

TEXAS AGRICULTURAL EXPERIMENT STATION

R. D. Lewis, Director

College Station, Texas

BULLETIN NO. 684

October, 1946

LIBRARY
A. & M. COLLEGE OF TEXAS

COMMERCIAL FERTILIZERS IN 1945-46

J. F. FUDGE, State Chemist

T. L. OGIER, Associate State Chemist

DIVISION OF CHEMISTRY



AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

GIBB GILCHRIST, President

6000 Copies

630.72
T35b
#684

This is the 44th annual fertilizer bulletin. It contains information regarding the Texas Fertilizer Laws, statistics concerning the sale of fertilizer during the 1945-1946 season, and analyses of samples of fertilizer sold by different manufacturers.

A total of 305,510 tons of fertilizers was sold during the period from September 1, 1945, through August 31, 1946. This tonnage was about 40 percent higher than that sold in 1944-1945. The 4-12-4 and 5-10-5 grades of mixed fertilizers accounted for over 80 percent of the mixed goods sold. Superphosphate (20 percent) and ammonium nitrate accounted for 79 percent of the fertilizer materials sold.

Tables are given which compare the valuations of the fertilizers sold by different manufacturers, as based upon actual analyses, with the guaranteed valuations and selling prices, and show the extent to which the various fertilizer manufacturers met or exceeded their guarantees.

CONTENTS

Page

Introduction	2
Some Requirements of the Texas Fertilizer Law.....	5
Fertilizer Grades to Be Sold During 1946-1947.....	7
The Texas Fertilizer Committee.....	8
Brands and Trade-marks Registered with the State Chemist.....	8
Total Tonnage of Fertilizers Sold During 1945-1946 Season.....	9
Tonnage Sales of Different Grades of Fertilizers.....	9
Valuation per Ton	10
Composition and Selling Prices of Different Grades of Fertilizers.....	11
Average Cost of Nitrogen, Available Phosphoric Acid, and Potash.....	12
Sulphur and Sulphur Carriers	13
Relation of Valuation Guaranteed to Valuation Found	13
How to Get Free Analysis of Fertilizers.....	14
Publications Dealing with the Use of Fertilizers.....	15
Analysis of Fertilizers, 1945-1946.....	16
Summary	16

[Blank Page in Original Bulletin]

COMMERCIAL FERTILIZERS IN 1945-1946**J. F. Fudge, State Chemist, and T. L. Ogier, Associate State Chemist**

This is the 44th annual fertilizer bulletin published in compliance with the Texas Fertilizer Law, which requires that the State Chemist shall issue at least one bulletin annually setting forth the analyses of fertilizers made under the provisions of the fertilizer law, the operations of the law, and other information pertaining to the sale of fertilizer in Texas.

Some Requirements of the Texas Fertilizer Law

The laws governing the sale of commercial fertilizers in Texas are found in Chapter Twelve of Title Nineteen of the Revised Criminal Statutes, 1925, and in Chapter Five of Title Four of Texas Civil Statutes, 1925. A summary of some important requirements of the law is given below. For further requirements of the law, penalties, definitions, and other detailed information, reference should be made to the full text of the laws. Copies of these laws will be furnished by the State Chemist upon request.

Materials covered by the law. All mixed fertilizers and fertilizer materials and all other substances which have or are claimed to have a beneficial effect on the soil or to promote the growth of crops, come under this law, with the exceptions of lime, limestone, marl, unground bones, stockpen manure, barnyard manure, or the excrement of any domestic animal in case that said manure or excrement has not been dried or manipulated or otherwise treated, or is not claimed to have a value of more than \$4.00 a ton.

Registration. Before a fertilizer is offered for sale or sold in Texas, it must be registered with the State Chemist of Texas. All registrations expire on August 31 of each year, and new applications for registration must be submitted for each year. Application blanks for registration are furnished by the State Chemist of Texas, College Station, Texas, upon request. One copy of the application blank must be filled out and sent to the State Chemist, together with a copy of the printed bag or tag to be used. Such bag or tag must meet the requirements of the fertilizer law. Wording on the printed bag or tag must agree exactly with the wording on the application for registration, and no change may be made in the wording of the bag or tag after it has been registered. Any such change requires a new registration.

The application for registration must state all of the materials used in the fertilizer, including the filler or conditioner, and these materials must be used in all batches. A change may be made only if the change meets the requirements of the law and the State Chemist is notified.

No brand name identical with or so similar to a brand name previously registered by another manufacturer as to lead to confusion can be accepted. No name which is misleading as to the ingredients of the fertilizer can be

accepted. The grade of mixed fertilizers should be part of the brand name, for example, Jupiter 20% Superphosphate or Mars 5-10-5 fertilizer.

Branding. The law requires the following information to be printed on the bag or on a tag attached to the bag:

- Net weight of contents of the bag.
- Name of fertilizer in full.
- Name and address of manufacturer, manipulator, or guarantor.
- Guaranteed analysis (in the order given below):
 - Nitrogen, percent
 - Available phosphoric acid, percent
 - Potash, percent

Nitrogen refers to the total nitrogen (N) present. Such terms as "ammonia" or "equivalent to ammonia" cannot be used.

Available phosphoric acid (P_2O_5) must be guaranteed in all mixed fertilizers and in all fertilizer materials, with the following exceptions. Total phosphoric acid may be guaranteed in bone meal, tankage or other similar products, but where this is done, no guarantee of available phosphoric acid can be used. If it is desired to claim available phosphoric acid only, the guarantee must take the form set forth above.

Potash (K_2O) refers to potash soluble in distilled water. No other guarantee or term can be used.

Inspection tax tags. In order to finance the inspection of fertilizers and the collection and analysis of official samples of fertilizer, experiments relative to the value of fertilizers, and for certain other purposes, the law imposes an inspection tax of 25 cents per ton upon all fertilizers sold or offered for sale in Texas. This tax is paid by means of tax tags issued by the State Chemist. Request for tags should be addressed to the State Chemist of Texas, College Station, Texas, accompanied by a remittance of \$12.50 for each 1,000 tags for 100-pound packages. Tags ordered without remittance will be shipped C.O.D. These tags must be attached to the bag by the manufacturer before shipment is made. Tax tags cannot be used after August 31 of the year issued, and the law does not permit the State Chemist to redeem any unused tax tags.

Tax tags do not need to be attached to fertilizer materials sold to manufacturers for manufacturing purposes.

Bulk sales. Fertilizer in bulk for manufacturing purposes can be shipped only to the factory of a manufacturer who has registered fertilizer for sale in Texas.

Fertilizer in bulk cannot be sold to dealers, but dealers may register fertilizers in their own names and the fertilizer can then be sold after being bagged and tagged by them.

Fertilizer in bulk may be sold by manufacturers, manipulators, or guarantors to persons, individuals, or firms for their own use on their own lands, but not for resale or distribution, provided authorization to make such sales has been issued by the State Chemist. The inspection tax must be paid upon all such sales, and the purchaser must be furnished with tax

tags covering the amount of fertilizer sold. All authorizations to sell fertilizer in bulk expire each August 31.

Report of sales. A report of each sale or shipment of fertilizer in or into Texas must be mailed to the State Chemist within three days of such sale or shipment. Reports of sales in bulk to manufacturers must be marked "for manufacturing purposes". Reports of sales in bulk to individuals for their own use on their own land must be marked "bulk sale to customer". Summary reports of sales covering periods decided upon by the State Chemist may also be required.

Advertisements. Any false or misleading printed statements concerning a fertilizer is prohibited by law; when such statements are made, the fertilizer is misbranded.

Fertilizer Grades to Be Sold During 1946-1947

The grade of a mixed fertilizer is stated in numbers representing the guaranteed percentages analysis of nitrogen, available phosphoric acid, and water-soluble potash. For example, a grade of 5-10-5 means that the fertilizer is guaranteed by the manufacturer to contain 5% nitrogen, 10% available phosphoric acid, and 5% potash. Fertilizers are frequently referred to by these numbers, which form a short and accurate description of the fertilizer. The term grade may also refer to the percentage of a constituent in a fertilizer material; superphosphate for sale in Texas is registered as containing 18%, 19%, 20% or 45% available phosphoric acid. Wherever practicable, the grade of a fertilizer or fertilizer material should be included as part of the full name of the fertilizer required on the bag or tag.

The grades of mixed farm fertilizers sold in Texas have been limited in number for 20 years. This limitation and standardization assists the farmer to become familiar with the different kinds of fertilizer, enables him to decide more readily on the proper kind to be used, enables the agricultural specialist to make definite recommendations, and reduces the cost of manufacture and handling, thereby reducing the cost of the fertilizer to the consumer. The grades of mixed farm fertilizers to be sold in Texas during a given year are decided upon by the Texas Fertilizer Committee, after a public hearing at which manufacturers and others interested may present recommendations. This public hearing is usually held in cooperation with fertilizer control officials, agricultural specialists, and manufacturers of Texas, Louisiana, Arkansas, Oklahoma, and New Mexico. The list of approved grades is published in the annual fertilizer bulletin and may also be obtained upon request sent to the State Chemist.

The grades of mixed fertilizers approved for the coming year, extending from September 1, 1946, through August 31, 1947, are the following:

0-14-7, 4-8-8, 4-12-4, 5-10-5, 6-12-0, 6-30-0, 8-8-8, 10-0-10, 10-10-0, 10-20-0, 11-48-0, 12-15-0, ad 16-20-0.

The Texas Fertilizer Committee

The Texas Fertilizer Committee, composed of agricultural subject matter specialists of the Agricultural and Mechanical College of Texas and representatives of the United States Department of Agriculture, is appointed by the director of the Texas Agricultural Experiment Station to advise and assist the State Chemist of Texas in the discharge of certain of his duties, particularly with respect to grades of mixed fertilizer to be approved for registration during the coming year, and recommendations of grades to be used for various crops. This committee for the current fertilizer year is composed of the following individuals:

For the Texas Agricultural Experiment Station:

J. F. Fudge, State Chemist and Chief, Division of Chemistry,
Chairman.

E. B. Reynolds, Chief, Division of Agronomy.

S. H. Yarnell, Chief, Division of Horticulture.

For the School of Agriculture:

Guy Adriance, Head, Department of Horticulture.

L. G. Jones, Acting Head, Department of Agronomy.

For the Agricultural Extension Service:

E. A. Miller, Extension Specialist in Agronomy.

J. F. Rosborough, Extension Specialist in Horticulture.

M. K. Thornton, Extension Specialist in Agriculture, Chemistry.

For the United States Department of Agriculture:

Gerald Wakefield, Production and Marketing Administration.

