Regulatory Bulletin 159

Commercial Fertilizers in Kentucky, 1959

Including a Report on Official Fertilizer Samples Analyzed

July-December, 1959

University of Kentucky
Agricultural Experiment Station
Lexington

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CONTENTS

*David M. Daugherty on leave of absence since May 1, 1959.
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This report compiled and prepared by W. J. Huffman and Bruce Poundstone
Analytical data by the Laboratory Staff

This bulletin contains results of analyses of 825 official samples of commericial fertilizers made during the period July 1 through December 31, 1959. The form of tables 1, 2, 3, and 4 has been altered somewhat from previous publications to provide a more readable presentation of the information. The name of the dealer from whom each sample was secured has been omitted from these tables.

Separate tables are provided for the results of analysis of dry fertilizer, liquid fertilizer, and for boron and pesticide incorporated in fertilizers. Table A shows the amount of fertilizer used in Kentucky from 1918 to 1959.

EXPLANATION OF TABLES

The information given should be useful to farmers, agricultural workers, and company representatives to determine how closely a given manufacturer is meeting the chemical guarantee printed on the bag for all or specific fertilizers. This may be done by comparing the guarantee shown at the beginning of each listing of samples with the actual analysis in the columns at the right in terms of nitrogen, available phosphoric acid, and potash.

An additional means of comparing guarantees with the analysis of samples is in the percent of relative value found, shown in the extreme right-hand column. The following examples illustrate how this relative value is calculated.

A 5-10-15 sulfate fertilizer is guaranteed to contain 5 units of nitrogen, 10 units of available phosphoric acid, and 15 units of potash. Factors for computing the relative values of these plant foods are: 3 for nitrogen, 2 for available phosphoric acid, and 1 for potash. Thus the combined guaranteed value of the product represented is calculated:

5.0 Units of Nitrogen	X 3 =	15.0
10.0 Units of Available Phosphoric Acid	X 2 =	20.0
15.0 Units of Potash	X 1 =	15.0
Total computed guaranteed value		50.0

The same procedure is followed for "found values." Assuming a sample of 5-10-15 was found to contain 5.1 units of nitrogen, 10.2 units of available phosphoric acid, and 15.1 units of potash. The relative found value is computed:

5.1 Units of Nitrogen	X 3 =	15.3
10.2 Units of Available Phosphoric Acid	X 2 =	20.4
15.1 Units of Potash	X 1 =	15.1
Total computed value		50.8

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

In some samples a deficiency in one nutrient is accompanied by an over-run in another nutrient. This is evidence of improper mixing or weighing by the manufacturer. Extreme variations of this kind cannot be attributed to separation of materials (segregation) 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 analysis 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 1959 was over 602,000 tons. This represents an increase of about 68,000 tons over 1958. This increase in total tonnage was due to the increased sale of about 51,000 tons of mixed fertilizer and 17,000 tons of fertilizer materials.

NUMBER OF GRADES NEEDED IN KENTUCKY

The Departments of Agronomy and Horticulture of the Kentucky Agricultural Experiment Station consider that nine ratios and minimum grades of mixed fertilizer, together with superphosphate, nitrogen and potash salts will answer the present needs of Kentucky agriculture.

A list of nine ratios and minimum grades and corresponding higher analysis grades recommended for field crops are shown below.

Ratio	Minimum Grade	Higher Analysis Grade
0-1-1	0-20-20	0-24-24, 0-30-30
0-1-2	0-10-20	0-12-24, 0-15-30, 0-20-40
1-1-1	10-10-10	12-12-12, 14-14-14
1-1-3	6- 6-18	8- 8-24
1-2-2	5-10-10	6-12-12, 8-16-16, 10-20-20
1-2-3	5-10-15	6-12-18, 9-18-27
1-3-2	4-12- 8	10-30-20
1-4-4	4-16-16	5-20-20, 6-24-24
1-3-0	8-24-0	9-27-0, 10-30-0

Higher grades of any ratio are both recommended and encouraged. None of the recommended minimum grades of mixed fertilizer contain less than 24 units of plant food. Low grade fertilizers are less economical because costs of mixing, bags, freight, and other incidental costs are the same per bag regardless of analysis.

There also is a distinct advantage to the manufacturer to hold the number of grades to a minimum, since a smaller number of grades can be mixed and distributed more economically.

The Agronomy Department suggests grades in the following ratios for tobacco: 1-2-3, 1-2-2, 1-1-3. Apply needed potash as sulfate of potash for tobacco. The other ratios listed are for general field crops, meadows and pastures.

More detailed suggestions for fertilizing field crops, using the above ratios and grades are contained in Miscellaneous Circular 10A from this Station.

EXPLANATION OF "STANDINGS OF MANUFACTURERS"

The standings of manufacturers as determined by the results of analysis of official samples are given on pages 5 and 6. Purchasers of fertilizer can learn through a study of this how well any manufacturer met his guarantee on the samples analyzed.

It should be noticed that the first three columns of figures refer to number of samples and that the last three columns refer to number of analyses of nitrogen, phosphoric acid, and potash. Attention is directed to the third column of figures, which gives for each manufacturer, the percentage of samples that are equal to guaranty in all respects, and to column 6, which gives the percentage of analyses that are equal to guaranty or within the tolerance. This tolerance is on a sliding scale varying with the guarantee as follows:

Percent Guarantee in Nitrogen, Phosphoric Acid or Potash	Tolerance
0- 9	0.2
10-19	0.3
20-25	0.4
26-34	0.5
35-39	0.6
40-49	0.7
50-59	0.8
60 or more	0.9

Standing of Manufacturers, Based on Samples Equal to Guaranty in All Respects and Analyses Within Tolerance - 1959

COMPANY	Samples			Analyses of nitrogen, phosphoric acid and potash		
	Total Number	Equal to guaranty in all respects		Total Number	Equal to guaranty or within tolerance**	
		Number	Percent*		Number	Percent*
A. D. Adair & McCarty Bro. Inc.	4	1	---	12	7	---
Allied Chem. Corp. -Nitrogen Div.	16	16	100	16	16	100
American Agricultural Chem. Co.	184	93	51	607	530	87
American Cyanamid Company	7	7	100	8	8	100
Armour Agricultural Chem. Co.	674	361	54	2,054	1,805	88
Ashcraft Wilkinson Company	1	1	---	1	1	---
Associated Cooperatives, Inc.	26	13	50	56	45	80
Bartlett & O'Bryan Fertilizer Co.	32	4	13	96	72	75
Bluegrass Plant Foods, Inc.	149	42	28	462	368	80
Bunton Seed Company	3	2	---	9	8	---
Burley Belt Plant Food Works, Inc.	76	28	37	254	208	82
Chilean Nitrate Sales Corp.	4	4	---	4	4	---
Coastal Chemical Corp.	5	5	100	5	5	100
Commercial Solvents Corp.	9	9	100	9	9	100
Commonwealth Fertilizer Co., Inc.	62	25	40	179	147	82
Cooperative Fertilizer Service,Inc.	712	476	67	2,072	1,908	92
Darling and Company	52	27	52	146	117	80
Davison Div. W. R. Grace & Co.	234	85	36	716	563	79
E'Town Anhydrous Ammonia Co., Inc.	9	1	11	25	19	76
E'Town Fertilizer Company	22	18	82	68	64	94
Farmers Fertilizer Company	13	7	54	41	35	85
Federal Chemical Company	444	185	42	1,363	1,092	80
Grace Chemical Company	5	5	100	5	5	100
Hutson Chemical Company	26	6	23	78	58	74
International Min. and Chem. Corp.	220	117	53	675	586	87
Kentucky Fertilizer Works, Inc.	77	44	57	243	218	90
Knoxville Div. Amer. Agri. Chem. Co.	206	123	60	626	544	87
Land-O-Nan Warehouse	24	7	29	64	49	77
Louisville Fertilizer Company	21	8	38	64	51	80
Mid-South Chemical Corp.	12	12	100	12	12	100
Mississippi Chemical Corp.	9	8	89	9	9	100
Mississippi River Chemical Co.	2	1	---	2	2	---
Missouri Plant Food Company, Inc.	14	4	29	39	30	77
Monsanto Chemical Company	5	4	80	5	5	100
North American Fertilizer Co.	128	87	68	404	372	92
Ohio Valley Fertilizer, Inc.	24	6	25	84	67	80
Olin Mathieson Chem. Corp.	4	4	---	10	10	---
Phillips Petroleum Company	2	1	---	2	2	---
Price Chemical Company, Inc.	104	67	64	331	305	92
Ra-Pid-Gro Corporation	1	---	---	3	1	---
Robin Jones Phosphate Co.	19	7	37	38	28	74
Rottgering Flowerland	2	2	---	6	6	---
Ruhm Phosphate & Chemical Co.	1	1	---	1	1	---
Schrock Fertilizer Service	3	3	---	5	5	---
O. M. Scott & Sons Company	3	3	---	9	9	---
Semo Liquid Fertilizer, Inc.	1	---	---	3	3	---
Sewerage Com. of Milwaukee	2	2	---	4	4	---
Smith Agri. Chem. Co., Inc.	6	3	50	18	15	83
Southern Nitrogen Co., Inc.	2	2	---	2	2	---
Spencer Chemical Company	14	11	79	14	13	93
Stinson Farm Supply	3	---	---	9	3	---
Swift & Company	34	20	59	107	95	89

