

Commercial Fertilizers in Kentucky, 1966

Including a Report on Official Fertilizer
Samples Analyzed

July - December, 1966



University of Kentucky
Agricultural Experiment Station
Lexington

DIVISION OF REGULATORY SERVICES
KENTUCKY AGRICULTURAL EXPERIMENT STATION

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* Retired July, 1966
** Retired October, 1966

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

This bulletin contains results of analyses of 311 official samples of commercial fertilizer made during the period July 1 through December 31, 1966.

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 column 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 column RV. 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
		<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 =	15.1
		<u>50.8</u>

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.

The analyses indicated by an asterisk are deficient more than the tolerance. Occasionally an analysis may be found that appears to be inconsistent in its marking. For example, two samples that are guaranteed 10% available phosphoric acid may both be found to contain 9.7%. One of these may have an asterisk and the other not. There are two factors that may cause this difference.

1. These tolerances are calculated by an electronic computer and applied to the laboratory analyses before these data are rounded off to the nearest tenth of a percent. In the above example, the laboratory found 9.66% for one sample and 9.74% for the other. The first one would be starred as deficient.

2. The grade is written by using the largest whole number in the guarantee of each ingredient. For example, a custom-mixed lot of fertilizer may be guaranteed 0.-11.9-11.2. The grade would be written 0-11-11. However, the tolerances are calculated on the 11.9% and 11.2% guarantees.

(Continued)

If this fertilizer analyzed 11.3% A.P.A. and 10.9% potash, the 11.3% A.P.A. would be starred because this analysis is 0.6% units below the 11.9% guarantee.

The use of a high speed computer to make these calculations enables us to apply these tolerances more precisely than has been possible before.

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 for all nutrients as expressed by the manufacturer's guaranteed analysis.

EXPLANATION OF CERTAIN COLUMNS

The letters NIT after a grade means that the product is or that it contains Nitrate of Potash. The W/B after a grade indicates that the sample contained boron (see table 2 for boron analyses). The column headed "Num" lists the laboratory number of the particular sample. The column headed "XS CL", an asterisk indicates the sample did not meet the guarantee for sulfate of potash. The RV column shows the percent of relative value found. The PHYS column shows the physical form of the fertilizer when sampled.

The first digit indicates: 1 = chemically combined
2 = dry blend

The second digit indicates: 1 = pulverized, bag
2 = pulverized, bulk
3 = semi-granular, bag
4 = semi-granular, bulk
5 = granular, bag
6 = granular, bulk
7 = pellet, bag
8 = pellet, bulk
9 = liquid
0 = slurry

Example: Chemically combined, granular, bag = 15

COMPANIES REPRESENTED BY SAMPLES REPORTED IN THIS BULLETIN

Agrico Chemical Company
5050 Poplar Ave.
Memphis, Tennessee 38101

Armour Agricultural Chemical Co.
30 Pryor Street, S.W.
Atlanta, Georgia 30303

Bluegrass Plant Foods, Inc.
447 N. Main Street
Cynthiana, Kentucky 41031

Central Farmers Fertilizer Co.
100 South Wacker Drive
Chicago, Illinois 60606

Chevron Chemical Company
940 Hensley Street
Richmond, California 94801

Cline Fertilizer Company
P. O. Box 67
Ewing, Virginia 24248

Commonwealth Fertilizer Company
Morgantown Road
Russellville, Kentucky 42276

Darling & Company
4201 S. Ashland Avenue
Chicago, Illinois 60609

Elanco Products Company
740 South Alabama Street
Indianapolis, Indiana 46206

Farmers Chemical Association
P. O. Box 67
Tyner, Tennessee 37392

Federal Chemical Company
646 Starks Building
Louisville, Kentucky 40202

Glasgow Fertilizer Company
Industrial Avenue
Glasgow, Kentucky 42141

W. R. Grace & Company
Davison Chemical Division
101 N. Charles Street
Baltimore, Maryland 21203

W. R. Grace & Company
Nitrogen Products Division
Box 429
Atlantic, Iowa 50022

Green Valley Farm Supply Company
Island,
Kentucky 42350

Gro-Green Chemical Company
P. O. Box 388
Shelbyville, Kentucky 40065

Gulf Oil Corporation
Agricultural Chemicals Div.
Dwight Building
Kansas City, Missouri 64105