Brands and Trade-marks Registered with the State Chemist

The law prohibits the use of a brand or trade-mark identical with or so nearly similar to that of a name previously registered with the State Chemist as to lead to uncertainty, confusion or fraud, and requires the State Chemist to publish annually a list of brands or trade-marks registered with him. The following is a list of brands and trade-marks registered with the State Chemist during 1945-1946:

Acid Earth	Ferti-Lome	Min-Coll	Smith Square Deal
Aero	Fidelity	Min-Sol	Smith Commander
AleXite	Ford	Milorganite	Star
All-Weather	Fulton's Plantabbs	Mr. O	Stauffer's
Anaconda	Garden Master	N. J.	Sulphur Earth
Arcadian	Goldenrod	Old Black Joe	Sunset
Armstrong's Prescription	Heart	Ovene	Swift's Red Steer
Arrow Standard	Hu-Actinite	Owl	T.C.C.
Best Bet	Hy-Gro	Pabak	Texas Longhorn
Big Crop	Hyponex	Palestine Blue Star	Thorobred
Bull Dog	Hy-Trous	Pic-Nic	Triple C
Burbank	International	Plant-Chem	United
C. C. I.	Interstate	Purina	V - C
Capitol	K-W	Quapaw	Valley Growers
Champion	La-Tex	Quick Mix	Valley Port
Chilean	Lion	Red Diamond	Velvet Green
Clark's	Liqua-Vita	Red Seal	Victory
Co-Op	Loma	Red Star	Vigoro
Davco	Lone Star	Red Tomato	Weber-King
Double Circle	Lonfosca	Reliance	White Diamond
DuPont Uramon	Longhorn	Sasco	Wizard
Eureka	Longview	Silver Tip	Wolf
Fertilis	Marshall	Smith Big Yield	

Total Tonnage of Fertilizers Sold During 1945-1946 Season

A total of 305,510 tons of fertilizers was sold during the year from September 1, 1945, through August 31, 1946. This tonnage is compared in Table 1 with tonnages sold during other years. Tonnages given in Table 1 are based on actual sales as reported by manufacturers, and not upon

Table 1. Tonnages of fertilizers sold in Texas during different years

Year	Total Tonnage
1905-06	13,500
1910-11	52,985
1915-16	21,500
1920-21	14,850
1925-26	121,747
1930-31	64,424
1932-36	30,845
1935-36	60,016
1940-41	129,578
1941-42	134,560
1942-43	154,828
1943-44	196,877
1944-45	217,760
1945-46	305,510

the number of inspection tax tags sold, which is usually a little larger than the actual sales reported. Cottonseed meal sold as feed but used as fertilizer is not included in tonnages. Sales during 1945-1946 were about 40 percent higher than during 1944-45. Significant increases in sales have occurred nearly every year since the 1932-33 season, when the sales amounted to only about one-tenth of those during the past sason.

Tonnage Sales of Different Grades of Fertilizers

The tonnage of different grades of mixed fertilizers and fertilizer materials are given in Table 2, for periods extending from July 1, 1945, to Dcember 31, 1945, from January 1, 1946 to June 30, 1946, and the total from July 1, 1945 to June 30, 1946. These periods were used because they are in accord with the periods almost universally used by the fertilizer manufacturers, by the United States Department of Agriculture, and by many States, and are those recommended for national adoption by the Committee on Fertilizer Grades and Ratios of the American Society of Agronomy to provide a uniform basis for estimating the needs of the fertilizer industry of the United States.

A total of 180,802 tons of mixed goods was sold during this period. The 4-12-4 grade amounted to 57 percent and the 5-10-5 grade amounted to 25 percent of this total. Thus, while eleven grades of mixed fertilizer were approved by the Texas Fertilizer Committee, two grades accounted for 82 percent of the total mixed goods sold. Four grades (including 6-8-4 and 4-8-8) accounted for over 91 percent of the total. A total of 91,198 tons of fertilizer materials were sold (not including 22,511 tons of 18% and 20% superphosphate owned and distributed by the Production and

Table 2. Sales by grades in order of tonnage from July 1, 1945 to June 30, 1946

	Jan. 1, 1945, to Dec. 31, 1945 Tons	Jan. 1, 1946, to June 30, 1946 Tons	Total Tons
4-12-4	8,955	94,420	103,375
Superphosphate, 20%	25,372	22,877	48,249
5-10-5	3,870	41,277	45,147
Ammonium nitrate	9,773	14,030	23,803
Nitrate of soda	2,145	6,991	9,136
6-8-4	924	7,903	8,827
4-8-8	172	7,852	8,024
10-10-0	4,475	1,729	6,204
6-12-0	1,860	3,985	5,845
Superphosphate 45%	3,146	1,423	4,569
Superphosphate 18% & 19%	2,420	232	2,652
0-14-7	334	1,925	2,259
Cyanamid	1,067	256	1,323
Rock phosphate, ground	692	374	1,066
Specialty fertilizers	63	969	1,032
8-8-8	8	994	1,002
Soft phosphate with colloidal clay	0	544	544
Uramon	217	195	412
Sheep manure	132	141	273
Milorganite	33	225	258
Muriate of potash	117	117	234
Sulphate of ammonia	75	108	183
Bat guano	49	50	99
Bone meal	15	48	63
10-20-0	10	46	56
12-15-0	22	30	52
Potash salts	3	3	6
TOTAL	65,949	208,744	274,693

Totals do not include 22,511 tons of superphosphate (18 and 20 percent) owned and distributed by the Production and Marketing Administration, United States Department of Agriculture.

Marketing Administration). Of this quantity, 20% superphosphate amounted to 53 percent and ammonium nitrate, to 26 percent.

Valuation per Ton

The Texas fertilizer law permits a deficiency of less than 10 percent in one plant food to be compensated by an excess of another, but allows a deficiency of not more than 4 percent in the total valuation of the fertilizer. If the deficiency exceeds 4 percent of the valuation, a rebate must be paid by the manufacturers to the dealer or consumer. If paid to the dealer, the dealer must pay the refund to the purchaser. A calculation of the guaranteed valuation and of the valuation found in a given fertilizer sample must therefore be made. The valuation also sums up the value of the three principal constituents (nitrogen, available phosphoric acid, and potash) shown in the guarantee or found in the analysis into a single figure, which is convenient for comparative purposes.

The calculation of the valuation requires a specific valuation for each of the three constituents. The following prices per pound and per unit

(1 percent of a ton, or 20 pounds) were used for this calculation in 1945-1946:

	Price per pound	Price per unit
Nitrogen	\$.13	\$ 2.60
Available phosphoric acid .....	.07	1.40
Total phosphoric acid in tankage and bone meal.....	.05	1.00
Total phosphoric acid in rock phosphate .....	.015	0.30
Potash .....	.07	1.40

The valuation is calculated by multiplying the percentage of each constituent by the valuation per unit, and adding the products. The following is an example of the calculation of the valuation of a 5-10-5 fertilizer:

Nitrogen	5 ×	\$2.60 =	\$13.00
Available phosphoric acid	10 ×	1.40 =	14.00
Potash	5 ×	1.40 =	7.00
Guaranteed valuation			\$34.00

The valuation guaranteed and the valuation found are used for comparative purposes in a number of the following tables.

Composition and Selling Prices of Different Grades of Fertilizer

The average composition, the guaranteed valuation, the valuation found by analysis, and the average retail selling price per ton, of various

Table 3. Average composition, valuation and selling prices of grades of fertilizer, 1945-1946

	Number averaged	Nitrogen %	Available Phosphoric Acid %	Potash %	Valuation guaranteed	Valuation found	Selling price
0-14-7	3	.....	14.08	6.77	\$29.40	\$29.18	\$30.40
4-8-8	23	4.03	8.52	7.64	32.80	33.10	35.28
4-12-4	253	4.46	12.26	4.07	32.80	33.38	38.05
5-10-5	194	4.98	10.34	4.94	34.00	34.34	36.50
6-8-4	84	5.87	8.61	4.10	32.40	33.05	36.16
6-9-3	1	6.50	9.33	2.89	32.40	34.01	70.00
6-12-0	24	5.80	12.31	.....	32.40	32.33	37.45
8-8-8	15	7.80	8.57	8.19	43.20	43.76	43.20
10-10-0	20	9.76	10.53	.....	40.00	40.13	43.76
Ammonium nitrate 32.5%	10	32.68	.....	.....	84.50	84.98	54.87
Bone fertilizer	1	2.83	25.30*	.....	30.42	32.66	.....
Powdered raw bone	1	4.17	15.18*	.....	22.80	26.02	65.00
Raw bone meal	2	4.25	22.75*	.....	31.62	33.79	70.00
Cottonseed meal	1	5.02	2.59	2.01	20.61	19.49	65.00
Cyanamid 20.60%	4	20.48	.....	.....	53.56	53.25	57.93
Muriate of potash, 50%	1	.....	.....	49.40	70.00	69.16	49.60
Nitrate of soda, 16%	4	16.08	.....	.....	41.60	41.81	43.15
Phosphate rock, 30%	1	.....	30.34*	.....	30.00	30.34	.....
Sheep manure	5	1.62	1.53	3.80	8.80	11.67	43.20
Sheep manure, 2-2-2	2	2.17	1.47	3.33	10.80	12.37	49.00
Superphosphate, 19%	4	.....	19.31	.....	26.60	27.04	24.31
Superphosphate, 20%	35	.....	20.38	.....	28.00	28.54	26.34
Superphosphate, 45%	2	.....	46.30	.....	63.00	64.81	60.40
Superphosphate, 47%	2	.....	48.14	.....	65.80	67.40	58.68

* Total phosphoric acid.

grades of fertilizers are shown in Table 3. The average retail selling price is the average of the cash retail price furnished to the fertilizer inspector by the dealers. The prices of the same fertilizer may be different in dif-

ferent towns on account of differences in cost of transportation or for other causes. The retail price includes handling costs, carrying charges, and the dealer's profits, as well as the cost of the plant food used in the materials from which the fertilizer is made. Prices of fertilizer were established by the Office of Price Administration beginning with the spring of 1943.

The average valuation found by analysis (Table 3) is slightly above the guaranteed valuation in most cases.

Average Cost of Nitrogen, Available Phosphoric Acid, and Potash

The calculated retail cost of a pound of nitrogen, of available phosphoric acid, and of potash, in cents per pound, as calculated from the cash selling price per ton of the various grades of fertilizer given in Table 3 and the guaranteed composition are shown in Table 4. For the purpose of

Table 4. Approximate average cost in cents per pound of nitrogen, available phosphoric acid, and potash during 1945-1946

	Nitrogen	Available phosphoric acid	Potash
Ammonium nitrate, 32.5%	8.44	.....	.....
Muriate of potash, 50% .....	.....	.....	4.96
Superphosphate, 47% .....	.....	6.24	.....
Superphosphate, 19% .....	.....	6.40	.....
Superphosphate, 20% .....	.....	6.71	.....
Superphosphate, 45% .....	.....	6.71	.....
8-8-8	13.00	7.00	7.00
0-14-7 .....	.....	7.24	7.24
Nitrate of soda, 16%	13.48	.....	.....
5-10-5	13.96	7.52	7.52
4-8-8	13.99	7.53	7.53
20.6% Cyanamid	14.08	.....	.....
10-10-0	14.22	7.66	.....
6-8-4	14.51	7.81	7.81
6-12-0	15.03	8.09	.....
4-12-4	15.08	8.12	8.12
6-9-3, garden	28.08	15.12	15.12
Raw bone meal	28.77	15.49	.....
Powdered raw bone	37.12	19.99	.....
Cottonseed meal	40.99	22.07	22.07
Sheep manure, 2-2-2	58.90	31.72	31.72
Sheep manure	63.82	34.36	34.36

these calculations, it was assumed that the prices were in the same ratio as the valuations. As the price of the same fertilizer may be different in different places, these figures are not correct for any particular locality, but represent averages only, and are for purposes of comparison. The prices were collected by the inspectors from retail merchants handling fertilizers. Grades used extensively near the factories might average a lower price than those used at a distance on account of lower transportation costs. The fertilizers with the lowest costs (of plant food) are given first in the table.

