

Indexed

A110-721-7M

TEXAS AGRICULTURAL EXPERIMENT STATION

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

W. B. BIZZELL, President

BULLETIN NO. 280

AUGUST, 1921

DIVISION OF CHEMISTRY

LIBRARY
A. & M. COLLEGE OF TEXAS

COMMERCIAL FERTILIZERS IN 1920-1921



B. YOUNGBLOOD, DIRECTOR
COLLEGE STATION, BRAZOS COUNTY, TEXAS

STATION STAFF.†

ADMINISTRATION

B. YOUNGBLOOD, Ph. D., *Director*
A. B. CONNER, B. S., *Vice Director*
CHARLES A. FELKER, *Chief Clerk*
A. S. WARE, *Secretary*
A. D. JACKSON, *Executive Assistant*
M. P. HOLLEMAN, JR., *Assistant Chief Clerk*

VETERINARY SCIENCE

*M. FRANCIS, D. V. M., *Chief*
H. SCHMIDT, D. V. S., *Veterinarian*
D. H. BENNETT, V. M. D., *Veterinarian*

CHEMISTRY

G. S. FRAPS, Ph. D., *Chief; State Chemist*
S. E. ASBURY, M. S., *Assistant Chemist*
S. LOMANITZ, B. S., *Assistant Chemist*
J. B. SMITH, B. S., *Assistant Chemist*
WALDO WALKER, *Assistant Chemist*

HORTICULTURE

H. NESS, M. S., *Chief*
W. S. HOTCHKISS, *Horticulturist*

ANIMAL INDUSTRY

J. M. JONES, A. M., *Chief; Sheep and Goat Investigations*
R. M. SHERWOOD, B. S., *Poultry Husbandman*
G. R. WARREN, B. S., *Animal Husbandman in Charge of Swine Investigations*
Dairy Husbandman
R. A. BREWER, B. S., *Assistant Animal Husbandman, Sheep and Goat Investigations*

ENTOMOLOGY

M. C. TANQUARY, Ph. D., *Chief; State Entomologist*
H. J. REINHARD, B. S., *Entomologist*
L. R. WATSON, A. M., *Apiarist*
C. S. RUDE, B. S., *Assistant Entomologist*

AGRONOMY

A. B. CONNER, B. S., *Chief; Crops*
A. H. LEIDIGH, B. S., *Agronomist, Soils*
E. B. REYNOLDS, M. S., *Agronomist, Small Grains*
E. W. GEYER, B. S., *Agronomist, Farm Superintendent*
Seed Analyst

PLANT PATHOLOGY AND PHYSIOLOGY

J. J. TAUBENHAUS, Ph. D., *Chief*

FEED CONTROL SERVICE

F. D. FULLER, M. S., *Chief*
S. D. PEARCE, *Executive Secretary*

FORESTRY

E. O. SIECKE, B. S., *Chief; State Forester*

PLANT BREEDING

G. F. FREEMAN, D. Sc., *Chief*

FARM AND RANCH ECONOMICS

A. B. COX, Ph. D., *Chief*

SOIL SURVEY

**W. T. CARTER, JR., B. S., *Chief*
T. M. BUSHNELL, B. S., *Soil Surveyor*
H. W. HAWKER, *Soil Surveyor*

SUBSTATIONS

No. 1. Beeville, Bee County.

I. E. COWART, M. S., *Superintendent*

No. 2. Troup, Smith County

W. S. HOTCHKISS, *Superintendent*

No. 3. Angleton, Brazoria County

V. E. HAFNER, B. S., *Superintendent*

No. 4. Beaumont, Jefferson County

A. H. PRINCE, B. S., *Superintendent*

No. 5. Temple, Bell County

D. T. KILLOUGH, B. S., *Superintendent*

No. 6. Denton, Denton County

C. H. McDOWELL, B. S., *Superintendent*

No. 7. Spur, Dickens County

R. E. DICKSON, B. S., *Superintendent*

No. 8. Lubbock, Lubbock County

R. E. KARPER, B. S., *Superintendent*

No. 9. Pecos, Reeves County

V. L. CORY, B. S., *Superintendent*

No. 10. College Station, Brazos County

(Feeding and Breeding Substation)
L. J. McCALL, *Superintendent*

No. 11. Nacogdoches, Nacogdoches County

G. T. McNESS, *Superintendent*

**No. 12. Chillicothe, Hardeman County

A. B. CRON, B. S., *Superintendent*

No. 14. Sonora, Sutton-Edwards Counties

E. M. PETERS, B. S., *Superintendent*

†As of August 1, 1921.

*In cooperation with School of Veterinary Medicine, A. and M. College of Texas.

**In cooperation with United States Department of Agriculture.

COMMERCIAL FERTILIZERS IN 1920-1921

G. S. FRAPS AND S. E. ASBURY.

This bulletin deals with the State control of commercial fertilizers. Information concerning the nature and use of fertilizers is to be found in Bulletin 167, copies of which will be sent free on application.

The quantities of commercial fertilizers sold in Texas for several seasons are as follows:

1905-06	13,500 tons.
1910-11	52,985 tons.
1913-14	77,400 tons.
1914-15	17,500 tons.
1915-16	21,500 tons.
1916-17	42,000 tons.
1917-18	58,000 tons.
1918-19	46,000 tons.
1919-20	56,700 tons.
1920-21	14,850 tons.

INFORMATION ON THE BAG

The manufacturer must print the guaranteed analysis of the fertilizer either on the bag or on a tag attached to the bag. The information required to be printed on the bag, or tag, is as follows:

Net weight.

Name of fertilizer in full.

Name and address of manufacturer.

Guaranteed analysis:

Available phosphoric acid, per cent.

Nitrogen, per cent.

Potash, per cent.

Total phosphoric acid may be guaranteed in place of available in bone or tannage.

FREE ANALYSIS

Fertilizer samples, if taken in accordance with the requirements of the law, will be analyzed free of charge. Those who desire a free analysis of a fertilizer should write for a blank "Application for Free Fertilizer Analysis" to the State Chemist, College Station, Texas. Samples not taken as required by the law cannot be accepted for analysis.

INVESTIGATIONS UNDER THE FERTILIZER LAW

The State Chemist is required by the fertilizer law to "investigate the composition, properties and agricultural values of fertilizers, or of

fertilizer materials, or ingredients of fertilizers, sold or offered for sale within the State of Texas, and shall publish his results as he may find."

RELATION TO STATION WORK

The work of the State Chemist is closely related to the chemical work of the Experiment Station. In his capacity as chemist to the Experiment Station, the State Chemist is carrying out extensive investigations into the fundamental properties of soils, especially with respect to their content of plant food. This work is related closely to the use of the fertilizers, and is connected with the investigations as to the agricultural values of fertilizers required by the fertilizer control, for fertilizers vary in effect upon the different soils.

POTASH IN FERTILIZERS.

A number of cooperative fertilizer experiments have been conducted by the chemical division of the Experiment Station, and it has been found that phosphoric acid and nitrogen are much more likely to give results than potash. In 68 out of 114 experiments described in Bulletin 184, potash had no effect. The chances are, therefore, against the potash having any effect when generally used in complete fertilizers on Texas soils. Other cooperative fertilizer experiments are reported in Bulletin 235.

Texas farmers can well afford to eliminate potash from general fertilizers, especially for cotton and corn. Potash should be used only in exceptional cases, where soil conditions and special crops promise returns on the investment. The haphazard use of potash in fertilizer under all conditions should be discontinued. Texas soils can get on much better without fertilizer potash than without phosphoric acid or nitrogen. There has been in the past much waste of potash.

BULK SALES.

Fertilizers may be sold in bulk by manufacturers direct to consumers for their own use; the tax must, in such case, be paid by the manufacturer. Fertilizer purchased in bulk and then sold or distributed, must be bagged, and must have a tax tag attached to each sack, also a tag showing the guaranteed analysis of the fertilizer. Considerable saving, both in freight and in purchase price, may be made by purchasing fertilizer in bulk. For further instructions as to the law concerning bulk sales, address the State Chemist at College Station.

LOW GRADE FERTILIZERS

The plant food in low grade fertilizers usually costs much more per pound than in standard grade or high grade goods, although the price per ton or sack may be a little lower. Freight, cost of handling and other expenses, are high in proportion to the plant food present.

COTTONSEED PRODUCTS

Cottonseed meal sold for fertilizer purposes comes under the fertilizer law. A cottonseed product containing less than 6.88 per cent. nitrogen may not be sold as cottonseed meal, but must be termed cottonseed fertilizer, cottonseed meal and hulls, or given some other name to indicate that it is below the requirement for cottonseed meal. It is an economic error to use cottonseed hulls as a fertilizer. Their feed value is greater than their fertilizer value. It is a pity that good feed such as cottonseed meal should be used as a fertilizer.

ANALYSIS BELOW GUARANTEE

Whenever any lot of fertilizer is 4 per cent. or more below guarantee, all persons who have sold this lot of fertilizer must make good the deficiency to all purchasers. The rebate is paid by the manufacturer to the dealer and by the dealer to the consumer. This provision of the law is strictly enforced.

EXPLANATION OF TERMS

Available phosphoric acid is the phosphoric acid which can be taken up immediately by plants. Phosphoric acid promotes the fruiting of plants, though it is necessary for the development of all parts of the plant.

Total phosphoric acid is the entire quantity of the phosphoric acid present, whether available or not. A guarantee of "total phosphoric acid" in place of "available" is made in bone, tankage, rock phosphate, and Thomas phosphate.

Nitrogen refers to the total nitrogen in the fertilizer. It is necessary for the development of all parts of the plant, but an excess of nitrogen delays maturity and is liable to promote the growth of stalk and leaves at expense of fruit. Nitrogen is needed by many Texas soils.

Potash is required to be soluble in water. A great many Texas soils contain a sufficient quantity of potash, so that its use in fertilizer on such soils is a useless expense. Potash, like nitrogen, is needed by all parts of the plants, but especially by stalk and leaves. An excess of potash delays maturity and is liable to promote growth of the stalk and leaves at the expense of fruit.

Valuation per ton represents the cost of the plant food in the unmixed raw material, at retail, in large markets. It is not the price at which the fertilizer is sold. The selling price includes also cost of mixing, sacks, transportation, and manufacturers' and dealers' profits. On account of the variations in prices which have occurred since last fall valuations given in this bulletin do not represent closely the cost of the plant food. The valuations are decided on about September 1, and the prices change before the active fertilizer season, from February to April.

