

Regulatory Bulletin 170

Commercial Fertilizers in Kentucky, 1961

Including a Report on Official Fertilizer
Samples Analyzed

July-December, 1961



University of Kentucky
Agricultural Experiment Station
Lexington

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This report compiled and prepared by Bruce Poundstone and W. J. Huffman
Analytical data by the Laboratory Staff

This bulletin contains results of analyses of 672 official samples of commercial fertilizers made during the period July 1 through December 31, 1961.

Separate tables are provided for the results of analysis of mixed dry fertilizers, mixed liquid fertilizers, straight materials and boron. Table A shows the amount of fertilizer used in Kentucky from 1918 to 1961.

EXPLANATION OF TABLES

The information given should be useful to farmers, agricultural workers, and company representatives in determining how closely a given manufacturer or plant is meeting the chemical guarantee printed on the bag or tag for all or 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.

An additional means of comparing guarantees with the analyses of samples is in the percent of relative value found, shown in the extreme right-hand column. 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 value of these plant foods are: 3 for Nitrogen, 2 for Available Phosphoric Acid and 1 for Potash. Thus the combined guaranteed value of the product represented is calculated:

5.0 Units of Nitrogen	x 3 =	15.0
10.0 Units of Available Phosphoric Acid	x 2 =	20.0
15.0 Units of Potash	x 1 =	15.0
Total computed guaranteed value		<u>50.0</u>

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:

5.1 Units of Nitrogen	x 3 =	15.3
10.2 Units of Available Phosphoric Acid	x 2 =	20.4
15.1 Units of Potash	x 1 =	<u>15.1</u>
Total computed value		50.8

50.8 (computed found value of sample) divided by 50.0 (computed guaranteed value) times 100 (to arrive at percentage) gives 101.6 as the percent of the relative value found.

In some samples a deficiency in one nutrient is accompanied by an over-run in another nutrient. This may be evidence of improper mixing or weighing by the manufacturer. Extreme variations of this kind cannot be attributed to separation of materials (segregation) after the product is bagged though 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 of all nutrients as expressed by the manufacturer's guaranteed analysis.

The results of analyses of all inspection samples are given in tables 1, 2, 3, 4 and 5. If an analysis shows a deficiency of more than the tolerance, the amount claimed for Nitrogen, Phosphoric Acid or Potash, or if the percent of the relative value is 97 or less, the result is indicated by an asterisk.

TONNAGE OF FERTILIZER SOLD

The tonnage of fertilizer sold in 1961 was 570,703 tons. This represents an increase of about 6700 tons over 1960. There was a decrease of about 1900 tons in total mixed fertilizer sold and an increase of about 8600 tons of fertilizer materials.

NUMBER OF GRADES NEEDED IN KENTUCKY

The Departments of Agronomy and Horticulture of the Kentucky Agricultural Experiment Station consider that eleven 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 eleven ratios and minimum grades and corresponding higher analysis grades, except 4-16-4, recommended for field crops are shown below.

<u>Ratio</u>	<u>Minimum Grade</u>	<u>Higher Analysis Grade</u>
0-1-1	0-20-20	0-24-24, 0-30-30
0-1-2	0-10-20	0-12-24, 0-15-30, 0-20-40
0-1-3	0-10-30	0-12-36, 0-15-45
1-1-1	10-10-10	12-12-12, 14-14-14
1-1-3	6- 6-18	8- 8-24
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	5-15-10, 6-18-12
1-4-1	4-16- 4	For Plant Beds Only
1-4-4	5-20-20	6-24-24, 8-32-32
2-1-1	12- 6- 6	16- 8- 8, 32-16-16

Higher grades of any ratio, except 4-16-4, are both recommended and encouraged. None of the recommended minimum grades of mixed fertilizer contain less than 24 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 is also 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: 1-1-3, 1-2-2, 1-2-3. 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 10A from this Station.

INFORMATION IS GIVEN FOR SAMPLES WHERE THE WORDS "SEE NOTE" IS SHOWN AS FOLLOWS:

- Note 1. See Table 5 for results of analyses of boron in fertilizer.
- Note 2. Fertilizer represented by this sample returned to plant and re-worked.
- Note 3. Purchaser received refund based upon this analysis.
- Note 4. Product sold according to laboratory finding.
- Note 5. Returned to plant.

COMPANIES REPRESENTED BY SAMPLES REPORTED IN THIS BULLETIN

Allied Chemical Corp., Nitrogen Div.
40 Rector Street
New York, New York

American Agricultural Chemical Co.
100 Church Street
New York, New York

American Cyanamid Company
30 Rockefeller Plaza
New York 20, New York

Armour Agricultural Chemical Co.
St. Bernard Station
Cincinnati 17, Ohio

Associated Cooperatives, Inc.
P.O. Box 911
750 W. 20th Avenue
Sheffield, Alabama

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

Bluegrass Plant Foods, Inc.
P.O. Box 310
Cynthiana, Kentucky

Bunton Seed Company
300-306 E. Jefferson Street
Louisville, Kentucky

Central Farmers Fertilizer Co.
205 W. Wacker Drive
Chicago 6, Illinois

Chilean Nitrate Sales Corporation
120 Broadway
New York 5, New York

Commercial Solvents Corporation
260 Madison Avenue
New York 16, New York

Commonwealth Fertilizer Company, Inc.
Morgantown Road
Russellville, Kentucky

Cooperative Fertilizer Service, Inc.
Southern States Building
Richmond 19, Virginia

Darling & Company
4201 S. Ashland Avenue
Chicago 9, Illinois

Davison Chemical Company
Div. W. R. Grace & Company
101 N. Charles Street
Baltimore 3, Maryland

E'Town Fertilizer Company
Cecilia, Kentucky

Federal Chemical Company
646 Starks Building
Louisville 2, Kentucky

Glasgow Fertilizer Company
Box 295
Glasgow, Kentucky

Gro-Green Chemical Company
P. O. Box 132
Shelbyville, Kentucky

Hutson Chemical Company
Railroad Avenue
Murray, Kentucky

International Minerals & Chem. Corp.
P.O. Box 67 - Lockland Station
Cincinnati, Ohio

Kentucky Fertilizer Works, Inc.
Box 595
Winchester, Kentucky

Land-O-Nan Warehouse
Sturgis, Kentucky

Louisville Fertilizer Company
Div. Armour Agric. Chemical Co.
Nashville, Tennessee

North American Fertilizer Company
1419 S. Preston Street
Louisville 17, Kentucky

Olin Mathieson Chemical Corp.
P. O. Box 991
Little Rock, Arkansas

Price Chemical Company
Div. F. S. Royster Guano Co.
P. O. Drawer 1940
Norfolk, Virginia

Robin Jones Phosphate Company
204-23rd Avenue, North
Nashville, Tennessee

Continued from previous page

O. M. Scott & Sons
Marysville, Ohio

Spencer Chemical Company
610 N. Dwight Building
Kansas City, Missouri

Swift & Company
Agricultural Chemical Div.
National Stock Yards, Illinois

Tennessee Chemical Company
Div. Armour Agricultural Chemical Co.
Nashville, Tennessee