Standing of Manufacturers, Based on Samples Equal to Guaranty in All Respects and Analyses Within Tolerance - 1959

COMPANY	Samples			Analyses of nitrogen, phosphoric acid and potash		
	Total Number	Equal to guaranty in all respects		Total Number	Equal to guaranty or within tolerance**	
		Number	Percent*		Number	Percent*
Tennessee Chemical Company	19	11	58	57	50	88
Tennessee Corporation	108	61	56	332	296	89
Tennessee Valley Authority	3	2	---	6	4	---
Thompson Sales Company	2	2	---	4	4	---
Tri-State Chemical Company	17	7	41	49	37	76
U. S. Phosphate Div. Tenn. Corp.	1	1	---	1	1	---
U. S. Steel Corp.	1	1	---	1	1	---
Valley Counties of Ky. Coop. Inc.	39	25	64	77	63	82
Virginia-Carolina Chem. Corp.	197	124	63	591	539	91
West Kentucky Liquid Fertilizer Co.	64	15	23	179	141	79
TOTAL	4,163	2,217	53	12,372	10,677	86

A comparison of the totals in the above table with those for the year 1958 follows:

	1958	1959
Number of samples, Total	3,656	4,163
Samples equal to guaranty in all respects	1,762	2,217
Percent	48	53
Analyses, Total	10,732	12,372
Equal to guaranty or within tolerance	9,053	10,677
Percent	84	86

* Percent is not indicated when number of samples is less than 5.
** See "Tolerance Scale" on page 4.

COMPANIES REPRESENTED BY SAMPLES REPORTED IN THIS BULLETIN

Allied Chemical Corporation
Nitrogen Division
40 Rector Street
New York, New York

American Agricultural Chemical Co.
100 Church Street
New York 7, New York

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

Armour Agricultural Chemical Co.
350 Hart Building
Atlanta, Georgia

Ashcraft Wilkinson Company
601 Trust Company of Georgia Bldg.
Atlanta 3, Georgia

Associated Cooperatives, Inc.
P. O. Box 911
Sheffield, Alabama

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

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

Bunton Seed Company
300-312 E. Jefferson Street
Louisville 2, Kentucky

Burley Belt Plant Food Works, Inc.
Route 4
Lexington, Kentucky

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

Coastal Chemical Corporation
Yazoo City,
Mississippi

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

Commonwealth Fertilizer Company, Inc.
Morgantown Road
Russellville, Kentucky

Cooperative Fertilizer Service, Inc.
Southern States Building
P. O. Box 1656
Richmond 13, Virginia

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

Davison Chemical Company
Div. W. R. Grace & Company
Baltimore, Maryland

E'Town Fertilizer Company
Cecilia, Kentucky

Farmers Fertilizer Company
Smiths Grove, Kentucky

Federal Chemical Company
Starks Building
Louisville, Kentucky

Hutson Chemical Company
Railroad Avenue
Murray, Kentucky

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

Kentucky Fertilizer Works, Inc.
Box 595
Winchester, Kentucky

Knoxville-Div. American Agric. Chem. Co.
100 Church Street
New York 7, New York

Land O Nan Warehouse
Sturgia, Kentucky

Louisville Fertilizer Company
Box 1088
Nashville, Tennessee

Mississippi Chemical Corporation
Yazoo City, Mississippi

Mississippi River Chemical Company
407 N. 8th Street
St. Louis, Missouri

Missouri Plant Food Company, Inc.
Sikeston, Missouri

Continued from previous page

Monsanto Chemical Company
800 N. Lindbergh Blvd.
St. Louis 66, Missouri

North American Fertilizer Company
Preston Street at Bergman
Louisville, Kentucky

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

Phillips Petroleum Company
1143-A Adams Buildin
Bartlesville, Oklahoma

Price Chemical Company
2600 Millers Lane
Louisville 16, Kentucky

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

Sewerage Commission of the City of Milwaukee
P. O. Box 2079
Milwaukee 1, Wisconsin

Southern Nitrogen Company, Inc.
P. O. Box 246
Savannah, Georgia

Spencer Chemical Company
610 Dwight Building
Kansas City, Missouri

Swift & Company
Union Stock Yards, Illinois

Tennessee Chemical Company
Box 1088
Nashville, Tennessee

Tennessee Corporation
Lockland Station
Cincinnati 15, Ohio

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

Valley Counties of Kentucky Coop, Inc.
Box 351
Murray, Kentucky

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

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

TABLE A - FERTILIZER USED IN KENTUCKY - 1918 - 1959

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

a. Calculated from stamp receipts 1918 - 1939. Reports from manufacturers 1940 - 1959.
b. Includes 58,000 tons of 47% triple superphosphate in 1941, and 12,367 tons in 1942.
c. The AAA also distributed 8,800 tons of rock phosphate in 1945.

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
ALLIED CHEMICAL CORP NITROGEN DIV	(Percent)	(Percent)	(Percent)	
NITRATE OF SODA				
5001	16.0			100
5012	16.0			100
AMMONIUM NITRATE				
0919	33.6			100
AMERICAN AGRICULTURAL CHEMICAL CO				
3 12 12M				
1749	3.3	12.4	11.7	103
1805	3.1	12.5	11.5*	102
1890	3.3	12.0	11.2*	100
2796	3.3	12.5	11.7	104
3598	3.1	12.7	12.0	104
3616	3.2	12.3	11.7	102
4 12 8M				
2797	4.0	12.4	9.4	105
2815	4.1	12.2	8.9	104
4 12 8S WITH 0032 DIELDRIN[1]				
3656	4.0	11.5*	8.1	98
4 16 16M				
1804	4.3	16.3	15.0*	101
5 20 20M				
1803	4.9	19.6*	20.6	99
3547	4.2*	20.4	20.3	98
10 10 10M				
3599	9.4*	11.0	10.0	100
12 12 12M				
3615	11.5*	12.1	12.7	99
SUPERPHOSPHATE				
1918		17.3*		95*
2795		19.7		98
3568		20.2		101
AMERICAN CYANAMID COMPANY				
CALCIUM CYANAMID				
0927	21.0			100
0937	21.0			100
AMMONIUM NITRATE				
0920	33.4			100
ARMOUR AGRICULTURAL CHEMICAL CO				
0 20 20M				
0933		20.3	20.2	101
0959		19.4*	22.2	102
1910		19.9	20.2	100

(1) See Table 6 for Pesticide Analysis

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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