FERTILIZER VALUATIONS, 1920-21

	Cents per Pound.
Available phosphoric acid.....	7½
Total phosphoric acid in Thomas phosphate, tank- age and bone.....	5
Nitrogen	30
Potash	15

The relation between the valuation and the retail selling price by merchants is given in Table 1.

Table 1.—Relation of valuation and selling price, 1920-1921.

	Number Averaged.	Average Valuation.	Average Selling Price.
Acid Phosphate 18 per cent.	1	\$ 27.00	\$ 29.00
Acid Phosphate 14 per cent.	1	21.00	32.00
Acid Phosphate 16 per cent.	94	24.00	29.73
Nitrate of Soda.....	9	88.98	77.61
Standard Grade Phosphate and Nitrogen.....	44	25.32	39.58
High Grade Phosphate and Nitrogen.....	50	31.25	43.11
Standard Grade Complete Fertilizer.....	27	28.33	44.09
High Grade Complete Fertilizer.....	47	35.66	50.32
High Grade Phosphate and Potash.....	2	25.50	37.88
Sulphate of Ammonia.....	1	124.50	75.00
Kainit.....	3	36.80	28.50

Table 2 contains the averaged guaranteed valuation, and the average valuation found by our analyses, for all manufacturers doing business in Texas. In preparing the table, all analyses made are averaged, even though several were made of each brand.

Table 2.—Guaranteed and delivered fertilizers.

Manufacturers.	Number Averaged.	Valuation Guaranteed	Valuation Found.
American Cotton Oil Company.....	1	\$ 24.00	\$ 26.04
Arkansas Fertilizer Company.....	2	24.00	23.98
Armour Fertilizer Works.....	47	33.12	33.83
Barrett Company.....	1	124.50	124.56
Bryan Cotton Oil and Fertilizer Company.....	2	30.75	33.62
East Texas Fertilizer Company.....	1	24.00	24.18
Fidelity Chemical Corporation.....	25	33.36	32.94
Henderson Cotton Oil and Gin Company.....	4	29.78	32.86
Hope Fertilizer Company.....	1	24.00	25.14
Houston County Oil Mill and Manufacturing Company.....	1	24.00	25.49
Houston Packing Company.....	1	48.10	50.57
Jefferson Oil Company.....	2	29.00	31.60
Longview Cotton Oil Company.....	5	26.85	29.25
Marshall Cotton Oil Company.....	4	29.81	32.56
Meridian Fertilizer Factory.....	48	28.99	31.06
New Boston Cotton Oil Company.....	1	24.00	26.58
Nitrate Agencies Company of Texas.....	1	90.00	95.70
Palestine Oil and Manufacturing Company.....	11	29.51	32.09
Pelican Fertilizer Works.....	5	27.02	29.39
Pittsburg Cotton Oil Company.....	2	24.00	25.40
Planters Fertilizer and Chemical Company.....	10	34.99	35.83
Shreveport Fertilizer Works.....	5	26.04	27.64
Sulphur Springs Acid and Fertilizer Company.....	2	30.00	36.28
Swift and Company.....	89	29.62	31.12
Tennessee Coal, Iron and Railroad Company.....	1	18.00	19.05
Virginia-Carolina Chemical Company.....	15	31.80	33.92
Wills Point Cotton Oil Company.....	4	28.95	30.03

ANALYSIS OF FERTILIZERS, 1920-1921

Table 3 contains a list of all samples of fertilizer subjected to analysis in the season beginning September 1, 1920, to date. The table gives the name and address of the manufacturer, and name of the brand, the guaranteed analysis, and the analysis. Analyses below guarantee are brought out in heavy type. Practically all the samples were collected by our inspectors. Analyses and inspection were made by S. E. Asbury, S. Lomanitz, J. B. Smith, and H. B. Smith.

REGISTRATIONS, 1920-1921

A list of brands registered for sale in the season of 1920-21 is given in Table 4. Many of the brands so registered were sold only in lots of a few sacks, or were not sold at all in the State.

BULLETINS ON RELATED TOPICS

Any of the bulletins named below will be sent free on application to the Director of the Experiment Station, College Station, Texas:

- No. 167—Commercial Fertilizers and Their Use.
- No. 178—Effects of Additions on Availability of Soil Phosphates.
- No. 184—Cooperative Fertilizer Experiments with Corn, 1908-1914.
- No. 190—Effect of Additions on Soil Potash.
- No. 192—Soils of Grayson, Lee, McLennan, Titus, and Tyler Counties.
- No. 212—Availability of Phosphoric Acid in Rock Phosphate.
- No. 223—Effect of Lime and Carbonate of Lime on Acid Phosphate.
- No. 243—The Needs of Texas Soils for Lime.
- No. 244—Composition of the Soils of Archer, Franklin and Harrison Counties.
- No. 247—Chemical Composition of the Cotton Plant.
- No. 259—Nitrification in Texas Soils.
- No. 267—Relation of the Phosphoric Acid of the Soil to Pot Experiments.

Table 3.—Analysis of commercial fertilizers, season 1920-1921.

Laboratory Number.	Manufacturer, Place of Business and Brand.	Phosphoric Acid Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.	Valuation—Per Ton.
	American Cotton Oil Co., New Orleans, La.—				
28397	Bull Dog Acid Phosphate—Guarantee	16.00			\$24.00
	Analysis	17.36			26.04
	Arkansas Fertilizer Co., Little Rock, Ark.—				
28523	White Diamond Acid Phosphate—Guarantee	16.00			24.00
28550	Analysis	15.56			23.34
	Analysis	16.41			24.62
	Armour Fertilizer Works, Houston, Ft. Worth, Texas, New Orleans, La.—				
28529	Armour's Big Crop Best Phosphate—Guarantee	18.00			27.00
	Analysis	17.86			26.79
28419	Armour's Big Crop Farmers' Favorite—Guarantee	10.00	1.65	2.00	30.90
28532	Analysis	10.67	1.74	1.94	32.27
	Analysis	10.48	1.55	2.34	32.04
28486	Armour's Big Crop Kainit—Guarantee			14.00	42.00
	Analysis			14.34	43.02
28480	Armour's Big Crop King Cotton—Guarantee	8.00	1.65	2.00	27.90
	Analysis	8.37	1.66	2.23	29.21
	Armour's Big Crop King Cotton Without Potash—Guarantee	10.00	1.65		24.90
28350	Analysis	10.10	1.56		24.51
28386	Analysis	10.73	1.61		25.76
28470	Analysis	10.41	1.56		24.98
28478	Analysis	11.45	1.39		25.52
28530	Analysis	10.85	1.35		24.38
28562	Analysis	10.26	1.60		24.99
28326	Armour's Big Crop Nitrate of Soda—Guarantee		14.81		88.86
28422	Analysis		15.62		93.72
28509	Analysis		15.83		94.98
	Analysis		15.62		93.72
28324	Onion Fertilizer No. 7—Guarantee	6.00	3.29	3.00	37.74
28325	Analysis	6.46	2.98	3.25	37.32
28333	Analysis	6.45	3.01	3.13	37.13
	Analysis	6.48	3.19	3.63	39.75
	Armour's Big Crop Onion Fertilizer No. 460—				
28323	Guarantee	4.00	4.94		35.64
28332	Analysis	5.01	4.49		34.46
	Analysis	5.09	4.51		34.70
	Armour's Big Crop Onion Fertilizer No. 1032—				
28337	Guarantee	10.00	2.47	2.00	35.82
	Analysis	10.47	2.38	2.20	36.59
	Armour's Big Crop Onion Fertilizer No. 1040—				
28331	Guarantee	10.00	3.29		34.74
	Analysis	10.96	3.22		35.76
28598	Armour's Big Crop Raw Bone Meal—Guarantee	*22.00	3.00		40.00
	Analysis	*23.83	3.87		47.05
	Armour's Big Crop Special Farm Mixture Without Potash—Guarantee	10.00	1.65		24.90
28388	Analysis	10.95	1.65		26.33
	Armour's Big Crop Special Tankage Mixture Without Potash—Guarantee	10.00	1.65		24.90
28506	Analysis	9.77	1.78		25.34
	Analysis	16.00			24.00
28351	Analysis	16.80			25.20
28389	Analysis	16.46			24.69
28398	Analysis	16.56			24.84
28402	Analysis	16.56			24.84
28414	Analysis	17.10			25.65
28421	Analysis	16.27			24.41
28472	Analysis	17.11			25.67
28479	Analysis	16.90			25.35
28528	Analysis	16.44			24.66
28535	Analysis	17.79			26.69
28560	Analysis	17.42			26.13
28599	Analysis	17.61			26.42
28613	Analysis	17.19			25.79
	Armour's Big Crop Texas Trucker—Guarantee	8.00	2.47	3.00	35.82
28353	Analysis	8.30	2.34	2.78	34.83
28508	Analysis	8.50	2.17	2.52	33.33
	Armour's Big Crop Texas Trucker Without Potash—Guarantee	10.00	2.47		29.82
28352	Analysis	10.06	2.30		28.89

*Total Phosphoric Acid.

Table 3.—Analysis of commercial fertilizers, season 1920-1921.

