

Regulatory Bulletin 181

Commercial Fertilizers in Kentucky, 1963

Including a Report on Official Fertilizer
Samples Analyzed

July-December, 1963



University of Kentucky
Agricultural Experiment Station
Lexington

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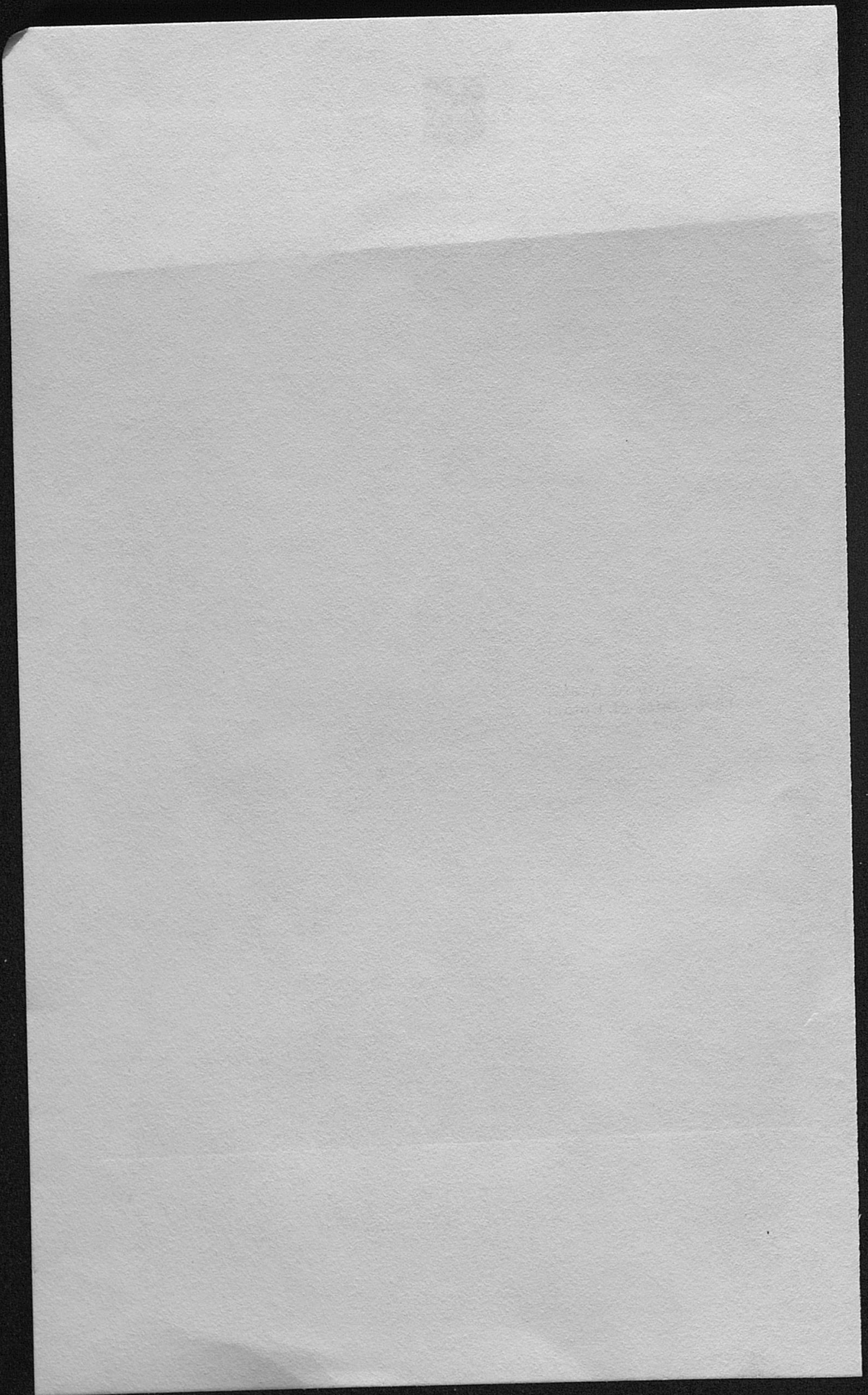
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This report compiled and prepared by Bruce Poundstone and W. J. Huffman
Analytical data by the Laboratory Staff



This bulletin contains results of analyses of 668 official samples of commercial fertilizers made during the period July 1 through December 31, 1963.

Separate tables are provided for the results of analyses of mixed dry fertilizers, mixed liquid fertilizers, straight materials, boron and pesticides.

EXPLANATION OF TABLES

The information given in the following tables should be useful in determining how nearly a manufacturer is meeting the chemical guarantee printed on the bag or tag for the fertilizer represented by the samples listed. 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 = <u>15.0</u>
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 = <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 overrun in another nutrient. They 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, and 4. 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 1963 was about 646,000 tons estimated from invoices. This represents an increase of about 14,000 tons over 1962. There was an increase of about 13,000 tons in total mixed fertilizer sold and an increase of about 1,000 tons of fertilizer materials.

SUGGESTED RATIOS AND MINIMUM GRADES OF FERTILIZER
FOR KENTUCKY 1964

The following ratios along with the minimum grade of fertilizer in each ratio is suggested for use in Kentucky during the Calendar year 1964.

<u>Ratio</u>	<u>Minimum Grade</u>
0-1-1	0-20-20
0-1-2	0-10-20*
0-1-3	0-10-30*
1-1-1	10-10-10
1-1-3	6- 6-18
1-2-2	5-10-10
1-2-3	5-10-15
1-3-2	4-12- 8
1-4-1	4-16- 4**
1-4-4	5-20-20*
2-1-1	12- 6- 6

*When used on clover for seed production or on alfalfa, grades within these ratios should have boron added.

**This is a special fertilizer for burned tobacco plant beds. Only one grade in the ratio is suggested. The grade 4-12-8 may also be used on plant beds.

Grades higher than the minimum grades in all ratios except the 1-4-1 ratio are considered to be on the suggested list.

In addition to this list of mixed fertilizers, straight materials are suggested. These should be used when only one of the major plant nutrients is required or if there is no mixed fertilizer that will approximately meet the nutrient requirements. However, when the nutrient requirements can be met by using a mixed fertilizer, the recommendations should be kept within one of the suggested ratios. The decision as to whether mixed fertilizers or straight materials are used is often a matter of economics and should be left with the farmer.

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. See Table 6 for results of analyses of pesticides in fertilizer.
- Note 3. Fertilizer represented by this sample returned to plant.
- Note 4. Purchaser received refund based upon this analysis.
- Note 5. Reworked.
- Note 6. Refund based upon this analysis made to charity.

COMPANIES REPRESENTED BY SAMPLES REPORTED IN THIS BULLETIN

American Agricultural Chemical Co. 100 Church Street New York, New York	Darling & Company 4201 S. Ashland Avenue Chicago, Illinois
American Cyanamid Company Agricultural Division P. O. Box 400 Princeton, New Jersey	E-town Fertilizer Company Cecilia Kentucky
Armour Agricultural Chemical Co. 350 Hurt Building Atlanta, Georgia	Farmers Chemical Association P. O. Box 67 Tyner, Tennessee
Ashcraft-Wilkinson Company 601 Trust Company of Georgia Atlanta, Georgia	Federal Chemical Company 646 Starks Building Louisville, Kentucky
Bartlett & O'Bryan Fertilizer Co. 108 River Road Owensboro, Kentucky	Glasgow Fertilizer Company Glasgow Kentucky
Bluegrass Plant Foods, Inc. Cynthiana Kentucky	W. R. Grace & Company Davison Chemical Division 101 N. Charles Street Baltimore, Maryland
Bunton Seed Company 300 E. Jefferson Street Louisville, Kentucky	Green Valley Supply Company Island Kentucky
Burley Belt Plant Food Works, Inc. Route 4 Lexington, Kentucky	Gro-Green Chemical Company Shelbyville Kentucky
California Chemical Company Lucas & Ortho Way Richmond, California	Hutson Chemical Company Railroad Avenue Murray, Kentucky
Cecil Farm Supply Company Star Route Owensboro, Kentucky	International Minerals & Chemical Corp.. P. O. Box 15067, Lockland Station Cincinnati 15, Ohio
Central Farmers Fertilizer Co. 205 W. Wacker Drive Chicago, Illinois	Kenco Fertilizer Company, Inc. Bowling Green Kentucky
Coastal Chemical Company Yazoo City Mississippi	Kentucky Fertilizer Works Winchester Kentucky
Commonwealth Fertilizer Co., Inc. Morgantown Road Russellville, Kentucky	Land-O-Nan Warehouse Sturgis Kentucky
Cooperative Fertilizer Service, Inc. Southern States Building Richmond, Virginia	North American Fertilizer Company 1419 South Preston Street Louisville, Kentucky

