Regulatory Bulletin 167

Commercial Fertilizers in Kentucky, 1960

Including a Report on Official Fertilizer Samples Analyzed

July-December, 1960

University of Kentucky
Agricultural Experiment Station
Lexington

FEED AND FERTILIZER DEPARTMENT

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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 655 official samples of commercial fertilizers made during the period July 1 through December 31, 1960.

Separate tables are provided for the results of analysis of dry mixed fertilizers, liquid mixed fertilizers, straight materials and boron. Table A shows the amount of fertilizer used in Kentucky from 1918 to 1960.

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 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 values 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		50.0

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 =	15.1
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 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 1960 was over 563,978 tons. This represents a decrease of about 38,000 tons from 1959. This decrease in total tonnage was due to a decreased sale of about 30,000 tons of mixed fertilizer and 8,000 tons of fertilizer materials.

NUMBER OF GRADES NEEDED IN KENTUCKY

The Departments of Agronomy and Horticulture of the Kentucky Agricultural Experiment Station consider that ten 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 ten ratios and minimum grades and corresponding higher analysis grades, except 4-16-4, 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	0-12-24, 0-15-30, 0-20-40
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	4-16-16	5-20-20, 6-24-24
1-3-0	8-24- 0	9-27- 0,10-30- 0

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 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 10A from this Station.

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

Note 1. See Table 6 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. Purchaser could not be determined. Refund based upon this analysis sent to charity.

Note 5. Product sold according to laboratory finding.

Note 6. Returned to plant.

COMPANIES REPRESENTED BY SAMPLES REPORTED IN THIS BULLETIN

Allied Chemical Corp., Nitrogen Div.
P.O. Drawer 61
Hopewell, Virginia

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

American Cyanamid Company
P.O. Box 383
Princeton, New Jersey

Armour Agricultural Chemical Co.
P.O. Box 1685
350 Hurt Building
Atlanta, Georgia

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
P.O. Box 310
Cynthiana, Kentucky

Burley Belt Plant Food Works
Route #4
Lexington, Kentucky

California Chemical Company
Lucas & Ortho Way
Richmond 4, California

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

Commercial Solvents Corp.
260 Madison Avenue
New York 16, New York

Commonwealth Fertilizer Co., Inc.
Morgantown Road
Russellville, Kentucky

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

Ross Daniels, Inc.
Des Moines, Iowa

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

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

E'Town Fertilizer Company
Cecilia, Kentucky

Farmers Fertilizer Company
Smiths Grove, Kentucky

Federal Chemical Company
646 Starks Building
Louisville, Kentucky

Glasgow Fertilizer Company
Box 295
Glasgow, Kentucky

Goulard & Olena, Inc.
Skillman, New Jersey

Green Thumb Products
4401 Lagrange Street
Toledo, Ohio

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

A. H. Hoffman, Inc.
Landisville, Pennsylvania

Hutson Chemical Company
Railroad Avenue
Murray, Kentucky

Hydroponic Chemical Company, Inc.
P.O. Box 97-C
Copley 21, Ohio

International Minerals & Chemical Corp.
P.O. Box 67 - Lockland Station
Cincinnati 15, Ohio

The Keasbaum Corporation
Popular Bluff, Missouri

Kentucky Fertilizer Works, Inc.
Box 595
Winchester, Kentucky

Continued from previous page

Land-O-Nan Warehouse
Sturgis, Kentucky

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

Mississippi Chemical Corporation
Yazoo City, Mississippi

North American Fertilizer Company
1419 Preston & Bergman Streets
Louisville, Kentucky

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

Robert B. Peters Co., Inc.
2833 Pennsylvania Street
Allentown, Pennsylvania

Plantabbs Corporation
Baltimore 1, Maryland

Plant Marvel Laboratories
622-24 West 119th Street
Chicago 28, Illino

Price Chemical Company
2600 Millers Lane
Louisville 16, Kentucky

Ra-Pid-Gro Corporation
88 Ossian Street
Danville, New York

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

Ruhm Phosphate and Chemical Co.
P.O. Box 361
Columbia, Tennessee

Schrock Fertilizer Service
Congerville, Illinois

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

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

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

Tennessee Corporation
Lockland Station
Cincinnati 15, Ohio

Thompson Phosphate Dept.
Div. Int. Minerals & Chemical Corp.
Old Orchard Road
Skokie, Illinois

Valley Counties of Kentucky Coop.
Box 351
Murray, Kentucky

Victor Chemical Works
155 North Wacker Drive
Chicago 6, Illinois

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 - 1960

Year	Fertilizer purchased[a]	AAA & ACP 20% superphosphate or equivalent	Total fertilizer
	Tons	Tons	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

a. Calculated from stamp receipts 1918 - 1939. Reports from manufacturers 1940 - 1960.
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 Fertilizers, July-December, 1960

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)	
AMERICAN AGRI CHEM CO CINCINNATI				
3 12 12M				
6776 See Note 2	2.9	13.9	9.7*	103
4 12 8M				
6775	4.8	12.1	8.5	107
6887	4.8	12.0	8.1	104
8763	4.8	12.3	8.5	108
5 20 20M				
6888	4.3*	20.7	20.2	99
6889	4.6*	20.9	20.5	101
7473	4.8	20.2	19.9	100
6 12 12M				
7446	6.0	12.3	12.7	102
12 12 12M				
0082	12.0	12.7	12.2	102
AMERICAN AGRI CHEM CO LONDON				
0 20 20M				
0038		19.9	21.4	102
9384		19.5*	20.5	99
3 9 6M				
0083	3.2	9.1	6.5	104
4 12 8M				
0026	4.0	12.3	8.3	102
0060	3.9	12.4	8.5	102
5971	4.0	12.1	8.5	102
8764	3.9	12.0	8.5	100
9383	4.0	11.7	8.5	100
5 10 10M				
0084	5.1	10.0	10.5	102
9382	4.9	10.1	10.1	100
9386	4.9	10.6	10.0	102
9387	4.9	10.1	10.4	101
5 20 20M				
0039	4.8	19.5*	20.3	98
5972	4.5*	19.0*	20.2	96*
6 8 6M				
5973	6.0	8.2	6.5	102
10 10 10M				
9385 See Note 2	8.5*	10.8	9.6*	95*
AMERICAN AGRI CHEM CO NASHVILLE				
6 12 12M				
6839	6.1	12.1	12.2	101

