Regulatory Bulletin 153

Commercial Fertilizers in Kentucky, 1958

Including a Report on Official Fertilizer Samples Analyzed

July-December, 1958

University of Kentucky
Agricultural Experiment Station
Lexington

FEED AND FERTILIZER DEPARTMENT

KENTUCKY AGRICULTURAL EXPERIMENT STATION

Bruce Poundstone, Head of Department
Robert Mathews, Asst. Adm. & Chief Inspector

Guy P. Zickefoose, Auditor-Inspector
David M. Daugherty, Registration Inspector

FIELD INSPECTION

M. M. Davis
O. R. Wheeler
Neville Hulette
Noel J. Howard
W. M. Routt

LABORATORY

Harry R. Allen
Valva Midkiff
J. T. Adair
Paul R. Caudill
J. A. Shrader
Gary R. Leslie
Dewey H. Newman, Jr.
Lelah Gault
Norma Holbrook
Robert N. Price
Jo Ann Dawson

CONTENTS

This report compiled and prepared by David M. Daugherty and Bruce Poundstone
Analytical data by the Laboratory Staff

This bulletin contains results of analyses of official samples of commercial fertilizers made during the period July 1 through December 31, 1958. The form of tables 1, 2 and 3 have been altered, somewhat, to provide a more readable presentation of the information. The name of the dealer where each sample was secured has been omitted from this table.

Separate tables are provided for the results of analyses of boron and pesticides contained in some fertilizers. A separate table is also provided to indicate the excess muriate of potash equivalent where sulfate of potash was guaranteed but not met.

TONNAGE OF FERTILIZER SOLD

The tonnage of mixed fertilizer sold in 1958 was over 534,000 tons. This represents a slight decline of about 5,000 tons from sales of commercial fertilizer in 1957. This slight reduction in total tonnage was largely due to a drop in the sale of mixed materials of about 6,000 tons. The tonnage of mixed fertilizers in 1957 and 1958 were nearly equal.

Full details regarding the tonnage of commercial fertilizer sold during 1958 as reported by manufacturers are given in Tables A, B and C.

PLANT FOODS OR NUTRIENTS

The minimum percentages of guaranteed plant foods, or nutrients, present in commercial fertilizers are printed on the bag as nitrogen, available phosphoric acid, and potash. These are the nutrients needed by plants in largest amounts and also those in which the soil is most likely deficient. The element corresponding to phosphoric acid is phosphorus and the element corresponding to potash is potassium. Boron and zinc may also be guaranteed under certain conditions.

FERTILIZER GRADE

A grade designates the minimum percentage of nitrogen, available phosphoric acid, and potash, in the fertilizer. A 5-10-15 grade means that the fertilizer contains 5 percent nitrogen, 10 percent available phosphoric acid, and 15 percent potash. The nutrients are always listed in this order. A 0-20-0 grade refers to a superphosphate fertilizer containing 20 percent available phosphoric acid. A 0-0-60 grade refers to a potash fertilizer containing 60 percent potash

NUMBER OF GRADES NEEDED IN KENTUCKY

The Departments of Agronomy and Horticulture of the Kentucky Agricultural Experiment Station consider that nine ratios and minimum grades of mixed fertilizer, together with superphosphate, nitrogen and potash salts will answer the present needs of Kentucky agriculture.

A list of the nine ratios and minimum grades and corresponding higher analysis grades recommended for field crops are shown below.

Ratio	Minimum Grade	Higher Analysis Grade
0-1-1	0-20-20	0-24-24, 0-30-30
0-1-2	0-10-20	0-20-40
0-2-1	0-16-8	0-20-10
1-1-1	10-10-10	12-12-12, 14-14-14
1-1-3	6-6-18	
1-2-2	5-10-10	6-12-12, 8-16-16, 10-20-20
1-2-3	5-10-15	6-12-18, 9-18-27
1-3-2	4-12-8	8-24-16,*10-30-20
1-4-4	3-12-12	4-16-16, 5-20-20

* Temporarily discontinued in 1959.

Higher grades of any ratio also are both recommended and encouraged. None of the recommended minimum grades of mixed fertilizer contain less than 20 units of plant food. Low grade fertilizers are less economical because costs of mixing, bags, freight and other incidental costs are the same per bag regardless of analysis.

There also is a distinct advantage to the manufacturer to hold the number of grades to a minimum, since a smaller number of grades can be mixed and distributed more economically.

The Agronomy Department suggests grades in the following ratios for tobacco: 1-2-3, 1-2-2, 1-1-3. Apply needed potash as sulfate of potash for tobacco. The other ratios listed are for general field crops, meadows and pastures.

More detailed suggestions for fertilizing field crops, using the above ratios and grades, are contained in Miscellaneous Circular 10 from this Station.

REFUNDS

When a sample of fertilizer is below the guaranteed analysis more than 0.8 units of nitrogen, 1.0 units of available phosphoric acid or 1.5 units of potash, or the combined relative value index shows the product deficient more than 2.00 units, the manufacturer of the fertilizer and the dealer from whom the sample was obtained are given a special notice.

It is suggested to the manufacturer that a proportionate refund be made to all purchasers of the stock of fertilizer whose names can be obtained from the dealer. If names of purchasers cannot be obtained, the refund may be made to charity in the county where the fertilizer was sold.

If the shipment has not been sold at the time the notice is received, it must be either relabeled so as to show the correct analysis or returned to the manufacturer for reworking. A deficiency in one element as outlined above may not be offset by an overage in another element in determining whether or not a refund, relabeling or reworking is required.

FARMERS' SAMPLES

Anyone in Kentucky who buys a commercial fertilizer for his own use may submit samples for free analysis to the Department of Feed and Fertilizer, Agricultural Experiment Station, Lexington 29, Kentucky.

1. Samples taken according to provisions of K. R. S. No. 250.360 through No. 250.480 (Kentucky Fertilizer Law.) - To make the sample official it should be taken according to Section No. 250.440 of the statute referred to above. This section of the statute requires that witnesses be present when the sample is taken. Copies of the statute may be obtained from the Department of Feed and Fertilizer.

2. Unofficial samples. - If an analysis is wanted for the purchaser's information only, samples of fertilizer may be taken in the following manner:

Take portions (each about a handful) from 10 percent of the bags, unless this requires portions from more than 20 bags. If there are less than 10 bags, sample all. Take samples from as far down in the bags as possible. Place all portions on a clean paper and mix well. Place about one quart in a tight container, mark the container with name and address of the sender and send to the Department of Feed and Fertilizer, Agricultural Experiment Station, University of Kentucky, Lexington, Kentucky.

State in a letter the amount of fertilizer on hand, the number of bags sampled, and the reason for wanting analysis. If analysis is materially below guaranty, a representative of the Feed and Fertilizer Department may be sent to take an inspector's sample.

FERTILIZER GUARANTY

Before a manufacturer can sell fertilizer in Kentucky, he must register each brand or grade he proposes to sell with the Kentucky Agricultural Experiment Station in a manner prescribed by the Director. This registration is the guaranty of the manufacturer. This information must be printed on each bag of fertilizer offered for sale in Kentucky or on a label attached to each bag supplied by the manufacturer. The information is as follows:

Brand name of fertilizer
Name and address of manufacturer
Guaranteed analysis showing:
- Nitrogen, percent
- Available phosphoric acid, percent
- Potash, from muriate or sulfate, percent

Total phosphoric acid is guaranteed in bone, dried manures and basic slag. Both total and available phosphoric acid are guaranteed in rock phosphate and in fused tricalcium phosphate.

PENALTIES FOR VIOLATING THE FERTILIZER LAW

Any manufacturer, firm, dealer, or vendor who sells or exposes for sale in Kentucky commercial fertilizer without complying with the provisions of the fertilizer law is subject to a fine of from $100.00 to $500.00 for each offense. Furthermore, if a fertilizer is short in net weight or short in the essential plant-food nutrients, a manufacturer, firm or dealer may not only be fined $100.00 to $500.00 for violating the fertilizer law, but "shall be liable for reasonable damages sustained by the purchaser of such fertilizer."

DISTRIBUTION OF FERTILIZER SALES IN KENTUCKY BY COUNTIES

Reports showing sales of fertilizer by grades by counties are now available for six months periods beginning July 1, 1954. These data were compiled from copies of invoices supplied by shippers of fertilizer. Copies may be had by writing to the Department of Feed and Fertilizer, Kentucky Agricultural Experiment Station.