(CONTINUED)

Companies Represented by Samples Reported in This Bulletin (Continued)

Northwest Nitro-Chemical Ltd.
Medicine Hat
Alberta, Canada

Ohio Valley Fertilizer, Inc.
Maysville
Kentucky

Olin Mathieson Chemical Corp.
Little Rock
Arkansas

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

F. S. Royster Guano Company
Price Chemical Division
Norfolk, Virginia

O. M. Scott & Sons Company
Marysville
Ohio

Swift & Company
Agricultural Chemical Division
National Stock Yards, Illinois

Tennessee Corporation
Lockland Station
Cincinnati 15, Ohio

Tri-State Chemical Company
Henderson
Kentucky

U. S. Steel Corporation
525 William Penn Place
Pittsburgh, Pennsylvania

Valley Counties of Kentucky Cooperative
Benton
Kentucky

Virginia-Carolina Chemical Corporation
401 East Main Street
Richmond, Virginia

West Kentucky Liquid Fertilizer Corp.
Hopkinsville
Kentucky

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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 CHEMICAL CO CINCINNATI	(Percent)	(Percent)	(Percent)	
4 12 8M 828	4.1	12.0	8.1	101
903	4.2	12.8	8.5	106
922	4.0	12.4	8.0	102
5 20 20M 4615	5.0	20.8	19.0*	101
6 12 12M 793	5.8	12.2	11.8	99
AMERICAN AGRI CHEMICAL CO KNOXVILLE				
19 38M 1930		17.7*	37.6	96*
AMERICAN AGRI CHEMICAL CO LONDON				
19 38M 1883		19.2	38.2	101
20 20M 884		20.0	20.1	100
30 30M WITH 5 LBS BORAX 3711 SEE NOTE 1		29.9	29.5	99
4 12 8M 885	4.4	12.1	8.3	104
917	4.0	12.0	8.4	101
961	4.3	12.0	8.4	103
4 16 8M 4648	4.7	15.9	8.3	104
5 20 20M 899	5.2	20.0	19.8	101
12 12 12M 4649	11.9	13.4	12.4	104

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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 CHEMICAL CO NASHVILLE	(Percent)	(Percent)	(Percent)	
9 27M WITH 4 LBS BORAX & 0020 HEPT				
5041 SEE NOTE 1 & 2		9.2	27.0	101
5053 SEE NOTE 1 & 2		9.4	27.5	103
25 25M				
829 SEE NOTE 3		21.7*	26.7	93*
944		25.0	25.5	101
25 25M WITH 5 LBS BORAX				
1961 SEE NOTE 1 & 4		20.7*	21.8*	84*
6 12 12M				
830	5.8	12.3	12.0	100
945	5.8	12.2	12.0	100
1890	6.0	12.4	12.6	103
1907	5.9	12.4	12.0	101
5054	5.4*	12.3	12.2	98
10 10 10M				
901	9.7	11.2	10.3	103
1935	9.5*	10.2	10.5	99
5042	8.8*	10.6	10.6	97*
AMERICAN AGRI CHEMICAL CO SEYMOUR				
6 24 12M				
794	6.1	23.7	12.5	100
ARMOUR AGRI CHEMICAL CO ATLANTA				
5 5 0				
958	4.5*	5.8		100
10 6 4M				
755	9.4*	6.7	4.2	100
959	10.0	6.9	4.6	105
10 10 10M				
960	10.0	10.4	10.4	102
12 24 24M				
3704	11.8	23.0*	25.7	99

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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 CHEMICAL CO ATLANTA CONTINUED				
	(Percent)	(Percent)	(Percent)	
13 13 13M 4693	13.5	16.4	13.2	111
15 15 15M 1903	14.6*	15.3	15.4	100
ARMOUR AGRI CHEMICAL CO CINCINNATI				
4 12 8M 916 926	4.3 4.4	13.2 12.9	8.2 9.0	108 109
5 10 10M 886 972	5.0 5.0	11.1 10.2	10.0 10.2	105 101
5 20 20M 874 4623 4650	5.4 5.0 5.1	20.0 20.0 19.9	20.0 20.2 19.2*	102 100 99
10 10 10M 875 4622	10.3 9.5*	11.1 10.8	10.0 9.8	105 100
10 20 20M 887	9.9	18.8*	20.0	97*
ARMOUR AGRI CHEMICAL CO JEFFERSONVILLE				
20 20M 1879		19.7	19.9	99
20 20M WITH 5 LBS BORAX 841 SEE NOTE 1		19.1*	20.1	97*
4 12 8M 741 798 836 5078 5085	4.8 4.3 4.3 4.6 4.8	11.8 13.5 12.0 12.5 12.0	11.6 8.1 9.2 8.1 7.8	113 109 105 107 105

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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 AGRICULTURAL CHEMICAL CO JEFFERSONVILLE CON				
	(Percent)	(Percent)	(Percent)	
5 20 20M				
799	5.2	20.5	19.7	102
837	4.8	20.5	19.5*	100
1875	5.3	19.8	20.1	101
1959	5.0	19.5*	20.0	99
5087	6.7	22.5	18.7*	112
5 20 20M WITH 5 LBS BORAX 3658 SEE NOTE 1	4.9	20.0	19.4*	99
6 12 12M				
742	6.4	12.5	12.7	105
800	6.4	13.0	13.5	109
1877	6.2	12.7	12.5	105
1878	5.5*	12.7	13.2	102
6 18 12M				
801	5.7*	18.0	12.5	99
10 10 10M				
838	9.7	10.2	11.6	102
1845	9.2*	10.3	13.8	103
1874	9.6*	10.1	11.2	100
3657	10.0	10.8	11.0	104
ARMOUR AGRICULTURAL CHEMICAL CO NASHVILLE				
20 20M				
1849		20.4	17.0*	96*
3 12 6M				
4694	3.0	12.9	6.1	105
3 12 24M				
4641	3.0	11.5*	24.5	99
3 12 24M WITH 3 LBS BORAX 3722 SEE NOTE 1	2.9	12.0	23.2*	98
4 12 8M				
1966	4.3	12.2	9.0	105
3686	4.1	12.2	8.7	103
3687	3.8	11.6*	9.8	101
4670	4.6	12.1	8.3	105
5058	4.2	11.4*	8.7	100
5125	4.3	12.0	8.1	102

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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 AGRICHEMICAL CO NASHVILLE CONTINUE (Percent) (Percent) (Percent)				
5 10 10M				
4640	5.0	10.0	10.4	101
5095	5.3	10.0	10.0	102
5 20 20M				
1918 SEE NOTE 3	5.0	17.0*	19.8	92*
3665	4.7*	18.9*	20.4	96*
3685	4.8	18.0*	19.8	94*
3740	4.6*	18.7*	20.6	96*
4639	4.6*	20.0	18.3*	96*
4642	4.7*	19.9	19.8	98
4671	5.1	21.3	17.0*	100
5039	4.7*	17.6*	23.5	97*
5124	5.0	18.3*	21.2	97*
5 20 20M WITH 5 LBS BORAX				
3667 SEE NOTE 1	4.5*	18.8*	21.5	97*
6 12 12M				
859	5.8	12.1	11.9	99
860	6.4	12.1	11.8	102
1905	5.9	12.2	12.7	101
4674	6.7	12.2	11.7	104
5059	6.0	12.1	11.5*	99
5127	5.9	12.4	11.6*	100
6 18 12M				
1851 SEE NOTE 3	5.3*	16.9*	11.9	93*
1870	5.5*	17.2*	12.2	96*
1896	5.8	19.0	11.0*	101
1917	6.0	18.0	11.5*	99
10 10 10M				
1850	9.4*	10.1	10.0	97*
1869	9.8	10.0	10.1	99
1895	9.5*	10.2	10.5	99
1962	10.1	10.2	10.2	102
1967	10.1	10.2	10.2	102
3684	10.0	10.0	10.9	102
3705	9.2*	9.9	12.0	99
4638	8.0*	10.1	12.1	94*
4643	10.3	10.0	10.4	102
5040	9.4*	10.3	11.5	101
5126	9.9	10.6	10.3	102
10 20 20M				
4672	9.9	18.6*	20.0	97*
4673	10.1	18.6*	20.2	97*
11 22 22M				
4688	11.5	23.5	24.0	107
12 12 12M				
1894	11.6*	12.6	12.1	100

