$16.68	\$14.45
436	Wheat, Corn and Oats Special . . . . .	M. J. Brooks and Son, Peace Valley . . . . .	0.82	0.58	7.50	7.44	0.50	0.51	7.00	6.93	1.00	1.55	13.08	12.70
30	Wheat, Corn, and Oats Special . . . . .	M. L. Klauber, Hofflins . . . . .	0.82	0.71	7.50	7.96	0.50	0.93	7.00	7.03	1.00	1.14	13.08	13.02
31	Wheat, Corn, and Oats Special . . . . .	Enon Merc. Co., Enon . . . . .	0.82	0.72	7.50	7.96	0.50	0.85	7.00	7.11	1.00	1.05	13.08	13.01
32	Wheat, Corn, and Oats Special . . . . .	Frankford Elev. Co., Frankford . . . . .	0.82	0.76	7.50	8.15	0.50	0.72	7.00	7.43	1.00	1.24	13.08	13.74
33	Wheat, Corn, and Oats Special . . . . .	Bronestine Grain Co., Lewistown . . . . .	0.82	0.87	7.50	7.50	0.50	1.32	7.00	6.18	1.00	1.62	13.08	13.37
394	Ammoniated Dis. Phos. and Potash . . . . .	F. W. Newkirk, Mountain Grove . . . . .	1.65	1.69	10.50	11.33	0.50	0.67	10.00	10.66	2.00	2.37	21.20	22.66
51	Ammoniated Dis. Phos. and Potash . . . . .	C. E. Medcalf, Rensselaer . . . . .	1.65	1.86	10.50	10.76	0.50	1.52	10.00	9.24	2.00	2.39	21.20	22.01
50	Ammoniated Dis. Phos. and Potash . . . . .	O. E. Gerdeman, Pendleton . . . . .	1.65	1.45	10.50	12.17	0.50	1.64	10.00	10.53	2.00	2.19	21.20	21.73
15	Ammoniated Dis. Phos. and Potash . . . . .	W. A. Wirdem, Lincoln . . . . .	1.65	1.45	10.50	11.94	0.50	1.67	10.00	10.27	2.00	2.91	21.20	22.28
14	Ammoniated Dis. Phos. and Potash . . . . .	C. L. Labohn, Lincoln . . . . .	1.65	1.22	10.50	11.43	0.50	1.56	10.00	9.87	2.00	2.02	21.20	19.76
13	Ammoniated Dis. Phos. and Potash . . . . .	Archias Seed Store, Sedalia . . . . .	1.65	1.37	10.50	12.48	0.50	3.70	10.00	8.78	2.00	2.02	21.20	19.92
48	1-8-4 . . . . .	Henry and Aydelotte, Troy . . . . .	0.82	1.18	8.50	9.09	0.50	0.87	8.00	8.22	4.00	3.47	17.88	19.09
49	1-8-4 . . . . .	Bronestine Grain Co., Lewistown . . . . .	0.82	0.77	8.50	8.48	0.50	0.65	8.00	7.83	4.00	2.71	17.88	15.99
387	1-8-4 . . . . .	De Soto Wood & Coal Co., De Soto . . . . .	0.82	0.96	8.50	8.80	0.50	1.49	8.00	7.31	4.00	3.61	17.88	17.54
386	1-8-4 . . . . .	W. T. Reed, Doe Run . . . . .	0.82	0.99	8.50	8.28	0.50	0.98	8.00	7.30	4.00	4.16	17.88	18.10
53	Bone Meal Phosphate and Potash . . . . .	James Long, New Florence . . . . .	0.82	1.08	18.00	18.32	.....	.....	.....	.....	3.00	3.05	19.48	20.80
389	Bone Meal Phosphate and Potash . . . . .	J. E. Perring, Fredericktown . . . . .	0.82	1.11	18.00	20.33	.....	.....	.....	.....	3.00	2.72	19.48	21.93
390	Bone Meal Phosphate and Potash . . . . .	D. L. Patterson, Conway . . . . .	0.82	0.83	18.00	18.12	.....	.....	.....	.....	3.00	3.30	19.48	19.96
388	Bone Meal Phosphate and Potash . . . . .	W. T. Reed, Doe Run . . . . .	0.82	1.12	18.00	21.23	.....	.....	.....	.....	3.00	2.07	19.48	21.82
18	Soluble Phosphate and Potash . . . . .	A. H. Williams, Silex . . . . .	.....	.....	10.50	10.74	0.50	0.51	10.00	10.23	4.00	3.85	17.00	17.10

Laboratory Number	Manufacturer and Brands	From Whom Collected	Nitrogen		Phosphoric Acid P <sub>2</sub> O <sub>5</sub>						Potash K <sub>2</sub> O		Value per ton	
			Per cent guaranteed	Per cent found	Total		Insoluble		Available		Per cent guaranteed	Per cent found	Guaranteed	Found
					Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found				
<b>Blood and Bone Fertz. Co.</b>														
397	Special Wheat Grower.....	Walter Bass, Potosi.....	1.00	0.95	12.00	13.07	2.00	1.81	10.00	11.26	3.00	4.00	\$20.40	\$22.83
398	Special Wheat Grower.....	N. J. Meyers, Farmington.....	1.00	0.96	12.00	12.56	2.00	1.78	10.00	10.78	3.00	3.20	20.40	21.33
366	Special Wheat Grower.....	N. T. Cartwell, Stoutsville.....	1.00	0.94	12.00	12.28	2.00	2.67	10.00	9.61	3.00	2.58	20.40	19.46
367	Special Wheat Grower.....	Farmer's Co-operative Car, Bourbon...	1.00	1.00	12.00	11.30	2.00	2.50	10.00	8.80	3.00	2.62	20.40	18.70
<b>Commercial Fertilizer Co., St. Louis, Mo. Clover Brands</b>														
60	Special Corn Grower.....	A. Flur, New Haven.....	2.00	2.01	9.00	10.36	1.00	1.90	8.00	8.46	3.00	2.65	21.60	22.13
400	Bone and Potash.....	A. Trauernicht, Farmington.....	1.00	0.96	9.00	9.77	2.00	2.81	7.00	6.96	1.00	1.37	14.40	14.95
399	Bone and Potash.....	L. E. Cole and Co., Blackwell.....	1.00	0.94	9.00	9.03	2.00	1.47	7.00	7.56	1.00	1.21	14.40	14.87
57	Special Wheat Grower.....	G. W. Whiteside, Whiteside.....	1.00	0.97	12.00	12.33	2.00	1.17	10.00	11.16	3.00	3.59	20.40	22.05
62	Special Wheat Grower.....	W. A. Houston, Barnett.....	1.00	0.92	12.00	12.07	2.00	2.48	10.00	9.59	3.00	3.33	20.40	20.18
61	Special Wheat Grower.....	Milborn and Gilman, Glensted.....	1.00	1.02	12.00	12.30	2.00	2.30	10.00	10.00	3.00	3.01	20.40	20.61
401	Special Wheat Grower.....	A. Trauernicht, Farmington.....	1.00	1.00	12.00	11.72	2.00	2.15	10.00	9.57	3.00	3.51	20.40	20.55
55	Special Grain Grower.....	G. W. Whiteside, Whiteside.....	0.82	1.02	9.00	8.40	2.00	1.58	7.00	6.82	1.00	1.04	13.68	14.14
56	Special Grain Grower.....	J. M. Overfelt, Auxvasse.....	0.82	0.95	9.00	8.29	2.00	2.09	7.00	6.20	1.00	1.23	13.68	13.56