Tennessee Corporation
P. O. Box 7
Cincinnati 15, Ohio

Tri-State Chemical Company
P. O. Box 123
Henderson, Kentucky

U. S. Phosphoric Div.
Tennessee Corporation
Tampa 1, Florida

Valley Counties of Kentucky Coop.
Box 351
Murray, Kentucky

Virginia-Carolina Chemical Corp.
401 East Main Street
Richmond, Virginia

West Kentucky Liquid Fertilizer Corp.
P. O. Box 507
Hopkinsville, Kentucky

TABLE A - FERTILIZER USED IN KENTUCKY - 1918 - 1961

Year	Fertilizer purchased ^a Tons	AAA & ACP 20% superphosphate or equivalent Tons	Total Fertilizer Tons
1918	134,000	.....	134,000
1919	102,000	.....	102,000
1920	88,000	.....	88,000
1921	62,131	.....	62,131
1922	85,203	.....	85,203
1923	90,958	.....	90,958
1924	85,000	.....	85,000
1925	93,000	.....	93,000
1926	91,500	.....	91,500
1927	70,000	.....	70,000
1928	92,000	.....	92,000
1929	93,000	.....	93,000
1930	114,000	.....	114,000
1931	105,000	.....	105,000
1932	55,000	.....	55,000
1933	58,000	.....	58,000
1934	62,000	.....	62,000
1935	73,000	.....	73,000
1936	89,000	.....	89,000
1937	117,078	18,000	135,078
1938	110,201	33,000	143,201
1939	119,400	37,000	156,400
1940	117,351	41,500	158,851
1941	116,341	187,481 ^b	303,822
1942	141,711	221,171 ^b	362,882
1943	154,356	105,272	259,628
1944	227,832	67,000	294,832
1945	270,479	119,820 ^c	390,299
1946	323,278	44,205	367,483
1947	404,791	36,515	441,306
1948	460,855	38,580	499,435
1949	479,549	36,293	515,842
1950	565,161	11,872	577,033
1951	569,907	5,320	575,227
1952	617,311	2,040	619,351
1953	563,228	.....	563,228
1954	580,410	.....	580,410
1955	519,143	.....	519,143
1956	531,765	.....	531,765
1957	539,854	.....	539,854
1958	534,483	.....	534,483
1959	602,113	.....	602,113
1960	563,978	.....	563,978
1961	570,703	.....	570,703

a. Calculated from stamp receipts 1918 - 1939. Reports from manufacturers 1940 - 1961.

b. Includes 58,000 tons of 47% triple superphosphate in 1941, and 12,367 tons in 1942.

c. The AAA also distributed 8,800 tons of rock phosphate in 1945.

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
<i>AMERICAN AGRI CHEM CO CINCINNATI OHIO</i>				
	(Percent)	(Percent)	(Percent)	
0 20 20M 0996		20.3	19.1*	100
3 12 12M 1831	3.2	11.6*	13.9	104
4 12 8M 0995	4.1	12.0	8.7	102
0997	4.1	11.9	8.4	101
2772	4.0	12.1	8.1	101
4064	4.0	12.0	9.0	102
4081	4.2	12.9	9.7	109
4094	4.3	13.0	8.5	108
4105	4.3	12.0	8.7	104
5 20 20M 0966	5.2	20.1	20.0	101
0998	5.2	19.6	19.0*	98
1832	5.2	20.1	20.7	102
1861	5.3	20.0	20.9	102
4095	5.2	20.2	19.8	101
6 12 12M 0975	5.9	12.3	12.6	102
1772	6.4	12.3	12.3	104
1860	6.5	12.1	12.5	104
4091	6.4	12.0	12.5	103
5017	6.0	12.7	12.5	104
5080	6.4	12.4	11.8	103
12 12 12M 3158	11.6*	12.7	12.5	101
4093	11.3*	13.0	12.7	101
<i>AMERICAN AGRI CHEM CO KNOXVILLE TENN</i>				
0 20 20M WITH 5 LBS BORAX PER 100 5038 SEE NOTE 1		19.1*	19.9	97*
4 12 8M 0925	4.2	12.0	8.0	101
<i>AMERICAN AGRI CHEM CO LONDON</i>				
3 12 12M 2667	3.1	12.1	12.4	102
4 12 8M 3160	3.9	12.3	8.1	101
3161	4.0	11.9	8.3	100
5 10 10M 2668	5.0	9.6*	10.1	98
5 20 20M 2666	5.0	19.9	20.1	100
6 12 12M 3159	5.8	12.2	12.0	100
10 10 10M 2764	10.0	9.8	10.6	100

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
AMERICAN AGRI CHEM CO NASHVILLE TENN				
	(Percent)	(Percent)	(Percent)	
0 9 27M WITH 3 LBS BORAX PER 100 2738 SEE NOTE 1		9.3	28.1	104
0 20 20M 2716		19.8	20.8	101
3 12 12M 2720	3.3	12.3	12.6	105
4 12 8M 0974	4.2	12.0	9.3	104
2719	3.9	12.2	9.0	103
2789	4.0	12.4	8.7	103
5018	4.2	12.3	9.3	106
6 12 12M 2718	5.7*	12.4	13.0	102
5019	5.6*	13.7	14.6	109
10 10 10M 2717	9.6*	10.4	11.1	101
12 12 12M 2790	11.4*	12.0	12.2	98
30 10 0 2737	30.0	10.1		100
5079	30.0	10.7		101
5085	29.7	10.4		100
AMERICAN AGRI CHEM CO NATIONAL STOCK YA				
10 10 10M 0976	10.0	10.9	10.6	104
AMERICAN AGRI CHEM CO NEW YORK N Y				
6 10 4M 1840	6.4	10.1	4.0	103
10 6 4M 4092	9.4*	6.4	4.5	101
AMERICAN AGRI CHEM CO SEYMOUR IND				
0 20 20M 5020		20.9	18.8*	101
3 12 12M 5021	3.0	12.4	12.6	103
5 20 20M 5022	5.1	21.5	19.7	104
10 10 10M 1778	10.0	10.6	10.1	102
1833	10.5	10.3	10.6	105

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
<i>ARMOUR AGRI CHEM CO ATLANTA GA</i>				
20 10 10M 1904	19.9	10.4	9.6*	100
<i>ARMOUR AGRI CHEM CO CINCINNATI OHIO</i>				
0 20 20M 0993 4071 5094		21.3 19.7 20.0	20.4 20.6 20.7	105 100 101
3 12 12M 4070	3.1	12.3	13.2	105
4 12 8M 0990 3150 4069 5095	4.7 4.6 4.2 4.2	12.3 12.1 12.7 12.7	9.6 9.2 9.0 8.8	110 107 107 106
5 10 10M 4066	5.0	10.2	10.0	101
5 20 20M 3149 4060 4068 4078 4089 5093	5.0 5.0 5.0 5.0 4.8 5.0	20.4 20.4 19.5* 20.0 20.2 20.1	20.1 20.6 20.5 20.3 20.2 20.4	101 102 99 100 100 101
6 12 12M 4077 4079	6.0 6.0	11.9 11.9	12.3 12.8	100 101
<i>ARMOUR AGRI CHEM CO JEFFERSONVILLE IND</i>				
3 12 12M 2813	3.5	12.4	12.2	106
4 12 8M 0929 0931 0949 2770 2811 5024 5056	4.6 4.2 4.2 4.2 4.1 4.3 4.0	13.2 12.7 13.3 12.7 12.8 12.9 13.0	10.0 8.6 9.0 8.7 8.6 9.2 8.7	114 106 110 106 106 109 106
5 20 20M 2662 2680 3134 5057	5.3 5.0 5.0 5.2	20.0 19.4* 22.3 19.5*	20.2 20.4 18.2* 20.3	101 99 104 100
6 12 12M 3162	7.7	12.7	12.2	112
6 18 12M 0943	5.8	19.0	12.1	102
10 10 10M 0942 2810	10.0 9.6*	10.9 11.2	11.0 11.5	105 105