Laboratory Number.	Manufacturer, Place of Business and Brand.	Phosphoric Acid Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.	Valuation—Per Ton.
	Armour Fertilizer Works, Houston, Ft. Worth, Texas, New Orleans, La.—Continued.—				
	Armour's Big Crop Texas Trucker Without Potash—Cont.				
	Guarantee.....	10.00	2.47		29.82
28387	Analysis.....	10.46	2.30		29.45
28471	Analysis.....	10.32	1.12		22.20
28561	Analysis.....	11.29	1.95		28.64
	Armour's Big Crop Texas Vegetable Grower—				
	Guarantee.....	9.00	2.05	3.00	34.80
28349	Analysis.....	9.27	2.01	2.88	34.61
28416	Analysis.....	9.62	1.74	2.82	33.33
28531	Analysis.....	9.20	2.03	2.80	34.38
	Armour's Big Crop Tomato Grower Without Potash—				
	Guarantee.....	10.00	2.47		29.82
28415	Analysis.....	11.71	1.94		29.81
	Barrett Co., New York, N. Y.—				
	Acadian Sulphate of Ammonia—Guarantee.....		20.75		124.50
28589	Analysis.....		20.76		124.56
	Bryan Cotton Oil and Fertilizer Co., Bryan, Texas.—				
	Star Brand Phospho Special Fertilizer—Guarantee.....	11.00	2.00		28.50
28439	Analysis.....	12.16	2.39		32.58
	Star Brand Potato Fertilizer—Guarantee.....	8.00	3.50		33.00
28438	Analysis.....	10.70	3.00		34.65
	East Texas Fertilizer Co., Tyler, Texas.—				
	16 Per Cent Acid Phosphate—Guarantee.....	16.00			24.00
28487	Analysis.....	16.12			24.18
	Fidelity Chemical Corporation, Houston, Texas.—				
	Fidelity Ammoniated Superphosphate With Potash—				
	Guarantee.....	10.00	1.65	1.00	27.90
28503	Analysis.....	9.82	1.54	1.14	27.39
28542	Analysis.....	10.27	1.60	1.08	28.25
	Fidelity Cotton Standard Fertilizer—Guarantee.....	8.00	2.06	1.50	28.86
28499	Analysis.....	7.80	1.96	1.57	28.17
28538	Analysis.....	7.48	2.12	1.58	28.68
	Fidelity 14 Per Cent Acid Phosphate—Guarantee.....	14.00			21.00
28543	Analysis.....	15.30			22.95
	Fidelity Manure Salts—Guarantee.....			20.00	60.00
28452	Analysis.....			17.92	53.76
	Fidelity Nitrate of Soda—Guarantee.....		15.00		90.00
28451	Analysis.....		15.48		92.88
	Fidelity Non-Potassic Cotton Grower Fertilizer—				
	Guarantee.....	10.00	2.00		27.00
28498	Analysis.....	10.74	1.88		27.39
	Fidelity Non-Potassic Meal Phosphate Fertilizer—				
	Guarantee.....	10.00	1.65		24.90
28492	Analysis.....	10.01	1.61		24.68
28497	Analysis.....	10.90	1.46		25.11
28537	Analysis.....	9.30	1.71		24.21
	Fidelity Non-Potassic Vegetable Fertilizer—Guarantee.....	12.00	2.47		32.82
28410	Analysis.....	12.66	2.46		33.75
	Fidelity Potato Special Fertilizer—Guarantee.....	7.00	2.06	3.00	31.86
28494	Analysis.....	7.06	1.82	2.80	29.91
28501	Analysis.....	8.61	1.86	2.92	32.84
	Fidelity 16 Per Cent Acid Phosphate—Guarantee.....	16.00			24.00
28409	Analysis.....	15.70			23.55
28493	Analysis.....	16.06			24.09
28536	Analysis.....	16.35			24.53
28553	Analysis.....	16.84			25.26
28568	Analysis.....	16.57			24.86
	Fidelity Strawberry Special Fertilizer—Guarantee.....	6.00	2.47	5.00	38.82
28502	Analysis.....	6.87	2.27	4.93	38.72
	Fidelity Sugarland Trucker Fertilizer—Guarantee.....	8.00	2.47	6.00	44.82
28504	Analysis.....	8.91	2.01	4.76	39.71
28597	Analysis.....	8.90	1.92	5.40	41.07
	Fidelity Tomato Special Fertilizer—Guarantee.....	10.00	2.47	1.50	34.32
28411	Analysis.....	10.08	2.52	1.28	34.08
28500	Analysis.....	10.05	2.19	1.68	33.26
28596	Analysis.....	10.39	2.47	1.37	34.52
	Henderson Cotton Oil and Gin Co., Henderson, Texas.—				
	Henderson Acid Phosphate—Guarantee.....	16.00			24.00
28444	Analysis.....	16.84			25.26
	Henderson Half and Half—Guarantee.....	8.70	3.50		34.05
28445	Analysis.....	9.31	3.90		37.37

Table 3.—Analysis of commercial fertilizers, season 1920-1921.

Laboratory Number.	Manufacturer, Place of Business and Brand.	Phosphoric Acid—Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.	Valuation—Per Ton.
	Henderson Cotton Oil and Gin Co., Henderson, Texas—Continued.				
28563	Henderson Half and Half—Guarantee—Continued.	8.70	3.50		34.05
	Analysis.	9.85	3.42		35.30
28443	Henderson Staple—Guarantee.	10.00	2.00		27.00
	Analysis.	11.93	2.60		33.50
	Hope Fertilizer Co., Hope Ark.—				
28612	Stork Brand Acid Phosphate 16 Per Cent—Guarantee.	16.00			24.00
	Analysis.	16.76			25.14
	Houston County Cotton Oil Mill and Manufacturing Co., Crockett, Texas.—				
28423	Crockett 16 Per Cent Acid Phosphate—Guarantee.	16.00			24.00
	Analysis.	16.99			25.49
	Houston Packing Co., Houston, Texas.—				
28496	Blood and Bone—Guarantee.	*14.50	5.60		48.10
	Analysis.	*16.85	5.62		50.57
	Jefferson Oil Co., Jefferson, Texas.—				
28563	Jefferson Acid Phosphate—Guarantee.	16.00			24.00
	Analysis.	17.71			26.57
28462	Jefferson Corn and Potato Special—Guarantee.	10.00	3.00		33.00
	Analysis.	12.30	3.03		36.63
	Longview Cotton Oil Co., Longview, Texas.—				
28575	Longview Corn and Potato Special—Guarantee.	10.00	3.00		33.00
	Analysis.	12.32	2.70		34.68
28574	Longview Cotton Grower—Guarantee.	11.50	2.00		29.25
	Analysis.	13.09	2.10		32.24
28440	Longview 16 Per Cent Acid Phosphate—Guarantee.	16.00			24.00
28441	Analysis.	17.59			26.39
28442	Analysis.	17.44			26.16
	Analysis.	17.84			26.76
	Marshall Cotton Oil Co., Marshall, Texas.—				
28454	Marshall Acid Phosphate—Guarantee.	16.00			24.00
	Analysis.	17.51			26.27
28453	Marshall Corn and Potato Special—Guarantee.	10.00	3.00		33.00
28576	Analysis.	11.18	3.17		35.79
	Analysis.	11.93	2.83		34.88
28577	Marshall Cotton Grower Special—Guarantee.	11.50	2.00		29.25
	Analysis.	13.16	2.26		33.30
	Meridian Fertilizer Factory, Shreveport, La.				
28385	Caddo Vegetable—Guarantee.	8.00	3.30	4.00	43.80
	Analysis.	10.13	2.67	4.53	44.81
28364	Meridian Blood and Bone—Guarantee.	10.00	1.65	1.00	27.90
28518	Analysis.	11.62	1.44	1.38	30.21
	Analysis.	12.10	1.54	1.21	31.02
28365	Meridian Blood and Bone Non-Potassic—Guarantee.	11.00	1.65		26.40
28382	Analysis.	13.05	1.39		27.92
	Analysis.	12.86	1.35		27.39
28348	Meridian Farm Special—Guarantee.	10.00	1.65		24.90
28458	Analysis.	12.64	1.27		26.58
28607	Analysis.	11.08	1.78		26.30
	Analysis.	11.33	1.34		25.04
28363	Meridian Home Mixture—Guarantee.	10.00	1.65	1.00	27.90
28366	Analysis.	11.63	1.51	1.52	31.07
	Analysis.	12.48	1.76	1.20	32.88
28344	Meridian Home Mixture Non-Potassic—Guarantee.	11.00	1.65		26.40
28367	Analysis.	11.37	1.80		27.86
28408	Analysis.	12.87	1.57		28.73
28520	Analysis.	12.45	1.51		27.74
28557	Analysis.	11.63	1.84		27.49
	Analysis.	12.85	1.78		29.96
28565	Meridian Meal Mixture Non-Potassic—Guarantee.	11.00	1.65		26.40
	Analysis.	15.56	1.82		34.26
28343	Meridian Perfection Meal Compound—Guarantee.	10.00	2.47	3.00	38.82
	Analysis.	11.52	2.08	3.16	39.24
28517	Meridian Raw Bone Mixture Non-Potassic—Guarantee.	11.00	1.65		26.40
	Analysis.	12.04	1.47		26.88
28456	Meridian Special Cotton Formula—Guarantee.	10.00	1.65		24.90
	Analysis.	12.06	1.77		28.71
28362	Meridian Tankage Compound—Guarantee.	8.50	2.47		27.57
	Analysis.	9.99	1.94		26.63
28347	Meridian Tomato Special—Guarantee.	10.00	2.47	1.00	32.82
28368	Analysis.	11.58	2.04	1.38	33.75
	Analysis.	11.81	2.14	1.59	35.33

*Total Phosphoric Acid.

Table 3.—Analysis of commercial fertilizers, season 1920-1921.

