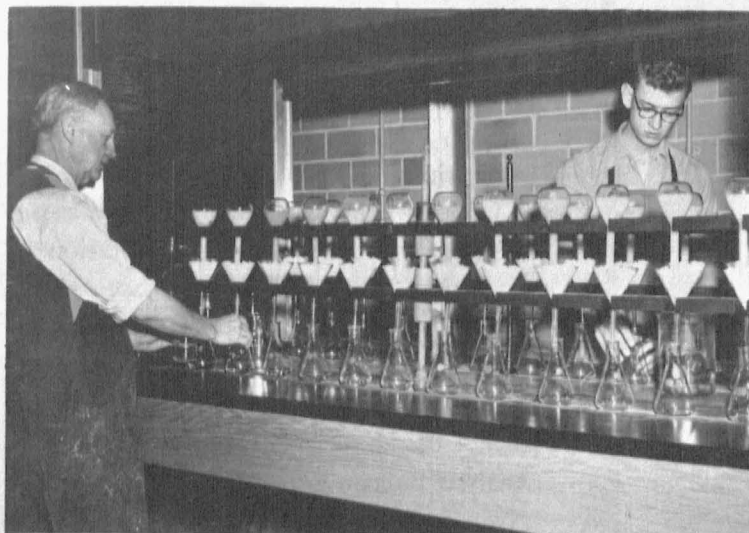
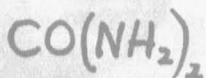
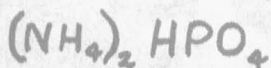
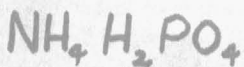
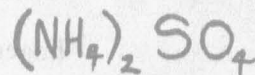
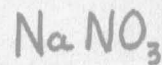
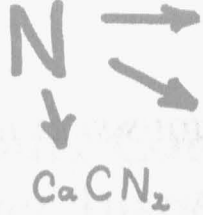
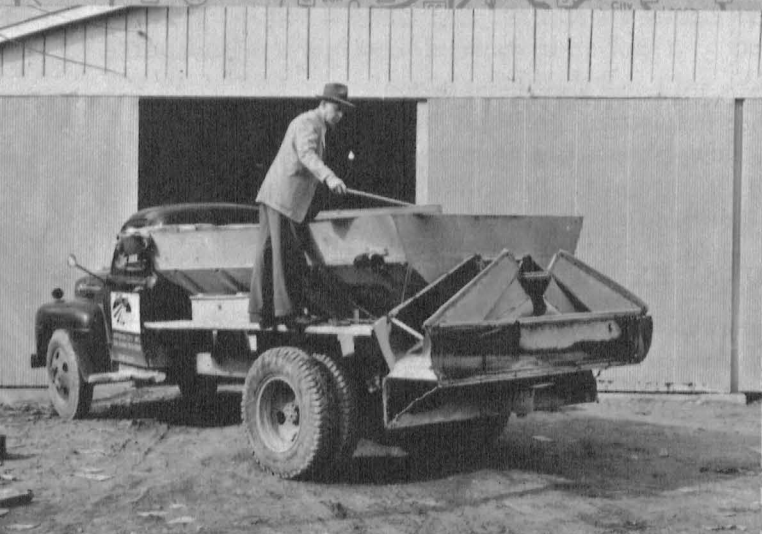
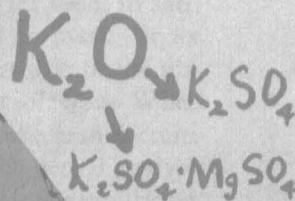
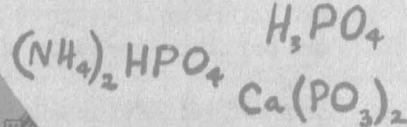
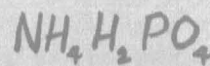
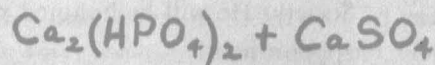
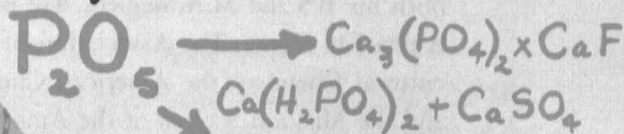


Missouri

COMMERCIAL FERTILIZER



Inspection and Analysis 1956



UNIVERSITY OF MISSOURI

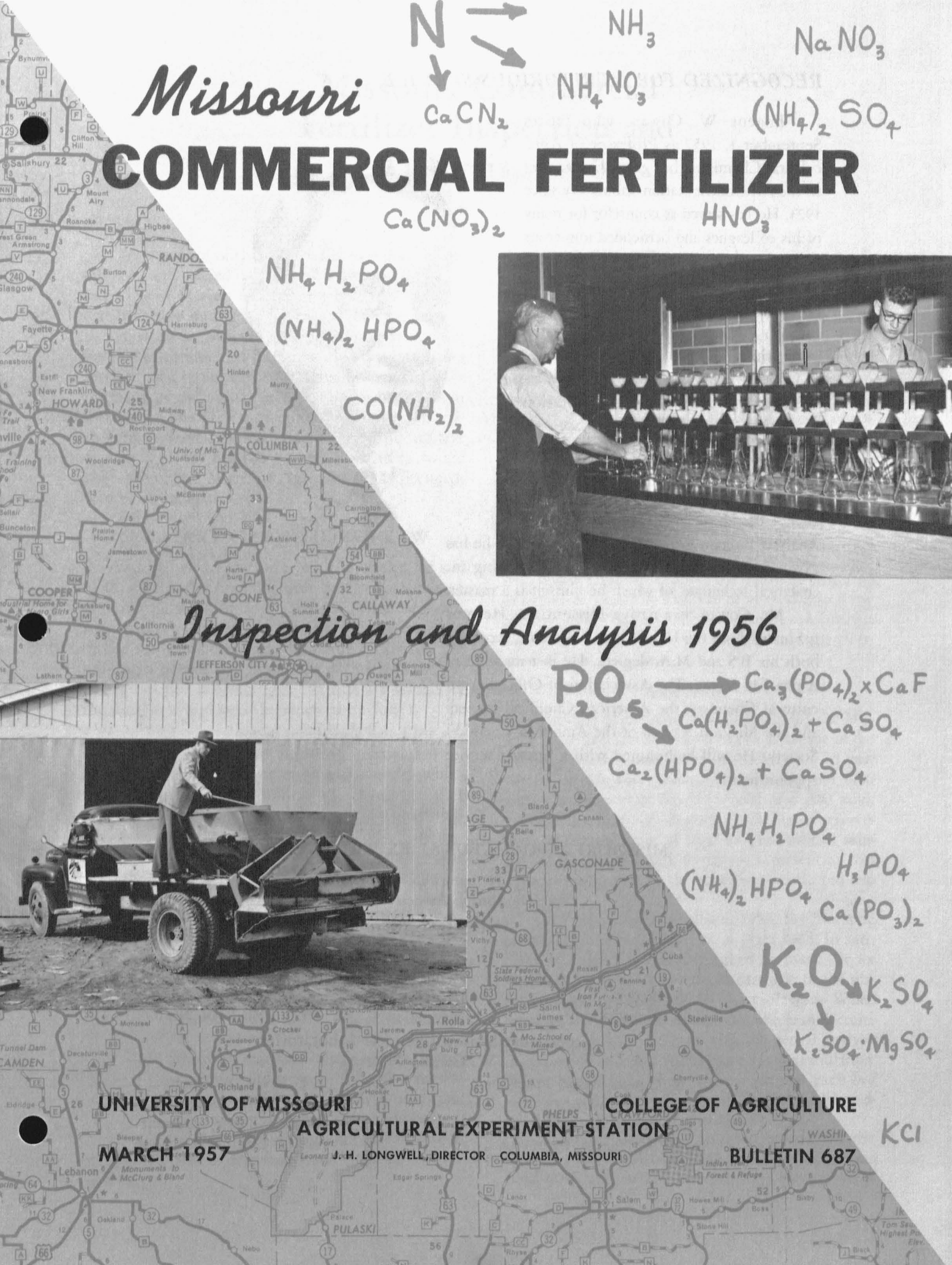
AGRICULTURAL EXPERIMENT STATION

COLLEGE OF AGRICULTURE

MARCH 1957

Leonard J. H. LONGWELL, DIRECTOR COLUMBIA, MISSOURI

BULLETIN 687



RECOGNIZED FOR MERITORIOUS SERVICE

Eugene W. Cowan, who retires September 1, 1957 as Professor of Agricultural Chemistry, has given his services to the Experiment Station Laboratory since 1923. He has served as counselor for many of his colleagues and befriended numerous students and staff members in many of their problems. He is widely known for his high standards of excellency, his great industry and his sympathetic understanding of the problems of others.

For 34 years Mr. Cowan has been associated with the Experiment Station Analytical Laboratory. He has been responsible for a great part of the Fertilizer Control Services in Missouri. He has contributed much of the data and been co-author of this Fertilizer Inspection and Analysis Bulletin for many years. In addition, he has given many of our students valuable training in analytical technique, of which he himself is a master.

Mr. Cowan is a native Missourian. He was graduated from the University of Missouri, receiving both his B.S and M.A. degrees. He is a member of Alpha Chi Sigma, The Association of Official Agricultural Chemists, the American Chemical Society and the Missouri Section of the American Chemical Society. He will be honored with a limited service appointment.



MISSOURI AGRICULTURAL EXPERIMENT STATION

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S. B. Shirky, Associate Director

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W. L. Baker, Supervisor

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Missouri Commercial Fertilizer Inspection and Analysis, 1956

The purpose of this bulletin is to report the results of work carried on by the Missouri Agricultural Experiment Station in administering the Missouri Fertilizer Law during the calendar year 1956.

In order to provide protection against fraud in the sale of commercial fertilizers, this law establishes certain requirements which must be met by the company or individual prior to sale of fertilizers in this state. The primary requirements are summarized here; however, persons interested in the full text of the law may receive a copy by writing to the Director of the Missouri Agricultural Experiment Station, Columbia.

SUMMARY OF FERTILIZER LAW

Permits. Before any fertilizer may be offered for sale in this state, the manufacturer or distributor must obtain a permit from the Director of the Missouri Agricultural Experiment Station. Subsequent sales of the same material may be made by parties not holding a permit so long as the identity of the fertilizer has not been altered. Permits are issued for the fiscal year and must be renewed on July 1.

Labels. Each container of fertilizer offered for sale must be labeled with the following information:

- (1) Name, brand, or trade mark under which the fertilizer is sold;
- (2) Name and address of the person guaranteeing the fertilizer;
- (3) Guaranteed chemical composition of the fertilizer expressed in the following terms:
 - (a) Percentage of total nitrogen
 - (b) Percentage of available phosphoric acid
 - (c) Percentage of soluble potash
 - (d) Unacidulated mineral phosphatic materials and basic slag shall be guaranteed as to both total and available phosphoric acid, and the degree of fineness as expressed in percentage passing through standard-mesh sieves. In the case of bone, tankage, and other natural organic phosphate materials, only total phosphoric acid must be guaranteed.

If any fertilizer is sold or offered for sale in bulk, such a label as described above must accompany each lot.

Reports and Fees. Persons holding permits to sell fertilizers in Missouri must furnish to the Experiment Station within two weeks after shipment a copy of each invoice covering all sales of fertilizer for use in this state. And within thirty days after each six months period ending June 30, and December 31, persons holding permits must pay to the Director of the Missouri Agricultural Experiment Station a fee of thirty cents (30¢) per ton for all fertilizers sold to unregistered parties during each such respective period. The fees so paid are to be used in defraying the expenses of administering the law, practical and scientific experiments in the use of fertilizers, and other work which may be of practical use to the farmers of the state.

Stop Sale Orders. The Director may issue a "stop sale, use, or removal" order to the owner or custodian of fertilizers which are found to be in violation of any provision of the law. Such an order prohibits the further sale or removal of the fertilizer until the violation has been corrected.

Inspection

The duty of enforcing and administering the Missouri Fertilizer Law is vested in the Director of the Missouri Agricultural Experiment Station. In pursuance of this duty, during the calendar year 1956 authorized inspectors traveled a total of 46,500 miles calling on farmers, dealers, and manufacturers throughout the state. A total of 2477 official samples of bagged and bulk fertilizers, representing lots from every county in the state, were collected and analyzed.

Of the fertilizers sampled in 1956, 193 lots were found to be seriously deficient in plant food. In such cases an inspector was dispatched to mark the lot "misbranded" and/or to stop further sale of the material pending correction of the violation. When fertilizer is found to be misbranded the manufacturer may either relabel the bags with the actual analysis or return the material to his plant for reformulation. When practicable the inspector stamps each bag with this statement: "This lot of fertilizer misbranded. Ask dealer for report of analysis".

An attempt was made to secure a representative sampling of material from all manufacturers selling field fertilizers in volume sufficient for this to be

achieved. Therefore, the number of samples drawn is not necessarily proportionate to the amount of fertilizer sold; however, a larger number of samples was taken of those brands and grades which were sold more extensively.

Chemical Analysis

All of the official fertilizer samples collected by the fertilizer inspectors were analyzed in the Experiment Station Chemical Laboratories located at the University of Missouri, Columbia. Each fertilizer sample, at least one pound in size, was divided by a sample riffle. One "half" of the sample was ground and prepared for the laboratories and analyzed for nitrogen, phosphorus and potassium and the other "half" was placed in reserve for possible future reference. Those samples which were found deficient by the "first run" analyses in any one plant food element were reanalyzed. An additional independent determination was made to confirm the first run results. For those samples which were classed as "Misbranded" according to the established tolerances and on the basis of first run analysis, the laboratory portion of these samples were reanalyzed independently, and the reserve portion of the sample was divided and two independent determinations made. Before any sample is labeled "Misbranded" the results obtained on both the laboratory and reserve samples must agree within laboratory analytical tolerances.

The analytical procedures used for the determination of nitrogen and phosphorus were those approved by the Association of Official Agricultural Chemists and as described in the Book of Methods, 8th edition. All "first run" potassium analyses were made by a flame photometric method developed in the Missouri laboratories. Any flame result for potassium which fell below the manufacturers guarantee was verified by the official gravimetric method for potash as described in the Book of Methods. Individual sample reports were mailed currently to the manufacturer, jobber, dealer and the final purchaser if the latter could be determined. The results of these

samples are presented in the following tables.

