

# Commercial Fertilizers in Kentucky, 1965

Including a Report on Official Fertilizer  
Samples Analyzed

July - December, 1965



University of Kentucky  
Agricultural Experiment Station  
Lexington

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



This bulletin contains results of analyses of 472 official samples of commercial fertilizer made during the period July 1 through December 31, 1965.

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

#### 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 = <u>15.0</u>
	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>
	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.

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.

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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.

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 3 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

Average percentages of guarantee and coefficients of variation for samples secured during the spring season, 1965 are presented in this bulletin beginning on page 19.

A statement on the transition from the present system of an oxide guarantee for available phosphoric acid and potash to an elemental guarantee for phosphorus and potassium appears on page 23.



## COMPANIES REPRESENTED BY SAMPLES REPORTED IN THIS BULLETIN

American Agricultural Chemical Company 100 Church Street New York, New York 10007	Cooperative Fertilizer Service Southern States Building Richmond, Virginia 23213
American Cyanamid Company Agricultural Division P. O. Box 400 Princeton, New Jersey 08540	Darling & Company 4201 S. Ashland Avenue Chicago, Illinois 60609
Armour Agricultural Chemical Company 30 Pryor Street, S. W. Atlanta, Georgia 30301	E'town Fertilizer Company Spencer Chemical Division Gulf Oil Company Cecilia, Kentucky 42724
Bartlett & O'Bryan Fertilizer Company 108 River Road Owensboro, Kentucky 42302	Farmers Chemical Association P. O. Box 67 Tyner, Tennessee 37392
Bluegrass Plant Foods, Inc. Cynthiana Kentucky 41031	Federal Chemical Company 646 Starks Building Louisville, Kentucky 40202
Bunton Seed Company 939 Jefferson Street Louisville, Kentucky 40202	W. R. Grace & Company Davison Chemical Division 101 N. Charles Street Baltimore, Maryland 21203
Burley Belt Fertilizer Company Route #4 Lexington, Kentucky 40505	W. R. Grace & Company Nitrogen Division P. O. Box 4915 Memphis, Tennessee 38101
California Chemical Company Lucas & Ortho Way Richmond, California 94801	Gro-Green Chemical Company P. O. Box 132 Shelbyville, Kentucky 40065
Central Farmers Fertilizer Company 205 West Wacker Drive Chicago, Illinois	Hutson Chemical Company Railroad Avenue Murray, Kentucky 42071
Chilean Nitrate Sales Corporation 120 Broadway New York, New York 10005	International Minerals & Chemical Corp. P. O. Box 67 - Lockland Station Cincinnati, Ohio 45215
Christian County Supply Company Skyline Drive Hopkinsville, Kentucky 42240	Kenco Fertilizer Company Bowling Green Kentucky 42101
Coastal Chemical Company Yazoo City Mississippi 39194	Kentucky Fertilizer Works, Inc. P. O. Box 595 Winchester, Kentucky 40391
Commonwealth Fertilizer Company Morgantown Road Russellville, Kentucky 42276	

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## Companies Represented by Samples Reported in this Bulletin (Continued)

Land-O-Nan Warehouse  
Spencer Chemical Division  
Gulf Oil Company  
Sturgis, Kentucky 42459

North American Fertilizer Company  
Preston Street at Bergman  
Louisville, Kentucky 40217

Prescription Fertilizer Service  
Division Kerr-McGee Oil Industries  
Oklahoma City, Oklahoma 73102

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

Swift & Company  
Agricultural Chemical Division  
National Stock Yards, Illinois 62071

Tennessee Corporation  
2521 Glendale-Milford Road  
Cincinnati, Ohio 45241

Tri-State Chemical Company  
Spencer Chemical Division  
Gulf Oil Company  
Henderson, Kentucky 42420

Union Fertilizer Company  
Morganfield  
Kentucky 42437

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

V-C Chemical Company  
Division Secony Mobile Oil Company  
401 E. Main Street  
Richmond, Virginia 23208

West Kentucky Liquid Fertilizer  
Division W. R. Grace & Company  
Nitrogen Products Division  
Hopkinsville, Kentucky 42240



TABLE 1.—Analyses of Inspection Samples of Dry Fertilizers, July-December, 1965

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

AMERICAN AGRI. CHEM. CO.		CINCINNATI		OHIO		XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT					
0-25-25M	12533	0.0	25.4	26.6				103	15
0-25-25M	12694	0.0	24.3*	23.8*				97*	23
5-10-15S	12534	5.1	10.5	15.9				105	16
5-20-20M	12655	5.5	20.9	19.9				104	15
5-20-20M	12671	4.9	20.9	20.5				103	15
5-20-20M	12853	5.0	20.4	20.6				102	15
5-20-20M	12860	5.0	20.9	19.3*				102	15
5-20-20M	12532	5.1	20.9	20.5				103	16
6-12-12M	12656	5.5*	12.9	12.7				102	15
6-12-12M	12861	5.8	11.7	12.9				99	15
12-12-12M	12695	12.1	12.8	11.9				102	15
AMERICAN AGRI. CHEMICAL CO.		NASHVILLE		TENN		XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT					
5-20-10M	12823	5.1	18.1*	11.2				97*	15
5-20-20M	12704	5.0	18.3*	19.2*				94*	15
5-20-20M	12818	5.0	18.8*	19.0*				95*	15
5-20-20M	12607	5.2	18.3*	20.8				97*	16
6-12-12M	12819	5.8	12.7	12.1				102	13
6-12-12M	12703	5.8	12.8	11.7				101	15
6-12-12M	12821	5.9	12.3	12.6				101	15
10-10-10M	12822	10.3	10.1	10.3				102	15
AMERICAN AGRI. CHEM. CO.		NEW YORK		N.Y.		XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT					
0-20-0	12672	0.0	20.8	0.0				104	15
0-20-0	12862	0.0	20.1	0.0				101	15
33-0-0	12541	34.3	0.0	0.0				102	17
AMERICAN CYANAMID COMPANY		PRINCETON		N.J.		XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT					
20-0-0	12859	20.5	0.0	0.0				100	15
ARMOUR AGRI. CHEMICAL CO.		ATLANTA		GA.		XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT					
0-46-0	12905	0.0	45.6	0.0				99	15
ARMOUR AGRICULTURAL CHEM. CO.		CINCINNATI		OHIO		XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT					
4-12-8M	12855	4.7	14.0	10.4				119	15
5-20-20M	12856	4.6*	19.7	19.1*				96*	15
5-20-20M	12857	4.9	20.1	19.1*				99	15
10-10-10M	12687	9.7	10.3	10.6				100	15
ARMOUR AGRI. CHEMICAL CO.		JEFFERSONVILLE		IND.		XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT					
4-12-8M	12651	3.9	12.1	9.0				102	15
5-20-20M	12646	5.0	18.4*	21.5				98	15
5-20-20M	12652	5.2	18.7*	20.2				98	15
5-20-20M	12803	4.8	19.8	19.5*				98	15
6-12-12M	12653	5.8	11.8	13.3				100	15
10-10-10M	12645	9.6*	10.9	10.1				101	15
10-10-10M	12654	9.5*	10.2	11.5				101	15
ARMOUR AGR. CHEMICAL CO.		NASHVILLE		TENN		XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT					
0-20-0	12806	0.0	21.0	0.0				105	15
0-20-0	12842	0.0	20.4	0.0				102	16
0-20-20M	12847	0.0	19.8	19.0*				98	16
0-20-20M	12804	0.0	18.7*	20.4				96*	25
3-12-6M	12787	2.4*	12.9	5.7				99	11