59	H. G. Acid Phosphate.....	Henry Locher, Hermann.....					16.79		0.95	16.00	15.84			\$19.20	\$19.39
58	H. G. Acid Phosphate.....	W. A. Houston, Barnett.....					16.38		2.79	16.00	13.59			19.20	17.43
65	Pure Raw Bone Meal.....	A. Flur, New Haven.....	3.50	3.42	21.00	21.49								28.70	28.72
445	Pure Raw Bone Meal.....	A. Trauernicht, Farmington.....	3.50	3.57	21.00	21.91								28.70	29.62
63	Pure Raw Bone Meal.....	J. M. Overfelt, Auxvasse.....	3.50	3.51	21.00	21.92								28.70	29.38
64	Pure Raw Bone Meal.....	Wilmesher and Co., Bourbon.....	3.50	3.60	21.00	21.03								28.70	29.12
54	Steamed Bone Meal.....	J. M. Overfelt, Auxvasse.....	0.82	1.00	29.00	31.59								23.58	26.11
<b>Continental Fertilizer Co.</b>															
<b>Chicago, Ill.</b>															
<b>Bear Brands</b>															
67	Raw Bone Meal.....	C. E. Bagley, Leslie.....	3.70	3.26	22.00	25.28								30.20	30.74
66	Raw Bone Meal.....	A. Hartung, Pendleton.....	3.70	3.04	22.00	22.23								30.20	27.72
73	Bone Meal.....	A. Hartung, Pendleton.....	2.47	2.49	24.00	26.29								26.68	28.36
72	Bone Meal.....	Hoffmann and Hogan, Norborne.....	2.47	2.73	24.00	26.72								26.68	29.62
71	Bone Meal.....	C. W. Tanner, Farber.....	2.47	2.84	24.00	28.14								26.68	31.06
69	Grain Grower.....	Eldon Hardware Co., Eldon.....	0.41	0.28	8.50	7.79	0.50	0.59	8.00	7.20	4.00	4.17	16.24	15.00	
68	Grain Grower.....	C. W. Tanner, Farber.....	0.41	0.44	8.50	8.51	0.50	0.62	8.00	7.89	4.00	4.04	16.24	16.33	
78	Ammoniated Phosphate and Potash...	Farmer's Co-operative Car, Bourbon..	0.82	0.84	7.50	8.04	0.50	0.76	7.00	7.28	1.00	1.20	13.08	13.84	
76	Grain and Grass Grower.....	Hoffmann and Hogan, Norborne.....	1.65	1.62	8.50	9.03	0.50	2.15	8.00	6.88	2.00	2.56	18.80	18.67	
77	Grain and Grass Grower.....	C. W. Tanner, Farber.....	1.65	1.48	8.50	9.44	0.50	1.49	8.00	7.95	2.00	2.66	18.80	19.25	
75	Grain and Grass Grower.....	Joe Tomek, Hawk Point.....	1.65	1.27	8.50	10.16	0.50	1.58	8.00	8.58	2.00	2.82	18.80	19.39	
70	Grain and Grass Grower.....	Eldon Hardware Co., Eldon.....	1.65	1.43	8.50	9.01	0.50	1.89	8.00	7.12	2.00	2.21	18.80	17.17	
79	Standard.....	Joe Tomek, Hawk Point.....	1.65	1.33	10.50	11.59	0.50	1.79	10.00	9.80	2.00	2.78	21.20	21.14	
80	Standard.....	A. and F. Gerken, Lincoln.....	1.65	1.18	10.50	12.02	0.50	1.48	10.00	10.54	2.00	2.03	21.20	20.40	
81	Wheat Special.....	Joe Tomek, Hawk Point.....	0.41	0.39	8.50	8.63	0.50	0.86	8.00	7.77	3.00	2.57	15.04	14.30	
402	Wheat Special.....	W. A. Hoffarth, Mountain Grove....	0.41	0.43	8.50	7.58	0.50	0.91	8.00	6.67	3.00	2.91	15.04	13.57	
74	Special Grain Grower.....	C. E. Bagley, Leslie.....	0.41	0.42	8.50	9.06	0.50	0.69	8.00	8.37	3.00	2.62	15.04	15.14	

Laboratory Number	Manufacturer and Brands	From Whom Collected	Nitrogen		Phosphoric Acid P <sub>2</sub> O <sub>5</sub>						Potash K <sub>2</sub> O		Value per ton	
			Per cent guaranteed	Per cent found	Total		Insoluble		Available		Per cent guaranteed	Per cent found	Guaranteed	Found
					Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found				
	<b>Darling and Co., Chicago, Ill.</b>													
95	Farmer's Favorite.....	T. K. Young, Silex.....	2.40	2.52	10.00	13.34	2.00	6.71	8.00	6.63	4.00	5.19	\$24.80	\$26.95
84	Big Harvest.....	Meister and Trail, Davis.....	1.60	1.58	14.00	15.08	2.00	1.79	12.00	13.29	4.00	4.48	26.40	28.37
93	Sure Winner.....	Theo. W. Schemmer, Foristell.....	0.80	0.79	10.00	10.46	2.00	2.31	8.00	8.15	3.00	3.21	17.20	17.71
92	Sure Winner.....	Tinsley Bros., Bowling Green.....	0.80	0.87	10.00	9.31	2.00	1.48	8.00	7.83	3.00	3.14	17.20	17.24
91	Sure Winner.....	W. R. Noel, Stoutsville.....	0.80	0.78	10.00	10.74	2.00	1.74	8.00	9.00	3.00	3.42	17.20	18.72
100	Chicago Brand.....	Jonas Robbe and Son, Yates.....	1.60	1.63	10.00	10.47	2.00	1.22	8.00	9.25	2.00	2.25	19.20	20.81
101	Chicago Brand.....	G. V. Castleman, Brown Station.....	1.60	1.44	10.00	11.51	2.00	1.71	8.00	9.80	2.00	2.31	19.20	20.97
102	Chicago Brand.....	Jim Houchin, Stover.....	1.60	1.59	10.00	9.72	2.00	3.02	8.00	6.70	2.00	2.13	19.20	18.17
103	Chicago Brand.....	T. K. Young, Silex.....	1.60	1.51	10.00	10.87	2.00	2.07	8.00	8.80	2.00	2.29	19.20	20.18
90	Bone and Potash.....	T. K. Young, Silex.....	1.60	1.58	24.25	26.10					6.00	5.22	30.58	30.85
85	Pure Ground Bone.....	Jim Houchin, Stover.....	1.80	1.91	28.00	29.45							26.80	28.26
86	Pure Ground Bone.....	W. T. Jensen, Eolia.....	1.80	1.80	28.00	30.67							26.80	28.67
87	Pure Ground Bone.....	W. R. Noel, Stoutsville.....	1.80	1.76	28.00	29.71							26.80	27.84
438	Pure Ground Bone.....	V. M. Dudley, Clarksburg.....	1.80	1.62	28.00	28.23							26.80	26.24
97	Ground Raw Bone.....	A. Flur, New Haven.....	3.30	3.50	21.00	22.76							27.90	29.93



Laboratory Number	Manufacturer and Brands	From Whom Collected	Nitrogen		Phosphoric Acid P <sub>2</sub> O <sub>5</sub>						Potash K <sub>2</sub> O		Value per ton	
					Total		Insoluble		Available					
			Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Guaranteed	Found
	<b>Empire Carbon Works Boar's Head Brands—Continued</b>													
159	Faultless Grain Grower.....	Trail and Owen, Davis.....	0.82	0.83	9.00	7.33	2.00	0.92	7.00	6.41	1.00	1.49	\$13.68	\$13.17
160	Faultless Grain Grower.....	S. G. Wright, Truesdail.....	0.82	1.10	9.00	9.31	2.00	1.53	7.00	7.78	1.00	2.75	13.68	17.65
408	Sure Growth.....	W. A. Hoffarth, Mountain Grove.....			12.00	10.49	2.00	1.56	10.00	8.93	2.00	1.90	15.20	13.63
136	Sure Growth.....	O. H. Meyer, Beaufort.....			12.00	11.35	2.00	1.23	10.00	10.12	2.00	1.91	15.20	14.91
165	Sure Growth Potash Manure.....	Farm Supply Co., Lebanon.....	0.82	0.85	10.00	10.21	2.00	1.15	8.00	9.06	3.00	3.24	17.28	18.62
166	Sure Growth Potash Manure.....	T. J. Dwyer, South Troy.....	0.82	0.80	10.00	9.76	2.00	1.17	8.00	8.59	3.00	2.99	17.28	17.57
154	Seeding Down Guano.....	Wilson Bros., Jonesburg.....	0.82	0.82	10.00	9.76	2.00	1.66	8.00	8.10	2.00	2.02	16.08	16.08
157	Gilt Edge Phosphate.....	S. G. Wright, Truesdail.....			16.00	20.57	2.00	2.21	14.00	18.36			17.60	22.91
133	Pure Raw Bone Meal.....	S. G. Wright, Truesdail.....	3.29	3.45	20.00	18.26							27.16	26.58
	<b>Bradley's Brands</b>													
114	B. D. Seafowl Guano.....	E. H. Ham, Buell.....	2.06	2.28	10.00	8.45	2.00	1.07	8.00	7.38	2.50	1.68	21.61	20.43
115	B. D. Seafowl Guano.....	W. W. Stoddart, Monroe.....	2.06	2.22	10.00	9.03	2.00	1.03	8.00	8.00	2.50	1.73	21.64	20.97
111	Corn and Wheat Phosphate.....	W. W. Stoddart, Monroe.....	0.82	0.94	10.00	9.51	2.00	1.51	8.00	8.00	2.00	2.16	16.08	16.55
112	Corn and Wheat Phosphate.....	E. H. Ham, Buell.....	0.82	0.81	10.00	9.61	2.00	1.22	8.00	8.39	2.00	2.04	16.08	16.25
113	Corn and Wheat Phosphate.....	W. W. Stoddart, Stoutsville.....	0.82	0.70	10.00	9.06	2.00	1.18	8.00	7.88	2.00	2.36	16.08	15.56
109	Niagara Phosphate.....	W. W. Stoddart, Monroe.....	0.82	0.63	9.00	8.40	2.00	1.28	7.00	7.12	1.00	0.98	13.68	12.75
110	Niagara Phosphate.....	E. H. Ham, Buell.....	0.82	0.65	9.00	9.03	2.00	1.30	7.00	7.73	1.00	1.29	13.68	13.95