Hutson Chemical Company
Railroad Avenue
Murray, Kentucky 42071

International Minerals & Chemical Corp.
P. O. Box 67 - Lockland Station
Cincinnati, Ohio 45215

Kentucky Fertilizer Works, Inc.
P. O. Box 595
Winchester, Kentucky 40391

Lawn-A-Mat Chemical & Equipment Co.
153 Jefferson Ave.
Mineola, New York 11501

Mobil Chemical Company
Agricultural Chemical Division
401 East Main Street
Richmond, Virginia 23208

North American Fertilizer Co.
Preston Street at Bergman
Louisville, Kentucky 40217

Olin Mathieson Chemical Corporation
P. O. Box 991
Little Rock, Arkansas 72203

Ra-Pid-Gro Corporation
88 Ossian Street
Dansville, New York 14437

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Companies Represented by Samples Reported in this Bulletin (Continued)

F. S. Royster Guano Company
P. O. Drawer 1940
Norfolk, Virginia 23501

O. M. Scott & Sons Company
Marysville,
Ohio 43040

Sears Roebuck & Company
925 Homan Avenue
Chicago, Illinois 60607

Southern States Cooperative, Inc.
7th and Main Streets
Richmond, Virginia 23213

Tennessee Corporation
1330 Peachtree Street, N.W.
Atlanta, Georgia 30309

Tennessee Farmers Cooperative
LaVergne,
Tennessee 37986

Union Fertilizer Company
Morganfield,
Kentucky 42437

Valley Counties of Kentucky Coop.
P. O. Box 127
Benton, Kentucky 42025

Warner Fertilizer Company
P. O. Box 707
Somerset, Kentucky 42501

TABLE 1.—Analyses of Inspection Samples of Fertilizers, July - December, 1966

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

AGRICOL CHEMICAL COMPANY		MEMPHIS		TENN		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
4-12- 8M	16511	4.2	11.8	8.5		102	11	
4-12- 8M	16383	4.0	14.8	10.4		118	15	
5-20-20M	16422	5.5	19.5*	19.5*		100	15	
5-20-20M	16445	4.9	20.1	20.3		101	15	
5-20-20M	16554	5.2	19.7	20.3		100	15	
5-20-20M	16597	5.3	21.4	18.9*		104	15	
6-12-12M	16349	6.0	11.9	12.8		101	13	
6-12-12M	16423	6.1	12.8	12.3		104	15	
6-12-12M	16510	6.0	11.4*	10.8*		95*	15	
6-24-24M	16477	5.8	23.7	23.4*		98	16	
10-10-10M	16350	9.8	10.6	10.1		101	15	
10-10-10M	16427	9.8	10.5	10.4		101	15	
10-10-10M	16384	10.7	10.5	9.4*		104	25	
ARMOUR AGRI. CHEMICAL CO.		ATLANTA		GA.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
12-24-24M	16540	12.2	24.4	24.7		102	17	
31- 0- 5NIT	16448	30.5	0.0	5.7		99	17	
ARMOUR AGRI. CHEMICAL CO.		CINCINNATI		OHIO		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-20- 0	16537	0.0	21.2	0.0		106	13	
0-20-20M	16538	0.0	19.2*	20.4		98	15	
0-20-20M W/B	16424	0.0	20.4	18.0*		98	13	
3-12-12M	16425	4.3	13.2	12.5		115	15	
5-20-20M	16446	5.0	19.5*	20.4		99	15	
5-20-20M	16447	5.1	19.9	20.2		101	15	
5-20-20M	16449	5.3	19.8	19.7		100	15	
6-24-12M	16539	5.7*	22.8*	11.7		95*	15	
ARMOUR AGRI. CHEMICAL CO.		JEFFERSONVILLIND.				XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
5-20-20M	16419	5.2	19.1*	20.0		98	16	
5-20-20M	16560	5.0	19.6	19.3*		98	16	
5-20-20M	16578	4.9	18.3*	21.8		98	16	
6-12-12M	16629	7.0	12.5	13.0		109	13	
10-10-10M	16418	9.9	11.0	10.5		104	15	
10-10-10M	16450	9.9	11.0	10.7		104	15	
10-10-10M	16561	9.9	10.3	10.8		102	16	
ARMOUR AGRI. CHEMICAL CO.		MEMPHIS		TENN		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
6-12-12M	16499	6.3	11.8	12.9		102	15	
6-12-12M	16532	6.6	11.3*	12.9		103	15	
ARMOUR AGRI. CHEMICAL CO.		NASHVILLE		TENN		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-20-20M	16500	0.0	18.8*	20.1		96*	23	
3-12-24M	16461	3.8	12.3	22.8*		103	15	
3-12-24M W/B	16352	3.8	11.5*	23.7		102	16	
4-12- 8M	16385	4.3	11.7	8.9		103	15	
4-12- 8M	16514	4.2	11.5*	8.7		101	15	
4-12-12M	16512	4.4	11.3*	13.1		102	15	
4-12-12M	16534	4.6	11.6*	11.7		101	15	
5-20-20M	16460	5.0	19.2*	19.6		97*	15	
5-20-20M	16502	5.7	19.7	19.2*		101	15	
5-20-20M	16536	4.9	17.2*	21.7		94*	15	
5-20-20M	16351	5.5	17.6*	20.5		96*	16	
6-12-12M	16486	6.1	11.9	12.0		100	15	