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
ARMOUR AGRI CHEM CO MEMPHIS TENN				
	(Percent)	(Percent)	(Percent)	
6 12 12M 1765	6.0	12.0	12.4	101
ARMOUR AGRI CHEM CO NASHVILLE TENN				
0 20 20M 1852 1890 2732 3139		19.2* 19.6 19.4* 19.1*	20.5 20.2 20.5 20.2	98 99 99 97*
0 20 20M WITH 5 LBS BORAX PER 100 3148 SEE NOTE 1		19.9	20.7	101
0 30 20M 1753		32.2	17.3*	102
2 12 24M WITH 3 LBS BORAX PER 100 2731 SEE NOTE 1	3.0	12.1	24.2	101
3 12 24M WITH 3 LBS BORAX PER 100 1805 SEE NOTE 1	3.0	11.8	24.7	101
4 12 8M 1797 1895 2728 2785 3122 3133 3138 3144 4055 5064	4.3 4.2 4.0 4.2 4.3 4.4 4.2 4.3 4.7 4.1	12.7 12.1 12.5 12.4 13.1 12.1 12.1 12.2 12.0 12.2	8.7 8.9 9.5 9.0 7.6* 9.0 8.6 9.6 8.8 8.7	107 104 106 105 106 105 103 107 107 103
5 10 10M 4052 5048	5.1 5.1	10.4 10.5	10.0 10.0	102 103
5 20 20M 2726 2775 3141 3156	5.2 4.8 4.6* 4.7*	19.0* 20.0 19.5* 22.0	20.6 19.6 18.5* 21.2	99 99 95* 106
6 12 12M 1763 1851 1892 1893 2725 2730 3123 3136 3142 3151 4051 4054 4056 4096 5032 5087	5.9 6.0 6.2 6.0 6.0 6.3 6.2 6.7 6.1 6.3 6.5 6.1 6.1 6.0 6.0 6.3	12.9 12.1 12.1 12.0 12.2 12.1 13.3 11.9 12.3 12.3 12.2 12.2 12.3 12.4 12.4 12.2	11.7 12.6 12.6 13.2 11.9 13.7 10.9* 11.9 13.1 12.1 12.5 12.7 12.2 12.0 13.1 13.0	102 101 103 102 101 105 104 103 104 103 104 103 102 101 104 104
6 12 18S 1853	5.9	11.5*	16.7*	96*

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
<i>ARMOUR AGRICHEM CO CONTINUED</i>				
	(Percent)	(Percent)	(Percent)	
6 18 12M				
1808	5.8	18.2	12.0	100
1859	5.6*	20.6	11.6*	105
1891	6.0	17.9*	12.1	100
1894	5.9	18.1	12.8	101
10 10 10M				
1798	9.8	10.6	10.0	101
1804	9.6*	10.5	10.9	101
1858	10.2	10.0	10.7	102
2727	9.6*	10.6	10.2	100
2729	10.0	10.4	10.5	102
2776	9.3*	10.1	11.5	99
3137	9.5*	10.4	10.7	100
3143	9.7	10.4	11.3	102
3157	10.0	10.4	10.7	103
4097	10.2	9.9	10.4	101
10 20 20M				
1807 SEE NOTE 2	9.7	17.7*	21.2	95*
10 30 20M				
1751 SEE NOTE 2	6.5*	30.5	20.1	91*
1752 SEE NOTE 2	6.8*	34.2	13.4*	93*
1754 SEE NOTE 2	6.4*	31.2	19.1*	92*
<i>ASSOCIATED COOPERATIVES INC</i>				
14 14 14M				
0977	14.2	14.1	15.0	102
2746	14.0	14.0	13.8	100
15 15 15M				
2745	14.7	14.6*	15.6	99
<i>BARTLETT & O BRYAN FERTILIZER CO</i>				
3 12 12M				
4106	3.0	10.5*	13.7	97*
4 16 16M				
4108	4.0	15.3*	17.5	100
5 20 20M				
4107	4.6*	18.5*	22.7	98
<i>BLUEGRASS PLANT FOODS INC DANVILLE</i>				
0 10 20M WITH 2 LBS BORAX PER 100				
2759 SEE NOTE 1		10.2	20.8	103
0 12 12M WITH 3 LBS BORAX PER 100				
2760 SEE NOTE 1		12.4	12.6	104
0 20 20M WITH 5 LBS BORAX PER 100				
2665 SEE NOTE 1 & 2		16.0*	27.5	99

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
<i>BLUEGRASS PLANT FOODS INC CONTINUED</i>				
4 12 8M 2664 5035	4.1 4.0	11.0* 11.0*	9.0 9.0	98 98
5 20 20M 2663	4.8	21.0	20.0	102
10 10 10M 2739	10.0	10.9	9.7	103
<i>BUNTON SEED COMPANY</i>				
6 12 6M 1788	6.2	12.5	6.7	105
<i>COMMONWEALTH FERTILIZER COMPANY INC</i>				
0 20 20M 0946 5059		21.0 21.2	20.2 20.4	104 105
3 12 12M 2778	3.6	11.7	12.6	104
4 12 8M 0947 2693 2696 2699 2724 2777 5025 5060	4.1 4.2 4.3 3.6* 4.1 4.3 4.2 4.2	10.8* 11.7 11.2* 12.2 10.9* 11.0* 11.5* 11.7	8.9 8.5 8.0 10.6 8.9 9.4 8.5 9.0	97* 101 98 104 98 101 100 102
5 20 20M 2697 2780	5.0 5.0	19.7 19.5*	18.5* 22.3	97* 102
6 12 12M 2695 2698 2779 SEE NOTE 2	6.1 6.0 5.9	10.3* 10.4* 10.7*	12.1 13.2 12.3	94* 96* 95*
10 10 10M 0948 2694 5061	9.3* 9.2* 10.2	10.8 11.1 10.0	10.6 10.9 10.7	100 101 102
<i>COOPERATIVE FERTILIZER SERV BRISTOL VA</i>				
5 10 10M 5042	5.0	10.4	10.7	103
10 10 10M 5043	9.8	10.9	10.2	102
10 20 20M 5044	10.0	20.4	20.4	101