EXPLANATION OF "STANDING OF MANUFACTURERS"

The standings of manufacturers as determined by the results of analysis of official samples are given on pages 7 and 8. Purchasers of fertilizer can learn through a study of this how well any manufacturer met his guarantee on the samples analyzed.

It should be noted that the first three columns of figures refer to number of samples and that the last three columns refer to number of analysis of nitrogen, phosphoric acid and potash. Attention is directed to the third column of figures which gives for each manufacturer the percentage of samples which are equal to guaranty in all respects, and to column 6, which gives the percentage of analysis which are equal to guaranty or within the tolerance. This tolerance is on a sliding scale varying with the guarantee as follows:

Percent Guarantee in Nitrogen, Phosphoric Acid or Potash	Tolerance
0- 9	0.2
10-19	0.3
20-25	0.4
26-34	0.5
35-39	0.6
40-49	0.7
50-59	0.8
60 or more	0.9

Standing of Manufacturers, Based on Samples Equal to Guaranty in All Respects and Analyses Within Tolerance - 1958

COMPANY	Samples			Analyses of nitrogen, phosphoric acid and potash		
	Total	Equal to guaranty in all respects		Total	Equal to guaranty or within tolerance**	
	Number	Number	Percent*	Number	Number	Percent*
Allied Chemical & Dye Corp.	14	12	86	18	18	100
American Agricultural Chemical	139	82	59	452	401	89
American Cyanamid	8	8	100	8	8	100
Armour Fertilizer Works	573	278	49	1,730	1,487	86
Louisville Fertilizer Co.	6	2	33	17	15	88
Tennessee Chemical	12	6	50	33	29	88
Associated Cooperative	36	25	69	72	66	92
Bartlett & O'Bryan Fertilizer Co.	40	9	23	115	69	60
Bluegrass Plant Food	126	55	44	403	341	85
The Borden Company	1	1	--	1	1	--
Buhner Fertilizer Company	8	6	75	26	24	92
Bunton Seed Company	6	3	50	18	15	83
Burley Belt Plant Food Works	47	18	33	152	131	86
California Spray Chemical	2	2	--	6	6	--
Chilean Nitrate Sales Corporation	1	1	--	1	1	--
Commercial Solvents	10	8	80	10	10	100
Commonwealth Fertilizer Company	52	19	37	146	119	82
Consolidated Chemical Company (See Price Chemical Company)						
Cooperative Fertilizer Service	449	280	62	1,260	1,127	90
Cooperative Seed & Farm Supply Service	3	3	--	7	7	--
Darling & Company	50	18	36	144	115	80
Davison Chemical Company	255	69	26	754	565	75
E. I. DuPont DeNem. & Company	1	1	--	1	1	--
E'Town Anhydrous Ammonia	6	1	17	17	8	47
E'Town Fertilizer Company	19	7	37	61	53	87
Farmers Fertilizer Company	13	6	46	40	34	85
Faesey & Bestoff	1	1	--	3	3	--
Federal Chemical Company	421	147	35	1,274	1,003	79
Hawthorne Laboratories	1	1	--	3	3	-
Grace Chemical Company	5	5	100	5	5	100
Hillenmeyer Nurseries	1	1	--	3	3	--
Hutson Chemical Company	32	17	53	84	70	83
Hydroponic Chemical Company	1	1	--	3	3	--
International Min. & Chem. Corp.	229	87	38	708	568	80
Kentucky Fertilizer Works	45	19	42	141	121	86
Knoxville Fertilizer Company	177	97	55	535	465	87
Lan-O-Nan Warehouse	24	11	46	65	47	72
Louisville Fertilizer Company (See Armour Fertilizer Works)			--	1	1	--
Mathieson Chemical Corporation	1	1	--	1	1	--
Midsouth Chemical Company	11	11	100	11	11	100
Mississippi Chemical Corporation	4	3	--	4	4	--
Mississippi River Chemical Corp.	2	2	--	2	2	--
Missouri Plant Food	17	13	76	45	43	96
Monsanto Chemical Company	4	4	--	4	4	--
Morrison Farm Service	1	1	--	3	3	--
North American Fertilizer Co.	125	60	48	378	333	88
Ohio Valley Fertilizer Corp.	43	19	44	136	108	79
Phillips Petroleum Company	1	1	--	1	1	--
Price Chemical Company	72	47	65	233	216	93
Consolidated Chemical	15	9	60	50	46	92
Ra-Pid-Gro Corporation	1	--	--	3	2	--
Robin Jones Phosphate Company	3	1	--	6	5	--
Rottgering Distributing Company	1	--	--	3	2	--
F. S. Royster Company	1	1	--	3	3	--

Standing of Manufacturers, Based on Samples Equal to Guaranty in All Respects and Analyses Within Tolerance - 1958

COMPANY	Samples			Analyses of nitrogen, phosphoric acid and potas		
	Total Number	Equal to guaranty in all respects		Total Number	Equal to guaranty or within tolerance**	
		Number	Percent*		Number	Percent*
Schrock Fertilizer Service	2	2	--	2	2	--
O. M. Scott & Sons	4	2	--	12	11	--
Sewerage Commission of Milwaukee	1	--	--	2	2	--
The Smith Agricultural Chem. Co.	4	4	--	12	12	--
Southern States (See Cooperative Fertilizer Serv.)						
Spencer Chemical Company	6	6	100	6	6	100
Stinson Farm Supply	1	--	--	2	1	--
Swift & Company	58	31	53	184	159	86
Tennessee Chemical Company (See Armour Fertilizer Works)						
Tennessee Corporation	114	65	57	343	304	89
Tri-State Chemical Company	36	14	39	96	77	80
U. S. Phosphoric, Div. Tenn. Corp.	1	1	--	1	1	--
U. S. Steel Corporation	1	1	--	1	1	--
Valley Counties of Kentucky	56	23	41	118	88	75
Victor Chemical Works	2	2	--	6	6	--
Virginia-Carolina Chemical Corp.	211	124	59	629	562	89
West Kentucky Liquid Fertilizer	43	7	16	119	85	71
TOTAL	3,656	1,762	48	10,732	9,053	84

A comparison of the totals in the above table with those for the year 1957 follows:

	1957	1958
Number of samples, Total	3,610	3,656
Samples equal to guaranty in all respects	1,907	1,762
Percent	53	48
Analyses, Total	10,594	10,732
Equal to guaranty or within tolerance	9,016	9,053
Percent	85	84

* Percent is not indicated when number of samples is less than 5
** See "Tolerance Scale" on page 6

COMPANIES REPRESENTED BY SAMPLES REPORTED IN THIS BULLETIN

Allied Chemical & Dye Corporation
Nitrogen Division
40 Rector St., New York, New York

American Agricultural Chemical Company
50 Church St., New York, New York

American Cyanamid Company
30 Rockefeller Plaza, New York, N. Y.

Armour Fertilizer Works
350 Hart Bldg., Atlanta, Georgia

Associated Cooperative, Inc.
312 Montgomery Avenue
Sheffield, Alabama

Bartlett & O'Bryan Fertilizer Company
108 River Road, Owensboro, Kentucky

Bluegrass Plant Foods, Inc.
Cynthiana, Kentucky

Burley Belt Plant Food Works
Lexington, Kentucky

California Spray Chemical Corporation
Lucas & Ortho Way
Richmond, California

Commercial Solvents Corporation
Sterlington, Louisiana

Commonwealth Fertilizer Company, Inc.
Morgantown Rd., Russellville, Ky.

Consolidated Chemicals
Millers Lane, Louisville, Kentucky

Cooperative Fertilizer Service
S. S. Bldg., Richmond, Virginia

Darling & Company
Chicago, Illinois

Davison Chemical Corporation
Baltimore, Maryland

E'Town Anhydrous Ammonia Company
Elizabethtown, Kentucky

E'Town Fertilizer Company
Elizabethtown, Kentucky

Faesey & Besthoff
25 E. 26th St.
New York, New York

Farmers Fertilizer Company
Smiths Grove, Kentucky

Federal Chemical Company
Starks Building, Louisville, Ky.