TABLE 1.—Analyses of Inspection Samples of Fertilizers, July - December, 1966

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

Company Name		City		State		XS	CL	RV	PHYS
Grade	NUM	N	APA	POT					
ARMOUR AGRI. CHEMICAL CO.		NASHVILLE		TENN					
6-12-12M	16513	6.0	11.7	12.9			100	15	
6-12-12M	16533	6.4	16.8*	13.9			101	15	
10-10-10M	16501	9.0*	10.3	12.2			100	15	
10-10-10M	16535	9.9	14.3	9.9			114	15	
BLUEGRASS PLANT FOODS, INC.		CYNTHIANA		KY.					
10- 8- 4M	16496	10.0	7.5*	10.9			112	24	
10- 8- 4M	16497	10.1	7.5*	10.9			112	24	
BLUEGRASS PLANT FOODS, INC.		DANVILLE		KY.					
0- 0-60M	16337	0.0	0.0	63.1			105	15	
10-10-10M	16339	9.5*	9.7*	12.3			100	11	
10-10-10M	16487	10.4	9.1*	11.8			102	13	
CENTRAL FARMERS FERT. COMPANY		CHICAGO		ILL.					
0-46- 0	16494	0.0	46.6	0.0			101	15	
0-46- 0	16402	0.0	45.9	0.0			100	16	
0-46- 0	16569	0.0	44.7*	0.0			97*	17	
CHEVRON CHEMICAL CO-ORTHO DIV		RICHMOND		CAL.					
33- 0- 0	16338	34.2	0.0	0.0			102	17	
CLINE FERTILIZER COMPANY		EWING		VA.					
3- 9- 6M	16389	3.5	10.0	7.0			113	25	
5-10- 5M	16390	5.2	10.0	5.0			101	25	
COMMONWEALTH FERTILIZER CO.		RUSSELLVILLE		KY.					
10-10-10M	16583	9.0*	10.3	11.4			98	15	
CARLING + COMPANY		E. ST. LOUIS		ILL.					
5-20-20M	16409	5.0	18.6*	20.6			97*	14	
5-20-20M	16617	5.2	19.9	21.1			102	15	
ELANCO PRODUCTS COMPANY		INDIANAPOLIS		IND.					
24- 6- 8M	16364	23.6	7.6	8.8			103	15	
FARMERS CHEMICAL ASSN., INC.		TYNER		TENN					
0-46- 0	16413	0.0	45.8	0.0			100	16	
33- 0- 0	16386	34.2	0.0	0.0			102	17	
33- 0- 0	16491	34.0	0.0	0.0			101	17	
FEDERAL CHEMICAL COMPANY		HUMBOLDT		TENN					
6-12-12M	16478	6.2	11.6*	12.5			100	15	
6-12-12M	16614	6.1	11.5*	13.3			101	15	
10-10-10M	16479	10.1	10.2	11.2			103	15	
15-15-15M	16480	14.1*	14.3*	14.9			95*	15	
FEDERAL CHEMICAL COMPANY		LOUISVILLE		KY.					
0-20-20M	16454	0.0	18.3*	21.7			97*	25	
3-12-12M	16367	4.0	12.0	13.6			110	15	
3-12-12M	16373	4.0	12.0	13.1			109	15	
3-12-12M	16565	4.8	12.1	12.0			112	15	
4-12- 8M	16370	4.1	11.7	11.0			106	15	
5-20-20M	16371	5.3	20.4	18.8*			101	15	
5-20-20M	16374	4.8	18.3*	21.8			97*	15	
5-20-20M	16455	5.5	19.0*	20.3			100	15	
5-20-20M	16492	6.2	18.5*	19.3*			100	15	