Cost of Nitrogen. The cheapest source of nitrogen was ammonium nitrate, followed by 8-8-8, nitrate of soda, and 5-10-5. Sheep manure was the most expensive source of nitrogen, but very little is used except for

lawns and gardens. Of the farm fertilizers, 4-12-4 was the most expensive source of nitrogen. Due to the cost of mixing, the cost of nitrogen was greater in most of the mixed fertilizers than in nitrogen materials.

Cost of Phosphoric Acid. The cheapest source of phosphoric acid was 47% superphosphate, followed in order by 19%, 20%, and 45% superphosphate. Phosphoric acid was most expensive in sheep manure, followed by 4-12-4, 6-12-0 and 6-8-4.

Cost of Potash. Muriate of potash furnished the cheapest source of potash, followed by 8-8-8 and 0-14-7.

Sulphur and Sulphur Carriers

Sulphur and sulphur carriers, while not usually considered fertilizers in the ordinary usage of the term, come within the jurisdiction of the Texas fertilizer law when applied to soils to promote the growth of crops. A total of 9,398 tons of sulphur and of 2,250 tons of sulphur earth were sold during the year, principally in the Lower Rio Grande Valley. The value of sulphur or of a material carrying sulphur for acidifying soils depends upon the quantity of sulphur and sulphuric acid in the material. Three samples of soil sulphur were analyzed, with the following results:

	Sulphur Guaranteed	Sulphur Found
	%	%
Southern Acid and Sulphur.....	99.50	99.69
Stauffer Chemical Company.....	99.50	99.70
K-W Chemical Company.....	99.50	99.15

Two samples of a material called "Me-Co" (90071 and 90072) were collected by the inspector at La Feria, Texas. This material was sold by the Texas Earth Company of San Antonio, Texas, and belonged to W. C. Sherwood and others of La Feria, Texas. This material was being sold illegally because the company had not registered their product in accordance with provisions of the Texas Fertilizer Law. Chemical analysis did not give any indications of value to either the plant or the soil. About 90 percent of the samples consisted of sand and water.

Constituent	No. 90071	No. 90072
	%	%
Nitrogen .....	.24	.13
Phosphoric acid, total .....	.11	.11
Potash, water soluble .....	.42	.30
Sulphur .....	.27	.36
Sulphur as sulphuric acid .....	.64	.64
Sulphur as sulphates	1.10	.80
Calcium sulphate .....	.46	.16
Silica	70.61	80.40
Water	12.28	7.17
pH	2.25	2.26

Relation of Valuation Guaranteed to Valuation Found

The average valuation guaranteed by all manufacturers doing business in Texas, compared with the valuation found upon analysis, are

shown in Table 5. In the preparation of this table, all analyses made were averaged, even though several were made of each brand. Fertilizer materials, as well as mixed fertilizers, were included in the calculation of

Table 5. Average valuation of all fertilizer guaranteed and found in dollars per ton 1945-46.

Manufacturer	Number averaged	Average valuation guar.	Average valuation found	No. of samples more than 4% below guarantee
American Cynamid Company	4	\$53.56	\$53.25	0
Armour Fertilizer Works	162	33.34	33.96	1
Armstrong Prescription Fertilizer Co.	1	32.40	34.10	0
Associated Cooperatives, Inc.	11	82.55	83.43	0
Bryan Cotton Oil & Fertilizer Co.	4	33.40	35.35	0
Campbell Fertilizer Company	3	32.67	33.08	0
Chilean Nitrate Sales Corporation	3	41.60	41.87	0
Consolidated Chemical Ind., Inc.	3	28.68	31.20	0
East Texas Cotton Oil Company	22	33.24	33.95	0
Farm Services, Inc.	12	35.93	35.34	2
Federal Chemical Company, Inc.	25	33.46	33.91	1
Fidelity Chemical Corporation	48	33.20	33.48	0
Gilmer Cotton Oil & Fertilizer Company	4	33.00	35.53	0
International Mineral & Chemical Corp.	34	34.13	35.23	1
Jacksonville Fertilizer Company	6	33.26	34.34	0
Kelly-Weber and Company, Inc.	5	33.04	34.45	0
K-W Chemical Company	3	36.00	36.35	1
Lake Charles Feed Company, Inc.	1	32.80	33.50	0
Marshall Cotton Oil Company	8	31.68	31.11	3
New Jersey Fertilizer Company	1	30.42	32.66	0
Niagara Sprayer Chemical Co., Inc.	3	36.00	34.90	2
Oil Mill & Fertilizer Works	5	31.60	31.86	2
Pittsburg Cotton Oil Company	3	32.67	32.26	1
Pittsburg Fertilizer Company	2	34.00	34.54	0
Port Fertilizer Company	2	65.80	67.40	0
Ralston Purina Company	3	34.00	34.80	0
Red Star Fertilizer Company	15	32.96	33.17	1
Ruhm Phosphate & Chemical Company	1	30.00	30.34	0
Sears Roebuck and Company	2	21.40	22.21	0
Shreveport Fertilizer Works	29	35.04	36.62	0
Southwestern Peanut Growers Ass'n.	1	32.80	34.68	0
Swift and Company	144	32.88	33.28	4
Texas Farm Products Company	36	33.01	33.39	0
Tri-State Fertilizer & Lumber Co.	2	33.40	32.85	0
Tyler Fertilizer Company	6	33.33	32.59	2
United Chemical Company	16	29.33	29.77	1
Virginia-Carolina Chemical Corporation	64	32.25	33.84	0
Waldo Fertilizer Works	6	32.80	34.50	1

the averages given. In nearly all cases, the valuation found exceeded the guaranteed valuation.

Whenever any lot of fertilizer is 4 percent or more below the guaranteed valuation, the law requires all persons who have sold this lot of fertilizer to make good the deficiency to all purchasers. This rebate is paid by the manufacturer to the dealer and by the dealer to the customer. The number of lots on which such rebates were paid by each manufacturer is also shown in Table 5. Considering the great demand for and the limited supply of materials and the difficulty of securing competent labor, the fertilizer trade is to be commended upon the relatively low number of deficient samples found.

How to Get Free Analysis of Fertilizers

Purchasers of commercial fertilizers for their own use (but not for

sale), can secure a free analysis of a sample provided they take a legal sample. Those who desire the free analysis of a sample of commercial fertilizer should write for the form, "Application for Free Fertilizer Analysis," to the State Chemist, College Station, Texas, before taking a sample. The proper sampling of a fertilizer requires care, and the law requires it to be taken in a certain way so that a fair sample is taken. If the sample is not properly taken, it does not represent the fertilizer sampled, and the analysis may be better or poorer than the goods actually are. This privilege of a free analysis applies only to fertilizers tagged, and sold under the fertilizer law and to samples properly taken so that they represent the goods sampled.

Publications Dealing with the Use of Fertilizer

Information concerning the use of commercial fertilizers for various crops in different sections of Texas will be sent free on request. Some publications of the Texas Agricultural Experiment Station containing information relative to fertilizers and fertilizing materials are as follows:

Circulars:

85. Use of commercial fertilizers.
90. Rose growing for the home gardener.
95. Vitamin B1 (Thimain) and other vitamins as fertilizers.
102. Recommendations for the use of the approved grades of fertilizer for Texas in 1943-44.

Bulletins:

212. The availability of phosphoric acid in rock phosphate.
350. Fertilizer statistics for Texas (to 1927).
414. Possibilities of sulphur as a soil amendment.
408. Effect of Sulphur on yield of certain crops.
428. The fertilizing value of greensand.
432. Manganese in Texas soils and its relation to crops.
445. The composition and fertilizing value of sewage sludge.
469. Fertilizer experiments with cotton.
509. Availability of the phosphoric acid of finely divided rock phosphate.
524. Fertilizer experiments with yellow Bermuda onions in the Winter Garden region of Texas.
572. Fertilizer statistics for Texas, 1926-38.
596. Onion fertilizer experiments at Laredo, Big Wells, and Eagle Pass, Texas.
602. Fertilizer for Rice in Texas.
627. Resistance to Wilt and Root Knot and the Effect of Potash Fertilizer in East Texas.
647. Some Factors Affecting the Utilization of Phosphoric Acid in Soils by Plants in Pot Experiments.
672. The Value of Different Phosphates for Various Texas Soils and Grasses as Indicated by Pot Experiments.

Progress Reports:

- 675. Acid production in compost of sulphur and organic matter.
- 938. Soil analysis and farm problems.
- 963. The Need for Lime of Some East Texas Soils.
- 982. Sweet Potato Fertilizer Studies in East Texas.
- 983. Effect of Large Amounts of Phosphates upon Yield and Composition of Grasses.
- 989. Fertilizers for White Potatoes in the High Plains of Texas.
- 993. Fertilizer Tests with Cotton and Corn at the El Paso Valley Substation.
- 996. The Effect of Phosphates upon the Percentage of Phosphoric Acid in Pasture Grasses.
- 998. Distribution of Fertilizer Sales in Texas July 1 - Dec. 31, 1945.
- 1025. Fertilizer Studies with Vegetables in Cameron County.
- 1037. Distribution of Fertilizer Sales in Texas, Jan. 1 - June 30, 1946.

Any of these publications will be sent free on request to the director of the Texas Agricultural Experiment Station, College Station, Texas. In order to avoid errors, both the number and the name of the publication should be given.

Analyses of Fertilizers, 1945 - 1946

A total of 717 samples of fertilizers and fertilizer materials was collected during the year by fertilizer inspectors from the goods being sold in many towns and cities of Texas. The chief places of sales were inspected several times. These samples were analyzed by official method of the Association of Official Agricultural Chemists of North America, as is required by law. Analytical work and inspection was done by T. L. Ogier, E. J. Deszyck, Waldo Walker, Vera Otto, and C. B. McLarry. The analyses are shown in Table 6 at the end of this bulletin.

Summary

This bulletin constitutes the 44th annual report of the operation of the Texas fertilizer laws, and covers the period from September 1, 1945 through August 31, 1946.

The tonnage of fertilizers and fertilizer materials sold during this period amounted to 305,510 tons, an increase of about 40 percent over the tonnage sold during the preceding year. The 4-12-4 grade amounted to over one-half of the total mixed goods sold and 20% superphosphate amounted to over one-half of the fertilizer materials sold.

The grades of fertilizer to be sold in Texas during the 1946-47 period are listed.

The relation of the guaranteed valuation to the valuation found upon analysis of samples from various manufacturers is shown. Rebates were paid upon 23 lots of fertilizers out of a total of 717 lots analyzed.

Analyses of 717 samples of official samples collected by the fertilizer inspectors are given.

Table 6. Analyses of commercial fertilizers sampled during 1945-1946.