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
AMERICAN AGRI CHEM CO NEW YORK				
17 17 17M				
0116	17.6	17.8	18.2	105
6895	17.0	18.0	17.4	102
AMERICAN AGRI CHEM CO SEYMOUR				
3 12 12M				
6777	3.0	12.0	12.4	101
10 10 10M				
6890	10.0	10.2	10.4	101
12 12 12M				
5952	11.4*	12.8	12.6	101
ARMOUR AGRI CHEM CO CINCINNATI				
3 9 6M				
0091	3.5	9.3	6.3	107
0092	3.6	9.9	7.2	115
3 12 12M				
7481	3.0	12.6	12.2	103
4 12 8M				
0075	4.2	12.1	8.9	104
0093	4.3	12.0	7.8	102
0095	4.1	12.0	8.7	102
6844	4.2	12.0	8.0	101
5 10 10M				
7410	5.1	10.0	10.0	101
7482	5.0	10.3	9.6*	100
5 20 20M				
0096	5.0	20.7	18.7*	100
7474	5.0	20.3	20.0	101
6 12 12M				
0097	5.9	12.3	12.2	101
10 10 10M				
0100	10.0	10.2	10.4	101
7447	9.9	10.2	10.5	101
ARMOUR AGRI CHEM CO JEFFERSONVILLE				
0 20 20M				
5939		19.4*	23.2	103
5969		20.1	22.4	104
8773		19.2*	21.5	100
3 12 12M				
0131	3.5	12.4	12.0	105
6794	3.3	11.9	12.0	102

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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)	
ARMOUR AGRI CHEM CO CONTINUED				
4 12 8M				
0140	4.3	12.6	8.1	105
5931	4.0	11.8	8.1	99
5940	3.9	12.0	8.3	100
5970	4.0	12.0	8.3	101
6795	4.1	12.0	9.2	103
8761	4.0	12.2	7.8	100
8802	4.0	12.2	8.0	101
9261	3.5*	12.9	10.3	106
5 20 20M				
8848	5.0	19.7	20.0	99
9260	5.0	20.0	22.0	103
6 12 12M				
0044	6.3	13.2	13.5	109
6843	5.9	12.7	13.2	104
6845	5.8	12.5	12.5	102
8804	6.1	12.8	12.4	104
9262	5.8	12.6	13.1	103
6 24 24M				
9259 See Note 2	6.3	25.1	22.0*	101
10 10 10M				
5941	9.2*	11.1	11.2	102
5983	9.8	11.1	11.0	104
5984	9.9	10.7	10.4	103
10 20 20M				
9258	9.5*	21.9	22.7	106
12 12 12M				
0045	11.0*	13.8	13.0	102
ARMOUR AGRI CHEM CO NASHVILLE				
0 20 20M				
6785		19.6	20.2	99
6821		18.9*	21.6	99
3 12 6M				
6822	3.2	12.0	6.6	103
9265	3.1	12.1	6.2	102
3 12 12M				
8824	4.0	12.1	12.4	108
4 12 8M				
0117	4.3	12.0	8.5	103
5942	4.1	12.0	8.7	102
6824	4.0	12.3	8.6	103
7419	4.0	12.0	8.4	101
7456	4.3	12.0	8.6	103
8825	4.3	12.2	8.0	103
9264	4.3	12.2	7.4*	102
9284	4.1	12.2	8.4	103
9295	4.3	12.0	8.2	103
5 10 10M				
0057	5.0	10.2	10.6	102
0110	5.0	10.6	10.0	103
5943	5.1	10.3	9.8	102
5 20 20M				
9245	5.2	20.0	20.0	101
9268	5.4	20.5	18.4*	101
5 20 20M WITH 5 LB BORAX PER 100				
9243 See Note 1	5.3	21.1	18.4*	102
9263 See Note 1	5.3	19.0*	20.7	99

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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

Manufacturer Grade Sample Number	Nitrogen (Percent)	Available Phosphoric Acid (Percent)	Potash (Percent)	Percent of Relative Value Found
ARMOUR AGRI CHEM CO CONTINUED				
6 12 12M	6.0	12.2	12.1	101
0104	6.1	12.5	11.6*	102
0118	6.0	12.1	12.2	101
6784	6.0	11.9	12.5	101
6804	6.1	11.9	12.0	100
6823	5.9	11.7	11.9	98
6868	5.9	11.7	11.9	98
6869	6.0	12.1	12.6	101
6883	5.8	12.0	12.4	100
7420	6.0	12.0	12.0	100
7455	6.0	12.5	12.6	103
9244	5.4*	11.6*	9.3*	90*
9267 See Note 4	6.0	12.0	12.2	100
9377	5.9	11.6*	12.1	98
9378				
10 10 10M	10.0	9.7	10.5	100
0105	9.1*	10.6	10.0	98
6805	9.4*	10.8	10.2	100
7454	9.6*	11.8	9.7	104
9246	9.6*	10.4	10.0	99
9286	10.0	10.0	10.5	101
9287	10.1	10.1	10.0	101
9294	8.7*	10.1	9.9	94*
9296 See Note 4				
10 30 20M	10.7	31.2	17.0*	100
6820	13.0	29.1*	18.8*	105
6825	9.5*	28.1*	19.9	95*
9293 See Note 4				
ASSOCIATED COOPERATIVES INC				
15 15 15M	14.9	14.7	15.5	100
0019	14.9	14.8	15.0	99
5934	14.6*	15.1	15.4	99
6791	15.0	15.0	15.0	100
8793				
30 10 0	29.7	10.8		101
0012	29.9	10.0		100
8779				
BARTLETT & O BRYAN FERTILIZER CO				
4 12 8M	4.0	12.0	8.5	101
5955	4.0	12.0	10.0	105
7433				
BLUEGRASS PLANT FOODS INC DANVILLE				
0 20 20M WITH 5 LB BORAX PER 100		21.9	19.6	106
8778 See Note 1		20.2	20.1	101
8812 See Note 1				
3 12 12M	4.1	13.5	12.6	115
8777	3.0	11.6*	12.6	100
8811				