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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 CHEMICAL CO NASHVILLE CONTINUE (Percent) (Percent) (Percent)				
13 13 13M 3681	12.5*	16.0	13.0	106
15 15 15M 4687	13.9*	14.4*	15.8	96*
18 46 0 5094	17.7	46.1		100
BARTLETT AND OBRYAN FERTILIZER CO				
4 12 12M 4653	4.2	12.0	11.5*	100
5 20 20M 4675	5.5	19.7	21.7	103
6 12 12M 4652 4682	6.5 6.0	12.8 12.5	12.3 11.9	106 102
12 12 12M 4651	11.4*	12.8	13.3	102
BLUEGRASS PLANT FOODS INC CYNTHIANA				
10 10 10M 1886	9.4*	10.9	10.6	101
BLUEGRASS PLANT FOODS INC DANVILLE				
5 20 20M 5037	5.1	20.5	21.7	104
5 20 20M WITH 5 LBS BORAX 5020 SEE NOTE 1	5.0	18.3*	20.2	96*
10 10 10M 5038 5084	10.1 10.4	10.2 10.2	10.7 11.5	102 105
12 12 12M 5019	11.7	14.1	12.0	105

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963
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)	
BUNTON SEED COMPANY				
6 12 6M 1843	6.1	12.6	8.1	108
BURLEY BELT PLANT FOOD WORKS INC				
19 38M 1985		21.0	33.2*	99
4 12 8M 965 4647	4.1 4.4	11.9 12.3	8.6 9.3	102 107
5 20 20M 966	4.8	20.7	18.4*	99
12 12 12M 904	11.3*	12.0	12.7	98
20 10 10M 4646	20.1	11.1	10.4	103
CALIFORNIA CHEMICAL COMPANY				
10 20 20M 1938	10.2	20.4	20.0	102
14 14 14M 5024 5026	14.3 14.0	14.1 14.8	14.5 14.2	102 102
16 16 16M 5108	15.9	16.2	16.0	100
CECIL FARM SUPPLY CO				
4 12 8M 4654	4.1	12.9	8.5	106
5 20 20M 4656	5.8	20.8	20.0	105

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963
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
CECIL FARM SUPPLY CO CONTINUED				
	(Percent)	(Percent)	(Percent)	
6 12 12M 4692	6.5	13.0	12.0	106
10 10 10M 4657	11.3	10.0	10.6	108
12 12 12M 4655	12.8	13.1	10.3*	104
COASTAL CHEMICAL CORPORATION				
16 48 0 832	16.5	48.0		101
COMMONWEALTH FERTILIZER CO CAMPBELLSVILLE				
25 25M 5083		25.7	25.2	102
6 18 12M 5082	6.7	18.8	12.1	106
COMMONWEALTH FERTILIZER CO RUSSELLVILLE				
20 20M 817		20.0	19.0*	98
4 12 8M 818	4.4	13.1	9.1	110
5 20 20M 5032	5.3	19.9	18.9*	99
6 12 12M 5033	5.8	13.0	11.1*	101
5060	6.2	12.5	11.0*	101
6 18 12M 5061	6.1	18.0	13.7	103
8 16 16M 5062	7.1*	16.5	14.4*	95*

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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
COMMONWEALTH FERT CO RUSSELLVILLE CONTINUE				
10 10 10M 819	9.1*	10.2	12.0	100
COOPERATIVE FERTILIZER SERV BALTIMORE				
12 12 12M 969	11.9	12.4	13.3	103
COOPERATIVE FERTILIZER SERV BRISTOL				
5 10 10M 772	5.1	10.4	10.0	102
10 10 10M 773	10.0	10.0	10.1	100
10 20 20M 774	10.0	20.4	20.0	101
COOPERATIVE FERTILIZER SERV LOUISVILLE				
10 30M WITH 4 LBS BORAX 815 SEE NOTE 1		11.1	25.8*	96*
30 30M 820		29.4*	29.6	98
937		30.0	30.0	100
1839		30.6	30.2	102
3 12 12M 821	3.4	12.2	11.9	103
1923	3.8	12.1	12.3	106
3668	3.3	12.5	12.6	106
5036	3.2	12.4	12.5	104
5088	3.9	12.2	12.0	107
4 12 8M 833	4.1	12.4	8.5	104
938	4.0	12.6	9.0	105
3714	4.1	12.4	8.6	104
5 20 20M 834	5.0	20.0	19.9	100
1838	5.1	19.4*	20.0	99
1873	5.1	19.9	20.0	100
1924	5.6	19.7	20.3	102
1928	5.0	20.8	20.0	102

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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 CONT				
5 20 20M CONTINUED				
1953	5.2	20.2	20.3	102
3669	4.9	19.1*	21.1	99
5016	5.0	19.4*	20.5	99
5089	5.6	19.9	20.0	102
5 20 20M WITH 2 LBS BORAX				
1842 SEE NOTE 1	5.2	19.5*	19.5*	99
3660 SEE NOTE 1	5.3	20.5	20.1	103
4617 SEE NOTE 1	4.9	20.2	20.0	100
6 12 12M				
939	6.0	12.8	11.6*	102
10 10 10M				
835	10.6	10.9	10.0	106
1844	10.7	10.3	9.8	104
1926	10.9	10.8	10.0	107
1929	9.9	10.9	10.0	103
1952	10.1	10.1	10.3	101
1981	10.1	10.5	10.5	103
3713	10.1	10.9	10.0	104
COOPERATIVE FERTILIZER SERV RUSSELLVILLE				
30 30M				
803		29.5	30.0	99
4634 SEE NOTE 3		23.7*	36.4	93*
4 12 8M				
746	4.2	12.0	8.4	102
804	4.1	12.2	8.1	102
823	4.3	12.0	8.9	104
1857	4.2	12.3	8.0	103
1867	4.0	11.5*	9.9	102
1971	4.3	12.0	8.6	103
3662	4.4	12.0	8.4	104
3696	4.0	12.2	8.1	101
4636	3.8	12.1	7.5*	98
5035	4.3	12.8	8.9	108
5070	4.1	11.4*	9.0	100
5074	4.4	11.9	7.7*	102
5 20 20M				
756	5.0	20.0	21.8	102
805	4.9	19.9	20.4	100
824	5.4	20.4	19.5*	102
941	5.1	20.8	19.6	102
946	4.7*	19.2*	20.9	98
1927	5.0	19.9	20.0	100
1978	5.2	19.6	20.1	100
3659	4.9	19.8	20.0	99
3663	5.2	21.0	19.8	103
3697	5.3	20.3	21.2	104

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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 RUSSELLVILLE CONT				
5 20 20M CONTINUED				
3745	4.9	19.3*	20.3	98
4635	5.0	20.0	20.7	101
4678	5.7	20.0	20.4	103
5034	5.1	20.4	20.0	101
5073	5.5	20.1	19.9	102
5102	5.0	20.2	19.6	100
6 12 12M				
757	5.9	12.0	12.5	100
806	6.3	12.5	13.1	106
1910	6.0	12.3	11.4*	100
1964	6.2	12.0	13.6	104
1977	6.1	11.5*	14.0	102
3661	6.2	12.0	12.2	101
3694	6.2	12.9	12.2	105
6 18 12M				
807	6.2	18.0	12.0	101
825	6.2	18.0	12.0	101
1868	6.0	17.7	12.7	100
1965	6.0	18.0	13.2	102
3693	5.9	18.2	11.7	100
10 10 10M				
781	10.8	10.0	11.1	106
808	9.6*	10.1	11.4	101
826	10.5	10.2	9.5*	102
879	10.5	10.0	10.9	104
908	10.8	9.4*	11.0	104
957	10.0	10.1	10.9	102
1856	10.1	10.0	10.9	102
1866	10.3	10.0	10.2	102
1871	10.3	10.0	8.8*	100
1963	10.6	9.8	10.7	104
1972	10.3	10.0	11.1	103
1979	10.3	10.2	10.2	103
4631	10.0	10.4	10.1	102
4637	10.6	10.1	10.0	103
4677	11.7	10.0	10.7	110
5075	10.3	10.0	10.0	102
10 20 20M				
782	9.6*	19.2*	19.7	97*
912	9.5*	19.2*	19.9	96*
3695	9.6*	21.0	19.8	101
12 12 12M				
758	11.6*	12.1	12.1	99
780	11.8	12.1	11.6*	99
809	11.6*	12.2	12.2	99
889	12.7	11.8	13.0	104
942	11.6*	12.9	12.6	102
1925	12.6	12.1	11.7	102
3712	12.1	12.2	11.6*	100
4630	11.6*	12.1	12.0	99