Empire Carbon Works Empire Brands														
145	Dissolved Animal Bone.....	Schisler and Kaercher, St. Louis.....	3.29	2.53	10.00	10.03	2.00	2.17	8.00	7.86	4.00	6.32	\$28.36	\$28.00
163	2-8-5 Fertilizer.....	J. E. Birch, Bunceton.....	1.65	1.70	10.00	10.54	2.00	1.79	8.00	8.75	5.00	6.66	23.00	26.01
162	2-8-5 Fertilizer.....	Welch Bros., Jonesburg.....	1.65	1.23	10.00	11.02	2.00	2.85	8.00	8.17	5.00	5.20	23.00	22.10
147	Potato and Truck Special.....	Schisler and Kaercher, St. Louis.....	0.82	0.83	10.00	10.79	2.00	1.76	8.00	9.03	7.00	7.06	22.08	23.33
146	Potato and Truck Special.....	Linden Bros., Belle.....	0.82	0.84	10.00	10.36	2.00	1.61	8.00	8.75	7.00	5.76	22.08	21.41
118	Bone Black Fertilizer.....	Banner Mill, Salem.....	2.06	2.07	10.00	9.27	2.00	0.55	8.00	8.72	1.50	1.59	20.44	20.87
119	Bone Black Fertilizer.....	A. E. Holliday, Kirksville.....	2.06	1.74	10.00	9.22	2.00	1.51	8.00	7.71	1.50	1.51	20.44	18.62
120	Bone Black Fertilizer.....	W. E. Thomas Lumber Co., Marceline	2.06	2.11	10.00	9.85	2.00	2.15	8.00	7.70	1.50	2.03	20.44	20.98
121	Bone Black Fertilizer.....	J. G. Watson & Son, Queen City.....	2.06	2.13	10.00	10.26	2.00	0.85	8.00	9.41	1.50	1.57	20.44	22.03
122	Bone Black Fertilizer.....	L. C. Boillot, Bonnots Mill.....	2.00	2.04	10.00	9.20	2.00	0.77	8.00	8.43	1.50	2.13	20.20	21.15
123	Crop Grower.....	B. Jones, Laclede.....	1.65	1.88	10.00	10.95	2.00	1.98	8.00	8.97	2.00	2.39	19.40	21.94
124	Crop Grower.....	Wilfred Bowles, Palmyra.....	1.65	1.82	10.00	9.28	2.00	1.41	8.00	7.87	2.00	2.03	19.40	19.72
125	Crop Grower.....	F. C. Bower, Cole Camp.....	1.65	1.86	10.00	9.05	2.00	1.64	8.00	7.41	2.00	2.07	19.40	19.47
141	Wheat and Clover.....	R. H. Shoppenhorst, Truesdall.....	0.82	0.82	10.00	9.34	2.00	1.15	8.00	8.19	2.00	2.17	16.08	16.17
142	Wheat and Clover.....	Wilfred Bowles, Palmyra.....	0.82	0.79	10.00	9.51	2.00	0.75	8.00	8.76	2.00	2.42	16.08	16.87
143	Wheat and Clover.....	Linden Bros., Belle.....	0.82	1.00	10.00	10.13	2.00	1.22	8.00	8.91	2.00	2.13	16.08	17.74
144	Wheat and Clover.....	L. C. Boillot, Bonnots Mill.....	0.82	0.66	10.00	8.86	2.00	1.11	8.00	7.75	2.00	1.90	16.08	14.66
116	Complete Manure.....	W. E. Thomas Lumber Co., Marceline	0.82	0.82	9.00	9.83	2.00	1.15	7.00	8.68	1.00	1.08	13.68	15.46
117	Complete Manure.....	C. L. Miller, Macon.....	0.82	1.02	9.00	8.53	2.00	1.43	7.00	7.10	1.00	1.24	13.68	14.66
151	Phosphate with Potash.....	Linden Bros., Belle.....			12.00	11.49	2.00	1.53	10.00	9.96	2.00	2.07	15.20	15.04
134	Pure Raw Bone Meal.....	Shelbina Milling Co., Shelbina.....	3.29	3.75	20.00	18.44							27.16	27.91
135	Pure Raw Bone Meal.....	Hickey and Dixon, Madison.....	3.29	3.61	20.00	22.20							27.16	29.98
132	Pure Raw Bone Meal.....	E. E. Brown, Curryville.....	3.29	3.66	20.00	20.24							27.16	28.81

Laboratory Number	Manufacturer and Brands	From Whom Collected	Nitrogen		Phosphoric Acid P <sub>2</sub> O <sub>5</sub>						Potash K <sub>2</sub> O		Value per ton	
			Per cent guaranteed	Per cent found	Total		Insoluble		Available		Per cent guaranteed	Per cent found	Guaranteed	Found
					Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found				
	<b>Empire Carbon Works Empire Brands—(Cont.)</b>													
131	Pure Raw Bone Meal . . . . .	W. B. Richardson, Owensville . . . . .	3.29	3.81	20.00	20.72	.....	.....	.....	.....	.....	.....	\$27.16	\$29.74
161	Pure Raw Bone Meal . . . . .	Schisler & Kaercher, St. Louis . . . . .	3.29	3.44	20.00	20.16	.....	.....	.....	.....	.....	.....	27.16	27.87
126	A-1 Potash Fertilizer . . . . .	S. C. Boillot, Bonnotts Mill . . . . .	0.82	0.78	10.00	8.58	2.00	1.95	8.00	6.63	3.00	2.79	17.28	15.21
407	2-8-3 Mixture . . . . .	Tetley Klein Lmbr. Co., Farmington . . . . .	1.65	1.74	10.00	9.21	2.00	1.30	8.00	7.91	3.00	2.96	20.60	20.52
164	2-8-3 Mixture . . . . .	T. J. Dwyer, South Troy . . . . .	1.65	1.64	10.00	10.07	2.00	1.30	8.00	8.77	3.00	2.93	20.60	21.12
149	Special Bone Meal . . . . .	O. H. Meyer, Beaufort . . . . .	1.65	1.75	20.00	21.44	.....	.....	.....	.....	.....	.....	20.60	22.01
150	Special Bone Meal . . . . .	T. J. Dwyer, South Troy . . . . .	1.65	1.50	20.00	22.15	.....	.....	.....	.....	.....	.....	20.60	21.51
	<b>Horse Shoe Brands</b>													
405	Special Potato and Vegetable Grower . . . . .	Marshfield Canning Co., Marshfield . . . . .	1.65	1.83	10.00	10.01	2.00	1.99	8.00	8.02	5.00	5.76	23.00	24.65
168	Special Potato and Vegetable Grower . . . . .	R. W. Cassity, Purdin . . . . .	1.65	1.44	10.00	11.05	2.00	2.75	8.00	8.30	5.00	6.41	23.00	24.51
155	National Bone Dust . . . . .	T. J. Dwyer, South Troy . . . . .	2.06	2.06	10.00	10.26	2.00	1.94	8.00	8.32	1.50	1.88	20.44	21.26
156	National Bone Dust . . . . .	W. T. Jensen, Eolia . . . . .	2.06	2.06	10.00	9.34	2.00	0.74	8.00	8.60	1.50	1.84	20.44	21.07
410	National Bone Dust . . . . .	J. B. Boyer and Son, Potosi . . . . .	2.06	1.83	10.00	10.13	2.00	2.13	8.00	8.00	1.50	2.03	20.44	20.21
171	National Bone Dust . . . . .	Hickey and Dixon, Madison . . . . .	2.06	2.13	10.00	8.96	2.00	1.00	8.00	7.96	1.50	1.80	20.44	20.63
170	National Bone Dust . . . . .	R. W. Cassity, Purdin . . . . .	2.06	2.15	10.00	10.73	2.00	1.87	8.00	8.86	1.50	1.81	20.44	22.15