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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)	
BLUEGRASS PLANT FOODS INC CONT				
4 12 8M				
8775	4.2	11.9	8.5	102
9380	4.0	12.0	8.0	100
5 20 20M				
8808	5.1	20.8	17.8*	100
8809	5.3	10.0	10.5	103
6 8 6M				
8776	5.8	8.4	7.4	104
BURLEY BELT PLANT FOOD WORKS INC				
4 12 8M				
0049	4.4	11.8	7.8	101
COMMONWEALTH FERTILIZER COMPANY INC				
0 20 20M				
5944		20.3	22.0	104
3 12 12M				
6817	3.4	10.8*	12.7	101
8832	3.3	12.3	12.1	104
4 12 8M				
0137	4.2	12.3	8.0	103
5945	4.2	12.1	8.0	102
6819	4.3	11.5*	8.9	102
8817	4.4	12.0	9.0	105
8833	4.2	11.5*	8.5	100
5 20 20M				
0138	4.9	19.0*	20.2	97*
5946	5.2	19.2*	20.8	100
8749	5.0	20.0	18.0*	97*
8830 See Note 2	4.9	21.1	17.2*	99
6 12 12M				
8831	6.2	11.9	12.0	101
10 10 10M				
5947	9.4*	10.3	10.9	100
8748	10.1	9.6*	11.0	101
COOPERATIVE FERT SERVICE BRISTOL				
0 20 20M				
0035		21.0	20.6	104
0 30 30M				
5925		29.9	30.0	100
5 10 10M				
0030	5.1	10.5	10.4	104
0036	5.1	10.6	10.7	105
10 10 10M				
0028	9.9	10.9	9.7	102
10 20 20M				
0029	10.4	20.8	20.4	104

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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)	
COOPERATIVE FERT SERV LOUISVILLE				
0 19 38M WITH 4 LB BORAX PER 100				
9254 See Note 1		20.2	38.2	103
3 12 12M				
5958	3.3	12.3	12.2	104
5985	3.3	12.0	12.6	103
6770	3.2	12.1	12.1	102
6797	3.2	12.4	12.4	104
6852	3.1	12.3	12.7	104
8768	3.3	12.3	12.0	99
9235	3.2	12.0	12.1	102
4 12 8M				
0050	4.0	12.4	8.4	103
0051	4.2	12.4	8.4	104
8770	4.1	11.9	8.5	101
9234	4.1	12.5	9.1	105
9240	4.1	12.5	8.5	104
5 20 20M				
5987	5.3	19.5*	20.6	101
6792	5.0	20.6	18.6*	100
6853	4.9	20.1	20.0	100
6900	5.0	21.0	19.9	100
7405	5.1	20.8	20.7	103
7478	5.0	20.3	21.4	103
8769	4.9	20.6	20.2	101
8803	5.0	20.2	20.6	101
9238	5.2	19.9	20.5	101
9242	5.3	19.4*	21.1	101
9250	5.2	20.0	20.1	101
6 12 12M				
6767	6.2	12.2	12.1	102
6796	6.3	12.0	12.4	102
9237	6.3	12.0	12.6	103
9248	6.3	12.1	12.5	103
10 10 10M				
0079	10.5	10.4	10.1	104
5988	10.5	10.3	10.5	104
6769	10.7	10.1	10.1	104
6854	10.5	10.3	10.5	104
6897	10.2	10.5	10.5	104
7467	10.3	10.2	10.1	102
9236	10.0	10.2	10.7	102
9249	10.5	10.3	10.4	104
9253	10.1	10.4	10.3	102
COOPERATIVE FERT SERV RUSSELLVILLE				
0 19 38M				
8762		19.2	40.0	103
0 30 30M				
5961		30.2	30.5	101
8818		31.9	29.2*	103
9256		30.0	31.0	101
4 12 8M				
5936	4.3	11.6*	8.7	102
5962	4.6	12.0	8.5	105
6780	4.7	11.9	8.4	105
7435	4.1	12.0	8.1	101
7452	4.4	12.1	8.5	104
8751	3.9	12.0	7.8	99
8754	4.0	12.2	7.4*	100

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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)	
COOPERATIVE FERT SERV CONTINUED				
5 20 20M				
0015	5.1	21.5	20.0	104
5963	5.0	20.0	20.2	100
6835	5.0	20.4	21.4	103
6860	5.3	19.7	21.8	103
6879	5.0	20.0	22.0	103
7437 See Note 2	5.1	22.3	16.4*	102
7450 See Note 2	5.4	22.1	16.8*	103
8828	5.2	20.4	20.2	102
9272	5.5	20.5	18.1*	101
9375	5.6	20.0	19.0*	101
6 12 12M				
5937	6.0	11.5*	12.6	99
5964	6.0	12.0	12.5	101
6779	5.8	11.9	12.2	99
6803	6.6	12.0	12.5	104
6818	6.2	10.6*	12.8	97*
6837	6.6	12.4	12.6	106
6861	6.6	12.7	12.1	106
7436	6.5	12.0	12.1	103
7451	6.5	12.7	12.0	105
8829	6.4	12.4	12.4	104
9255	6.5	12.0	13.0	105
10 10 10M				
6836	10.1	10.8	10.4	104
9374	9.9	11.1	10.0	103
10 30 20M				
0052	10.2	31.6	18.4*	102
0088 See Note 2	9.0*	27.8*	22.0	95*
0094	10.0	28.5*	20.0	97*
5928	10.1	29.7	20.2	100
5938	10.1	31.2	19.6	102
5953	10.4	31.3	19.0*	103
8750	10.0	29.6	20.2	99
8774	9.4*	29.7	21.5	99
9239 See Note 2	9.4*	28.2*	22.0	97*
12 12 12M				
0016	12.0	12.9	11.9	102
0020	12.1	11.9	12.7	101
5965	11.9	12.1	13.5	102
6838	11.7	12.3	11.9	99
7449	12.0	12.5	12.6	102
7453	12.0	12.6	12.5	102
7479	11.6*	12.7	11.9	100
COOPERATIVE FERT SERV WINCHESTER				
0 19 38M WITH 4 LB BORAX PER 100				
7406 See Note 1		20.8	40.5	108
7476 See Note 1		21.0	40.0	108
0 30 30M				
0047		32.4	30.1	105
0053		32.2	30.0	105
0080		31.4	30.0	103
7409		31.0	31.5	104
7448		34.2	28.8*	108
4 12 8M				
0048	4.2	13.0	8.6	107
0077	4.0	12.4	8.7	103
5929	4.1	12.4	10.0	107
5975	4.1	11.6*	8.3	100
7472	4.0	11.8	8.9	101
9252	4.2	12.0	11.2	109
9381	4.1	12.0	8.0	101

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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