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
American Cynamid Company, New York, New York					
	20.6% Aero Cynamid Granular, Guarantee.....	20.60			\$53.56
90067	Analysis	21.11			54.89
90091	Analysis	20.05			52.13
90168	Analysis	20.72			53.87
90683	Analysis	20.04			52.10
Armour Fertilizer Works, Houston, Fort Worth Texas add New Orleans, Louisiana					
	Armour's Big Crop Fertilizer 0-14-7, Guarantee.....		14.00	7.00	29.40
90123	Analysis		14.05	6.48	28.74
	Armour's Big Crop Fertilizer 4-8-8, Guarantee.....	4.00	8.00	8.00	32.40
90178	Analysis	4.54	9.69	5.13	32.55
90323	Analysis	4.10	8.82	7.04	32.87
90471	Analysis	4.17	8.28	8.01	33.64
90512	Analysis	3.93	9.08	7.26	33.09
90546	Analysis	3.46	8.89	8.02	32.68
90577	Analysis	4.03	9.20	7.52	33.89
	Armour's Big Crop Fertilizer 4-12-4, Guarantee.....	4.00	12.00	4.00	32.80
90004	Analysis	3.42	12.82	3.72	32.05
90014	Analysis	3.57	12.98	3.77	32.73
90015	Analysis	3.53	12.64	4.04	32.54
90079	Analysis	3.69	12.30	4.04	32.47
90086	Analysis	4.00	13.40	3.80	34.48
90112	Analysis	3.81	12.26	4.01	32.68
90122	Analysis	3.73	12.88	4.15	33.54
90128	Analysis	3.71	13.02	3.98	33.45
90132	Analysis	4.23	12.91	3.71	34.26
90134	Analysis	3.69	12.92	4.04	33.34
90155	Analysis	4.00	12.33	3.79	32.97
90160	Analysis	3.82	13.03	4.15	33.98
90173	Analysis	3.76	13.53	4.07	34.42
90175	Analysis	4.16	12.93	3.53	33.86
90177	Analysis	3.92	12.76	4.12	33.82
90185	Analysis	4.02	12.48	3.84	33.30
90191	Analysis	3.95	12.84	4.12	34.02
90195	Analysis	3.80	12.71	3.95	33.20
90198	Analysis	3.64	13.16	4.01	33.49
90204	Analysis	4.08	12.39	3.71	33.15
90207	Analysis	3.80	12.72	3.83	33.05
90210	Analysis	3.83	12.68	3.89	33.16
90219	Analysis	3.69	12.80	3.69	32.68
90229	Analysis	4.04	12.74	4.00	33.94
90277	Analysis	3.66	12.75	4.03	33.01
90285	Analysis	3.77	12.32	4.01	32.66
90295	Analysis	4.13	11.61	4.08	32.70
90306	Analysis	3.96	12.72	4.02	33.74
90318	Analysis	3.49	12.57	4.02	32.30
90325	Analysis	3.76	12.14	4.14	32.58
90326	Analysis	3.79	12.47	4.06	32.99
90335	Analysis	3.84	12.67	4.01	33.33
90339	Analysis	3.76	12.72	3.73	32.81
90340	Analysis	3.61	13.01	4.09	33.33
90342	Analysis	3.78	12.83	4.01	33.40
90347	Analysis	4.07	12.05	4.26	33.41
90369	Analysis	3.41	13.09	4.04	32.86
90373	Analysis	3.64	12.51	3.35	31.66
90414	Analysis	3.89	11.39	4.03	31.70
90470	Analysis	4.18	11.82	4.02	33.05
90495	Analysis	3.44	12.29	3.50	31.05
90411	Analysis	4.16	12.48	3.77	33.57
90547	Analysis	3.93	11.74	4.04	32.32
90563	Analysis	4.13	12.38	4.01	33.68

Table 6. Analyses of commercial fertilizers sampled during 1945-1946.

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
90576	Analysis	4.10	12.14	4.04	33.32
90631	Analysis	4.11	12.00	4.04	33.15
90632	Analysis	4.19	12.41	4.18	34.11
90646	Analysis	4.23	11.95	3.98	33.30
90658	Analysis	3.82	11.61	4.01	31.79
90660	Analysis	4.19	11.61	4.02	32.77
90661	Analysis	4.18	12.02	4.03	33.34
90665	Analysis	4.27	11.66	4.15	33.23
90666	Analysis	4.22	12.56	4.49	34.84
90673	Analysis	3.33	12.28	4.04	31.51
90681	Analysis	3.33	12.39	4.02	31.64
90702	Analysis	3.88	12.22	3.60	32.24
90713	Analysis	4.18	10.96	4.02	31.84
	Armour's Big Crop Fertilizer 5-10-5, Guarantee	5.00	10.00	5.00	34.00
90415	Analysis	5.12	10.20	4.85	34.38
90475	Analysis	5.52	9.01	5.01	33.97
90519	Analysis	4.94	10.17	4.92	33.97
90556	Analysis	5.17	10.12	4.81	34.34
	Armour's Big Crop Fertilizer 6-8-4, Guarantee	6.00	8.00	4.00	32.40
90017	Analysis	5.90	9.03	4.03	33.62
90047	Analysis	5.90	9.84	4.35	35.21
90110	Analysis	5.68	8.87	4.00	32.79
90114	Analysis	5.59	9.09	4.07	32.96
90136	Analysis	5.72	9.29	3.83	33.24
90205	Analysis	5.55	9.03	4.18	32.92
90286	Analysis	5.63	9.08	4.06	33.03
90324	Analysis	5.43	8.83	4.22	32.39
90416	Analysis	5.98	8.35	4.01	32.85
90428	Analysis	5.86	8.69	4.10	33.15
90472	Analysis	6.23	8.46	4.04	33.70
90474	Analysis	6.31	7.65	4.02	32.75
90540	Analysis	5.84	8.99	4.01	33.38
90615	Analysis	6.02	9.18	4.01	34.11
90663	Analysis	5.53	9.18	4.02	32.86
	Armour's Big Crop Fertilizer 6-12-0, Guarantee	6.00	12.00	3.00	32.40
90016	Analysis	5.65	12.51	3.20	32.20
90031	Analysis	5.93	12.38	3.20	32.75
90042	Analysis	5.91	12.74	3.20	33.21
90056	Analysis	5.71	12.66	3.20	32.57
90069	Analysis	6.18	12.26	3.20	33.23
90087	Analysis	6.11	12.32	3.20	33.14
90093	Analysis	6.18	12.07	3.20	32.97
90135	Analysis	5.70	12.38	3.20	32.15
90144	Analysis	5.62	12.24	3.20	31.75
90147	Analysis	5.76	12.14	3.20	31.98
90157	Analysis	5.29	12.83	3.20	31.71
90165	Analysis	5.84	12.76	3.20	33.04
90169	Analysis	6.25	12.20	3.20	33.33
90174	Analysis	5.40	12.93	3.20	32.14
	Armour's Big Crop Fertilizer 10-10-0, Guarantee	10.00	10.00	4.00	40.00
90036	Analysis	9.65	11.20	4.00	40.77
90046	Analysis	10.87	10.01	4.27	42.27
90057	Analysis	9.55	11.59	4.06	41.06
90066	Analysis	10.39	9.89	4.06	40.86
90068	Analysis	10.74	9.80	4.06	41.64
90078	Analysis	10.47	10.05	4.06	41.29
90089	Analysis	10.66	9.92	4.06	41.61
90156	Analysis	9.10	11.22	4.06	39.37
90179	Analysis	9.28	11.27	4.06	39.91
90183	Analysis	9.05	10.90	4.06	38.79
90208	Analysis	9.26	11.86	4.06	40.68
	Armour's Big Crop Superphosphate 20%, Guarantee		20.00		28.00
90001	Analysis		20.11		28.15

Table 6. Analyses of commercial fertilizers sampled during 1945-1946.

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
90002	Analysis	19.92			27.89
90013	Analysis	19.67			27.54
90018	Analysis	20.02			28.03
90044	Analysis	20.10			28.14
90052	Analysis	19.25			26.92
90058	Analysis	20.31			28.43
90077	Analysis	19.45			27.23
90115	Analysis	19.50			27.30
90148	Analysis	22.19			31.07
90176	Analysis	20.48			28.67
90209	Analysis	21.20			29.68
90645	Analysis	19.66			27.52
90682	Analysis	20.11			28.15
90684	Analysis	20.22			28.31
	Armour's Big Crop Superphosphate 45%, Guarantee.....	45.00			63.00
90033	Analysis	44.03			61.64
	Armour's Muriate of Potash 50%, Guarantee.....			50.00	70.00
90081	Analysis			49.40	69.16
	Armour's Nitrate of Soda 16%.....	16.00			41.60
90034	Analysis	16.01			41.61
	Armour's Old Black Joe Fertilizer 5-10-5, Guarantee....	5.00	10.00	5.00	34.00
90003	Analysis	5.30	10.07	5.28	35.27
90005	Analysis	4.87	10.45	4.74	33.93
90012	Analysis	5.41	9.85	5.26	35.22
90021	Analysis	5.02	10.78	5.23	35.46
90043	Analysis	5.07	10.69	4.86	34.95
90080	Analysis	5.06	10.23	4.73	34.17
90085	Analysis	4.88	10.95	5.04	35.08
90092	Analysis	5.30	10.15	5.33	35.45
90111	Analysis	5.02	10.59	4.97	34.94
90113	Analysis	5.07	11.23	5.05	35.97
90121	Analysis	5.20	10.58	4.54	34.69
90124	Analysis	5.30	10.19	5.07	35.15
90129	Analysis	5.21	10.08	5.28	35.05
90133	Analysis	5.04	10.81	5.02	35.26
90137	Analysis	4.81	10.81	4.47	33.90
90145	Analysis	5.02	10.50	4.85	34.54
90166	Analysis	5.06	11.17	4.71	35.39
90196	Analysis	4.98	10.17	5.54	34.95
90211	Analysis	5.02	10.98	4.84	35.20
90230	Analysis	5.02	10.74	4.89	34.94
90246	Analysis	5.72	10.26	5.06	36.31
90275	Analysis	5.07	9.39	5.07	33.43
90278	Analysis	4.89	10.46	5.01	34.36
90287	Analysis	4.77	10.90	5.04	34.72
90296	Analysis	4.82	11.12	4.03	33.74
90301	Analysis	4.92	10.67	4.98	34.70
90307	Analysis	4.83	10.87	4.49	34.07
90366	Analysis	5.20	10.63	4.83	35.16
90372	Analysis	4.79	10.48	4.72	33.73
90429	Analysis	4.78	10.64	4.87	34.15
90541	Analysis	4.66	10.61	4.72	33.58
90614	Analysis	4.88	11.01	4.59	34.53
	Armour's Pulverized Sheep Manure, Guarantee.....	1.50	1.00	2.50	8.80
90094	Analysis	1.58	1.60	3.83	11.71
90327	Analysis	1.60	1.54	4.04	11.98
90332	Analysis	1.66	1.53	3.90	11.92
90619	Analysis	1.74	1.39	3.52	11.40
	Armour's Victory Garden Fertilizer (Food Production Only) Guarantee	5.00	10.00	5.00	34.00
90602	Analysis	4.61	11.87	4.85	35.40

Table 6. Analyses of commercial fertilizers sampled during 1945-1946.