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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 FERTILIZER SERV WINCHESTER				
10 30M WITH 4 LBS BORAX 880 SEE NOTE 1		10.2	30.0	101
30 30M				
881		32.7	30.0	106
906		30.1	32.0	102
913		32.8	28.6*	105
954		32.5	30.5	106
964		32.8	29.9	106
461B		32.4	29.0*	104
4 12 8M				
783	4.2	11.7	10.2	105
888	4.5	11.9	9.4	106
907	4.1	11.0*	9.0	98
909	3.7*	12.7	8.5	102
914	4.0	11.9	9.6	103
927	3.7*	12.1	8.9	100
929	3.8	12.2	9.4	103
970	3.7*	11.9	9.6	101
971	3.8	12.0	9.8	103
4679	4.0	12.0	9.4	103
4681	3.7*	12.0	8.8	100
5 10 10M				
910	4.8	10.2	11.3	102
5 20 20M				
784	4.8	20.3	19.4*	99
882	5.3	20.0	20.1	101
921	5.1	19.8	20.0	100
924	5.0	18.9*	20.1	97*
934	5.2	18.9*	20.1	98
955	5.0	19.6	20.5	100
3709	4.9	19.1*	20.0	97*
4616	5.0	20.0	20.5	101
4680	5.0	17.9*	21.8	97*
6 6 18S				
1884	5.6*	6.1	18.0	98
6 12 12M				
911	6.1	12.2	12.6	102
12 12 12M				
4659	11.9	11.6*	13.2	100

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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)	
DARLING & CO CAIRO				
5 20 20M				
764	5.1	20.0	20.0	100
1901	5.1	19.9	20.1	100
6 12 12M				
1836	6.5	12.6	12.7	106
1887	6.2	13.6	14.0	111
1900	6.1	12.4	13.5	105
E TOWN FERTILIZER COMPANY				
3 12 12M				
5119	3.6	13.3	12.5	111
4 12 8M				
5118	4.2	13.5	9.0	110
5 20 20M				
5117	5.2	20.3	20.0	102
5120	5.3	20.4	20.1	102
6 12 12M				
5115	6.5	14.3	12.5	112
10 10 10M				
5116	10.2	10.9	10.1	104
FEDERAL CHEMICAL COMPANY HUMBOLDT				
4 12 8M				
857	4.8	12.1	9.3	109
1889	5.5	13.6	8.6	119
1906	4.7	13.3	9.0	113
5 20 20M				
761	5.2	19.4*	19.3*	98
1897 SEE NOTE 6	4.6*	17.3*	20.4	92*
6 12 12M				
769	5.9	12.4	12.1	101
858	5.8	12.1	12.0	99
1898	6.4	12.2	11.5*	102
1908	6.1	11.7	12.0	99

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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
FEDERAL CHEMICAL COMPANY HUMBOLDT CONT				
	(Percent)	(Percent)	(Percent)	
10 10 10M				
762	11.3	10.0	9.8	106
1888	10.8	10.8	10.0	107
12 12 12M				
1899	12.4	13.0	12.6	105
FEDERAL CHEMICAL CO LOUISVILLE				
10 30M WITH 5 LBS BORAX 890 SEE NOTE 1		9.7	30.0	99
3 12 12M				
1840	3.8	12.5	11.6*	107
1955	3.9	12.3	12.5	108
4 12 8M				
891	4.8	12.2	9.6	110
902	4.4	11.5*	11.0	107
943	4.0	12.0	8.0	100
948	4.2	12.6	9.2	107
4621	4.0	11.4*	8.1	98
5017	4.1	12.3	9.0	104
5081	4.8	12.1	9.5	109
5 20 20M				
892	5.3	19.8	20.0	101
933	4.4*	20.0	21.6	100
1956	5.4	18.7*	20.6	99
4645	5.0	19.4*	20.7	99
10 10 10M				
1939	10.1	10.5	10.1	102
4644	9.8	10.5	10.2	101
4664	11.2	10.2	10.8	108
12 12 12M				
1954	11.1*	12.4	13.4	99
18 46 0				
893	18.8	46.0		102
FEDERAL CHEMICAL CO NASHVILLE				
9 27M WITH 5 LBS BORAX & 0020 HEPT 3716 SEE NOTE 1 & 2 3717 SEE NOTE 1 & 2		9.6 9.1	26.8 27.2	102 101

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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 NASHVILLE CONTINUED				
20 20M 4625		19.8	20.4	100
3 12 12M 4684	3.5	13.3	10.0*	105
4 12 8M 1921	4.6	12.2	8.8	107
3674	4.7	11.9	9.2	107
5048	4.2	12.2	8.1	103
5 20 20M 1846 SEE NOTE 3	4.4*	18.4*	18.6*	91*
1920	4.8	19.3*	20.2	98
3671	4.8	18.3*	20.5	95*
3739	4.5*	20.7	19.1*	99
4624	4.6*	19.7	20.9	99
4685	4.6*	18.2*	21.8	96*
5029	5.3	21.4	20.5	106
5030 SEE NOTE 4	4.2*	19.3*	19.6	94*
5051	5.0	19.3*	21.9	101
5091	4.6*	19.2*	21.6	98
5096	4.5*	20.3	18.8*	97*
5109	4.8	19.7	20.0	98
6 12 12M 1848 SEE NOTE 4	4.5*	12.1	12.5	93*
1919	5.7*	12.4	12.1	100
3673	5.6*	13.3	12.7	104
5050	5.8	12.1	11.3*	98
6 18 12M 3670	5.3*	18.3	12.1	98
3677	5.2*	17.3*	12.5	95*
4683	5.2*	17.7*	12.9	97*
5092	6.0	17.4*	12.7	99
6 24 12M 5047	5.5*	23.2*	12.0	96*
6 24 24M 5028	6.1	22.8*	23.1*	97*
10 10 10M 1847	8.6*	10.0	10.9	95*
1858 SEE NOTE 3	8.1*	10.0	11.0	92*
1922	9.0*	10.2	11.2	98
1974	9.3*	10.2	10.8	99
3675	9.4*	10.1	10.6	98
5031	8.8*	10.2	10.2	95*
5097	9.9	10.2	10.1	100
5130	9.0*	9.8	10.6	95*

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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
FEDERAL CHEMICAL CO NASHVILLE CONTINUED				
	(Percent)	(Percent)	(Percent)	
12 12 12M				
3672	11.0*	12.8	12.4	99
4626	11.0*	12.2	13.2	98
4686	11.2*	12.3	12.4	98
5049	12.6	13.1	13.0	107
GLASGOW FERTILIZER COMPANY				
10 30M				
3741		9.7	32.5	104
4 12 8M				
3742	3.9	12.3	9.0	103
5 20 20M				
3744	4.8	21.0	20.0	102
10 10 10M				
3743	10.1	11.0	10.2	104
W R GRACE & CO DAVISON CHEM DIV NASHVILLE				
4 12 8M				
1863	4.2	11.8	8.6	102
4665	4.5	11.2*	8.2	100
5018	4.0	11.3*	8.1	97*
5046	3.6*	11.9	8.1	97*
5 20 20M				
1861	5.0	20.7	20.1	102
1975	5.0	17.4*	22.1	96*
4629	5.1	19.5*	20.0	99
5043	4.9	20.2	20.2	100
5110	4.8	18.6*	20.9	97*
6 12 12M				
843	5.9	12.2	12.6	101
1853	5.7*	12.0	12.5	99
1859	6.0	11.5*	12.2	99
1865	5.3*	12.1	11.8	96*
1902	6.0	12.5	12.1	102
1976	5.5*	12.2	12.4	99
5045	5.8	12.1	12.2	100
5112	5.6*	12.4	13.5	102
6 18 12M				
1862	6.3	15.9*	12.2	95*
1864	6.3	16.8*	12.1	98