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

FEDERAL CHEMICAL COMPANY		LOUISVILLE			KY.	XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
5-20-20M	16585	5.4	19.0*	19.9		99	15	
6-12-12M	16563	6.3	12.0	13.6		104	15	
10-10-10M	16366	9.8	10.6	10.8		102	15	
10-10-10M	16372	9.6*	10.9	11.3		103	15	
10-10-10M	16459	9.7	11.1	9.5*		101	15	
10-10-10M	16493	10.2	10.7	10.9		104	15	
10-10-10M	16515	9.8	10.7	11.0		103	15	
10-10-10M	16559	10.9	9.9	10.5		105	15	
10-10-10M	16564	10.9	9.7*	10.8		104	15	
FEDERAL CHEMICAL COMPANY		NASHVILLE			TENN.	XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-9-27M W/B	16469	0.0	9.6	25.3*		99	16	
4-12-8M	16468	4.3	10.8*	9.9		101	13	
5-20-20M	16470	5.3	18.7*	19.9		98	16	
6-12-12M	16586	5.9	12.1	12.2		100	15	
6-18-12M	16471	6.3	17.1*	11.9		98	16	
10-10-10M	16584	10.0	10.0	10.5		101	15	
10-10-10M	16587	10.0	10.1	10.4		101	15	
10-10-10M	16472	9.9	10.2	9.9		100	16	
10-10-10M	16528	10.0	10.4	10.1		101	16	
GLASGOW FERTILIZER COMPANY		GLASGOW			KY.	XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
5-20-20M	16363	5.7	20.6	19.9		104	13	
6-12-12M	16361	6.3	12.0	12.7		103	11	
10-10-10M	16362	10.4	9.4*	13.4		106	11	
W.R. GRACE + CO.		NASHVILLE			TENN.	XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-20-20M	16518	0.0	20.9	20.1		103	15	
5-20-20M	16525	5.7	19.6*	20.5		102	15	
5-20-20M	16582	5.4	19.9	19.3*		100	15	
5-20-20M	16616	5.6	19.2*	20.2		101	15	
6-12-12M	16519	6.3	11.7	12.7		102	15	
6-12-12M	16581	5.9	11.8	12.6		100	15	
6-12-12M	16581	5.9	11.8	12.6		102	15	
10-10-10M	16524	10.6	9.9	10.0		102	15	
10-10-10M	16580	10.1	10.1	10.6		102	15	
10-10-10M	16615	10.2	10.1	10.8		103	15	
10-10-10M	16526	9.9	10.0	9.8		99	16	
W.R. GRACE + CO.		NEW ALBANY			IND.	XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-25-25M	16458	0.0	25.7	25.1		102	15	
4-12-8M	16398	4.6	12.3	8.8		107	15	
5-20-20M	16359	5.7	20.9	20.0		105	15	
6-12-12M	16400	6.4	12.6	12.5		105	15	
6-12-12M	16632	6.1	12.4	13.1		104	15	
6-12-12M	16428	6.2	12.1	12.8		103	16	
6-12-12M	16406	6.5	17.0*	13.7		102	15	
6-18-12M	16406	6.5	17.0*	13.7		108	16	
6-18-12M	16401	6.8	19.0	12.7		108	16	
10-10-10M	16633	10.2	10.2	11.1		103	15	
W.R. GRACE + CO., W KY LIQ FER		BOWLING GREEN			KY.	XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
5-15-10M	16624	5.3	15.0	10.0		102	10	
12-12-12M	16627	10.9*	12.1	14.0		98	10	
15-10-10M	16623	14.7	10.2	11.8		102	10	
18-7-9M	16625	17.9	9.7	9.2		101	10	
W.R. GRACE + CO., W KY LIQ FER		HOPKINSVILLE			KY.	XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
5-15-15M	16607	4.9	14.2*	17.0		100	10	