Hutson Chemical Company
Murray, Kentucky

International Minerals & Chemical Corp.
Lockland Station, Cincinnati, Ohio

Kentucky Fertilizer Works
Winchester, Kentucky

Knoxville Fertilizer Company
Knoxville, Tennessee

Land O Nan Warehouse
Sturgis, Kentucky

Louisville Fertilizer Company
Box 1088, Nashville, Tennessee

Mississippi Chemical Company
Yazoo City, Mississippi

Missouri Plant Food
Sikeston, Missouri

North American Fertilizer Company
Preston St. at Bergman, Louisville, Ky.

Price Chemical Company
Millers Lane, Louisville, Kentucky

Robin Jones Phosphate Company
804 Church St., Nashville, Tennessee

O. M. Scott & Sons Company
Marysville, Ohio

Schrock Fertilizer Service
Congerville, Illinois

Sewerage Commission
Milwaukee, Wisconsin

Spencer Chemical Company
Box 604, Pittsburg, Kansas

Swift & Company
Union Stock Yards, Illinois

Tennessee Corporation
Lockland Station, Cincinnati, Ohio

Tri-State Chemical Company
Henderson, Kentucky

Valley Counties of Kentucky
Box 351, Murray, Kentucky

Virginia-Carolina Chemical Corporation
Richmond
Virginia

West Kentucky Liquid Fertilizer Company
Hopkinsville
Kentucky

TABLE A. - Mixed Fertilizer Sales by Grades, Calendar Year, January 1 thru December 31, 1958, Kentucky. (Based on tonnage reports from manufacturers.)

Grade	January 1 thru June 30, 1958 (Tons)	July 1 thru December 31, 1958 (Tons)	Total (Tons)
0-10-20	209	32	241
0-12-12	342	49	391
0-20-10	65	3	68
0-20-20	6,282	2,115	8,397
0-25-25	383	45	428
0-30-30	1,615	386	2,001
2-12- 6	5,359	897	6,256
3- 9- 6	9,590	563	10,153
3- 9-18	300	55	355
3-12- 6	7,379	832	8,211
3-12-12	24,076	6,943	31,019
4- 8-12	195	119	314
4-12- 4	494	50	544
4-12- 8	58,112	23,032	81,144
4-16-16	3,920	888	4,808
5-10- 5	2,062	197	2,259
5-10-10	13,378	1,591	14,969
5-10-15	100,218	5,114	105,332
5-20-20	14,046	7,044	21,090
6- 6-18	11,827	861	12,688
6- 8- 6	20,987	1,209	22,196
6-10- 4	616	15	631
6-12-12	23,565	6,725	30,290
6-12-18	4,772	322	5,094
6-24-24	410	98	508
8- 8- 8	282	4	286
8-24-16	1,690	753	2,443
10-10-10	35,578	4,684	40,262
10-20-20	347	122	469
10-30-20	1,160	1,183	2,343
12-12-12	4,171	998	5,169
14-14-14	1,330	64	1,394
*Miscellaneous	11,778	4,517	16,295
TOTAL MIXED	366,538	71,510	438,048

*Grades registered by fewer than three companies and miscellaneous grades with low tonnage.

TABLE B. - Fertilizer Sold as Straight Materials and Miscellaneous Products by Types, Calendar Year, January 1 thru December 31, 1958, Kentucky. (Based on tonnage reports from manufacturers.)

Material	January 1 thru June 30, 1958 (Tons)	July 1 thru December 31, 1958 (Tons)	Total (Tons)
Nitrate of Soda	1,457	266	1,723
Ammonium Nitrate Lime, 20.5%	2	--	2
Ammonium Sulfate, 20-21%	501	115	616
Cyanamid	365	1,274	1,639
Nitrogen Solutions, 24-49%	1,405	379	1,784
Ammonium Nitrate, 32.5-33.5%	23,726	10,755	34,481
Anhydrous Ammonia, 82%	2,300	613	2,913
Urea	163	30	193
Total Nitrogen Material	29,919	13,432	43,351
Soft Phosphate, 20% Total	869	447	1,316
Ground Rock Phosphate, 30-33% Total	3,467	4,783	8,250
Basic Slag, 8% Total	120	--	120
Superphosphate, 18-20% Available	16,845	3,298	20,143
Triple Superphosphate, 45-50% Available	978	199	1,177
Calcium Metaphosphate, 60-63% Available	4,141	2,838	6,979
Total Phosphate Material	26,420	11,565	37,985
Sulfate of Potash Magnesia, 20.5-22%	733	115	848
Sulfate of Potash, 48-52%	5,101	187	5,288
Muriate of Potash, 60-62%	5,945	2,444	8,389
Total Potash Material	11,779	2,746	14,525
Dried Manures	248	99	347
Bone Meal	32	17	49
Sewage Sludge	29	58	87
Miscellaneous	58	33	91
Total Miscellaneous	367	207	574
TOTAL MATERIALS	68,485	27,950	96,435

TABLE C. - Summary of all fertilizer sold in Kentucky from January 1 thru December 31, 1958

Type	January 1 thru June 30, 1958 (Tons)	July 1 thru December 31, 1958 (Tons)	Total (Tons)
Mixed Fertilizers	366,538	71,510	438,048
Straight Materials	68,485	27,950	96,435
TOTAL	435,023	99,460	534,483

THE EXPLANATION OF TABLES 1, 2 AND 3

The information given in Tables 1, 2 and 3 should be useful to farmers, agricultural workers and company representatives in determining how closely a given manufacturer is meeting the chemical guarantee printed on the bag for specific fertilizers. This may be done by comparing the guarantee shown at the beginning of each listing of samples with the actual analysis in the columns at the right, in terms of nitrogen, available phosphoric acid and potash.

The results of analyses of all inspection samples are given in Tables 1, 2 and 3. If an analysis shows a deficiency of more than the allowable tolerance in the amount claimed for nitrogen, phosphoric acid or potash, the result is indicated in the tables by an asterisk. An additional means of comparing guarantees with the analysis of samples is in the percent of relative value found, shown in the extreme right hand column of the tables. The following examples illustrate how this relative value is calculated.

A 5-10-15 sulfate fertilizer is guaranteed to contain 5 units of nitrogen, 10 units of available phosphoric acid and 15 units of potash. Factors for computing the relative values of these plant foods are: 1 for potash, 2 for available phosphoric acid and 3 for nitrogen. Thus the combined guaranteed value of the product represented is calculated by multiplying each of the guaranteed percentages by their respective values; 5 times 3 for nitrogen, 10 times 2 for phosphoric acid, etc. Adding these products, it is found that a 5-10-15 fertilizer has a value of 50.

The same procedure is followed for "found values." Assuming a sample of 5-10-15 was found to contain 5.1 units of nitrogen, 10.2 units of available phosphoric acid and 15.1 units of potash. The relative found value is computed by multiplying the found percent of nitrogen by 3; that for phosphoric acid by 2 and potash by 1. The sum of these products gives a computed value of this sample of 50.8, which is divided by the value guaranteed (50) and multiplied by 100. This gives, as the percent of relative value found, 101.6. In the table, if the percent of the relative value is 98 or less, this result is indicated by an asterisk.

In some samples a deficiency in one nutrient is accompanied by an over-run in another nutrient. This is evidence if improper mixing or weighing by the manufacturer. Extreme variations of this kind cannot be attributed to separation of materials (segregation), although this may be a minor factor. Excess of one nutrient cannot compensate for deficiency of another nutrient. The purchaser is entitled to receive the full guarantee in all nutrients as expressed by the manufacturers guarantee.

THE EXPLANATION OF TABLES 4, 5, AND 6

The following tables show the analyses of fertilizer ingredients other than nitrogen, phosphoric acid and potash. Table 4 provides information regarding the analysis of boron in fertilizers. In Table 1 all fertilizers containing boron are footnoted. By referring to the particular company involved in Table 4, the specific analysis for boron can be found for any sample indicated by the sample number. Found values which are deficient below tolerance are indicated by an underline.

In as much as it is necessary to indicate the source of potash for all fertilizers sold in Kentucky, chemical analyses are made to determine whether the guarantee for sulphate of potash is met. In Table 1 where sulphate of potash is guaranteed but not met, it is indicated by a footnote and the percentage of the guarantee, equivalent to excess muriate of potash is shown in Table 5.