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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
DAVISON CHEMICAL DIVISION NASHVILLE CONT				
	(Percent)	(Percent)	(Percent)	
10 10 10M				
844	9.5*	10.6	10.2	100
864	9.5*	10.7	10.5	101
1860	9.3*	10.0	10.9	98
4666	10.4	10.2	10.2	103
5044	8.8*	10.7	10.5	97*
5111	9.1*	10.6	10.6	99
10 20 20M				
1852	9.6*	20.0	17.4*	96*
W R GRACE & CO DAVISON CHEM DIV NEW ALBANY				
4 12 8M				
743	4.4	12.0	9.4	106
747	4.4	12.2	9.0	106
795	4.7	12.8	9.9	113
951	4.6	12.9	9.2	111
953	4.0	17.3	8.2	125
1933	4.4	13.5	9.0	112
5 20 20M				
796	5.1	20.3	20.7	102
1932	5.4	20.4	19.7	102
6 18 12M				
748	5.6*	16.9*	13.5	97*
797	6.2	18.8	12.7	104
952	6.7	17.6*	13.3	104
10 10 10M				
744	9.9	10.8	10.3	103
749	9.7	10.5	10.4	101
802	9.9	10.5	10.4	102
1934	9.5*	10.4	10.7	100
1960	9.1*	10.8	11.2	100
GREEN VALLEY FARM SUPPLY INC				
20 20M				
4669		21.6	23.1	111
5 20 20M				
4668	5.6	20.5	20.2	104
10 10 10M				
4667	10.7	9.8	10.1	103

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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)	
GRO GREEN CHEMICAL COMPANY				
10 10 10M 1872 SEE NOTE 5	8.0*	10.3	9.3*	90*
HUTSON CHEMICAL COMPANY				
4 12 8M 1913	4.5	11.4*	9.3	104
5 20 20M 1914	4.7*	18.0*	22.0	96*
6 12 12M 1912	6.1	11.6*	12.2	99
10 20 20M 1837	8.9*	19.4*	21.6	97*
INTERNATIONAL MIN & CHEM CORP CINCINNATI				
4 12 8M 928	4.0	13.0	9.0	107
INTERNATIONAL MIN & CHEM CORP CLARKSVILLE				
20 20M 854		19.1*	21.5	100
4 12 8M 5056	4.2	12.8	8.6	106
5 20 20M 4632 SEE NOTE 3	4.3*	16.0*	20.7	87*
6 12 12M 4633 5055	5.6* 5.9	12.0 12.9	13.0 11.4*	100 102
10 10 10M 853 855 5057	9.4* 9.3* 9.7	11.1 11.1 10.2	9.4* 9.6* 9.4*	100 100 98

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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
INTERNATIONAL MIN & CHEM CORP SOMERSET				
4 12 8M 5079	5.0	12.0	8.5	108
KENCO FERTILIZER CO INC				
30 10 0 5131	30.0	10.7		101
KENTUCKY FERTILIZER WORKS INC				
20 20M 867 SEE NOTE 5		17.6*	20.7	93*
4 12 8M 869	4.8	12.5	9.6	111
919	4.1	12.1	7.8	101
930	4.5	12.4	9.8	109
5 20 20M 870	5.4	19.1*	20.0	99
920	4.4*	19.2*	20.1	96*
10 10 10M 872	10.1	10.3	11.9	105
878	10.4	10.2	10.6	104
LAND O NAN WAREHOUSE STURGIS				
20 20M 5103		17.4*	24.0	98
5 20 20M 5023	4.9	21.2	20.8	104
5027	5.5	21.9	19.8	107
5104	4.7*	18.8*	22.1	98
5105	4.6*	19.1*	23.5	101
6 24 24M 5025 SEE NOTE 4	4.2*	17.0*	33.6	89*

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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)	
LAND O NAN WAREHOUSE STURGIS CONTINUED				
10 20 20M 5106	9.3*	20.2	20.2	98
12 12 12M 5107	12.7	13.4	13.1	108
NORTH AMERICAN FERTILIZER COMPANY				
10 30M WITH BORAX 1958 SEE NOTE 1 & 4		7.4*	31.8	93*
20 20M WITH 5 LBS BORAX 949 SEE NOTE 1		19.6	20.5	100
4 12 8M 1948	4.2	12.0	9.1	104
5 20 20M 1947	5.1	19.7	20.1	100
6 12 12M 1950	6.2	11.8	12.8	102
10 10 10M 1949	10.0	10.5	10.7	103
12 12 12M 1951	12.0	12.3	12.4	101
OHIO VALLEY FERTILIZER INC				
5 20 20M 4619	4.7*	19.8	20.2	99
6 6 18S 4620	6.0	6.0	18.2	100
OLIN MATHIESON CHEM CORP LITTLE ROCK				
18 46 0 849	18.5	45.1*		100

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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)	
ROBIN JONES PHOSPHATE COMPANY				
17 10M 3728		17.3	10.7	103
3 20 10M 3733	3.2	20.5	10.3	103
6 18 12M 3732	7.8	18.8	12.7	112
6 24 12M 3729	6.2	25.6	12.5	106
F S ROYSTER GUANO CO PRICE CHEM DIV				
20 20M 1942		20.4	20.1	102
3 12 12M 1941	3.2	12.4	12.1	103
4 12 8M 1943	4.0	12.0	8.4	101
5 20 20M 1946 SEE NOTE 5	5.0	20.7	18.8*	100
6 12 12M 1940	6.3	12.7	12.7	106
10 10 10M 1944	9.6*	11.0	10.6	102
12 12 12M 1945	12.0	12.6	12.5	102
O M SCOTT AND SONS COMPANY				
20 10 5M 905 1957	20.6 21.0	10.3 9.6*	5.6 5.7	104 103

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963

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
SWIFT & CO NATIONAL STOCK YARDS				
	(Percent)	(Percent)	(Percent)	
5 20 20M 5099	4.5*	19.7	19.9	97*
TENNESSEE CORPORATION NEW ALBANY				
3 12 12M 1983 5114	3.3 3.3	12.3 12.5	13.0 12.6	106 106
5 20 20M 1982 5113	4.9 4.7*	20.0 19.4*	21.0 20.0	101 97*
10 10 10M 1984	10.0	10.5	9.3*	101
TRI STATE CHEMICAL COMPANY				
4 12 8M 4690	4.0	12.0	9.7	104
5 20 20M 4627 4689 5098	4.9 5.0 5.0	19.9 20.2 20.0	20.1 17.9* 20.5	99 98 101
10 10 10M 770 4691	8.0* 9.3*	15.1 12.7	11.3 9.6*	109 105
12 12 12M 4628	11.3*	13.2	12.2	101
VALLEY COUNTIES OF KENTUCKY COOP				
5 20 20M 1891	4.9	22.3	18.5*	104
6 12 12M 861 865	6.3 5.9	12.2 14.1	12.5 11.8	103 107

TABLE 1.— Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963
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
VALLEY COUNTIES OF KENTUCKY COOP CONT				
15 15 15M				
862	15.7	15.1	14.3*	102
967	15.0	15.2	15.7	101
1892	15.1	16.1	15.7	104
1909	14.3*	15.9	15.4	100
16 16 16M				
968	16.1	16.3	16.6	102
5093	15.9	16.1	15.9	100
25 25 0				
863	24.9	26.0		101
30 10 0				
765	29.7	11.2		101
VIRGINIA CAROLINA CHEM CORP CINCINNATI				
19 19M WITH 5 LBS BORAX				
894 SEE NOTE 1		19.8	19.2	103
1841 SEE NOTE 1		19.7	19.1	103
5 20 20M				
895	5.6	20.1	20.0	103
6 12 12M				
1882	5.8	12.2	12.5	101
10 10 10M				
896	9.3*	14.0	10.4	111
12 12 12M				
897	12.4	13.5	13.0	107
VIRGINIA CAROLINA CHEM CORP HOPKINSVILLE				
20 20M WITH 3 LBS BORAX				
3680 SEE NOTE 1		20.1	19.2*	99
4 12 8M				
1915	4.0	12.3	8.4	102
3679	4.0	12.3	8.4	102
3699	4.1	12.5	9.0	105