Summary of Tonnage Data

Manufacturers reported a total of 785,949 tons of commercial fertilizer shipped for use in Missouri during the calendar year 1956. This represents an increase of approximately two percent over the tonnage reported for 1955. Nitrogen, available phosphoric acid, and potash contained in these fertilizers increased 11.3, 1.5, and 7.5 percent respectively over the previous year. The average total primary plant nutrient content of mixed fertilizers in 1956 was 34.3 percent as compared to 33.3 percent in 1955 and 21.0 percent ten years ago. Fertilizer grades of a 1-1-1 ratio comprised slightly more than one-half of all mixed fertilizers, with sales of 12-12-12 for the year reaching a new high of 166,716 tons. Sales of rock phosphate for direct application were down from a year ago by 3.5 percent to 205,080 tons. For additional tonnage data see tables 1 and 2.

Missouri Tolerance for Determining Misbranded Fertilizers

For any one element the tolerance shall be 10% of the guaranteed percentage up to maximum of one unit (one percent plant food), plus the analytical tolerance stated below. For samples containing more than one guaranteed primary element, the combined deficiencies shall not exceed three units of plant food. No credit to be given for overages.

ANALYTICAL TOLERANCE FOR DETERMINING DEFICIENCIES

% Guarantee	% Tolerance		
	N	A. P. A.	K ₂ O
0.0 to 2.0	0.20	0.40	0.20
2.1 to 3.0	0.25	0.40	0.30
3.1 to 4.0	0.35	0.40	0.40
4.1 to 8.0	0.40	0.40	0.50
8.1 to 10.0	0.50	0.40	0.60
10.1 to 20.0	0.50	0.50	0.60
20.1 to 25.0	0.50	0.50	1.00
25.1 to 30.0	0.50	0.75	1.00
30.1 and over	0.75	0.75	1.00

TABLE 1 -- MISSOURI FERTILIZER TONNAGE REPORT, 1956

<u>GRADES</u>	<u>SPRING</u>	<u>FALL</u>	<u>NITROGENOUS MATERIALS</u>	<u>SPRING</u>	<u>FALL</u>
0-10-20	837	52	Ammonium Nitrate	47,117	17,876
0-20-20	11,699	3,801	Anhydrous Ammonia	12,116	2,410
0-25-25	965	423	Nitrogen Solutions	4,133	1,161
3-9-18	2,061	106	Ammonium Sulphate	494	453
3-9-27	7,017	589	Urea	550	124
3-12-12	28,436	21,188			
4-12-4	21,687	9,959	<u>PHOSPHATIC MATERIALS</u>		
4-16-16	2,974	3,314			
4-24-12	2,160	1,547	Normal Superphosphate	2,097	804
5-10-5	2,030	1,106	Concentrated Superphosphate	4,062	2,602
5-10-10	635	14	Calcium Metaphosphate	3,237	2,109
5-15-30	1,371	171	Rock Phosphate	85,535	118,221
5-20-20	7,950	7,525	Colloidal Phosphate	600	724
6-12-12	4,198	5,795			
6-24-24	1,018	1,608	<u>POTASSIC MATERIALS</u>		
8-8-8	20,649	9,287			
8-24-8	20,501	18,484	Muriate of Potash	12,169	7,636
10-10-10	10,238	6,004	Sul-Po-Mag	174	150
10-20-10	2,782	2,581			
10-20-20	1,248	1,575	<u>MISCELLANEOUS MATERIALS</u>		
10-30-10	304	724			
12-12-12	99,284	67,432	Organics	2,359	1,254
12-24-12	836	1,483	Other	880	377
12-36-12	2,736	1,390			
13-13-13	2,608	2,418	Totals	175,523	155,901
14-14-14	4,948	3,416			
15-10-10	347	569			
15-15-15	1,021	979			
16-20-0	701	362	<u>SUPPLEMENTARY INFORMATION</u>		
Misc. Mixed			(Included in tonnages listed above)		
Liquid	1,598	1,708			
Misc. Dry			Bulk Dry Fertilizers	97,291	125,280
Grades	9,740	4,336	Fertilizers with Pesticides	3,398	-----
			Fertilizers with Borax	1,271	777
Totals	274,579	179,946			

GRAND TOTAL 785,949

Additional copies may be secured by writing to: Fertilizer Inspection, Room 22, Mumford Hall.

TABLE 2 -- FERTILIZER AND PLANT FOOD TONNAGE SHIPPED FOR USE IN MISSOURI SINCE 1941

Year	Total Tons Fertilizer	Total Tons of Plant Foods				Mixed Fertilizers			Fertilizer Materials*				Rock Phosphate
		Nitrogen	Available P ₂ O ₅	Total P ₂ O ₅ in Rock	K ₂ O	Total Tons	Average Composition	Per Cent	Total Tons	Tons N	Tons P ₂ O ₅	Tons K ₂ O	
1941	68,626	1,018	10,293	286	2,185	35,647	2.33-12.14-4.83	19.3	32,057	187	5,965	463	922
1942	59,854	801	9,236	168	2,368	28,420	2.17-11.99-6.90	21.1	30,892	184	5,828	407	542
1943	83,375	903	12,310	284	3,893	44,357	1.89-11.94-7.83	21.7	38,102	65	7,014	420	916
1944	120,937	1,811	17,849	418	4,800	67,005	2.30-11.88-6.82	21.0	52,585	270	9,889	230	1,347
1945	135,140	2,309	19,219	547	6,279	83,411	2.37-11.90-6.96	21.2	49,963	332	9,293	474	1,766
1946	221,753	4,665	31,045	1,231	9,964	149,829	2.60-11.95-6.43	21.0	67,953	769	13,140	330	3,971
1947	293,705	10,282	36,192	3,671	13,470	227,688	2.94-12.01-5.84	20.8	54,176	3,588	8,847	173	11,841
1948	355,283	11,366	45,138	9,085	17,278	263,936	3.03-12.11-6.25	21.4	62,041	3,369	13,175	782	29,306
1949	364,677	13,426	42,472	17,815	18,895	248,000	3.26-12.77-7.08	23.1	59,209	5,341	10,802	1,337	57,468
1950	482,123	21,865	52,641	36,100	26,047	290,497	3.80-13.93-8.19	25.9	75,175	10,826	12,175	2,255	116,451
1951	647,393	30,988	61,989	56,520	38,371	390,292	4.34-14.11-8.94	27.4	74,777	14,049	6,919	3,479	182,324
1952	847,284	48,478	75,344	85,702	52,590	468,347	5.30-14.75-9.40	29.5	102,478	23,656	6,263	8,565	276,459
1953	763,276	57,681	72,427	62,135	55,483	458,042	6.40-14.88-10.16	31.4	104,798	28,376	4,270	8,944	200,436
1954	771,375	76,960	81,136	37,332	68,070	517,244	7.30-14.42-10.80	32.5	132,383	39,185	6,529	12,232	121,748
1955	771,556	66,771	70,223	65,601	61,379	449,871	7.88-14.19-11.19	33.3	109,270	31,339	6,398	11,019	212,415
1956	785,949	74,337	71,302	63,403	40,473	454,525	8.33-14.10-11.85	34.3	126,344	36,357	7,040	11,972	205,080

*Does not include Rock Phosphate

DISTRIBUTION OF FERTILIZER TONNAGE BY COUNTIES, 1956*

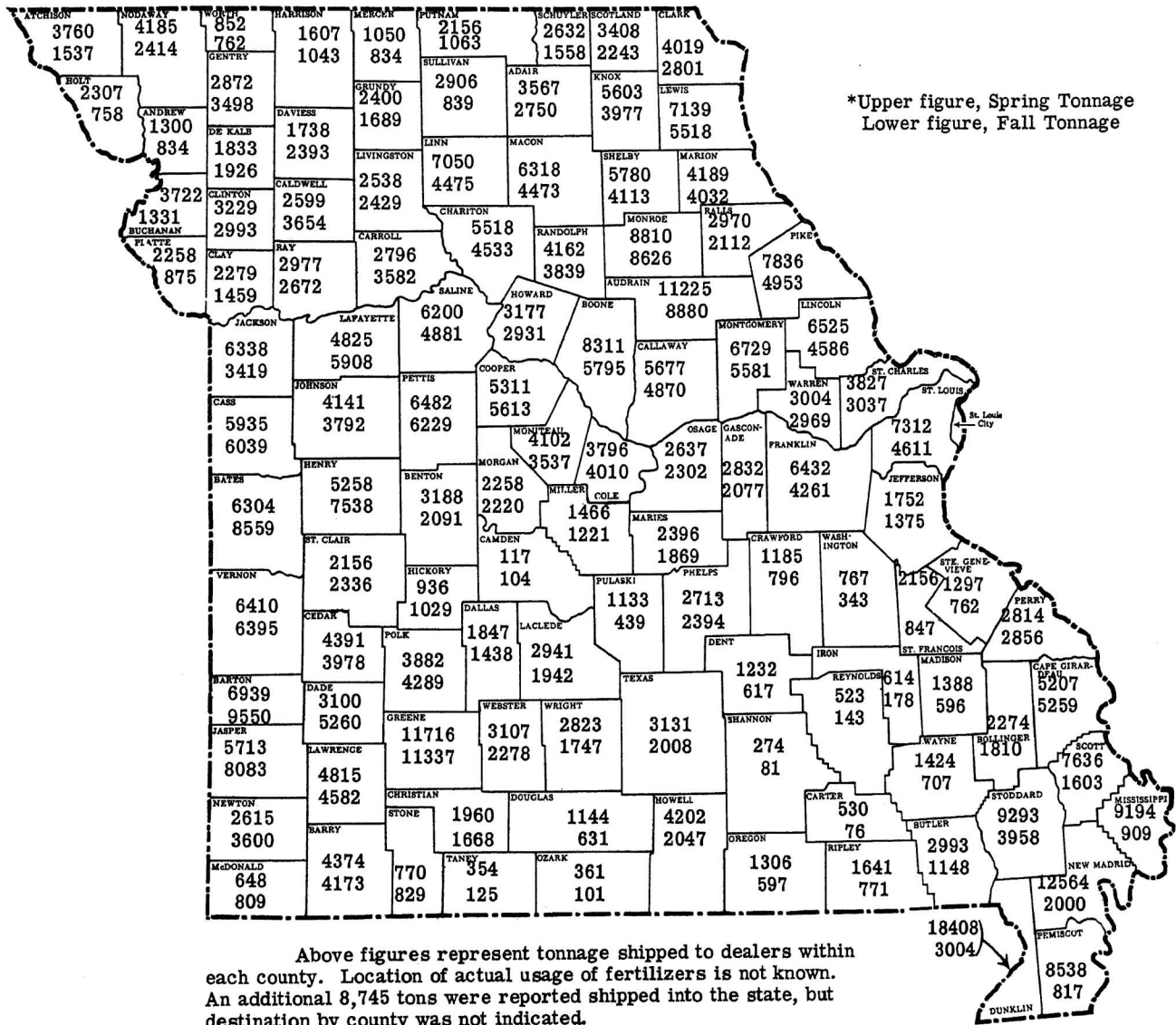


TABLE 3 -- SUMMARY OF AVERAGE VARIATIONS FROM MANUFACTURERS GUARANTEE IN MIXED FERTILIZERS, 1956

In order that the reader may tell at a glance the relative manner in which mixed fertilizer manufacturers have met guarantees, this table summarizes the performance of companies from which ten or more samples were collected. Of all samples represented, 37.3 percent were deficient in one or more plant food constituents. However, only 9.0 percent were deficient to such an extent as to be considered misbranded. This indicates an improvement in fertilizers sampled in 1956 as compared to 1955. As noted last year, fertilizer shipped in the fall again met guarantees better than fertilizer shipped in the spring.

The fourth column in this table is a comparison of the value of total plant food found to that guaranteed, expressed as percentage. To arrive at this figure, a unit of nitrogen was assumed to be equivalent in value to two units of available phosphoric acid or to three units of potash. While the cost of these plant nutrients will vary according to the material in which they are contained, this is thought to be a reasonably accurate average value relationship for this section of the country.

Manufacturer	Samples Analyzed				Nitrogen			Available P ₂ O ₅			Potash		
	Total	% Meeting Guarantee in All Respects	% Mis-branded**	(Value Found) (Value Guar.) Percent	Samples Analyzed	% Deficient*	(Found) (Guaranteed) Percent	Samples Analyzed	% Deficient*	(Found) (Guaranteed) Percent	Samples Analyzed	% Deficient*	(Found) (Guaranteed) Percent
Nitrogen Div., Allied Chem. & Dye Corp.	34	100.0	0.0	101.5	34	0.0	100.4	34	0.0	102.7	34	0.0	103.0
Olin Mathieson Chemical Corp.	117	94.9	0.9	103.4	117	0.9	102.1	117	3.4	103.7	108	0.9	106.2
Fort Smith Cotton Oil Co.	13	92.3	0.0	107.0	13	7.7	109.2	13	0.0	103.9	13	0.0	108.8
Davison Chemical Co.	233	74.2	3.9	100.9	220	4.1	101.1	233	11.6	100.9	223	12.6	100.4
Virginia-Carolina Chemical Corp.	125	72.8	4.8	102.5	124	10.5	100.8	125	12.0	104.1	125	7.2	102.8
Missouri Farmers Ass'n	333	71.8	6.0	102.4	310	5.8	101.6	331	19.3	101.9	326	5.5	105.1
Missouri Plant Food Co.	38	68.4	5.3	101.2	34	11.8	101.8	38	18.4	98.9	38	13.2	103.2
Lange Brothers, Inc.	23	65.2	21.7	103.9	21	19.0	103.6	23	26.1	102.6	23	13.0	106.9
Darling & Co.	149	63.8	8.1	101.2	140	20.7	98.3	149	16.1	101.5	149	3.4	106.0
American Agricultural Chemical Co.	95	62.1	9.5	99.9	94	28.7	95.3	95	6.3	102.2	95	5.3	104.4
Sur-Gro Plant Foods Co.	12	58.3	16.7	97.8	12	8.3	98.8	12	25.0	97.3	12	16.7	95.3
La Plata Chemical Co.	52	57.7	17.3	102.5	50	16.0	102.0	52	17.3	102.9	52	15.4	102.9
Farm Belt Fertilizer & Chemical Co.	61	55.7	8.2	102.6	61	21.3	100.6	61	24.6	103.6	55	7.3	105.5
Farm Bureau Service Co. of Missouri	84	53.6	6.0	101.9	70	24.3	102.0	84	25.0	100.5	84	6.0	104.4
Blytheville Plant Food Co.	15	53.3	13.3	104.6	9	11.1	103.8	15	20.0	104.5	15	20.0	105.3
Deep Root Fertilizers, Inc.	10	50.0	10.0	103.8	10	50.0	96.0	10	0.0	107.4	9	0.0	119.3
Farm Fertilizers, Inc.	23	47.8	21.7	99.2	23	34.8	97.7	23	17.4	100.2	10	20.0	103.6
Armour Fertilizer Works	220	47.3	9.5	98.8	204	30.9	95.9	220	20.9	100.1	216	8.3	101.9
Consumers Cooperative Ass'n	49	46.9	10.2	102.0	46	37.0	100.3	49	12.2	103.0	47	10.6	103.8
Swift & Co.	143	44.1	16.8	99.1	137	23.4	97.9	143	24.5	99.0	143	16.8	101.7
Ark-Mo Plant Food Co.	78	42.3	21.8	100.9	74	13.5	101.9	78	38.5	97.6	78	17.9	104.9
Tri-State Chemical Co., Webb City	41	29.3	19.5	98.3	40	52.5	93.8	41	31.7	97.8	39	0.0	110.4
Ozark-Mahoning Co.	14	7.1	64.3	92.2	14	64.3	88.0	14	57.1	96.0	6	50.0	98.5
Totals 1956	1962	62.7	9.0	101.2	1857	16.7	99.8	1960	17.7	101.4	1900	8.5	103.9
Spring	1099	58.0	9.8										
Fall	863	68.8	8.0										

Results were omitted from this table if fewer than ten samples of field fertilizers were obtained.