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
<i>COOPERATIVE FERTILIZER SERV LOUISVILLE</i>				
	(Percent)	(Percent)	(Percent)	
0 19 38M WITH 4 LBS BORAX PER 100 1757 SEE NOTE 1		20.5	38.0	104
0 30 30M				
0933		30.0	30.0	100
1779		29.9	30.5	100
1827		29.8	31.3	101
1828		30.8	29.5	101
2684		30.0	30.0	100
3 12 12M				
1826	3.3	12.4	12.3	104
1897	3.4	12.0	12.6	104
2681	3.2	12.4	12.2	104
4 12 8M				
1836	4.1	12.0	8.8	103
3155	4.4	12.2	9.5	107
4082	4.1	12.4	8.8	104
5 20 20M				
1759	5.0	20.6	20.0	102
1780	5.2	20.1	20.2	101
1823	5.2	20.4	20.6	103
1825	5.1	20.7	20.4	103
1829	5.2	20.3	20.4	102
1837	5.2	20.2	20.5	102
2682	5.2	20.9	20.2	103
2765	5.0	20.7	20.7	103
3154	5.2	20.4	21.2	103
5068	5.0	20.2	20.4	101
6 12 12M				
1758	6.2	12.0	12.1	101
2661	6.0	12.1	12.4	101
3153	6.0	12.1	12.1	101
10 10 10M				
1760	10.0	10.5	10.2	102
1830	10.2	10.4	10.4	103
1838	10.5	10.2	10.7	104
2683	10.3	10.3	10.6	104
3152	10.4	10.1	10.2	103
<i>COOPERATIVE FERTILIZER SERV RUSSELLVILL</i>				
0 19 38M WITH 4 LBS BORAX PER 100 2679 SEE NOTE 1		17.2*	41.7	100
4 12 8M				
0936	4.5	11.9	9.3	106
1810	4.1	12.2	8.0	102
3146	4.0	11.3*	8.7	98
4057	4.3	12.4	7.5*	103
5004	4.4	11.7	9.3	104
5069	4.0	11.8	8.2	100
5 20 20M				
1767	5.3	20.5	19.0*	101
1886	5.0	19.5*	21.3	100
1898	5.2	19.8	20.9	101
2670	5.0	19.5*	20.0	99
2706	5.1	20.1	19.7	100
2817	5.0	20.4	20.3	101
3147	5.1	19.9	21.5	102
4047	5.0	20.0	20.5	101
5005	4.7*	18.9*	21.9	98
5070	5.2	20.1	18.1*	99

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
<i>COOPERATIVE FERTILIZER SERV CONTINUED</i>				
6 12 12M				
0937	5.9	12.0	12.5	100
1766	6.3	12.0	12.6	103
1812	5.8	12.3	13.2	102
1864	6.2	12.1	13.0	103
2692	5.5*	12.4	12.0	99
3145	5.7*	12.0	13.5	101
5006	6.0	11.3*	13.1	99
5029	6.0	12.0	13.0	102
5071	5.7*	11.8	12.6	99
5088	6.0	12.8	12.6	104
10 10 10M				
0938	9.2*	10.0	10.5	97*
1809	10.1	10.3	10.2	102
1885	10.4	9.8	10.1	103
2707	9.9	10.6	9.7	101
4046	9.9	10.6	10.0	102
5072	10.1	10.1	9.9	101
10 20 20M				
5073 SEE NOTE 2	9.3*	18.8*	18.9*	94*
12 12 12M				
0986	12.1	12.1	12.2	101
1811	11.5*	12.7	12.9	101
1839	11.8	12.4	12.5	101
2763	11.6*	12.2	13.1	100
5007	11.6*	12.4	12.7	100
5030	11.5*	12.3	12.3	99
5036	11.6*	12.3	12.6	100
5074	11.6*	12.6	12.3	100
5089	11.4*	12.7	12.0	99
30 10 0				
0939	30.0	10.0		100
<i>COOPERATIVE FERTILIZER SERV WINCHESTER</i>				
0 19 38M WITH 4 LBS BORAX PER 100 4061 SEE NOTE 1		19.5	38.2	102
0 30 30M				
4062		30.9	29.9	102
4073		30.0	30.2	100
5090		32.4	28.9*	104
4 12 8M				
0926	4.0	12.5	9.3	105
0927	4.2	12.0	9.3	104
0984	4.0	11.9	9.0	102
0985	4.1	12.0	8.9	103
0988	4.1	12.0	9.2	103
0991	4.1	12.0	9.1	103
4059	4.0	12.1	9.0	103
4080	4.1	12.0	9.2	103
5040	4.0	11.2*	8.2	97*
5098	4.1	10.6*	8.4	95*
5 10 10M				
5091	5.0	10.5	10.5	103
5 20 20M				
0928	4.9	18.1*	20.4	95*
2761	4.8	19.2*	21.8	99
4037	5.0	20.0	19.8	100
4058	5.2	20.0	19.4*	100
4063	5.0	19.7	20.2	99
4074	4.9	18.9*	20.6	97*

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
<i>COOPERATIVE FERTILIZER SERV CONTINUED</i>				
<i>5 20 20M CONTINUED</i>				
4090	4.9	19.2*	20.5	98
4115	4.7*	19.9	19.5*	98
5037	5.0	20.0	20.2	100
5041	4.8	19.5*	20.6	99
5099	4.9	19.4*	21.1	99
<i>6 12 12M</i>				
4072	5.6*	12.9	12.6	102
4076	6.0	12.1	12.5	101
4113	5.9	11.7	12.1	99
5049	6.0	11.7	12.9	101
<i>10 10 10M</i>				
1843	9.4*	10.3	12.6	102
2762	9.8	10.3	11.4	102
4088	10.0	10.0	10.8	101
4114	10.0	10.1	11.5	103
5050	10.0	10.2	10.6	102
<i>DARLING & COMPANY CAIRO ILL</i>				
<i>6 12 12M</i>				
0978	5.9	12.0	12.6	101
1855	5.7*	11.7	13.0	99
1905	6.2	12.1	12.3	102
5028	5.9	12.0	12.7	101
5081	6.2	11.7	14.1	104
<i>10 10 10M</i>				
5082	10.6	10.0	10.2	103
<i>DARLING & COMPANY E ST LOUIS ILL</i>				
<i>6 12 12M</i>				
1854	6.3	11.7	12.9	102
<i>DAVISON CHEMICAL COMPANY NASHVILLE TENN</i>				
<i>0 20 20M</i>				
5083		18.8*	21.2	98
<i>3 12 12M</i>				
1771	3.5	12.0	12.3	104
1792	3.2	11.8	13.0	103
<i>4 12 8M</i>				
1769	4.2	11.3*	8.9	100
1791	6.6	13.2	15.0	139
1802	6.6	13.4	13.8	137
1868	4.9	12.1	8.9	109
1884	4.9	12.1	9.3	110
2673	4.0	11.3*	8.2	97*
2710	4.2	11.3*	8.1	98
2773	4.3	12.0	10.4	108
<i>5 20 20M</i>				
1768	5.3	19.0*	19.5*	98
1789 SEE NOTE 3	4.5*	18.2*	21.0	95*
1870 SEE NOTE 3	4.9	17.8*	17.9*	91*
1880	5.8	20.8	18.5*	103
2712	4.2*	19.2*	21.0	96*
2792	5.4	19.2*	19.5*	