Laboratory Number.	Manufacturer, Place of Business and Brand.	Phosphoric Acid—Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.	Valuation—Per Ton.
	Meridian Fertilizer Factory, Shreveport, La.—Continued.				
	Miridian Tomato Special—Guarantee—Continued....	10.00	2.47	1.00	32.82
28369	Analysis.....	12.12	2.32	1.26	35.88
28373	Analysis.....	12.49	1.91	1.53	34.79
28384	Analysis.....	12.03	2.25	1.39	35.72
28516	Analysis.....	12.04	1.97	1.42	34.14
	Meridian Tomato Special Non-Potassic—Guarantee.....	11.00	2.47	.....	31.32
28345	Analysis.....	12.20	1.87	.....	29.52
28370	Analysis.....	12.95	1.95	.....	31.18
28418	Analysis.....	12.66	2.27	.....	32.63
28515	Analysis.....	11.84	2.42	.....	32.28
28556	Analysis.....	12.12	3.00	.....	36.18
	Meridian Truck Special—Guarantee.....	9.00	1.65	2.00	29.40
28374	Analysis.....	10.91	1.41	2.03	30.92
	Nitrate of Soda—Guarantee.....	.....	15.00	.....	90.00
28555	Analysis.....	.....	15.52	.....	93.12
	Union Special Acid Phosphate—Guarantee.....	16.00	.....	.....	24.00
28346	Analysis.....	17.14	.....	.....	25.71
28375	Analysis.....	16.71	.....	.....	25.07
28383	Analysis.....	16.36	.....	.....	24.54
28407	Analysis.....	17.41	.....	.....	26.12
28424	Analysis.....	17.46	.....	.....	26.19
28457	Analysis.....	16.92	.....	.....	25.38
28477	Analysis.....	16.81	.....	.....	25.22
28512	Analysis.....	16.62	.....	.....	24.93
28519	Analysis.....	17.89	.....	.....	26.84
28554	Analysis.....	18.05	.....	.....	27.08
28564	Analysis.....	18.78	.....	.....	28.17
28566	Analysis.....	19.47	.....	.....	29.21
28567	Analysis.....	18.96	.....	.....	28.44
28591	Analysis.....	16.08	.....	.....	24.12
28606	Analysis.....	18.43	.....	.....	27.65
	New Boston Cotton Oil Co., New Boston, Texas.—				
	New Boston 16 Per Cent Acid Phosphate—Guarantee.....	16.00	.....	.....	24.00
28464	Analysis.....	17.72	.....	.....	26.58
	Nitrate Agencies Co. of Texas, Houston, Texas.—				
	Nitrate of Soda—Guarantee.....	.....	15.00	.....	90.00
28401	Guarantee.....	.....	15.95	.....	95.70
	Palestine Oil and Manufacturing Co., Palestine, Texas.—				
	Acid Phosphate—Guarantee.....	16.00	.....	.....	24.00
28447	Analysis.....	18.15	.....	.....	27.23
28551	Analysis.....	16.63	.....	.....	24.95
28573	Analysis.....	18.95	.....	.....	28.43
	Palestine Corn and Vegetable Fertilizer—Guarantee.....	8.00	3.50	1.00	36.00
28446	Analysis.....	9.59	3.62	.81	38.54
28548	Analysis.....	9.67	3.24	.92	36.71
	Palestine Cotton Fertilizer—Guarantee.....	12.00	1.65	.....	27.90
28449	Analysis.....	13.20	1.78	.....	30.48
	Palestine Cotton Grower—Guarantee.....	11.00	1.65	.....	26.40
28450	Analysis.....	12.80	1.54	.....	28.44
28552	Analysis.....	12.32	1.46	.....	27.24
28611	Analysis.....	11.91	1.89	.....	29.21
	Sandyland Vegetable Fertilizer—Guarantee.....	8.50	2.75	2.50	36.75
28448	Analysis.....	10.19	2.74	3.03	40.82
28549	Analysis.....	9.82	3.94	.85	40.92
	Pelican Fertilizer Works, Shreveport, La.—				
	Pelican Fish Formula Non-Potassic—Guarantee.....	11.00	1.65	.....	26.40
28360	Analysis.....	13.18	1.04	.....	26.01
	Pelican Meal Compound—Guarantee.....	10.00	1.65	1.00	27.90
28544	Analysis.....	12.32	1.88	1.32	33.72
	Pelican Special Phosphate—Guarantee.....	16.00	.....	.....	24.00
28361	Analysis.....	16.81	.....	.....	25.22
28592	Analysis.....	19.54	.....	.....	29.31
	Pelican Tomato Special—Guarantee.....	10.00	2.47	1.00	32.82
28359	Analysis.....	11.05	1.88	1.61	32.69
	Pittsburg Cotton Oil Co., Pittsburg, Texas.—				
	Acid Phosphate—Guarantee.....	16.00	.....	.....	24.00
28427	Analysis.....	16.74	.....	.....	25.11
28593	Analysis.....	17.12	.....	.....	25.68

Laboratory Number.	Manufacturer, Place of Business and Brand.	Phosphoric Acid—Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.	Valuation—Per Ton.
	Planters Fertilizer and Chemical Co., Houston, Fort Worth, Texas, New Orleans, La.—				
	Planters' Plow Brand Imperial Cotton Mixture Without Potash—Guarantee.	10.00	1.65		24.90
28579	Analysis.	10.90	1.44		24.99
	Planters' Plow Brand Meal Trucker Without Potash—Guarantee.	10.00	2.47		29.82
28376	Analysis.	10.63	2.28		29.63
28412	Analysis.	11.09	2.10		29.24
	Planters' Plow Brand Nitrate of Soda—Guarantee.		14.81		88.86
28582	Analysis.		15.76		94.56
	Planters' Plow Brand Phosphate and Potash No. 104—Guarantee.	10.00		4.00	27.00
28580	Analysis.	10.51		3.43	26.06
	Planters' Plow Brand 16 Per Cent Acid Phosphate—Guarantee.	16.00			24.00
28378	Analysis.	16.61			24.92
28578	Analysis.	17.14			25.71
	Planter's Plow Brand Tankage Trucker Without Potash—Guarantee.	10.00	2.47		29.82
28413	Analysis.	10.68	2.45		30.72
	Planters' Plow Brand Tomato Fertilizer—Guarantee.	8.00	2.47	3.00	35.82
28377	Analysis.	8.81	2.34	2.56	34.94
28581	Analysis.	9.25	2.33	2.23	37.55
	Shreveport Fertilizer Works, Shreveport, La.—				
	Lion Blood and Bone—Guarantee.	10.00	1.65	1.00	27.90
28505	Analysis.	9.22	1.80	1.61	29.46
	Lion Cottonseed Meal Mixture—Guarantee.	10.00	1.65	1.00	27.90
28609	Analysis.	10.96	1.70	.83	29.13
	Lion Success Mixture—Guarantee.	11.00	1.65		26.40
28507	Analysis.	9.98	1.99		26.94
	Lion Xtra Good Acid Phosphate—Guarantee.	16.00			24.00
28481	Analysis.	17.25			25.88
28608	Analysis.	17.87			26.81
	Sulphur Springs Acid and Fertilizer Co., Sulphur Springs, Texas.—				
	Planters' Special Fertilizer—Guarantee.	8.00	3.00		30.00
28473	Analysis.	10.03	3.65		36.95
28595	Analysis.	7.24	4.12		35.58
	Swift & Co., Harvey and Shreveport, La.—				
	Swift's Ammoniated Raw Bone Superphosphate—Guarantee.	9.50	1.65	1.50	28.65
28340	Analysis.	10.29	1.57	1.56	29.44
28510	Analysis.	9.67	1.24	1.30	25.85
28603	Analysis.	10.53	1.51	1.38	29.00
28604	Analysis.	10.61	1.40	1.50	28.82
	Swift's Eagle—Guarantee.	10.00	1.65	2.00	30.90
28433	Analysis.	10.15	1.42	1.70	28.85
28585	Analysis.	10.45	1.58	1.92	30.92
	Swift's High Grade Acid Phosphate Fertilizer 16 Per Cent—Guarantee.	16.00			24.00
28336	Analysis.	16.94			25.41
28342	Analysis.	19.29			28.94
28357	Analysis.	17.46			26.19
28372	Analysis.	16.58			24.87
28380	Analysis.	17.78			26.67
28390	Analysis.	16.99			25.49
28395	Analysis.	17.11			25.67
28396	Analysis.	17.75			26.63
28400	Analysis.	18.06			27.09
28405	Analysis.	18.26			27.39
28406	Analysis.	17.63			26.45
28417	Analysis.	17.52			26.28
28425	Analysis.	16.86			25.29
28426	Analysis.	18.40			27.60
28434	Analysis.	17.36			26.04
28460	Analysis.	17.43			26.15
28468	Analysis.	17.45			26.18
28469	Analysis.	17.30			25.95
28476	Analysis.	16.64			24.96
28511	Analysis.	17.72			26.58
28514	Analysis.	16.93			25.40
28521	Analysis.	16.44			24.66
28522	Analysis.	13.94			20.91
28524	Analysis.	17.22			25.83

Table 3.—Analysis of commercial fertilizers, season 1920-1921.

Laboratory Number.	Manufacturer, Place of Business and Brand.	Phosphoric Acid Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.	Valuation—Per Ton.
Swift & Co., Harvey and Shreveport, La.—Continued.—					
	Swift's High Grade Acid Bphosphate Fertilixer 16 Per Cent—Continued.				
	Guarantee	16.00			24.00
28534	Analysis	18.03			27.05
28547	Analysis	17.70			26.55
28558	Analysis	17.06			25.59
28569	Analysis	17.65			26.48
28583	Analysis	17.37			26.06
28587	Analysis	16.71			25.07
28590	Analysis	17.05			25.58
28594	Analysis	17.83			26.75
28601	Analysis	17.99			26.99
28605	Analysis	18.12			27.18
28610	Analysis	16.82			25.23
	Swift's Kainit—Guarantee			12.40	37.20
28572	Analysis			11.92	35.76
28588	Analysis			12.66	37.98
	Swift's Nitrate of Soda—Guarantee		14.81		88.86
28559	Analysis		15.56		93.36
28571	Analysis		15.44		92.64
28586	Analysis		15.48		92.88
	Swift's Palmetto—Guarantee	8.00	2.47	3.00	35.82
28328	Analysis	8.78	2.50	2.46	35.55
28358	Analysis	8.36	2.23	3.03	35.01
	Swift's Red Steer—Guarantee	10.00	2.47	3.00	38.82
28371	Analysis	10.58	2.41	2.74	38.55
28431	Analysis	10.33	2.44	2.65	38.09
28570	Analysis	10.10	2.12	2.62	35.85
	Swift's Red Steer 8-3.29-4—Guarantee	8.00	3.29	4.00	43.74
28459	Analysis	9.61	2.79	3.75	42.41
	Swift's Special Mixture—Guarantee	10.00	1.65		24.90
29436	Analysis	10.76	1.71		26.40
28475	Analysis	9.68	1.43		23.10
28533	Analysis	10.37	1.72		25.88
	Swift's Standard Tankage Mixture—Guarantee	6.00	3.29	3.00	37.74
28327	Analysis	6.10	3.27	3.13	38.16
28330	Analysis	6.57	3.21	2.75	37.37
	Swift's Tankage Mixture—Guarantee	9.00	3.29		33.24
28329	Analysis	9.63	3.07		32.87
28334	Analysis	8.80	3.19		32.34
28335	Analysis	8.56	3.18		31.92
28338	Analysis	8.90	3.16		32.31
	Swift's 11-1.65-0—Guarantee	11.00	1.65		26.40
28354	Analysis	11.73	1.97		29.42
28379	Analysis	11.68	2.00		29.52
28392	Analysis	11.83	2.14		30.59
28403	Analysis	11.64	1.87		28.68
28455	Analysis	11.25	1.43		25.46
28525	Analysis	10.97	1.94		28.10
28584	Analysis	12.03	1.97		29.87
	Swift's 10-1.65-1.00—Guarantee	10.00	1.65	1.00	27.90
28339	Analysis	10.70	1.62	1.45	30.12
28432	Analysis	10.27	1.57	1.02	27.29
28466	Analysis	10.41	1.96	1.87	30.59
28541	Analysis	10.68	1.45	1.22	28.38
	Swift's 10-2.47-0—Guarantee	10.00	2.47		29.82
28355	Analysis	10.35	2.92		33.05
28356	Analysis	10.73	2.42		30.61
28381	Analysis	10.96	2.64		32.28
28391	Analysis	11.60	2.44		32.04
28394	Analysis	10.10	2.37		29.37
28404	Analysis	11.28	2.25		30.42
28545	Analysis	10.55	2.30		29.63
	Swift's Truckers' Favorite—Guarantee	8.00	2.47	1.00	29.82
28341	Analysis	8.08	2.67	2.91	36.87
28526	Analysis	8.26	2.52	1.12	30.87
	Swift's 12-0-2—Guarantee	12.00		2.00	24.00
28461	Analysis	12.34		2.08	24.75
	Swift's 12-1.65-0—Guarantee	12.00	1.65		27.90
28393	Analysis	12.61	1.84		29.96
28435	Analysis	12.40	1.65		28.50
28437	Analysis	12.42	1.70		28.83
28465	Analysis	12.08	1.58		27.60
28546	Analysis	12.10	1.51		27.21
28602	Analysis	11.79	1.53		26.87

Table 3.—Analysis of commercial fertilizers, season 1920-1921.