*Percent samples deficient in excess of sampling and analytical tolerance indicated on page 4.

**Percent samples deficient in excess of misbranding tolerance indicated on page 4.

TABLE 4 -- SAMPLES COLLECTED AND DEFICIENCIES IN THE LARGEST SELLING MIXED GRADES, 1956

This table was designed to help the reader see how the various manufacturers performed with regard to the largest selling mixed grades and to recognize those grades in which most manufacturers generally meet, or have difficulty in meeting, their guarantees. These ten grades represent approximately 85% of the tonnage of mixed fertilizer sold in Missouri during 1956.

An obvious shortcoming of any such table lies in the fact that it cannot include all grades important in limited areas or to certain manufacturers. Any suggestions or criticisms will be appreciated.

Please refer to page 4 for the tolerance schedule whereby deficiencies and misbranded samples were determined.

Manufacturer	12-12-12			3-12-12			8-24-8			4-12-4			8-8-8			10-10-10			0-20-20			5-20-20			6-12-12			3-9-27		
	No. Samples	No. Deficient	No. Misbranded	No. Samples	No. Deficient	No. Misbranded	No. Samples	No. Deficient	No. Misbranded	No. Samples	No. Deficient	No. Misbranded	No. Samples	No. Deficient	No. Misbranded	No. Samples	No. Deficient	No. Misbranded	No. Samples	No. Deficient	No. Misbranded	No. Samples	No. Deficient	No. Misbranded	No. Samples	No. Deficient	No. Misbranded	No. Samples	No. Deficient	No. Misbranded
American Agricultural Chemical Co.	15	12	5	19	3	0	2	0	0	13	1	0	12	4	1	18	10	0	1	0	0	3	2	1	--	--	--	5	1	1
Ark-Mo. Plant Food Co.	15	5	0	7	3	1	11	11	6	8	4	3	5	2	0	--	--	--	4	4	2	2	2	1	3	2	0	5	2	0
Armour Fertilizer Works	49	21	1	22	6	1	29	17	2	19	4	1	15	14	1	19	11	0	4	1	1	10	6	0	7	3	0	3	1	0
Blytheville Plant Food Co.	5	1	1	1	0	0	--	--	--	--	--	--	--	--	--	--	--	--	5	5	1	--	--	--	--	--	--	2	0	0
Consumers Cooperative Ass'n.	21	17	1	--	--	--	18	4	1	--	--	--	--	--	--	--	--	--	2	0	0	2	2	2	--	--	--	--	--	--
Darling & Co.	37	19	7	11	1	0	29	13	3	12	1	0	14	1	0	9	5	0	8	5	0	16	9	2	4	0	0	3	0	0
Davison Chemical Co.	62	6	0	20	4	0	31	12	0	23	2	0	24	5	0	1	1	0	10	8	5	12	9	2	6	1	0	--	--	--
Farm Belt Fertilizer & Chemical Co.	17	5	0	--	--	--	17	11	0	4	0	0	--	--	--	8	0	0	--	--	--	7	6	3	--	--	--	--	--	--
Farm Bureau Service Company of Mo.	18	8	1	8	0	0	14	11	0	3	2	0	6	0	0	--	--	--	4	4	1	12	7	2	3	1	0	1	1	0
Lange Brothers Inc.	2	0	0	8	2	1	2	1	0	4	2	2	2	0	0	--	--	--	1	0	0	--	--	--	--	--	--	1	1	1
La Plata Chemical Co.	18	5	1	2	0	0	6	6	4	4	1	0	4	0	0	5	0	0	1	0	0	4	4	2	--	--	--	--	--	--
Missouri Farmers Ass'n.	60	30	4	29	10	1	29	13	1	18	4	3	27	1	0	3	0	0	23	10	3	21	10	3	5	1	0	3	0	0
Missouri Plant Food Co.	6	2	0	2	0	0	2	2	1	4	0	0	1	0	0	--	--	--	4	3	0	2	2	0	--	--	--	8	0	0
Nitrogen Division, Allied Chemical & Dye Corp.	34	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Olin Mathieson Chemical Corp.	25	0	0	--	--	--	14	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	0	0
Swift & Co.	36	28	4	18	5	0	14	13	10	10	1	0	9	2	1	1	1	1	2	0	0	2	2	0	--	--	--	2	1	0
Tri-State Chemical Co., Webb City	8	7	4	7	3	0	4	3	1	10	9	1	2	1	0	--	--	--	1	1	1	--	--	--	2	1	0	--	--	--
Virginia-Carolina Chemical Corp.	25	10	0	20	1	0	19	11	1	8	0	0	14	2	0	19	1	0	--	--	--	3	2	1	5	0	0	2	1	0
Totals	453	176	29	174	38	4	241	130	30	140	31	10	135	32	3	83	29	1	70	41	14	96	63	18	35	9	0	36	8	2

Results were omitted from this table if fewer than ten samples of the above grades were obtained or if grade was represented by samples from fewer than three manufacturers.

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956

This table presents in detail the guarantee and actual analysis of all bagged or packaged fertilizer samples collected with the exception of bagged rock phosphate. Results of rock phosphate, anhydrous ammonia and other bulk fertilizers are given in following tables.

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	

AMERICAN AGRICULTURAL CHEMICAL CO.,
NATIONAL STOCKYARDS, ILL.

Agrico 0-20-20				
Guarantee			20.0	20.0
337	----	.4	19.7	20.7
Agrico 3-9-27				
Guarantee			9.0	27.0
340	3.0	.2	9.4	26.2
1160	3.0	.3	9.6	24.0**
1339	3.0	.2	8.9	27.6
2004	2.8	.3	9.8	27.1
2253	3.0	.2	9.1	28.2
A.A. 3-12-12				
Guarantee	3.0		12.0	12.0
2010	3.0	.3	12.6	12.6
2313	3.2	.3	12.1	11.4
2347	3.2	.2	12.0	11.5
2496	3.2	.3	11.9	10.9*
2497	3.1	.3	12.0	10.6*
2498	3.1	.3	11.9	11.4
Agrico 3-12-12				
Guarantee	3.0		12.0	12.0
360	3.3	.3	11.1*	14.0
361	3.1	.8	12.0	11.9
459	3.0	.7	11.6	12.1
941	3.3	1.0	11.7	11.4
945	3.0	.9	11.6	12.3
1162	3.0	.8	11.7	12.1
1163	3.0	.7	11.9	12.2
1341	3.0	.6	11.9	12.0
1400	3.0	.3	12.2	12.4
1836	3.3	.2	11.8	13.4
2005	3.1	.2	12.4	12.9
2095	3.1	.5	11.7	12.8
2442	4.0	.2	12.1	12.3
A.A. 4-12-4				
Guarantee	4.0		12.0	4.0
1347	4.2	.5	12.0	5.3
2015	4.0	.5	12.6	5.2
2102	4.0	.4	12.0	4.5
2103	4.1	.3	12.2	4.7
2263	4.2	.3	12.9	6.4
2349	4.1	.3	15.4	13.3
2502	3.9	.3	13.1	7.8
Agrico 4-12-4				
Guarantee	4.0		12.0	4.0
26	3.9	.8	12.3	4.3
948	3.6*	.7	12.0	3.7
952	3.7	.9	11.5	4.4
1348	3.9	.4	12.1	4.5
1404	3.8	.4	12.2	6.4
2019	4.4	.8	11.8	4.2
A.A. 4-16-16				
Guarantee	4.0		16.0	16.0
378	4.2	.6	15.9	17.6
2269	3.6*	.3	14.3**	21.7
Agrico 4-16-16				
Guarantee	4.0		16.0	16.0
379	3.9	1.0	16.0	16.4
380	4.0	.6	15.3*	17.4

On this and following tables, analyses not meeting the guarantee within set tolerance are indicated with an asterisk (*) and are considered deficient. Samples so deficient as to be considered misbranded are indicated with two asterisks (**).

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	

954	3.9	1.0	16.1	16.6
2024	5.0	.7	17.4	15.3*
2351	4.0	.5	16.0	16.0
A.A. 5-20-20				
Guarantee	5.0		20.0	20.0
1186	4.9	.4	20.1	20.4
1253	4.6	.7	17.7**	19.5
2033	4.8	.7	19.0*	19.1*
A.A. 8-8-8				
Guarantee	8.0		8.0	8.0
2422	7.3*	.2	9.3	9.1
Agrico 8-8-8				
Guarantee	8.0		8.0	8.0
872	7.7	.4	9.0	8.6
972	8.0	.2	8.7	8.0
977	7.3*	.2	8.7	8.5
1085	7.7	.2	7.8	8.3
1194	8.2	.2	8.2	8.4
1199	7.7	.2	8.6	8.1
1358	8.2	.2	7.9	8.0
1408	7.0*	.2	9.4	8.2
1848	8.2	.5	8.0	8.3
2035	7.7	.3	9.0	8.2
2119	6.7**	.4	10.2	8.2
A.A. 8-24-8				
Guarantee	8.0		24.0	8.0
48	7.8	1.4	23.8	8.1
1205	8.1	1.2	24.2	8.2
A.A. 10-10-10				
Guarantee	10.0		10.0	10.0
403	9.9	.3	10.3	10.0
482	9.7	.2	10.5	9.9
1410	9.3*	.1	10.3	10.3
2052	9.6	.5	10.8	11.0
2516	9.9	.3	10.2	10.7
Agrico 10-10-10				
Guarantee	10.0		10.0	10.0
59	10.0	.3	10.2	10.3
406	9.8	.3	10.2	10.5
990	9.8	.2	10.0	9.9
1212	9.2*	.3	10.9	9.5
1214	8.5*	.3	11.1	10.0
1216	9.4*	.2	10.6	9.9
1364	9.2*	.3	10.2	10.2
1863	9.0*	.2	11.1	11.0
2051	9.6	.2	10.6	10.3
2057	8.7*	.2	11.1	10.3
2134	9.0*	.2	11.0	10.6
2287	8.6*	.4	11.1	10.9
2368	9.3*	.2	10.3	10.6
A.A. 12-12-12				
Guarantee	12.0		12.0	12.0
1231	11.7	.4	10.9*	12.6
1884	10.1**	.4	12.8	12.5
2072	9.6**	.3	12.8	12.0
2075	10.4**	.4	12.7	12.2
2215	10.6*	.4	12.1	12.1
2294	11.2*	.5	12.5	13.3
2428	12.2	.2	12.0	12.5
2464	10.5*	.4	12.6	13.2
2521	11.4*	.3	12.7	11.8

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
2522	9.8**	.4	12.8	13.3
2525	11.3*	.3	12.5	11.6
Agrico 12-12-12				
Guarantee	12.0		12.0	12.0
1227	11.4*	.2	12.0	12.0
1278	10.3**	.3	11.6	12.1
1374	11.6	.3	11.6	12.0
18% Normal Superphosphate				
Guarantee			18.0	
330	----	.3	18.0	----
447	----	.2	18.2	----
1149	----	.3	17.1*	----
1150	----	.3	17.9	----
1394	----	.2	18.2	----
1998	----	.4	18.8	----
ARK-MO PLANT FOOD CO., WALNUT RIDGE, ARK.				
Ark-Mo 0-20-20				
Guarantee			20.0	20.0
1824	----	.6	21.9	18.0**
1908	----	.6	21.0	18.7*
2001	----	.5	22.5	17.6**
Ark-Mo 0-20-20 with Borax				
Guarantee			20.0	20.0
1907	----	.4	18.5*	20.1
Ark-Mo 3-9-18				
Guarantee	3.0		9.0	18.0
461	3.0	.1	8.9	18.2
620	3.6	.4	9.5	20.3
Ark-Mo 3-9-27				
Guarantee	3.0		9.0	27.0
463	3.4	.1	8.8	27.6
622	3.8	.1	9.3	25.8*
624	3.3	.1	8.1*	30.2
625	3.3	.2	8.9	28.8
1913	3.4	.3	9.1	27.8
Ark-Mo 3-12-12				
Guarantee	3.0		12.0	12.0
344	3.7	.3	11.9	14.6
457	3.7	.2	11.3*	13.6
1340	3.3	.2	11.5	13.4
1830	3.3	.8	11.6	13.0
1914	3.3	.8	11.7	14.1
1916	3.2	1.3	10.5*	13.5
2182	3.3	.2	12.7	10.2**
Ark-Mo 4-12-4				
Guarantee	4.0		12.0	4.0
465	4.3	.2	12.1	4.8
1049	3.8	.1	11.8	5.7
1346	4.3	.4	14.2	7.1
1431	4.7	1.7	9.8**	3.2*
1837	4.0	.4	12.3	5.1
1923	5.1	1.0	10.3**	5.4
1924	4.9	1.0	10.1**	4.8
1925	5.6	1.1	10.5*	5.9
Ark-Mo 5-10-5				
Guarantee	5.0		10.0	5.0
1061	4.9	.2	11.3	6.0
1355	6.2	.2	11.1	5.7
1932	5.0	.8	9.9	5.2
1933	5.3	1.2	10.5	5.3
2029	6.1	.3	10.9	6.8
Ark-Mo 5-15-30				
Guarantee	5.0		15.0	30.0
468	4.7	.3	14.7	28.1*
627	5.0	.2	13.3**	30.0
Ark-Mo 5-20-20				
Guarantee	5.0		20.0	20.0
471	4.7	.4	17.4**	21.8
1842	5.2	.9	19.0*	19.3*