TABLE 1.—Analyses of Inspection Samples of Dry Fertilizers, July-December, 1965

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

ARMOUR AGR. CHEMICAL CO.		NASHVILLE		TENN. CONT.		RV	PHYS
GRADE	NUM	N	APA	POT	XS CL		
3-12- 6M	12791	2.9	12.5	6.4		103	11
3-12-24M W/B	12848	2.9	10.7*	25.5		98	16
4-12- 8M	12837	4.1	11.7	8.4		100	13
4-12- 8M	12558	4.1	11.4*	8.4		99	15
4-12- 8M	12784	3.7*	12.3	9.6		103	15
4-12- 8M	12786	3.9	11.7	8.6		100	15
4-12- 8M	12844	3.8	12.4	10.4		106	16
5-20-20M	12497	4.9	19.1*	19.6		97*	13
5-20-20M	12727	4.7*	18.4*	21.1		96*	13
5-20-20M	12495	4.9	19.8	21.1		100	15
5-20-20M	12557	5.3	19.2*	18.9*		98	15
5-20-20M	12845	4.8	17.7*	22.5		96*	16
6-12-12M	12506	5.9	12.3	12.2		101	15
6-12-12M	12617	5.6*	12.7	11.9		100	15
6-12-12M	12785	5.7*	12.6	11.2*		99	15
6-12-12M	12820	5.9	11.8	12.3		99	15
6-12-12M	12830	6.0	12.1	12.2		101	15
6-12-12M	12752	5.8	12.7	12.7		103	16
6-12-12M	12846	6.1	11.8	11.4*		99	16
6-18-12M	12505	4.7*	15.3*	11.1*		85*	15
6-18-12M	12782	6.0	17.2*	13.1		99	15
6-18-12M	12783	6.1	17.6	12.7		100	15
6-18-12M	12582	6.0	17.1*	13.7		100	16
6-18-12M	12843	6.0	17.3*	12.6		99	16
10-10-10M	12504	9.4*	10.7	10.4		100	15
10-10-10M	12531	9.4*	10.7	11.9		102	15
10-10-10M	12559	9.9	11.9	9.6*		105	15
10-10-10M	12788	9.3*	11.4	10.5		102	15
10-10-10M	12792	9.4*	11.1	11.3		103	15
10-10-10M	12805	10.0	10.7	9.9		102	15
10-10-10M	12838	9.2*	10.7	12.6		102	15
10-10-10M	12553	9.7	10.3	10.1		99	16
BARTLETT + O BRYAN FERT. CO.		OWENSBORO		KY.		RV	PHYS
GRADE	NUM	N	APA	POT	XS CL		
5-10-15S	12484	5.3	11.1	16.5		109	11
5-20-20M	12485	5.8	18.7*	19.4*		99	15
5-20-20M	12563	5.0	21.1	20.1		103	15
6-12-12M	12486	6.1	15.8	18.4		126	15
6-24-24M	12564	5.7*	23.0*	24.2		97*	15
10-10-10M	12487	11.6	10.1	10.3		109	15
12-12-12M	12488	13.2	9.3*	8.1*		92*	13
BLUEGRASS PLANT FOODS, INC.		CYNTHIANA		KY.		RV	PHYS
GRADE	NUM	N	APA	POT	XS CL		
10-10-10M	12863	9.5*	10.1	12.0		101	13
BLUEGRASS PLANT FOODS, INC.		DANVILLE		KY.		RV	PHYS
GRADE	NUM	N	APA	POT	XS CL		
0-20- 0	12604	0.0	18.5*	0.0		92*	11
6-12-12M	12605	7.0	11.9	12.8		107	13
12-12-12M	12606	11.4*	14.0	12.0		103	13
BUNTON SEED COMPANY		LOUISVILLE		KY.		RV	PHYS
GRADE	NUM	N	APA	POT	XS CL		
10-12- 6M	12627	8.6*	13.0	7.0		98	13
BURLEY BELT FERTILIZER CO.		LEXINGTON		KY.		RV	PHYS
GRADE	NUM	N	APA	POT	XS CL		
5-20-20M	12544	4.8	19.6	19.8		98	23
10-10-10M	12864	9.5*	9.8	10.7		98	25



**TABLE 1.— Analyses of Inspection Samples of Dry Fertilizers, July-December, 1965**  
Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

Company	Grade	Num	N	APA	POT	XS CL	RV	PHYS
CALIFORNIA CHEMICAL CO.— RICHMOND, CALIF.								
	33- 0- 0	12594	34.1	0.0	0.0		102	17
CENTRAL FARMERS FERTILIZER CO. CHICAGO ILL.								
	0- 0-60M	12600	0.0	0.0	60.3		100	15
	0-46- 0	12835	0.0	45.9	0.0		100	11
	0-46- 0	12599	0.0	45.6	0.0		99	15
CHILEAN NITRATE SALES CORP. NEW YORK N.Y.								
	16- 0- 0	12535	15.9	0.0	0.0		99	17
CHRISTIAN COUNTY SUPPLY CO. HOPKINSVILLE KY.								
	3-12-24M W/B	12724	2.5*	10.0*	25.1		92*	26
	4-12- 8M	12750	1.8*	5.2*	20.6		83*	26
	5-20-20M	12723	3.1*	10.1*	32.6		83*	26
	5-20-20M	12749	6.2	21.4	22.0		111	26
	10-10-10M	12748	10.1	11.5	10.8		107	26
	10-20-20M	12742	9.4*	19.7	21.3		99	26
COASTAL CHEMICAL CORP. YAZOO CITY MISS								
	18-46- 0	12705	18.3	46.4	0.0		101	17
COMMONWEALTH FERTILIZER CO. CAMPBELLSVILLE KY.								
	10-10-10M	12761	10.0	10.3	10.2		101	26
COMMONWEALTH FERTILIZER CO. ELKTON KY.								
	0-10-30M	12584	0.0	10.4	30.2		102	22
	6-12-12M	12751	6.0	13.2	12.5		105	14
	6-12-12M	12583	6.9	12.4	12.3		107	16
COMMONWEALTH FERTILIZER CO. RUSSELLVILLE KY.								
	0-20- 0	12670	0.0	19.7	0.0		99	11
	0-20- 0	12523	0.0	19.6	0.0		98	12
	0-20-20M	12667	0.0	19.9	21.1		102	23
	4-12- 8M	12839	5.3	12.6	8.6		113	13
	4-12- 8M	12659	4.7	12.6	9.2		110	15
	5-20-20M	12491	5.1	19.2*	20.4		99	14
	5-20-20M	12521	5.3	20.9	19.2*		103	14
	5-20-20M	12668	5.5	19.5*	19.9		101	15
	5-20-20M	12808	6.0	19.4*	16.7*		98	15
	5-20-20M	12840	5.3	19.3*	21.0		101	15
	6-12-12M	12520	6.6	12.4	12.4		105	14
	6-12-12M	12841	6.0	12.7	12.9		104	15
	6-18-12M	12522	6.4	15.7*	13.1		96*	14
	10-10-10M	12519	9.5*	11.2	10.7		103	14
	10-10-10M	12669	9.2*	11.0	11.3		102	15
	10-10-10M	12809	9.9	11.0	10.4		103	15
	10-10-10M	12891	9.8	10.0	10.6		100	15
COOPERATIVE FERTILIZER SERVICE BRISTOL VA.								
	0-25-25M	12536	0.0	26.1	26.0		104	23
	5-10-10M	12537	5.1	10.5	10.3		104	11
	10-10-10M	12538	10.2	10.2	10.1		102	11
	10-20-20M	12539	10.6	21.1	20.5		105	23
COOPERATIVE FERTILIZER SERVICE LOUISVILLE KY.								
	0-15-30M W/B	12865	0.0	15.9	28.9*		101	11
	0-15-30M W/B	12677	0.0	15.8	31.4		105	21

**TABLE 1.—Analyses of Inspection Samples of Dry Fertilizers, July-December, 1965**  
Analyses deficient more than tolerance and relative values of 97 percent  
or less indicated by asterisk.