Laboratory Number.	Manufacturer, Place of Business and Brand.	Phosphoric Acid Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.	Valuation—Per Ton.
	Swift & Co., Harvey and Shreveport, La.—Continued.				
28467	Swift's Vegetable Grower—Guarantee	8.00	3.29	2.00	37.74
	Analysis	8.71	3.12	1.51	36.32
	Tennessee Coal, Iron and Railroad Co., Birmingham, Ala.—				
28600	Duplex Basic Phosphate—Guarantee	*18.00			18.00
	Analysis	19.05			19.05
	Virginia-Carolina Chemical Co. of Delaware, Shreveport, La.—				
28430	Georgia State Grange—Guarantee	10.00	1.65	1.00	27.90
28539	Analysis	10.98	1.56	.97	28.74
28488	German Kainit—Guarantee	10.92	1.85	1.51	32.01
	Analysis			12.00	36.00
28491	Nitrate of Soda—Guarantee		14.81	15.32	45.96
	Analysis		15.53		93.18
28399	Royal Tomato Formula Non-Potassic—Guarantee	11.00	2.47		31.32
	Analysis	12.40	2.44		33.24
28489	Scott's Gossypium Phospho Special—Guarantee	10.00	1.65	2.00	30.90
	Analysis	10.16	1.66	2.10	31.50
28540	Scott's State Standard Guano—Guarantee	8.00	1.65	2.00	27.90
	Analysis	9.18	1.55	1.78	28.41
28420	V. C. C. Co.'s 16 Per Cent Acid Phosphate—Guarantee	16.00			24.00
28428	Analysis	16.77			25.16
28474	Analysis	17.21			25.82
28495	Analysis	17.30			25.95
28513	Analysis	16.99			25.49
28527	Analysis	17.36			26.04
28490	Analysis	17.33			26.00
28429	V. C. High Grade Guano Non-Potassic—Guarantee	12.00	1.65		27.90
	Analysis	13.01	1.29		27.26
28485	V. C. Tomato Special—Guarantee	10.00	2.47	1.50	34.32
	Analysis	10.00	2.18	2.30	34.98
	Wills Point Cotton Oil Co., Wills Point, Texas.—				
28485	Semper Fidelis Acid Phosphate—Guarantee	16.00			24.00
	Analysis	17.09			25.64
28484	Semper Fidelis Phospho Meal—Guarantee	9.00	3.50	1.00	37.50
	Analysis	9.69	2.67	1.51	35.09
28482	Semper Fidelis Royal Fertilizer—Guarantee	10.00	1.65		24.90
	Analysis	13.44	1.42		28.68
28483	Semper Fidelis "Special"—Guarantee	11.00	1.65	1.00	29.40
	Analysis	13.22	1.21	1.20	30.69

*Total Phosphoric Acid.

Table 4.—Registrations of commercial fertilizers, season 1920-1921.

Manufacturer, Place of Business and Brand.	Phosphoric Acid— Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.
American Cotton Oil Co., New Orleans, La.—			
Ammoniated Raw Bone Superphosphate.	11.00	1.65	
Ammoniated Raw Bone Superphosphate and Potash.	10.00	1.65	1.00
Black Diamond Acid Phosphate.	12.00		
Blood and Bone.	11.00	1.65	
Blood, Bone and Beef.	10.00	1.65	1.00
Blood, Bone and Beef (Without Potash).	11.00	1.65	
Blood, Bone and Potash.	10.00	1.65	1.00
Blue Rose Rice Grower.	12.00		2.00
Bull Dog Acid Phosphate.	16.00		
Creole Sugar Cane Fertilizer No. 38.	8.00	2.50	
Creole Truck Grower.	8.00	2.50	1.00
Crescent City Acid Phosphate.	12.00		
Cyanamid 15 Per Cent.		15.00	
Dissolved Bone and Potash 10-4.	10.00		4.00
Economizer.	10.00	1.65	2.00
Economizer (Without Potash).	12.00	1.65	
Excelsior.	10.00	1.65	2.00
Excelsior (Without Potash).	12.00	1.65	
Golden Guano.	10.00	1.65	1.00
Golden Guano (Without Potash).	11.00	1.65	
Goldsmith's Improved Mixture.	10.00	1.65	1.00
Goldsmith's Improved Mixture (Without Potash).	11.00	1.65	
Honduras Rice Grower.	12.00		4.00
Lone Star Blood Mixture.	10.00	0.82	1.00
Lone Star Meal Mixture.	10.00	0.82	1.00
Louisiana Plant Cane Grower.	6.00	3.30	
Louisiana Rice Grower.	10.00		2.00
Louisiana Stubble Cane Grower.	4.00	4.94	
Meal Ammoniated Superphosphate.	11.00	1.65	
Meal Ammoniated Superphosphate with Potash.	10.00	1.65	1.00
New Orleans Acid Phosphate.	14.00		
Nitrate of Soda.		15.00	
Nonpareil.	10.00	2.47	3.00
Special Sugar Cane Grower No. 67.	7.00	5.00	
Supreme Acid Phosphate.	18.00		
Texas Guano.	10.00	1.65	
Texas Onion Grower.	6.00	3.30	6.00
Truck Grower.	6.00	3.30	1.00
Vegetable Fertilizer (Without Potash).	6.00	3.30	
Vegetable Grower.	6.00	2.47	4.00
Arkansas Fertilizer Co., Little Rock, Ark.—			
White Diamond Acid Phosphate.	16.00		
White Diamond Ammoniated Bone Superphosphate.	9.00	1.65	2.00
White Diamond Arkansas Standard.	10.00	1.65	1.00
White Diamond Blood and Bone Fertilizer.	11.00	1.50	1.50
White Diamond Blood, Bone and Potash.	12.00	2.00	1.50
White Diamond "Corn Grower" Without Potash.	11.00	1.65	
White Diamond Early Potato and Truck.	8.00	2.50	4.00
White Diamond "Early Potato and Truck" Without Potash.	12.00	2.50	
White Diamond "Gro-Fast" Fertilizer.	8.00	1.65	2.00
White Diamond Kali Superphosphate.	11.00		3.00
White Diamond New South.	10.00	1.65	
White Diamond Queen of the South.	12.00	1.65	
White Diamond Southern King.	12.00	2.00	2.00
White Diamond Southern Queen Fertilizer.	10.00	1.65	2.00
White Diamond Southern Standard.	10.00	1.65	1.50
White Diamond 20th Century Fertilizer.	9.00	1.65	2.00
White Diamond Vegetable Fertilizer.	7.50	2.00	3.00
Armour Fertilizer Works, Houston, Fort Worth, Texas, New Orleans La.—			
Armour's Big Crop African Cotton Grower.	9.00	2.47	3.00
Armour's Big Crop Best Phosphate.	18.00		
Armour's Big Crop Champion Meal Mixture.	10.00	1.65	2.00
Armour's Big Crop Champion Meal Mixture Without Potash.	12.00	1.65	
Armour's Big Crop Corn King.	8.00	2.47	2.00
Armour's Big Crop Delta Special.	6.00	4.11	2.00
Armour's Big Crop Farmers' Choice.	10.00	1.65	1.00
Armour's Big Crop Farmers' Choice Without Potash.	11.00	1.65	
Armour's Big Crop Farmers' Favorite.	10.00	1.65	2.00
Armour's Big Crop Farmers' Favorite Without Potash.	12.00	1.65	
Armour's Big Crop Gold Medal.	9.50	1.65	1.50

Table 4.—Registration of commercial fertilizers, season 1920-1921.