Table 6 shows the results of analyses of pesticides contained in fertilizers. Fertilizer-insecticide mixtures are footnoted in Table 1 and analyses can be found in Table 6. Analyses below tolerance are underlined.

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
ALLIED CHEM & DYE CORP NIT DIV				
AMMONIUM NITRATE				
7467	33.7			101
7580	33.9			101
7589	33.9			101
7647	33.2			99
9711	33.9			101
9732	33.8			101
AMERICAN AGRICULTURAL CHEMICAL CO				
0 20 20M				
2004		20.4	19.3*	100
9653		20.6	18.5*	100
9991		19.4*	21.7	101
0 20 20M WITH 5 LB BORAX PER 100 (1)				
9655		20.1	15.4*	93*
3 12 12M				
2006	3.1	13.0	12.3	106
6950	3.4	12.9	12.2	107
7527	3.0	12.7	12.4	104
7528	3.1	12.3	12.9	104
9654	3.1	12.7	12.2	104
4 12 8M				
2005	4.2	13.1	8.2	107
6951	4.1	12.7	8.5	105
9697	4.3	12.6	8.0	105
9728	4.1	12.8	8.6	106
9905	4.1	12.1	8.7	103
9992	4.1	12.5	8.2	103
4 16 16M				
7530	4.2	16.2	15.7	101
7531	4.0	16.1	15.4*	99
6 12 12M				
7529	6.2	12.0	12.7	102
9656	5.5*	12.3	12.1	99
10 6 4M				
9701	9.9	6.8	4.6	106
10 10 10M				
9651	9.5*	10.5	10.0	99
SUPERPHOSPHATE				
9652		18.0		100
AMERICAN CYANAMID COMPANY				
CALCIUM CYANAMID				
6984	21.0			100
7791	21.0			100
9960	21.2			101
AMMONIUM NITRATE				
7699	33.9			101
9706	33.4			100

(1) SEE TABLE 4 FOR BORON ANALYSIS

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
ARMOUR FERTILIZER WORKS	(Percent)	(Percent)	(Percent)	
0 20 20M				
6932		20.1	19.3*	99
7566		20.0	20.7	101
0 20 20M WITH 5 LB BORAX PER 100(1)				
6931		19.8	21.0	101
7348		19.8	20.8	101
7405		22.0	23.5	113
0 25 25M				
7660		21.9*	27.0	94*
9658		26.7	22.5*	101
9671		23.8*	24.4*	96*
0 25 25M WITH 5 LB BORAX PER 100(1)				
7661		21.6*	25.0	91*
2 12 6M				
7439	2.0	12.0	6.1	100
3 12 6M				
7466	3.1	12.6	6.6	105
9781	3.2	11.6*	7.2	103
3 12 12M				
7437	3.1	11.9	12.7	102
7535	3.0	12.0	12.1	100
7543	2.9	12.0	12.0	99
9657	3.2	12.1	11.9	102
9666	3.4	12.0	11.9	102
9668	3.2	11.7	12.2	100
9699	3.2	11.9	12.7	102
9771	3.0	12.3	12.5	102
4 12 8M				
6982	4.0	12.0	8.0	100
7370	4.0	12.1	8.8	102
7386	4.0	12.3	8.0	101
7406	4.1	12.0	8.1	101
7429	3.8	12.9	8.0	103
7444	3.9	11.8	8.2	99
7478	3.8	13.0	8.2	104
7504	3.9	12.4	9.0	103
7565	3.8	12.0	9.2	101
7628	3.9	12.7	8.0	103
7645	4.2	11.9	8.7	103
7665	3.9	12.4	8.0	101
7670	3.7*	12.8	7.9	101
7696	3.9	12.0	7.7*	99
7785	4.0	12.1	8.4	101
7797	4.3	11.9	8.5	103
9660	4.2	12.0	8.2	102
9664	4.2	11.9	8.7	103
9670	4.2	12.0	8.5	103
9694	4.0	12.2	8.5	102
9772	3.8	13.0	9.0	105
9780	4.2	12.7	9.2	107
9929	4.1	12.2	8.4	103
9989	3.8	12.2	8.1	100
5 10 5M				
9700	5.2	9.8	5.5	102
5 10 10M				
6964	4.9	10.0	10.9	101
6976	5.2	10.1	10.3	102
7369	5.3	11.1	10.0	107
7371	5.0	10.3	10.1	102
7415	4.9	10.2	10.8	102
7666	4.8	9.9	10.1	98*

(1) SEE TABLE 4 FOR BORON ANALYSIS

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
ARMOUR FERTILIZER WORKS CONTINUED				
5 10 10M CONTINUED				
7671	4.9	10.3	9.4*	99
9669	5.1	10.2	10.7	103
5 20 20M				
7351	5.0	18.5*	17.6*	93*
7359	5.2	20.0	20.2	101
7446	5.1	19.5*	18.0*	96*
7662	5.2	19.0*	20.2	98*
9714	4.7*	20.0	21.0	100
9761	4.7*	19.5*	21.1	99
9928	5.1	20.2	20.0	101
9934	5.0	19.2*	19.9	98*
9974	5.1	19.7	19.9	99
9984	4.7*	19.7	21.2	100
9990	4.7*	19.5*	19.1*	96*
5 20 20M WITH 3 LB BORAX PER 100[1]				
7352	4.8	19.6	20.1	98*
6 12 12M				
6963	6.0	12.2	12.5	102
7387	6.0	13.0	10.2*	100
7428	5.5*	12.6	12.5	100
7438	5.6*	11.4*	13.0	97*
7445	7.8	12.6	12.0	112
7476	5.6*	12.0	12.0	100
7629	5.9	12.2	12.7	101
9692	5.5*	12.2	13.0	100
9693	5.7*	11.9	12.9	100
8 24 16M				
6988	7.9	23.9	16.2	100
6989	7.9	23.9	16.9	100
6990	7.6*	22.7*	16.6	96*
7567	7.9	24.0	17.1	101
7608	8.1	22.8*	17.1	99
7667	7.8	23.6	16.4	99
7672	7.8	24.4	16.4	101
7673	7.9	23.7	16.7	100
9760	7.9	23.5*	16.4	99
9797	7.6*	22.9*	16.5	97*
9971	7.8	24.0	16.5	100
10 10 10M				
6975	8.6*	10.7	9.8	95*
7536	9.1*	10.4	9.9	97*
7544	10.0	11.2	10.0	104
7693	9.5*	10.1	10.0	98*
9659	9.5*	10.4	10.0	99
12 12 12M				
7615	11.5*	12.6	12.5	100
7680	11.6*	12.0	13.0	100
SUPERPHOSPHATE				
6978		19.4*		97*
6981		20.3		102
7503		19.4*		97*
7664		20.5		103
7695		20.2		101
7784		21.1		105
9665		19.2*		96*
9698		19.1*		95*
9773		19.4*		97*
9972		19.9		100
MURIATE OF POTASH				
7521			60.0	100

(1) SEE TABLE 4 FOR BORON ANALYSIS

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
ASSOCIATED COOPERATIVE INC				
14 14 14M				
7613	14.3	14.0	13.5*	100
9903	14.0	13.9	13.7	99
15 15 15M				
9712	15.0	14.4*	15.2	99
AMMONIUM NITRATE				
7584	33.5			100
7631	33.4			100
7690	33.3			99
9650	33.4			100
CALCIUM METAPHOSPHATE				
7491		62.6		101
7657		63.2		102
7691		61.8		100
9707		63.4		101
BARTLETT & O BRYAN FERTILIZER CO				
4 12 12M LIQUID				
7775	2.7*	7.7*	9.1*	68*
8 24 0 LIQUID				
7777	6.6*	19.5*		82*
10 10 10M LIQUID				
7776	8.9*	9.0*	8.6*	89*
BLUEGRASS PLANT FOODS INC				
3 12 12M				
7358	3.0	11.3*	14.3	102
4 12 8M				
7610	4.0	12.1	8.0	100
9999	4.0	11.9	8.6	101
5 20 20M				
9976	4.9	18.8*	19.5*	96*
12 12 12M				
2011	10.9*	12.3	11.5*	96*
9975	10.8*	12.0	13.1	97*
BUNTON SEED COMPANY				
6 12 6M				
7463	5.9	13.7	7.7	110
10 12 6M				
7464	9.6*	12.2	7.4	101