Manufacturer Grade Sample Num!	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
ARMOUR AGRICULTURAL CHEM CONTINUED	(Percent)	(Percent)	(Percent)	
0 20 20M CONTINUED				
2778		19.7	18.4*	96*
3548		19.5*	21.0	100
4439		19.7	20.5	100
0 20 20M WITH 4 LB BORAX PER 100(1)				
4455		20.2	19.8	100
3 12 12M				
0941	3.8	12.6	11.7	107
1843	3.0	12.2	12.1	101
2826	3.2	11.9	12.0	101
2854	3.4	13.2	12.0	108
3546	3.2	12.3	11.1*	101
3550	3.1	12.5	11.7	102
3650	3.4	12.8	12.1	106
4498	3.0	12.1	11.8	100
4 12 8M				
0942	3.9	12.5	8.6	103
0946	3.7*	12.2	9.7	103
0960	4.3	12.1	8.5	104
1750	3.8	12.1	7.9	99
1847	3.9	12.3	8.0	101
2777	4.0	12.3	8.4	102
2783	4.0	12.2	8.3	102
2805	3.9	12.3	8.3	101
3588	3.9	12.3	8.3	101
4440	4.0	12.4	8.2	102
4448	4.1	12.4	8.2	103
4468	4.0	12.0	8.1	100
4472	4.0	12.6	8.7	104
4479	4.0	12.4	8.1	102
4499	4.1	12.4	8.5	104
4513	4.1	12.4	8.1	103
4531	3.9	11.8	9.2	101
5009	4.1	12.1	8.8	103
5018	4.0	12.2	8.7	103
5021	4.1	12.3	8.0	102
5054	3.9	12.0	8.3	100
5060	4.0	11.7	8.6	100
5067	4.1	12.2	7.6*	101
5105	4.1	12.1	9.1	104
5111	3.9	11.8	8.7	100
5118	4.0	12.5	8.4	103
4 16 16M				
2838	4.3	15.9	16.3	102
5061	4.0	15.6*	16.1	99
5 10 5M				
1806	5.2	10.2	5.5	104
5 10 10M				
3587	5.0	9.8	10.0	99
3608	4.8	10.0	9.8	98
3617	4.9	10.0	10.0	99
3651	5.0	10.3	9.5*	100
5006	4.7*	10.5	10.1	100
5062	4.7*	9.5*	10.2	96*
5 20 20M				
1844	5.0	20.4	19.9	101
2780	5.4	19.8	16.5*	98
2782	5.0	19.3*	20.0	98
3572	5.2	20.1	20.1	101
3594	5.0	20.2	20.6	101
3609	5.0	20.0	19.9	100
3644	4.9	19.9	20.4	100
4454	4.9	20.4	17.8*	98
4512	4.9	20.0	18.9*	98
4528	5.0	19.4*	21.9	101
4549	5.0	19.6	20.0	99
4562	5.0	20.7	18.1*	99
4564	5.1	19.8	18.4*	98

(1) See Table 5 for Boron Analyses

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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 CHEM CONTINUED	(Percent)	(Percent)	(Percent)	
5 20 20M WITH 3 LB BORAX PER 100[1]				
4471	5.0	20.3	18.0*	98
5 20 20M WITH 5 LB BORAX PER 100 [1]				
2832	5.0	18.0*	19.0*	93*
6 12 12M				
0886	6.1	12.0	11.8	100
0947	5.9	12.6	12.7	103
1751	5.9	13.2	12.3	104
1754	5.9	11.9	12.3	100
1826	5.8	11.9	12.6	100
1841	5.8	12.2	12.2	100
1848	5.7*	12.6	12.1	101
1855	5.8	12.1	12.4	100
1876	5.9	12.5	11.4*	100
2779	5.8	12.2	12.0	100
2825	5.7*	12.7	12.1	101
3589	5.5*	11.9	12.5	98
4438	5.5*	12.1	12.5	99
4510	5.9	12.4	11.1*	99
4511	5.8	12.0	12.0	99
4529	5.8	12.0	12.0	99
4550	5.6*	12.2	12.1	99
4552	5.6*	12.5	12.0	99
4553	6.3	11.9	12.0	101
4563	6.0	11.9	12.0	100
5007	5.9	12.2	12.0	104
5055	5.9	12.2	12.2	101
5063	5.8	12.0	12.2	99
6 18 12M				
5070	6.1	18.0	12.4	101
5121	6.1	18.1	12.7	102
8 32 0				
1857	8.8	34.4		108
10 10 10M				
1875	9.4*	10.7	10.5	100
2827	9.6*	10.9	11.7	104
3549	9.5*	10.7	10.7	101
3649	11.0	10.1	10.0	105
4509	10.0	9.7	10.1	99
4530	9.9	10.3	10.8	102
4551	9.8	10.9	10.0	102
5027	9.8	10.2	10.3	100
10 30 20M				
0961	10.0	34.4	17.5*	106
1757	10.4	33.8	15.0*	103
1760	10.6	27.4*	21.5	98
1834	9.7	29.6	21.0	99
1856	9.5*	28.3*	23.5	99
1877	9.9	30.5	19.2*	100
2781	10.0	29.3*	17.3*	96*
5071	11.7	32.0	17.9*	106
12 12 12M				
1846	12.0	12.8	12.2	103
4484	10.7*	12.8	12.1	97*
5008	11.3*	12.2	11.6*	97*
AMMONIUM NITRATE				
0924	33.3			99
4447	33.3			99
5069	33.5			100
5110	33.8			101
SUPERPHOSPHATE				
0945		20.2		101
1878		20.3		102

(1) See Table 5 for Boron Analyses

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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

Manufacturer Grade Sample Number	Nitrogen	Available Phosphoric Acid	Potash	Percent of Relative Value Found
	(Percent)	(Percent)	(Percent)	
ARMOUR AGRICULTURAL CHEM CONTINUED				
SUPERPHOSPHATE CONTINUED				
1909		20.0		100
2716		20.4		102
2793		19.8		99
3571		19.2*		96*
5017		19.6		98
45 TRIPLE SUPERPHOSPHATE				
1825		44.6		99
4527		42.2*		94*
SULFATE OF POTASH				
0925			50.5	101
0948			50.0	100
2801			45.6*	95*
MURIATE OF POTASH				
0949			59.2	99
2794			60.2	100
5025			60.0	100
ASHCRAFT WILKINSON COMPANY				
MURIATE OF POTASH				
1828			60.0	100
ASSOCIATED COOPERATIVES INC				
15 15 15M				
0950	14.7	15.9	14.6*	101
AMMONIUM NITRATE				
0926	34.1			102
3585	33.9			101
5089	34.3			102
CALCIUM METAPHOSPHATE				
3586		63.2		102
BARTLETT & O BRYAN FERTILIZER CO				
4 16 16M				
3577	4.2	14.7*	16.0	97*
5 20 20M				
3575	5.2	21.3	19.2*	103
BLUEGRASS PLANT FOODS INC				
0 20 20M				
3595		19.2*	19.1*	96*
0 20 20M WITH 5 LB BORAX PER 100[1]				
2851		19.0*	20.6	98
3 12 12M				
2789	3.0	11.9	12.2	100

(1) See Table 5 for Boron Analyses

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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
BLUEGRASS PLANT FOODS INC CONTINUED	(Percent)	(Percent)	(Percent)	
4 12 8M				
0922	4.1	11.7	8.4	100
5 10 10M				
2791	5.1	10.1	10.5	102
5 20 20M				
2728	5.1	20.3	19.4*	100
2853	4.9	19.6*	19.1*	97*
3596	4.9	16.8*	18.1*	89*
10 10 10M				
0923	8.6*	11.0	10.4	97*
2852	9.7	11.1	10.5	103
12 12 12M				
2788	10.0*	12.4	11.7	92*
2790	11.9	12.8	11.7	101
BUNTON SEED COMPANY				
10 12 6M				
1891	9.4*	12.8	7.5	102
BURLEY BELT PLANT FOOD WORKS INC				
3 12 12M				
3562	3.2	11.6*	12.0	100
4 12 8M				
3563	4.1	11.9	10.9	107
5084	3.9	11.9	8.9	101
5 10 10M				
3564	4.4*	10.1	10.2	97*
5 20 20M				
3561	4.9	18.9*	18.9*	95*
3591	4.4*	18.4*	19.2*	92*
6 6 18M				
3593	5.7*	6.2	19.5	102
10 10 10M				
3592	8.9*	10.5	10.4	97*
10 30 20M				
5085	9.6*	29.8	17.5*	96*
CHILEAN NITRATE SALES CORPORATION				
NITRATE OF SODA				
5028	16.0			100