COOPERATIVE FERTILIZER SERVICE		LOUISVILLE		KY. CONT.		RV	PHYS
GRADE	NUM	N	APA	PDT	XS CL		
0-20-20M	12673	0.0	20.6	21.2		104	11
0-20-20M	12834	0.0	20.5	20.7		103	15
4-12- 8M	12678	4.1	12.1	8.8		103	11
5-20-20M	12679	5.0	20.0	21.1		101	11
5-20-20M W/B	12517	5.1	20.6	20.7		103	13
6-12-12M	12721	5.8	13.1	11.7		103	11
10-10-10M	12680	9.8	11.1	10.0		103	11
10-10-10M	12833	9.4*	10.6	10.5		100	11
10-10-10M	12509	9.5*	11.1	11.0		103	13
10-10-10M	12642	9.7	11.5	10.2		104	13
10-10-10M	12920	10.0	10.5	10.5		103	15
10-10-10M	12908	10.2	10.4	10.5		103	23
COOPERATIVE FERTILIZER SERVICE		RUSSELLVILLE KY.				RV	PHYS
GRADE	NUM	N	APA	PDT	XS CL		
0-15-30M W/B	12674	0.0	14.3*	31.5		100	23
0-15-30M W/B	12713	0.0	15.0	29.0*		98	23
0-20-20M	12588	0.0	19.2*	22.8		102	21
4-12- 8M	12589	3.9	11.9	8.7		100	11
4-12- 8M	12577	3.8	12.1	8.7		100	15
4-12- 8M	12609	5.8	12.8	8.9		118	15
4-12- 8M	12714	4.2	12.1	9.0		104	15
4-12- 8M	12781	4.9	12.2	8.3		108	15
4-12- 8M	12807	4.0	12.4	9.3		105	15
5-20-20M	12585	4.7*	19.5*	20.2		98	13
5-20-20M	12518	6.0	19.5*	19.0*		101	15
5-20-20M	12590	5.1	17.8*	21.9		97*	15
5-20-20M	12601	4.7*	19.0*	21.5		98	15
5-20-20M	12608	5.0	18.3*	21.9		98	15
5-20-20M	12675	4.9	19.6	20.5		99	15
5-20-20M	12715	4.9	19.8	19.6		98	15
5-20-20M	12790	4.9	19.2*	21.4		99	15
5-20-20M	12875	4.6*	19.2*	21.6		99	15
5-20-20M	12906	4.8	19.7	21.3		100	15
5-20-20M	12919	5.3	20.7	19.7		103	15
5-20-20M	12566	5.0	19.0*	21.7		100	16
6-12-12M	12576	6.3	12.6	11.7		103	15
6-12-12M	12591	6.3	12.3	11.9		102	15
6-12-12M	12602	6.3	12.0	13.3		104	15
6-12-12M	12610	6.5	11.8	12.7		104	15
6-12-12M	12780	6.5	11.8	13.0		104	15
6-12-12M	12789	6.0	12.1	12.9		102	15
6-12-12M	12880	5.9	12.5	12.2		101	15
6-12-12M	12930	6.3	12.4	13.0		105	15
6-18-12M	12592	6.2	17.8	11.3*		99	15
6-18-12M	12795	6.3	17.2*	13.1		101	15
10-10-10M	12578	10.4	9.8	10.2		102	15
10-10-10M	12593	10.2	9.9	10.0		101	15
10-10-10M	12693	10.5	9.7*	10.5		102	15
10-10-10M	12779	10.5	9.9	10.5		103	15
10-10-10M	12565	10.1	9.6*	10.5		100	16
12-12-12M	12603	11.9	11.7	12.5		99	15
12-12-12M	12639	11.5*	12.3	12.1		99	15
12-12-12M	12676	11.9	11.9	12.2		100	15
12-12-12M	12681	12.0	11.6*	12.7		100	15
12-12-12M	12685	12.3	11.4*	12.3		100	15
12-12-12M	12716	12.2	11.5*	11.7		99	15



**TABLE 1.— Analyses of Inspection Samples of Dry Fertilizers, July-December, 1965**  
Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

COOPERATIVE FERTILIZER SERVICE		WINCHESTER		KY.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0- 0-60M	12926	0.0	0.0	59.0			98	15
0-20- 0	12925	0.0	19.3*	0.0			96*	11
0-20-20M	12928	0.0	20.1	21.4			103	11
4-12- 8M	12545	4.0	12.2	8.4			102	11
4-12- 8M	12547	4.1	11.9	8.6			101	11
4-12- 8M	12550	3.9	11.3*	8.6			97*	11
4-12- 8M	12890	3.8	12.5	8.6			102	11
5-20-20M	12543	4.9	20.1	20.9			101	11
5-20-20M	12546	4.6*	22.0	18.5*			102	11
5-20-20M	12686	4.9	19.9	20.5			100	11
5-20-20M	12892	4.8	20.4	19.9			100	11
5-20-20M	12936	4.9	20.4	21.0			102	11
DARLING + COMPANY		CAIRO		ILL.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
4-12- 8M	12561	5.8	13.2	9.9			122	15
5-20-20M	12494	4.9	20.6	20.1			101	15
5-20-20M	12496	5.4	21.5	19.9			105	15
5-20-20M	12698	5.1	18.7*	19.4*			96*	15
5-20-20M	12912	6.4	19.0*	19.4*			102	15
6-12-12M	12699	5.0*	11.3*	11.3*			90*	15
6-12-12M	12913	5.2*	11.6*	11.7			93*	15
6-12-12M	12916	4.7*	11.1*	12.1			90*	15
6-24-18M	12611	7.1	23.8	19.5			105	15
10-10-10M	12562	8.7*	13.8	11.0			108	15
DARLING + COMPANY		E. ST. LOUIS		ILL.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-25-25M	12871	0.0	26.0	22.3*			99	16
5-15-30M	12870	5.7	15.6	27.9*			102	16
15-15-15M	12869	13.8*	14.9	15.6			97*	16
E TOWN FERTILIZER, SPENCER DIV		CECILIA		KY.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
4-12- 8M	12901	4.1	11.8	11.6			108	15
6-12-12M	12902	6.1	11.7	14.3			104	13
10-10-10M	12903	10.6	10.4	10.0			104	15
17- 9- 9M	12512	17.5	11.3	8.9			108	13
FARMERS CHEMICAL ASSN., INC.		TYNER		TENN		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
33- 0- 0	12540	34.3	0.0	0.0			102	17
FEDERAL CHEMICAL COMPANY		HUMBOLDT		TENN		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
5-20-20M	12915	5.6	20.7	20.2			104	15
6-12-12M	12917	6.3	11.9	12.5			102	15
10-10-10M	12918	10.0	10.4	9.9			101	15
12-12-12M	12914	11.0*	15.4	13.3			107	15
15-15-15M	12931	12.9*	13.7*	15.2			91*	15
FEDERAL CHEMICAL COMPANY		LOUISVILLE		KY.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-10-30M W/B	12717	0.0	9.8	34.1			108	25
3-12-12M	12625	4.7	13.0	12.1			116	15
4-12- 8M	12548	3.9	12.2	11.2			108	15
4-12- 8M	12638	3.9	12.1	7.8			99	15
4-12- 8M	12718	4.2	11.9	9.0			103	15
4-12- 8M	12909	4.2	12.7	9.5			108	16
5-20-20M	12684	4.7*	19.5*	21.1			99	15
5-20-20M	12836	5.3	20.1	20.2			102	15
5-20-20M	12910	5.2	19.6	21.2			101	16
6-12-12M	12933	6.9	11.6*	12.3			104	15