Manufacturer Grade Sample Number	Nitrogen (Percent)	Available Phosphoric Acid (Percent)	Potash (Percent)	Percent of Relative Value Found
COOPERATIVE FERT SERV CONTINUED				
5 10 10M				
0087	5.1	10.5	10.2	103
5 20 20M				
0054	5.0	19.4*	21.5	100
5986	5.0	19.6*	20.8	100
7408	5.1	19.9	21.1	102
7465	5.1	19.1*	21.1	99
6 12 12M				
0078	6.0	11.7	12.4	100
0081	5.9	11.5*	13.0	99
7411	6.0	12.0	13.1	102
7477	5.9	12.0	12.5	100
ROSS DANIELS INC DES MOINES IOWA				
8 16 8M				
6893	10.8	22.8	12.5	141
DARLING & COMPANY CAIRO				
4 12 8M				
0021	4.3	11.2*	10.1	103
5 20 20M				
0003 See Note 3	5.8	18.6*	19.3*	99
0112	5.1	20.1	19.2*	100
6 12 12M				
0014	6.5	12.0	13.7	106
0022	6.3	12.1	12.1	102
6 24 24M				
0004	6.9	24.0	24.0	103
DARLING & COMPANY CEDAR RAPIDS				
4 12 8M				
6865	5.0	12.3	9.5	112
DARLING & COMPANY E ST LOUIS				
6 12 12M				
6872	7.2	15.5	13.7	123
6873	7.0	15.0	13.4	119
DAVISON CHEMICAL CO NASHVILLE				
0 20 20M				
6806 See Note 3		17.1*	21.4	93*
0 20 20M WITH 5 LB BORAX PER 100				
8819 See Note 1		19.3*	19.9	98
3 9 6M				
8815	3.1	9.1	6.1	102
3 12 12M				
6833	3.1	12.7	12.6	105

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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)	
DAVISON CHEM CO NASHVILLE CONTINUED				
4 12 8M				
6808	4.3	11.8	8.4	102
8765	4.4	11.7	8.0	101
8823	4.3	12.2	8.0	103
9283	4.5	12.0	8.0	103
5 20 20M				
8821	5.4	19.2*	20.0	99
6 12 12M				
6807	5.5*	12.3	12.6	99
8822	5.8	11.7	13.5	101
10 10 10M				
8820	10.1	9.9	10.0	100
10 30 20M				
8753	10.5	31.7	19.0*	104
DAVISON CHEMICAL CO NEW ALBANY				
0 25 25M WITH 5 LB BORAX PER 100				
0071 See Note 1		23.8*	25.5	97*
3 12 12M				
8766	3.5	12.3	12.6	106
4 12 8M				
0072	4.0	13.8	9.0	110
5933	4.4	12.1	8.7	105
5948	4.5	12.2	8.6	106
7464	4.0	14.1	8.5	111
8771	4.5	12.4	8.9	107
5 20 20M				
0064	5.3	18.8*	21.0	99
6832	5.1	20.0	20.0	100
7463	4.7*	20.4	20.1	100
6 18 12M				
0069	6.5	17.1*	13.0	101
10 10 10M				
0070	9.8	10.3	11.2	102
6834	11.4	10.2	10.3	108
6849	9.5*	11.3	11.0	104
7438	10.6	10.3	10.9	106
7462	10.1	10.7	11.0	105
15 15 15M				
5949 See Note 4	14.0*	14.3*	16.0	96*
E TOWN FERTILIZER COMPANY				
3 12 12M				
0067	3.5	12.2	12.6	106
8796	3.6	12.6	12.6	108
4 12 8M				
0066	4.5	12.0	8.2	104
8794	4.4	12.0	9.0	105
5 20 20M				
8798	5.1	21.2	20.2	104

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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)	
E TOWN FERTILIZER CO CONTINUED				
6 12 12M				
8797	6.6	12.3	12.5	105
10 10 10M				
8795	10.2	11.1	10.0	105
FARMERS FERTILIZER COMPANY				
12 12 12M				
8752	12.0	13.2	12.6	104
FEDERAL CHEMICAL CO DANVILLE ILL				
4 16 16M				
7423	4.1	15.4*	15.3*	97*
7427	4.4	15.8	15.8	101
8 32 0				
6830 See Note 2	7.5*	29.4*		92*
12 12 12M				
7429	11.9	12.7	12.2	102
16 8 8M				
7425	15.4*	9.0	8.4	101
FEDERAL CHEMICAL CO HUMBOLDT				
4 12 8M				
0102	4.2	12.1	8.5	103
0119	4.3	12.1	8.5	104
6788	4.3	11.9	8.5	103
6866	4.3	12.0	8.9	104
6877	4.5	12.0	9.3	106
6902	4.4	12.0	9.0	105
5 20 20M				
0017 See Note 4	5.2	17.7*	18.1*	92*
6756	4.9	18.5*	18.7*	94*
6 12 12M				
0103 See Note 2	5.7*	12.0	9.9*	94*
6786	5.9	12.0	12.0	99
6867	5.7*	11.4*	12.2	96*
6876	7.2	11.8	12.0	106
6 18 12M				
6901 See Note 2	5.9	14.4*	12.4	89*
10 10 10M				
0120	10.1	10.4	9.5*	101
6789 See Note 2	8.5*	10.9	10.0	96*
6878	9.5*	10.5	9.6*	99
12 12 12M				
0121 See Note 2	11.9	11.3*	9.0*	93*
6787 See Note 2	9.4*	12.1	10.6*	88*
6875 See Note 2	12.0	11.3*	8.8*	94*
15 10 10M				
0018	14.5*	9.2*	11.2	97*