Manufacturer, Place of Business and Brand.	Phosphoric Acid— Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.
Armour Fertilizer Works, Houston, Fort Worth, Texas, New Orleans, La.—Continued.—			
Armour's Big Crop Grain Grower.....	8.00	1.65	2.00
Armour's Big Crop Grain Grower Without Potash.....	10.00	1.65	.....
Armour's Big Crop Helmet Phosphate.....	12.00	.....	.....
Armour's Big Crop Kainit.....	.....	.....	14.00
Armour's Big Crop King Cotton.....	8.00	1.65	2.00
Armour's Big Crop King Cotton Without Potash.....	10.00	1.65	.....
Armour's Big Crop Muriate of Potash.....	.....	.....	50.00
Armour's Big Crop Nitrate of Soda.....	.....	14.81	.....
Armour's Big Crop Onion Fertilizer No. 7.....	6.00	3.29	3.00
Armour's Big Crop Onion Fertilizer No. 444.....	4.00	3.29	4.00
Armour's Big Crop Onion Fertilizer No. 460.....	4.00	4.94	.....
Armour's Big Crop Onion Fertilizer No. 632.....	6.00	2.47	2.00
Armour's Big Crop Onion Fertilizer No. 634.....	6.00	2.47	4.00
Armour's Big Crop Onion Fertilizer No. 642.....	6.00	3.29	2.00
Armour's Big Crop Onion Fertilizer No. 644.....	6.00	3.29	4.00
Armour's Big Crop Onion Fertilizer No. 646.....	6.00	3.29	6.00
Armour's Big Crop Onion Fertilizer No. 654.....	6.00	4.11	4.00
Armour's Big Crop Onion Fertilizer No. 832.....	8.00	2.47	2.00
Armour's Big Crop Onion Fertilizer No. 834.....	8.00	2.47	4.00
Armour's Big Crop Onion Fertilizer No. 836.....	8.00	2.47	6.00
Armour's Big Crop Onion Fertilizer No. 844.....	8.00	3.29	4.00
Armour's Big Crop Onion Fertilizer No. 846.....	8.00	3.29	6.00
Armour's Big Crop Onion Fertilizer No. 860.....	8.00	4.94	.....
Armour's Big Crop Onion Fertilizer No. 1032.....	10.00	2.47	2.00
Armour's Big Crop Onion Fertilizer No. 1034.....	10.00	2.47	4.00
Armour's Big Crop Onion Fertilizer No. 1036.....	10.00	2.47	6.00
Armour's Big Crop Onion Fertilizer No. 1040.....	10.00	3.29	.....
Armour's Big Crop Onion Fertilizer No. 1042.....	10.00	3.29	2.00
Armour's Big Crop Onion Fertilizer No. 1044.....	10.00	3.29	4.00
Armour's Big Crop Phosphate and Potash No. 102.....	10.00	.....	2.00
Armour's Big Crop Phosphate and Potash No. 104.....	10.00	.....	4.00
Armour's Big Crop Phosphate and Potash No. 122.....	12.00	.....	2.00
Armour's Big Crop Phosphate and Potash No. 124.....	12.00	.....	4.00
Armour's Big Crop Raw Bone Meal.....	*22.00	3.70	.....
Armour's Big Crop Rice King.....	8.00	1.65	2.00
Armour's Big Crop Rice King Without Potash.....	10.00	1.65	.....
Armour's Big Crop Royal Mixture.....	10.00	1.65	1.00
Armour's Big Crop Royal Mixture Without Potash.....	11.00	1.65	.....
Armour's Big Crop Shield Phosphate.....	14.00	.....	.....
Armour's Big Crop Special Farm Mixture.....	8.00	1.65	2.00
Armour's Big Crop Special Farm Mixture Without Potash.....	10.00	1.65	.....
Armour's Big Crop Special Tankage Mixture With Potash.....	9.50	1.65	1.50
Armour's Big Crop Special Tankage Mixture Without Potash.....	10.00	1.65	.....
Armour's Big Crop Star Phosphate.....	16.00	.....	.....
Armour's Big Crop Strawberry King.....	10.00	2.47	4.00
Armour's Big Crop Sulphate of Ammonia.....	.....	20.58	.....
Armour's Big Crop Syrup Cane Grower.....	7.00	4.94	.....
Armour's Big Crop Tankage No. 3.....	*4.58	8.23	.....
Armour's Big Crop Texas Trucker.....	8.00	2.47	3.00
Armour's Big Crop Texas Trucker Without Potash.....	10.00	2.47	.....
Armour's Big Crop Texas Vegetable Grower.....	9.00	2.05	3.00
Armour's Big Crop Tomato Grower.....	8.00	2.47	3.00
Armour's Big Crop Tomato Grower Without Potash.....	10.00	2.47	.....
Armour's Big Crop Truck Special.....	7.00	4.11	6.00
The Barrett Co., New York, N. Y.—			
Arcadian Sulphate of Ammonia.....	.....	20.75	.....
Bryan Cotton Oil and Fertilizer Co., Bryan, Texas.—			
Star Brand Phospho Special Fertilizer.....	11.00	2.00	.....
Star Brand Potato Fertilizer.....	8.00	3.50	.....
Star Brand 16 Per Cent Acid Phosphate.....	16.00	.....	.....
Cudahy Packing Co., Chicago, Ill.—			
Blue Ribbon Fertilizer (Half and Half, 1½-20.....	13.00	1.23	.....
Blue Ribbon Fertilizer (Steamed Bone Meal).....	*24.00	2.47	.....
Earp-Thomas Cultures Corporation, New York, N. Y.—			
Farmogem.....	.....	.....	.....
Stimulant Tablets.....	12.00	11.00	15.00

*Total Phosphoric Acid.

Table 4.—Registration of commercial fertilizers, season 1920-1921.

Manufacturer, Place of Business and Brand.	Phosphoric Acid— Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.
East Texas Fertilizer Co., Tyler, Texas.—			
Cotton Seed Fertilizer.....	1.00	6.00	1.00
16 Per Cent Acid Phosphate.....	16.00	.....	.....
Tomato Grower.....	10.00	2.47	.....
Fidelity Chemical Corporation, Houston, Texas.—			
Fidelity Ammoniated Superphosphate With Potash Fertilizer.....	10.00	1.65	1.00
Fidelity Cotton Special Fertilizer.....	10.00	1.65	2.00
Fidelity Cotton Special No. 2 Fertilizer.....	10.00	1.65	1.50
Fidelity Cotton Standard Fertilizer.....	8.00	2.06	1.50
Fidelity 14 Per Cent Acid Phosphate.....	14.00	.....	.....
Fidelity Garden Grower Fertilizer.....	9.00	2.47	3.00
Fidelity Manure Salts.....	.....	.....	20.00
Fidelity Nitrate of Soda.....	.....	15.00	.....
Fidelity Non-Potassic Cotton Grower Fertilizer.....	10.00	2.00	.....
Fidelity Non-Potassic Lawn Fertilizer.....	11.00	2.47	.....
Fidelity Non-Potassic Laredo Trucker Fertilizer.....	6.40	4.11	.....
Fidelity Non-Potassic Meal Phosphate Fertilizer.....	10.00	1.65	.....
Fidelity Non-Potassic Meal Special Fertilizer.....	11.00	1.65	.....
Fidelity Non-Potassic Vegetable Fertilizer.....	12.00	2.47	.....
Fidelity Peerless Trucker Fertilizer.....	8.00	2.47	5.00
Fidelity Potato Special Fertilizer.....	7.00	2.06	3.00
Fidelity Regal Compound Fertilizer.....	10.00	.....	4.00
Fidelity Rice Planter Fertilizer.....	12.00	.....	2.00
Fidelity 16 Per Cent Acid Phosphate.....	16.00	.....	.....
Fidelity Special Fertilizer.....	8.00	1.65	2.00
Fidelity Standard Trucker Fertilizer.....	9.00	2.06	1.50
Fidelity Strawberry Special Fertilizer.....	6.00	2.47	5.00
Fidelity Sugarland Trucker Fertilizer.....	8.00	2.47	6.00
Fidelity Texas Trucker Fertilizer.....	8.00	2.47	3.00
Fidelity Tomato Special Fertilizer.....	10.00	2.47	1.50
Gate City Fertilizer Co., Texarkana, Ark.—			
Red Ball Acid Phosphate.....	16.00	.....	.....
Red Ball Ammoniated Superphosphate.....	12.00	1.65	.....
Red Ball Arkahoma Special.....	9.00	1.65	2.00
Red Ball Blood and Bone.....	11.00	1.50	1.50
Red Ball Blood, Bone and Potash.....	12.00	2.00	1.50
Red Ball Complete Fertilizer.....	10.00	1.65	1.00
Red Ball Cotton Grower.....	9.00	1.65	2.00
Red Ball Diversified Cropper's.....	10.00	1.65	2.00
Red Ball Early Potato and Truck.....	8.00	2.50	4.00
Red Ball "Early Potato and Truck" Without Potash.....	12.00	2.50	.....
Red Ball Four States Standard Without Potash.....	11.00	1.65	.....
Red Ball "Old Reliable" Fertilizer.....	8.00	1.65	2.00
Red Ball "Old Time" Vegetable Grower.....	7.50	2.00	3.00
Red Ball Phosphate and Potash.....	11.00	.....	3.00
Red Ball Prize Winner.....	10.00	2.47	.....
Red Ball "Soluble Bone Fertilizer" Without Potash.....	10.00	1.65	.....
Henderson Cotton Oil and Gin Company, Henderson, Texas.			
Henderson Acid Phosphate.....	16.00	.....	.....
Henderson Half and Half.....	8.70	3.50	.....
Henderson Staple.....	10.00	2.00	.....
Hope Fertilizer Co., Hope, Ark.—			
Blood and Bone Cantaloupe Fertilizer.....	8.00	3.00	1.00
Blood and Bone Corn Grower.....	12.00	1.65	.....
Blood and Bone Cotton Grower.....	10.00	1.65	1.00
Blood and Bone Early Fruiter, Low Grade.....	10.00	1.00	1.00
Blood and Bone Extra Cotton Grower.....	10.00	1.65	2.00
Blood and Bone Hempstead Trucker.....	8.00	3.00	.....
Blood and Bone Hope Standard Without Potash.....	11.00	1.06	.....
Blood and Bone No. 8.....	9.00	1.65	2.00
Blood and Bone No. 9.....	9.00	1.65	3.00
Blood and Bone No. 12.....	10.00	1.65	.....
Blood and Bone No. 14.....	8.00	3.00	4.00
Blood and Bone No. 17.....	10.00	3.00	4.00
Blood and Bone Texas Special.....	10.00	2.50	.....
Blood and Bone Wheat Trucker.....	8.00	2.50	1.00
Blood and Bone Wheat Fertilizer No. 1, Low Grade.....	8.00	1.00	1.00
Cotto Phos.....	8.50	3.30	1.00
Day's Special.....	10.00	2.50	1.00
Hempstead Trucker.....	8.00	3.00	.....
Hope Cantaloupe Fertilizer.....	8.00	3.00	1.00
Hope Fertilizer No. 8.....	9.00	1.65	2.00
Hope Fertilizer No. 9.....	9.00	1.65	3.00
Hope Fertilizer No. 14.....	8.00	3.00	4.00

Table 4.—Registration of commercial fertilizers, season 1920-1921.