TABLE 1.—Analyses of Inspection Samples of Fertilizers, July - December, 1966

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

W.R. GRACE + CO., W KY LTQ FER		HOPKINSVILLE KY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
5-15-20M	16605	4.9	14.0*	21.8			99	10
5-15-25M	16606	5.1	14.3*	25.9			99	10
6-18-12M	16599	6.0	17.6*	13.4			101	10
7-21- 7M	16604	7.2	21.2	7.4			102	10
15-10-10M	16602	14.9	9.8	11.3			101	10
15-10-10M	16603	15.7	9.5*	10.5			102	10
15-10-15M	16596	14.9	9.9	16.3			101	10
15-10-15M	16600	14.9	9.5*	16.1			100	10
15-10-15M	16601	15.2	9.7*	15.7			101	10
GREEN VALLEY FARM SUPPLY		ISLAND KY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-15-40M	16595	0.0	12.2*	45.2			99	16
GRO-GREEN CHEMICAL CO., INC.		SHELBYVILLE KY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-15-39M W/B	16336	0.0	18.5	35.9*			105	25
10-10-10M	16498	9.2*	9.8	10.7			97*	13
GULF OIL CORP., AGRI CHEM DIV		CECILIA KY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
4-12- 8M	16396	3.9	11.9	11.3			107	15
6-12-12M	16636	6.5	11.7	13.0			104	13
6-24-12M	16638	6.2	24.2	13.1			103	15
10-10-10M	16397	10.7	9.9	11.8			106	15
12-12-12M	16635	11.3	12.8	12.4			102	15
GULF OIL CORP., AGRI CHEM DIV		CLARKSON KY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
12-16-16M	16634	11.7*	13.8*	17.1			92*	25
GULF OIL CORP., AGRI CHEM DIV		CLAY KY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
10-10-10M	16417	11.0	9.4*	10.5			104	24
GULF OIL CORP., AGRI CHEM DIV		HENDERSON KY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
5-20-20M	16591	5.3	20.4	19.9			102	15
5-20-20M	16592	6.4	18.7*	19.9			102	16
6-18-12M	16410	6.8	17.4*	13.1			104	14
7-28-14M	16522	7.8	30.4	11.5*			105	15
12-12-12M	16411	12.9	11.9	12.5			104	14
12-12-12M	16590	12.8	12.2	12.1			104	15
GULF OIL CORP., AGRI CHEM DIV		HENDERSON KY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
45- 0- 0	16523	-8.8*	0.0	0.0			-19*	17
GULF OIL CORP., AGRI CHEM DIV		KANSAS CITY MO.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
15-15-15M	16414	14.9	17.1	14.8			104	16
GULF OIL CORP., AGRI CHEM DIV		MORGANFIELD KY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
5-10-10M	16594	5.1	10.0	11.5			104	19
GULF OIL CORP., AGRI CHEM DIV		OWENSBORO KY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
4-12- 8M	16456	5.9	16.6	20.2			162	14
4-12- 8M	16457	5.8	15.8	18.0			152	14
4-12- 8M	16457	5.8	15.8	18.0			152	14
HUTSON CHEMICAL COMPANY		MURRAY KY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0- 0-60M	16620	0.0	0.0	60.6			101	15
5-10-15S	16610	5.1	10.0	14.9		*	100	11
6-12-12M	16476	5.9	11.8	14.0			102	11
6-12-12M	16609	5.3*	13.2	12.2			101	13