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
Ark-Mo 6-12-12				
Guarantee	6.0		12.0	12.0
387	5.3*	.1	11.4*	12.8
560	5.2*	.6	13.5	15.7
1444	6.5	.7	14.1	12.4
Ark-Mo 8-8-8				
Guarantee	8.0		8.0	8.0
564	9.5	.2	8.8	8.9
1451	7.5*	.2	9.9	9.4
1943	8.1	.2	9.1	9.3
2040	8.1	.3	9.0	8.6
2200	7.4*	.4	9.0	9.6
Ark-Mo 8-24-8				
Guarantee	8.0		24.0	8.0
182	7.6	1.1	22.5*	10.2
478	8.1	1.0	22.4**	8.7
568	7.9	1.3	22.8*	9.5
569	8.1	.6	22.3**	8.8
639	7.3*	.8	21.0**	11.2
1361	8.3	1.4	20.2**	7.7
1455	7.4*	1.6	18.7**	8.2
1753	7.2*	1.6	22.6*	7.8
1947	7.6	1.8	21.6**	7.8
1948	7.3*	1.6	22.8*	7.7
2283	8.3	1.3	24.1	6.8*
Ark-Mo 10-20-10				
Guarantee	10.0		20.0	10.0
196	10.5	.4	19.0*	11.0
578	10.3	.4	17.0**	12.1
1102	9.7	.4	18.0**	10.1
1367	10.1	.6	17.6**	10.2
1954	9.8	.7	19.5	10.2
1955	9.8	.7	19.4*	9.8
1956	9.7	.7	19.4*	10.8
Ark-Mo 12-12-12				
Guarantee	12.0		12.0	12.0
204	12.1	.2	11.9	12.9
301	12.5	.2	12.3	12.2
497	12.7	.2	12.3	12.0
499	12.7	.2	12.2	12.5
656	12.3	.2	11.8	13.1
657	12.5	.2	11.9	12.9
1110	12.1	.2	11.8	12.3
1373	11.7	.2	12.1	13.3
1468	12.1	.3	12.4	12.0
1784	12.2	.5	12.9	10.7*
1959	12.0	.3	12.4	11.2*
1960	12.0	.5	12.7	11.1*
1962	12.3	.5	12.3	12.0
1964	11.8	.5	12.8	10.6*
2222	11.7	.5	13.1	10.8*
Ark-Mo 14-14-14				
Guarantee	14.0		14.0	14.0
432	13.4*	.3	13.1*	14.0
668	13.3*	.2	13.4*	15.6
Ark-Mo 0-45-0				
Guarantee			45.0	
1033	----	1.7	45.5	----
1905	----	1.0	42.0**	----
T.V.A. Calcium Metaphosphate 60%				
Guarantee			60.0	
1990	----	2.1	61.5	----
Ark-Mo Potash 60%				
Guarantee				60.0
327	----	----	----	61.8
689	----	----	----	60.5
APCO FERTILIZER CO., HALLS, TENN.				
Green Diamond 3-9-18				
Guarantee	3.0		9.0	18.0
773	4.7	.4	9.1	18.3

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
Green Diamond 3-12-12				
Guarantee	3.0		12.0	12.0
783	2.9	.7	12.2	13.4
ARMOUR FERTILIZER WORKS, EAST ST. LOUIS, ILL., NORTH KANSAS CITY, MO., AND MEMPHIS, TENN.				
Big Crop 0-19-19 with Borax				
Guarantee			19.0	19.0
1244	----	.6	18.7	17.6*
Big Crop 0-20-20				
Guarantee			20.0	20.0
259	----	.1	19.9	20.0
614	----	.2	18.7*	18.2**
933	----	.3	20.7	20.7
2331	----	.4	20.6	22.7
Big Crop 0-25-25				
Guarantee			25.0	25.0
23	----	.2	21.9**	23.0*
338	----	.2	23.9*	26.1
339	----	.3	23.2**	23.6*
455	----	.2	23.1**	25.8
534	----	.2	23.0**	24.4
618	----	.2	24.9	24.7
693	----	.2	19.9**	29.5
1034	----	.2	24.3*	23.3*
1491	----	.1	25.6	24.3
1515	----	.0	24.3*	22.7**
2002	----	.2	24.0*	26.6
Big Crop 2-12-6				
Guarantee	2.0		12.0	6.0
1640	3.1	.7	12.6	7.0
Big Crop 3-9-18				
Guarantee	3.0		9.0	18.0
619	3.8	.5	9.4	16.9*
1641	2.8	.5	9.4	18.6
1828	2.9	.3	10.2	17.4
Big Crop 3-9-27				
Guarantee	3.0		9.0	27.0
262	3.6	.3	7.7*	25.7*
1161	2.8	.2	8.9	27.7
2254	3.0	.1	9.4	26.6
Big Crop 3-12-12				
Guarantee	3.0		12.0	12.0
24	2.7	.6	12.0	12.2
156	3.5	.4	12.2	11.4
342	3.1	.8	11.1*	11.7
348	2.9	1.0	11.3*	12.0
359	3.2	.6	12.3	12.0
460	2.9	.3	13.6	12.3
698	3.2	.4	12.1	12.1
702	3.3	.4	11.7	12.9
1044	2.9	.2	11.2*	12.4
1166	2.9	.4	11.7	11.9
1168	3.1	.2	12.4	11.6
1521	3.0	.2	11.8	12.7
1649	2.8	.3	12.2	12.3
1651	2.7*	.3	11.8	12.4
1921	2.9	.3	13.0	12.4
2009	3.3	.3	12.0	10.0**
2091	2.7*	.3	12.1	11.6
2092	2.9	.3	12.3	11.6
2098	2.8	.4	11.9	12.3
2255	2.9	.2	11.9	12.0
2260	2.9	.3	12.3	12.6
2500	2.8	.4	12.0	12.1
Big Crop 4-12-4				
Guarantee	4.0		12.0	4.0
161	3.9	.5	12.6	4.4
364	3.7	.4	11.9	4.3
549	4.2	.4	13.0	5.2
706	3.0**	.4	11.5	3.9
709	4.0	.4	12.1	4.9
1054	3.4*	.4	11.8	4.5

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
1169	3.7	.5	11.7	5.3
1345	3.8	.3	11.8	5.5
1352	3.8	.3	11.0*	4.2
1569	4.0	.6	12.8	5.7
1660	3.7	.5	12.4	4.5
1662	3.7	.7	12.4	5.1
1740	3.7	.4	11.5	4.4
2018	4.3	.8	12.9	5.0
2020	3.9	.4	12.1	4.3
2021	3.8	.5	12.0	4.5
2022	3.7	.6	12.6	5.1
2264	3.8	.4	12.0	4.2
2444	3.6*	.5	12.3	5.1
Vertagreen 4-15-15				
Guarantee	4.0		15.0	15.0
28	4.7	.5	14.5	13.5*
29	4.2	.5	15.0	13.6**
118	4.4	.4	13.7*	14.8
1353	4.3	.2	14.4*	15.4
Big Crop 4-24-12				
Guarantee	4.0		24.0	12.0
32	4.2	.5	23.8	9.3**
1056	4.0	.5	20.4**	13.4
1667	3.9	.6	20.8**	14.0
2270	3.8	.4	22.6*	12.6
2419	4.0	.5	23.4*	12.1
Vertagreen 5-10-5				
Guarantee	5.0		10.0	5.0
1058	4.7	.2	10.1	5.0
1059	4.9	.6	10.9	5.3
1060	8.0	.4	7.8**	6.0
1356	5.0	1.0	9.5*	5.1
1439	4.5*	.2	11.0	5.3
Big Crop Tobacco 5-10-10-S				
Guarantee	5.0		10.0	10.0
791	4.9	.3	10.5	11.1
Pebble 5-15-30				
Guarantee	5.0		15.0	30.0
34	5.1	.2	17.0	23.4**
629	4.9	.1	15.5	26.5**
Pebble 5-20-20				
Guarantee	5.0		20.0	20.0
35	5.1	.3	18.6*	20.8
119	4.6	.3	19.2*	20.9
1062	5.3	.2	19.4*	19.0*
1181	5.1	.2	18.9*	20.2
1185	4.8	.2	20.5	20.0
1529	4.7	.1	19.0*	21.5
1532	5.4	.1	19.4*	19.4
1675	5.1	.2	20.1	20.6
1936	5.2	.2	19.9	19.5
2112	4.8	.2	20.0	20.5
Vertagreen 6-12-12				
Guarantee	6.0		12.0	12.0
120	5.8	.5	12.2	11.6
386	6.0	.5	11.8	12.6
634	6.1	.5	11.0*	12.5
717	5.7	.6	12.1	12.3
1190	6.2	.5	11.3*	12.1
1942	5.8	.3	12.3	11.3*
2508	5.8	.7	12.0	11.6
Big Crop 8-8-8				
Guarantee	8.0		8.0	8.0
390	7.1*	.3	8.6	8.4
394	6.8*	.5	8.3	9.0
566	7.3*	.4	8.2	8.5
870	7.3*	.4	8.6	8.3
871	7.4*	.5	9.6	8.7
875	7.1*	.3	8.6	9.0
1191	7.5*	.4	8.5	8.0
1200	7.0*	.3	9.1	8.5
1359	6.3**	.2	8.6	9.6
1683	7.0*	.2	8.5	8.1
1845	7.2*	.3	8.4	9.0

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
2039	7.3*	.5	8.7	7.6
2196	7.8	.2	8.5	9.8
2276	7.5*	.2	8.7	9.4
2511	7.2*	.2	9.1	8.6
Pebble 8-24-8				
Guarantee	8.0		24.0	8.0
8	7.2*	.6	24.9	8.1
54	7.7	.4	24.4	8.1
173	7.4*	.6	24.1	8.3
177	7.8	.3	23.5	8.7
181	8.0	.3	23.7	8.0
399	7.4*	.3	24.2	8.0
571	8.0	.3	22.7*	8.0
573	7.7	.2	23.0*	8.1
641	7.8	.3	23.0*	8.1
724	8.0	.5	23.7	8.5
727	8.0	.2	23.3*	8.4
881	7.5*	.4	23.1*	8.2
883	7.6	.4	23.4*	8.6
980	7.3*	.5	23.7	8.7
1091	8.1	.3	21.5**	8.0
1202	8.0	.4	21.5**	8.8
1209	7.7	.4	22.9*	8.3
1329	8.2	.3	22.6*	8.0
1363	7.2*	.4	23.9	8.0
1689	7.5*	.2	24.6	8.0
1693	8.1	.3	22.9*	9.2
1762	8.3	.7	23.8	8.0
1769	8.1	.4	23.5	8.1
1853	8.0	.4	24.5	8.0
1854	8.6	.3	24.8	8.2
2048	7.8	.4	24.0	8.4
2130	7.7	.2	23.6	8.3
2360	8.4	.3	24.1	8.0
2452	8.0	.5	24.2	8.4
Pebble 8-32-0				
Guarantee	8.0		32.0	
674	7.5*	.6	30.1**	----
Vertagreen 10-6-4				
Guarantee	10.0		6.0	4.0
1101	9.6	.3	6.0	4.4
Big Crop 10-10-10				
Guarantee	10.0		10.0	10.0
189	9.7	.3	11.0	10.3
892	9.0*	.2	10.8	11.2
2367	9.2*	.3	11.2	9.5
Pebble 10-10-10				
Guarantee	10.0		10.0	10.0
58	9.4*	.4	10.6	10.0
405	9.1*	.3	10.9	10.5
891	9.4*	.3	10.2	10.9
988	9.2*	.3	10.7	10.7
1213	9.2*	.3	11.1	10.0
1218	9.5	.2	10.3	10.0
1366	9.4*	.3	10.2	10.4
1589	9.1*	.2	10.7	11.7
1590	9.8	.2	10.6	11.1
1695	10.2	.4	10.4	9.8
1698	9.6	.2	10.6	10.0
2056	9.4*	.7	13.2	10.0
2207	9.7	.2	10.1	10.3
2458	9.6	.7	12.2	10.4
Vertagreen 10-10-10				
Guarantee	10.0		10.0	10.0
65	9.6	.3	10.3	10.2
1215	9.4*	.3	10.1	11.9
Pebble 10-20-0				
Guarantee	10.0		20.0	----
676	10.2	.5	20.2	----
2369	9.3*	.3	20.8	----
Pebble 10-20-10				
Guarantee	10.0		20.0	10.0
195	9.2*	.1	20.1	9.9
290	9.5	.4	20.0	10.1