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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)	
COASTAL CHEMICAL CORPORATION				
46 TRIPLE SUPERPHOSPHATE				
1829		47.2		103
1840		46.6		101
5040		46.4		101
5046		46.3		101
COMMERCIAL SOLVENTS CORPORATION				
AMMONIUM NITRATE				
3653	33.5			100
COMMONWEALTH FERTILIZER COMPANY INC				
0 20 20M				
0968		19.4*	20.9	100
2765		20.9	18.6*	101
5065		19.9	22.1	103
3 12 12M				
2767	3.3	13.2	10.5*	104
4 12 8M				
0969	4.4	10.9*	8.4	99
2768	4.3	12.0	8.0	102
2839	4.3	11.3*	8.5	100
5066	4.2	11.3*	8.5	99
5 20 20M				
0970	5.2	19.2*	20.0	99
2766	5.0	21.2	17.7*	100
2841	5.0	19.5*	20.4	99
6 12 12M				
2759	5.9	12.2	11.4*	99
10 10 10M				
0971	10.2	10.0	10.0	101
2764	9.3*	11.3	10.0	101
SUPERPHOSPHATE				
0967		20.2		101
COOPERATIVE FERTILIZER SERVICE INC				
0 19 38M WITH 4 LB BORAX PER 100 (1)				
0917		19.4	40.0	104
0952		20.7	39.2	106
1795		20.6	39.0	106
2717		16.5*	42.0	99
2729		19.5	39.5	103
2748		19.7	40.3	104
2818		20.8	37.1*	104
3551		19.4	40.2	104
4473		20.2	38.0	103
4476		19.7	38.7	103
4504		20.1	38.2	103

(1) See Table 5 for Boron Analyses

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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
COOPERATIVE FERT SERVICE CONTINUED	(Percent)	(Percent)	(Percent)	
0 30 30M				
0934		31.1	30.7	103
0995		28.6*	28.7*	95*
1782		33.0	28.5*	105
1797		29.9	30.0	100
2726		34.9	27.3*	108
2861		29.7	32.3	102
3601		30.2	29.5	100
3605		31.4	30.0	103
4467		29.9	30.0	100
4485		31.4	29.0*	102
5059		27.5*	29.3*	94*
2 12 12M				
0879	2.1	12.3	12.1	102
3 12 12M				
1741	3.2	12.0	13.0	104
1778	6.2	12.3	12.7	124
1783	3.3	12.0	12.6	103
1796	4.1	12.6	11.7	109
1894	3.1	12.0	12.2	101
3655	3.0	12.1	12.4	101
4475	3.2	12.3	12.0	103
4 12 8M				
0884	3.8	12.1	8.0	99
0911	4.4	12.2	8.1	104
0935	4.1	12.4	8.5	104
0953	4.1	12.2	8.7	103
0985	4.0	12.3	8.0	101
0990	4.2	11.9	8.7	103
0996	4.2	12.5	8.5	105
0998	4.0	12.5	8.3	103
1779	4.3	11.7	8.9	103
1815	4.1	11.7	8.7	101
1906	4.5	13.0	10.3	113
1915	4.6	12.2	9.1	108
2752	4.2	11.6*	8.3	100
2775	4.5	12.1	8.7	105
3566	4.3	12.2	8.0	103
3590	4.6	12.9	8.7	110
3603	4.1	12.0	8.5	102
3606	4.2	12.2	8.2	103
3645	4.4	12.2	9.0	106
4470	4.2	12.4	8.7	105
4477	4.2	12.0	8.4	102
4487	4.2	12.0	8.5	103
4492	4.0	12.5	8.3	103
4494	4.1	12.2	8.4	103
4533	4.2	11.9	8.5	102
5023	3.8	13.0	7.6*	102
5064	4.3	12.0	8.5	103
5087	4.0	13.2	8.0	105
5119	4.2	12.2	8.4	103
5 10 10M				
0874	5.0	10.2	10.5	102
5010	5.1	10.1	10.5	102
5 10 15S				
3658	4.8	9.5*	15.0	97*
5 20 20M				
0932	5.4	20.0	20.8	103
0954	5.2	19.9	20.6	101
0991	5.1	20.3	20.1	101

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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
COOPERATIVE FERT SERVICE CONTINUED	(Percent)	(Percent)	(Percent)	
5 20 20M CONTINUED				
1777	5.3	20.0	19.9	101
1798	5.0	19.8	19.8	99
1811	5.1	19.4*	19.5*	98
1874	5.1	20.5	17.0*	98
1884	5.0	19.5*	20.5	99
1887	5.4	19.5*	20.0	100
1893	5.3	19.6*	20.2	100
1895	5.5	20.2	20.0	103
2738	5.4	20.0	19.2*	101
2753	5.2	20.0	20.5	101
2774	4.9	20.7	17.2*	98
2792	5.2	20.0	20.5	101
2799	5.2	20.2	20.2	101
2835	5.0	19.4*	20.0	98
3545	5.0	19.7	20.1	99
3584	5.2	22.2	16.0*	101
3607	4.8	20.9	19.5*	101
3630	6.0	21.1	17.7*	104
3646	5.5	18.8*	21.0	100
3654	4.7*	21.3	20.0	102
4453	5.3	19.3*	19.3*	98
4466	5.2	19.5*	19.7	99
4474	5.2	20.2	19.1*	100
4478	5.2	19.9	19.7	100
4488	5.0	20.2	19.7	100
4495	5.2	20.0	20.6	102
4503	5.4	19.2*	20.6	100
4505	4.8	20.5	20.4	101
4534	5.0	19.9	18.9*	98
4547	4.9	17.4*	22.2	96*
4557	5.1	19.5*	19.6	99
4558	5.0	19.5*	20.0	99
5002	5.1	19.9	20.5	101
5081	5.3	19.9	20.6	102
5100	4.6*	21.4	18.6*	100
6 12 12M				
0870	5.7*	12.0	12.2	99
0880	6.1	11.9	11.9	100
0882	5.8	12.6	11.9	101
0912	6.1	12.0	12.1	101
0955	6.4	11.8	12.6	103
0992	6.2	12.2	12.1	102
1768	7.0	12.2	12.0	106
1780	6.2	12.1	12.0	101
1816	6.1	12.2	12.2	104
1852	6.6	12.5	13.3	108
1858	6.8	12.2	11.9	105
1886	6.0	12.5	11.5*	101
1914	6.8	12.1	12.2	105
2737	6.8	12.2	12.0	105
3555	6.0	12.2	12.4	101
3565	6.0	12.2	11.7	100
3602	6.0	12.3	12.0	101
3647	6.7	12.7	12.7	108
4486	6.4	11.9	12.2	102
4537	6.7	12.0	12.5	105
4546	6.4	12.4	11.9	104
5044	6.0	13.0	12.0	104
5050	6.4	12.4	12.1	104
5083	6.0	13.1	12.2	104
10 10 10M				
0993	9.6*	10.9	10.0	101
1799	10.6	10.5	10.0	105
1812	10.2	10.4	10.3	103
1888	10.0	10.3	10.4	102
1923	10.2	10.6	10.6	104
4507	10.7	10.4	10.4	106
5090	10.4	10.3	10.4	104
10 20 20M				
2870	10.2	19.1*	20.0	99
3629	10.0	18.9*	19.8	97*
4545	9.9	19.1*	19.9	98