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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)	
FEDERAL CHEMICAL CO LOUISVILLE				
0 9 27M WITH 5 LB BORAX PER 100				
7442 See Note 1		9.1	27.0	100
3 12 12M				
0061	3.3	12.0	11.9	102
4 12 8M				
0068	4.2	10.9*	8.5	98
0073	4.2	10.3*	10.0	98
0085	4.1	10.9*	8.5	97*
0128	4.1	10.9*	8.4	97*
7440	4.3	11.8	8.5	102
7470	4.2	12.2	8.3	103
8758	4.2	11.6*	8.5	101
5 20 20M				
7441 See Note 2	5.3	18.1*	19.3*	95*
7471	4.9	19.0*	19.6	96*
8757 See Note 3	5.8	16.8*	18.4*	93*
6 8 6M				
6762	6.1	8.5	6.6	105
6 12 12M				
8816	6.1	11.4*	12.5	99
10 10 10M				
0062	9.7	10.1	10.5	100
6763	9.4*	10.3	11.0	100
6802	9.7	10.2	10.0	99
6884	9.8	10.4	10.4	101
6891	9.5*	10.4	10.4	100
16 8 8M				
7439 See Note 2	10.1*	12.6	14.6	97*
FEDERAL CHEMICAL CO NASHVILLE				
9 27M WITH 5 LBS BORAX PER 100				
0 20 10M				
7432		9.9	27.0	104
9297		19.2*	17.1	111
0 20 20M				
7421 See Note 2		18.8*	20.0	96*
8743		20.3	20.2	101
3 12 12M				
7414	3.0	11.5*	11.1*	96*
7422	3.2	11.9	11.7	100
7461	2.9	12.3	12.0	101
4 12 8M				
0058	4.1	12.2	8.0	102
6816	4.1	12.0	8.5	102
6829	3.9	11.5*	7.7*	96*
7417	3.8	11.4*	8.7	98
7430	4.1	11.3*	8.0	98
7457	4.3	12.0	9.0	104
8781	4.0	11.3*	9.8	101
9275	4.3	12.0	8.9	104
9277	4.0	12.2	7.7*	100

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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)	
FEDERAL CHEM CO NASHVILLE CONTINUED				
5 10 10M				
7460	4.8	9.6*	10.0	97*
5 20 20M				
6827	4.9	18.2*	21.1	96*
7415 See Note 5	5.3	20.9	17.8*	101
7428 See Note 3	4.7*	18.8*	20.0	96*
7458	4.7*	20.0	20.1	99
8788	5.1	18.2*	20.7	97*
9257	5.0	19.9	21.5	102
9280 See Note 3	4.8	18.1*	21.5	96*
5 20 20M WITH 5 LB BORAX PER 100				
8834 See Note 1 & 3	5.6	18.1*	19.2*	96*
6 12 12M				
7431	6.0	12.2	11.9	101
9274	6.2	11.8	11.5*	99
9276	5.6*	12.3	12.0	99
9290	5.9	12.0	12.6	101
6 18 12M				
9279	5.9	17.7	11.6*	98
9288 See Note 3	5.7*	16.9*	12.5	96*
8 8 8M				
6826	6.9*	8.8	8.5	98
10 10 10M				
6814	9.7	10.0	10.1	99
6828	9.8	10.9	9.8	102
7416	9.4*	10.3	10.0	98
7424	9.2*	10.9	10.4	100
7445	8.9*	10.7	10.3	97*
7459	9.9	10.5	10.4	102
9273	9.8	10.2	10.7	101
9278	9.9	10.3	10.1	101
9291 See Note 2	8.9*	10.7	10.1	97*
12 12 12M				
8787	11.0*	12.9	13.5	100
GLASGOW FERTILIZER COMPANY				
0 20 20M				
8814		20.0	22.0	103
5 20 20M				
8851	5.1	19.6	21.7	102
GOULARD & OLENA INC				
7 8 5M				
0089	7.3	8.7	5.5	107
GRO GREEN CHEMICAL COMPANY INC				
5 20 20M				
6758	4.9	21.5	18.5*	102
8 16 16M				
6759	8.0	15.3*	18.0	101

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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

Manufacturer Grade Sample Number	Nitrogen (Percent)	Available Phosphoric Acid (Percent)	Potash (Percent)	Percent of Relative Value Found
GRO GREEN CHEMICAL CO INC CONTINUED				
12 12 12M				
6757	11.4*	12.6	13.7	102
6846	11.4*	12.2	13.0	99
A H HOFFMAN INC				
5 10 5M				
0124	4.9	11.4	5.8	108
HUTSON CHEMICAL COMPANY				
4 12 8M				
0108	4.9	12.8	9.1	112
6783	4.2	12.5	9.0	106
6863	4.0	12.4	9.1	104
5 20 20M				
6862	5.8	19.5*	20.4	102
6 12 12M				
0109	5.7*	11.9	13.2	100
6782	5.7*	11.8	13.0	99
6864	5.9	11.1*	13.0	98
10 30 20M				
6882	9.8	30.8	20.5	101
HYDROPONIC CHEMICAL COMPANY INC				
7 6 19M				
0114	7.1	7.3	20.1	108
6856	7.3	7.4	20.5	110
INT MIN & CHEM CORP CINCINNATI				
4 12 8M				
5926	3.3*	12.2	8.1	96*
INT MIN & CHEM CORP CLARKSVILLE IND				
0 20 20M				
8746		20.0	21.0	102
4 12 8M				
6815	4.0	12.1	8.3	101
9281	4.2	11.9	8.3	102
5 10 10M				
5993	5.1	10.8	11.0	106
5 20 20M				
8744	4.8	19.1*	20.1	97*
6 12 12M				
8745	6.3	12.0	11.9	101

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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

Manufacturer Grade Sample Number	Nitrogen (Percent)	Available Phosphoric Acid (Percent)	Potash (Percent)	Percent of Relative Value Found
INT MIN & CHEM CORP GREENEVILLE				
5 10 10M				
0033	4.6*	10.5	9.6*	99
INT MIN & CHEM CORP SOMERSET				
4 12 8M				
8759	3.9	13.4	9.8	108
8760	4.0	11.4*	8.6	99
8849	4.8	19.8	20.1	99
THE KEASBAUM CORP				
6 12 6				
0122	12.1	13.6	13.6	161
KENTUCKY FERTILIZER WORKS INC				
0 20 20M				
0025		19.2*	22.0	101
4 12 8M				
0046	4.8	12.0	8.9	108
0076	3.8	11.7	9.1	100
0127	4.3	12.0	8.5	103
LAND O NAN WAREHOUSE MORGANFIELD				
4 12 12M				
8799	4.1	12.3	11.9	102
LAND O NAN WAREHOUSE STURGIS KY				
5 20 20M				
8783	4.8	20.5	18.5*	99
6 12 12M				
8790	6.6	11.1*	12.5	101
10 20 20M				
8782	10.1	20.9	19.1*	101
10 30 20M				
8789	10.3	30.3	18.5*	100
LOUISVILLE FERTILIZER COMPANY				
10 30 20M				
0111	11.4	30.5	19.0*	104