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
735	9.4*	.2	19.1*	9.9
893	9.5	.3	19.3*	9.9
993	9.8	.3	18.8*	9.8
Big Crop 12-12-12				
Guarantee	12.0		12.0	12.0
297	11.5	.1	12.5	12.2
Pebble 12-12-12				
Guarantee	12.0		12.0	12.0
69	11.0*	.2	12.9	12.2
70	10.3**	.2	13.3	12.2
77	11.2*	.1	12.5	12.2
82	11.1*	.2	12.6	13.3
88	11.6	.1	12.1	12.1
130	11.6	.1	12.3	11.8
198	11.3*	.2	12.0	12.5
199	11.1*	.2	13.0	11.2*
200	11.6	.1	12.3	11.2*
296	11.5	.1	12.6	12.0
305	11.3*	.1	12.7	11.5
414	11.0*	.1	12.7	12.0
489	11.5	.1	12.4	12.1
494	11.0*	.2	12.4	12.3
591	11.5	.1	12.2	12.7
596	11.5	.1	11.6	12.3
655	11.6	.1	11.8	12.1
741	11.2*	.1	12.1	12.1
748	11.8	.1	11.7	12.2
902	11.2*	.1	12.4	12.5
1007	10.9*	.1	12.6	12.0
1008	11.1*	.1	12.4	12.4
1111	11.6	.1	12.1	12.0
1114	11.6	.1	12.2	12.3
1222	11.4*	.1	13.0	12.0
1225	11.5	.1	12.5	11.6
1235	11.5	.1	12.8	12.0
1237	11.4*	.1	12.8	11.9
1377	11.4*	.0	12.7	12.1
1503	11.9	.0	12.3	12.4
1549	11.9	.0	12.2	12.7
1702	11.8	.0	12.4	12.2
1712	11.8	.1	12.3	12.8
1775	11.8	.1	12.2	12.6
1795	12.2	.2	11.9	12.2
1802	12.1	.2	12.5	12.0
1873	10.8*	.2	14.2	12.3
1876	11.8	.1	13.1	13.2
1886	11.5	.1	12.3	12.8
1972	11.9	.1	12.3	12.1
1975	11.7	.5	12.7	12.4
2068	11.9	.1	12.4	11.9
2141	11.9	.1	12.1	12.0
2216	11.3*	.1	12.8	12.9
2295	11.4*	.1	12.0	13.0
2302	11.8	.1	12.0	12.8
2520	10.7*	.1	13.2	13.5
2529	11.6	.1	12.0	13.7
Pebble 16-20-0				
Guarantee	16.0		20.0	
1813	9.5**	.3	19.9	----
Armour Sheep Manure				
Guarantee	1.25	1.0†		2.0
1156	1.5	2.0†	----	4.6
Armour Shredded Cattle Manure				
Guarantee	1.85	.75†		1.75
1157	2.2	1.0†	----	2.2
Pebble Superphosphate 45%				
Guarantee			45.0	
610	----	.5	44.6	----
1565	----	.2	45.1	----
1823	----	.6	46.0	----
2083	----	.2	44.8	----
2167	----	.5	44.9	----
2326	----	.3	45.7	----
2436	----	.5	46.5	----

† Total P₂O₅

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %	MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %				Insoluble %	Available %	
Big Crop Potash 60%					Gro-Green 10-15-5				
Guarantee				60.0	Guarantee	10.0		15.0	5.0
690	---	---	---	60.2	650	8.8*	---	15.1	6.4
ASSOCIATED COOPERATIVES, INC., SHEFFIELD, ALA.					Gro-Green 20-30-10				
T.V.A. Ammonium Nitrate					Guarantee	20.0		30.0	10.0
Guarantee	33.5				671	22.6	.0	29.9	11.3
683	33.4	---	---	---	CENTRAL FARMERS FERTILIZER CO., CHICAGO, ILL.				
T.V.A. Calcium Metaphosphate 62%					C. F. Ammonium Nitrate				
Guarantee			62.0		Guarantee	33.5			
611	---	1.2	61.7	---	97	33.5	---	---	---
H. J. BAKER AND BROTHER, NEW YORK, N.Y.					2403	33.6	---	---	---
Nitroganic 5-4-0					T.V.A. Ammonium Nitrate				
Guarantee	5.0		4.0		Guarantee	33.5			
1142	5.5	.9	6.4	---	1612	33.4	---	---	---
1143	5.4	1.4	4.8	---	1720	33.4	---	---	---
BLYTHEVILLE PLANT FOOD CO., INC., BLYTHEVILLE, ARK.					2534	33.1	---	---	---
B.F.C. 0-20-20					T.V.A. Superphosphate 48%				
Guarantee			20.0	20.0	Guarantee			48.0	---
111	---	.2	18.6*	21.2	2248	---	.4	49.6	---
257	---	.3	22.4	18.8*	T.V.A. Calcium Metaphosphate 62%				
258	---	.2	23.9	17.8**	Guarantee			62.0	---
453	---	.4	20.0	19.0**	329	---	2.0	60.8*	---
612	---	.3	19.1*	22.1	527	---	.8	62.2	---
B.F.C. 3-9-18					1420	---	.9	62.7	---
Guarantee	3.0		9.0	18.0	1634	---	1.0	62.6	---
261	4.4	.3	12.6	20.2	1732	---	1.2	62.8	---
B.F.C. 3-9-27					2085	---	1.3	61.9	---
Guarantee	3.0		9.0	27.0	2249	---	1.0	63.5	---
263	3.4	.2	8.8	28.5	2250	---	1.3	62.7	---
462	3.3	.2	9.1	27.5	2330	---	1.4	62.0	---
B.F.C. 3-12-12					2438	---	1.0	63.0	---
Guarantee	3.0		12.0	12.0	2439	---	1.3	62.6	---
458	4.3	.5	13.0	17.1	2493	---	1.4	62.3	---
B.F.C. 12-12-12					2494	---	1.7	62.8	---
Guarantee	12.0		12.0	12.0	CENTRAL MISSOURI CHEMICAL & MINERALS, INC., JEFFERSON CITY, MO.				
295	12.5	.1	12.7	12.4	C.M. 3-12-12				
300	10.0**	.2	12.3	13.3	Guarantee	3.0		12.0	12.0
303	12.5	.2	12.3	12.6	1297	3.4	.7	11.2*	13.0
496	12.4	.2	12.0	12.1	C.M. 5-20-20				
498	11.9	.1	12.3	12.3	Guarantee	5.0		20.0	20.0
B.F.C. 0-45-0					1299	5.2	1.0	19.3*	20.9
Guarantee			45.0	---	C.M. 8-8-8				
255	---	.3	44.5	---	Guarantee	8.0		8.0	8.0
BORDEN CO., NEW YORK, N.Y.					1300	8.7	.7	7.4*	8.3
Borden's 38					C.M. 10-10-10				
Guarantee	38.0				Guarantee	10.0		10.0	10.0
1148	38.3	---	---	---	1302	10.6	.8	11.0	9.0*
CALIFORNIA SPRAY-CHEMICAL CORP., RICHMOND, CALIF.					C.M. 12-12-12				
Ortho Lawn Groom 7-11-5					Guarantee	12.0		12.0	12.0
Guarantee	7.0		11.0	5.0	1309	12.1	.4	12.3	12.1
1073	6.8	.3	11.9	6.4	CHESMORE SEED CO., ST. JOSEPH, MO.				
1075	7.3	.4	11.7	6.3	Sure Milk 6-10-4				
Ortho-Gro 10-5-5					Guarantee	6.0		10.0	4.0
Guarantee	10.0		5.0	5.0	966	5.6	.8	9.4*	6.2
1100	10.6	---	5.2	4.2*	CHICAGO STOCK YARDS COMPOST CO., CHICAGO, ILL.				
H. D. CAMPBELL CO., ROCHELLE, ILL.					Fertilife 1.75-1.50T-1.25				
Gro-Green 10-10-5					Guarantee	1.75	1.50†	---	1.25
Guarantee	10.0		10.0	5.0	1035	1.7	2.0†	---	2.8
649	9.6	---	14.7	5.2					

† Total P₂O₅

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
COLORADO FUEL AND IRON CORP., DENVER, COLO.				
D-A-P 21-53-0				
Guarantee	21.0		53.0	
682	20.9	.0	52.6	----
COMMERCIAL SOLVENTS CORP., NEW YORK, N. Y.				
C.S.C. Ammonium Nitrate				
Guarantee	33.5			
836	33.6	---	----	----
CONSUMERS COOPERATIVE ASS'N., KANSAS CITY, MO.				
Coop. 0-20-20				
Guarantee			20.0	20.0
225	----	.9	20.6	21.2
768	----	.7	20.0	20.4
Coop. 0-30-30				
Guarantee			30.0	30.0
771	----	.9	28.9*	30.7
Coop. 5-20-20				
Guarantee	5.0		20.0	20.0
470	6.0	1.5	21.2	16.3**
1493	7.1	.7	21.6	15.3**
Coop. 8-24-8				
Guarantee	8.0		24.0	8.0
51	9.3	1.4	23.0*	8.3
172	9.3	1.6	24.4	8.1
185	8.9	1.7	24.6	8.0
274	8.9	1.6	24.0	8.7
275	9.0	1.8	23.8	8.0
477	8.9	1.5	23.5	9.0
644	9.3	1.1	24.6	7.7
799	9.4	2.1	23.3*	8.8
887	8.3	1.9	24.2	9.2
1257	8.7	2.0	23.9	8.7
1580	9.0	1.4	23.1*	8.6
1583	8.5	2.1	23.5	8.2
1585	9.0	1.9	23.5	8.6
1761	8.3	1.2	24.9	9.5
1765	8.4	1.4	24.7	9.7
1767	8.3	1.1	25.7	9.7
2359	8.5	1.6	24.7	7.6
Coop. 8-24-8 with Aldrin				
Guarantee	8.0		24.0	8.0
803	10.1	1.7	22.9*	5.5**
Coop. 10-20-0				
Guarantee	10.0		20.0	
1283	10.8	2.4	19.0*	----
Coop. 10-20-10				
Guarantee	10.0		20.0	10.0
289	10.0	1.3	20.6	10.3
652	10.3	1.4	20.2	10.4
894	10.4	1.3	19.9	10.2
Coop. 12-12-12				
Guarantee	12.0		12.0	12.0
206	12.3	1.0	14.2	11.3*
241	10.9*	.9	14.0	13.8
291	11.2*	.8	12.6	14.2
292	11.9	.6	13.2	14.3
492	10.6*	1.0	13.1	13.4
663	11.2*	1.2	13.4	12.0
817	11.4*	1.0	14.4	12.7
1268	11.0*	.6	13.8	12.6
1499	10.6*	.4	13.2	13.6
1594	11.5	.5	12.5	13.5
1596	12.0	1.1	12.0	11.6
1597	11.2*	.5	14.6	10.8*
1602	10.6*	.7	12.9	13.0
1792	11.0*	.3	11.8	13.4
1797	11.9	.5	12.8	13.3

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
1801	10.8*	.4	12.7	13.4
2471	11.4*	1.0	11.8	12.6
2385	10.7*	1.0	12.0	12.2
Coop. 12-12-12 With Aldrin				
Guarantee	12.0		12.0	12.0
491	10.1**	.9	13.8	13.3
1013	11.4*	1.1	13.6	12.6
1269	11.3*	.8	13.3	11.7
Coop. 16-20-0				
Guarantee	16.0		20.0	
681	13.6**	1.5	20.5	----
Coop. Ammonium Nitrate				
Guarantee	33.5			
220	33.5	---	----	----
324	33.6	---	----	----
926	33.5	---	----	----
1286	33.5	---	----	----
1509	33.4	---	----	----
1613	33.6	---	----	----
1616	33.4	---	----	----
1617	33.4	---	----	----
1815	33.5	---	----	----
1816	33.6	---	----	----
2481	33.7	---	----	----
Coop. Triple Superphosphate 45%				
Guarantee			45.0	
153	----	2.3	44.9	----
254	----	1.2	46.3	----
1487	----	1.6	46.1	----
Coop. 0-0-60				
Guarantee				60.0
252	----	---	----	60.2
CRAWFORD CHEMICAL CO., INC., BARTLESVILLE, OKLA.				
Sunset 8-24-8				
Guarantee	8.0		24.0	8.0
1757	8.3	2.5	24.1	8.5
Sunset 12-12-12				
Guarantee	12.0		12.0	12.0
1789	11.4*	1.4	16.5	9.6**
Sunset 0-45-0				
Guarantee			45.0	
762	----	1.1	47.3	----
DANCO FERTILIZERS, INC., MARYVILLE, MO.				
Danco 12-12-12				
Guarantee	12.0		12.0	12.0
493	11.6	.1	12.8	13.3
DARLING AND CO., EAST ST. LOUIS AND CAIRO, ILL.				
Darling's 0-19-19 With Borax				
Guarantee			19.0	19.0
1422	----	.5	19.3	19.2
Darling's 0-20-20				
Guarantee			20.0	20.0
113	----	.6	19.1*	21.2
256	----	.5	19.3*	21.2
532	----	.4	19.2*	21.4
769	----	1.1	19.3*	21.1
770	----	.5	19.8	20.9
1637	----	.7	19.6	20.0
1826	----	.5	18.7*	19.7
2441	----	.7	20.2	21.4
Darling's 3-9-27				
Guarantee	3.0		9.0	27.0
115	3.0	.4	9.0	26.7