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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
COOPERATIVE FERT SERVICE CONTINUED	(Percent)	(Percent)	(Percent)	
10 30 20M				
0883	10.8	31.0	18.7*	103
0997	10.7	30.5	19.4*	102
1000	10.2	30.4	19.4*	101
1756	10.0	30.1	20.2	100
1767	10.2	29.5	20.0	100
1851	10.0	29.7	19.5*	99
1925	10.2	29.3*	20.2	99
2718	10.2	29.5	21.2	101
2773	10.4	30.3	20.0	102
2824	9.9	29.6	20.1	99
2836	10.4	30.3	19.4*	101
2860	10.2	29.4*	20.2	100
2869	10.3	29.4*	20.1	100
3600	10.7	30.8	19.2*	103
3610	10.3	30.4	19.6	101
4496	9.6*	28.8*	21.3	98
4535	10.0	29.2*	20.0	99
5011	10.5	29.8	19.9	101
5020	10.7	31.1	18.9*	103
5051	10.5	30.7	19.0*	102
5082	10.5	31.1	18.9*	102
5088	10.6	31.4	18.1*	102
12 12 12M				
0871	11.2*	12.4	12.5	98
0913	11.3*	12.3	12.7	99
0940	12.2	12.5	12.0	102
0957	11.9	12.3	12.5	101
0999	12.1	12.1	11.9	101
1859	12.4	12.0	12.0	102
2736	12.1	12.5	12.0	102
3583	11.9	12.6	12.2	102
3628	12.0	12.4	11.5*	100
3648	12.3	12.0	12.2	102
3657	11.5*	12.5	11.9	99
4532	12.2	12.0	11.7	100
4536	12.3	12.7	11.1*	102
5052	11.6*	12.1	12.0	99
AMMONIUM NITRATE				
0875	34.0			101
SUPERPHOSPHATE				
0873		20.1		100
0988		20.2		101
0994		20.0		100
1845		20.2		101
2840		20.4		102
3604		19.9		100
5019		20.0		100
5022		19.9		100
5058		19.3*		96*
5086		20.5		103
46 TRIPLE SUPERPHOSPHATE				
0956		44.6*		96*
0986		45.1*		98
0989		46.0		100
1885		45.8		99
2727		46.0		100
5049		45.4		99
5092		46.0		100
5109		46.2		100
CALCIUM METAPHOSPHATE				
0938		64.0		101
2798		63.8		101
SULFATE OF POTASH				
0928			50.0	100
5091			50.5	101

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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
COOPERATIVE FERT SERVICE CONTINUED	(Percent)	(Percent)	(Percent)	
MURIATE OF POTASH				
0881			60.0	100
0951			58.3*	97*
4506			60.3	101
5013			60.1	100
DARLING & COMPANY				
4 12 8M				
1913	5.2	11.9	9.8	112
5047	4.8	12.0	8.6	107
6 12 12M				
1755	5.3*	11.9	12.5	97*
1830	5.6*	12.1	12.0	98
1911	6.0	11.5*	12.4	99
5048	5.5*	11.4*	13.8	98
10 10 10M				
0887	9.6*	10.3	10.0	99
0896	9.7	9.6*	11.2	99
MURIATE OF POTASH				
0890			60.0	100
0899			60.0	100
0908			60.0	100
1831			60.0	100
DAVISON CHEMICAL DIV W R GRACE & CO				
0 20 20M				
2857		19.4*	19.9	98
0 20 20M WITH 4 LB BORAX PER 100 (1)				
4452		19.7	19.5*	98
2 12 6M				
2848	2.3	11.1*	6.5	99
3 12 12M				
1765	3.1	11.9	13.0	102
1791	3.5	12.9	12.3	108
2743	3.4	11.6*	12.0	101
2833	3.0	13.4	12.0	106
3642	3.2	12.8	12.7	106
3 18 9M				
2845	3.5	17.3*	10.2	102
4 12 8M				
0962	4.2	12.2	9.1	105
1763	4.3	12.5	7.5*	103
2751	4.4	11.9	7.9	102
2776	4.3	11.6*	7.6*	99
2847	4.3	11.7	7.5*	99
3579	4.3	12.5	8.8	106
3626	4.9	13.7	8.0	114
4543	4.3	12.0	7.4*	101
4556	4.0	10.9*	7.1*	93*
5 10 10M				
3569	5.0	10.0	10.2	100
4544	5.4	10.1	9.1*	101

(1) See Table 5 for Boron Analyses

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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 DIV W R GRACE CONTINUED	(Percent)	(Percent)	(Percent)	
5 10 15S				
3613	5.2	10.2	15.4	103
5 20 20M				
1833	5.2	19.6*	19.5*	99
1861	5.4	18.7*	20.4	99
2844	5.4	20.1	18.0*	99
2856	5.3	18.8*	18.8*	96*
3570	4.9	19.3*	19.4*	97*
3627	5.1	21.3	20.0	104
3631	5.4	19.7	20.7	101
3643	5.4	20.6	21.1	105
5073	5.2	20.9	20.6	104
5 20 20M WITH 2 LB BORAX PER 100 (1)				
2714	5.0	18.9*	19.9	97*
2749	5.4	20.2	19.9	102
6 6 18S				
3659	6.0	7.1	18.2	105
6 12 12M				
1764	6.2	12.3	11.0*	100
1824	5.9	11.9	12.0	99
1854	6.1	12.0	11.6*	100
1860	6.0	12.1	11.9	100
2715	5.9	12.5	11.7	101
2846	6.0	12.1	12.2	101
6 18 12M				
5072	6.1	17.7	12.5	100
10 10 10M				
1766	10.0	10.5	9.5*	101
1853	8.5*	11.4	9.6*	97*
1862	9.5*	10.8	10.0	100
2744	10.0	10.0	9.6*	99
3580	10.1	10.6	10.5	103
3612	10.0	10.9	11.2	105
3632	10.1	10.4	10.9	103
SUPERPHOSPHATE				
3578		19.1*		95*
3582		20.1		100
46 TRIPLE SUPERPHOSPHATE				
0895		46.1		100
2750		46.0		100
5074		45.4		*98
E TOWN FERTILIZER COMPANY				
4 12 8M				
0944	4.5	12.1	8.5	105
10 10 10M				
2745	8.9*	10.8	13.8	104
FARMERS FERTILIZER COMPANY				
4 12 8M				
2784	4.5	12.0	8.7	105
2785	4.5	11.8	9.1	105

(1) See Table 5 for Boron Analyses

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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	(Percent)	(Percent)	(Percent)	
0 9 27M WITH 5 LB BORAX PER 100[1]				
3560		9.6	27.0	103
0 20 20M				
0963		20.5	20.0	102
1759		21.0	16.8*	98
4437		19.0*	20.7	96*
0 20 20M WITH 5 LB BORAX PER 100 [1]				
0977		18.6*	19.1*	94*
2708		19.5*	18.8*	96*
2 12 6M				
2758	2.6	12.2	6.1	106
3 12 12M				
0978	3.4	13.3	12.5	110
1790	3.6	12.2	12.0	105
2754	2.9	12.1	11.9	100
2810	4.3	11.0*	12.2	105
3557	3.4	12.7	12.0	106
4 12 8M				
0964	4.2	12.0	8.1	102
0979	4.1	12.4	8.8	104
0987	4.1	11.4*	8.5	99
1742	4.6	11.6*	8.8	104
1789	4.4	12.1	8.7	105
1813	4.3	12.0	8.6	103
1823	4.3	11.9	8.4	103
1870	3.9	11.6*	8.2	98
1916	4.2	12.2	8.0	102
2757	4.3	12.0	8.0	102
2809	4.3	11.9	8.6	103
3573	4.4	11.6*	8.3	102
3611	4.3	11.2*	8.2	99
3638	4.0	11.9	8.0	100
4435	3.8	11.8	8.2	98
4457	4.0	11.9	9.0	102
4465	4.2	11.6*	8.3	100
5004	4.2	11.3*	8.4	99
5024	4.0	11.9	8.5	101
5079	4.3	11.6*	8.3	101
4 16 16M				
3640	4.3	15.6*	16.0	100
5 10 10M				
4456	4.1*	10.0	14.9	105
5 20 20M				
0980	5.0	17.9*	20.4	95*
1772	5.5	19.9	18.8*	100
2733	5.0	19.5*	20.0	99
2756	5.3	19.0*	19.8	98
2808	5.1	19.0*	18.2*	95*
2855	5.0	20.0	18.8*	98
3559	5.2	16.3*	18.6*	89*
3637	4.7*	19.7	18.8*	96*
4464	5.3	18.9*	19.9	98
4561	5.3	18.4*	19.7	97*
6 8 6M				
0965	5.2*	9.2	6.9	102
1770	6.1	8.9	6.5	107