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
Armstrongs Prescription Fertilizer Company, Hereford, Texas					
	Armstrongs Prescription 6-8-4, Guarantee.....	6.00	8.00	4.00	32.40
90625	Analysis	5.77	9.25	4.39	34.10
Associated Cooperatives, Inc. Sheffield, Alabama					
	Ammonium Nitrate Fertilizer, Guarantee.....	32.50			84.50
90038	Analysis	32.50			84.50
90045	Analysis	32.66			84.92
90073	Analysis	32.70			85.02
90146	Analysis	32.56			84.66
90149	Analysis	32.56			84.66
90171	Analysis	32.52			84.55
90189	Analysis	32.86			85.44
90607	Analysis	33.05			85.93
90622	Analysis	32.74			85.12
90704	Analysis	32.68			84.97
	Concentrated Phosphate Fertilizer, Guarantee.....		45.00		63.00
90630	Analysis		48.56		67.98
Bryan Cotton Oil & Fertilizer Company, Bryan, Texas					
	Star Brand 4-12-4 Special Fertilizer, Guarantee.....	4.00	12.00	4.00	32.80
90238	Analysis	4.30	12.97	4.33	35.40
90299	Analysis	4.21	13.25	4.12	35.27
	Star Brand 5-10-5 Fertilizer, Guarantee	5.00	10.00	5.00	34.00
90237	Analysis	5.25	10.93	4.63	35.43
90300	Analysis	5.06	11.42	4.40	35.31
Campbell Fertilizer Company, Houston, Texas					
	All-Weather Organic Base Fertilizer 4-12-4, Guarantee	4.00	12.00	4.00	32.80
90215	Analysis	3.83	11.82	3.93	32.01
90664	Analysis	3.89	11.73	4.12	32.30
	All-Weather Organic Base Fertilizer 6-8-4, Guarantee	6.00	8.00	4.00	32.40
90216	Analysis	5.84	10.09	4.02	34.94
Chilean Nitrate Sales, Corporation, New York 5, New York					
	Champion Brand Chilean Nitrate of Soda 16%, Guarantee	16.00			41.60
90035	Analysis	16.08			41.81
90182	Analysis	16.21			42.15
90284	Analysis	16.02			41.65
Consolidated Chemical Industries, Inc., Houston, Texas					
	T.C.C. Brand Powdered Raw Bone, Guarantee	3.00	15.00*		22.80
90328	Analysis	4.17	15.18*		26.02
	T.C.C. Brand Row Bone Meal, Guarantee	3.70	22.00*		31.62
90098	Analysis	4.24	22.73*		33.75
90099	Analysis	4.25	22.77*		33.82
East Texas Cotton Oil Company, Tyler, Texas					
	Goldenrod Brand 4-8-8 Fertilizer, Guarantee	4.00	8.00	8.00	32.80
90657	Analysis	3.70	7.93	8.05	31.99
90695	Analysis	3.56	8.78	7.42	31.94
90706	Analysis	3.69	8.25	8.02	32.37
	Goldenrod Brand 4-12-4 Fertilizer, Guarantee	4.00	12.00	4.00	32.80
90227	Analysis	4.14	12.37	4.15	33.89
90243	Analysis	4.21	12.17	4.14	33.79
90273	Analysis	3.97	12.15	4.00	32.92
90406	Analysis	4.09	12.21	4.02	33.35
90461	Analysis	4.81	10.61	4.91	34.23
90463	Analysis	4.57	11.74	4.81	35.05
90633	Analysis	4.27	12.08	4.02	33.72
90653	Analysis	4.00	13.11	4.09	34.48
90697	Analysis	4.12	12.71	4.09	34.23
90699	Analysis	4.06	12.05	4.02	33.06
90705	Analysis	4.02	12.27	4.01	33.24

Table 6. Analyses of commercial fertilizers sampled during 1945-1946.

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
	Goldenrod Brand 5-10-5 Fertilizer, Guarantee	5.00	10.00	5.00	34.00
90228	Analysis	5.13	10.46	5.11	35.13
90244	Analysis	5.39	10.50	4.87	35.53
90274	Analysis	5.30	10.25	5.15	35.34
90407	Analysis	5.06	10.30	5.10	34.72
90423	Analysis	5.22	10.30	5.12	35.16
90462	Analysis	5.17	10.35	5.13	35.11
90634	Analysis	4.86	10.45	5.01	34.28
90696	Analysis	4.31	10.76	5.01	33.28
	Farm Services, Inc., Opelousas, Louisiana				
	Thorobred 4-12-4 Fertilizer, Guarantee	4.00	12.00	4.00	32.80
90158	Analysis	4.01	12.31	3.59	32.69
90193	Analysis	3.81	12.08	3.70	32.00
90279	Analysis	3.94	12.24	3.11	31.73
	Thorobred 5-10-5 Fertilizer, Guarantee	5.00	10.00	5.00	34.00
90194	Analysis	4.67	10.29	5.09	33.68
90629	Analysis	4.99	10.52	5.14	34.90
	Thorobred 6-8-4 Fertilizer, Guarantee	6.00	8.00	4.00	32.00
90676	Analysis	5.28	8.12	4.30	31.12
	Thorobred 6-12-0 Fertilizer, Guarantee	6.00	12.00		32.40
90675	Analysis	5.09	11.51		29.34
	Thorobred 10-10-0, fertilizer, Guarantee	10.00	10.00		40.00
90070	Analysis	8.95	8.87		35.69
90164	Analysis	10.08	10.66		41.13
90167	Analysis	10.06	10.62		41.03
90170	Analysis	10.01	10.33		40.49
90627	Analysis	9.51	11.10		40.27
	Federal Chemical Company, Inc., Shreveport, Louisiana				
	Federal 4-8-8, Guarantee	4.00	8.00	8.00	32.80
90402	Analysis	4.17	8.42	7.05	32.52
90503	Analysis	4.16	8.36	8.01	33.73
	Federal 4-12-4, Guarantee	4.00	12.00	4.00	32.80
90270	Analysis	4.00	12.16	4.00	33.02
90358	Analysis	4.06	12.38	4.08	33.60
90382	Analysis	4.23	12.31	4.02	33.88
90440	Analysis	4.09	11.99	5.42	35.01
	Federal 5-10-5, Guarantee	5.00	10.00	5.00	34.00
90139	Analysis	5.31	9.41	5.04	34.04
90258	Analysis	5.32	10.39	5.07	34.95
90271	Analysis	5.25	9.37	5.07	33.87
90293	Analysis	5.36	10.21	5.01	35.24
90359	Analysis	5.28	10.07	4.99	34.28
90403	Analysis	5.34	9.41	5.16	34.27
90441	Analysis	5.14	10.09	5.12	34.66
90443	Analysis	5.23	10.09	4.97	34.69
90483	Analysis	5.28	9.69	5.28	34.69
90522	Analysis	5.16	10.76	4.89	35.33
90527	Analysis	5.11	9.73	5.34	34.39
	Federal 6-8-4, Guarantee	6.00	8.00	4.00	32.40
90257	Analysis	6.25	8.11	3.62	32.67
90391	Analysis	6.31	7.17	4.01	33.46
90442	Analysis	6.09	8.41	4.03	33.24
90482	Analysis	6.04	8.19	4.02	32.80
90526	Analysis	6.21	8.02	3.99	32.97
90533	Analysis	6.50	7.79	3.76	32.55
	Federal 8-8-8, Guarantee	8.00	8.00	8.00	43.20
90392	Analysis	7.27	8.58	6.31	39.74
	Federal 20% Superphosphate, Guarantee		20.00		28.00
90245	Analysis		20.09		28.13
	Fidelity Chemical Corporation, Houston, Texas				
	Ferti-Lome for Lawns and Flowers, Guarantee	6.00	12.00	4.00	38.00

* Total Phosphoric Acid

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
90100	Analysis	6.21	11.76	4.02	38.24
90329	Analysis	6.00	11.79	4.16	37.93
90600	Analysis	5.77	12.12	4.02	37.60
	Fidelity 4-12-4 Fertilizer, Guarantee	4.00	12.00	4.00	32.80
90026	Analysis	4.72	11.25	3.72	33.23
90029	Analysis	4.20	11.48	4.34	33.07
90118	Analysis	4.67	11.52	3.54	33.23
90201	Analysis	3.99	11.46	4.33	32.47
90217	Analysis	4.31	11.60	4.25	33.40
90220	Analysis	4.37	11.60	4.43	33.80
90222	Analysis	4.13	11.32	4.12	32.36
90225	Analysis	4.36	11.72	4.10	33.49
90225	Analysis	4.17	12.04	4.02	33.33
90282	Analysis	4.42	11.13	4.47	33.33
90288	Analysis	4.00	12.06	4.01	32.89
90304	Analysis	3.93	12.01	4.03	32.27
90316	Analysis	4.02	11.67	4.04	32.45
90344	Analysis	4.00	11.61	4.01	32.26
90363	Analysis	4.18	11.47	4.22	32.84
90404	Analysis	4.31	11.87	4.13	33.61
90437	Analysis	4.04	11.32	4.02	31.98
90644	Analysis	4.10	12.01	3.80	32.79
90647	Analysis	4.24	11.62	4.17	33.13
90662	Analysis	4.36	11.57	4.05	33.21
90680	Analysis	4.36	11.57	4.05	33.21
	Fidelity 5-10-5 Fertilizer, Guarantee	5.00	10.00	5.00	34.00
90030	Analysis	5.14	10.02	5.21	34.68
90084	Analysis	5.26	9.68	5.19	34.50
90088	Analysis	5.13	10.01	5.04	34.41
90104	Analysis	5.35	10.23	4.98	35.00
90119	Analysis	5.44	9.95	5.27	35.45
90197	Analysis	4.97	10.33	4.44	33.60
90218	Analysis	4.97	9.85	5.04	33.77
90221	Analysis	5.06	9.69	5.10	33.87
90305	Analysis	4.93	9.87	4.93	33.54
90317	Analysis	5.43	10.46	5.00	35.76
90330	Analysis	5.07	10.40	5.05	34.81
90346	Analysis	5.04	10.15	5.06	34.39
90405	Analysis	4.58	10.49	5.22	33.91
90438	Analysis	5.25	10.75	4.65	35.21
	Fidelity 6-8-4 Fertilizer, Guarantee	6.00	8.00	4.00	32.40
90120	Analysis	6.21	9.27	3.67	34.27
90202	Analysis	6.02	9.52	3.36	33.68
90223	Analysis	5.61	8.25	3.88	31.57
90226	Analysis	5.52	8.26	4.00	31.51
90345	Analysis	5.75	8.24	4.08	32.20
	Fidelity 6-12-0 Fertilizer, Guarantee	6.00	12.00		32.40
90064	Analysis	5.81	12.41		32.48
90101	Analysis	6.02	11.82		32.20
90140	Analysis	5.76	12.64		32.68
90163	Analysis	6.04	12.62		33.37
	Fidelity 20% Superphosphate, Guarantee		20.00		28.00
90027	Analysis		20.47		28.66
90224	Analysis		20.18		28.25
	Gilmer Cotton Oil & Fertilizer Company, Gilmer, Texas				
	Texas Longhorn 4-8-8, Guarantee	4.00	8.00	8.00	32.80
90509	Analysis	6.02	7.85	8.12	33.01
	Texas Longhorn 4-12-4, Guarantee	4.00	12.00	4.00	32.80
90507	Analysis	4.09	12.04	4.12	33.76
	Texas Longhorn 5-10-5, Guarantee	5.00	10.00	5.00	34.00
90510	Analysis	4.59	11.50	4.15	33.84
	Texas Longhorn 6-8-4, Guarantee	6.00	8.87	5.22	36.53
90508	Analysis	6.46	8.87	5.22	36.53

Table 6. Analyses of commercial fertilizers sampled during 1945-1946.