Manufacturer, Place of Business and Brand.	Phosphoric Acid— Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.
Hope Fertilizer Co., Hope, Ark.—Continued.—			
Hope Fertilizer No. 16.....	10.00	.....	4.00
Hope Fertilizer No. 17.....	10.00	3.00	4.00
Hope Hustler (Without Potash).....	10.00	1.65	.....
Hope Meal Mixture.....	10.00	2.50	.....
Hope Wheat Fertilizer No. 1, Low Grade.....	8.00	1.00	1.00
Our Corn Grower.....	12.00	1.65	.....
Our Cotton Grower.....	10.00	1.65	1.00
Our Early Fruiter, Low Grade.....	10.00	1.00	1.00
Our Extra Cotton Grower.....	10.00	1.65	2.00
Ozan Trucker.....	8.00	2.50	1.00
Pride of Dallas.....	10.00	4.00	4.00
Stork Brand Acid Phosphate 18 Per Cent.....	18.00	.....	.....
Stork Brand Acid Phosphate 16 Per Cent.....	16.00	.....	.....
Stork Brand Nitrate of Soda.....	.....	15.00	.....
Houston County Cotton Oil Mill and Mfg Co., Crockett, Texas.—			
Crockett 16 Per Cent Acid Phosphate.....	16.00	.....	.....
Houston Packing Co., Houston, Texas.—			
Blood and Bone.....	*14.50	5.60	.....
Jefferson Oil Co., Jefferson, Texas.—			
Jefferson Acid Phosphate.....	16.00	.....	.....
Jefferson Corn and Potato Special.....	10.00	3.00	.....
Jefferson Cotton Grower Special.....	11.50	2.00	.....
Longview Cotton Oil Co., Longview, Texas.—			
Longview Corn and Potato Special.....	10.00	3.00	.....
Longview Cotton Grower.....	11.50	2.00	.....
Longview 16 Per Cent Acid Phosphate.....	16.00	.....	.....
John Marbach, New Braunfels, Texas.—			
Bat Guano.....	3.50	8.40	.....
Marshall Cotton Oil Co., Marshall, Texas.—			
Marshall Acid Phosphate.....	16.00	.....	.....
Marshall Corn and Potato Special.....	10.00	3.00	.....
Marshall Cotton Grower Special.....	11.50	2.00	.....
Meridian Fertilizer Factory, Shreveport, La.—			
Caddo Cotton.....	9.35	1.90	1.00
Caddo Cotton Non-Potassic.....	10.35	1.90	.....
Caddo Queen.....	12.00	1.65	.....
Caddo Special.....	6.00	2.47	7.00
Caddo Vegetable.....	8.00	3.30	4.00
Cottonseed Fertilizer.....	.....	6.58	.....
Kainit.....	.....	.....	12.00
Meridian Blood and Bone.....	10.00	1.65	1.00
Meridian Blood and Bone Non-Potassic.....	11.00	1.65	.....
Meridian Bone and Potash.....	12.00	.....	2.00
Meridian Cane Special No. 1.....	4.00	5.35	.....
Meridian Cantaloupe Special.....	8.00	2.47	1.00
Meridian Corn Club Special.....	7.50	2.47	1.00
Meridian Corn Club Special Non-Potassic.....	8.50	2.47	.....
Meridian Corn Grower.....	7.50	2.88	1.00
Meridian Corn Grower Non-Potassic.....	8.50	2.88	.....
Meridian Cotton and Corn Special.....	9.00	2.47	3.00
Meridian Easy Driller Phosphate.....	16.00	.....	.....
Meridian Farm Special.....	10.00	1.65	.....
Meridian Golden Harvester.....	10.00	3.30	*4.00
Meridian Golden West.....	10.00	2.00	2.00
Meridian Great Western.....	12.00	1.65	2.00
Meridian Ham Bone Guano.....	10.00	1.65	1.50
Meridian Home Mixture.....	10.00	1.65	1.00
Meridian Home Mixture Non-Potassic.....	11.00	1.65	.....
Meridian Improved Meal Compound.....	8.50	2.88	.....
Meridian Meal Mixture.....	10.00	1.65	1.00
Meridian Meal Mixture Non-Potassic.....	11.00	1.65	.....
Meridian Melon Grower.....	8.50	2.47	.....
Meridian Nitrate Bone and Potash.....	10.00	1.65	2.00
Meridian Perfection Acid Phosphate.....	18.00	.....	.....
Meridian Perfection Blood Compound.....	10.00	2.47	3.00

*Total Phosphoric Acid.

Table 4.—Registration of commercial fertilizers, season 1920-1921.

Manufacturer, Place of Business and Brand.	Phosphoric Acid Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.
Meridian Fertilizer Factory, Shreveport, La.—Continued.—			
Meridian Perfection Cotton and Corn	12.00	2.47	
Meridian Perfection Cotton Formula	11.00	2.47	
Meridian Perfection Meal Compound	10.00	2.47	3.00
Meridian Perfection Potash Formula	12.00		4.00
Meridian Potash Compound	10.00		4.00
Meridian Potato Grower	8.00	3.30	
Meridian Potato Special	8.00	3.30	2.00
Meridian Prolific Wonder	12.00	2.00	2.00
Meridian Rawbone Mixture	10.00	1.65	1.00
Meridian Rawbone Mixture Non-Potassic	11.00	1.65	
Meridian Rice Grower	10.00		2.00
Meridian Soluble Guano	10.00	1.65	1.50
Meridian Southern Acid Phosphate	14.00		
Meridian Southern Standard	10.00	2.00	
Meridian Special Cotton Formula	10.00	1.65	
Meridian Special Meal Compound	12.00	2.00	
Meridian Special Top Dressing	5.00	4.25	2.00
Meridian Special Truck Formula	6.00	3.00	4.00
Meridian Standard Cotton and Corn	9.35	1.90	1.00
Meridian Standard Cotton and Corn Non-Potassic	10.35	1.90	
Meridian Star	10.00	1.65	1.00
Meridian Star Non-Potassic	11.00	1.65	
Meridian Tankage Compound	8.50	2.47	
Meridian Tomato Special	10.00	2.47	1.00
Meridian Tomato Special Non-Potassic	11.00	2.47	
Meridian Truck Grower	10.00	2.47	
Meridian Truckers' Special	9.00	1.65	2.00
Meridian Vegetable Grower	8.00	2.47	5.00
Meridian Weevil Beater Guano Non-Potassic	11.00	1.65	
Nitrate of Soda		15.00	
Texas Special	10.00	2.72	
Union Special Acid Phosphate	16.00		
Weevil Beater Guano	10.00	1.65	1.00
H. K. Mulford Co., Philadelphia, Pa.			
Mulford Cultures for Legumes			
New Boston Cotton Oil Co., New Boston, Texas.—			
New Boston 16 Per Cent Acid Phosphate	16.00		
Nitrate Agencies Co. of Texas, Houston, Texas.—			
Acid Phosphate 16 Per Cent	16.00		
Ground Tankage	*14.50	5.60	
Imported Ground Bone	*23.00	2.50	
Kainit			12.40
Muriate of Potash			48.00
Nitrapo		15.00	15.00
Nitrate of Soda		15.00	
Sulphate of Potash			47.00
Palestine Oil and Manufacturing Co., Palestine, Texas.—			
Acid Phosphate	16.00		
Palestine Corn and Vegetable Fertilizer	8.00	3.50	1.00
Palestine Cotton Grower	11.00	1.65	
Sandy Land Vegetable Fertilizer	8.50	2.75	2.50
Pelican Fertilizer Works, Shreveport, La.—			
Kainit			12.00
Nitrate of Soda		15.00	
Pelican Blood and Bone	10.00	1.65	1.00
Pelican Blood and Bone Non-Potassic	11.00	1.65	
Pelican Corn Grower	8.00	2.47	1.00
Pelican Corn Grower Non-Potas-ic	9.00	2.47	
Pelican Cotton and Corn	8.00	2.00	2.00
Pelican Cotton Grower	10.00	1.65	
Pelican Cotton Producer	11.50	1.65	
Pelican Cotton Special	10.00	1.65	2.00
Pelican Favorite Cotton Grower	9.35	1.90	1.00
Pelican Favorite Cotton Grower Non-Potassic	10.35	1.90	
Pelican Fish Bone Fertilizer	10.00	1.65	2.00
Pelican Fish Formula	10.00	1.65	1.00
Pelican Fish Formula Non-Potassic	11.00	1.65	
Pelican Golden West	10.00	1.65	1.00
Pelican Golden West Non-Potassic	11.00	1.65	
Pelican High Grade	9.00	2.47	3.00

*Total Phosphoric Acid.

Table 4.—Registration of commercial fertilizers, season 1920-1921.

Manufacturer, Place of Business and Brand.	Phosphoric Acid Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.
Pelican Fertilizer Works, Shreveport, La.—Continued.—			
Pelican Meal Compound.....	10.00	1.65	1.00
Pelican Meal Compound Non-Potassic.....	11.00	1.65	.....
Pelican Potash and Bone.....	12.00	.....	2.00
Pelican Potash and Superphosphate.....	10.00	.....	4.00
Pelican Potato Grower.....	8.00	3.30	.....
Pelican Potato Special.....	8.00	3.30	2.00
Pelican Rice Formula.....	10.00	.....	2.00
Pelican Rice Phosphate.....	16.00	.....	.....
Pelican Special Formula.....	10.00	1.65	.....
Pelican Special Phosphate.....	16.00	.....	.....
Pelican Standard Grade Phosphate.....	14.00	.....	.....
Pelican Tomato Special.....	10.00	2.47	1.00
Pelican Tomato Special Non-Potassic.....	11.00	2.47	.....
Pelican Truck Grower.....	10.00	2.47	.....
Pelican Vegetable Grower.....	8.00	2.47	4.00
Pittsburg Cotton Oil Co., Pittsburg, Texas.—			
Acid Phosphate.....	16.00	.....	.....
N. E. Texas Vegetable Grower.....	8.00	4.00	1.00
Northeast Texas Farm Special.....	11.00	2.20	.....
Planters Fertilizer and Chemical Co., Houston, Fort Worth, Texas, New Orleans, La.—			
Planters' Plov Brand Ammoniated Superphosphate Without Potash.....	12.00	1.65	.....
Planters' Plov Brand Ammoniated Superphosphate With Potash.....	10.00	1.65	2.00
Planters' Plov Brand Champion Meal Mixture.....	10.00	1.65	2.00
Planters' Plov Brand Champion Meal Mixture Without Potash.....	12.00	1.65	.....
Planters' Plov Brand Corn Fertilizer.....	8.00	2.47	2.00
Planters' Plov Brand Crescent Phosphate.....	12.00	.....	.....
Planters' Plov Brand 18 Per Cent Acid Phosphate.....	18.00	.....	.....
Planters' Plov Brand Farmers' Champion.....	10.00	1.65	1.00
Planters' Plov Brand Farm Special.....	8.00	1.65	2.00
Planters' Plov Brand Farm Special Without Potash.....	10.00	1.65	.....
Planters' Plov Brand Fertilizer No. 1035.....	10.00	2.47	5.00
Planters' Plov Brand 14 Per Cent Acid Phosphate.....	14.00	.....	.....
Planters' Plov Brand Golden Mixture.....	9.50	1.65	1.50
Planters' Plov Brand Golden Mixture Without Potash.....	11.00	1.65	.....
Planters' Plov Brand Imperial Cotton Mixture.....	8.00	1.65	2.00
Planters' Plov Brand Imperial Cotton Mixture Without Potash.....	10.00	1.65	.....
Planters' Plov Brand Imperial Grain Grower.....	8.00	1.65	2.00
Planters' Plov Brand Imperial Mixture Without Potash.....	10.00	1.65	.....
Planters' Plov Brand Imperial Rice Mixture.....	8.00	1.65	2.00
Planters' Plov Brand Imperial Rice Mixture Without Potash.....	10.00	1.65	.....
Planters' Plov Brand Imperial Truck Mixture.....	8.00	2.47	3.00
Planters' Plov Brand Kamit.....	.....	.....	14.00
Planters' Plov Brand Magic Strawberry Producer.....	10.00	2.47	4.00
Planters' Plov Brand Meal Trucker Without Potash.....	10.00	2.47	.....
Planters' Plov Brand Nitrate of Soda.....	.....	14.81	.....
Planters' Plov Brand Old Standard Superphosphate Without Potash.....	11.00	1.65	.....
Planters' Plov Brand Old Standard Superphosphate With Potash.....	9.50	1.65	1.50
Planters' Plov Brand Phosphate and Potash No. 102.....	10.00	.....	2.00
Planters' Plov Brand Phosphate and Potash No. 104.....	10.00	.....	4.00
Planters' Plov Brand Phosphate and Potash No. 122.....	12.00	.....	2.00
Planters' Plov Brand Phosphate and Potash No. 124.....	12.00	.....	4.00
Planters' Plov Brand Raw Bone Meal.....	*22.00	3.70	.....
Planters' Plov Brand 16 Per Cent Acid Phosphate.....	16.00	.....	.....
Planters' Plov Brand Sulphate of Ammonia.....	.....	20.58	.....
Planters' Plov Brand Syrup Cane Fertilizer.....	7.00	4.94	.....
Planters' Plov Brand Tankage Trucker Without Potash.....	10.00	2.47	.....
Planters' Plov Brand Tankage Mixture With Potash.....	10.00	1.65	1.00
Planters' Plov Brand Texas Vegetable Grower.....	7.00	2.47	3.50
Planters' Plov Brand Tomato Fertilizer.....	8.00	2.47	3.00
Shreveport Fertilizer Works, Shreveport, La.—			
Lion Blood Bone.....	10.00	1.65	.....
Lion Blood and Bone (Non-Potassic).....	11.00	1.65	.....
Lion Corn Food.....	8.00	2.50	1.00
Lion Cotton Seed Meal Mixture.....	10.00	1.65	1.00
Lion Cotton Seed Meal Mixture (Non-Potassic).....	11.00	1.65	.....
Lion Georgia Apical.....	8.00	3.00	3.00
Lion Gold Coin Guano.....	10.00	1.65	2.00
Lion Success Mixture.....	11.00	1.65	.....