167	Corn and Wheat Grower.....	J. G. Barnhill, Brashear.....	1.65	1.64	10.00	10.17	2.00	1.61	8.00	8.56	2.00	2.32	\$19.40	\$20.25
139	Corn and Wheat Grower.....	S. G. Wright, Pendleton.....	1.65	1.48	10.00	9.31	2.00	1.24	8.00	8.07	2.00	2.05	19.40	18.56
138	Corn and Wheat Grower.....	Trail and Owen, Davis.....	1.65	1.70	10.00	9.30	2.00	1.15	8.00	8.15	2.00	1.89	19.40	19.31
137	Corn and Wheat Grower.....	Ed. Koch, Stover.....	1.65	1.65	10.00	9.21	2.00	1.15	8.00	8.06	2.00	1.91	19.40	19.02
175	Corn and Wheat Grower.....	W. T. Jensen, Eolia.....	1.65	1.74	10.00	9.51	2.00	1.18	8.00	8.33	2.00	2.24	19.40	20.12
411	Corn and Wheat Grower.....	Marshfield Canning Co., Marshfield...	1.65	1.69	10.00	8.43	2.00	1.11	8.00	7.32	2.00	2.17	19.40	18.58
409	Acidulated Bone and Potash.....	J. B. Boyer and Son, Potosi.....	0.82	0.88	12.00	12.05	2.00	2.12	10.00	9.93	1.00	1.41	17.28	17.98
172	Acidulated Bone and Potash.....	J. A. Iams, Barnett.....	0.82	0.77	12.00	12.68	2.00	1.81	10.00	10.87	1.00	1.25	17.28	18.34
406	Reliable Wheat Grower.....	Winkleblack and Son, West Plains....	0.82	0.81	10.00	9.39	2.00	1.30	8.00	8.09	2.00	1.94	16.08	15.80
148	Reliable Wheat Grower.....	J. A. Iams, Barnett.....	0.82	0.85	10.00	9.36	2.00	1.29	8.00	8.07	2.00	2.23	16.08	16.28
169	Animal Bone Manure.....	W. T. Jensen, Eolia.....	0.82	0.84	9.00	11.36	2.00	1.17	7.00	10.19	1.00	1.50	13.68	17.86
140	Bone and Potash.....	J. A. Iams, Barnett.....			12.00	11.51	2.00	1.40	10.00	10.11	2.00	1.78	15.20	14.83
174	Bone and Potash.....	D. C. Hardy, Versailles.....			12.00	11.47	2.00	1.58	10.00	9.89	2.00	2.04	15.20	14.75
173	Potash Manure.....	W. T. Jensen, Eolia.....	0.82	0.77	10.00	9.15	2.00	0.79	8.00	8.36	3.00	3.08	17.28	17.13
	<b>Empire Guano Co.</b> Nashville, Tenn.													
412	Blood Bone and Potash.....	Bieser Bros., Farmington.....	1.65	*1.45	11.00	13.22	3.00	5.59	8.00	7.63	2.00	1.98	19.80	19.58
	<b>Federal Chemical Co.</b> Columbia, Tenn.													
364	Brown Phosphate Rock.....	M. C. Lebenbauer, Withers Mill.....			29.75	27.62							11.90	11.05
413	Brown Phosphate Rock.....	Newton Grain Co., Springfield.....			29.75	30.22							11.90	12.09
	<b>Hirsch, Stein and Co.</b> Chicago, Ill., Calumet Brands													
181	Complete Fertilizer.....	Tucker Bros., Frankford.....	1.64	1.54	9.00	9.43	1.00	1.17	8.00	8.26	2.00	2.23	18.96	19.22
180	Complete Fertilizer.....	Kuhlman and Meyer, California.....	1.64	1.61	9.00	13.23	1.00	3.20	8.00	10.03	2.00	2.69	18.96	22.99
179	Complete Fertilizer.....	Rufus Christian, Palmyra.....	1.64	1.61	9.00	9.62	1.00	1.05	8.00	8.57	2.00	2.09	18.96	19.65

\*Not including nitrate nitrogen. Since going to press company claims to have used some nitrates which would increase amount of nitrogen.

Laboratory Number	Manufacturer and Brands	From Whom Collected	Nitrogen		Phosphoric Acid P <sub>2</sub> O <sub>5</sub>						Potash K <sub>2</sub> O		Value per ton	
					Total		Insoluble		Available					
			Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Guaranteed	Found
	<b>Hirsh, Stein &amp; Co.—Continued</b>													
186	Corn Grower.....	W. E. Kuhne, Wellsville.....	0.82	0.92	9.00	11.80	1.00	1.74	8.00	10.06	4.00	3.94	\$18.08	\$21.18
185	Corn Grower.....	E. J. Shobe, Laddonia.....	0.82	0.90	9.00	9.90	1.00	1.30	8.00	8.60	4.00	4.23	18.08	19.52
189	Special Wheat Grower.....	Morris Bros., Silex.....	0.82	0.82	9.00	12.17	1.00	1.74	8.00	10.43	4.00	4.36	18.08	21.73
188	Special Wheat Grower.....	Jacob Tappmeyer, Owensville.....	0.82	0.68	9.00	10.64	1.00	1.33	8.00	9.31	4.00	4.16	18.08	19.41
414	Special Wheat Grower.....	Hamel Mfg. and Merc. Co., De Soto...	0.82	0.60	9.00	10.03	1.00	1.33	8.00	8.70	4.00	1.90	18.08	15.65
190	Grain Grower.....	J. H. Kissinger, Clarksville.....	0.82	0.86	9.00	11.55	1.00	2.07	8.00	9.48	4.00	3.77	18.08	20.17
187	Ammoniated Dis. Bone and Potash...	E. J. Shobe, Laddonia.....	1.64	1.73	11.00	11.02	1.00	1.05	10.00	9.97	2.00	2.15	21.36	21.88
192	Bone Phosphate and Potash.....	Morris Bros., Silex.....	0.41	0.42	11.00	11.56	1.00	1.61	10.00	9.95	2.00	2.02	16.44	16.68
191	Bone Phosphate and Potash.....	Rufus Christian, Palmyra.....	0.41	0.47	11.00	10.73	1.00	1.17	10.00	9.56	2.00	1.92	16.44	16.12
193	Phosphate and Potash.....	Morris Bros., Silex.....			11.00	14.28	1.00	1.62	10.00	12.66	2.00	1.66	14.80	17.83
183	Special Bone Meal and Potash.....	Tucker Bros., Frankford.....	0.82	0.84	20.00	22.66					4.00	4.39	22.08	24.49
182	Special Bone Meal and Potash.....	E. J. Shobe, Laddonia.....	0.82	0.92	20.00	20.28					4.00	4.02	22.08	22.70
184	Special Pure Bone Meal.....	Morris Bros., Silex.....	0.82	0.83	29.00	34.91							23.58	27.76
178	Pure Raw Bone.....	E. J. Shobe, Laddonia.....	3.70	3.49	20.00	20.16							28.80	28.15
177	Pure Raw Bone.....	Morris Bros., Silex.....	3.70	3.49	20.00	17.75							28.80	26.39
176	Pure Raw Bone.....	Jacob Tappmeyer, Owensville.....	3.70	3.18	20.00	20.11							28.80	26.80

<b>P. B. Mathiason Mfg. Co.</b> <b>St. Louis</b> <b>Increscent Brands</b>																
195	Pure Bone Meal.....	D. B. Sailor, Buell.....	2.47	2.36	23.00	24.09	15.00	17.28	8.00	6.81	.....	.....	.....	.....	\$25.48	\$24.52
194	Pure Bone Meal.....	Young and Sons, St. Louis.....	2.47	2.11	23.00	19.57	15.00	15.20	8.00	4.37	.....	.....	.....	.....	25.48	19.76
196	Pure Bone Meal.....	St. Louis Seed Co., St. Louis.....	1.65	1.78	20.00	19.98	.....	.....	.....	.....	.....	.....	.....	.....	20.60	21.11
199	Grain Grower.....	H. C. Schaefer, Palmyra.....	1.65	1.56	10.00	8.27	2.00	1.24	8.00	7.03	2.00	2.01	.....	.....	19.40	17.59
198	Complete Fertilizer.....	H. C. Schaefer, Palmyra.....	0.83	0.84	9.00	9.65	1.00	1.47	8.00	8.18	3.00	2.17	.....	.....	16.92	16.37
197	Special Wheat Grower.....	D. B. Sailor, Buell.....	1.65	1.14	11.00	11.24	2.00	2.48	9.00	8.76	1.00	1.31	.....	.....	19.40	17.63
<b>Morris and Co.</b> <b>Chicago, Ill.</b> <b>Big Brands</b>																
204	Big 1 Ground Raw Bone.....	Eolia Elevator Co., Eolia.....	3.30	3.60	24.00	25.32	.....	.....	.....	.....	.....	.....	.....	.....	30.00	32.12
203	Big 1 Ground Raw Bone.....	Silex Fertilizer Co., Silex.....	3.30	3.06	24.00	25.01	.....	.....	.....	.....	.....	.....	.....	.....	30.00	29.75
206	Big 2 Pure Bone Meal.....	Silex Fertilizer Co., Silex.....	2.00	2.00	28.00	30.22	.....	.....	.....	.....	.....	.....	.....	.....	27.60	29.15
205	Big 2 Pure Bone Meal.....	L. H. Schwarze, New Truxton.....	2.00	2.06	28.00	30.40	.....	.....	.....	.....	.....	.....	.....	.....	27.60	29.52
417	Big 2 Pure Bone Meal.....	De Soto Wood & Coal Co., De Soto...	2.00	1.74	28.00	28.07	.....	.....	.....	.....	.....	.....	.....	.....	27.60	26.61
207	Big 3.....	Potts and Wade, Centralia.....	2.50	2.22	10.00	10.05	3.00	3.24	7.00	6.81	2.00	2.78	.....	.....	22.00	21.69
418	Big 5.....	Christian and Flood Mountain View..	2.50	2.25	10.00	10.44	3.00	3.39	7.00	7.05	1.00	1.14	.....	.....	20.80	20.19
209	Big 5.....	Eldon Hardware Co., Eldon.....	2.50	1.49	10.00	10.07	3.00	3.10	7.00	6.97	1.00	2.04	.....	.....	20.80	18.19
208	Big 5.....	Eolia Elevator Co., Eolia.....	2.50	3.27	10.00	10.23	3.00	3.86	7.00	6.37	1.00	1.64	.....	.....	20.80	24.23
211	Big 6 Special Bone Meal and Potash..	Owensville Roller Mill, Owensville....	0.41	0.35	16.00	16.51	.....	.....	.....	.....	2.00	2.52	.....	.....	15.24	15.98
210	Big 6 Special Bone Meal and Potash..	Biggs and Biggs, Bowling Green.....	0.41	0.39	16.00	16.89	.....	.....	.....	.....	2.00	2.92	.....	.....	15.24	16.88
212	Big 7 Bone Meal and Potash.....	Biggs and Biggs, Bowling Green.....	1.24	1.11	16.00	16.54	.....	.....	.....	.....	3.00	4.06	.....	.....	19.76	20.89
375	Big 7 Bone Meal and Potash.....	Eldon Hardware Co., Eldon.....	1.24	0.99	16.00	15.31	.....	.....	.....	.....	3.00	4.68	.....	.....	19.76	20.30
419	Big 7 Bone Meal and Potash.....	J. E. Perringer, Fredericktown.....	1.24	1.01	16.00	15.52	.....	.....	.....	.....	3.00	4.35	.....	.....	19.76	20.12
213	Big 8 Ammoniated Acid Phosphate and Potash.....	L. H. Schwarze, New Truxton.....	0.82	0.92	8.00	8.98	1.00	1.86	7.00	7.12	1.00	1.06	.....	.....	13.28	14.23