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
BURLEY BELT PLANT FOOD WORKS				
5 10 15S 9730	4.8	11.3	13.4*	101
10 10 10M 9729	9.5*	10.9	10.7	102
SUPERPHOSPHATE 9647		20.7		103
CALIFORNIA SPRAY CHEMICAL CORP				
10 5 5 LIQUID 6933	10.2	5.3	5.2	103
COMMERCIAL SOLVENTS CORPORATION				
AMMONIUM NITRATE 7402	33.6			100
7571	33.6			100
7581	33.7			101
7663	33.4			100
9696	33.4			100
10000	33.5			100
COMMONWEALTH FERTILIZER COMPANY INC				
0 20 20M 9968		20.7	22.0	106
0 30 30M 7559		30.8	30.0	102
3 12 12M 9969	3.2	12.6	10.8*	102
4 12 8M 7560	4.2	11.2*	8.7	99
7564	4.2	10.6*	8.0	95*
9924	4.2	10.6*	8.8	97*
9963	4.1	11.5*	8.5	100
5 20 20M 7354	5.4	19.2*	19.5*	100
9967	5.1	19.8	19.7	99
6 12 12M 9923	5.4*	12.0	11.8	96*
9970	6.0	11.0*	11.9	96*
SUPERPHOSPHATE 7558		20.5		103
MURIATE OF POTASH 7353			60.5	101

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
CONSOLIDATED CHEMICAL COMPANY	(Percent)	(Percent)	(Percent)	
5 20 20M				
7569	4.9	19.8	20.6	100
10 10 10M				
6952	9.5*	10.5	10.6	100
7549	9.2*	10.9	10.9	101
COOPERATIVE FERTILIZER SERVICE				
0 20 40M WITH 4 LB BORAX PER 100 (1)				
6940		19.7	39.7	99
7368		20.0	40.5	101
7379		22.0	38.8*	104
7592		19.9	40.7	101
7653		20.2	40.0	101
7700		20.0	39.3*	99
9644		19.2*	39.4	97*
9663		20.7	40.0	102
9900		20.4	38.4*	99
9902		21.5	37.1*	103
9904		20.0	38.9*	99
9909		21.1	39.5	102
9940		21.1	38.2*	101
9952		20.5	39.2*	100
9954		20.0	40.6	101
0 30 30M				
7380		30.3	30.2	101
7388		30.3	30.2	101
7492		29.4*	29.5	98*
7593		31.7	29.8	104
7596		29.1*	31.0	99
7597		30.2	32.0	103
7600		29.4*	30.0	99
7793		31.2	30.2	103
9662		31.2	30.0	103
9907		32.6	20.2*	105
2 12 12M WITH 3 LB BORAX PER 100 (1)				
7638	2.3	12.7	12.2	106
3 12 12M				
2007	3.0	12.0	12.5	101
6934	3.1	11.9	12.4	101
6979	3.1	12.4	12.1	103
6983	3.3	11.5*	12.6	101
7583	3.4	11.9	13.0	104
7655	3.3	11.5*	12.1	100
9648	2.9	11.6*	12.5	99
9649	3.2	11.6*	12.4	100
9678	3.0	11.6*	12.0	98*
9686	3.2	11.5*	13.0	101
9774	3.1	12.0	12.7	102
4 12 8M				
6980	4.2	11.6*	8.7	101
6987	4.0	12.5	8.1	103
7357	4.4	12.1	8.5	104
7366	4.0	12.0	8.8	102
7395	4.0	12.2	8.9	103
7490	4.0	12.6	8.9	105
7498	4.0	12.0	8.3	101
7545	4.2	12.0	8.4	102
7607	4.2	12.4	9.1	106
7642	4.1	12.3	9.2	105
7644	4.0	12.6	9.3	106
7788	4.1	11.7	8.1	100
7798	4.0	11.6*	8.2	99
7799	4.1	12.5	8.7	105
9646	4.1	11.2*	8.3	98*

(1) SEE TABLE 4 FOR BORON ANALYSIS

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
COOPERATIVE FERT SERVICE CONTINUED				
4 12 8M CONTINUED				
9679	4.1	11.7	8.5	100
9710	4.1	12.5	8.9	105
9793	4.3	11.9	8.4	103
5 10 10M				
7639	5.2	11.0	10.3	106
5 20 20M				
6935	5.2	20.1	20.2	101
7399	5.0	20.3	20.0	101
7400	5.0	20.0	21.2	102
7412	5.0	20.4	20.0	101
7458	5.3	19.9	20.1	101
7537	5.4	20.1	21.2	103
7551	5.3	20.0	21.0	103
7650	5.3	20.6	21.1	104
7651	5.2	20.2	20.6	102
9687	5.1	19.9	21.0	101
9695	5.0	20.2	20.0	101
9766	5.4	20.1	20.6	103
9775	5.3	21.1	19.7	104
9794	5.1	19.8	21.4	102
9906	5.1	19.1*	20.1	98*
9930	5.2	20.0	20.0	101
9955	5.1	20.3	21.0	103
9988	5.1	20.5	20.0	102
6 12 12M				
6939	6.0	12.3	11.7	101
6986	6.3	12.0	12.6	103
7397	5.9	12.0	12.4	100
7401	6.1	12.2	12.4	102
7413	6.0	12.0	12.2	100
7496	6.1	11.3*	12.0	98*
7594	6.0	12.0	12.7	101
7604	6.0	12.0	12.5	101
7656	5.9	11.9	12.2	99
9661	6.2	12.0	12.5	102
9677	6.0	11.9	12.1	100
9713	6.1	11.7	12.4	100
9727	6.1	12.8	13.1	106
9777	6.2	12.1	12.4	102
10 10 10M				
6938	10.0	10.5	10.1	102
7367	9.6*	11.4	10.2	103
7541	10.5	10.1	10.6	104
7590	10.5	10.3	10.5	104
9977	10.0	10.4	10.2	102
10 20 20M				
7640	9.9	21.3	21.0	104
10 30 20M				
7355	10.2	29.7	20.4	100
7365	10.2	29.3*	20.2	99
7398	10.5	31.6	17.6*	102
7403	10.1	29.2*	21.0	100
7416	10.0	30.1	19.9	100
7552	10.1	29.5	21.0	100
7595	9.7	29.3*	22.0	100
7605	10.3	30.0	20.0	101
7609	10.0	29.9	20.0	100
7633	9.9	29.1*	21.2	99
7643	10.0	29.5*	20.2	99
7789	10.4	30.1	21.1	102
7794	9.8	28.8*	20.5	98*
7800	10.3	30.3	19.8	101
9768	10.5	30.1	20.6	102
9776	10.4	30.3	19.8	101
9987	10.0	29.3*	21.0	100
AMMONIUM NITRATE				
9978	33.0			99

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
COOPERATIVE FERT SERVICE CONTINUED				
SUPERPHOSPHATE				
7356		19.6		98*
7582		20.0		100
7591		18.3*		92*
7636		21.1		105
7648		20.3		102
7652		20.4		102
7792		20.4		102
9709		20.0		100
9956		19.9		100
47 TRIPLE SUPERPHOSPHATE				
7773		48.1		102
CALCIUM METAPHOSPHATE				
7497		63.6		101
7630		63.7		101
MURIATE OF POTASH				
7632			60.0	100
7637			60.0	100
7649			59.7	100
7654			61.0	102
9708			59.5	99
DARLING & COMPANY				
4 12 8M				
9799	4.7	13.1	8.6	111
5 20 20M				
7511	5.8	17.9*	19.6	97*
6 12 12M				
6962	6.1	12.2	12.0	101
6966	6.2	11.8	11.9	100
7474	5.7*	12.1	12.1	99
7506	5.8	12.3	12.8	101
7623	6.0	12.0	13.0	102
7668	5.9	12.2	12.5	101
9800	5.6*	12.0	12.5	99
8 24 16M				
7501	7.9	22.3*	16.4	96*
10 10 10M				
6965	8.8*	11.1	11.2	100
7505	8.7*	11.1	11.9	100
7509	9.0*	11.1	10.3	99
MURIATE OF POTASH				
7674			60.0	100
7687			60.0	100
7688			60.0	100
DAVISON CHEMICAL CORPORATION				
0 20 20M				
9958		18.0*	19.6	93*
0 20 20M WITH 5 LB BORAX PER 100 (1)				
9919		19.0*	20.1	97*
2 12 6M				
7449	2.0	10.7*	6.6	94*