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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)	
NORTH AMERICAN FERTILIZER COMPANY				
3 12 12M				
6760	3.0	12.1	13.5	104
6848	2.7*	10.4*	17.4	103
4 12 8M				
0059	4.1	11.2*	8.5	98
8756	4.1	11.6*	8.1	99
6 8 6M				
6761	6.0	9.2	7.1	109
6 12 12M				
6847	5.8	12.2	12.2	100
OLIN MATHIESON CHEMICAL CORP				
6 24 24M				
5989	6.1	24.0	23.9	100
10 20 20M				
5990	10.0	20.4	20.2	101
13 13 13M				
5995	13.0	13.5	13.1	101
ROBERT B PETERS CO INC				
20 5 30M				
9404	20.4	5.6	30.5	103
20 20 20M				
9403	21.3	19.0*	18.0*	100
21 7 7M				
9402	20.9	6.7*	6.5*	98
PLANTAB CORP				
11 15 20M				
6892	11.4	19.7	26.1	120
PLANT MARVEL LABORATORIES				
12 31 14M				
6896	13.5	31.4	15.2	106
PRICE CHEMICAL CO INC LOUISVILLE				
03 12 12M				
6765	3.2	11.5*	14.0	104
8805	3.2	12.2	12.5	103

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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)	
PRICE CHEM CO INC CONTINUED				
4 12 8M				
0074	4.1	13.2	8.4	107
0132	4.1	13.0	8.0	105
5968	4.6	11.4*	10.4	107
6766	4.6	11.3*	10.1	106
5 20 20M				
6764	5.2	19.7	18.5*	98
6 24 24M				
0056	6.1	23.7	23.9	100
10 10 10M				
6768	9.4*	10.8	11.3	102
8806	9.3*	10.9	9.9	99
12 12 12M				
8807	11.5*	12.7	12.2	100
RAPID GRO CORPORATION				
23 21 17				
0115	23.5	20.9	16.5*	101
ROBIN JONES PHOSPHATE COMPANY				
0 16 10M				
9391		16.1	10.0	100
0 17 9M				
9398		18.1	10.1	101
0 26 10M				
9395		26.0	9.7	100
4 12 12M				
9392	4.2	12.7	12.0	104
5 15 5M				
9397	5.1	14.9	10.8	122
5 15 15M				
9396	4.9	16.5	15.0	105
6 18 6M				
9394	6.6	18.7	6.7	107
6 18 12M				
9390 See Note 5	7.7	17.0*	10.9*	103
10 10 5M				
9389	10.6	11.6	4.9	109
SWIFT & COMPANY CHICAGO ILL				
3 12 12M				
8785	3.1	12.2	11.6*	101

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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)	
SWIFT & CO CHICAGO ILL CONTINUED				
5 20 20M 8784	5.0	20.0	19.8	100
8 12 6M 0126	8.2	13.9	6.5	109
8 16 16M 6857	8.8	20.0	15.7	114
10 10 10M 8786	10.3	10.4	10.5	104
20 10 15M 6894	20.4	10.6	15.8	103
SWIFT & CO NATIONAL STOCK YARDS ILL				
4 16 16M 5992	4.1	15.9	17.0	102
6 7 8M 6899	5.8	8.9	11.5	117
10 20 10M 5991 See Note 2	8.3*	20.2	10.5	95*
12 5 7M 6855	12.7	5.8	8.8	110
TENNESSEE CHEMICAL COMPANY				
4 12 8M 7412	4.0	12.0	8.4	101
TENNESSEE CORP CINCINNATI OHIO				
10 10 10M 7475	10.5	10.8	10.0	105
TENNESSEE CORP NEW ALBANY IND				
3 12 12M 6801	3.3	12.4	13.0	106
4 12 8M 8850 9251	4.2 4.1	12.0 12.1	8.2 8.4	102 102
4 16 16M 6800	3.7*	15.8	16.7	99
5 20 20M 6799	4.8	20.9	20.1	102

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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)	
VALLEY COUNTIES OF KENTUCKY COOP				
10 30 20M				
6790 See Note 2	8.2*	28.0*	24.0	95*
6811	9.8	28.9*	20.0	97*
6831	10.7	30.4	19.4*	102
6880	10.0	30.0	21.0	101
20 52 0 DIAMONIUM PHOSPHATE				
0024	20.6	52.8		102
30 10 0 AMMONIUM PHOSPHATE NIT				
0006	29.8	10.0		99
6000	29.3*	11.3		100
VICTOR CHEMICAL WORKS				
10 52 17M				
7480	10.2	53.6	17.0	103
VIRGINIA CAROLINA CINCINNATI OHIO				
0 19 19M WITH 5 LB BORAX PER 100				
5978 See Note 1		18.5*	20.2	100
0 20 20M				
5979		20.0	19.0*	98
6772		19.6	20.2	99
3 12 12M				
6771	3.0	12.5	12.0	102
4 12 8M				
5982	4.1	12.1	8.4	102
6885	4.0	12.0	8.5	101
8755	4.1	12.5	8.0	103
5 20 20M				
5980	5.3	20.3	20.0	102
6773	5.1	20.3	19.7	101
6886	5.3	20.4	19.8	102
10 10 10M				
0130	10.0	10.4	10.4	102
6774	10.0	10.7	10.1	103
VIRGINIA CAROLINA HOPKINSVILLE KY				
0 20 20M				
9373		19.3*	20.5	99
0 20 20M WITH 3 LB BORAX PER 100				
9372 See Note 1		17.9*	16.4*	87*
4 12 8M				
0065	4.7	12.2	8.2	106
0107	5.9	16.9	11.0	142
6810	4.5	12.0	8.0	103
6812	4.9	12.4	7.8	108
6840	4.7	12.4	8.2	107
9282	4.5	12.0	8.5	105
9299	4.3	12.2	8.5	104