Laboratory Number	Manufacturer and Brands	From Whom Collected	Nitrogen		Phosphoric Acid P <sub>2</sub> O <sub>5</sub>						Potash K <sub>2</sub> O		Value per ton	
					Total		Insoluble		Available					
			Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Guaranteed	Found
	<b>Morris &amp; Co., Big Brands—Continued</b>													
420	Big 8 Ammoniated Acid Phosphate and Potash.....	E. B. Evans and Co., Mountain Grove..	0.82	1.19	8.00	8.71	1.00	0.88	7.00	7.83	1.00	1.69	\$13.28	\$16.54
214	Big 10 Prepared Manure with Phosphate and Potash.....	L. H. Schwarze, New Truxton.....	1.65	1.48	10.00	10.83	2.00	1.91	8.00	8.92	2.00	2.99	19.40	20.97
216	Big 12 Prepared Manure with Phosphate and Potash.....	L. H. Schwarze, New Truxton.....	0.82	0.87	9.00	10.18	2.00	0.59	7.00	9.59	3.00	3.56	16.08	19.50
215	Big 12 Prepared Manure with Phosphate and Potash.....	Eldon Hardware Co., Eldon.....	0.82	1.22	9.00	9.83	2.00	1.87	7.00	7.96	3.00	3.80	16.08	19.74
421	Big 12 Prepared Manure with Phosphate and Potash.....	Christian and Flood, Mountain View..	0.82	1.16	9.00	9.06	2.00	1.64	7.00	7.42	3.00	3.55	16.08	18.46
	<b>Pulverized Manure Co. Chicago, Ill.</b>													
218	Wizard Manure.....	Schisler Corneli Seed Co., St. Louis...	1.80	1.56	.....	1.43	.....	.....	1.00	.....	1.00	1.24	9.60	8.73
219	Wizard Manure.....	C. Young and Sons, St. Louis.....	1.80	1.83	.....	1.95	.....	.....	1.00	.....	1.00	2.98	9.60	12.27
220	Wizard Manure.....	C. E. Prunty, St. Louis.....	1.80	1.97	.....	2.02	.....	.....	1.00	.....	1.00	2.27	9.60	12.01
	<b>Read Phosphate Co. Nashville, Tenn.</b>													
225	Raw Bone Meal.....	E. K. Butts, Vandalia.....	3.75	3.73	22.00	22.10	.....	.....	.....	.....	.....	.....	30.40	30.39
237	Half and Half.....	J. E. Mansfield, Wellsville.....	1.65	*1.44	14.00	15.34	.....	.....	.....	.....	4.00	3.73	21.20	20.98
236	Half and Half.....	T. P. Hulse, Rensselaer.....	1.65	*1.34	14.00	12.51	.....	.....	.....	.....	4.00	4.35	21.20	19.34

235	Half and Half.....	E. K. Butts, Vandalia.....	1.65	1.32	14.00	15.51							4.00	4.70	\$21.20	\$21.78
426	Half and Half.....	Estes Mdse. and Transfer Co. Springfield	1.65	*1.43	14.00	15.11							4.00	3.84	21.20	20.91
231	Missouri Wheat Grower.....	J. E. Mansfield, Wellsville.....	1.65	1.71	15.00	13.77	3.00	3.60	12.00	10.17	3.00	3.93	25.80	25.20		
230	Blood and Bone No. 1.....	Monroe Coal and Grain Co., Monroe..	1.65	*1.36	11.00	12.16	3.00	3.84	8.00	8.32	2.00	1.99	19.80	19.34		
229	Blood and Bone No. 1.....	J. E. Mansfield, Wellsville.....	1.65	*1.45	11.00	11.44	3.00	3.97	8.00	7.47	2.00	1.62	19.80	18.29		
221	H. G. Ammoniated Dissolved Bone....	Silex Fertilizer Co., Silex.....	1.65	1.50	13.00	13.77	3.00	3.78	10.00	9.99	2.00	2.19	22.20	22.13		
233	Farmer's Special Manure.....	J. E. Mansfield, Wellsville.....	0.82	1.08	13.00	13.20	3.00	4.02	10.00	9.18	3.00	3.03	20.08	20.59		
232	Farmer's Special Manure.....	T. P. Hulse, Rensselaer.....	0.82	*0.49	13.00	12.79	3.00	2.83	10.00	9.96	3.00	2.88	20.08	18.50		
223	Farmer's Special Manure.....	Silex Fertilizer Co., Silex.....	0.82	*0.59	13.00	14.65	3.00	2.68	10.00	11.97	3.00	2.23	20.08	20.47		
234	Wheat, Corn and Oat Special.....	J. E. Mansfield, Wellsville.....	0.82	0.85	10.00	13.44	3.00	3.71	7.00	9.73	1.00	2.28	14.08	19.30		
425	Nitro-Phospho-Potasso.....	Estes Mdse. and Transfer Co., Springfield	0.82	1.18	11.00	11.42	3.00	3.87	8.00	7.55	4.00	3.40	18.88	19.41		
222	Missouri Truck Grower.....	J. E. Mansfield, Wellsville.....	1.65	*1.62	11.00	11.56	3.00	4.39	8.00	7.17	5.00	4.72	23.40	22.50		
238	Wheat and Corn Grower.....	T. P. Hulse, Rensselaer.....	0.41	*0.31	12.00	12.94	3.00	3.45	9.00	9.49	2.00	1.64	16.04	15.98		
424	Wheat, Corn, and Clover Special....	Estes Mdse. and Transfer Co., Springfield			13.00	16.43	3.00	5.87	10.00	10.56	8.00	7.02	22.80	23.44		
224	H. G. Special Potash Mixture.....	T. P. Hulse, Rensselaer.....			13.00	12.40	3.00	2.37	10.00	10.03	4.00	3.03	18.00	16.63		
227	H. G. Acid Phosphate.....	E. K. Butts, Vandalia.....			17.00	17.52	3.00	4.41	14.00	13.11			18.00	17.49		
226	H. G. Acid Phosphate.....	T. P. Hulse, Rensselaer.....			17.00	17.19	3.00	2.58	14.00	14.61			18.00	18.56		
228	H. G. Bone and Potash.....	Silex Fertilizer Co., Silex.....			13.00	13.40	3.00	3.83	10.00	9.57	6.00	6.54	20.40	20.86		
423	H. G. Bone and Potash.....	Estes Mdse. and Transfer Co., Springfield			13.00	13.86	3.00	4.34	10.00	9.52	6.00	5.91	20.40	20.25		
	<b>Sulzberger and Sons</b> <b>Chicago, Ill.</b>															
240	Raw Bone Meal.....	Silex Fertilizer Co., Silex.....	3.75	3.43	23.00	22.97							31.10	29.80		
242	Raw Bone and Plant Potash.....	James Long, New Florence.....	1.65	2.01	14.00	17.29					2.00	2.12	18.80	22.68		

\*Not including nitrate nitrogen. Since going to press company claims to have used some nitrates which would increase the amount of nitrogen.

Laboratory Number	Manufacturer and Brands	From Whom Collected	Nitrogen		Phosphoric Acid P <sub>2</sub> O <sub>5</sub>						Potash K <sub>2</sub> O		Value per ton		
					Total		Insoluble		Available						
			Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Guaranteed	Found	
	<b>Sulzberger &amp; Sons—Continued</b>														
245	Raw Bone Meal.....	James Long, New Florence.....	2.50	1.81	24.00	30.52								\$26.80	\$28.60
244	Bone Grain Grower.....	S. G. Wright, Truesdail.....	1.65	1.39	10.00	11.18					2.00	2.51	16.00	16.40	
243	Bone Grain Grower.....	Whiteside Elev. Co., Whiteside.....	1.65	3.00	10.00	17.40					2.00	1.56	16.00	26.05	
241	Popular Bone Meal.....	James Long, New Florence.....	1.65	1.61	20.00	31.22							20.60	28.29	
239	Corn and Wheat Special.....	James Long, New Florence.....	1.65	1.84	10.00	10.39	2.00	3.65	8.00	6.74	2.00	2.08	19.40	19.41	
	<b>Swift and Co. Chicago, Ill.</b>														
311	Pure Bone Meal and Blood.....	J. A. Spillman, Rolla.....	3.75	3.78	23.00	25.07							31.10	32.67	
310	Pure Bone Meal and Blood.....	Strehlman and Gerken, Leslie.....	3.75	3.77	23.00	23.23							31.10	31.34	
308	Pure Bone Meal and Blood.....	O. Granneman, Hawk Point.....	3.75	2.35	23.00	26.22							31.10	27.75	
261	Pure Bone Meal and Potash.....	Jas. Cunningham, Montgomery.....	1.85	2.03	25.00	25.09					3.00	2.92	28.50	29.18	
260	Pure Bone Meal and Potash.....	W. A. Kaeding, Bland.....	1.85	1.56	25.00	24.08					3.00	2.91	28.50	26.59	
259	Pure Bone Meal and Potash.....	Kaufman and Driver, Versailles.....	1.85	2.14	25.00	25.09					3.00	5.35	28.50	32.54	
428	Pure Bone Meal and Potash.....	Mell Phillips, Farmington.....	1.85	1.87	25.00	25.18					3.00	3.04	28.50	28.76	
254	Pure Bone Meal and Potash.....	Taylor Estes Lumber Co., Columbia..	1.85	1.85	25.00	24.67					3.00	3.05	28.50	28.33	
303	Ground Steamed Bone.....	Smith Jones, Holliday.....	1.65	2.02	20.00	17.80							20.60	20.54	
302	Ground Steamed Bone.....	Taylor Estes Lbr. Co., Columbia.....	1.65	1.78	20.00	20.36							20.60	21.37	