TABLE 1.—Analyses of Inspection Samples of Fertilizers, July - December, 1966

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

HUTSON CHEMICAL COMPANY		MURRAY		KY.				
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS	
14-23-17M	16481	13.2*	20.7*	23.8		95*	26	
16-16-16M	16482	16.6	16.2	16.2		103	17	
INTERNATIONAL MIN + CHEM CORP		CINCINNATI		OHIO				
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS	
0-10-30M	16426	0.0	10.2	30.6		102	24	
0-20-0	16573	0.0	20.0	0.0		100	15	
5-10-10M	16575	5.0	10.8	10.4		104	15	
5-20-20M	16435	4.7	18.7*	18.1*		93*	15	
5-20-20M	16572	5.4	19.5*	20.5		101	15	
5-20-20M	16574	5.6	19.0*	20.8		101	15	
10-10-10M	16436	10.3	10.4	10.7		104	15	
INTERNATIONAL MIN + CHEM CORP		CLARKSVILLE		TENN				
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS	
6-12-12M	16484	6.0	12.2	13.3		103	15	
INTERNATIONAL MIN + CHEM CORP		SOMERSET		KY.				
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS	
5-20-20M	16504	4.9	20.6	19.9		101	15	
10-10-10M	16505	10.7	9.8	10.4		103	15	
12-12-12M	16391	11.1*	12.9	13.0		100	15	
KENTUCKY FERTILIZER WORKS		WINCHESTER		KY.				
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS	
5-20-20M	16394	5.5	18.0*	21.0		98	11	
10-10-10M	16437	9.9	9.9	10.9		101	11	
LAWN-A-MAT CHEM. + EQUIP. CO.		MINEOLA, L.I.		N.Y.				
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS	
34-5-10M	16433	32.8*	4.7	10.1		97*	15	
MOBIL CHEM CO, AGRI CHEM DIV		RICHMOND		VA.				
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS	
0-19-19M W/B	16441	0.0	19.6	20.6		105	16	
0-20-20M	16358	0.0	19.2*	21.1		99	23	
0-20-20M W/B	16357	0.0	17.8*	19.0*		91*	23	
3-12-12M	16551	3.5	15.6	15.0		126	15	
4-12-8M	16382	4.5	12.3	9.8		109	15	
4-12-8M	16467	4.2	11.6*	8.8		102	15	
4-12-8M	16530	4.1	11.7	9.0		102	15	
4-12-8M	16553	4.8	17.2	12.4		139	15	
4-12-12M	16588	4.4	12.1	11.3*		101	15	
5-20-20M	16360	5.1	20.2	17.0*		97*	15	
5-20-20M	16407	5.3	19.5*	20.2		100	15	
5-20-20M	16541	5.4	18.8*	20.1		99	15	
5-20-20M	16549	5.1	20.1	21.1		102	15	
6-12-12M	16587	6.4	12.3	13.5		106	15	
6-18-12M	16529	5.7*	16.8*	13.0		96*	13	
6-18-12M	16521	5.7	17.4*	13.1		98	15	
6-18-12M	16631	6.1	16.0*	13.9		97*	15	
6-24-12M	16381	6.3	23.6	12.5		101	15	
6-24-12M	16548	6.0	23.7	13.6		101	15	
6-24-24M	16380	6.6	23.4*	23.0*		99	15	
6-24-24M	16550	6.5	23.6	24.3		101	15	
10-10-10M	16359	9.2*	11.0	10.5		100	15	
10-10-10M	16379	10.1	9.9	11.7		103	15	
10-10-10M	16442	10.3	10.1	10.4		102	15	
10-10-10M	16531	9.3*	10.5	10.7		100	15	
10-10-10M	16552	10.5	10.3	10.2		103	15	
12-12-12M	16443	12.4	12.0	12.7		103	15	