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
935	3.0	.5	9.5	27.2
938	3.1	.3	9.2	26.7
Darling's 3-12-12				
Guarantee	3.0		12.0	12.0
264	3.6	.8	11.9	11.8
343	3.2	.9	11.2*	12.7
700	3.6	.9	12.7	12.0
780	2.9	.4	11.9	13.8
1041	3.6	.6	11.8	12.3
1401	3.2	.7	11.6	12.4
1520	3.4	.8	11.8	12.3
1645	3.4	.7	12.7	12.0
2175	3.4	.7	12.6	12.2
2256	3.5	.5	13.0	11.7
2258	4.0	.5	14.2	11.4
Darling's 4-12-4				
Guarantee	4.0		12.0	4.0
163	4.3	.9	12.7	6.8
266	4.1	1.1	12.3	5.9
365	4.2	.7	12.2	6.1
707	4.1	.9	11.4*	4.6
1053	5.5	.5	13.2	7.5
1171	6.6	.7	13.9	13.5
1343	5.3	.6	12.9	8.6
1350	6.1	.5	13.0	8.1
1838	4.7	.5	12.2	7.6
2017	5.4	.6	13.5	7.6
2023	4.1	.9	11.5	5.6
2100	4.2	.7	12.2	5.2
Darling's 4-16-16				
Guarantee	4.0		16.0	16.0
1663	3.8	.8	15.9	17.9
2186	4.2	.5	16.5	16.5
Darling's Pelleted 5-20-10				
Guarantee	5.0		20.0	10.0
858	4.8	.6	20.8	10.3
1440	5.0	.6	20.7	9.9
2030	5.2	.6	19.7	11.0
Darling's Pelleted 5-20-20				
Guarantee	5.0		20.0	20.0
228	4.3*	.3	20.3	20.2
268	4.7	.4	20.4	10.6**
631	4.9	.4	18.8*	21.0
861	4.5*	.3	19.7	20.2
863	5.4	.3	19.0*	19.9
961	4.8	.8	20.0	19.8
1442	4.7	.7	20.1	19.8
1531	3.3**	.5	9.0**	25.6
1575	4.9	.3	20.4	20.8
1669	4.9	.4	20.5	19.5
1676	4.9	.4	20.9	20.1
2031	5.2	.5	20.7	19.3*
2421	5.1	.3	19.7	20.1
2447	5.8	.3	19.4*	19.2*
2505	5.1	.6	21.2	18.5*
2507	4.7	.8	20.5	20.2
Darling's Pelleted 6-12-12				
Guarantee	6.0		12.0	12.0
229	5.9	.4	13.1	12.6
716	6.5	.7	12.1	12.2
1357	7.6	.4	11.8	12.5
1678	5.9	.4	12.9	12.0
Darling's Pelleted 8-8-8				
Guarantee	8.0		8.0	8.0
44	8.1	.3	8.8	9.7
230	8.2	.2	8.8	8.6
270	8.0	.2	8.9	8.5
395	7.6	.3	9.1	10.0
874	8.1	.2	9.3	8.7
1080	8.0	.4	10.2	10.1
1087	7.7	.5	8.7	9.2
1198	8.4	.2	8.8	8.7
1256	8.0	.2	8.4	9.2
1534	7.6	.4	7.9	8.4
2037	8.0	.6	8.5	8.2

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
2120	8.1	.6	8.9	8.7
2198	8.2	.2	9.6	8.8
2510	7.2*	.3	11.5	10.9
Darling's Pelleted 8-24-8				
Guarantee	8.0		24.0	8.0
179	7.7	1.5	22.8*	8.0
183	8.9	.5	22.1**	8.2
186	7.9	1.7	22.2**	8.1
187	8.6	.4	23.1*	8.0
276	7.9	.4	25.0	8.0
572	8.1	.6	24.5	8.3
879	8.1	.5	24.0	7.8
886	8.1	.6	23.1*	8.7
984	8.8	.6	20.8**	8.5
985	8.0	.5	24.1	8.2
1260	7.9	.6	22.7*	8.3
1266	8.3	2.1	23.1*	8.8
1456	8.7	.7	23.5	8.5
1537	8.6	.6	23.3*	8.3
1690	7.7	.7	24.8	8.6
1766	7.8	.7	24.1	8.5
1855	8.1	.5	23.9	9.1
2043	7.9	1.1	23.9	8.7
2127	7.8	.8	23.9	8.7
2277	7.8	.7	23.8	9.0
2280	8.0	.6	23.4*	9.0
2282	7.8	.8	24.1	8.9
2285	8.2	.8	24.2	8.3
2358	7.3*	.5	23.2*	9.2
2362	8.1	.8	24.1	8.7
2454	7.6	.8	24.4	8.8
2455	7.7	.8	24.7	8.7
2513	7.5*	.7	24.7	9.6
Darling's Pelleted 8-24-8 With Aldrin				
Guarantee	8.0		24.0	8.0
1692	7.9	1.9	23.3*	9.2
Darling's Pelleted 10-10-10				
Guarantee	10.0		10.0	10.0
62	9.9	.4	10.4	10.2
64	9.7	.6	10.4	10.1
407	8.8*	.3	10.2	10.3
1210	9.8	.6	11.0	10.2
1267	8.8*	.4	11.4	11.2
1697	9.1*	.6	10.7	10.6
2054	9.3*	.5	10.4	10.4
2058	8.9*	.5	10.2	10.4
2518	9.6	.8	10.7	10.2
Darling's Pelleted 12-12-12				
Guarantee	12.0		12.0	12.0
87	11.8	.3	12.5	12.0
129	11.9	.2	12.2	12.3
238	11.6	.3	12.8	12.8
242	11.9	.3	11.8	12.8
590	12.0	.2	11.4*	13.1
592	11.6	.3	12.5	12.9
815	11.6	.3	13.1	12.3
903	11.9	.3	12.5	12.0
904	11.2*	.4	12.6	12.3
995	11.9	.7	12.3	12.4
996	11.5	.6	12.2	12.0
997	11.5	.3	12.2	11.9
1000	11.6	.7	12.2	12.6
1012	11.9	.6	12.3	12.3
1112	12.1	.8	11.8	12.7
1232	11.4*	.3	12.9	12.4
1236	11.1*	.3	12.4	12.3
1274	11.4*	.4	12.2	12.8
1275	11.8	.6	12.5	12.4
1281	11.7	.2	12.5	12.7
1412	10.9*	.3	12.6	12.0
1547	10.4**	.3	12.1	12.8
1548	11.3*	.2	12.2	12.6
1605	8.8**	.2	14.4	15.0
1707	10.3**	.3	13.0	13.6
1708	9.9**	.2	13.4	13.2
1716	10.4**	.4	12.9	13.2
1868	11.3*	.2	13.1	13.0
1883	11.1*	.5	13.8	11.0*

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
2073	11.5	.4	12.8	12.3
2078	11.8	.4	12.9	12.1
2219	11.4*	.4	12.6	12.4
2292	11.4*	.2	12.6	12.0
2300	10.4**	.3	12.8	13.1
2469	10.8*	.3	13.6	13.0
Darling's Pelleted 12-12-12 With Aldrin				
Guarantee	12.0		12.0	12.0
1709	11.5	.7	12.6	12.1
Darling's 20% Superphosphate				
Guarantee			20.0	
109	----	.6	20.0	----
DAVISON CHEMICAL CO., JOPLIN, MO.				
Bem 0-19-19 With Borax				
Guarantee			19.0	19.0
528	----	.7	16.3**	20.8
1421	----	.5	18.1*	20.7
1906	----	.9	19.5	19.0
Bem 0-20-20				
Guarantee			20.0	20.0
336	----	.7	22.4	16.8**
846	----	.7	19.4*	19.2*
1245	----	.8	19.8	19.2*
1423	----	.8	20.6	17.7**
1424	----	.7	22.9	13.1**
1489	----	.5	21.6	17.2**
1513	----	.6	21.9	17.1**
1734	----	.7	20.1	20.9
1735	----	.6	21.2	19.0*
1827	----	.5	20.2	20.1
Bem 3-12-12				
Guarantee	3.0		12.0	12.0
117	3.1	.5	12.3	10.5*
157	3.3	.4	12.1	13.4
349	3.0	.5	12.1	11.2*
354	3.1	.4	11.9	12.5
357	3.3	.5	11.7	11.8
695	3.2	.5	11.8	11.7
697	3.3	.4	11.7	13.1
699	2.8	.5	12.4	11.6
1040	3.1	.5	11.6	12.1
1042	3.0	.6	11.9	11.0*
1518	3.2	.7	11.2*	11.3*
1654	3.0	.8	11.9	11.7
1739	3.1	.5	11.9	12.2
2006	3.1	.8	11.9	11.5
2346	3.2	.6	11.9	12.4
Davco 3-12-12				
Guarantee	3.0		12.0	12.0
1833	3.0	.8	11.6	12.0
1919	3.1	.5	11.7	12.0
1922	3.1	.5	11.7	12.0
2179	2.9	.7	11.5	11.4
2183	2.9	.6	11.5	11.6
Bem 4-12-4				
Guarantee	4.0		12.0	4.0
369	4.2	.6	11.6	4.0
373	4.4	.3	11.9	4.0
376	4.1	.5	11.7	4.0
704	4.3	.6	11.7	4.1
852	4.2	.4	11.8	3.9
855	4.1	.6	11.4*	3.8
1051	4.1	.4	11.4*	4.0
1052	4.2	.5	11.5	3.9
1248	4.2	.6	12.0	4.0
1428	4.2	.5	11.9	4.0
1429	4.2	.8	11.8	3.9
1840	4.2	.5	12.0	4.4
1926	4.1	.7	11.8	4.3
2348	4.2	.7	11.9	4.0
2504	4.3	.6	11.8	4.0

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
Davco 4-12-4				
Guarantee	4.0		12.0	4.0
1742	4.3	.6	12.2	4.0
1927	4.5	.3	11.9	4.1
1929	4.6	.4	11.6	4.0
2016	4.4	.5	12.0	4.2
2105	4.3	.4	12.1	4.7
2266	4.3	.5	11.8	4.4
2268	4.4	2.2	11.6	5.6
2443	4.6	.5	12.0	4.2
Bem 5-10-5				
Guarantee	5.0		10.0	5.0
554	5.0	.3	10.8	5.1
1438	5.1	.3	10.3	5.4
1934	5.8	.7	10.6	4.6
Davco 5-10-5				
Guarantee	5.0		10.0	5.0
1745	5.5	.3	10.6	5.0
Bem 5-10-10				
Guarantee	5.0		10.0	10.0
555	5.0	.7	9.9	10.1
Bem-Goldleaf Tobacco 5-10-10				
Guarantee	5.0		10.0	10.0
792	5.3	.2	9.9	10.1
Bem 5-20-10				
Guarantee	5.0		20.0	10.0
711	5.3	.6	20.1	10.6
Bem 5-20-20				
Guarantee	5.0		20.0	20.0
864	5.2	2.0	24.5	15.2**
Davco 5-20-20				
Guarantee	5.0		20.0	20.0
383	5.6	.7	20.5	17.7**
385	5.7	.9	18.6*	20.0
962	5.1	.6	19.2*	20.6
1180	5.2	.6	19.4*	20.2
1254	5.3	.5	20.8	18.8*
1441	5.3	.9	19.5	19.7
1526	6.0	.6	19.1*	21.5
1527	5.2	.7	18.7*	21.5
1572	5.1	.6	19.8	20.2
1673	5.2	.7	20.3	20.2
2352	5.2	.9	20.0	19.3*
Bem 6-12-12				
Guarantee	6.0		12.0	12.0
561	6.1	.5	12.4	12.5
715	6.1	.3	11.9	11.5
1748	6.8	.6	13.8	10.4*
Davco 6-12-12				
Guarantee	6.0		12.0	12.0
1941	6.5	.5	11.9	11.5
2190	6.3	.4	11.8	11.9
2274	6.0	.4	11.8	12.5
Bem 6-24-12				
Guarantee	6.0		24.0	12.0
1070	5.7	3.6	21.0**	12.9
Bem 8-8-8				
Guarantee	8.0		8.0	8.0
123	8.5	.4	8.0	7.7
171	7.7	.2	8.6	7.2*
271	8.6	.1	8.1	7.0**
389	8.1	.2	8.8	8.0
392	8.3	.3	8.9	8.2
393	8.4	.3	8.9	10.1
636	7.7	.3	8.3	7.5
1078	7.5*	.4	8.0	7.4**
1082	7.7	.4	8.1	7.4**
1084	8.2	.2	7.9	8.1
1324	8.2	.3	8.2	8.1
1448	7.9	.3	8.4	8.0
1449	7.8	.3	8.4	7.9

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
1684	8.3	.2	8.7	8.6
1686	8.0	.4	8.7	8.6
1751	7.5*	.2	8.4	8.0
1945	7.8	.3	8.0	8.3
2195	8.2	.5	7.7	8.0
Davco 8-8-8				
Guarantee	8.0		8.0	8.0
43	8.0	.2	8.0	8.1
1846	7.9	.3	8.0	8.7
2038	8.2	.3	8.0	8.0
2122	8.1	.3	8.2	8.9
2201	8.2	.2	8.7	9.6
2449	7.6	.2	8.3	8.3
Bem 8-24-8				
Guarantee	8.0		24.0	8.0
57	7.3*	1.6	27.1	7.8
877	8.1	1.4	24.9	8.5
1094	8.5	2.5	25.5	9.1
Davco 8-24-8				
Guarantee	8.0		24.0	8.0
174	8.4	1.5	23.2*	7.8
180	8.6	1.6	24.0	8.5
277	8.6	1.5	23.1*	7.8
397	8.0	1.6	23.5	7.8
480	8.3	1.8	23.4*	6.9*
640	8.0	1.7	23.8	7.8
643	8.0	1.7	23.7	7.7
796	8.0	1.6	23.4*	7.9
798	8.1	1.2	23.8	8.4
1089	8.2	1.5	22.9*	8.2
1090	8.0	1.7	23.3*	7.7
1093	7.9	1.6	23.4*	7.7
1201	7.8	1.7	24.0	7.7
1259	8.0	1.8	23.7	8.0
1261	8.2	1.6	23.3*	8.1
1328	8.3	1.3	23.9	8.8
1584	8.2	1.7	25.2	8.1
1755	8.5	1.2	23.6	8.5
1763	8.4	1.3	24.3	8.2
1764	8.5	1.4	24.5	8.2
1856	8.5	1.2	24.0	8.3
1951	8.5	1.2	23.9	8.6
2041	8.1	1.3	23.7	7.2*
2132	8.5	1.1	23.6	8.7
2205	7.6	1.8	24.4	7.3*
2281	8.6	1.1	24.6	8.0
2357	8.2	1.3	23.1*	9.2
2363	8.0	1.2	24.2	7.8
Davco 10-10-10				
Guarantee	10.0		10.0	10.0
60	9.2*	.3	10.8	10.5
Davco 10-20-0				
Guarantee	10.0		20.0	
508	10.8	.8	19.9	----
1475	10.2	1.5	18.9*	----
1770	10.2	1.0	20.4	----
Davco 10-20-10				
Guarantee	10.0		20.0	10.0
486	10.2	.8	20.3	10.2
736	10.2	.9	20.7	10.1
991	9.9	.8	20.2	10.0
1103	10.3	.9	19.2*	9.8
1458	10.0	.7	20.0	10.9
1771	10.1	1.1	19.5	10.4
1957	10.3	1.0	20.1	10.2
2209	10.1	1.1	19.8	11.2
Bem 12-12-12				
Guarantee	12.0		12.0	12.0
86	11.9	.6	13.4	11.8
586	11.8	.6	12.3	12.5
899	12.2	.5	11.4*	12.1
905	12.3	.5	11.4*	12.2
1010	11.5	.3	13.1	12.1