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					Total		Insoluble		Available					
			Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Guaranteed	Found
	<b>Swift &amp; Co.—Continued</b>													
266	Champion Wheat and Corn Grower...	A. B. Craig, Tarkio.....	1.65	1.69	13.00	12.94	1.00	0.77	12.00	12.17	2.00	2.66	\$23.80	\$24.86
265	Champion Wheat and Corn Grower...	Scrubby Bros., Chillicothe.....	1.65	1.61	13.00	13.07	1.00	0.94	12.00	12.13	2.00	2.85	23.80	24.80
264	Champion Wheat and Corn Grower...	Wright and Co., Fairfax.....	1.65	1.41	13.00	13.73	1.00	0.94	12.00	12.79	2.00	2.44	23.80	24.30
263	Champion Wheat and Corn Grower...	L. D. Cochran, Kirksville.....	1.65	1.76	13.00	13.68	1.00	2.72	12.00	10.96	2.00	2.21	23.80	23.93
262	Champion Wheat and Corn Grower...	C. E. Eberlin, Hermann.....	1.65	1.26	13.00	13.50	1.00	1.63	12.00	11.87	2.00	2.20	23.80	22.57
273	Superphosphate.....	Strehlman and Gerken, Leslie.....	1.65	1.45	9.00	9.17	1.00	2.81	8.00	6.36	2.00	2.09	19.00	17.06
272	Superphosphate.....	Livingston Grain & Seed Co., Windsor	1.65	1.61	9.00	11.15	1.00	3.41	8.00	7.74	2.00	2.02	19.00	19.51
271	Superphosphate.....	J. H. Miller, High Hill.....	1.65	1.61	9.00	10.23	1.00	3.10	8.00	7.13	2.00	2.15	19.00	18.82
270	Superphosphate.....	F. W. Schulz, Moscow.....	1.65	1.62	9.00	10.36	1.00	3.07	8.00	7.29	2.00	1.95	19.00	18.80
269	Superphosphate.....	Bray Supply Co., St. James.....	1.65	1.56	9.00	9.83	1.00	2.11	8.00	7.72	2.00	2.23	19.00	19.02
268	Superphosphate.....	H. Gatzemeier, New Cambria.....	1.65	1.59	9.00	10.51	1.00	3.09	8.00	7.42	2.00	2.07	19.00	19.98
267	Superphosphate.....	Witten Hardware Co., Trenton.....	1.65	1.77	9.00	10.51	1.00	2.44	8.00	8.07	2.00	2.70	19.00	20.98
440	Superphosphate.....	Nieburg Mfg. Co., Wright City.....	1.65	1.66	9.00	9.23	1.00	2.94	8.00	6.29	2.00	2.53	19.00	18.41
320	Complete Fertilizer.....	W. L. Wilkins, Laddonia.....	0.82	0.87	8.50	8.50	0.50	1.43	8.00	7.07	1.00	1.15	14.28	13.91
319	Complete Fertilizer.....	W. A. Kaeding, Bland.....	0.82	0.74	8.50	8.18	0.50	0.90	8.00	7.28	1.00	1.56	14.28	13.93
318	Complete Fertilizer.....	G. W. Farrell, Madison.....	0.82	0.72	8.50	7.93	0.50	1.32	8.00	6.61	1.00	1.27	14.28	12.86

325	Onion, Potato and Tobacco Fertilizer..	Livingston Grain & Seed Co., Windsor	1.65	1.61	9.00	8.80	1.00	1.58	8.00	7.22	7.00	7.74	\$25.00	\$25.02
324	Onion, Potato and Tobacco Fertilizer..	M. Kaetting, Bonnotts Mill.....	1.65	1.46	9.00	9.44	1.00	1.63	8.00	7.81	7.00	7.58	25.00	24.96
323	Onion, Potato and Tobacco Fertilizer..	Scruby Bros., Chillicothe.....	1.65	1.56	9.00	8.83	1.00	0.85	8.00	7.98	7.00	7.22	25.00	24.82
322	Onion, Potato and Tobacco Fertilizer..	W. H. Penniston, Braymer.....	1.65	1.64	9.00	8.93	1.00	1.34	8.00	7.59	7.00	6.47	25.00	23.97
321	Onion, Potato and Tobacco Fertilizer..	Wright and Co., Fairfax.....	1.65	1.71	9.00	9.27	1.00	0.94	8.00	8.33	7.00	7.34	25.00	26.03
274	Special Grain Fertilizer.....	Wright and Co., Fairfax.....	1.65	1.68	11.00	10.74	1.00	1.10	10.00	9.64	2.00	2.46	21.40	21.68
275	Special Grain Fertilizer.....	N. Claire, Mendon.....	1.65	1.68	11.00	12.30	1.00	2.51	10.00	9.79	2.00	2.15	21.40	22.05
276	Special Grain Fertilizer.....	E. C. Cavanah, Keytesville.....	1.65	1.59	11.00	12.33	1.00	2.92	10.00	9.41	2.00	2.46	21.40	21.77
277	Special Grain Fertilizer.....	J. A. Spillman, Rolla.....	1.65	1.74	11.00	10.97	1.00	2.21	10.00	8.76	2.00	2.06	21.40	20.82
278	Special Grain Fertilizer.....	Avery Grain and Impl. Co., Hale.....	1.65	1.68	11.00	10.46	1.00	1.13	10.00	9.33	2.00	2.28	21.40	21.11
326	Truck Grower.....	F. A. Austin, Eldon.....	0.82	0.75	8.50	8.40	0.50	1.14	8.00	7.26	4.00	3.70	17.88	16.61
306	Diamond "B" Fertilizer.....	Soils Dept., U. of Mo., Columbia.....	2.47	2.55	9.00	9.54	1.00	2.28	8.00	7.26	5.00	5.37	25.88	26.26
297	Corn, Wheat, and Oats Fertilizer.....	H. Gatzemeier, New Cambria.....	0.82	0.86	11.50	12.59	0.50	1.71	11.00	10.88	4.00	4.02	21.48	22.00
298	Corn, Wheat, and Oats Fertilizer.....	F. W. Schulze, Moscow.....	0.82	0.95	11.50	11.64	0.50	1.77	11.00	9.87	4.00	4.34	21.48	21.56
429	Special Phosphate and Potash.....	Andrews Dept. Store, Bonne Terre.....				10.24		0.78	10.00	9.46	2.00	1.65	14.40	13.64
294	Special Phosphate and Potash.....	Bohle and Tieman, Wentzville.....				10.39		0.50	10.00	9.89	2.00	2.32	14.40	14.85
293	Special Phosphate and Potash.....	W. Joenecke, Louisiana.....				11.15		0.84	10.00	10.31	2.00	1.73	14.40	14.79
329	Garden City Phosphate.....	Bray Supply Co., St. James.....				14.50		0.09	14.00	14.41			16.80	17.33
328	Garden City Phosphate.....	Wade and Dawson, Monroe.....				15.11		0.84	14.00	14.27			16.80	17.46
327	Garden City Phosphate.....	Wade and Dawson, Hassard.....				14.91		0.85	14.00	14.06			16.80	17.21
250	Pure Bone Meal.....	L. Q. Brodney, Paris.....	2.47	2.46	24.00	23.96							26.68	26.61
251	Pure Bone Meal.....	W. H. Penniston, Braymer.....	2.47	2.43	24.00	24.60							26.68	26.94
252	Pure Bone Meal.....	J. M. Meyer, Norborne.....	2.47	2.43	24.00	24.88							26.68	27.14
290	Pure Bone Meal.....	Smith Jones, Holliday.....	2.47	2.69	24.00	25.35							26.68	28.51
291	Pure Bone Meal.....	M. J. Collins, Springfork.....	2.47	2.06	24.00	26.44							26.68	26.75