TABLE 1.—Analyses of Inspection Samples of Dry Fertilizers, July-December, 1965

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

FEDERAL CHEMICAL COMPANY		LOUISVILLE		KY. CONT.			
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
10-10-10M	12510	9.3*	11.0	11.0		101	13
10-10-10M	12624	9.5*	10.9	11.0		102	15
10-10-10M	12643	10.1	10.4	11.3		104	15
10-10-10M	12719	9.9	10.6	10.7		103	15
10-10-10M	12899	10.1	10.4	10.2		102	15
10-10-10M	12911	9.9	10.7	9.9		102	15
10-10-10M	12932	10.0	10.7	10.9		104	15
12-12-12M	12549	11.6*	12.3	11.6*		99	15
12-12-12M	12720	11.4*	12.0	11.5*		97*	15
FEDERAL CHEMICAL COMPANY		NASHVILLE		TENN			
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
0- 9-27M W/B	12571	0.0	9.8	24.5*		98	16
0-20-20M	12877	0.0	19.9	20.1		100	14
4-12- 8M	12507	4.2	11.4*	9.9		103	15
5-20-20M	12876	4.6*	18.6*	21.6		97*	14
5-20-20M	12575	4.7*	18.7*	20.7		96*	16
5-20-20M	12587	4.8	18.4*	20.7		96*	16
5-20-20M	12728	4.9	19.9	20.8		100	16
5-20-20M	12939	6.2	21.0	18.4*		105	16
6-18-12M	12572	6.2	16.9*	11.5*		97*	16
6-18-12M	12731	5.6*	17.5*	11.1*		95*	16
10-10-10M	12878	10.2	10.1	11.1		103	14
10-10-10M	12508	10.0	10.7	10.2		102	15
10-10-10M	12586	10.0	9.8	10.5		100	15
10-10-10M	12768	10.2	10.1	10.0		101	15
10-10-10M	12573	9.6*	10.0	10.2		98	16
10-10-10M	12729	10.2	10.1	10.7		102	16
10-10-10M	12769	10.0	9.9	10.6		101	16
10-10-10M	12937	10.3	10.3	9.8		102	16
10-20-20M	12730	10.0	19.7	20.1		99	16
12-12-12M	12868	11.3*	11.9	13.2		98	15
12-12-12M	12574	11.1*	12.1	12.2		97*	16
W.R. GRACE + CO. DAV. CHEM.		BARTOW		FLA.			
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
0-46- 0	12666	0.0	46.0	0.0		100	15
W. R. GRACE + COMPANY		COLUMBUS		OHIO			
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
5-20-20M	12858	5.1	19.9	19.0*		99	15
W. R. GRACE + COMPANY		NASHVILLE		TENN			
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
0-20-20M	12664	0.0	21.4	19.0*		103	16
4-12- 8M	12554	4.5	11.7	8.7		104	15
5-20-20M	12765	4.7*	20.1	20.1		99	14
5-20-20M	12881	4.7*	20.2	20.0		99	14
5-20-20M	12556	5.0	19.8	19.3*		99	15
5-20-20M	12702	4.5*	20.4	19.8		99	15
5-20-20M	12516	5.0	20.3	19.3*		100	16
6-12-12M	12882	5.4*	12.4	12.2		99	14
6-12-12M	12514	5.7*	12.2	11.3*		98	15
6-12-12M	12766	5.6*	12.0	12.0		98	15
6-12-12M	12793	6.0	11.7	12.1		99	15
6-18-12M	12701	5.5*	17.8	11.9		97*	15
6-18-12M	12763	5.5*	19.3	8.7*		97*	16
10-10-10M	12764	8.7*	10.7	10.2		96*	14
10-10-10M	12555	9.1*	10.5	10.3		98	15
10-10-10M	12767	9.0*	10.6	10.6		98	15
10-10-10M	12794	9.5*	10.0	10.7		99	15



**TABLE 1.—Analyses of Inspection Samples of Dry Fertilizers, July-December, 1965**  
Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

W. R. GRACE + COMPANY		NASHVILLE		TENN	CONT.		
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
10-10-10M	12515	10.0	10.0	10.9		101	16
W. R. GRACE + CO.		NEW ALBANY		IND.			
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
0- 0-60M	12650	0.0	0.0	60.4		101	15
0-20- 0	12649	0.0	19.7	0.0		98	15
0-25-25M	12490	0.0	23.8*	26.9		99	25
0-25-25M	12618	0.0	25.3	26.2		102	26
4-12- 8M	12647	4.4	12.4	9.6		108	15
4-12- 8M	12708	4.7	12.4	9.9		111	15
4-12- 8M	12710	4.3	11.9	9.3		104	16
5-20-20M	12560	5.2	19.5	20.3		100	15
5-20-20M	12641	5.0	19.3*	21.5		100	15
5-20-20M	12709	5.5	20.1	20.2		103	15
5-20-20M	12800	5.0	19.8	20.1		100	15
5-20-20M	12904	5.0	20.0	20.2		100	15
5-20-20M	12934	6.1	18.5*	20.2		101	15
5-20-20M	12682	5.2	20.4	19.3*		101	16
5-20-20M	12711	5.2	19.5	20.8		101	16
6-12-12M	12648	6.0	12.9	13.1		105	15
6-18-12M	12657	6.1	17.8	13.7		102	15
6-18-12M	12801	6.3	18.6	13.5		105	15
6-18-12M	12658	6.5	17.7	13.3		103	16
10-10-10M	12619	10.3	9.8	10.5		101	15
10-10-10M	12640	10.0	10.4	10.8		103	15
10-10-10M	12665	10.1	9.8	10.7		101	15
10-10-10M	12797	9.9	10.9	11.6		105	15
10-10-10M	12802	9.8	11.0	13.5		108	15
W. R. GRACE + CO.		MURPHYSBORO		ILL.			
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
6-24-24M	12825	5.6*	23.4*	24.1		97*	25
8-32-16M	12824	7.8	30.8*	16.2		97*	15
W. R. GRACE + COMPANY		MEMPHIS		TENN			
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
33- 0- 0	12796	34.5	0.0	0.0		103	17
GRO-GREEN CHEMICAL CO., INC.		SHELBYVILLE		KY.			
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
10-10-10M	12762	10.4	9.5*	11.7		103	14
10-10-10M	12867	8.1*	8.5*	8.7*		83*	14
12-12-12M	12866	10.8*	11.7	11.4*		93*	15
HUTSON CHEMICAL COMPANY		MURRAY		KY.			
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
0-52- 0	12774	0.0	51.6	0.0		99	11
0-52- 0	12700	0.0	50.8*	0.0		98	15
0-54- 0	12776	0.0	51.2*	0.0		95*	15
6-12-12M	12696	6.4	13.1	13.0		108	11
10-21-14M	12697	9.5*	21.1	17.0		99	25
18-46- 0	12775	18.1	46.3	0.0		101	15
INTERNATIONAL MIN + CHEM CORP		CINCINNATI		OHIO			
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
0-25-25M W/B	12854	0.0	22.2*	26.1		94*	15
5-20-20M	12644	5.0	19.1*	19.8		97*	16
INTERNATIONAL MIN + CHEM CORP		CLARKSVILLE		TENN			
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
5-20-20M	12831	4.6*	21.0	18.5*		99	15
6-12-12M	12832	5.7*	12.4	13.0		102	13
10-10-10M	12725	9.2	8.9*	9.8*		74*	14