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, July-December, 1960

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

Manufacturer Grade Sample Number	Nitrogen (Percent)	Available Phosphoric Acid (Percent)	Potash (Percent)	Percent of Relative Value Found
VIRGINIA CAROLINA HOPKINSVILLE CONT				
5 20 0 9370 See Note 2	7.8	13.8*		93*
5 20 20M 9266 9368	5.1 5.4	19.0* 20.7	21.1 20.2	99 104
6 12 12M 6841 9371	6.1 6.0	12.0 13.3	12.0 12.2	101 105
10 10 10M 6809 6842 8792 9369	10.1 10.0 9.7 7.9*	10.1 10.4 10.0 11.9	9.8 10.0 9.7 10.0	101 101 98 93*
10 30 20M 6813 See Note 5 9300	8.4* 6.2*	26.7* 20.5*	20.9 16.0*	90* 69*
12 12 12M 9320	10.0*	14.0	12.5	98
VIRGINIA CAROLINA MEMPHIS TENN				
3 12 12M 5996	4.0	11.5*	11.9	104
10 10 10M 5997	10.1	10.5	11.1	104
VIRGINIA CAROLINA MT PLEASANT TENN				
4 12 8M 9271	4.1	12.4	7.9	102
4 12 12M 8826	3.7*	12.3	14.0	104
5 20 20M 8827 9270	5.0 5.2	19.1* 20.6	20.0 20.7	99 103
6 12 12M 9269	6.2	11.7	11.7	99
10 10 10M 5981	10.0	9.9	10.5	101
VIRGINIA CAROLINA RICHMOND VA				
6 12 12M 5998 8791	6.1 6.1	12.8 12.1	11.2* 11.9	102 101
12 12 12M 5999	12.0	12.1	12.4	101

TABLE 2. — Analyses of Inspection Samples of Liquid Mixed Fertilizers, July-December, 1960

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

Manufacturer Grade Sample Number	Nitrogen (Percent)	Available Phosphoric Acid (Percent)	Potash (Percent)	Percent of Relative Value Found
CALIFORNIA SPRAY CHEMICAL CORP				
8 12 4M LIQUID				
0113	7.8	12.7	3.5*	101
6851	7.7	12.0	4.0	98
COMMONWEALTH FERTILIZER COMPANY INC				
4 12 12M LIQUID				
8836	4.0	12.5	13.4	105
6 12 12M LIQUID				
8835	6.0	12.7	12.0	103
14 7 7M LIQUID				
8837	11.2*	9.0	7.7	98
GREEN THUMB PRODUCTS TOLEDO OHIO				
5 5 10M LIQUID				
6898	5.2	5.6	8.8*	102
LAND O NAN WAREHOUSE MORGANFIELD				
10 10 10M LIQUID				
8800	10.0	10.1	10.0	100
8801	10.0	10.3	10.0	101
W KY LIQUID FERT CO BOWLING GREEN				
4 12 8M LIQUID				
8841	4.2	12.4	8.0	103
5 20 0 LIQUID				
8845	6.3	21.2		111
6 12 12M LIQUID				
8840 See Note 3	6.1	12.5	10.9*	100
6 20 0 LIQUID				
8838	6.5	21.2		107
8846	6.5	21.0		106
7 14 7 LIQUID				
8844	8.0	14.5	7.4	108
8 24 0 LIQUID				
8842 See Note 3	8.0	22.8*		97*
11 33 0 LIQUID				
8843	10.5	33.0		98
8847	10.5	34.0		101

TABLE 2. — Analyses of Inspection Samples of Liquid Mixed Fertilizers, July-December, 1960

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

Manufacturer Grade Sample Number	Nitrogen (Percent)	Available Phosphoric Acid (Percent)	Potash (Percent)	Percent of Relative Value Found
W KY LIQUID FERT CO HOPKINSVILLE				
4 12 8M LIQUID				
9292	4.0	12.1	8.0	100
9401	4.2	11.4*	8.0	99
5 15 50M LIQUID				
9399	5.0	14.9	10.0	100
6 12 12M LIQUID				
9289	6.2	12.3	11.2*	101
8 16 8M LIQUID				
9376	8.8	16.0	8.3	104
9400	8.0	15.4*	8.4	99
11 33 0 LIQUID				
9298	10.6*	33.4		100

TABLE 3. — Analyses of Inspection Samples of Straight Materials, July-December, 1960

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

Manufacturer Grade Sample Number	Nitrogen (Percent)	Available Phosphoric Acid (Percent)	Potash (Percent)	Percent of Relative Value Found
ALLIED CHEMICAL CORP NITROGEN DIV				
AMMONIUM NITRATE				
0129	33.6			100
AMER AGRI CHEM CO LONDON KY				
AMMOMIUM NITRATE				
0042	34.1			102
SUPERPHOSPHATE				
0040		20.0		100
5951		20.4		102
5974		20.7		103
9388		20.1		100
46 TRIPLE SUPERPHOSPHATE				
0027		45.2*		98
0041		44.4*		96*
AMERICAN CYANAMID CO NEW YORK N Y				
CALCIUM CYANAMID				
5927	21.4			102
5950	21.0			100
ARMOUR AGRI CHEM CO BARTOW FLA				
45 TRIPLE SUPERPHOSPHATE				
6870		45.5		101
ARMOUR AGRI CHEM CO CINN OHIO				
SUPERPHOSPHATE				
0098		20.9		105
ARMOUR AGRI CHEM CO CRYSTAL CITY MO				
AMMONIUM NITRATE				
0101	33.8			101
0135	33.5			100
ARMOUR AGRI CHEM CO NASHVILLE				
SUPERPHOSPHATE				
6871		20.5		103
9247		20.0		100
9285		21.0		105
9379		20.3		102

TABLE 3. — Analyses of Inspection Samples of Straight Materials, July-December, 1960

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

Manufacturer Grade Sample Number	Nitrogen (Percent)	Available Phosphoric Acid (Percent)	Potash (Percent)	Percent of Relative Value Found
ASSOCIATED COOP INC				
AMMONIUM NITRATE				
0010	34.0			101
7469	34.0			102
63 CALCIUM METAPHOSPHATE				
0011		64.3		102
5956		63.5		101
BLUEGRASS PLANT FOODS INC DANVILLE				
SUPERPHOSPHATE				
8813		19.5*		98
CENTRAL FARMERS FERTILIZER CO				
46 TRIPLE SUPERPHOSPHATE				
7434		45.9		100
COMMERCIAL SOLVENTS CORP				
AMMONIUM NITRATE				
5957	33.8			101
COMMONWEALTH FERTILIZER COMPANY INC				
SUPERPHOSPHATE				
0136 See Note 6		15.8*		79*
COOPERATIVE FERTILIZER SER BRISTOL				
AMMONIUM NITRATE				
0032	33.6			100
SUPERPHOSPHATE				
0031		20.3		102
0037		20.0		100
COOPERATIVE FERT SER LOUISVILLE KY				
AMMONIUM NITRATE				
5960	33.6			100
SUPERPHOSPHATE				
5959		20.0		100
6793		19.9		100
7466		20.7		103
9241		20.2		101

TABLE 3. — Analyses of Inspection Samples of Straight Materials, July-December, 1960