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
International Minerals & Chemical Corporation, Texarkana, Arkansas - Texas					
	Fertilis Plant Food	5.00	10.00	5.00	34.00
90579	Analysis	5.06	10.19	5.20	34.71
	International 4-8-8 Fertilizer, Guarantee	4.00	8.00	8.00	32.80
90505	Analysis	4.33	8.34	7.79	33.85
90698	Analysis	3.66	8.11	8.02	32.10
	International 4-12-4, Fertilizer, Guarantee	4.00	12.00	4.00	32.80
90454	Analysis	4.21	12.39	4.19	34.17
90534	Analysis	4.10	12.25	4.02	33.44
90578	Analysis	4.02	11.85	3.57	32.04
	International 5-10-5 Fertilizer, Guarantee	5.00	10.00	5.00	34.00
90272	Analysis	5.01	10.85	4.77	34.90
90424	Analysis	5.13	10.43	5.06	35.02
90427	Analysis	4.90	10.51	5.37	34.97
90445	Analysis	4.84	10.15	5.04	33.85
90455	Analysis	4.57	10.44	4.59	32.93
90476	Analysis	4.74	10.39	4.67	33.41
90488	Analysis	5.00	10.56	4.49	34.07
90529	Analysis	4.80	10.22	5.46	34.43
90543	Analysis	4.92	10.38	4.14	33.12
90566	Analysis	5.02	9.85	4.71	33.43
90593	Analysis	4.90	10.68	5.21	34.98
90587	Analysis	4.67	9.87	4.36	32.06
90589	Analysis	4.83	9.75	5.16	33.43
	International 6-8-4 Fertilizer, Guarantee	6.00	8.00	4.00	32.40
90283	Analysis	5.64	8.53	4.03	32.24
90421	Analysis	5.61	8.93	4.04	32.75
90444	Analysis	5.52	8.55	4.02	31.95
90477	Analysis	5.64	8.46	4.02	32.13
90478	Analysis	6.04	8.54	4.02	33.29
90542	Analysis	5.63	8.28	3.79	31.54
90558	Analysis	5.64	8.37	4.05	32.05
90565	Analysis	6.03	8.34	3.66	32.48
90592	Analysis	5.72	8.15	4.02	31.91
	International 8-8-8 Fertilizer, Guarantee	8.00	8.00	8.00	43.00
90479	Analysis	9.71	8.97	8.19	44.60
90489	Analysis	7.67	8.44	8.08	43.06
90549	Analysis	7.73	8.72	8.18	43.76
90586	Analysis	7.63	8.52	8.12	43.14
	International Superphosphate 20%, Guarantee.....		20.00		28.00
90624	Analysis		21.47		30.06
90708	Analysis		21.14		29.60
Jacksonville Fertilizer Company, Jacksonville, Texas					
	Red Tomato Brand 4-12-4 Fertilizer, Guarantee.....	4.00	12.00	4.00	32.80
90264	Analysis	4.14	12.09	4.54	34.05
	Red Tomato Brand 5-10-5 Fertilizer, Guarantee.....	5.00	10.00	5.00	34.00
90431	Analysis	4.86	10.29	5.04	34.11
90073	Analysis	5.08	11.08	5.24	36.06
90655	Analysis	5.00	10.08	4.13	32.89
	Red Tomato Brand 6-8-4 Fertilizer, Guarantee.....	6.00	8.00	4.00	32.40
90265	Analysis	6.02	8.21	4.34	34.62
90430	Analysis	6.08	9.20	4.01	34.30
Kelly-Weber & Company, Inc., Lake Charles, Louisiana					
	Weber-King Brand Fertilizer Special 4-12-4, Guarantee	4.00	12.00	4.00	32.80
90384	Analysis	4.22	13.09	4.48	35.57
90686	Analysis	3.88	12.66	4.85	34.60
90687	Analysis	4.00	12.67	4.91	35.01
90688	Analysis	4.00	12.12	4.26	33.33
	Weber-King Brand Fertilizer Special 5-10-5, Guarantee	5.00	10.00	5.00	34.00
90385	Analysis	5.06	9.66	5.06	33.76

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
K-W Chemical Company, Harlingen, Texas					
	K-W Brand 10-10-0, Guarantee	10.00	10.00		40.00
90180	Analysis	10.27	10.98		42.07
90188	Analysis	8.69	11.04		38.05
	K-W Brand Superphosphate 20%, Guarantee		20.00		28.00
90075	Analysis		20.66		28.92
Lake Charles Feed Company, Inc., Lake Charles, Louisiana					
	Bestbet Brand Fertilizer Special 4-12-4, Guarantee.....	4.00	12.00	4.00	32.80
90334	Analysis	4.12	12.45	3.88	33.50
Marshall Cotton Oil Company, Marshall, Texas					
	Cottonseed Meal Fertilizer, Guarantee	6.58	1.50	1.00	20.61
90390	Analysis	5.02	2.59	2.01	19.49
	Marshall 4-12-4 Fertilizer, Guarantee	4.00	12.00	4.00	32.80
90388	Analysis	4.07	13.10	4.12	34.69
90500	Analysis	4.26	12.75	4.02	34.56
90707	Analysis	3.94	11.70	3.75	31.87
	Marshall 5-10-5 Fertilizer, Guarantee	5.00	10.00	5.00	34.00
90389	Analysis	5.10	10.35	5.02	34.78
90502	Analysis	4.70	9.86	4.47	32.28
90568	Analysis	5.13	10.17	4.43	33.78
	Marshall 6-8-4 Fertilizer, Guarantee	6.00	8.00	4.00	32.40
90501	Analysis	4.87	7.29	3.24	27.41
New Jersey Fertilizer Company, Jersey City, New Jersey					
	N. J. Brand Bone Fertilizer, Guarantee	2.47	24.00*		30.42
90097	Analysis	2.83	25.30*		32.66
Niagara Sprayer & Chemical Company, Inc. Harlingen, Texas					
	Niagara Brand 10-10-0, Guarantee	10.00	10.00		40.00
90186	Analysis	9.41	9.64		37.97
	Triple C Brand 10-10-0, Guarantee.....	10.00	10.00		40.00
90074	Analysis	9.27	9.72		37.71
	Triple C Brand 20% Superphosphate, Guarantee		20.00		28.00
90187	Analysis		20.72		29.01
Oil Mill & Fertilizer Works, Henderson, Texas					
	Wolf Brand Fertilizer 5-10-5, Guarantee.....	5.00	10.00	5.00	34.00
90490	Analysis	4.79	10.22	3.69	31.93
90492	Analysis	4.48	10.54	4.15	32.22
90637	Analysis	5.82	10.47	5.24	37.13
	Wolf Brand Superphosphate 20%, Guarantee.....		20.00		28.00
90491	Analysis		21.31		29.83
90638	Analysis		20.14		28.20
Pittsburg Cotton Oil Company, Pittsburg, Texas					
	4-8-8 Double Circle Fertilizer, Guarantee.....	4.00	8.00	8.00	32.80
90554	Analysis	3.85	7.71	6.98	30.57
	4-12-4 Double Circle Fertilizer, Guarantee.....	4.00	12.00	4.00	32.80
90467	Analysis	4.11	11.09	4.19	32.09
	5-10-5 Double Circle Fertilizer, Guarantee.....	5.00	10.00	5.00	34.00
90469	Analysis	5.08	10.30	4.14	33.43
90555	Analysis	5.36	10.33	5.18	35.65
	6-8-4 Double Circle Fertilizer, Guarantee	6.00	8.00	4.00	32.40
90559	Analysis	6.49	8.30	4.02	34.12
Port Fertilizer Company, Los Fresnos, Texas					
	Valley Port Brand 47%, Superphosphate, Guarantee.....		47.00		65.00
90151	Analysis		47.94		67.12
90159	Analysis		48.34		67.68
Ralston Purina Company, St. Louis, Missouri					
	Purina Plant Food, Guarantee	5.00	10.00	5.00	34.00
90410	Analysis	5.04	10.42	5.11	34.84
90420	Analysis	5.12	10.37	5.08	34.94
90703	Analysis	4.91	10.52	5.08	34.61

* Total Phosphoric acid

Table 6. Analyses of commercial fertilizers sampled during 1945-1946.

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
Red Star Fertilizer Company, Sulphur Springs, Texas					
90573	Red Star Brand 4-8-8, Guarantee	4.00	8.00	8.00	32.80
	Analysis	3.39	8.67	6.79	30.46
	Red Star Brand 4-12-4, Guarantee	4.00	12.00	4.00	32.80
90581	Analysis	4.09	11.14	4.04	31.89
90596	Analysis	4.24	11.72	5.63	35.31
90597	Analysis	4.06	11.62	5.08	33.94
90648	Analysis	3.50	12.36	4.01	32.01
90649	Analysis	4.22	12.21	4.87	34.88
90650	Analysis	3.79	11.73	4.04	31.93
90714	Analysis	3.92	11.88	5.07	33.92
90717	Analysis	4.04	11.38	4.39	32.58
	Red Star Brand 5-10-5, Guarantee	5.00	10.00	5.00	34.00
90524	Analysis	5.55	9.12	5.02	34.23
90532	Analysis	5.17	8.80	5.34	33.24
90548	Analysis	5.77	10.27	6.01	37.79
	Red Star Brand 6-8-4, Guarantee	6.00	8.00	4.00	32.40
90523	Analysis	6.06	7.56	4.23	32.26
90528	Analysis	5.72	8.00	3.61	31.12
90530	Analysis	5.76	7.63	4.49	31.95
Ruhm Phosphate & Chemical Company, Chicago, Illinois					
	Red Seal Brand Ruhm's Phosphate Rock 30%				
	Guarantee		30.00*		30.00
90623	Analysis		30.34*		30.34
Sears, Roebuck & Company, Chicago, Illinois					
90599	Garden Master Plant Food, Guarantee	5.00	10.00	5.00	34.00
	Analysis	4.79	10.63	4.07	33.10
90598	Garden Master Sheep Manure, Guarantee	1.50	1.00	2.50	8.80
	Analysis	1.50	1.57	3.73	11.32
Shreveport Fertilizer Works, Shreveport, Louisiana					
90281	Lion Brand 0-14-7 Fertilizer, Guarantee		14.00	7.00	29.40
	Analysis		15.11	7.08	31.06
90711	Lion Brand 4-8-8 Fertilizer, Guarantee	4.00	8.00	8.00	32.80
	Analysis	3.90	8.12	8.02	32.74
	Lion Brand 4-12-4 Fertilizer, Guarantee	4.00	12.00	4.00	32.80
90280	Analysis	4.64	12.68	4.32	35.86
90348	Analysis	4.34	12.21	4.85	35.16
90360	Analysis	3.91	11.19	4.15	31.65
90374	Analysis	4.29	12.20	4.82	34.98
90580	Analysis	4.00	12.68	4.14	33.95
90621	Analysis	3.42	12.66	4.05	32.28
	Lion Brand 5-10-5 Fertilizer, Guarantee	5.00	10.00	5.00	43.00
90349	Analysis	5.16	10.79	4.51	34.84
90362	Analysis	5.10	11.83	5.01	36.83
90504	Analysis	5.29	10.12	4.58	34.33
90525	Analysis	5.40	10.12	6.01	36.62
90561	Analysis	4.84	11.18	4.67	34.77
90582	Analysis	5.04	10.93	5.55	36.17
90716	Analysis	4.66	11.03	5.18	34.81
	Lion Brand 6-8-4 Fertilizer, Guarantee	6.00	8.00	4.00	32.40
90484	Analysis	5.47	8.85	4.02	32.24
90560	Analysis	6.91	8.17	5.86	37.61
90581	Analysis	7.03	10.01	3.98	37.86
	Lion Brand 8-8-8 Fertilizer, Guarantee	8.00	8.00	8.00	43.20
90361	Analysis	7.16	8.96	9.06	43.84
90485	Analysis	8.08	8.31	8.36	44.34
90505	Analysis	7.56	9.23	8.04	43.84
	Lion Brand 0-20-0 Superphosphate, Guarantee		20.00		28.00
90350	Analysis		20.37		28.52
	Longhorn Brand 4-12-4 Fertilizer, Guarantee	4.00	12.00	4.00	32.80

* Total phosphoric acid

Table 6. Analyses of commercial fertilizers sampled during 1945-1946.