Laboratory Number	Manufacturer and Brands	From Whom Collected	Nitrogen		Phosphoric Acid P <sub>2</sub> O <sub>5</sub>						Potash K <sub>2</sub> O		Value per ton		
			Per cent guaranteed	Per cent found	Total		Insoluble		Available		Per cent guaranteed	Per cent found	Guaranteed	Found	
					Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found					
<b>Swift and Co.—Continued</b>															
292	Pure Bone Meal.....	G. W. Farrell, Madison.....	2.47	2.56	24.00	24.96								\$26.68	\$27.71
305	Ground Beef Bone.....	State Fair Floral Co., Sedalia.....	2.05	1.86	27.00	27.00								27.10	26.34
304	Ground Beef Bone.....	Bray Supply Co., St. James.....	2.05	2.95	27.00	27.46								27.10	31.02
338	Pure Raw Bone Meal.....	Kaufman and Driver, Versailles.....	3.75	3.88	23.00	22.92								31.10	31.56
337	Pure Raw Bone Meal.....	J. G. Barton, Barnett.....	3.75	3.60	23.00	23.07								31.10	30.55
335	Pure Raw Bone Meal.....	J. J. Biller, Bourbon.....	3.75	3.89	23.00	23.43								31.10	31.96
334	Pure Raw Bone Meal.....	Jas. A. McAtee, Hunnewell.....	3.75	3.93	23.00	24.86								31.10	33.12
333	Pure Raw Bone Meal.....	Jas. Cunningham, Montgomery.....	3.75	4.10	23.00	24.60								31.10	33.62
288	Pure Raw Bone Meal.....	Engleman Greenhouse, Maryville.....	3.75	4.05	23.00	22.64								31.10	32.05
289	Pure Raw Bone Meal.....	J. M. Meyer, Norborne.....	3.75	3.76	23.00	21.27								31.10	29.93
316	Red Steer Wheat and Corn Grower...	E. G. Burch, Washington.....	1.65	1.67	9.00	9.62	1.00	3.07	8.00	6.55	2.00	2.04	19.00	18.22	
341	Red Steer Wheat and Corn Grower...	Farm Supply Co., Lebanon.....	1.65	1.56	9.00	8.81	1.00	2.56	8.00	6.25	2.00	2.00	19.00	17.16	
315	Red Steer Wheat and Corn Grower...	Frankford Elevator, Frankford.....	1.65	1.53	9.00	10.34	1.00	3.51	8.00	6.83	2.00	2.26	19.00	18.43	
314	Red Steer Wheat and Corn Grower...	Jas. A. McAtee, Hunnewell.....	1.65	1.44	9.00	9.64	1.00	2.62	8.00	7.02	2.00	1.97	19.00	17.59	
296	Red Steer Wheat and Corn Grower...	H. Gatzemeier, New Cambria.....	1.65	1.65	9.00	9.76	1.00	2.65	8.00	7.11	2.00	2.04	19.00	18.64	
295	Red Steer Wheat and Corn Grower...	E. C. Cavanah, Keytesville.....	1.65	1.75	9.00	9.43	1.00	2.51	8.00	6.92	2.00	2.08	19.00	18.80	

284	No. 3 Manure Mixture.....	Avery Grain and Impl. Co., Hale.....	1.65	1.73	10.00	12.22	5.00	4.03	5.00	8.19	2.00	2.65	\$17.00	\$21.54
283	No. 2 Manure Mixture.....	Bunceton Elevator Co., Bunceton.....	2.05	2.09	8.00	10.21	4.00	3.88	4.00	6.33	5.00	5.80	20.60	24.47
<b>Pioneer Brands</b>														
217	General Crop Grower.....	Wm. Pollock Mill & Elev. Co., Mexico	1.65	1.62	9.00	8.91	1.00	1.99	8.00	6.92	2.00	2.20	19.00	18.22
422	10-2 Fertilizer.....	Perry Cashion, Libertyville.....				11.10		0.90	10.00	10.20	2.00	2.13	14.40	15.16
246	Grain Grower.....	James Long, New Florence.....	1.65	1.72	11.00	11.48	1.00	1.92	10.00	9.56	2.00	2.06	21.40	21.59
307	Bone Meal and Blood.....	The Enterprise, Hawk Point.....	3.75	4.19	23.00	23.20							31.10	33.00
309	Bone Meal and Blood.....	Davidson and Moore, Belleflower.....	3.75	3.66	23.00	22.81							31.10	30.61
248	Raw Bone Meal.....	James Long, New Florence.....	3.75	3.88	23.00	24.25							31.10	32.50
336	Raw Bone Meal.....	The Enterprise, Hawk Point.....	3.75	3.94	23.00	24.02							31.10	32.57
247	Bone Meal and Potash.....	James Long, New Florence.....	1.85	1.80	25.00	24.20					3.00	3.72	28.50	28.60
427	Bone Meal and Potash.....	Mansfield Produce Co., Mansfield.....	1.85	2.63	25.00	22.83					3.00	2.89	28.50	29.97
<b>Tennessee Chemical Co. Chicago, Ill. Ox Brands</b>														
344	Raw Bone.....	H. H. Harrell, Troy.....	3.70	4.02	22.00	21.97							30.20	31.46
349	Bone Meal.....	L. Q. Brodney, Paris.....	2.47	2.65	24.00	25.95							26.68	28.77
431	Bone Meal.....	E. B. Evans and Co., Mountain Grove	2.47	2.92	24.00	25.78							26.68	29.73
343	Phosphate and Potash.....	Strehlman and Gerken, Leslie.....			10.50	9.98	0.50	0.33	10.00	9.65	2.00	2.06	14.60	14.18
342	Phosphate and Potash.....	L. Q. Brodney, Paris.....			10.50	9.93	0.50	0.46	10.00	9.47	2.00	2.12	14.60	14.08
345	Grain Grower.....	H. H. Harrell, Troy.....	0.41	0.40	8.50	8.70	0.50	0.77	8.00	7.93	4.00	3.36	16.24	15.46
430	Grain Grower.....	E. B. Evans, Mountain Grove.....	0.41	0.42	8.50	8.21	0.50	0.46	8.00	7.75	4.00	3.62	16.24	15.50
348	Wheat and Grass Fertilizer.....	H. H. Harrell, Troy.....	1.65	1.59	8.50	8.74	0.50	2.15	8.00	6.59	2.00	2.21	18.80	17.78
347	Wheat and Grass Fertilizer.....	Home Trading Co., Lebanon.....	1.65	1.61	8.50	9.60	0.50	1.58	8.00	8.02	2.00	1.62	18.80	18.63
346	Wheat and Grass Fertilizer.....	Milborn and Gilman, Glensted.....	1.65	1.44	8.50	8.40	0.50	1.55	8.00	6.85	2.00	2.40	18.80	17.48

Laboratory Number	Manufacturer and Brands	From Whom Collected	Nitrogen		Phosphoric Acid P <sub>2</sub> O <sub>5</sub>						Potash K <sub>2</sub> O		Value per ton		
			Per cent guaranteed	Per cent found	Total		Insoluble		Available		Per cent guaranteed	Per cent found	Guaranteed	Found	
					Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found	Per cent guaranteed	Per cent found					
	<b>Tuscarora Fertilizer Co. Chicago, Ill.</b>														
359	Raw Bone Meal	E. K. Butts, Vandalia	3.70	3.61	22.00	20.66								\$30.20	\$28.90
358	Raw Bone Meal	Hirth Roth and Co., California	3.70	3.54	22.00	22.00								30.20	29.56
357	Raw Bone Meal	J. N. Jenkins, Cuba	3.70	3.47	22.00	22.71								30.20	29.78
356	Animal Bone	Hirth Roth and Co., California	2.47	2.40	24.00	24.48								26.68	26.74
434	Animal Bone	Farmer's Store, Mountain Grove	2.47	2.64	24.00	24.65								26.68	27.82
353	Ammoniated Phosphate	A. W. Sarty, Moscow	0.82	0.85	7.50	7.12	0.50	0.51	7.00	6.61	1.00	2.41	13.08	14.42	
352	Ammoniated Phosphate	J. M. Gray, St. James	0.82	0.90	7.50	6.70	0.50	0.81	7.00	5.89	1.00	1.55	13.08	12.85	
360	Grain Special	J. N. Jenkins, Cuba	0.82	0.72	8.50	8.77	0.50	1.42	8.00	7.35	3.00	2.62	16.68	15.41	
355	Standard	A. H. Williams, Silex	1.65	1.31	8.50	9.24	0.50	1.33	8.00	7.91	2.00	2.05	18.80	17.72	
354	Standard	J. N. Jenkins, Cuba	1.65	1.71	8.50	9.30	0.50	2.06	8.00	7.24	2.00	2.09	18.80	18.86	
432	Standard	Patton Hardware Co., Cabool	1.65	1.50	8.50	9.63	0.50	1.28	8.00	8.35	2.00	1.91	18.80	18.82	
433	Canners' Crop Special	Patton Hardware Co., Cabool	1.65	1.67	8.50	8.64	0.50	1.86	8.00	6.78	5.00	5.77	22.40	22.48	
351	Wheat and Corn Grower	A. H. Williams, Silex	1.65	1.68	10.50	11.28	0.50	2.04	10.00	9.24	2.00	2.74	21.20	21.92	
350	Wheat and Corn Grower	A. W. Sarty, Moscow	1.65	1.45	10.50	11.37	0.50	1.66	10.00	9.71	2.00	2.68	21.20	21.33	
435	Wheat and Corn Grower	Farmer's Store, Mountain Grove	1.65	1.74	10.50	11.98	0.50	1.44	10.00	10.54	2.00	2.34	21.20	23.00	