(1) See Table 5 for Boron Analyses

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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 CONTINUED	(Percent)	(Percent)	(Percent)	
6 12 12M				
1743	6.0	11.7	11.2*	97*
1769	5.8	12.4	11.0*	99
1822	6.0	12.4	11.5*	101
1832	5.9	12.0	11.9	99
1869	5.6*	12.2	10.0*	95*
1907	5.6*	11.5*	11.7	95*
3639	6.0	12.0	11.5*	99
4434	6.0	12.2	11.1*	99
4548	6.2	11.9	11.4*	100
6 18 12M				
0981	5.8	17.8	12.0	98
1775	6.0	16.3*	11.5*	94*
1866	5.9	16.7*	12.1	96*
1917	6.2	13.7*	12.1	88*
2755	6.2	18.0	12.2	101
3558	6.0	17.6*	11.9	99
4436	4.9*	18.8	12.7	98
8 8 8M				
1774	7.2*	11.5	10.9	116
8 32 0				
1776	8.0	31.6		99
10 10 10M				
0966	10.0	10.2	10.0	101
1744	9.2*	10.4	9.8	97*
1771	8.9*	10.0	10.0	95*
1781	9.4*	11.1	10.2	101
1865	9.7	10.2	9.8	99
1892	9.7	10.3	10.0	100
1896	9.9	10.5	10.4	102
1904	10.2	10.2	10.0	102
2732	9.1*	10.2	10.1	96*
2811	10.0	10.4	10.6	102
3574	9.6*	10.9	10.3	102
3625	10.1	10.4	10.1	102
4433	9.9	10.3	10.2	101
10 30 20M				
1773	9.0*	23.6*	16.6*	83*
2742	9.8	27.9*	19.2*	95*
12 12 12M				
3641	12.1	12.5	12.0	102
5005	11.1*	12.6	11.8	98
16 8 8M				
0982	15.6*	8.3	8.0	99
3556	16.0	8.3	8.3	101
SUPERPHOSPHATE				
5080		20.0		100
SULFATE OF POTASH				
0976			49.6	99
MURIATE OF POTASH				
5003			60.3	101
HUTSON CHEMICAL COMPANY				
4 12 8M				
1817	3.8	12.0	8.3	99
5107	3.8	12.5	8.2	101

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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
HUTSON CHEMICAL COMPANY CONTINUED	(Percent)	(Percent)	(Percent)	
6 12 12M				
1818	5.5*	12.3	11.5*	97*
5108	5.4*	12.2	2.1	98
54 TRIPLE SUPERPHOSPHATE				
1819		50.2*		93*
1905		47.4*		88*
INTERNATIONAL MINERALS & CHEM CORP				
0 20 20M				
2720		20.5	20.3	102
2828		20.1	20.9	102
3 9 6M				
0876	3.3	10.0	6.0	109
3 12 12M				
4502	3.3	14.5	13.5	116
4 12 8M				
0972	4.0	12.4	8.0	102
1872	4.1	12.3	7.7*	101
1908	4.2	12.5	8.3	104
2760	4.1	12.4	8.0	103
2804	3.8	12.4	8.8	102
4497	3.7*	12.6	8.4	102
4508	3.9	12.1	8.2	100
5102	4.4	12.6	10.0	110
5113	3.6*	12.3	7.8	98
5114	3.6*	12.7	7.4*	99
5 10 5M				
0877	5.0	10.0	5.5	101
5 10 10M				
0878	4.9	10.0	9.7	99
5 10 15S				
5115	5.1	10.4	15.7	104
6 8 6S				
5116	6.0	8.3	6.4	103
6 12 12M				
2859	6.1	12.3	11.7	101
5103	6.0	11.9	11.1*	98
6 18 12M				
2817	5.6*	17.9	12.4	98
5104	5.7*	17.3*	12.1	98
10 10 10M				
1871	9.8	10.2	10.1	100
2761	10.6	10.0	9.5*	102
SUPERPHOSPHATE				
2816		20.9		105

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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
KENTUCKY FERTILIZER WORKS INC	(Percent)	(Percent)	(Percent)	
4 12 8M				
0918	4.0	8.5*	9.3	87*
3567	4.1	11.6*	8.0	99
5112	4.0	12.7	7.8	103
5117	3.9	10.4*	8.1	92*
5 20 20M				
0929	4.5*	21.9	18.8*	101
12 12 12M				
0921	12.1	12.4	12.0	102
5014	12.0	11.9	12.0	100
KNOXVILLE DIV AMERICAN AGRI CHEM CO				
0 30 30M				
4483		28.2*	30.2	96*
3 9 18M				
1745	2.9	9.3	18.9	103
3 12 12M				
1837	3.1	12.0	12.2	101
2800	3.2	12.2	12.0	102
4500	3.4	11.3*	12.0	100
5039	3.3	12.2	12.1	103
4 12 8M				
0931	4.4	12.1	8.7	105
1838	4.4	12.3	8.3	105
1919	4.4	11.9	8.4	103
4469	4.2	12.4	8.5	104
4493	4.0	12.0	8.3	101
4501	4.0	11.6*	8.2	99
4554	4.2	12.2	8.2	103
5015	4.1	12.0	8.4	102
5 20 10M				
1835	4.8	20.5	9.8	100
5 20 20M				
4555	4.9	17.5*	17.5*	90*
5099	4.9	19.3*	20.1	98
6 12 12M				
1836	6.0	12.5	11.7	101
1920	6.0	12.0	12.0	100
10 10 10M				
3614	10.1	9.9	10.7	101
10 30 20M				
5016	9.3*	29.1*	19.1*	96*
AMMONIUM NITRATE				
0904	34.1			102
0984	33.9			101
5093	34.4			103
SUPERPHOSPHATE				
0930		18.2*		91*
5094		19.3*		97*

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July-December, 1959

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)	
KNOXVILLE DIV AMER AGRI CONTINUED				
SUPERPHOSPHATE CONTINUED				
5098		19.4*		97*
53 TRIPLE SUPERPHOSPHATE				
5095		44.8*		84*
5097		53.9		102
CALCIUM METAPHOSPHATE				
0898		64.2		102
0902		63.6		103
0903		63.8		101
0983		63.3		100
MURIATE OF POTASH				
5096			60.0	100
LAND O NAN WAREHOUSE				
0 20 20M				
2730		20.2	21.1	103
0 25 25M				
2731		23.0*	23.1*	92*
5 20 20M				
2868	5.1	22.9	20.1	108
10 20 20M				
2734	10.1	20.1	20.0	101
12 12 12M				
2735	12.2	12.4	12.0	102
46 TRIPLE SUPERPHOSPHATE				
1761		46.2		101
LOUISVILLE FERTILIZER COMPANY				
3 12 12M				
5030	3.1	11.3*	12.0	98
4 12 8M				
5031	4.1	11.5*	8.9	100
5 20 20M				
5032	5.0	19.6	20.6	99
10 10 10M				
5033	9.5*	10.3	9.8	98
10 30 20M				
5034	9.4*	28.1*	20.4	95*
12 12 12M				
5035	11.7	12.5	12.5	101
SUPERPHOSPHATE				
5029		20.0		100