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963
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)	
VA CAR CHEM CORP HOPKINSVILLE CONTINUED				
5 20 20M				
1855	4.8	20.3	19.3*	99
3664	5.0	19.3*	20.2	98
3703	4.8	19.0*	20.0	97*
5 20 20M WITH 3 LBS BORAX				
3666 SEE NOTE 1	4.8	19.9	19.1*	98
3702 SEE NOTE 1	4.8	19.5*	19.2*	97*
5 20 20M WITH 4 LBS BORAX				
3688 SEE NOTE 1	4.8	19.9	19.0*	98
6 12 12M				
1835	6.0	12.1	12.0	100
1854	5.9	12.3	11.5*	100
1916	6.1	11.9	12.9	102
5022	5.3*	12.0	12.0	96*
6 18 12M				
3698	6.4	17.6*	12.7	102
10 10 10M				
1970	9.2*	10.0	11.2	98
3678	8.4*	10.4	11.5	96*
5021	9.0*	10.3	10.1	96*
VIRGINIA CAROLINA CHEM CORP MT PLEASANT				
20 20M				
5068		20.4	20.0	101
4 12 8M				
5063	4.1	12.3	8.2	103
4 12 12M				
5064	4.0	12.0	11.9	100
5 20 20M				
5066 SEE NOTE 3	4.1*	18.2*	22.0	94*
5076	5.1	19.5*	21.8	101
5100	4.8	20.2	18.7*	98
6 8 6M				
751	5.2*	8.6	5.4*	96*

TABLE 1.—Analyses of Inspection Samples of Mixed Dry Fertilizers, July-December, 1963
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)	
VA CAR CHEM CORP MT PLEASANT CONTINUED				
6 12 12M 5065	5.7*	12.2	11.9	99
10 10 10M 5067 5080	9.9 10.6	9.9 10.0	10.5 10.3	100 104
10 20 20M 5101	9.8	21.2	18.3*	100
12 12 12M 750	12.0	14.2	12.1	106
VIRGINIA CAROLINA CHEM CORP RICHMOND				
20 20M 898		20.7	19.1*	101
3 12 12M 752	3.0	12.0	13.0	102
4 12 8M 753 1968 5077	4.1 4.2 4.5	12.0 11.3* 12.1	8.3 9.0 8.2	101 100 104
5 20 20M 754 1880 1937 4661	4.9 5.0 5.1 5.5	21.1 19.6 19.6 20.0	19.2* 21.0 20.6 19.5*	101 100 100 101
6 12 12M 3689 4662	6.4 6.1	12.0 12.6	12.2 10.9*	103 101
6 24 12M 1881	6.2	24.1	12.2	101
10 10 10M 3690 4660	9.8 10.5	9.8 10.7	10.3 10.2	99 105

TABLE 2.— Analyses of Inspection Samples of Mixed Liquid Fertilizers, July-December, 1963

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
COMMONWEALTH FERTILIZER CO RUSSELLVILLE	(Percent)	(Percent)	(Percent)	
6 18 6M LIQUID 5071	6.6	18.2	6.5	105
LAND O NAN WAREHOUSE MORGANFIELD				
9 9 9M LIQUID 5123	9.0	9.0	9.6	101
12 6 6M LIQUID 5122	12.0	6.5	6.2	102
WEST KENTUCKY LIQUID FERT CO GUTHERIE				
5 15 9M LIQUID 3691	5.4	15.0	9.0	102
3730	5.8	14.2*	9.0	101
6 12 12 6M 6KOH LIQUID 3692	6.2	12.7	11.9	104
18 12 0 LIQUID 3731 SEE NOTE 4	17.2*	10.2*		92*
WEST KENTUCKY LIQUID FERT CO HOPKINSVILLE				
4 12 8M LIQUID 3721	4.1	12.3	8.0	102
4 16 16M LIQUID 3708	5.4	15.4*	18.2	109
5 15 25M LIQUID 5072	5.0	14.9	25.0	100

TABLE 2.— Analyses of Inspection Samples of Mixed Liquid Fertilizers, July-December, 1963

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
WEST KY LIQ FERT CO HOPKINSVILLE CONTINUED				
	(Percent)	(Percent)	(Percent)	
6 12 12M LIQUID				
3718	6.5	12.1	11.1*	101
3736	6.0	12.9	11.3*	102
6 18 6M LIQUID				
3719	7.8	17.5*	8.5	111
3735	6.3	17.7	6.0	101
6 18 12M LIQUID				
3707	6.0	17.3*	12.1	98
6 18 18M LIQUID				
3706	6.1	17.7	18.1	100
7 14 7M LIQUID				
3734	6.9	13.1*	7.7	98
9 18 9M LIQUID				
3720	9.0	17.9	9.0	100
3723	9.0	18.2	9.0	101
3724	9.0	17.7	9.0	99
10 10 10M LIQUID				
3726	10.1	10.4	9.9	102
3727	9.7	10.9	9.8	101
3737	9.9	11.0	9.8	103
3738	10.0	10.3	10.0	101
12 12 12M LIQUID				
3725	12.0	11.9	11.5*	99

TABLE 3.—Analyses of Straight Materials, July-December, 1963

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
AMERICAN AGRI CHEMICAL CO LONDON				
SUPERPHOSPHATE 900		20.2		101
AMERICAN AGRI CHEMICAL CO NEW YORK				
SUPERPHOSPHATE 831		20.1		100
AMERICAN CYANAMID COMPANY				
CALCIUM CYANAMID 816	20.4*			97*
1911	20.8			99
ARMOUR AGRI CHEMICAL CO ATLANTA				
AMMONIUM NITRATE 918	33.6			100
923	33.5			100
ARMOUR AGRI CHEMICAL CO CINCINNATI				
SUPERPHOSPHATE 771		21.0		105
46 TRIPLE SUPERPHOSPHATE 962 SEE NOTE 3		41.3*		90*
MURIATE OF POTASH 963			58.9*	98
ARMOUR AGRI CHEMICAL CO FORT MEADE				
46 TRIPLE SUPERPHOSPHATE 1904		44.9*		98
5086		46.0		100

TABLE 3.—Analyses of Straight Materials, July-December, 1963

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 AGRICHEMICAL CO JEFFERSONVILLE	(Percent)	(Percent)	(Percent)	
46 TRIPLE SUPERPHOSPHATE 839		45.6		99
ARMOUR AGRICHEMICAL CO NASHVILLE				
45 TRIPLE SUPERPHOSPHATE 3682		44.0*		98
MURIATE OF POTASH 3683			60.0	100
ASHCRAFT-WILKINSON CO				
MURIATE OF POTASH 847			60.0	100
BLUEGRASS PLANT FOODS INC DANVILLE				
SUPERPHOSPHATE 5090 SEE NOTE 3		18.7*		94*
CECIL FARM SUPPLY CO				
46 TRIPLE SUPERPHOSPHATE 4658		47.0		102
CENTRAL FARMERS FERTILIZER CO				
MURIATE OF POTASH 5129			60.8	101

TABLE 3.— Analyses of Straight Materials, July-December, 1963

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 SERV BRISTOL				
SUPERPHOSPHATE 775		20.0		100
MURIATE OF POTASH 776			60.0	100
COOPERATIVE FERTILIZER SERV LOUISVILLE				
SUPERPHOSPHATE 822		21.0		105
940		20.4		102
COOPERATIVE FERTILIZER SERV RUSSELLVILLE				
SUPERPHOSPHATE 810		20.4		102
1973		20.2		101
46 TRIPLE SUPERPHOSPHATE 827 SEE NOTE 3		43.3*		94*
MURIATE OF POTASH 947			60.0	100
COOPERATIVE FERTILIZER SERV WINCHESTER				
SUPERPHOSPHATE 925		20.0		100
956		20.5		103
1885		19.0*		95*
1936		20.4		102
60 TRIPLE SUPERPHOSPHATE 915		59.3		99
3710		60.2		100
CALCIUM METAPHOSPHATE 777		64.3		100
785		64.2		100
MURIATE OF POTASH 778			60.0	100
786			60.0	100