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
90411	Analysis	5.08	13.11	5.19	38.83
	Longhorn Brand 5-10-5 Fertilizer, Guarantee.....	5.00	10.00	5.00	34.00
90398	Analysis	5.02	10.79	4.46	34.40
90413	Analysis	4.95	9.69	5.65	34.35
90480	Analysis	6.03	9.23	5.78	36.69
	Longhorn Brand 8-8-8 Fertilizer, Guarantee.....	8.00	9.23	8.00	43.20
90399	Analysis	8.00	8.53	8.57	44.74
90412	Analysis	7.80	8.59	8.20	43.79
90481	Analysis	8.18	8.09	8.80	44.92
	Southwestern Peanut Growers Association, Gorman, Texas				
	Pabak Brand 4-12-4 Fertilizer, Guarantee.....	4.00	12.00	4.00	32.80
90616	Analysis	4.18	12.98	4.03	34.63
	Swift and Company Fertilizer Works, New Orleans, Shreveport, Louisiana, Houston, Texas				
	Swift's Red Steer Brand 4-8-8, Guarantee.....	4.00	8.00	8.00	32.80
90130	Analysis	4.12	8.49	8.12	33.97
90464	Analysis	3.91	8.35	8.01	33.07
90517	Analysis	4.04	8.35	7.12	32.16
90550	Analysis	3.77	8.38	7.77	32.41
90570	Analysis	4.12	8.50	8.19	34.08
	Swift's Red Steer Brand 4-12-4, Guaranteed	4.00	12.00	4.00	32.80
90019	Analysis	3.91	11.82	4.18	32.57
90023	Analysis	4.06	11.85	4.24	33.09
90032	Analysis	4.42	11.47	3.81	32.88
90039	Analysis	4.23	11.56	4.25	33.13
90082	Analysis	4.24	12.10	3.85	33.35
90095	Analysis	4.03	11.98	4.32	33.30
90102	Analysis	4.98	10.03	4.09	32.72
90105	Analysis	4.13	12.49	3.96	33.77
90116	Analysis	3.93	12.51	4.00	33.33
90125	Analysis	4.00	12.37	4.03	33.36
90141	Analysis	4.06	12.35	4.03	33.49
90203	Analysis	4.01	12.33	3.72	32.90
90206	Analysis	3.97	12.22	3.49	32.32
90234	Analysis	3.92	12.13	3.72	32.38
90239	Analysis	4.04	12.01	4.03	32.95
90247	Analysis	3.93	12.62	4.14	33.69
90249	Analysis	4.54	11.27	3.77	32.86
90253	Analysis	3.78	12.31	3.96	32.60
90259	Analysis	3.95	12.16	4.00	32.89
90267	Analysis	4.08	12.38	4.00	33.54
90276	Analysis	3.87	12.16	4.03	32.72
90290	Analysis	4.13	12.55	4.04	33.97
90294	Analysis	4.01	12.39	3.72	32.99
90319	Analysis	4.04	12.18	4.02	33.18
90331	Analysis	4.20	12.57	3.89	33.97
90338	Analysis	4.00	12.27	4.04	33.24
90342	Analysis	3.94	12.37	4.04	33.22
90353	Analysis	4.15	12.31	4.06	33.70
90355	Analysis	4.11	12.22	4.04	33.46
90377	Analysis	3.89	12.13	4.15	32.80
90408	Analysis	4.25	12.77	3.37	33.65
90432	Analysis	4.15	11.98	4.27	33.54
90448	Analysis	4.05	12.13	4.14	33.31
90450	Analysis	3.92	12.26	4.02	32.98
90493	Analysis	3.71	12.16	4.02	32.30
90516	Analysis	4.06	11.84	4.12	32.91
90562	Analysis	4.00	11.99	4.46	33.43
90569	Analysis	3.87	12.04	4.14	32.72
90594	Analysis	4.13	11.49	3.99	32.42
90608	Analysis	4.09	12.72	4.04	34.10
90609	Analysis	4.00	12.47	4.02	33.49

Table 6. Analyses of commercial fertilizers sampled during 1945-1946.

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
90639	Analysis	4.22	11.84	4.01	33.16
90640	Analysis	4.32	12.58	3.54	33.80
90643	Analysis	4.03	13.02	3.92	34.20
90652	Analysis	3.87	12.21	4.10	32.89
90654	Analysis	3.88	12.66	4.08	33.52
90667	Analysis	4.00	12.17	4.05	33.11
90671	Analysis	3.94	12.36	4.05	33.21
90677	Analysis	4.08	11.49	4.01	32.31
	Swift's Red Steer Brand 5-10-5, Guarantee	5.00	10.00	5.00	34.00
90007	Analysis	4.66	10.31	4.78	33.24
90011	Analysis	5.08	10.03	5.26	34.61
90022	Analysis	4.95	10.27	5.04	34.31
90041	Analysis	5.19	10.20	5.10	34.91
90096	Analysis	5.48	9.63	4.82	34.48
90108	Analysis	4.93	10.24	5.04	34.22
90107	Analysis	4.94	10.10	5.39	34.53
90117	Analysis	4.93	10.31	5.05	34.32
90126	Analysis	4.81	10.27	5.00	33.89
90131	Analysis	4.84	10.02	5.38	34.14
90142	Analysis	4.71	10.39	5.01	33.81
90235	Analysis	4.85	10.44	5.20	34.51
90248	Analysis	4.63	11.25	4.79	34.50
90251	Analysis	4.14	11.11	4.55	32.68
90254	Analysis	4.89	10.31	5.24	34.48
90261	Analysis	3.98	11.23	4.37	32.19
90269	Analysis	4.09	10.85	4.93	32.72
90292	Analysis	5.09	10.48	5.25	35.25
90320	Analysis	4.02	11.01	4.50	32.16
90354	Analysis	4.11	11.11	4.64	32.74
90357	Analysis	4.31	11.03	4.62	33.12
90379	Analysis	4.96	10.18	5.14	34.35
90394	Analysis	4.83	10.22	5.03	33.91
90409	Analysis	5.18	10.43	4.42	34.26
90417	Analysis	5.48	10.60	5.50	36.79
90426	Analysis	4.55	10.82	4.82	33.73
90433	Analysis	5.11	10.33	5.04	34.81
90449	Analysis	4.22	11.12	4.39	32.68
90451	Analysis	4.88	9.75	5.10	33.48
90487	Analysis	5.09	10.04	5.18	34.54
90494	Analysis	4.92	9.85	5.04	33.64
90498	Analysis	5.17	9.77	5.01	34.13
90518	Analysis	4.90	9.65	5.02	33.28
90553	Analysis	4.80	9.73	5.12	33.27
90595	Analysis	4.96	10.03	5.04	34.00
90641	Analysis	5.02	10.70	4.18	33.88
	Swift's Red Steer Brand 6-8-4, Guarantee	6.00	8.00	4.00	32.40
90006	Analysis	5.66	8.36	4.16	32.24
90008	Analysis	6.15	8.10	4.02	32.96
90020	Analysis	6.12	8.05	4.22	33.09
90023	Analysis	6.21	8.32	4.13	33.52
90040	Analysis	5.74	8.63	4.38	33.13
90106	Analysis	6.10	8.80	4.10	33.92
90250	Analysis	6.06	8.54	3.72	32.93
90260	Analysis	6.10	8.46	3.69	32.87
90268	Analysis	5.65	9.18	4.00	33.14
90291	Analysis	6.06	8.82	4.26	34.07
90356	Analysis	5.73	8.27	4.02	32.11
90378	Analysis	5.87	8.39	4.23	32.93
90393	Analysis	5.87	7.94	4.10	32.12
90425	Analysis	6.11	8.42	4.04	33.34
90486	Analysis	5.63	8.42	4.24	32.37
90499	Analysis	5.71	8.43	4.70	33.23
90551	Analysis	5.80	8.01	4.05	31.96

Table 6. Analyses of commercial fertilizers sampled during 1945-1946.

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
90571	Analysis	5.72	7.95	4.13	31.78
90590	Analysis	5.90	8.56	4.04	32.98
	Swift's Red Steer Brand 6-12-0, Guarantee.....	6.00	12.00		32.40
90049	Analysis	5.33	11.96		30.60
	Swift's Red Steer Brand 8-8-8, Guarantee.....	8.00	8.00	8.00	43.20
90552	Analysis	8.01	8.24	8.15	43.78
90591	Analysis	8.25	8.55	8.13	44.80
	Vigoro, Guarantee	4.00	12.00	4.00	32.80
90053	Analysis	4.11	12.41	4.10	33.80
90063	Analysis	4.27	12.41	4.03	34.11
90083	Analysis	4.25	12.05	4.46	34.16
90090	Analysis	4.13	12.25	3.82	33.24
90127	Analysis	4.13	12.22	4.77	34.53
90138	Analysis	4.24	13.06	3.96	34.84
90143	Analysis	4.09	12.92	3.78	34.01
90150	Analysis	4.42	12.75	4.64	35.84
90152	Analysis	4.22	12.68	3.81	34.05
90154	Analysis	4.12	12.75	3.87	33.98
90161	Analysis	3.85	12.47	3.90	32.98
90162	Analysis	4.20	12.56	4.04	34.16
90172	Analysis	4.32	12.61	4.02	34.51
90184	Analysis	4.09	12.37	4.08	33.66
90190	Analysis	4.25	12.97	3.82	34.56
90192	Analysis	4.17	12.42	4.10	33.97
90199	Analysis	4.19	11.98	4.20	33.47
90236	Analysis	4.10	12.72	4.36	34.57
90252	Analysis	4.23	12.33	4.01	33.87
90333	Analysis	4.07	12.35	4.08	33.58
90434	Analysis	4.17	11.46	4.06	32.56
90620	Analysis	4.11	11.91	4.16	33.18
90678	Analysis	3.73	11.75	4.08	31.86
90712	Analysis	4.30	12.42	4.15	34.38
	Swift's Red Steer Brand Superphosphate 0-19-9, Guarantee		19.00		26.60
90009	Analysis		19.02		26.63
90024	Analysis		19.67		27.54
90037	Analysis		19.43		27.20
90054	Analysis		19.13		26.78
	Swift's Red Steer Superphosphate 0-20-0, Guarantee		20.00		28.00
90010	Analysis		19.08		26.71
90025	Analysis		20.46		28.64
90200	Analysis		21.05		29.47
90668	Analysis		20.67		28.94
	Texas Farm Products Company, Nacogdoches, Texas				
	Lone Star Brand 4-12-4 Fertilizer, Guarantee.....	4.00	12.00	4.00	32.80
90240	Analysis	4.08	12.55	4.06	33.86
90262	Analysis	3.79	12.61	4.00	33.10
90297	Analysis	3.80	12.20	4.01	32.57
90302	Analysis	3.80	12.56	4.06	33.14
90314	Analysis	3.88	12.38	4.10	33.16
90351	Analysis	4.09	12.49	4.15	33.93
90352	Analysis	4.11	12.35	4.18	33.83
90367	Analysis	4.00	12.58	4.04	33.67
90370	Analysis	3.96	12.66	4.04	33.68
90383	Analysis	3.98	12.67	4.15	33.90
90418	Analysis	3.64	11.75	4.02	31.54
90446	Analysis	4.15	11.87	4.02	33.04
90457	Analysis	4.02	12.06	4.06	33.01
90539	Analysis	3.93	12.91	4.04	33.95
90642	Analysis	4.09	11.63	4.02	32.54
90651	Analysis	3.98	12.61	4.01	33.61

Table 6. Analyses of commercial fertilizers sampled during 1945-1946.