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
Davco 12-12-12				
Guarantee	12.0		12.0	12.0
134	12.1	.5	12.6	12.5
203	12.2	.6	12.1	11.8
209	11.5	.4	13.4	12.5
294	12.1	.4	12.6	12.7
410	11.9	.6	11.9	12.3
415	12.0	.5	13.1	12.2
501	11.8	.4	12.5	12.0
502	12.1	.4	12.1	12.5
582	11.9	.8	12.0	12.3
583	12.0	.8	11.9	12.3
661	12.3	.5	12.8	12.9
738	11.9	.5	11.9	12.2
740	11.8	.6	12.0	11.9
742	11.6	.8	12.4	11.8
746	11.8	.8	12.0	12.1
816	11.7	.5	13.1	13.0
819	11.8	.5	12.2	12.6
1115	12.4	.4	11.9	12.0
1117	12.4	.4	11.8	12.5
1270	11.9	.5	11.2*	13.6
1272	12.6	.4	11.2*	12.7
1331	11.4*	.4	12.1	12.7
1464	12.1	.6	12.4	12.3
1465	12.1	.6	12.4	12.6
1466	12.0	.6	12.3	12.7
1500	11.9	.3	12.8	12.1
1539	12.3	.5	12.0	12.0
1595	12.1	.4	12.2	12.4
1600	12.1	.5	12.6	11.4
1601	12.0	.4	12.6	12.2
1603	11.8	.5	12.4	12.1
1711	11.9	.6	13.1	12.4
1714	12.1	.5	12.6	12.1
1777	12.3	.5	12.4	12.8
1781	12.1	.6	12.4	12.3
1785	12.0	.4	12.3	12.9
1787	11.9	.7	11.9	12.3
1794	11.9	.5	12.2	12.6
1796	12.0	.5	11.7	13.2
1878	12.2	.5	12.4	12.4
1963	11.8	.6	12.3	12.3
1965	12.1	.5	12.2	12.3
1968	12.0	.7	11.7	13.6
2065	12.1	.6	12.2	12.1
2145	12.1	.5	11.9	13.0
2148	12.2	.5	12.3	12.4
2223	11.9	.5	12.1	13.0
2224	11.3*	.4	13.1	12.0
2227	11.7	.5	13.2	11.7
2298	12.2	.3	11.8	12.9
2301	12.3	.5	12.3	12.4
2387	12.0	.6	12.7	12.4
2426	12.3	.6	12.6	11.5
2466	11.7	.8	12.1	12.9
2473	12.0	.4	12.4	12.6
2526	11.9	.3	12.3	12.8
Davco 12-12-12 With Aldrin				
Guarantee	12.0		12.0	12.0
1226	11.5	.4	12.5	12.0
Davco 12-24-12				
Guarantee	12.0		24.0	12.0
1976	12.7	1.1	24.1	12.0
2150	12.7	1.1	24.0	11.9
2389	12.8	1.0	23.8	12.2
Davco 13-39-0				
Guarantee	13.0		39.0	
509	12.9	1.6	38.7	----
Davco 15-15-0				
Guarantee	15.0		15.0	
315	14.0*	1.2	16.4	----
Davco 15-15-15				
Guarantee	15.0		15.0	15.0
214	14.8	.3	15.2	15.0
434	14.9	.0	15.2	14.1*
670	14.9	.1	14.7	15.4

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %	MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %				Insoluble %	Available %	
918	14.6	.0	14.5	14.4	Uramite				
1018	15.0	.0	15.2	14.8	Guarantee	38.0			
1126	15.0	.1	15.6	14.1*	1147	38.8	---	----	----
1473	15.7	.2	15.5	14.7	DUVAL SULPHUR AND POTASH CO., HOUSTON, TEX.				
1812	15.5	.2	16.4	13.9*	Duval Muriate of Potash 60%				
1890	14.9	.4	16.0	14.8	Guarantee				60.0
1981	15.5	.2	16.2	14.0*	1025	----	---	----	60.7
1982	14.9	.3	16.0	14.8	1288	----	---	----	61.4
2400	14.6	.4	15.0	16.0	1623	----	---	----	61.4
Davco 16-20-0					1818	----	---	----	61.6
Guarantee	16.0		20.0		1992	----	---	----	62.1
922	15.0*	.5	22.2	----	2318	----	---	----	62.7
923	15.9	.9	19.5	----	2412	----	---	----	62.3
1285	15.4*	.9	19.5	----	FAESY AND BESTHOFF, INC., NEW YORK, N.Y.				
1476	16.2	1.1	20.4	----	Bone Meal				
1891	15.6	1.1	20.1	----	Guarantee	2.47	23.0		
Bem 0-20-0					1141	2.2	25.1	----	----
Guarantee					FARM BELT FERTILIZER & CHEMICAL CO., KANSAS CITY, MO.				
526	----	.1	20.3	----	Mr. Pellet 4-12-4				
1032	----	.1	20.8	----	Guarantee	4.0		12.0	4.0
Davco Triple Superphosphate 45%					162	6.0	.6	12.4	6.6
Guarantee			45.0		1172	7.0	.8	12.9	7.6
1419	----	1.4	45.6	----	1839	4.8	.6	13.7	7.3
1904	----	1.4	46.9	----	2350	4.2	1.1	13.4	5.7
1999	----	1.3	46.4	----	Mr. Pellet 5-20-20				
2246	----	1.0	47.5	----	Guarantee	5.0		20.0	20.0
2327	----	.8	47.6	----	558	5.4	.4	19.0*	17.3**
Bem Sul-Po-Mag 21%					1182	5.7	.2	19.9	18.6*
Guarantee					1184	4.4*	.3	20.1	16.5**
605	----	---	----	21.0	1252	5.5	.3	19.7	19.5
1817	----	---	----	22.4	1573	5.1	.3	19.4*	20.2
DEEP ROOT FERTILIZERS, INC., OLATHE, KANS.					1574	4.2*	.4	21.0	19.4
Deep Root Regular 8-24-8					2114	4.7	.6	18.3**	20.0
Guarantee			24.0	8.0	Mr. Pellet 8-24-8				
802	7.5*	.5	23.8	10.9	Guarantee	8.0		24.0	8.0
2044	8.5	.5	24.0	8.4	49	8.3	.4	23.2*	9.1
Deep Root Super 8-24-8					52	8.4	.9	23.4*	8.2
Guarantee	8.0		24.0	8.0	479	8.2	.8	22.8*	8.0
1857	7.8	.6	23.8	9.6	574	8.8	.6	23.3*	8.1
2456	7.5*	.8	25.4	8.3	642	9.1	.6	23.1*	8.7
Deep Root Regular 10-10-10					800	8.9	.5	23.8	8.1
Guarantee	10.0		10.0	10.0	801	9.4	.6	23.2*	8.4
1861	9.7	.6	12.8	11.9	1204	8.8	.5	23.3*	8.3
Deep Root Super 10-10-10					1262	8.0	.5	22.5*	8.8
Guarantee	10.0		10.0	10.0	1264	8.0	.6	22.7*	8.7
2055	9.3*	.6	12.9	11.0	1768	7.2*	.3	25.2	9.1
Deep Root Regular 10-20-0					1852	8.2	.6	24.4	8.1
Guarantee	10.0		20.0	----	2355	8.4	.6	23.9	9.4
829	11.4	1.1	22.7	----	2361	8.5	.7	24.3	9.7
Deep Root Regular 12-12-12					2364	7.6	.6	24.3	9.1
Guarantee	12.0		12.0	12.0	2366	7.4*	.3	24.9	9.3
1875	10.2**	.7	14.0	16.8	2450	7.9	.9	25.0	9.3
2063	11.6	.2	12.1	12.2	Mr. Pellet 10-10-10				
Deep Root Super 12-12-12					Guarantee	10.0		10.0	10.0
Guarantee	12.0		12.0	12.0	61	10.5	.7	11.7	11.3
1879	10.6*	.6	13.3	15.9	63	9.8	1.0	10.4	11.5
CHARLES DENNY AND CO., ST. LOUIS, MO.					191	10.5	.5	11.0	10.5
Denny's 24-24-10					192	10.4	.5	16.4	10.3
Guarantee	24.0		24.0	10.0	576	10.1	.5	11.2	11.2
1140	24.6	.0	24.3	11.3	1587	9.7	.2	11.7	10.9
E. I. DU PONT DE NEMOURS AND CO., WILMINGTON, DEL.					1588	9.8	.5	12.0	11.3
DuPont Soluble Plant Food					1860	10.6	.3	10.7	11.2
Guarantee	19.0		22.0	16.0	Mr. Pellet 10-20-0				
1130	19.4	.0	22.7	17.3	Guarantee	10.0		20.0	----
					286	10.7	.7	19.1*	----
					2137	10.2	.6	20.8	----
					Mr. Pellet 10-20-10				
					Guarantee	10.0		20.0	10.0
					810	9.2*	.8	19.4*	10.6

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
1591	8.1**	.9	22.5	9.7
Mr. Pellet 12-12-12				
Guarantee	12.0		12.0	12.0
73	12.0	.3	14.6	11.9
205	12.6	.4	13.3	12.2
599	12.3	.5	12.5	12.3
662	11.7	.3	12.9	12.6
818	11.2*	.4	12.9	11.0*
1014	12.1	.3	13.1	12.1
1015	12.1	.4	12.8	12.0
1016	12.0	.4	13.1	13.2
1276	11.7	.2	13.5	12.9
1277	12.3	.3	12.4	12.1
1798	11.5	.3	13.0	12.2
1799	11.4*	.3	13.1	12.9
1872	11.1*	.4	13.3	13.0
2380	11.2*	.3	13.1	13.3
2388	11.3*	.3	13.4	13.3
2462	11.6	.2	13.6	13.7
Mr. Pellet 12-12-12 With Aldrin				
Guarantee	12.0		12.0	12.0
820	11.8	.3	13.1	12.7
Mr. Pellet 13-39-0				
Guarantee	13.0		39.0	
2152	13.6	.2	39.1	----
Mr. Pellet 16-20-0				
Guarantee	16.0		20.0	
319	14.1**	.5	18.9*	----
834	14.7*	.9	19.9	----
2159	15.7	.2	25.5	----
Farm Belt 0-20-0				
Guarantee			20.0	
19	----	.4	19.6	----
Farm Belt 0-0-60				
Guarantee				60.0
2410	----	---	----	60.0
FARM BUREAU SERVICE COMPANY OF MISSOURI, JEFFERSON CITY, MO.				
Green Diamond 0-10-30 With Borax				
Guarantee			10.0	30.0
1293	----	.2	9.8	31.2
1512	----	.3	10.4	30.1
Green Diamond 0-20-20				
Guarantee			20.0	20.0
533	----	.5	18.8*	21.7
932	----	.6	20.4	16.8**
1514	----	.6	18.9*	20.9
Green Diamond 0-30-30				
Guarantee			30.0	30.0
849	----	1.2	25.7**	28.8*
1155	----	1.5	28.5*	31.1
1492	----	1.5	29.5	29.4
1516	----	1.3	28.8*	31.0
1517	----	1.2	29.4	30.6
1568	----	1.6	28.8*	30.5
2003	----	1.5	28.6*	32.0
2495	----	.9	31.1	30.3
Green Diamond 3-9-27				
Guarantee	3.0		9.0	27.0
1159	2.7*	.3	9.9	27.5
Green Diamond 3-12-12				
Guarantee	3.0		12.0	12.0
353	3.1	1.0	12.0	12.6
537	3.3	.9	11.5	12.2
943	3.4	.8	12.3	12.7
944	3.8	.5	12.8	11.7
1519	3.9	.9	11.6	13.3
1652	3.7	1.0	12.5	11.6
1832	3.8	1.2	11.6	12.9
2014	3.8	1.1	12.1	13.0

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
Green Diamond 4-12-4				
Guarantee	4.0		12.0	4.0
949	4.2	1.7	11.3*	5.1
950	4.2	1.5	11.8	5.1
1173	4.2	2.3	10.7*	4.4
Green Diamond 4-24-12				
Guarantee	4.0		24.0	12.0
857	4.3	.8	24.0	13.1
956	3.9	.8	24.3	12.2
958	3.9	.7	23.7	12.0
1177	3.7	.5	24.4	12.4
2028	4.3	1.3	24.5	11.7
Green Diamond 5-20-20				
Guarantee	5.0		20.0	20.0
6	4.8	.4	23.3	17.0**
37	4.6	.4	19.9	21.4
384	4.6	.3	20.0	21.9
557	5.0	.2	17.4**	21.4
860	4.5*	.4	20.7	20.1
960	5.5	.4	19.2*	19.5
1530	5.4	.3	19.2*	20.2
1670	5.2	.3	20.1	19.5
2032	4.5*	.7	19.1*	22.8
2272	5.2	.4	20.2	19.6
2506	4.5*	.8	19.2*	21.0
Green Diamond 5-20-20 With Aldrin				
Guarantee	5.0		20.0	20.0
859	5.0	.5	20.8	20.0
Green Diamond 6-12-12				
Guarantee	6.0		12.0	12.0
563	6.8	.6	12.8	11.2*
1189	6.7	.5	12.7	12.4
1677	6.5	.8	12.8	13.0
Green Diamond 8-8-8				
Guarantee	8.0		8.0	8.0
567	8.0	.8	8.3	9.8
973	8.2	.5	7.7	9.0
976	7.9	.9	7.8	9.1
1193	7.9	.9	8.6	9.2
1327	8.3	1.1	7.9	8.7
2509	8.9	1.2	7.9	9.2
Green Diamond 8-24-8				
Guarantee	8.0		24.0	8.0
7	7.1*	1.1	26.7	8.8
56	7.5*	2.3	25.1	7.5
234	7.1*	1.1	24.4	9.2
402	7.1*	.9	25.5	10.2
878	7.4*	1.5	25.6	8.3
981	7.8	.8	23.1*	8.1
1207	7.7	.5	23.2*	8.7
1301	7.6	.8	23.3*	9.3
1536	7.9	.8	22.9*	8.8
1581	7.6	.9	23.3*	8.7
1691	7.7	.9	24.0	8.9
1850	7.6	1.0	23.6	9.2
2050	7.6	1.2	24.4	8.1
2279	7.3*	.7	24.7	8.8
Green Diamond 12-12-12				
Guarantee	12.0		12.0	12.0
11	10.9*	.3	12.1	13.2
78	10.8*	.2	12.2	13.5
80	11.1*	.2	13.1	11.8
239	10.7*	.3	13.2	12.5
420	10.9*	.2	12.4	12.3
598	12.0	.3	12.1	12.5
1002	11.5	.8	12.7	12.0
1004	11.7	.8	12.7	12.3
1230	11.7	.7	12.1	13.7
1307	11.9	.3	13.7	11.4
1501	11.2*	.5	11.9	13.5
1544	12.2	.2	12.1	15.5
1713	12.7	.5	12.3	13.7
2077	11.8	.3	11.3*	12.6
2290	12.2	.3	12.8	15.2
2527	12.2	.5	12.5	13.6
2528	11.7	.4	12.7	13.1