TABLE 3.—Analyses of Straight Materials, July-December, 1963

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
DARLING & CO CAIRO				
46 TRIPLE SUPERPHOSPHATE 763		43.9*		95*
FARMERS CHEMICAL ASSOCIATION INC				
NITROGEN SOLUTION 936	30.6			102
AMMONIUM NITRATE 779	33.7			101
787	33.7			101
1980	33.4			100
FEDERAL CHEMICAL CO NASHVILLE				
SUPERPHOSPHATE 5052		20.1		100
W R GRACE & CO DAVISON CHEM DIV NEW ALBANY				
SUPERPHOSPHATE 745		21.2		106
HUTSON CHEMICAL COMPANY				
46 TRIPLE SUPERPHOSPHATE 1893		45.2*		98
MURIATE OF POTASH 845			57.5*	96*
INTERNATIONAL MIN & CHEM CORP BONNIE				
46 TRIPLE SUPERPHOSPHATE 848		46.9		102

TABLE 3.— Analyses of Straight Materials, July-December, 1963

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
INTERNATIONAL MIN & CHEM CORP SKOKIE				
AMMONIUM NITRATE 856	33.6			100
MURIATE OF POTASH 759 1876			60.0 60.0	100 100
INTERNATIONAL MIN & CHEM CORP TORONTO				
MURIATE OF POTASH 883			61.0	102
KENTUCKY FERTILIZER WORKS INC				
46 TRIPLE SUPERPHOSPHATE 932		46.0		100
MURIATE OF POTASH 931			58.9*	98
NORTHWEST NITRO CHEMICALS LTD				
AMMONIUM NITRATE 1931	33.3			99
F S ROYSTER GUANO CO PRICE CHEM DIV				
SUPERPHOSPHATE 935		19.8		99
UNITED STATES STEEL CORPORATION				
AMMONIUM SULFATE 851	21.0			100

TABLE 3.—Analyses of Straight Materials, July-December, 1963

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
VALLEY COUNTIES OF KENTUCKY COOP				
46 TRIPLE SUPERPHOSPHATE 766		46.3		101
60 TRIPLE SUPERPHOSPHATE 760 767		59.4 59.8		99 100
MURIATE OF POTASH 768			60.0	100
VIRGINIA CAROLINA CHEM CORP MT PLEASANT				
SUPERPHOSPHATE 5069		19.0*		95*
VIRGINIA CAROLINA CHEM CORP RICHMOND				
SUPERPHOSPHATE 1969		20.2		101

TABLE 4. - Analyses of Inspection Samples of Rock Phosphate

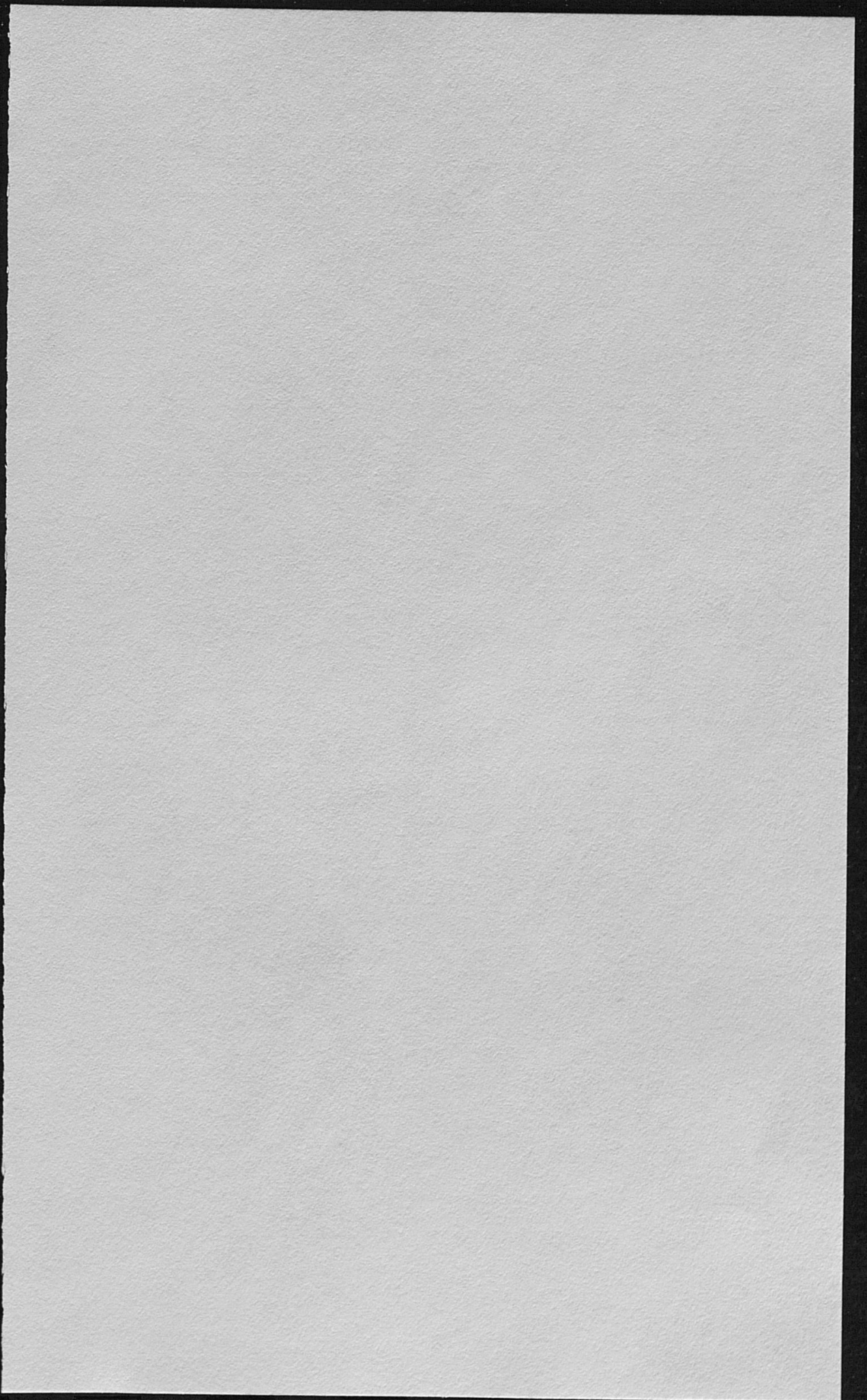
Sample No.	Manufacturer, Brand Name	Phosphoric Acid		Percent of Relative Value Found		
		Available Guar. Found	Total Guar. Found			
<u>American Agri. Chemical Co.</u>						
0950	Rock Phosphate	3.0	3.6	31.0	30.9	105
<u>Virginia-Carolina Chemical Co.</u>						
4663	Rock Phosphate	--	4.9	32.0	32.7	102