TABLE 1.— Analyses of Inspection Samples of Dry Fertilizers, July-December, 1965

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

INTERNATIONAL MIN + CHEM CORP	GREENVILLE	TENN					
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
10-10-10M	12542	9.3*	11.0	9.9		99	13
INTERNATIONAL MIN + CHEM CORP	SOMERSET	KY.					
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
6-18-12M	12889	5.9	17.3*	13.0		99	15
KENCO FERTILIZER CO.	HORSE CAVE	KY.					
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
0-20-20M	12530	0.0	21.1	19.1*		102	25
5-20-20M	12529	4.9	21.5	20.5		104	25
KENTUCKY FERTILIZER WORKS	WINCHESTER	KY.					
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
0-20- 0	12895	0.0	20.9	0.0		104	11
5-20-20M	12927	4.9	19.6	20.6		99	23
10-10-10M	12894	9.2*	11.2	10.2		100	23
PRESCRIPTION FERT. SERVICE	GUTHRIE	KY.					
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
0- 0-62M	12663	0.0	0.0	62.0		100	18
0-15-10M	12743	0.0	16.1	11.3		109	12
6-24-12M	12660	6.0	23.3*	11.7		98	25
6-24-12M	12661	7.2	22.0*	13.9		102	26
6-32-16M	12662	6.0	32.1	17.0		101	25
6-32-16M	12754	5.9	32.1	17.6		101	25
6-32-16M	12726	6.1	35.4	13.4*		105	26
7-28-14M	12744	8.0	28.7	14.6		105	16
9-23-30M	12581	7.8*	21.8*	32.2		96*	26
10-10-10M	12753	10.0	10.8	10.3		103	26
LAND-O-NAN WAREHOUSE	STURGIS	KY.					
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
0-25-25M	12873	0.0	22.6*	26.0		95*	25
5-20-30M	12874	4.5*	18.4*	31.0		96*	25
NORTH AMERICAN FERT. CO.	LOUISVILLE	KY.					
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
0-20-20M W/B	12499	0.0	18.9*	19.5*		95*	13
4-12- 8M	12621	4.5	11.3*	10.6		106	11
5-20-20M	12498	5.1	19.3*	19.7		98	13
5-20-20M	12622	5.5	19.1*	20.8		101	15
5-20-20M	12798	5.5	19.6	21.3		103	15
5-20-20M	12623	5.8	19.2*	20.5		102	16
6-12-12M	12907	5.9	11.5*	13.0		100	13
10-10-10M	12620	9.4*	10.3	10.7		99	11
F. S. ROYSTER GUANO COMPANY	NORFOLK	VA.					
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
0-10-30M	12634	0.0	10.6	28.1*		99	15
0-20- 0	12481	0.0	19.8	0.0		99	15
0-20- 0	12482	0.0	19.8	0.0		99	15
0-20- 0	12692	0.0	20.3	0.0		102	15
0-20-20M W/B	12689	0.0	20.7	18.9*		100	15
4-12- 8M	12635	4.1	12.4	9.5		106	15
4-12- 8M	12712	4.3	12.5	9.8		109	15
4-12- 8M	12888	3.9	12.3	8.7		102	15
5-20-20M	12690	4.9	20.0	19.4*		99	15
5-20-20M	12722	5.2	20.3	19.7		101	15
6-12-12M	12636	6.5	12.2	12.1		104	15
6-12-12M	12691	6.1	11.9	12.7		102	15
10-10-10M	12637	10.3	10.4	10.6		104	15
PRICE CHEMICAL COMPANY	LOUISVILLE	KY.					
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS
10-10-10M	12513	9.4*	10.7	10.5		100	15



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F. S. ROYSTER GUANO CO.		MARSEILLES		ILL.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-20- 0	12567	0.0	20.1	0.0			101	15
SWIFT + COMPANY		NAT STOCKYDS		ILL.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
3-12-12M	12595	3.5	12.8	12.5			108	15
5-20-20M	12596	4.7*	20.8	18.7*			99	15
12-12-12M	12597	11.7	13.5	11.5*			102	15
TENNESSEE CORPORATION		TAMPA		FLA.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-46- 0	12893	0.0	46.9	0.0			102	15
0-46- 0	12896	0.0	46.8	0.0			102	15
TRI-STATE CHEMICAL CO.		HENDERSON		KY.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
6-18-12M	12551	6.7	17.4*	11.0*			100	16
10-10-10M	12552	10.0	12.6	10.6			109	16
TRI-STATES CHEMICAL COMPANY		CLAY		KY.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
5-20-20M	12879	5.3	19.7	20.8			102	14
UNION FERTILIZER CO.		MORGANFIELD		KY.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-31-20M	12872	0.0	30.8	21.5			101	26
VALLEY COUNTIES OF KY. COOP.		BENTON		KY.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0- 0-60M	12613	0.0	0.0	59.9			100	15
0-52- 0	12598	0.0	51.6	0.0			99	15
0-52- 0	12826	0.0	52.0	0.0			100	15
0-52- 0	12815	0.0	51.5	0.0			99	16
5-20-20M	12706	5.3	20.4	20.4			103	25
6-24-24M	12612	6.2	25.4	23.3*			103	15
8-24-16M	12828	7.7*	25.9	14.8*			102	26
16-16-16M	12614	15.9	15.7	16.1			99	15
16-16-16M	12816	15.9	15.8	16.1			99	15
16-16-16M	12827	15.8	15.7	16.2			99	15
16-16-16M	12829	15.9	15.9	16.0			99	15
16-16-16M	12707	14.9*	15.7	16.2			96*	17
30- 0- 0	12817	36.1	0.0	0.0			120	15
V-C CHEMICAL COMPANY		CINCINNATI		OHIO		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-20- 0	12924	0.0	19.4*	0.0			97*	14
0-20-20M	12923	0.0	20.7	21.0			104	14
0-20-20M	12629	0.0	22.7	18.2*			106	15
0-20-20M	12810	0.0	20.4	18.9*			99	15
0-20-20M	12813	0.0	20.7	19.9			102	16
3-12-12M	12633	3.2	11.9	12.3			101	15
4-12- 8M	12922	4.4	11.9	8.1			102	14
4-12- 8M	12897	4.2	15.1	10.1			120	15
5-10-10M	12631	4.9	10.5	10.8			103	15
5-20-20M	12921	5.3	19.3*	20.1			99	14
5-20-20M	12630	5.2	20.2	20.6			102	15
5-20-20M	12811	5.0	21.3	18.9*			102	15
5-20-20M	12814	5.0	20.2	20.4			101	16
6-24-12M	12632	6.1	22.7*	12.4			97*	15
10-10-10M	12628	9.4*	10.0	9.8			97*	15
10-10-10M	12812	9.6*	9.9	10.2			98	15
10-10-10M	12898	9.8	9.8	10.0			98	15
V-C CHEMICAL COMPANY		HOPKINSVILLE		KY.		XS CL	RV	PHYS
GRADE	NUM	N	APA	POT				
0-20-20M W/B	12777	0.0	19.8	23.4			105	15

**TABLE 1.— Analyses of Inspection Samples of Dry Fertilizers, July-December, 1965**  
Analyses deficient more than tolerance and relative values of 97 percent or less indicated by asterisk.