TABLE 1 — Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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
MISSISSIPPI CHEMICAL CORPORATION	(Percent)	(Percent)	(Percent)	
AMMONIUM NITRATE				
0936	33.3			99
5101	33.6			100
MISSISSIPPI RIVER CHEMICAL COMPANY				
AMMONIUM NITRATE				
0943	33.2			99
MISSOURI PLANT FOOD COMPANY INC				
6 24 24M				
0901	5.6*	24.1	23.4*	98
5042	5.6*	23.7	25.2	99
MURIATE OF POTASH				
0900			60.0	100
5041			60.0	100
MONSANTO CHEMICAL COMPANY				
AMMONIUM NITRATE				
0889	33.3			99
3652	33.5			100
NORTH AMERICAN FERTILIZER COMPANY				
3 12 12M				
1788	3.6	12.7	11.4*	106
1898	3.1	12.1	12.4	102
2823	2.9	11.9	13.1	101
4 12 8M				
0958	3.6*	12.8	8.2	101
2803	3.6*	12.0	8.7	99
4462	4.9	12.6	8.0	109
5056	4.0	11.6*	8.1	98
5075	4.0	12.0	8.0	100
5 20 20M				
2802	4.4*	20.1	19.7	97*
4463	4.6*	20.9	20.4	101
6 8 6M				
1787	6.0	8.6	6.4	104
1897	5.9	8.4	6.5	102
1901	5.5*	8.4	8.0	103
6 12 12M				
1899	5.4*	12.6	12.6	100
4460	4.2*	18.5	20.0	129
10 10 10M				
1900	10.1	10.0	10.4	101

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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
NORTH AMERICAN FERT CO CONTINUED	(Percent)	(Percent)	(Percent)	
SUPERPHOSPHATE				
2822		21.1		105
4461		20.4		102
OLIN MATHIESON CHEMICAL CORPORATION				
8 24 8M				
1922	8.6	25.9	8.1	107
8 32 16M				
1921	8.5	32.8	16.7	104
PHILLIPS PETROLEUM COMPANY				
AMMONIUM NITRATE				
5043	33.2			99
PRICE CHEMICAL COMPANY				
2 12 6M				
2821	2.2	12.2	7.5	107
3 12 12M				
1810	3.0	11.9	12.6	101
5076	3.2	11.6*	13.9	104
4 12 8M				
1808	4.1	11.5*	8.7	100
2820	4.2	11.4*	9.5	102
5057	4.2	10.9*	9.2	98
5068	4.0	10.6*	9.1	96*
5077	4.2	10.9*	9.1	99
5 20 20M				
0939	4.8	20.2	20.8	101
5078	4.7*	18.2*	22.4	97*
6 12 12M				
1809	5.8	12.8	12.1	102
10 10 10M				
1792	9.5*	10.2	10.9	100
1807	10.1	10.0	11.2	103
SUPERPHOSPHATE				
2837		19.9		100
ROBIN JONES PHOSPHATE COMPANY				
0 14 7M				
4522		14.2	7.7	103
0 20 20M				
4523		19.7	21.1	101
4 12 8M				
4525	4.1	11.2*	9.5	100

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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
ROBIN JONES PHOSPHATE CO CONTINUED	(Percent)	(Percent)	(Percent)	
5 20 20M 4526	5.2	19.4*	20.3	100
6 12 12M 4524	5.9	11.3*	12.7	98
MIXED TO ORDER 4441	7.9	15.6		101
SOUTHERN NITROGEN COMPANY INC				
AMMONIUM NITRATE 3597 4480	33.6 33.8			100 101
SOUTHERN STATES SEE COOP FERT SER				
SPENCER CHEMICAL COMPANY				
AMMONIUM NITRATE 0885 5120	33.6 34.1			100 102
SWIFT & COMPANY				
3 12 12M 2739	3.5	12.2	12.1	104
5 20 20M 2740	5.0	20.9	18.9*	101
6 10 4M 1850	6.3	10.9	4.2	107
6 12 12M 0897 1827	5.9 5.9	12.0 12.9	12.1 12.0	100 103
10 10 10M 2741	10.5	10.8	10.0	105
10 20 10M 1849	9.0*	21.4	10.4	100
8 10 17M WITH 0062 DIELDRIN(1) 1842	8.0	10.7	24.6	115
TENNESSEE CHEMICAL COMPANY				
3 12 12M 3621	3.1	12.4	12.4	103
4 12 8M 2719 3622	4.0 4.0	12.4 12.1	8.4 8.3	103 101

(1) See Table 6 for Pesticide Analyses

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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
TENNESSEE CHEMICAL COMPANY CONTINUED	(Percent)	(Percent)	(Percent)	
4 16 16M				
3619	4.0	16.7	15.4*	101
5 20 20M				
3620	5.2	20.0	20.8	102
10 10 10M				
3618	9.6*	10.4	10.3	100
TENNESSEE CORPORATION				
0 20 20M				
1785		19.4*	18.7*	96*
3554		19.1*	17.8*	93*
0 20 20M WITH 10LB BORAX PER 100[1]				
2814		19.0*	24.0	103
3 12 12M				
1784	3.0	11.8	11.8	99
1881	3.0	12.0	12.7	102
2834	3.0	12.0	11.5*	99
3553	3.1	12.0	11.6*	100
4490	3.2	12.2	11.9	102
4 12 8M				
2812	4.0	12.4	8.3	103
4 16 16M				
1882	3.9	16.2	16.4	101
5 10 10M				
1794	5.0	10.7	9.1*	101
1924	5.1	10.0	10.5	102
3552	4.8	10.4	10.2	101
5 20 20M				
1786	4.6*	19.3*	19.3*	96*
1883	5.3	20.5	18.7*	101
2813	5.2	20.9	17.4*	100
4489	5.3	21.0	17.9*	101
10 10 10M				
1793	10.1	10.6	9.9	102
1880	9.9	10.4	9.9	101
SUPERPHOSPHATE				
1879		20.7		103
4491		20.4		102
TRI STATE CHEMICAL COMPANY				
4 12 8M				
1758	5.8	19.9	13.7	161
4 16 16M				
3633	3.5*	19.2	20.7	116
5 10 15S				
3636	4.2*	11.6	15.1	102

(1) See Table 5 for Boron Analyses

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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
TRI STATE CHEMICAL COMPANY CONTINUED	(Percent)	(Percent)	(Percent)	
5 20 20M				
3635	3.9*	21.7	21.1	102
10 10 10M				
3581	9.2*	12.1	10.7	104
3634	8.9*	12.3	10.3	103
VALLEY COUNTIES OF KENTUCKY COOP INC				
9 18 27S				
0872	9.4	19.7	26.0*	104
10 30 20M				
1752	9.6*	30.0	20.1	99
1839	9.8	30.1	20.0	100
20 52 0				
0894	20.0	53.1		101
1912	20.2	52.0		100
5037	20.7	52.1		101
5053	19.9	50.6*		98
30 10 0				
0905	29.0*	10.6		98
0914	30.4	10.0		101
1753	29.9	9.0*		98
5038	30.9	11.0		104
AMMONIUM NITRATE				
0893	34.2			102
0909	34.0			101
53 TRIPLE SUPERPHOSPHATE				
0891		53.4		101
CALCIUM METAPHOSPHATE				
0888		61.9		102
0892		61.8		101
0906		63.8		103
0907		63.6		101
0915		63.1		100
1814		64.2		102
5106		64.4		102
MURIATE OF POTASH				
0910			60.0	100
0916			59.0*	98
5045			58.5*	98
VIRGINIA CAROLINA CHEMICAL CORP				
0 20 20M				
4541		20.2	19.8	100
0 20 20M WITH 5 LB BORAX PER 100 (1)				
1746		19.4*	20.7	99
2806		17.6*	17.7*	88*
3 9 18M				
2769	2.9	9.6	18.0	102

(1) See Table 5 for Boron Analyses

TABLE 1.— Analyses of Inspection Samples of Mixed Fertilizers, Superphosphate, and Fertilizer Salts, July - December, 1959