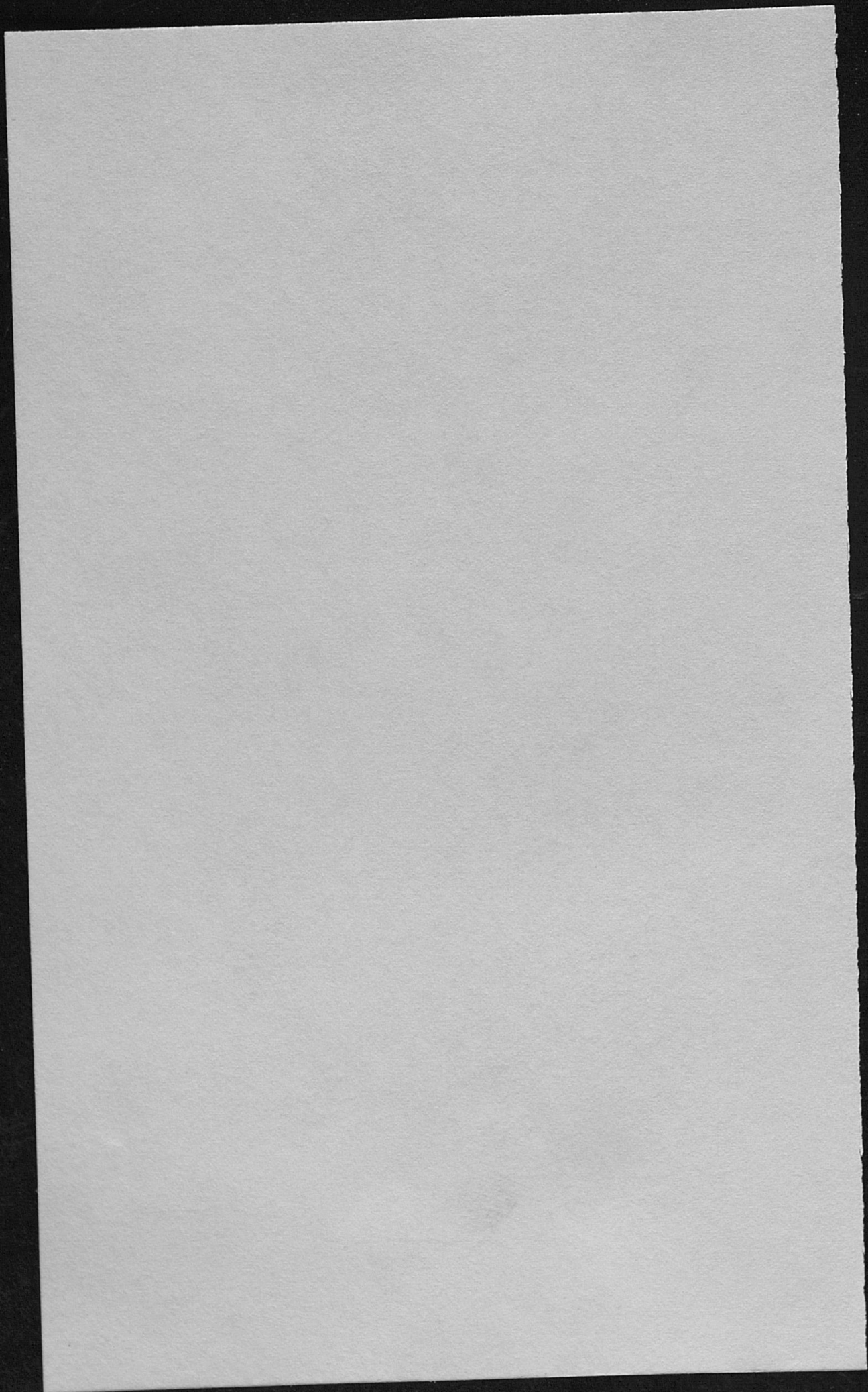
TABLE 5. - Results of Analyses of Boron in Fertilizers Reported in Table 1.
Analyses Deficient Are Underlined.

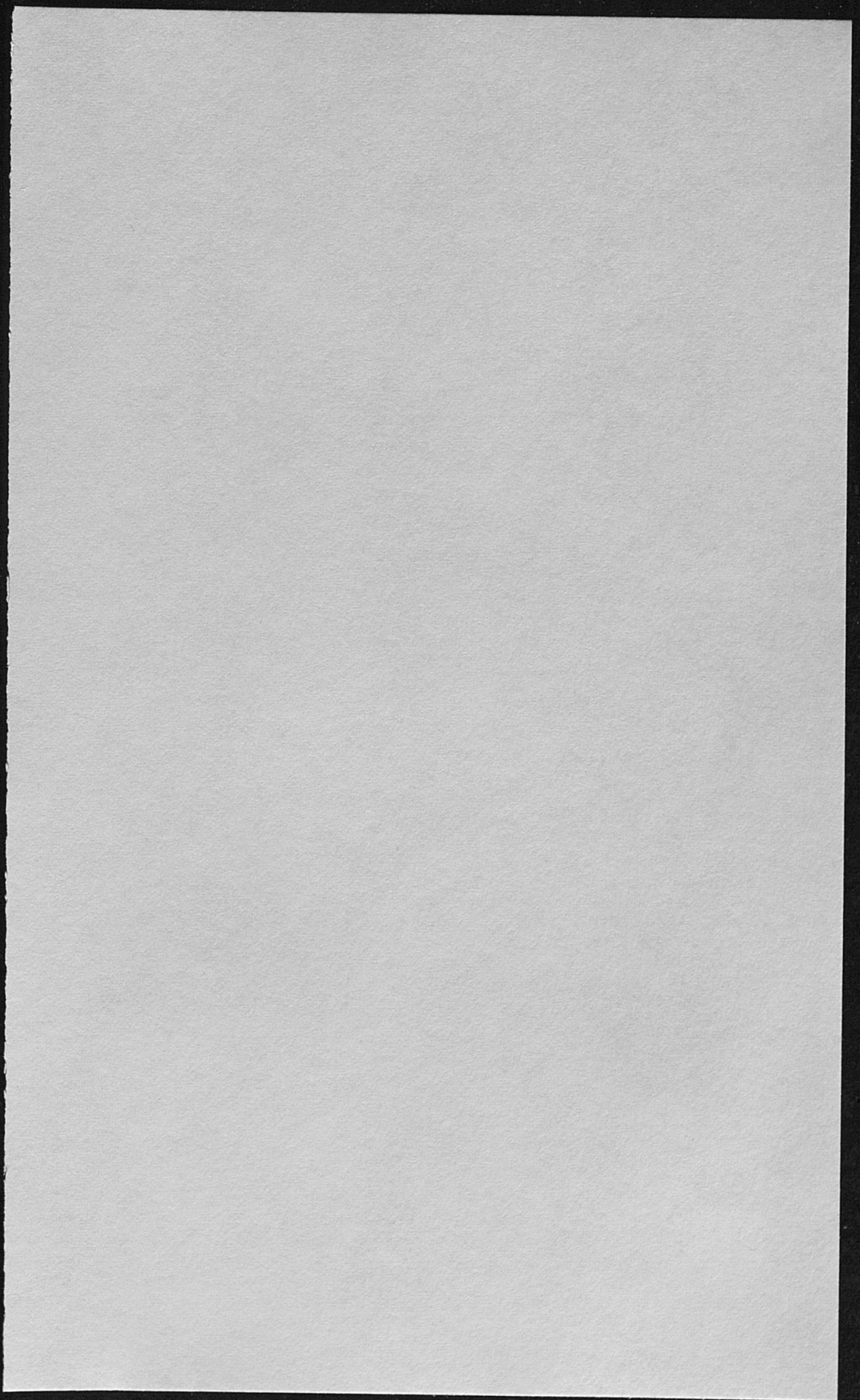
Company	Sample No.	Guarantee	Found
American Agricultural Chemical Co. London, Kentucky	3711	0.57	<u>0.48</u>
American Agricultural Chemical Co. Nashville, Tennessee	1961	0.57	<u>0.51</u>
	5041	0.45	<u>0.37</u>
	5053	0.45	<u>0.35</u>
Armour Agricultural Chemical Co. Jeffersonville, Indiana	0841	0.57	0.66
	3658	0.57	0.72
Armour Agricultural Chemical Co. Nashville, Tennessee	3667	0.57	<u>0.44</u>
	3722	0.34	<u>0.21</u>
Bluegrass Plant Foods Danville, Kentucky	5020	0.57	<u>0.49</u>
Cooperative Fertilizer Service Louisville, Kentucky	0815	0.45	<u>0.39</u>
	1842	0.22	<u>0.36</u>
	3660	0.23	0.34
	4617	0.22	0.36
Cooperative Fertilizer Service Winchester, Kentucky	0880	0.45	0.47
Federal Chemical Company Louisville, Kentucky	0890	0.57	0.60
Federal Chemical Company Nashville, Tennessee	3716	0.57	<u>0.44</u>
	3717	0.57	<u>0.62</u>
North American Fertilizer Co. Louisville, Kentucky	1949	0.56	0.55
	1958	0.40	0.93
Virginia-Carolina Chemical Co. Cincinnati, Ohio	0894	0.57	<u>0.35</u>
	1841	0.57	<u>0.61</u>
Virginia-Carolina Chemical Co. Hopkinsville, Kentucky	3666	0.34	0.52
	3680	0.34	<u>0.22</u>
	3688	0.45	<u>0.37</u>
	3702	0.34	<u>0.54</u>

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

Company	Sample No.	Insecticide	Guar.	Found
American Agricultural Chem. Co. Nashville, Tennessee	5041	Heptachlor	0.20	0.18
	5053	Heptachlor	0.20	0.18
Armour Agricultural Chem. Co. Nashville, Tennessee	3722	Heptachlor	0.20	<u>0.05</u>
Federal Chemical Co. Nashville, Tennessee	3716	Heptachlor	0.20	<u>0.11</u>
	3717	Heptachlor	0.20	<u>0.10</u>







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