V-C CHEMICAL COMPANY		HOPKINSVILLE KY CONT.						
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS	
4-12- 8M	12746	4.1	12.1	9.9		105	16	
4-12- 8M	12778	3.9	12.3	8.6		102	16	
5-20-20M	12501	4.9	18.1*	17.8*		92*	15	
5-20-20M	12770	4.8	19.3*	20.6		98	15	
5-20-20M	12732	5.1	19.3*	20.3		99	16	
5-20-20M	12745	5.1	19.3*	21.0		100	16	
6-12-12M	12615	5.8	11.9	12.6		100	15	
6-12-12M	12772	5.7*	11.9	12.9		100	15	
6-18-12M	12503	5.5*	16.6*	13.1		95*	15	
6-18-12M	12771	5.8	17.2*	13.1		98	15	
6-18-12M	12799	5.8	17.9	13.8		102	15	
10-10-10M	12502	9.1*	10.5	10.7		98	15	
10-10-10M	12616	9.5*	9.9	10.6		98	15	
10-10-10M	12773	9.3*	10.3	10.2		98	15	
V-C CHEMICAL COMPANY		MT. PLEASANT TENN						
GRADE	NUM	N	APA	POT	XS CL	RV	PHYS	
0-10-30M W/B	12852	0.0	11.2	26.5*		98	16	
0-20- 0	12528	0.0	20.4	0.0		102	13	
4-12- 8M	12568	4.0	11.5*	8.3		99	15	
4-12- 8M	12850	4.2	12.0	8.4		102	16	
4-12-12M	12525	4.0	12.1	12.9		102	15	
5-20-20M	12524	5.0	19.4*	20.4		99	15	
5-20-20M	12569	5.2	18.4*	19.2*		95*	15	
5-20-20M	12851	5.0	19.4*	20.4		99	16	
6-12-12M	12526	5.6*	11.9	13.1		99	15	
10-10-10M	12527	9.3*	10.3	10.9		99	15	
10-10-10M	12570	9.5*	9.8	11.1		98	15	
10-10-10M	12849	9.4*	9.8	11.0		98	16	



**TABLE 2.—Analyses of Inspection Samples of Liquid Fertilizers, July-December, 1965**  
Analyses deficient more than tolerance and relative values of 97 percent  
or less indicated by asterisk.

LAND-C-NAN WAREHOUSE		MORGANFIELD KY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
5-5-10M	12929	4.9	5.1	10.8		102	19	
V-C CHEMICAL COMPANY		HOPKINSVILLE KY			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
28-C-C	12747	24.3*	0.0	0.0		87*	19	
WEST KY. LIQUID FERT. CO.		BOWLING GREENKY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
4-12-24M	12883	4.1	11.8	25.3		102	10	
5-15-10M	12884	4.9	15.7	10.0		102	10	
5-15-10M	12886	5.1	15.7	10.1		103	10	
9-18-9M	12493	9.5	19.4	7.7*		104	19	
9-27-C	12885	8.7*	26.9	0.0		99	10	
12-12-12M	12492	13.0	12.9	9.5*		103	10	
WEST KY. LIQUID FERT. CO.		GUTHRIE KY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
4-12-24M	12755	3.6*	12.1	24.1		98	19	
5-15-10M	12757	4.6*	14.7	9.6*		96*	19	
5-15-10M	12758	4.7*	15.8	12.2		105	19	
5-15-15M	12759	2.6*	11.0*	25.9		93*	19	
6-20-10M	12760	5.7*	17.9*	12.6		96*	19	
15-10-10M	12756	13.8*	10.3	11.9		99	19	
WEST KY. LIQUID FERT. CO.		HOPKINSVILLE KY.			XS	CL	RV	PHYS
GRADE	NUM	N	APA	POT				
5-15-10M	12580	4.9	15.8	10.4		103	10	
5-15-10M	12739	4.9	15.1	9.9		100	10	
5-15-10M	12741	4.9	15.5	10.4		102	10	
5-15-15M	12735	4.4*	15.1	19.5		105	10	
5-15-15M	12740	4.7*	14.5*	16.5		99	10	
6-12-12M	12734	6.3	12.8	11.8		104	10	
6-18-12M	12733	5.9	19.0	17.1		110	10	
6-18-12M	12738	5.8	17.9	13.1		100	10	
6-18-18M	12579	5.8	18.5	18.3		101	10	
15-10-10M	12736	14.6*	10.0	11.3		100	10	
15-10-10M	12737	15.3	10.2	10.4		102	10	

TABLE 3 - Results of Analyses of Boron in Fertilizers Reported in Table 1. Analyses Deficient Are Underlined.

COMPANY AND PLANT	Sample Number	Guarantee	Found
Armour Agricultural Chemical Company Nashville, Tennessee	12848	0.34	0.34
Christian County Supply Company Hopkinsville, Kentucky	12724	0.34	0.34
Cooperative Fertilizer Service Louisville, Kentucky	12517 12677 12865	0.34 0.45 0.45	0.35 0.51 0.49
Cooperative Fertilizer Service Russellville, Kentucky	12674 12713	0.45 0.45	0.63 <u>0.35</u>
Federal Chemical Company Louisville, Kentucky	12717	0.57	<u>0.32</u>
Federal Chemical Company Nashville, Tennessee	12571	0.46	<u>0.36</u>
International Mineral & Chemical Corp. Cincinnati, Ohio	12854	0.57	<u>0.19</u>
North American Fertilizer Company Louisville, Kentucky	12499	0.56	<u>0.49</u>
F. S. Royster Guano Company Norfolk, Virginia	12689	0.57	0.54
V-C Chemical Company Hopkinsville, Kentucky	12777	0.34	0.41
V-C Chemical Company Mt. Pleasant, Tennessee	12852	0.45	<u>0.40</u>



Average Percentages of Guarantee and Coefficients of Variation for all Samples by Fertilizer Manufacturers, Kentucky, Spring Season, 1965