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
<i>DAVISON CHEMICAL COMPANY CONTINUED</i>				
6 12 12M				
1770	6.1	11.7	12.2	100
1793	5.9	12.3	12.1	101
1869	5.6*	12.5	13.0	101
1877	5.3*	12.2	12.5	98
1882	5.5*	12.1	12.4	98
2711	6.1	12.1	12.4	102
2791	5.7*	12.0	12.9	100
6 18 12M				
1863	6.3	16.7*	13.0	99
1867	6.3	17.0*	13.0	100
1883	6.4	16.3*	12.6	98
2708 SEE NOTE 3	6.1	15.8*	12.5	95*
10 10 10M				
1790	9.4*	10.5	10.5	100
1803	9.5*	10.3	11.1	100
1878	8.4*	11.0	10.5	96*
1881	9.3*	10.5	10.7	99
2709	9.6*	10.5	10.6	101
2793	9.4*	10.2	10.4	98
<i>DAVISON CHEMICAL COMPANY NEW ALBANY IND</i>				
0 25 25M WITH 5 LBS BORAX PER 100				
1761 SEE NOTE 1		24.2*	25.2	98
3 12 12M				
1816	3.6	12.8	12.6	109
1875	3.2	13.1	12.4	107
4 12 8M				
0944	3.9	12.1	9.3	103
0950	4.5	12.0	9.4	107
0952	4.4	12.0	9.4	106
0955	4.3	12.2	9.2	106
1814	4.2	12.0	9.7	105
6 12 12M				
1813	6.2	12.2	12.8	103
6 18 12M				
0945	6.0	18.1	12.1	100
10 10 10M				
0951	9.7	10.4	10.5	101
1815	9.7	10.5	10.6	101
<i>E TOWN FERTILIZER COMPANY</i>				
4 12 8M				
2685	4.6	12.3	9.3	108
4 24 12M				
2821	4.4	25.6	10.9*	105
5 20 20M				
2686	5.8	19.0*	21.5	103
2819	5.5	21.2	19.0*	104
6 12 12M				
2820	6.3	12.2	11.4*	101

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
<i>FEDERAL CHEMICAL COMPANY DANVILLE ILL</i>				
	(Percent)	(Percent)	(Percent)	
4 16 16M 4040	4.3	16.0	15.6*	101
<i>FEDERAL CHEMICAL COMPANY HUMBOLDT TENN</i>				
6 12 12M 1857 1906	6.0 6.0	12.0 12.0	11.7 12.2	99 100
12 12 12M 1856 1907	11.3* 11.9	11.5* 11.9	12.7 12.3	96* 100
<i>FEDERAL CHEMICAL COMPANY LOUISVILLE</i>				
0 20 20M 4084		19.0*	22.1	100
3 12 12M 1817 1899 2678 2768 5011	3.1 3.3 3.2 3.2 3.1	12.4 12.4 12.2 12.0 12.5	12.9 12.5 12.0 12.6 11.4*	104 105 102 103 102
4 12 8M 2671 2766 4048 4083 5053 5058 5066	4.1 4.4 4.1 4.3 4.3 4.6 4.0	12.7 12.0 12.1 12.3 12.0 12.2 12.0	8.6 8.5 8.6 8.3 8.5 8.2 8.6	105 104 103 104 103 105 101
5 10 10M 4043 SEE NOTE 2	3.8*	7.1*	7.1*	73*
5 20 20M 1756 1871 2767 4085 5012	4.6* 5.4 4.6* 4.8 4.6*	21.6 20.7 20.9 20.8 20.5	19.3* 21.2 19.8 21.0 21.3	102 105 101 103 101
6 8 6M 1818	5.8	8.5	7.0	104
6 12 12M 1801 1872	6.0 6.2	12.8 11.8	12.6 12.9	104 102
6 24 12M 4044	5.3*	24.0	12.2	98
10 10 10M 1794 1819 1834 1873 1876	9.6* 10.6 10.6 9.7 10.2	10.9 10.8 10.4 10.6 10.4	10.2 10.9 11.1 10.3 10.2	101 107 106 101 103

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
<i>FEDERAL CHEMICAL COMPANY CONTINUED</i>				
12 12 12M 0987 4038	11.6* 10.9*	11.9 12.9	12.5 13.7	99 100
<i>FEDERAL CHEMICAL COMPANY NASHVILLE TENN</i>				
0 9 27M WITH 5 LBS BORAX PER 100 3114 SEE NOTE 1		9.3	27.2	102
0 20 20M 3120 3171		19.9 19.5*	22.2 21.9	103 102
3 12 12M 4041	3.0	11.7	11.8	98
4 12 8M 0954 1800 2713 2721 3115 3177	4.1 4.2 4.2 4.3 4.2 4.3	11.7 12.0 12.5 12.0 12.0 12.0	8.5 9.5 8.5 9.5 9.3 8.3	100 105 105 105 104 103
5 20 20M 2733 2742 2747 3111 3172	5.8 5.3 5.1 5.4 5.3	20.8 21.6 20.1 21.2 20.6	18.0* 19.7 21.9 20.1 20.0	103 105 103 105 103
6 12 12M 2714 2722 2743 3112 3119 3173 3176 4039	6.5 5.9 6.3 5.1* 6.0 6.1 6.1 5.8	12.0 12.2 12.1 13.2 12.0 12.1 12.1 12.9	12.6 13.0 12.3 12.5 13.5 12.4 12.7 12.2	104 102 103 100 103 102 102 103
6 18 12M 1879 2715 3118 3175	5.9 6.3 5.6* 6.1	16.9* 16.2* 17.5* 17.2*	15.2 12.6 12.7 12.7	101 97* 98 99
10 10 10M 2723 2744 2752 3113 3117 3129 3174 4042	8.7* 9.7 9.9 10.1 9.8 9.8 9.5* 9.5*	10.6 10.6 10.4 10.5 10.5 10.5 10.5 10.8	10.3 10.6 10.9 10.5 10.9 10.9 10.2 10.0	96* 102 102 103 102 102 100 100
16 8 8M 3116 SEE NOTE 4 3178	13.8* 13.8*	9.4 9.3	9.2 9.2	96* 96*

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
<i>GLASGOW FERTILIZER COMPANY</i>				
	(Percent)	(Percent)	(Percent)	
4 12 8M				
2771	4.0	11.9	7.9	99
3110	4.0	11.9	8.2	100
3166	4.2	11.9	8.5	102
3167	4.1	11.4*	8.1	98
3168	4.1	12.7	8.3	105
5 10 15S				
3170	5.1	9.6*	16.4	102
6 12 12M				
3164	6.5	12.0	13.5	106
3165	6.6	12.1	13.4	106
3169	6.5	12.0	13.7	106
10 10 10M				
3163	9.8	10.9	11.6	105
<i>GRO GREEN CHEMICAL COMPANY</i>				
0 18 36M WITH 7 LBS BORAX PER 100 1749 SEE NOTE 1		20.1	31.9*	100
5 20 20M				
1776	5.0	20.7	20.0	102
<i>HUTSON CHEMICAL COMPANY</i>				
4 12 8M				
1846	3.7*	11.4*	8.7	97*
1847	3.9	11.2*	9.7	100
6 12 12M				
1849	5.1*	12.0	12.1	95*
6 24 24M				
1874	5.9	24.1	24.1	100
15 15 15M				
1848 SEE NOTE 2	13.2*	13.7*	18.3	95*
30 10 0				
0971	30.2	10.7		102
5031	30.1	10.1		100
<i>INTERNATIONAL MIN & CHEM CORP CINN OHIO</i>				
4 12 8M				
0982	4.5	13.0	9.1	110
4036	4.2	12.9	8.9	108