(1) SEE TABLE 4 FOR BORON ANALYSIS

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
DAVISON CHEMICAL CORP CONTINUED				
3 12 12M				
9682	3.1	12.8	13.2	107
9787	3.0	11.2*	12.0	96*
4 12 8M				
7360	3.5*	12.9	7.9	98*
7442	3.7*	12.3	7.8	99
7450	3.9	10.8*	8.1	94*
7568	4.5	12.0	8.2	104
9680	4.2	12.0	9.4	105
9726	3.9	11.9	8.2	99
9790	3.9	11.9	7.9	99
9918	3.8	12.7	7.8	101
9961	3.7*	11.4*	7.8	95*
9996	3.7*	12.5	6.7*	97*
4 16 16M				
7477	4.0	16.0	15.9	100
9725	3.8	16.1	15.7	99
5 10 10M				
7443	4.7*	9.7	10.6	98*
5 20 20M				
7361	4.9	19.9	19.2*	98*
9684	5.0	19.3*	21.0	99
9724	4.9	20.3	19.9	100
9789	4.5*	18.9*	21.0	96*
9915	4.5*	18.0*	19.2*	92*
9957	4.7*	19.6	19.5*	97*
6 12 12M				
9763	5.5*	12.1	12.7	99
9791	5.4*	12.4	11.5*	97*
9910	5.9	11.9	12.0	99*
9962	5.4*	12.0	13.0	99
8 24 16M				
7422	8.0	24.7	15.0*	100
9762	8.0	23.9	15.7	99
9764	7.9	23.3*	16.0	98*
9911	7.9	22.6*	16.0	96*
9916	7.4*	21.6*	15.3*	92*
10 10 10M				
6943	10.0	10.2	10.5	102
6967	10.0	10.4	10.4	102
7461	9.9	10.4	10.8	102
7462	9.5*	11.0	11.2	103
9683	9.1*	11.3	11.7	103
9788	10.5	9.4*	10.1	101
12 12 12M				
9917	11.3*	11.9	12.7	98*
SUPERPHOSPHATE				
9681		18.2*		91*
9723		19.6		98*
9942		20.7		103
9959		20.7		103
E' TOWN ANHYDROUS AMMONIA COMPANY				
4 11 11M LIQUID				
9755	4.0	11.2	9.5*	98*

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
E TOWN ANHYDROUS AMMONIA CONTINUED	(Percent)	(Percent)	(Percent)	
4 12 0 LIQUID				
9950	5.4	15.8		133
E TOWN FERTILIZER COMPANY				
3 12 12M				
9757	3.3	11.7	12.7	102
4 12 8M				
7694	4.4	11.5*	7.9	100
9759	4.4	11.6*	9.0	103
9951	4.7	11.7	9.8	108
4 16 16M				
9758	4.4	16.6	16.2	104
5 20 20M				
9756	5.4	20.8	20.2	104
FAESY & BESTHOFF INC				
8 10 4M				
7391	8.0	10.0	5.1	102
FARMERS FERTILIZER COMPANY				
12 12 12M				
9914	12.0	12.6	11.9	102
FEDERAL CHEMICAL COMPANY				
0 9 27M WITH 5 LBS BORAX PER 100[1]				
6994		9.5	24.3*	96*
0 20 20M				
7423		20.7	20.2	103
7602		20.0	20.0	100
7779		16.7*	15.7*	82*
9688		19.6*	20.0	99
9717		19.8	19.1*	98*
3 9 6M				
7698	3.0	9.5	5.5*	102
3 12 12M				
6937	3.3	11.8	12.4	102
7517	3.2	12.1	13.0	104
7538	3.2	12.0	12.6	103
7548	3.2	12.0	12.8	103
9691	3.0	11.5*	12.6	99
4 12 8M				
6968	4.2	12.1	8.6	103
6996	3.9	11.3*	8.9	98*
7347	4.3	11.0*	8.7	99
7471	4.4	11.5*	8.7	102
7479	4.4	12.0	8.0	103
7514	4.4	11.9	8.6	104
7520	4.0	11.4*	8.2	98*
7553	3.8	12.1	8.5	100

(1) SEE TABLE 4 FOR BORON ANALYSIS

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
FEDERAL CHEMICAL COMPANY CONTINUED				
4 12 8M CONTINUED				
7561	4.0	11.5*	8.0	98*
7598	3.9	11.7	8.9	100
7601	4.2	12.0	8.0	101
7697	4.0	11.4*	8.5	98*
7790	3.6*	12.0	9.1	100
7795	4.0	12.1	8.3	101
9672	4.0	12.4	8.0	102
9675	4.0	11.6*	8.2	99
9702	4.0	12.0	8.0	100
9722	4.0	11.2*	8.0	96*
9731	4.2	12.0	9.3	104
9964	4.0	11.1*	8.9	98*
9982	4.0	11.9	8.5	101
4 16 16M				
7518	4.1	15.7	17.5	102
9716	4.4	15.5*	15.5*	100
4 24 12M				
9973	3.8	24.5	9.7*	97*
5 10 10M				
7329	4.4*	10.4	9.4*	96*
9676	4.8	9.7	10.0	97*
5 20 20M				
7425	5.2	18.4*	19.7	96*
7453	4.9	19.4*	19.5*	97*
7562	5.4	19.0*	19.1*	98*
7572	4.9	16.7*	16.8*	87*
9703	5.1	19.6	20.4	100
9721	5.1	21.5	15.9*	99
9980	4.9	19.5*	20.4	99
6 8 6M				
6941	5.8	9.4	6.0	106
6945	5.8	9.5	5.8	106
7547	5.7*	9.4	7.2	108
6 12 12M				
4004	5.8	12.3	11.5*	99
6973	5.7*	11.6*	12.7	98*
7427	5.7*	12.0	12.0	98*
7470	5.6*	12.1	11.9	98*
7475	6.0	12.0	12.6	101
7507	5.7*	12.7	9.5*	96*
9767	5.4*	12.0	12.5	98*
9783	5.8	11.7	12.9	99
6 18 12M				
4003	6.0	18.0	11.9	100
6 24 12M				
9690	6.3	22.7*	11.9	98*
6 24 24M				
9720	5.7*	24.0	25.0	100
8 8 8M				
9785	6.6*	8.7	8.0	94*
8 24 16M				
6971	8.4	19.9*	15.2*	91*
6995	7.9	23.9	16.0	99
6999	6.3*	20.1*	13.7*	83*
7389	7.6*	25.2	15.0*	100
7424	7.0*	22.0*	14.7*	91*
7469	7.6*	24.0	15.2*	98*
7502	8.0	21.2*	15.0*	93*
9782	7.4*	22.6*	16.5	95*
9798	7.7*	23.4*	15.5*	97*

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
FEDERAL CHEMICAL COMPANY CONTINUED				
8 24 16M CONTINUED				
9979	7.4*	23.8	15.3*	97*
9983	7.4*	22.5*	15.5*	94*
10 10 10M				
6944	8.7*	9.7	9.3*	91*
6974	9.1*	10.6	10.0	98*
7000	8.4*	10.4	10.1	94*
7390	8.9*	10.6	10.0	97*
7426	9.0*	10.5	10.2	97*
7468	9.0*	10.2	10.1	96*
7515	8.3*	11.0	10.1	95*
7539	9.1	11.2	10.5	100
7540	9.9	10.3	10.6	102
7563	8.6*	11.2	9.6*	96*
9718	9.8	9.9	10.4	99
9719	9.2*	10.4	10.5	98*
9784	9.1*	10.3	10.0	97*
12 12 12M				
7599	11.6*	12.5	12.0	100
7603	11.1*	12.5	11.8	97*
9689	11.4*	12.0	12.4	98*
9715	12.0	12.5	12.2	102
SUPERPHOSPHATE				
7516		19.7		98*
9981		19.8		99
MURIATE OF POTASH				
7519			58.0*	97*
HUTSON CHEMICAL COMPANY				
0 9 27M				
6936		9.2	27.0	101
4 12 8M				
6960	4.2	11.9	8.5	102
5 20 20M				
7512	5.3	20.2	20.1	102
6 12 12M				
6961	5.3*	12.3	11.9	97*
SUPERPHOSPHATE				
7685		20.2		101
MURIATE OF POTASH				
7508			59.5	99
INTERNATIONAL MINERAL & CHEM CORP				
0 20 20M				
7780		19.7	18.7*	97*
3 12 12M				
2008	3.1	12.8	11.8	104
9997	3.0	12.2	11.0*	99
3 12 12M WITH 5 LB BORAX PER 100[1]				
9966	3.0	10.8*	12.2	95*