AMERICAN AGRI. CHEM. CO.							
RELATIVE VALUE FOR	N	P205	K20	CV. FOR	N	P205	K20
CINCINNATI	99.02	100.09	105.01		3.68	3.11	3.68
LONDON	99.80	100.34	100.56		2.69	4.16	3.32
NASHVILLE	99.76	99.48	99.98		4.99	2.61	4.03
SEYMOUR	100.81	99.72	102.77		2.85	1.36	2.81
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR							
AMERICAN AGRI. CHEM. CO.	99.56	100.01	102.22		3.60	3.06	3.54
ARMOUR AGRI. CHEMICAL CO.							
RELATIVE VALUE FOR	N	P205	K20	CV. FOR	N	P205	K20
ATLANTA	96.21	98.37	101.34		3.97	2.04	5.69
CHEROKEE	100.05	100.52	102.02		0.32	2.36	0.29
CINCINNATI	98.34	102.77	101.48		5.53	5.04	5.55
JEFFERSONVIL	97.63	100.98	103.39		5.00	5.15	4.88
NASHVILLE	99.42	99.57	101.06		6.51	6.68	6.92
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR							
ARMOUR AGRI. CHEMICAL CO.	96.54	100.91	101.79		4.95	5.11	5.51
BARTLETT + O BRYAN FERT. CO.							
RELATIVE VALUE FOR	N	P205	K20	CV. FOR	N	P205	K20
OWENSBORO	100.00	98.53	106.53		5.58	4.95	4.15
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR							
BARTLETT + O BRYAN FERT. CO.	100.00	98.53	106.53		5.58	4.95	4.15
BLUEGRASS PLANT FOODS, INC.							
RELATIVE VALUE FOR	N	P205	K20	CV. FOR	N	P205	K20
CYNTHIANA	98.56	99.03	105.98		4.62	5.23	5.30
DANVILLE	96.59	98.02	107.16		5.09	3.85	5.11
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR							
BLUEGRASS PLANT FOODS, INC.	97.13	98.28	106.85		4.91	4.36	5.18
BURLEY BELT FERTILIZER CO.							
RELATIVE VALUE FOR	N	P205	K20	CV. FOR	N	P205	K20
LEXINGTON	96.72	99.62	103.90		5.16	4.41	4.52
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR							
BURLEY BELT FERTILIZER CO.	96.72	99.62	103.90		5.16	4.41	4.52
CECIL FARM SUPPLY INC.							
RELATIVE VALUE FOR	N	P205	K20	CV. FOR	N	P205	K20
STANLEY,	99.78	96.45	99.96		1.75	5.90	7.37
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR							
CECIL FARM SUPPLY INC.	99.78	96.45	99.96		1.75	5.90	7.37
CHRISTIAN COUNTY SUPPLY CO.							
RELATIVE VALUE FOR	N	P205	K20	CV. FOR	N	P205	K20
HOPKINSVILLE	95.17	89.05	118.61		20.96	26.01	21.30
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR							
CHRISTIAN COUNTY SUPPLY CO.	95.17	89.05	118.61		20.96	26.01	21.30

## Average Percentages of Guarantee and Coefficients of Variation for all Samples by Fertilizer Manufacturers, Kentucky, Spring Season, 1965 (Continued)

CLINE FERTILIZER COMPANY						
RELATIVE VALUE FOR N	P205	K20	CV. FOR N	P205	K20	
EWING	101.68	103.51	104.38	17.28	13.96	19.39
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR CLINE FERTILIZER COMPANY						
	101.68	103.51	104.38	17.28	13.96	19.39
COMMONWEALTH FERTILIZER CO.						
RELATIVE VALUE FOR N	P205	K20	CV. FOR N	P205	K20	
ELKTON	100.00	102.48	101.72	2.77	6.59	4.42
RUSSELLVILLE	100.83	100.95	101.34	4.09	4.91	5.63
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR COMMONWEALTH FERTILIZER CO.						
	100.66	101.27	101.42	3.65	5.48	5.22
COOPERATIVE FERTILIZER SERVICE						
RELATIVE VALUE FOR N	P205	K20	CV. FOR N	P205	K20	
BRISTOL	100.90	97.83	107.23	3.97	5.60	3.49
LOUISVILLE	102.87	101.90	103.29	4.84	3.02	6.43
RUSSELLVILLE	104.10	99.70	103.33	4.62	2.85	4.15
WINCHESTER	100.02	99.07	103.92	3.73	3.61	3.06
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR COOPERATIVE FERTILIZER SERVICE						
	102.41	100.13	103.65	4.36	3.41	4.43
DARLING + COMPANY						
RELATIVE VALUE FOR N	P205	K20	CV. FOR N	P205	K20	
CAIRC	102.22	104.94	102.33	5.31	5.04	3.48
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR DARLING + COMPANY						
	102.22	104.94	102.33	5.31	5.04	3.48
E TOWN FERTILIZER, SPENCER DIV						
RELATIVE VALUE FOR N	P205	K20	CV. FOR N	P205	K20	
CECILIA	105.26	101.25	105.06	5.87	7.70	5.04
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR E TOWN FERTILIZER, SPENCER DIV						
	105.26	101.25	105.06	5.87	7.70	5.04
FARMERS CHEMICAL ASSN., INC.						
RELATIVE VALUE FOR N	P205	K20	CV. FOR N	P205	K20	
TYNER	101.22	0.00	0.00	0.99	0.00	0.00
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR FARMERS CHEMICAL ASSN., INC.						
	101.22	0.00	0.00	0.99	0.00	0.00
FEDERAL CHEMICAL COMPANY						
RELATIVE VALUE FOR N	P205	K20	CV. FOR N	P205	K20	
HUMBOLDT	104.54	99.33	102.01	15.96	6.50	6.42
LOUISVILLE	101.39	100.61	105.39	6.84	5.83	8.58
NASHVILLE	98.48	98.59	103.03	7.60	4.87	5.98
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR FEDERAL CHEMICAL COMPANY						
	101.01	99.74	104.06	9.32	5.67	7.18
GLASGOW FERTILIZER COMPANY						
RELATIVE VALUE FOR N	P205	K20	CV. FOR N	P205	K20	
GLASGOW	101.90	101.85	104.98	4.68	3.06	5.85



Average Percentages of Guarantee and Coefficient of Variation for all Samples by Fertilizer Manufacturers, Kentucky, Spring Season, 1965 (Continued)

RELATIVE VALUE AND CV. OF N P2O5 AND K2O FOR							
GLASGOW FERTILIZER COMPANY							
	101.90	101.85	104.98		4.68	3.06	5.85
W. R. GRACE + COMPANY							
RELATIVE VALUE FOR N		P2O5	K2O	CV. FOR	N	P2O5	K2O
NASHVILLE	96.79	99.12	101.22		5.60	3.93	7.33
NEW ALBANY	99.49	101.68	102.96		3.16	5.21	5.88
MEMPHIS	100.01	0.00	0.00		0.01	0.00	0.00
RELATIVE VALUE AND CV. OF N P2O5 AND K2O FOR							
W. R. GRACE + COMPANY							
	98.62	100.72	102.30		3.43	4.65	6.51
GRO-GREEN CHEMICAL CO., INC.							
RELATIVE VALUE FOR N		P2O5	K2O	CV. FOR	N	P2O5	K2O
SHELBYVILLE	96.00	102.77	100.81		5.28	11.61	8.32
RELATIVE VALUE AND CV. OF N P2O5 AND K2O FOR							
GRO-GREEN CHEMICAL CO., INC.							
	96.00	102.77	100.81		5.28	11.61	8.32
HUTSON CHEMICAL COMPANY							
RELATIVE VALUE FOR N		P2O5	K2O	CV. FOR	N	P2O5	K2O
MURRAY	97.60	102.21	105.83		5.73	3.91	8.15
RELATIVE VALUE AND CV. OF N P2O5 AND K2O FOR							
HUTSON CHEMICAL COMPANY							
	97.60	102.21	105.83		5.73	3.91	8.15
INTERNATIONAL MIN + CHEM CORP							
RELATIVE VALUE FOR N		P2O5	K2O	CV. FOR	N	P2O5	K2O
CINCINNATI	97.68	102.51	106.72		6.13	6.87	4.98
CLARKSVILLE	95.53	98.28	100.79		5.69	7.16	6.17
SOMERSET	93.28	99.48	101.96		4.79	3.49	4.86
RELATIVE VALUE AND CV. OF N P2O5 AND K2O FOR							
INTERNATIONAL MIN + CHEM CORP							
	95.61	100.46	103.63		5.54	5.80	5.27
KENTUCKY FERTILIZER WORKS							
RELATIVE VALUE FOR N		P2O5	K2O	CV. FOR	N	P2O5	K2O
WINCHESTER	102.74	98.25	103.05		3.05	3.40	4.38
RELATIVE VALUE AND CV. OF N P2O5 AND K2O FOR							
KENTUCKY FERTILIZER WORKS							
	102.74	98.25	103.05		3.05	3.40	4.38
MIDSOUTH CHEM. CO., INC.							
RELATIVE VALUE FOR N		P2O5	K2O	CV. FOR	N	P2O5	K2O
MEMPHIS	99.99	99.02	0.00		0.01	0.00	0.00
RELATIVE VALUE AND CV. OF N P2O5 AND K2O FOR							
MIDSOUTH CHEM. CO., INC.							
	99.99	99.02	0.00		0.01	0.00	0.00
NORTH AMERICAN FERT. CO.							
RELATIVE VALUE FOR N		P2O5	K2O	CV. FOR	N	P2O5	K2O
LOUISVILLE	98.69	98.79	106.80		2.64	3.58	5.08
RELATIVE VALUE AND CV. OF N P2O5 AND K2O FOR							
NORTH AMERICAN FERT. CO.							
	98.69	98.79	106.80		2.64	3.58	5.08