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

Manufacturer Grade Sample Number	Nitrogen (Percent)	Available Phosphoric Acid (Percent)	Potash (Percent)	Percent of Relative Value Found
COOPERATIVE FERTILIZER SERVICE CONT				
62 CALCIUM METAPHOSPHATE				
8767		64.4		102
MURIATE OF POTASH				
5935			60.0	100
COOPERATIVE FERT SER RUSSELLVILLE				
SUPERPHOSPHATE				
0133		20.8		104
0139		20.0		100
MURIATE OF POTASH				
0134			60.0	100
COOPERATIVE FERT SER WINCHESTER				
SUPERPHOSPHATE				
0086		20.8		104
5930		18.6*		93*
MURIATE OF POTASH				
0043			60.0	100
0055			61.0	102
7407			61.5	103
7468			60.8	101
DARLING & COMPANY CAIRO ILL				
MURIATE OF POTASH				
0008			60.0	100
0013			60.0	100
6874			60.0	100
DAVISON CHEMICAL COMPANY NEW ALBANY				
SUPERPHOSPHATE				
5932		20.5		103
6850		20.0		100
8772		20.0		100
FEDERAL CHEMICAL CO LOUISVILLE				
SUPERPHOSPHATE				
0063		20.2		101
47 TRIPLE SUPERPHOSPHATE				
0123		45.8*		97*
50 SULFATE OF POTASH				
7444			50.5	101
MURIATE OF POTASH				
7443			60.0	100

TABLE 3. — Analyses of Inspection Samples of Straight Materials, July-December, 1960

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

Manufacturer Grade Sample Number	Nitrogen (Percent)	Available Phosphoric Acid (Percent)	Potash (Percent)	Percent of Relative Value Found
HUTSON CHEMICAL COMPANY				
47 TRIPLE SUPERPHOSPHATE 6781		46.3*		99
52 TRIPLE SUPERPHOSPHATE 6881 See Note 3		44.3*		85*
INT MIN & CHEM CORP CLARKSVILLE				
SUPERPHOSPHATE 8747		21.1		105
INT MIN & CHEM CORP GREENEVILLE				
MURIATE OF POTASH 0034			60.0	100
INT MIN & CHEM CORP SKOKIE ILL				
50 SULFATE OF POTASH 5977			51.0	102
MURIATE OF POTASH 5976			60.2	100
LOUISVILLE FERTILIZER COMPANY				
MURIATE OF POTASH 5994			60.0	100
MISSISSIPPI CHEMICAL CORP				
AMMONIUM NITRATE 5966	33.7			101
ROBIN JONES PHOSPHATE COMPANY				
SUPERPHOSPHATE 9393		20.0		100
SPENCER CHEMICAL COMPANY				
AMMONIUM NITRATE 0106 5967	33.6 33.6			100 100
TENNESSEE CHEMICAL COMPANY				
SUPERPHOSPHATE 7413		20.3		102

TABLE 3. — Analyses of Inspection Samples of Straight Materials, July-December, 1960

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

Manufacturer Grade Sample Number	Nitrogen (Percent)	Available Phosphoric Acid (Percent)	Potash (Percent)	Percent of Relative Value Found
TENNESSEE CORP NEW ALBANY IND				
SUPERPHOSPHATE				
6798		20.2		101
VALLEY COUNTIES KY COOP INC				
AMMONIUM NITRATE				
0002	34.0			101
62 CALCIUM METAPHOSPHATE				
0005		63.6		103
6858		62.0		100
63 CALCIUM METAPHOSPHATE				
0001		64.4		102
0009		63.4		101
MURIATE OF POTASH				
0007			60.0	100
0023			60.0	100
6859			60.0	100
8780			61.0	102

TABLE 4. - Analyses of Inspection Samples of Rock Phosphate, Basic Slag, Fused Tricalcium phosphate, July-December, 1960

(Analyses deficient more than tolerance shown on page and relative values of 97 percent or less indicated by asterisk.)

Sample Number	Manufacturer, Brand Name	Phosphoric Acid Available Found	Phosphoric Acid Total Guar.	Phosphoric Acid Total Found	Percent of Relative Value Found
		(Percent)	(Percent)		
	Ruhm Phosphate & Chem. Co.				
5954	Rock Phosphate	--	30	29.8	99
7418	Schrock Fertilizer Service				
	Rock Phosphate	4.2	33	32.7	99
	Thompson Phosphate Dept. Div. Int. Min. & Chem. Corp.				
000099	Rock Phosphate	4.5	30	30.5	102

TABLE 5. - Analyses of Inspection Samples on Bone Meal, Dried Manures, etc., July-December 1960

(Analyses deficient more than tolerance shown on page and relative values of 97 percent or less indicated by asterisk.)

Sample Number	Manufacturer, Brand Name	Nitrogen	Total Phosphoric Acid	Potash	Percent of Relative Value Found
		(Percent)	(Percent)	(Percent)	
	Goulard & Olena, Inc.				
0090	2.4-20-0 Bone Meal	2.6	26.2	--	123
	A. H. Hoffman, Inc.				
0125	3.7-18.5-0 Bone Meal	6.6	18.3	--	137
	Sewerage Commission of Milwaukee				
6778	5.5-4-0 Milorganite	5.2	4.4	--	97*

TABLE 6 - Results of analyses of boron in fertilizers reported in Table 1

COMPANY	Sample Number	Guaranteed %	Found %
Armour Agricultural Chem. Co. Nashville, Tennessee	9243	0.57	0.34
	9263	0.57	0.58
Bluegrass Plant Foods Danville, Kentucky	8778	0.57	0.61
	8812	0.57	0.57
Cooperative Fertilizer Service Louisville, Kentucky	9254	0.45	0.43
Cooperative Fertilizer Service Winchester, Kentucky	7406	0.45	0.55
	7476	0.45	0.46
Davison Chem. Div. W. R. Grace & Co. Nashville, Tennessee	8819	0.57	0.52
Davison Chem. Div. W. R. Grace & Co. New Albany, Indiana	0071	0.49	0.64
Federal Chemical Company Louisville, Kentucky	7442	0.57	0.43
Federal Chemical Company Nashville, Tennessee	7432	0.56	0.57
	8834	0.56	0.76
Virginia-Carolina Chemical Corp. Cincinnati, Ohio	5978	0.57	0.48
Virginia-Carolina Chemical Corp. Hopkinsville, Kentucky	9372	0.34	0.22

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