(1) SEE TABLE 4 FOR BORON ANALYSIS

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
INTERNATIONAL MIN & CHEM CONTINUED	(Percent)	(Percent)	(Percent)	
4 12 8M				
6997	4.1	11.6*	7.9	99
7364	4.1	12.0	9.9	105
7383	4.1	12.0	8.2	101
7421	3.7*	12.2	8.3	100
7494	3.4*	11.5*	9.2	96*
7554	4.2	12.0	8.0	101
9927	4.2	12.0	7.8	101
9936	3.6*	13.3	10.4	109
9998	4.1	11.7	7.9	99
5 10 10M				
9667	5.0	9.6*	10.0	98*
5 20 20M				
7362	4.6*	17.9*	20.0	93*
7417	4.7*	18.0*	19.3*	93*
7419	4.6*	19.7	20.5	98*
9935	4.3*	17.6*	18.7*	89*
6 12 12M				
6954	5.9	12.0	12.5	100
7363	5.3*	12.5	11.2*	96*
7418	5.2*	12.6	11.3*	96*
7782	6.3	12.0	12.6	103
9937	5.2*	12.1	11.9	96*
9965	5.9	11.9	12.2	99
9986	5.4*	12.5	11.9	98*
6 18 12M				
6998	6.1	18.0	12.7	102
7420	4.8*	13.3*	10.9*	79*
9985	5.4*	17.6*	12.0	96*
10 10 10M				
7495	9.5*	9.6*	10.0	97*
12 12 12M				
7781	11.5*	12.4	12.6	100
SUPERPHOSPHATE				
6955		20.4		102
SULFATE OF POTASH				
7692			50.5	101
MURIATE OF POTASH				
7493			59.5	99
7532			60.0	100
KENTUCKY FERTILIZER WORKS				
0 20 20M				
7658		18.7*	21.1	98*
3 12 12M				
7579	3.2	12.0	12.8	103
4 12 8M				
7575	4.0	12.8	7.8	103
7646	4.3	11.5*	8.0	100
7659	3.8	12.7	7.9	102
9673	4.3	11.3*	8.8	101
5 10 10M				
7576	4.8	10.4	9.8	100

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
KENTUCKY FERTILIZER WORKS CONTINUED				
6 12 12M 7577	5.8	11.9	12.0	99
10 10 10M 7578	9.3*	10.3	9.6*	97*
SUPERPHOSPHATE 7573 9674		19.1* 19.3*		95* 97*
MURIATE OF POTASH 7574			60.0	100
KNOXVILLE FERTILIZER COMPANY				
0 20 20M 7635 9765 9769 9926		15.3* 18.3* 18.0* 16.0*	14.2* 17.9* 18.1* 15.7*	74* 91* 90* 80*
0 30 30M 7377		32.6	30.0	106
2 12 12M WITH 3 LB BORAX PER 100(1) 9925	2.2	12.0	12.1	102
3 9 18M WITH 5 LB BORAX PER 100 (1) 7373 7587	3.1 3.1	9.1 9.3	18.0 18.2	101 102
3 12 12M 7407	3.1	12.2	12.4	102
3 12 12M WITH 3 LB BORAX PER 100(1) 7372	3.0	12.4	12.0	102
4 12 8M 7394 7408 7414 7585 9770 9953	4.2 4.1 4.3 4.4 4.4 4.1	11.5* 11.5* 13.0 11.4* 12.0 11.7	9.1 9.2 10.4 9.3 8.9 8.0	102 101 112 103 105 99
5 10 5M 7634	4.8	10.1	5.4	100
5 10 10M 7396	4.7*	10.6	10.7	102
5 10 10M WITH 0050 ALDRIN (2) 7393	4.8	10.9	12.5	108
5 20 20M 7392	5.5	18.8*	22.0	101
6 8 6M 9645	5.8	8.8	6.8	105
10 10 10M 9704	9.7*	10.4	10.1	100

(1) SEE TABLE 4 FOR BORON ANALYSIS
(2) SEE TABLE 6 FOR PESTICIDES ANALYSIS

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
KNOXVILLE FERTILIZER CO CONTINUED				
12 12 12M				
7588	12.1	12.3	12.5	102
9705	12.0	12.3	12.2	101
AMMONIUM NITRATE				
7641	33.4			100
CALCIUM METAPHOSPHATE				
7378		64.0		102
MURIATE OF POTASH				
7586			60.0	100
7787			60.0	100
LAND O NAN WAREHOUSE				
5 20 20M				
9948	5.2	18.7*	21.0	99
6 12 12M				
9949	6.7	12.6	12.2	106
LOUISVILLE FERTILIZER COMPANY				
8 24 16M				
7679	7.8	23.7	18.1	101
MISSISSIPPI CHEMICAL CORPORATION				
AMMONIUM NITRATE				
7542	33.6			100
MISSOURI PLANT FOOD COMPANY INC				
3 12 12M				
7682	3.3	12.0	12.7	104
10 20 20M				
7681	9.4*	21.0	21.1	101
MURIATE OF POTASH				
7620			60.5	101
7683			60.0	100
NORTH AMERICAN FERTILIZER COMPANY				
3 12 12M				
7465	3.1	11.9	12.7	102
9795	3.1	11.6*	12.4	100
4 12 8M				
7786	4.1	12.7	8.0	104
9995	4.0	11.9	8.2	100

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
NORTH AMERICAN FERT CO CONTINUED				
5 10 10M 7457	4.9	9.4*	10.0	97*
5 20 20M 9939	5.0	20.1	19.7	100
6 8 6M 9796	5.3*	8.8	7.1	102
6 12 12M 7456	5.9	11.8	12.1	99
PRICE CHEMICAL COMPANY				
3 12 12M 9754	2.5*	12.0	14.1	101
4 12 8M 7546	4.1	11.9	9.0	103
7570	4.2	11.1*	9.2	100
9941	4.1	12.2	8.5	103
4 16 16M 7460	3.8	15.9	18.9	104
5 10 10M 7550	5.4	10.0	11.1	105
10 10 10M 9752	8.7*	10.8	10.6	97*
SUPERPHOSPHATE 9753		20.6		103
O M SCOTT & SONS COMPANY				
20 10 5M 7606	19.8	8.9*	4.8	96*
THE SMITH AGRICULTURAL CHEM CO				
4 12 4M 7774	4.0	12.6	4.7	105
SOUTHERN STATES SEE COOP FERT SER				
SPENCER CHEMICAL COMPANY				
AMMONIUM NITRATE 7557	34.0			101

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
SWIFT & COMPANY				
0 25 25M 9947		23.6*	25.0	96*
3 12 12M 9945	3.3	12.8	12.7	107
4 12 8S 7619	4.7	11.7	8.3(1)	104
5 20 20M 9944	4.8	19.6*	20.2	98*
6 10 4S 6977	6.3	9.9	4.1	102
6 12 12M 7675	5.9	12.9	12.4	104
10 10 10M 7676 9946	10.5 10.0	11.0 11.6	10.1 10.3	106 106
MURIATE OF POTASH 7677			60.0	100
TENNESSEE CORPORATION				
0 20 20M 7410 7534 9908		20.4 20.2 20.8	20.4 20.1 20.7	102 101 104
2 12 6M 2003	2.4	11.6*	7.1	104
3 12 12M 2002 7533	3.0 3.1	12.3 11.4*	12.4 12.0	102 98*
4 12 8M 7349 7382 7796 9932	3.9 4.0 4.0 4.0	12.0 11.3* 11.9 11.3*	8.8 8.8 8.5 8.5	101 99 101 98*
5 20 20M 7409 9931 9993	4.8 4.4* 4.6*	19.4* 19.9 19.3*	20.0 19.3* 21.0	98* 96* 98*
10 10 10M 2001 7350 7381 7411	10.1 9.4* 8.4* 10.0	10.7 10.9 12.5 10.9	10.7 10.0 11.0 10.6	104 100 102 104
SUPERPHOSPHATE 6985 9751 9994		20.5 20.2 20.6		103 101 103