Average Percentages of Guarantee and Coefficient of Variation for all Samples by Fertilizer Manufacturers, Kentucky, Spring Season, 1965 (Continued)

OHIO VALLEY FERTILIZER, INC.						
RELATIVE VALUE FOR N	P205	K20	CV. FOR	N	P205	K20
MAYSVILLE	96.80	97.31	103.22	6.52	7.00	7.55
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR						
OHIO VALLEY FERTILIZER, INC.	96.80	97.31	103.22	6.52	7.00	7.55
F. S. ROYSTER GUANO COMPANY						
RELATIVE VALUE FOR N	P205	K20	CV. FOR	N	P205	K20
NORFOLK	100.58	101.40	101.83	3.72	2.71	4.42
LOUISVILLE	100.73	101.20	102.19	3.76	3.26	4.10
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR						
F. S. ROYSTER GUANO COMPANY	100.69	101.25	102.10	3.75	3.06	4.22
SPENCER CHEMICAL COMPANY						
RELATIVE VALUE FOR N	P205	K20	CV. FOR	N	P205	K20
HENDERSON	100.03	0.00	0.00	0.33	0.00	0.00
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR						
SPENCER CHEMICAL COMPANY	100.03	0.00	0.00	0.33	0.00	0.00
STEWART FERTILIZER SERVICE						
RELATIVE VALUE FOR N	P205	K20	CV. FOR	N	P205	K20
MT. VERNON	108.12	107.33	104.08	14.01	10.59	12.14
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR						
STEWART FERTILIZER SERVICE	108.12	107.33	104.08	14.01	10.59	12.14
SWIFT + COMPANY						
RELATIVE VALUE FOR N	P205	K20	CV. FOR	N	P205	K20
NAT STOCKYDS	97.97	99.24	104.10	2.26	3.39	2.27
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR						
SWIFT + COMPANY	97.97	99.24	104.10	2.26	3.39	2.27
TENNESSEE CORPORATION						
RELATIVE VALUE FOR N	P205	K20	CV. FOR	N	P205	K20
CINCINNATI	109.77	96.08	105.00	5.49	2.53	0.92
NEW ALBANY	105.34	98.98	104.44	5.71	3.88	7.28
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR						
TENNESSEE CORPORATION	106.52	98.16	104.60	5.63	3.36	4.85
TRI-STATE CHEMICAL CO.						
RELATIVE VALUE FOR N	P205	K20	CV. FOR	N	P205	K20
HENDERSON	105.29	104.25	102.40	5.32	9.14	11.35
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR						
TRI-STATE CHEMICAL CO.	105.29	104.25	102.40	5.32	9.14	11.35
VALLEY COUNTIES OF KY. COOP.						
RELATIVE VALUE FOR N	P205	K20	CV. FOR	N	P205	K20
BENTON	99.61	101.47	101.02	3.23	3.22	3.31
RELATIVE VALUE AND CV. OF N P205 AND K20 FOR						
VALLEY COUNTIES OF KY. COOP.	99.61	101.47	101.02	3.23	3.22	3.31



## Average Percentages of Guarantee and Coefficient of Variation for all Samples by Fertilizer Manufacturers, Kentucky, Spring Season, 1965 (Continued)

V-C CHEMICAL COMPANY							
RELATIVE VALUE FOR	N	P2O5	K2O	CV. FOR	N	P2O5	K2O
CINCINNATI	104.70	97.11	102.05		5.88	3.59	5.48
HOPKINSVILLE	97.41	97.45	103.45		5.93	4.32	6.55
MT. PLEASANT	97.99	96.62	101.02		4.22	3.85	6.64
RICHMOND	104.17	97.87	99.17		4.97	2.32	4.79
RELATIVE VALUE AND CV. OF N P2O5 AND K2O FOR							
V-C CHEMICAL COMPANY							
	101.16	97.14	101.90		5.34	3.74	5.94
WEST KY. LIQUID FERT. CO.							
RELATIVE VALUE FOR	N	P2O5	K2O	CV. FOR	N	P2O5	K2O
HOPKINSVILLE	100.54	103.04	107.33		6.84	4.60	10.37
RELATIVE VALUE AND CV. OF N P2O5 AND K2O FOR							
WEST KY. LIQUID FERT. CO.							
	100.54	103.04	107.33		6.84	4.60	10.37

## ELEMENTAL GUARANTEES

The following resolution is taken from page 80-81 of the 1965-66 edition of the Official Publication of the Association of American Fertilizer Control Officials:

Now Therefore be it Resolved that the AAFCO in annual meeting assembled in Clemson, South Carolina, August 3, 1965, does hereby Re-affirm its support to the National Association of Commissioners, Directors and Secretaries of Agriculture, Colleges of Agriculture, Agricultural Experiment Station Directors, Agriculture Extension Service Directors, Professional Societies and Trade organizations, in their efforts to bring about the orderly transition from the present system of an oxide guarantee for available phosphoric acid and potash to an elemental guarantee for phosphorus and potassium. As Agricultural Extension Service Personnel, Agronomists, Teachers and others move forward with the publication of reports, the dissemination of information and the carrying out of educational programs using these elemental terms, the Fertilizer Control Officials represented by this Association will continue to make known to all, especially fertilizer manufacturers, the labeling details for changing over from an oxide guarantee to an elemental guarantee.

Be it further resolved that July 1, 1966 be considered as an appropriate date for the beginning of a ten year period for encouraging this change on a voluntary basis, that the first five years be used to show both an elemental and oxide guarantee with emphasis on the oxide guarantee, that during the second five years, the elemental guarantee be emphasized but the oxide guarantee may continue to be shown, and that July 1, 1976 be viewed as the date for showing the elemental guarantee only. Where changes in legislation or regulations are required to accomplish this, such changes should be anticipated and made previous to July 1, 1976.

Some fertilizer companies have moved forward in this program. In such cases these dates are to be modified to be commensurate with an orderly change for a particular company and area.

3.5M-3-66