	<b>Union Stock Yards Co. South Omaha, Neb.</b>															
361	Concentrated Manure.....	E. B. Campbell, Auxvasse.....			6.00	2.53	3.00	1.91	3.00	0.62	5.00	5.65	\$10.80	\$ 8.28		
	<b>*v-ughn Seed Store Chicago, Ill.</b>															
362	Bone Meal.....	State Fair Floral Co., Sedalia.....	3.70	3.40	22.00	21.68							30.20	28.78		
	<b>Whitelaw Bros. St. Louis</b>															
202	In Clover.....	Whitelaw Bros., St. Louis.....	2.06	1.63	10.50	12.21	2.00	2.61	8.50	9.60	2.00	1.87	21.64	21.32		
200	Frubacto.....	Whitelaw Bros., St. Louis.....	3.09	2.58	11.00	12.29	2.00	5.74	9.00	6.55	4.00	3.75	28.76	24.98		
201	Park Lawn.....	Whitelaw Bros., St. Louis.....	1.65	1.47	10.00	10.26	2.00	2.72	8.00	7.54	2.00	2.21	19.40	18.67		
363	Nitrate of Soda.....	Whitelaw Bros., St. Louis.....		16.00												64.20
	<b>Miscellaneous Samples</b>															
371	Raw Bone (Armour).....	A. J. Hallford, California.....	3.70	3.60	22.00	21.04							30.20	29.13		
441	Bone Meal Phosphate and Potash (Armour).....	G. M. Gasperson, Jasper.....	0.82	0.98	18.00	18.88					3.00	2.66	19.48	20.33		
372	Bone and Potash (Commercial Fert. Co.).....	L. B. Fisher, Carthage.....	1.00	1.01	9.00	8.64	2.00	2.21	7.00	6.43	1.00	1.01	14.40	13.85		
447	Complete Fertilizer (Commercial Fert. Co.).....	E. E. Barnes, Phillipsburg.....	1.65	1.52	10.00	10.67	2.00	2.73	8.00	7.94	2.00	1.92	19.40	19.00		
446	Steamed Bone Meal (Commercial Fert. Co.).....	E. E. Barnes, Phillipsburg.....	0.82	0.86	29.00	29.04							23.58	23.77		
94	Farmers' Favorite (Darling).....	Edmond Miller, Vichy.....	2.40	3.38	10.00	11.94	2.00	4.30	8.00	7.64	4.00	4.07	24.80	29.29		
456	Pure Raw Bone Meal (Empire).....	E. E. Forgey, Conway.....	3.29	4.24	20.00	20.16							27.16	31.07		
450	Raw Bone Meal (P. B. Mathiason)...	E. E. Groves, Owensville.....	3.29	3.10	20.00	20.11	13.00	17.48	7.00	2.63			26.76	22.55		
5	Bone Grain Grower (Sulzberger and Sons Co.).....	C. H. Howard, Nevada.....	1.65	1.71	10.00	10.03					2.00	2.27	16.00	16.58		

\*This company not registered.





Miscellaneous Samples													
35	Bat Guano No. 4.....	Yates Brinton, Ink.....	1.01										\$ 4.04
36	Bat Guano No. 5.....	Yates Brinton, Ink.....	2.04										8.16
282	Rock Phosphate.....	T. E. Quisenberry, Mountain Grove....				31.34							12.54
31	Chinese Fertilizer.....	J. H. Williams, Kansas City.....	7.19	1.31	.26		1.05		1.70				32.16
41	Wood Ashes.....	Frank J. Gittings, Neosho.....							3.58				4.30
19	Home Made Fertilizer.....	Philip Welch, Fredericktown.....	3.88	22.71					.33				31.82

Lab. No.	Material	From Whom Received	Per Cent Limestone
168	Limestone from Henry Co.....	S. M. Jordan, Sedalia.....	96.05
1166	Limestone rock.....	J. M. Connor, Kirksville.....	81.11
1168	Rock.....	J. K. Worrell, New London.....	95.39
248	Limestone rock.....	E. A. Ikenberry, Independence.....	88.50
34	Limestone.....	J. W. Fountain, Bowling Green.....	96.67
320	Fertilizer material (white).....	M. R. Gilman, Jerico.....	11.33
321	Chat.....	A. E. Thompson, Fredericktown.....	65.09
411	Limestone from Leeds.....	W. D. Johnson, Kansas City.....	83.26
412	Limestone.....	L. Hegnaur, Rockville.....	95.80
415	Chat.....	A. W. Terrill, Farmington.....	83.00
425	Rock.....	A. Pillar, Bryant.....	85.93
426	Limestone from Fellow's Quarry.....	H. L. Shock, Centralia.....	95.44
54	Limestone No. 3.....	J. D. Wilson, Boonville.....	95.93
55	Limestone B.....	J. D. Wilson, Boonville.....	93.21
56	Limestone W.....	J. D. Wilson, Boonville.....	95.89
57	Limestone V Gamma.....	J. D. Wilson, Boonville.....	71.78
542	Limestone (No. 1).....	Geo. T. Strump, Walker.....	91.66
543	Limestone (No. 2).....	Geo. T. Strump, Walker.....	84.55
623	Limestone (No. 1) from Turner's.....	E. A. Cockefair, Springfield.....	97.70
624	Limestone (No. 2) from Turner's.....	E. A. Cockefair, Springfield.....	94.30
625	Limestone (No. 3) from Turner's.....	E. A. Cockefair, Springfield.....	94.10
629	Limestone.....	A. C. Hailey, Stone Co.....	76.80
630	Limestone (No. 1).....	A. W. Terrill, Farmington.....	98.40
631	Limestone (No. 2).....	A. W. Terrill, Farmington.....	96.50
632	Limestone from Leeds.....	John Prince Crusher Co., Kansas City.....	81.10
726	Limestone.....	E. A. Ikenberry, Independence.....	82.31
727	Limestone from J. A. Stewart's quarry..	D. H. Doane, Columbia.....	93.54
728	Limestone.....	J. P. Stephenson, Nevada.....	93.97
785	Limestone from quarry near Amazonia..	Thos. N. Nelson, St. Joseph.....	80.41
8105	Limestone.....	Paul V. Maris, Marshall.....	74.50
91	Limestone.....	Farmers' & Traders' Bank, Bland..	92.81
93	Limestone.....	W. C. Porter, Carthage.....	91.90
94	Limestone, yellow.....	Hannibal Lime Co., Hannibal.....	88.92
95	Limestone, white.....	Hannibal Lime Co., Hannibal.....	92.03
96	Limestone from Selsa.....	Paul V. Maris, Marshall.....	82.98
97	Limestone from local vein.....	Paul V. Maris, Marshall.....	87.81
912	Limestone, north side.....	Crystal Carbonate Lime Co., Elsberry.....	99.72
913	Limestone, Bench.....	Crystal Carbonate Lime Co., Elsberry.....	100.00
917	Limestone (No. 1).....	F. B. Stout, New London.....	97.10

Lab. No.	Material	From Whom Received	Per Cent Lime- stone
918	Limestone (No. 2)	F. B. Stout, New London	99.61
919	Limestone (No. 3)	F. B. Stout, New London	99.28
10443	Limestone, soft yellow	W. W. Leuelling, High Hill	87.95
10444	Limestone	W. W. Leuelling, High Hill	95.10
10468	Chat	W. P. Hovis, Flat River	79.90
10469	Slime	W. P. Hovis, Flat River	81.47
10470	Limestone	John J. Bruns, St. Clair	99.59
10472	Limestone (No. 1)	J. H. Coy, Jerico Springs	98.36
10473	Limestone (No. 2)	J. H. Coy, Jerico Springs	98.43
1112	Choteau limestone	K. F. Gillman, Philadelphia	89.80
1114	Limestone from farm of R. M. Cross	J. H. Coy, Jerico Springs	97.74
1231	Limestone	W. F. Heavner, Dunnegan	94.30

## FINANCIAL STATEMENT

## MISSOURI AGRICULTURAL EXPERIMENT STATION

In account with

## Fertilizer Control Fund

For Year 1914	Dr.	Cr.
RECEIPTS		
Jan. 1 Balance on hand . . . . .	\$ 7,342.16	
Receipts from sales of tags in 1914..	27,754.83	
EXPENDITURES		
Salaries . . . . .		\$ 4,423.97
Labor . . . . .		4,355.17
Publications . . . . .		1,101.51
Postage and Stationery . . . . .		1,759.20
Freight and Express . . . . .		53.13
Heat, Light and Water . . . . .		106.85
Chemical Supplies . . . . .		110.88
Seed, Plants and Sundry Supplies.		652.67
Library . . . . .		4.00
Feeding Stuffs . . . . .		1,251.00
Tools, Implements and Machinery		99.11
Furniture and Fixtures . . . . .		583.65
Contingent . . . . .		52.39
Scientific Apparatus . . . . .		183.52
Live Stock . . . . .		335.00
Traveling Expenses . . . . .		737.87
Building and Repairs . . . . .		179.30
Dec. 31 Cash on hand . . . . .		19,107.77
Totals . . . . .	\$35,096.99	\$35,096.99