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
<i>INTERNATIONAL MIN & CHEM CORP CLARKSVIL</i>				
0 9 27M 2734		9.3	28.5	105
4 12 8M 1799	4.3	12.8	8.4	107
2735	4.1	12.3	8.1	102
2786	4.3	12.0	8.6	103
6 18 12M 2736	6.3	16.9*	11.7	98
2788	5.9	16.6*	12.5	96*
10 10 10M 2787	9.5*	10.5	10.0	99
<i>KENTUCKY FERTILIZER WORKS INC</i>				
4 12 8M 0999	4.1	12.0	8.4	102
5033	4.0	11.9	9.2	102
5039	4.0	11.3*	9.0	99
5 20 20M 1000	4.6*	20.5	19.4*	99
<i>LAND O NAN WAREHOUSE STURGIS</i>				
3 12 12M 2754	4.3	11.1*	14.6	110
5 20 20M 2751	5.1	20.2	21.0	102
6 12 12M 2755	5.6*	16.9	14.8	121
<i>LOUISVILLE FERTILIZER COMPANY</i>				
4 12 8M 4053	7.5	10.9*	8.5	120
<i>NORTH AMERICAN FERTILIZER COMPANY</i>				
3 12 12M 1901	3.4	11.8	12.6	103
4 12 8M 0941	4.1	11.1*	9.7	100
0956	4.1	11.3*	8.6	99
0983	4.1	11.1*	8.5	98
5013	4.3	11.5*	9.6	103
5 10 10M 2818	4.7*	10.4	10.2	100

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
<i>NORTH AMERICAN FERTILIZER CONTINUED</i>				
6 8 6M 1781 1903	6.0 6.0	8.3 8.0	6.5 6.4	103 101
10 10 10M 1782 1900 1902	9.6* 10.1 9.8	10.2 10.3 10.3	10.4 10.4 10.5	99 102 101
<i>OLIN MATHIESON CHEMICAL CORP HOUSTON TE</i>				
6 24 24M 0958	6.1	24.8	24.2	102
13 13 13M 0959	12.6*	13.5	14.6	102
<i>PRICE CHEMICAL COMPANY LOUISVILLE</i>				
0 20 20M 1785		19.2*	20.0	97*
3 12 12M 2690	3.5	12.1	11.9	104
6 12 12M 1786	6.1	11.6*	12.8	101
10 10 10M 2691	9.7	11.1	10.2	103
<i>PRICE CHEMICAL COMPANY NORFOLK VA</i>				
3 12 12M 1821	3.3	12.1	11.8	102
4 12 8M 1787 1820 2674 5001	4.1 4.1 4.2 4.1	12.8 12.6 12.1 12.4	8.0 8.3 9.0 8.5	104 104 104 104
5 20 20M 1784 SEE NOTE 2 1822 2675 5010	5.1 5.0 5.2 5.1	18.5* 19.0* 19.2* 19.1*	20.6 20.0 20.5 21.6	97* 97* 99 100
10 10 10M 2669 5002	8.9* 9.2*	11.5 11.1	11.7 10.2	102 100
12 12 12M 1783	11.2*	12.7	12.0	99

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
<i>ROBIN JONES PHOSPHATE COMPANY</i>				
	(Percent)	(Percent)	(Percent)	
0 10 30M 3127		11.9	28.5*	105
0 16 10 POTASSIUM PHOSPHATE 3198		17.8	10.2	109
0 16 11 POTASSIUM PHOSPHATE 3194		17.5	10.2*	105
0 18 10 POTASSIUM PHOSPHATE 3196		17.9	10.2	100
0 26 10 POTASSIUM PHOSPHATE 3192 SEE NOTE 3 & 4 3197 SEE NOTE 3 3199		22.1* 22.2* 25.9	8.3* 8.8* 9.3*	85* 86* 99
3 20 20M 3128	3.6	22.6	18.2*	108
6 12 12M 3195	5.2*	12.2	13.9	100
<i>O M SCOTT & SONS COMPANY</i>				
20 10 5M 0989	20.0	11.9	6.3	106
<i>SWIFT & COMPANY NATIONAL STOCK YARDS IL</i>				
3 12 12M 2748	3.0	12.3	12.7	103
5 20 20M 2749	5.0	19.7	19.9	99
10 10 10M 2750	9.9	10.8	10.1	102
10 20 10M 0962	9.3*	20.0	9.9	97*
16 0 4M WITH 0120 HERBICIDE 0960	16.2		5.3	104
16 8 4M 0961	15.9	8.7	4.0	102
<i>TENNESSEE CHEMICAL COMPANY</i>				
4 12 8M 4050	4.5	12.0	9.1	106
5 20 20M 4049	4.5*	19.0*	20.4	96*

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
<i>TENNESSEE CORPORATION NEW ALBANY IND</i>				
	(Percent)	(Percent)	(Percent)	
0 20 20M 2687		21.1	20.2	104
3 12 12M 1835 2688	3.1 3.0	12.2 12.5	10.9* 12.0	99 102
5 20 20M 1775	4.6*	20.3	19.4*	98
10 10 10M 1774 2689	9.3* 9.9	10.5 11.0	12.0 9.9	102 103
<i>TRI STATE CHEMICAL COMPANY</i>				
0 20 20M 4102		20.1	18.7*	98
4 16 16M 4101	4.7	15.9	16.1	103
5 20 20M 2814 4100 4103	5.0 4.8 5.0	19.2* 17.5* 19.8	20.5 20.4 19.9	99 93* 99
6 12 12M 2815 4098	5.7* 6.1	12.5 11.0*	11.7 .6*	100 76*
10 10 10M 2816 4099	8.4* 8.7*	13.9 10.3	11.5 9.6*	108 94*
12 12 12M 4104	11.0*	12.0	12.1	96*
<i>VALLEY COUNTIES OF KENTUCKY COOPERATIVE</i>				
30 10 0 0969 0981	29.8 30.0	10.5 12.1		100 104
<i>VIRGINIA CAROLINA CHEM CORP CINN OHIO</i>				
4 12 8M 2677	4.4	12.5	9.7	109
5 20 20M 2769	5.4	20.7	18.7*	102

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
<i>VIRGINIA CAROLINA CHEM CORP HOPKINSVILL</i>				
	(Percent)	(Percent)	(Percent)	
0 20 20M WITH 3 LBS BORAX PER 100 1750 SEE NOTE 1		19.6*	20.2	99
4 12 8M 1865	4.2	12.3	8.9	105
1889	4.2	12.4	8.6	105
2676	4.1	11.7	8.5	100
3124	4.3	12.0	8.2	103
5062	4.2	12.5	8.3	104
6 12 12M 1845	6.0	12.5	12.0	101
1888	6.0	12.0	11.7	99
2757	6.0	12.5	12.0	102
6 18 12M 1795	5.8	18.1	12.4	100
1887	6.0	18.1	12.0	100
10 10 10M 1796	9.7	10.5	11.2	102
1866	9.7	11.0	10.2	102
3125	9.5*	10.7	11.0	102
<i>VIRGINIA CAROLINA CHEM CORP MEMPHIS TEN</i>				
6 12 12M 3126	6.0	12.0	11.8	100
<i>VIRGINIA CAROLINA CHEM CORP MT PLEASANT</i>				
4 12 8M 2702	4.2	12.0	8.5	103
2782	4.1	12.0	9.3	104
4 12 12M 2700	3.7*	12.3	13.0	101
2781	3.9	12.1	12.9	102
5 10 10M 2705	5.3	10.4	10.6	105
5 20 20M 2701	5.4	19.1*	19.5*	99
2783 SEE NOTE 2	5.0	18.3*	20.0	95*
6 12 12M 2703	6.0	12.2	12.0	101
10 10 10M 2704	9.5*	10.3	9.7	98
2784	9.4*	10.0	10.8	98