(1) SEE TABLE 5 FOR SULFATE ANALYSIS

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
TRI STATE CHEMICAL COMPANY				
0 30 30M				
7778		31.1	29.2*	102
VALLEY COUNTIES OF KENTUCKY COOP INC				
0 30 20M				
7473		33.8	20.1	110
4 12 8M				
6956	4.0	11.6*	7.3*	97*
7513	4.0	11.7	8.9	101
6 12 12M				
7472	5.8	11.9	12.4	99
10 30 20M				
6970	9.7	31.1	18.9*	100
7510	10.1	31.3	17.7*	101
7627	9.9	33.1	17.2*	103
7669	10.3	31.6	18.4*	102
7686	9.9	33.0	17.4*	103
7783	9.0*	27.3*	23.6	96*
9792	10.1	32.6	18.2*	103
AMMONIUM NITRATE				
7611	33.3			99
7624	33.3			99
CALCIUM METAPHOSPHATE				
6957		63.4		101
7621		62.7		101
7625		63.4		101
7684		61.8*		98*
7689		63.7		101
MURIATE OF POTASH				
6969			60.0	100
7612			60.0	100
7626			60.0	100
9943			60.0	100
VIRGINIA CAROLINA CHEMICAL CORP				
0 20 20M				
9921		19.9	20.0	100
2 12 6M				
7385	2.1	11.8	6.0	100
3 12 12M				
6949	3.9	11.9	12.0	106
7448	3.0	13.0	11.6*	104
7525	3.0	12.2	12.5	102
9922	2.9	11.7	12.5	99
4 12 8M				
6946	3.9	12.1	9.2	103
6953	4.1	12.3	9.2	105
6958	4.2	12.1	8.1	102

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
VIRGINIA CAROLINA CHEMICAL CONTINUED				
4 12 8M CONTINUED				
6992	4.1	12.6	8.1	104
7375	9.6	11.0*	9.9	138
7384	4.0	12.1	8.2	101
7431	4.1	12.3	8.0	102
7526	4.0	12.0	8.5	101
7555	4.0	12.2	7.8	100
9779	4.2	12.2	8.1	103
9786	4.1	12.3	8.2	103
9913	4.0	11.6*	8.0	98*
4 12 8M WITH 0050 ALDRIN PER 100 (1)				
7614	4.3	12.3	8.3	104
4 12 12M				
9920	3.9	12.5	12.1	102
4 16 16M				
7524	4.0	17.1	15.7	103
5 10 10M				
6947	5.2	10.5	9.3*	102
7454	4.7*	10.3	10.0	99
5 10 15S				
7772	5.1	11.0	13.8* (2)	102
5 20 20M				
2009	5.0	19.9	19.8	99
6948	5.0	19.7	20.0	99
7376	4.9	20.2	20.5	101
7447	4.9	20.2	21.1	102
7451	5.1	19.5*	18.9*	98
7522	4.9	21.6	19.1*	103
7523	4.8	20.7	19.7	101
6 8 6M				
6993	5.7*	8.6	7.2	104
6 12 12M				
6959	6.2	12.1	12.5	102
7441	5.9	12.2	12.7	101
7452	5.7*	12.2	13.1	101
7455	6.0	12.5	12.5	103
9912	5.9	12.0	12.2	100
8 24 16M				
6972	8.4	24.5	16.5	103
7404	8.3	22.9*	16.0	99
7556	8.2	23.1*	16.4	99
7616	8.2	24.0	15.9	101
7617	8.3	25.0	16.0	103
9778	7.7*	22.6*	14.8*	94*
10 10 10M				
7374	9.8	10.7	9.9	101
7430	9.8	10.4	10.0	100
AMMONIUM NITRATE				
2010	33.9			101
SUPERPHOSPHATE				
6991		19.3*		97*
9938		20.0		100
MURIATE OF POTASH				
7622			60.0	100

(1) SEE TABLE 6 FOR PESTICIDES ANALYSIS
(2) SEE TABLE 5 FOR SULFATE ANALYSIS

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1958

Analyses deficient more than one-fourth of one percent and relative values of 98 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
WEST KENTUCKY LIQUID FERTILIZER CO				
4 12 8 LIQUID				
7433	4.0	11.8	8.0	99
7435	3.8	11.8	8.5	99
7440	3.8	11.9	8.0	98*
6 12 12M LIQUID				
7459	5.9	12.0	12.0	99
8 16 8 LIQUID				
7432	7.5*	15.6*	8.2	98*
10 10 10 LIQUID				
7434	9.7	10.1	10.0	99
12 8 4 LIQUID				
4002	11.9	8.2	4.4	101
12 12 6 LIQUID				
4001	11.5*	11.9	6.6	98*
15 10 5 LIQUID				
7436	13.2*	10.1	5.3	93*

TABLE 2 - Analyses of Inspection Samples of Rock Phosphate, Basic Slag, Fused Tricalcium Phosphate, July-December, 1958

(Analyses deficient more than tolerance shown on page 8 and relative values of 98 percent or less indicated by asterisk.)

Station Number	Manufacturer, Brand Name, and From Whom Obtained	Phosphoric Acid				Percent of Relative Value Found
		Available		Total		
		Guar.	Found	Guar.	Found	
		(Percent)		(Percent)		
	ROBIN JONES PHOSPHATE COMPANY					
	Rock Phosphate					
7678	T. C. Edwards Company	3.0	3.0	30.0	29.5	98*
	SCHROCK FERTILIZER SERVICE					
	Rock Phosphate					
9685	Crafton, Duncan & Sinkhorn	---	---	33.0	32.9	99

TABLE 3 - Analyses of Inspection Samples of Bones, Dried Manures, etc., July-December 1958

(Analyses deficient more than tolerance shown on page 8 and relative values of 98 percent or less indicated by asterisk.)

Station Number	Manufacturer, Brand Name and From Whom Obtained	Nitrogen	Total Phosphoric Acid	Potash	Percent of Relative Value Found
		(Percent)	(Percent)	(Percent)	
	THE SEWERAGE COMMISSION OF MILWAUKEE				
	5.5-4-0 Milorganite				
7618	Yopp Seed Company	5.5	3.8	---	99

TABLE 4. - Results of Analyses of Boron in Fertilizers Reported in Table 1

Company	Sample Number	% Guaranteed	% Found
American Agricultural Chemical Company	9655	0.57	0.29
Armour Fertilizer Works	6931	0.57	0.48
	7348	0.57	0.54
	7352	0.34	0.51
	7405	0.57	0.44
	7661	0.57	0.26
Cooperative Fertilizer Service, Inc.	6940	0.45	0.48
	7368	0.45	0.46
	7379	0.45	0.49
	7592	0.45	0.45
	7638	0.34	0.34
	7653	0.45	0.52
	7700	0.45	0.42
	9644	0.45	0.46
	9663	0.45	0.51
	9900	0.45	0.41
	9902	0.45	0.49
	9904	0.45	0.46
	9909	0.45	0.49
	9940	0.45	0.45
	9952	0.45	0.52
	9954	0.45	0.48
Davison Chemical Company	9919	0.57	0.61
Federal Chemical Company	6994	0.56	0.55
International Minerals and Chemical Company	9969	0.57	0.57
Knoxville Fertilizer Company	7372	0.34	0.45
	7587	0.57	0.73
	7773	0.57	0.60
	9925	0.34	0.49

TABLE 5. - Results of Analyses of Fertilizer Samples in which the Guarantee for Sulfate of Potash was not met. Results are shown in Terms of Equivalent Muriate of Potash Excess.

Company	Sample Number	Grade	% Excess Muriate of Potash
Swift and Company	7619	4-12-8S	0.7
Virginia-Carolina Chemical Company	7772	5-10-15S	1.2

TABLE 6. - Results of Analyses of Insecticides Contained in Fertilizers Shown in Table 1.

Company	Sample Number	Insecticide	% Guaranteed	% Found
Knoxville Fertilizer Company	7393	Aldrin	0.50	0.50
Virginia-Carolina Chemical Company	7614	Aldrin	0.50	0.18

2.5M--3-59