TABLE 1.—Analyses of Inspection Samples of Fertilizers, July - December, 1966

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

NORTH AMERICAN FERTILIZER CO.		LOUISVILLE		KY.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
4-12- 8M	16547	4.6	11.9	9.1		106	11	
5-20-20M	16464	5.7	19.6	20.4		102	15	
10-10-10M	16465	9.9	10.8	12.9		107	15	
10-10-10M	16546	10.8	14.4	14.6		126	15	
OLIN MATHIESON CHEM. CORP.		LITTLE ROCK		ARK.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
5-20-20M	16473	5.5	21.1	19.9		105	15	
6-24-24M	16475	6.9	26.0	22.0*		105	17	
10-20-20M	16474	10.7	21.3	19.0*		104	17	
RA-PID-GRCW CORPORATION		DANSVILLE		N.Y.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
23-19-17M	16341	24.9	18.7	15.7*		103	11	
23-19-17M	16342	23.7	19.3	17.5		103	11	
23-19-17M	16344	24.6	20.4	16.4*		106	11	
23-19-17M	16345	23.4	20.6	17.5		104	11	
F. S. ROYSTER GUANO COMPANY		NORFOLK		VA.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-20-20M	16463	0.0	20.1	20.6		101	14	
0-20-20M W/ME	16516	0.0	19.9	18.7*		97*	15	
4-12- 8M W/ME	16520	5.1	12.3	8.7		110	15	
5-20-20M	16462	5.5	18.6*	19.2*		97*	14	
5-20-20M	16555	5.1	19.5*	19.8		99	15	
5-20-20M	16562	5.1	19.2*	19.3*		97*	15	
5-20-20M	16348	6.7	16.7*	17.2*		94*	16	
6-12-12M W/ME	16558	6.5	12.2	13.4		106	15	
10-10-10M	16517	9.9	10.7	10.4		102	15	
10-10-10M	16556	9.8	10.6	10.3		102	15	
10-10-10M W/ME	16375	9.6*	11.5	10.2		103	15	
10-10-10M W/ME	16557	9.7*	10.4	10.7		101	15	
O. M. SCCIT + SONS		MARYSVILLE		OHIO		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
23- 7- 7M	16365	23.8	8.7	7.4		107	15	
SEAPS, ROEBUCK + COMPANY		CHICAGO		ILL.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
4-12- 8M	16369	6.0	11.8	11.9		121	13	
10- 6- 4M	16368	9.3*	6.2	4.6		97*	11	
SOUTHERN STATES COOP., INC.		BRISTOL		VA.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
5-10-10M	16387	5.4	10.2	10.6		105	13	
5-10-10M	16598	5.3	10.6	10.1		105	13	
10-20-20M	16388	10.8	22.0	20.4		107	25	
SOUTHERN STATES COOP., INC.		LOUISVILLE		KY.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-20-20M	16376	0.0	18.9*	21.4		99	11	
3-12-12M	16542	3.8	11.8	12.5		105	11	
3-12-12M	16641	3.6	11.9	12.3		104	11	
4-12- 8M	16509	4.2	11.5*	8.6		100	11	
5-20-20M	16420	5.2	19.6	19.9		100	11	
5-20-20M	16489	5.4	19.6	21.6		103	11	
5-20-20M	16503	5.3	20.2	19.8		101	11	
5-20-20M	16508	5.2	21.1	19.0*		102	11	
5-20-20M	16543	5.2	19.3*	21.3		100	11	
5-20-20M	16566	5.2	20.1	20.9		102	11	
5-20-20M W/B	16355	5.3	20.9	20.0		104	11	
5-20-20M W/E	16544	5.5	20.3	20.4		103	11	
6-12-12M	16378	6.3	11.8	13.0		103	11	
6-12-12M	16506	6.0	11.8	12.8		101	11	

TABLE 1.—Analyses of Inspection Samples of Fertilizers, July - December, 1966
Analyses deficient more than tolerance and relative values of 97 per cent or less indicated by asterisk.