*Total Phosphoric Acid.

Manufacturer, Place of Business and Brand.	Phosphoric Acid— Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.
Shreveport Fertilizer Works, Shreveport, La.—Continued.—			
Lion Superfine Acid Phosphate	18.00		
Lion Superior Acid Phosphate	17.00		
Lion Tomato Special	9.00	2.50	1.00
Lion Veribest	11.00	3.00	2.00
Lion Xtra Good Acid Phosphate	16.00		
Sulphur Springs Acid and Fertilizer Co., Sulphur Springs, Texas.—			
Acid Phosphate	16.00		
Blood and Bone	11.00	1.65	
Plantation Fertilizer	11.00	1.65	
Plantation Special Grown Grower	10.00	2.00	
Planters' Special Fertilizer	8.00	3.00	
Swift & Co., Harvey and Shreveport, La.—			
Swift's Ammoniated Raw Bone Superphosphate	9.50	1.65	1.50
Swift's Blood, Bone and Potash	9.50	3.29	7.00
Swift's Bone Meal Fertilizer	*29.00	1.86	
Swift's Eagle	10.00	1.65	2.00
Swift's High Grade Acid Phosphate Fertilizer 16 Per cent.	16.00		
Swift's High Grade Acid Phosphate Fertilizer 18 Per Cent.	18.00		
Swift's Kainit			12.40
Swift's Manure Salts			20.00
Swift's Muriate of Potash			50.00
Swift's Nitrate of Soda		14.81	
Swift's Onion Grower	7.00	3.70	3.00
Swift's Palmetto	8.00	2.47	3.00
Swift's Raw Bone Meal	*22.90	3.70	
Swift's Red Steer	10.00	2.47	3.00
Swift's Red Steer 8-3.29-4	8.00	3.29	4.00
Swift's Red Steer for Onions	7.00	3.70	
Swift's Red Steer for Strawberries	10.47	2.47	5.00
Swift's Special Mixture	10.00	1.65	
Swift's Special Tankage Fertilizer	9.00	3.29	3.00
Swift's Standard Tankage Mixture	6.00	3.29	3.00
Swift's Steamed Bone Meal Fertilizer	*25.50	3.50	
Swift's Tankage Mixture	9.00	3.29	
Swift's 11-1.65-0	11.00	1.65	
Swift's 9-1.65-2	9.00	1.65	2.00
Swift's 10-1.65-1	10.00	1.65	1.00
Swift's 10-0-4	10.00		4.00
Swift's 10-3.29-0	10.00	3.29	
Swift's 10-2.47-0	10.00	2.47	
Swift's 10-2.47-1	10.00	2.47	1.00
Swift's Truckers' Favorite	8.00	2.47	1.00
Swift's 12-0-4	12.00		4.00
Swift's 12-0-2	12.00		2.00
Swift's 12-1.65-0	12.00	1.65	
Swift's Vegetable Grower	8.00	3.29	2.00
Texas Sulphur Company, Inc., El Paso, Texas—			
Agricultural Sulphur Compound.			
Free Sulphur 5.00%, Sulphur Trioxide 0.50%.			
Sulphur Trioxide in Calcium Sulphate 20.00%.			
Toyah Valley Sulphur Company, Inc., New Orleans, La.—			
Free Sulphur 5.00%, Sulphur Trioxide 0.50%.			
Sulphur Trioxide in Calcium Sulphate 20.00%.			
Tennessee Coal, Iron and Railroad Co., Birmingham, Ala.—			
Duplex Basic Phosphate	*18.00		
14 Per Cent Basic Phosphate	*14.00		
Virginia-Carolina Chemical Co. of Delaware, Shreveport, La.—			
BBB Beef, Blood and Bone	10.00	1.65	1.00
BBB Beef, Blood and Bone Non-Potassic	11.00	1.65	
Eureka Complete Fertilizer	10.00	1.65	4.00
Georgia State Grange	10.00	1.65	1.00
Georgia State Grange Non-Potassic	11.00	1.65	
German Kainit			12.00
Mobile Double Eagle Guano	10.00	1.65	1.50
Mobile Double Eagle Guano Non-Potassic	11.50	1.65	
Mobile Raw Bone Ammoniated Superphosphate	10.00	1.65	1.50
Mobile Raw Bone Ammoniated Superphosphate Non-Potassic	11.50	1.65	

*Total Phosphoric Acid.

Table 4.—Registration of commercial fertilizers, season 1920-1921.

Manufacturer, Place of Business and Brand.	Phosphoric Acid— Available Per Cent.	Nitrogen—Per Cent.	Potash—Per Cent.
Virginia-Carolina Chemical Co. of Delaware, Shreveport, La.—Continued.—			
Muriate of Potash.....		14.81	48.00
Nitrate of Soda.....	10.00	1.65	1.50
Royal Blood, Bone and Potash.....	11.50	1.65	
Royal Blood and Bone Non-Potassic.....	10.00		2.00
Royal Compound.....	8.00	1.65	2.00
Royal Cotton Boll Guano.....	10.00	1.65	
Royal Cotton Boll Guano Non-Potassic.....	8.00	2.47	5.00
Royal Fruit Grower.....	10.00	1.65	2.00
Royal High Grade Guano.....	12.00	1.65	
Royal High Grade Guano Non-Potassic.....	10.00		4.00
Royal Potash Compound.....	10.00	2.47	1.00
Royal Tomato Formula.....	11.00	2.47	
Royal Tomato Formula Non-Potassic.....	8.00	2.47	4.00
Royal Vegetable Fertilizer.....	12.00	2.47	
Royal Vegetable Fertilizer Non-Potassic.....	10.00	1.65	1.50
Scott's Gossypium Phospho.....	11.50	1.65	
Scott's Gossypium Phospho Non-Potassic.....	10.00	1.65	2.00
Scott's Gossypium Phospho Special.....	12.00	1.65	
Scott's Gossypium Phospho Special Non-Potassic.....	14.00		
Scott's High Grade Acid Phosphate.....	12.00		2.00
Scott's Potasso Phospho.....	8.00	1.65	2.00
Scott's State Standard Guano.....	10.00	1.65	
Scott's State Standard Guano Non-Potassic.....	2.00	13.16	
Sulphate of Potash.....	10.00	1.65	
Tip Top Nitrogen Compound.....	18.00		
V. C. Ammoniated Bone Non-Potassic.....	16.00		
V. C. C. Co.'s 18 Per Cent Phosphate.....	8.00	2.06	6.00
V. C. C. Co.'s 16 Per Cent Acid Phosphate.....	9.00	3.00	3.00
V. C. C. Co.'s Truck Grower.....	12.00	3.00	
V. C. High Grade Champion Compound.....	7.00	3.00	1.00
V. C. High Grade Champion Compound Non-Potassic.....	8.00	3.00	
V. C. High Grade Dixie Special.....	10.00	1.65	2.00
V. C. High Grade Dixie Special Non-Potassic.....	12.00	1.65	
V. C. High Grade Guano.....	12.00		4.00
V. C. High Grade Guano Non-Potassic.....	4.00	6.17	2.50
V. C. High Grade Potash Compound.....	6.50	6.17	
V. C. High Grade Top Dresser.....	10.00	1.65	
V. C. High Grade Top Dresser Non-Potassic.....	8.00	4.92	3.00
V. C. Meal Formula Non-Potassic.....	10.00	1.65	2.00
V. C. Plant Food (for Vegetables, Lawns and Flowers).....	12.00	1.65	
V. C. Rice Special.....	12.00		8.00
V. C. Rice Special Non-Potassic.....	8.00	2.47	1.00
V. C. Special Potash Compound.....	9.00	2.47	
V. C. XXX Special.....	10.00	2.47	1.50
V. C. XXX Special Non-Potassic.....	6.00	3.29	8.00
V. C. Tomato Special.....			
V3. C. Fruit and Truck Special.....			
Wills Point Cotton Oil Co., Wills Point, Texas.—			
Semper-Fidelis Acid Phosphate.....	16.00		
Semper-Fidelis Phospho Meal.....	9.00	3.50	1.00
Semper-Fidelis Royal Fertilizer.....	10.00	1.65	
Semper-Fidelis "Special".....	11.00	1.65	1.00