TABLE 2.— Analyses of Inspection Samples of Mixed Liquid Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
<i>BARTLETT & O BRYAN FERTILIZER COMPANY</i>				
	(Percent)	(Percent)	(Percent)	
<i>4 12 12M LIQUID</i>				
4109	4.2	12.8	11.3*	103
4110	4.3	13.0	11.0*	104
4111	4.2	12.5	11.0*	101
4112	4.1	12.4	11.2*	101
<i>COMMONWEALTH FERTILIZER COMPANY INC</i>				
<i>4 12 8M LIQUID</i>				
2741	4.1	12.3	9.3	105
2794	4.0	11.5*	8.2	98
2798	4.1	12.4	8.2	103
2800	4.1	11.9	8.2	101
<i>4 12 12M LIQUID</i>				
2795	4.1	11.8	11.2*	98
<i>5 10 10M LIQUID</i>				
2801	5.3	10.0	10.3	103
<i>6 12 12M LIQUID</i>				
2796	6.0	11.9	10.8*	97*
2797	6.3	13.1	10.5*	103
<i>6 18 6M LIQUID</i>				
2799	5.9	18.0	6.0	100
<i>10 10 10M LIQUID</i>				
2740	10.6	10.9	11.2	108
<i>HUTSON CHEMICAL COMPANY</i>				
<i>7 21 7M LIQUID</i>				
1762	6.9	20.0*	7.0	97*
<i>LAND O NAN WAREHOUSE MORGANFIELD</i>				
<i>3 9 9M LIQUID</i>				
2823	3.2	9.0	9.9	104
<i>5 10 10M LIQUID</i>				
2822	5.2	10.0	10.5	102
2824	5.2	10.0	10.5	102
<i>9 9 9M LIQUID</i>				
2758	8.5*	9.4	10.2	101
<i>LAND O NAN WAREHOUSE STURGIS</i>				
<i>12 6 6M LIQUID</i>				
2825	11.9	6.5	6.0	101

TABLE 2.—Analyses of Inspection Samples of Mixed Liquid Fertilizers, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
<i>WEST KENTUCKY LIQUID FERT CO BOWLING GR</i>				
	(Percent)	(Percent)	(Percent)	
4 12 8M LIQUID				
2803	4.5	12.7	8.0	107
2808	4.7	12.3	8.0	106
5 15 10M LIQUID				
2809	5.0	14.7	10.2	99
6 18 6M LIQUID				
2805	6.4	17.8	6.2	102
8 24 4M LIQUID				
2802	8.1	24.1	4.1	101
2804	8.2	24.4	4.0	102
10 20 0 LIQUID				
2806	10.1	20.1		101
15 15 0 LIQUID				
2807	14.7	15.0		99
<i>WEST KENTUCKY LIQUID FERT CO GUTHRIE</i>				
4 12 8M LIQUID				
3185	4.2	12.0	8.5	103
3190	4.1	11.9	8.1	100
5 10 10M LIQUID				
3186	5.0	10.1	10.1	101
3187	5.5	10.3	10.0	105
8 8 8M LIQUID				
3184	8.0	8.0	8.1	100
8 16 8M LIQUID				
3189	7.8	15.6*	8.1	98
15 10 5M LIQUID				
3188	14.9	9.9	5.4	100
5 15 10M LIQUID				
3191	4.9	14.3*	10.1	97*
<i>WEST KENTUCKY LIQUID FERT CO HOPKINSVIL</i>				
4 12 12M LIQUID				
3179	4.1	12.0	12.0	101
4 12 12M LIQUID WITH 4 LBS BORAX PER 3135 SEE NOTE 1	4.3	12.9	11.5*	105
6 18 6M LIQUID				
3180	6.0	17.0*	6.5	98
6 20 0 LIQUID				
3181	6.0	19.4*		98
8 16 8M LIQUID				
3182	8.1	15.8	8.4	100
3183	7.8	15.8	8.5	99

TABLE 3.— Analyses of Straight Materials, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
ALLIED CHEMICAL CORPORATION HOPEWELL VA	(Percent)	(Percent)	(Percent)	
AMMONIUM NITRATE 5034	33.8			101
AMERICAN AGRI CHEMICAL CO LONDON				
SUPERPHOSPHATE 1641		20.3		102
AMERICAN AGRI CHEMICAL CO NASHVILLE				
AMMONIUM NITRATE 0967 5084	33.9 34.0			101 101
61 CALCIUM METAPHOSPHATE 5027		62.6		103
62 CALCIUM METAPHOSPHATE 5078		62.4		101
AMERICAN CYANAMID COMPANY				
CALCIUM CYANAMID 0940 1842	21.0 20.8			100 99
ARMOUR AGRICULTURAL CHEM CO ATLANTA GA				
AMMONIUM NITRATE 0953 0994 4065 5063	33.3 33.8 33.6 33.6			99 101 100 100
ARMOUR AGRICULTURAL CHEM CO BARTOW FLA				
45 TRIPLE SUPERPHOSPHATE 1755 1764 5026		45.2 44.7 45.5		100 99 101
ARMOUR AGRICULTURAL CHEM CO CINCINNATI				
SUPERPHOSPHATE 4067 5096		20.1 19.3*		100 97*
MURIATE OF POTASH 5097			60.9	102

TABLE 3.— Analyses of Straight Materials, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
<i>ARMOUR AGRICULTURAL CHEM CO CRYSTAL CIT</i>				
	(Percent)	(Percent)	(Percent)	
<i>AMMONIUM NITRATE</i>				
3121	33.6			100
5086	33.6			100
<i>ARMOUR AGRICULTURAL CHEM CO JEFFERSONVI</i>				
<i>SUPERPHOSPHATE</i>				
0930		20.4		102
2812		20.0		100
<i>ARMOUR AGRICULTURAL CHEM CO MEMPHIS TEN</i>				
<i>SUPERPHOSPHATE</i>				
1850		22.2		111
<i>ARMOUR AGRICULTURAL CHEM CO NASHVILLE T</i>				
<i>SUPERPHOSPHATE</i>				
1806		21.3		107
1896		21.4		107
3140		19.3		107
5065		20.5		103
<i>ASSOCIATED COOPERATIVES INC</i>				
<i>AMMONIUM NITRATE</i>				
0932	33.8			104
3132	34.1			102
56 <i>TRIPLE SUPERPHOSPHATE</i>				
3131		55.0*		98
61 <i>CALCIUM METAPHOSPHATE</i>				
5051		60.6		99
62 <i>CALCIUM METAPHOSPHATE</i>				
5067		62.2		100
63 <i>CALCIUM METAPHOSPHATE</i>				
3130		61.0*		97*
<i>CENTRAL FARMERS FERTILIZER COMPANY</i>				
46 <i>TRIPLE SUPERPHOSPHATE</i>				
5092		44.9*		98
<i>CHILEAN NITRATE SALES CORPORATION</i>				
<i>NITRATE OF SODA</i>				
5046	16.0			100