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
90656	Analysis	4.15	12.41	4.12	33.93
90659	Analysis	3.78	12.10	3.76	32.03
90691	Analysis	4.29	12.37	4.28	34.46
	Lone Star Brand 5-10-5 Fertilizer, Guarantee.....	5.00	10.00	5.00	34.00
90242	Analysis	4.81	10.57	4.79	34.02
90263	Analysis	4.74	10.53	4.70	33.64
90298	Analysis	5.08	10.55	5.05	35.05
90303	Analysis	4.46	10.42	4.63	32.67
90315	Analysis	4.76	10.75	4.89	34.28
90419	Analysis	4.94	10.39	5.04	34.45
90436	Analysis	5.00	10.34	5.00	34.48
90447	Analysis	4.86	10.47	5.12	34.47
90458	Analysis	4.87	10.28	5.03	34.09
	Lone Star Brand 6-8-4 Fertilizer, Guarantee.....	6.00	8.00	4.00	32.40
90241	Analysis	5.52	8.56	4.02	31.96
90371	Analysis	5.83	8.65	4.04	32.93
90435	Analysis	6.63	8.53	4.28	35.17
90537	Analysis	5.76	8.57	4.18	32.83
	Lone Star Brand 6-12-0 Fertilizer, Guarantee.....	6.00	12.00		32.40
90266	Analysis	5.70	12.65		32.53
90685	Analysis	6.02	12.08		32.56
90692	Analysis	5.87	12.47		32.72
90769	Analysis	6.14	10.80		31.19
	Tri-State Fertilizer & Lumber Company, Shreveport, Louisiana				
	Red Diamond 4-12-4 Fertilizer, Guarantee.....	4.00	12.00	4.00	32.80
90693	Analysis	4.26	11.26	4.01	32.45
	Red Diamond 5-10-5 Fertilizer, Guarantee	5.00	10.00	5.00	34.00
90557	Analysis	4.63	10.95	4.20	33.25
	Tyler Fertilizer Company, Tyler, Texas				
	4-8-8 Heart Brand Fertilizer, Guarantee.....	4.00	8.00	8.00	32.80
90700	Analysis	3.99	8.59	8.23	33.92
	4-12-4 Heart Brand Fertilizer, Guarantee.....	4.00	12.00	4.00	32.80
90459	Analysis	3.91	11.51	4.50	32.58
	5-10-5 Heart Brand Fertilizer, Guarantee.....	5.00	10.00	5.00	34.00
90456	Analysis	5.06	9.80	5.12	33.54
90460	Analysis	4.74	9.81	4.14	31.85
90701	Analysis	4.38	8.98	5.01	30.97
	6-8-4 Heart Brand Fertilizer, Guarantee.....	6.00	8.00	4.00	32.40
90468	Analysis	4.58	10.01	4.82	32.67
	United Chemical Company, Dallas, Texas				
	Sunset Brand Fertilizer 4-12-4, Guarantee.....	4.00	12.00	4.00	32.80
90604	Analysis	4.09	11.52	4.02	32.49
90606	Analysis	4.10	11.45	3.58	31.71
90635	Analysis	3.81	11.67	4.08	31.96
	Sunset Brand Fertilizer 5-10-5, Guarantee.....	5.00	10.00	5.00	34.00
90310	Analysis	5.05	10.43	5.04	34.79
90376	Analysis	4.69	10.06	4.24	32.21
90538	Analysis	5.08	9.25	4.80	32.88
	Sunset Brand Fertilizer 6-8-4, Guarantee.....	6.00	8.00	4.00	32.40
90375	Analysis	5.87	8.38	3.49	31.88
	"United" Fertilizer 4-12-4, Guarantee.....	4.00	12.00	4.00	32.80
90255	Analysis	4.02	12.36	4.29	33.76
90639	Analysis	4.02	11.84	4.03	32.67
	"4 D Brand" Sheep Manure 2-2-2, Guarantee.....	2.00	2.00	2.00	10.80
90601	Analysis	2.16	1.43	3.14	12.02
90603	Analysis	2.18	1.51	3.52	12.71
	Rice Maker 4-12-4, Guarantee.....	4.00	12.00	4.00	32.80
90679	Analysis	4.24	13.40	4.17	35.62

Table 6. Analyses of commercial fertilizers sampled during 1945-1946.

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
	United Velvetgreen Fertilizer 6-9-3, For lawns & flowers, Guarantee	6.00	9.00	3.00	32.40
90605	Analysis	6.50	9.33	2.89	34.01
	"United" Fertilizer 20% Superphosphate, Guarantee		20.00		28.00
90256	Analysis		20.05		28.07
90618	Analysis		21.00		29.40
90289	Analysis		21.49		30.09
	Virginia-Carolina Chemical Corporation, Shreveport, Louisiana				
	V-C Fertilizer 4-8-8, Guarantee	4.00	8.00	8.00	32.80
90321	Analysis	4.09	8.52	7.69	33.33
90365	Analysis	4.02	9.08	7.35	33.45
90536	Analysis	4.08	9.23	7.74	34.37
90544	Analysis	3.88	8.19	8.10	32.90
90611	Analysis	4.09	8.42	8.35	34.11
	V-C Fertilizer 4-12-4, Guarantee	4.00	12.00	4.00	32.80
90108	Analysis	3.94	12.83	3.82	33.55
90212	Analysis	4.13	12.79	4.05	34.32
90231	Analysis	4.00	12.75	4.10	33.99
90308	Analysis	4.00	12.64	4.00	33.70
90311	Analysis	4.06	12.65	4.01	33.88
90336	Analysis	4.10	12.43	4.14	33.86
90337	Analysis	4.00	12.27	4.19	33.45
90341	Analysis	3.98	12.76	4.02	33.84
90364	Analysis	4.05	12.73	4.02	33.98
90380	Analysis	4.08	12.83	4.02	34.20
90400	Analysis	4.11	12.36	4.15	33.80
90465	Analysis	3.96	11.62	4.01	32.18
90496	Analysis	4.18	12.02	4.02	33.33
90513	Analysis	3.99	13.12	3.78	34.03
90520	Analysis	4.14	12.29	4.06	33.66
90535	Analysis	4.15	12.26	4.01	33.56
90567	Analysis	4.00	11.90	4.02	32.69
90574	Analysis	3.99	11.99	4.02	32.79
90583	Analysis	4.00	12.56	4.11	33.73
90610	Analysis	4.04	12.29	4.04	33.37
90670	Analysis	4.09	13.95	3.39	34.91
90674	Analysis	4.06	12.39	4.12	33.68
	V-C Fertilizer 5-10-5, Guarantee	5.00	10.00	5.00	34.36
90232	Analysis	4.87	10.47	5.03	34.36
90309	Analysis	4.84	10.48	5.02	34.28
90313	Analysis	4.87	10.34	4.91	34.01
90322	Analysis	5.14	10.25	5.23	35.02
90368	Analysis	4.95	10.52	5.08	34.71
90395	Analysis	4.90	10.22	5.03	34.09
90401	Analysis	4.99	10.51	4.78	34.37
90422	Analysis	4.94	10.77	4.70	34.50
90439	Analysis	4.87	9.89	5.22	33.82
90453	Analysis	4.98	10.52	5.16	34.90
90466	Analysis	5.09	10.95	5.05	35.65
90497	Analysis	4.92	10.70	5.02	34.80
90514	Analysis	5.13	11.43	4.79	36.05
90521	Analysis	5.16	9.67	5.26	34.32
90545	Analysis	4.95	9.85	5.24	34.00
90575	Analysis	4.82	10.32	5.01	33.99
90585	Analysis	4.89	10.00	5.15	33.92
90613	Analysis	4.99	9.12	5.22	33.05
90669	Analysis	5.01	10.56	5.22	35.12
90689	Analysis	5.26	9.64	5.12	34.35
90694	Analysis	4.97	10.27	5.03	34.34

Table 6. Analyses of commercial fertilizers sampled during 1945-1946.

Laboratory Number	Manufacturer, place of business and brand	Nitrogen %	Available phosphoric acid %	Potash %	Valuation found per ton
90710	Analysis	4.94	9.73	5.01	33.47
90715	Analysis	4.83	10.09	4.66	33.21
	V-C Fertilizer 6-8-4, Guarantee	6.00	8.00	4.00	32.40
90109	Analysis	5.54	9.08	4.16	32.93
90213	Analysis	5.71	8.75	4.06	32.78
90312	Analysis	5.92	8.80	4.01	33.32
90381	Analysis	5.97	8.86	4.08	33.63
90452	Analysis	5.72	8.88	4.02	32.93
90584	Analysis	5.82	8.49	4.01	32.63
90672	Analysis	5.81	8.49	4.02	32.63
	V-C Triple 8 Fertilizer, Guarantee.....	8.00	8.00	8.00	43.20
90214	Analysis	8.03	8.80	8.33	44.86
90515	Analysis	7.75	8.03	8.38	43.12
	V-C 20% Superphosphate, Guarantee		20.00		28.00
90233	Analysis		20.74		29.04
90564	Analysis		19.68		27.55
90690	Analysis		20.46		28.64
	Waldo Fertilizer Works, Waldo, Arkansas				
	Victory Brand 4-12-4 Fertilizer, Guarantee.....	4.00	12.00	4.00	32.80
90387	Analysis	3.91	12.54	4.74	34.36
90396	Analysis	4.09	12.22	5.85	35.93
	Victory Brand 5-10-5 Fertilizer, Guarantee.....	5.00	10.00	5.00	34.00
90572	Analysis	5.08	9.90	5.14	34.27
	Victory Brand 6-8-4 Fertilizer, Guarantee	6.00	8.00	4.00	32.40
90386	Analysis	4.82	8.50	3.40	29.19
90397	Analysis	6.06	9.79	4.90	36.33
90588	Analysis	6.40	8.76	5.74	36.94