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
VIRGINIA CAROLINA CHEMICAL CONTINUED	(Percent)	(Percent)	(Percent)	
3 12 6M				
4459	2.2*	13.2	8.0	105
3 12 12M				
1801	3.0	12.5	12.1	102
2829	3.1	11.3*	12.7	99
4 12 8M				
0973	4.1	12.4	8.0	103
0975	4.3	12.4	8.3	105
1762	4.0	12.6	8.2	103
1802	3.8	11.7	8.4	98
1821	4.0	12.6	7.8	102
1864	4.0	12.0	8.0	100
1867	4.1	12.0	8.2	101
1873	4.1	12.0	8.2	101
1889	4.1	12.5	8.2	103
2746	4.1	12.1	7.6*	100
2831	4.3	10.0*	8.5	94*
4451	4.1	12.1	8.0	101
4458	4.2	11.7	8.1	100
4482	4.0	13.0	8.0	105
4 12 12M				
2772	4.0	12.4	12.6	103
5 10 10M				
2830	5.5	11.0	11.6	111
5 20 20M				
1748	4.8	20.7	19.9	101
2771	4.9	20.2	19.7	100
2807	4.9	19.0*	19.5*	96*
4538	5.1	19.9	19.7	100
4559	4.9	20.1	19.7	99
6 12 12M				
1800	6.1	12.9	11.9	104
1820	5.8	13.2	11.5*	102
2770	5.8	12.3	12.2	100
4449	5.8	13.2	11.9	103
4521	5.8	12.4	11.8	100
4560	5.9	12.7	12.2	102
10 10 10M				
1747	10.0	10.4	10.0	101
1863	9.8	10.4	10.0	100
1868	9.9	10.3	10.0	101
4481	10.6	10.2	9.7	103
4540	9.5*	10.2	10.2	99
10 30 20M				
0974	10.0	30.7	19.9	101
1903	10.3	30.8	20.4	103
2747	10.0	30.1	17.8*	98
2858	10.3	31.2	20.1	103
4539	10.6	33.3	17.8*	106
SUPERPHOSPHATE				
1902		19.8		99
4450		19.7		98
47 TRIPLE SUPERPHOSPHATE				
4542		47.5		101

TABLE 2 - Analyses of Inspection Samples of Liquid Mixed Fertilizers, Nitrogen Solutions, and Anhydrous Ammonia, July - December, 1959

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 COMPANY INC	(Percent)	(Percent)	(Percent)	
4 11 11M LIQUID				
2843	3.8	11.4	10.4*	99
4 12 8M LIQUID				
2712	4.1	12.2	7.9	101
4 12 12M LIQUID				
2723	3.9	12.9	11.8	103
2842	4.0	12.1	11.5*	99
6 18 6M LIQUID				
2710	5.9	18.0	6.6	101
8 24 0 LIQUID				
2709	8.2	25.7		106
2724	8.0	25.3		104
2725	7.8	25.4		103
10 10 10M LIQUID				
2722	9.9	10.6	9.6*	101
2786	9.8	10.0	9.4*	98
14 7 7M LIQUID				
2711	13.3*	7.3	6.9	97*
LAND O NAN WAREHOUSE				
4 12 0 LIQUID				
2862	4.1	11.6*		99
2865	4.1	11.2*		96*
4 12 12M LIQUID				
2864	4.1	12.1	11.4*	100
5 10 10M LIQUID				
2867	5.0	9.7	10.5	100
9 9 9M LIQUID				
2863	8.6*	8.9	8.8	97*
10 10 10M LIQUID				
2866	9.8	10.0	9.6*	98
WEST KENTUCKY LIQUID FERTILIZER CO				
4 12 8M LIQUID				
2721	3.4*	9.9*	6.6*	83*
2849	3.8	12.1	7.9	99
4 12 10M LIQUID				
2762	3.7*	11.6*	10.5	97*
4 12 12M LIQUID				
4442	4.1	11.8	12.0	100
4446	4.7	11.5*	11.5*	101
4519	4.4	12.1	11.7	102

BLE 2 - Analyses of Inspection Samples of Liquid Mixed Fertilizers, Nitrogen Solutions, and Anhydrous Ammonia, July - December, 1959

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 KENTUCKY LIQUID FERT CONTINUED	(Percent)	(Percent)	(Percent)	
5 10 10M LIQUID 2705	5.0	9.8	9.4*	98
5 15 10M LIQUID 4515	5.1	15.1	10.4	102
5 20 0 LIQUID 4516	4.8	20.0		99
6 12 12M LIQUID 4443	5.8	122	11.7	99
6 20 0 LIQUID 2787	6.3	202		102
8 16 8M LIQUID 4517	8.1	16.0	8.2	101
8 24 0 LIQUID 4518	8.0	23.4*		98
10 10 10M LIQUID 2763 2850 4520	10.0 9.8 9.7	10.3 10.4 10.3	10.0 9.5* 9.7	101 100 99
10 10 10 5M 5 KOH 2706 2707	10.7 10.2	10.9 10.1	9.3* 10.2	105 102
12 12 6M LIQUID 4444	10.7*	12.1	6.6	95*
15 15 0 LIQUID 4514	14.9	14.8		99
18 12 0 LIQUID 4445	16.8*	12.1		96*

TABLE 3 - Analyses of Inspection Samples of Rock Phosphate, Basic Slag, Fused Tricalcium phosphate, July - December, 1959

(Analyses deficient more than tolerance shown on page 4 and relative values or 97 percent or less indicated by asterisk.)

Sample Number	Manufacturer, Brand Name	Phosphoric Acid Available Guar.	Phosphoric Acid Available Found	Phosphoric Acid Total Guar.	Phosphoric Acid Total Found	Percent of Relative Value Found
		(Percent)		(Percent)		
	American Cyanamid Company					
2819	Rock Phosphate	3	3.8	33	33.8	113

TABLE 4 - Analyses of Inspection Samples of Bone Meal, Dried Manures, etc., July- December 19

(Analyses deficient more than tolerance shown on page 4 and relative values of 97 percent of less indicated by asterisk.)

Sample Number	Manufacturer, Brand Name	Nitrogen	Total Phosphoric Acid	Potash	Percent of Relative Val Found
		(Percent)	(Percent)	(Percent)	
	Armour Fertilizer Works				
5026	2.3-23-0 Bone Meal	2.8	25.1	---	113
	Sewerage Commission of Milwaukee				
5036	Milorganite, 5.5-4.0-0	5.5	5.8		103

TABLE 5 - Results of Analyses of Boron in Fertilizers Reported in Table 1

COMPANY	Sample Number	% Guaranteed	% Found
Armour Agricultural Chemical Company	2832	0.57	0.70
	4455	0.45	0.21
	4471	0.34	0.48
Bluegrass Plant Foods, Inc.	2851	0.57	0.38
Cooperative Fertilizer Service, Inc.	0917	0.45	0.49
	0952	0.45	0.50
	1795	0.45	0.44
	2717	0.45	0.49
	2729	0.45	0.47
	2748	0.45	0.52
	2818	0.45	0.54
	3551	0.45	0.49
	4473	0.45	0.51
	4476	0.45	0.47
	4504	0.45	0.51
Davison Chemical - Div. W. R. Grace Co.	2714	0.23	0.32
	2749	0.23	0.32
	4452	0.45	0.65
Federal Chemical Company	0977	0.57	0.68
	2708	0.57	0.67
	3560	0.57	0.44
Tennessee Corporation	2814	1.37	1.10
Virginia-Carolina Chemical Corporation	1746	0.57	0.60
	2806	0.56	0.52

TABLE 6 - Results of Analyses of Insecticides Contained in Fertilizers Shown in Table 1

COMPANY	Sample Number	Insecticide	% Guaranteed	% Found
American Agricultural Chemical Company	3656	Dieldrin	0.32	0.50
Swift & Company	1842	Dieldrin	0.62	0.07

3.5M 9-59