TABLE 3.— Analyses of Straight Materials, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
<i>COMMERCIAL SOLVENTS CORPORATION</i>				
<i>AMMONIUM NITRATE</i>				
4087	33.5			100
5023	33.6			100
<i>COOPERATIVE FERTILIZER SERVICE BRISTOL</i>				
<i>SUPERPHOSPHATE</i>				
5045		20.2		101
<i>COOPERATIVE FERTILIZER SERVICE LOUISVIL</i>				
<i>SUPERPHOSPHATE</i>				
0934		20.0		100
1824		20.0		100
5008		20.4		102
5015		20.1		100
<i>56 TRIPLE SUPERPHOSPHATE</i>				
5009		56.5		101
<i>MURIATE OF POTASH</i>				
0935			60.0	100
<i>COOPERATIVE FERTILIZER SERVICE RUSSELLV</i>				
<i>SUPERPHOSPHATE</i>				
5075		19.8		99
<i>56 TRIPLE SUPERPHOSPHATE</i>				
2753		57.2		102
<i>MURIATE OF POTASH</i>				
5076			59.6	99
<i>COOPERATIVE FERTILIZER SERVICE WINCHEST</i>				
<i>SUPERPHOSPHATE</i>				
0992		21.0		105
1844		20.4		102
4116		20.6		103
5052		20.5		102
<i>DARLING & COMPANY CAIRO ILLINOIS</i>				
<i>MURIATE OF POTASH</i>				
0970			62.0	103

TABLE 3.— Analyses of Straight Materials, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
<i>DAVISON CHEMICAL COMPANY NASHVILLE TENN</i>				
	(Percent)	(Percent)	(Percent)	
<i>SUPERPHOSPHATE 2672</i>		20.1		100
<i>46 TRIPLE SUPERPHOSPHATE 1862</i>		46.0		100
<i>UREA 2774</i>	44.6			99
<i>FEDERAL CHEMICAL COMPANY LOUISVILLE</i>				
<i>MURIATE OF POTASH 4086</i>			60.0	100
<i>INTERNATIONAL MIN & CHEM CORP SKOKIE IL</i>				
<i>46 TRIPLE SUPERPHOSPHATE 1777</i>		46.5		101
<i>KENTUCKY FERTILIZER WORKS INC</i>				
<i>SUPERPHOSPHATE 5054 SEE NOTE 5</i>		18.7*		94*
<i>OLIN MATHIESON CHEM CORP LITTLE ROCK AR</i>				
<i>AMMONIUM NITRATE 5077</i>	34.2			102
<i>OLIN MATHIESON CHEM CORP LAKE CHARLES L</i>				
<i>NITRATE OF SODA 0957</i>	16.2			101
<i>PRICE CHEMICAL COMPANY NORFOLK VA</i>				
<i>SUPERPHOSPHATE 5003</i>		19.5*		98
<i>ROBIN JONES PHOSPHATE COMPANY</i>				
<i>MURIATE OF POTASH 3193</i>			60.3	101

TABLE 3.— Analyses of Straight Materials, July-December, 1961

Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
<i>SPENCER CHEMICAL COMPANY KANSAS CITY MO</i>				
<i>AMMONIUM NITRATE 5047</i>	<i>33.5</i>			<i>100</i>
<i>SWIFT & COMPANY NATIONAL STOCK YARDS IL</i>				
<i>MURIATE OF POTASH 0973</i>			<i>61.0</i>	<i>102</i>
<i>TENNESSEE CORPORATION NEW ALBANY IND</i>				
<i>SUPERPHOSPHATE 1773</i>		<i>20.0</i>		<i>100</i>
<i>U S PHOSPHORIC DIV TENNESSEE CORP</i>				
<i>46 TRIPLE SUPERPHOSPHATE 5014</i>		<i>46.9</i>		<i>102</i>
<i>VALLEY COUNTIES OF KENTUCKY COOPERATIVE</i>				
<i>AMMONIUM NITRATE 0964</i>	<i>34.2</i>			<i>102</i>
<i>61 CALCIUM METAPHOSPHATE 0965 0980</i>		<i>62.8 61.8</i>		<i>103 101</i>
<i>63 CALCIUM METAPHOSPHATE 0972 0979</i>		<i>62.1* 64.8</i>		<i>99 103</i>
<i>MURIATE OF POTASH 0963 0968</i>			<i>62.0 62.0</i>	<i>103 103</i>

TABLE 4 - Analyses of Inspection Samples of Rock Phosphate, July-December, 1961

(Analyses deficient more than tolerance and relative value of 97 percent or less indicated by asterisk).

Sample Number	Manufacturer, Brand Name	Phosphoric Acid Available		Phosphoric Acid Total		Percent of Relative Value Found
		Guar. (Percent)	Found	Guar. (Percent)	Found	
<u>American Ag. Chemical Co.</u>						
5055	Rock Phosphate	3.0	3.4	31	31.5	102
<u>Int. Minerals & Chemical Corp.</u>						
4075	Rock Phosphate	3.0	4.4	31	31.4	101
<u>Land-O-Nan Warehouse</u>						
2756	Rock Phosphate	3.0	4.3	33	<u>31.6*</u>	95*
<u>Ruhm Phosphate & Chemical Co.</u>						
1778	Rock Phosphate	3.0	3.6	30	29.9	99
5016	Rock Phosphate	3.0	3.1	30	29.7	99
<u>Schrock Fertilizer Service</u>						
4045	Rock Phosphate	--	4.5	33	32.6	99

TABLE 5 - Results of analyses of boron in fertilizers reported in Tables 1 and 2

COMPANY	Sample Number	Guaranteed %	Found %
American Agricultural Chem. Co. Knoxville, Tennessee	5038	0.57	0.68
American Agricultural Chem. Co. Nashville, Tennessee	2738	0.34	<u>0.28</u>
Armour Agricultural Chem. Co. Nashville, Tennessee	1805	0.34	0.48
	2731	0.34	0.41
	3148	0.57	<u>0.51</u>
Bluegrass Plant Foods, Inc. Danville, Kentucky	2665	0.57	0.53
	2759	0.23	0.26
	2760	0.34	0.32
Cooperative Fertilizer Service Louisville, Kentucky	1757	0.45	0.51
Cooperative Fertilizer Service Russellville, Kentucky	2679	0.45	0.47
Cooperative Fertilizer Service Winchester, Kentucky	4061	0.45	0.49
W. R. Grace & Co. Davison Chem. Div. New Albany, Indiana	1761	0.57	0.82
Federal Chemical Company Nashville, Tennessee	3114	0.56	0.63
Gro-Green Chemical Company Shelbyville, Kentucky	1749	0.79	0.86
Virginia-Carolina Chemical Corp. Hopkinsville, Kentucky	1750	0.34	0.43
West Ky. Liquid Fertilizer Co. Hopkinsville, Kentucky	3135	0.45	0.43

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