SOUTHERN STATES COOP., INC.		LOUISVILLE KY.			XS CL	RV	PHYS
GRADE	NUM	N	APA	POT			
6-12-12M	16545	6.3	12.0	13.2		104	11
10-10-10M	16377	10.2	9.9	11.7		103	11
10-10-10M	16488	9.7	11.0	12.2		106	11
10-10-10M	16495	10.7	10.1	10.4		104	11
10-10-10M	16507	10.8	9.8	10.8		104	11
10-10-10M	16567	10.3	10.5	10.7		104	11
SOUTHERN STATES COOP., INC.		RUSSELLVILLE KY.			XS CL	RV	PHYS
GRADE	NUM	N	APA	POT			
4-12- 8M	16403	4.9	11.6*	8.6		106	15
5-20-20M	16485	5.3	19.3*	19.2*		98	15
5-20-20M	16612	5.4	19.7	17.6*		97*	15
5-20-20M	16621	5.4	17.8*	20.4		96*	15
5-20-20M	16356	5.3	18.9*	20.1		98	16
5-20-20M	16415	5.1	19.5*	20.5		100	16
6-12-12M	16354	6.0	11.9	12.2		100	15
6-12-12M	16576	6.2	12.4	12.7		104	15
6-18-12M	16630	6.2	18.1	12.2		101	15
10-10-10M	16353	9.9	10.6	11.5		104	15
10-10-10M	16392	10.1	9.9	11.3		102	15
10-10-10M	16404	10.3	10.1	10.4		102	15
10-10-10M	16438	10.2	10.0	10.2		101	15
10-10-10M	16527	9.9	9.9	11.7		102	15
10-10-10M	16577	10.1	10.4	10.4		102	15
10-10-10M	16405	10.0	10.5	9.6*		101	16
12-12-12M	16490	12.0	11.9	12.1		100	15
12-12-12M	16611	12.1	12.9	10.8*		102	15
15-15-15M	16613	17.2	15.2	14.7		107	25
SOUTHERN STATES COOP., INC.		WINCHESTER KY.			XS CL	RV	PHYS
GRADE	NUM	N	APA	POT			
0-15-30M W/R	16571	0.0	13.8*	32.0		99	11
0-20- 0	16453	0.0	20.6	0.0		103	11
5-20-20M	16395	5.3	19.5*	20.7		101	11
5-20-20M	16439	5.1	19.7	20.1		100	11
5-20-20M	16444	5.1	19.3*	20.5		99	11
5-20-20M	16451	5.0	19.5*	20.5		99	11
5-20-20M	16452	5.1	19.0*	20.7		99	11
6-12-12M	16393	6.3	11.5*	12.5		101	11
6-12-12M	16440	5.9	12.1	11.8		100	11
TENNESSEE CORPDRATION		NEW ALBANY IND.			XS CL	RV	PHYS
GRADE	NUM	N	APA	POT			
4-12- 8M	16408	4.4	9.6*	9.0		94*	13
TENNESSEE FARMERS COOP.		LAVERGNE TENN			XS CL	RV	PHYS
GRADE	NUM	N	APA	POT			
15-15-15M	16483	15.5	15.5	14.5*		102	15
15-15-15M	16622	14.7	14.6*	15.7		99	15
UNION FERTILIZER CO.		MORGANFIELD KY.			XS CL	RV	PHYS
GRADE	NUM	N	APA	POT			
0-26-26M	16593	0.0	26.2	27.6		103	26
12-24-24M	16416	11.6*	21.4*	27.6		97*	26
VALLEY COUNTIES OF KY. COOP.		BENTON KY.			XS CL	RV	PHYS
GRADE	NUM	N	APA	POT			
16-16-16M	16412	16.3	16.5	16.0		102	15
WARNER FERTILIZER COMPANY		SOMERSET KY.			XS CL	RV	PHYS
GRADE	NUM	N	APA	POT			
5-20-20M	16431	4.7	20.2	18.3*		97*	25
10-10-10M	16430	9.2*	8.6*	8.4*		89*	25
10-10-10M	16422	11.3	10.8	11.7		112	25

TABLE . - Results of Analyses of Boron in Fertilizers Reported in Table 1. An Asterisk Indicates a Deficiency. An "M" Indicates Misbranded.

COMPANY AND PLANT	Sample Number	Guarantee	Found
Armour Agricultural Chemical Company Cincinnati, Ohio	16424	0.57	0.42 *
Armour Agricultural Chemical Company Nashville, Tennessee	16352	0.34	0.15 *
Federal Chemical Company Nashville, Tennessee	16469	0.45	0.32 *
Gro-Green Chemical Company Shelbyville, Kentucky	16336	0.41	0.73
Mobil Chemical Company Richmond, Virginia	16357 16441	0.57 0.57	0.45 * 0.46 *
F. S. Royster Guano Company Norfolk, Virginia	16557	0.20	0.40 M
Southern States Coop., Inc. Louisville, Kentucky	16355 16544	0.34 0.34	0.41 0.36
Southern States Coop., Inc. Winchester, Kentucky	16571	0.45	0.42