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %	MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %				Insoluble %	Available %	
Green Diamond 12-12-12 With Aldrin					Federal 3-9-27				
Guarantee	12.0		12.0	12.0	Guarantee	3.0		9.0	27.0
79	9.6**	.7	16.5	10.7*	626	3.2	.3	8.8	26.2
Green Diamond 0-47-0					Federal 12-12-12				
Guarantee			47.0		Guarantee	12.0		12.0	12.0
1	----	.5	47.8	----	658	10.6*	.4	12.1	12.1
Green Diamond 0-62-0					660	11.7	.4	11.9	12.2
Guarantee			62.0		813	11.3*	.3	12.3	12.2
1635	----	2.0	62.8	----	FORD MOTOR CO., DEARBORN, MICH.				
FARM FERTILIZERS, INC., OMAHA, NEBR.					Ford Ammonium Sulphate				
Bumpero 5-20-10					Guarantee	20.8			
Guarantee	5.0		20.0	10.0	1145	20.7	---	---	---
166	4.5*	.4	20.0	10.2	FORT SMITH COTTON OIL CO., FORT SMITH, ARK.				
469	4.6	.5	20.1	8.8*	Rais-Mor 3-12-12				
Bumpero 5-20-20					Guarantee	3.0		12.0	12.0
Guarantee	5.0		20.0	20.0	355	4.0	.4	11.6	12.2
167	5.8	.8	20.2	20.6	535	3.7	.7	11.6	12.2
Bumpero 6-24-0					Rais-Mor 4-12-4				
Guarantee	6.0		24.0		Guarantee	4.0		12.0	4.0
215	6.7	.8	22.5*	----	371	4.8	1.1	12.1	4.6
Bumpero 8-32-0					544	3.8	1.1	11.7	5.0
Guarantee	8.0		32.0		1743	4.8	.7	12.3	5.2
281	9.1	2.0	32.1	----	Rais-Mor 5-10-5				
282	9.5	1.3	26.1**	----	Guarantee	5.0		10.0	5.0
Bumpero 10-10-10					382	4.9	.3	11.4	5.2
Guarantee	10.0		10.0	10.0	553	5.4	.6	10.3	6.0
188	10.1	.4	12.2	10.2	1746	4.4*	.8	11.8	6.1
283	10.3	.5	12.2	10.9	Rais-Mor 6-12-12				
483	8.9*	.2	12.7	9.4*	Guarantee	6.0		12.0	12.0
Bumpero 10-20-0					559	10.8	.2	13.8	12.6
Guarantee	10.0		20.0		Rais-Mor 10-20-10				
216	11.0	1.5	20.0	----	Guarantee	10.0		20.0	10.0
287	10.3	.7	19.0*	----	408	10.5	1.6	20.7	10.4
Bumpero 10-20-10					Rais-Mor 12-12-12				
Guarantee	10.0		20.0	10.0	Guarantee	12.0		12.0	12.0
194	10.5	.5	19.7	10.7	413	12.1	.2	11.8	12.6
288	10.5	.5	20.4	10.9	584	12.1	.2	11.8	13.0
Bumpero 14-14-14					1780	11.5	.6	13.2	13.5
Guarantee	14.0		14.0	14.0	Rais-Mor 0-20-0				
211	13.5	.2	13.6	14.6	Guarantee			20.0	
312	12.4**	.2	15.1	15.9	525	----	1.3	19.8	----
Bumpero 15-15-0					FORWARD HOUSE, DIVISION OF OLIN MATHIESON CHEMICAL CORP., NEW YORK, N. Y.				
Guarantee	15.0		15.0		Plantrons 12-24-12				
314	15.2	.5	15.6	----	Guarantee	12.0		24.0	12.0
Bumpero 15-30-0					1121	11.8	.1	24.2	12.5
Guarantee	15.0		30.0		1122	12.3	.1	23.7	12.0
316	13.2**	.4	28.3*	----	GARDEN RESEARCH LABORATORIES, INC., NEW YORK, N.Y.				
510	13.6*	.7	29.9	----	R X - 15				
Bumpero 16-20-0					Guarantee	15.0		30.0	15.0
Guarantee	16.0		20.0		1128	15.3	.0	31.4	14.9
217	14.4**	.7	19.7	----	GRAND RIVER CHEMICAL DIVISION OF DEERE AND CO., PRYOR, OKLA.				
318	16.5	.3	21.4	----	Vitrea				
320	15.6	.6	20.4	----	Guarantee	45.0			
511	13.2**	.6	20.8	----	1896	45.9	---	---	---
Bumpero 16-20-0 With Aldrin					J. HARRIS MANURE CO., EAST ST. LOUIS, ILL.				
Guarantee	16.0		20.0		Sheep Manure				
321	14.5*	.7	19.7	----	Guarantee	2.0		1.0	2.0
FEDERAL CHEMICAL CO., LOUISVILLE, KY.					3	2.0	.2	1.5	2.1
Federal 0-20-20									
Guarantee			20.0	20.0					
615	----	.4	18.5*	18.3**					
765	----	.5	15.4**	18.4*					

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %	MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %				Insoluble %	Available %	
HYDROPONIC CHEMICAL CO., INC., COPLEY, OHIO					L. B. 12-12-12				
Hyponex					Guarantee	12.0		12.0	12.0
Guarantee	7.0		6.0	19.0	85	11.6	1.9	12.4	12.1
1071	7.5	.0	6.7	20.6	2142	13.2	.2	13.6	13.9
1072	7.1	.1	7.2	20.8	L. B. Ammonium Sulphate				
INTERNATIONAL MINERALS AND CHEMICAL CORP., CHICAGO, ILL.					Guarantee	21.0			
Muriate of Potash 60%					1146	20.3*	---	----	----
Guarantee				60.0	L. B. Superphosphate 45%				
16	----	---	----	59.7	Guarantee			45.0	
144	----	---	----	60.3	1632	----	.2	45.9	----
446	----	---	----	62.4	LA PLATA CHEMICAL CO., LA PLATA, MO.				
927	----	---	----	60.1	Chariton Valley 0-12-36				
1820	----	---	----	60.0	Guarantee			12.0	36.0
2239	----	---	----	60.2	452	----	.3	11.8	36.6
2316	----	---	----	60.2	Chariton Valley 0-20-20				
2413	----	---	----	60.0	Guarantee			20.0	20.0
2535	----	---	----	60.0	260	----	.1	20.7	21.4
KENCO CHEMICAL CO., INC., SUMMERDALE, ALA.					Chariton Valley 3-12-12				
Folo Food 8-26-6					Guarantee	3.0		12.0	12.0
Guarantee	8.0		26.0	6.0	265	4.2	.6	13.1	12.9
1097	6.8*	---	25.5	5.7	351	4.1	.6	12.8	12.4
LANGE BROTHERS, INC., ST. LOUIS, MO.					Chariton Valley 4-12-4				
L. B. 0-20-10					Guarantee	4.0		12.0	4.0
Guarantee			20.0	10.0	164	5.5	.4	11.9	6.4
764	----	.2	21.1	18.7	267	4.9	.4	11.9	5.2
L. B. 0-20-20					374	5.0	.4	11.7	5.3
Guarantee			20.0	20.0	1170	4.9	.5	11.1*	5.2
529	----	.4	19.6	20.9	Chariton Valley 4-16-16				
L. B. 3-9-27					Guarantee	4.0		16.0	16.0
Guarantee	3.0		9.0	27.0	856	5.2	.5	15.7	13.9**
778	4.0	.6	9.2	23.9**	Chariton Valley 5-20-20				
L. B. 3-12-12					Guarantee	5.0		20.0	20.0
Guarantee	3.0		12.0	12.0	168	5.3	.3	19.2*	18.3**
539	3.1	.2	12.3	12.2	713	5.7	.4	19.6	18.9*
782	3.2	.2	12.3	12.5	865	5.4	1.5	20.7	18.6**
1425	3.0	.2	12.9	12.2	1183	5.6	1.3	22.7	16.4**
1643	4.3	1.4	16.9	16.6	Chariton Valley 8-8-8				
1737	2.7*	.9	10.7*	11.7	Guarantee	8.0		8.0	8.0
2096	2.2**	.8	8.8**	8.4**	272	7.8	.3	9.9	8.3
2262	4.1	1.3	15.5	17.0	273	7.9	.3	10.0	8.2
2501	3.7	.5	13.6	13.2	474	8.0	.3	9.8	8.0
L. B. 4-12-4					2124	10.2	.4	10.6	10.1
Guarantee	4.0		12.0	4.0	Chariton Valley 8-24-8				
788	4.2	.7	12.3	4.5	Guarantee	8.0		24.0	8.0
853	3.6*	1.2	9.8**	5.3	278	8.4	.5	22.3**	8.0
1432	4.0	1.2	12.2	4.8	279	8.2	.6	22.7*	7.8
2101	3.3*	2.5	9.3**	3.6	280	8.4	.5	22.6*	7.2*
L. B. 4-24-12					726	8.5	1.6	22.3**	8.8
Guarantee	4.0		24.0	12.0	889	8.4	1.7	22.2**	8.4
790	4.2	1.3	23.4*	12.2	1206	8.8	1.4	20.9**	9.2
L. B. 8-8-8					Chariton Valley 10-10-10				
Guarantee	8.0		8.0	8.0	Guarantee	10.0		10.0	10.0
233	7.9	.2	9.3	8.3	284	10.2	.4	10.7	10.0
L. B. 8-24-8					285	10.1	.3	10.9	10.0
Guarantee	8.0		24.0	8.0	481	10.3	.4	11.1	10.5
400	8.0	1.1	23.4*	8.0	732	10.3	.5	10.8	10.0
2128	8.3	6.7	25.1	8.8	2136	10.6	.5	10.6	11.1
L. B. 10-20-20					Chariton Valley 10-20-10				
Guarantee	10.0		20.0	20.0	Guarantee	10.0		20.0	10.0
1459	10.6	.2	20.6	17.8**	895	10.8	1.7	17.6**	10.2
					Chariton Valley 12-12-12				
					Guarantee	12.0		12.0	12.0
					197	12.4	.2	12.5	13.0
					208	12.6	.2	12.5	13.5
					307	12.5	.2	12.5	13.4
					308	12.0	.2	12.9	12.7
					310	12.7	.2	12.9	13.0

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
417	10.9*	.2	13.3	12.0
424	10.7*	.3	13.5	12.5
490	12.0	.3	12.5	13.0
745	12.2	.4	12.3	12.9
907	12.0	.8	12.3	12.0
908	11.7	.7	12.4	12.2
1228	11.7	.3	12.0	12.1
2293	11.9	.4	11.9	13.7
2299	11.1*	.4	13.0	13.4
2474	11.8	.3	12.9	12.9
2524	11.8	.5	14.0	11.8
Chariton Valley 12-12-12 With Borax				
Guarantee	12.0		12.0	12.0
309	9.6**	.3	12.6	11.1*
Chariton Valley 12-12-12 With Aldrin				
Guarantee	12.0		12.0	12.0
418	11.4*	.3	13.1	12.4
Chariton Valley 15-10-10				
Guarantee	15.0		10.0	10.0
213	15.0	.1	11.3	9.3*
313	15.0	.2	11.0	9.7
506	14.2*	.1	11.5	10.0
2158	14.3*	.3	10.7	11.1
2309	14.4*	.2	11.0	10.3
LENOX FERTILIZER CORP., LENOX, IOWA				
XLs Pelleted 5-20-20				
Guarantee	5.0		20.0	20.0
630	6.1	.9	18.5*	19.4
XLs Pelleted 6-24-0				
Guarantee	6.0		24.0	
672	7.4	1.2	23.6	----
XLs Pelleted 7-10-6				
Guarantee	7.0		10.0	6.0
635	7.0	.5	12.5	6.3
XLs Pelleted 8-24-8				
Guarantee	8.0		24.0	8.0
638	7.9	1.0	25.0	8.0
XLs Pelleted 8-32-0				
Guarantee	8.0		32.0	
673	8.2	1.7	32.7	----
XLs Pelleted 10-20-0				
Guarantee	10.0		20.0	
675	10.3	1.2	22.4	----
XLs Pelleted 10-20-10				
Guarantee	10.0		20.0	10.0
651	8.6*	1.2	19.5	13.0
XL's Pelleted 12-12-12				
Guarantee	12.0		12.0	12.0
659	10.8*	.5	13.0	12.1
XLs Pelleted 16-20-0				
Guarantee	16.0		20.0	
679	14.2**	1.2	19.4*	----
LION OIL CO., EL DORADO, ARK.				
Lion Ammonium Nitrate				
Guarantee	33.5			
139	33.8	----	----	----
323	33.8	----	----	----
685	33.5	----	----	----
837	33.6	----	----	----
925	33.6	----	----	----
1313	33.2	----	----	----
1506	33.4	----	----	----
1614	33.8	----	----	----
1988	33.8	----	----	----
2236	33.6	----	----	----
2311	33.9	----	----	----

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
Lion Sulphate of Ammonia				
Guarantee	21.0			
1311	20.7	----	----	----
MISSISSIPPI CHEMICAL CORP., YAZOO CITY, MISS.				
M. C. C. Ammonium Nitrate				
Guarantee	33.5			
142	33.5	----	----	----
247	33.4	----	----	----
436	33.2	----	----	----
1312	32.9	----	----	----
1478	33.8	----	----	----
1986	33.6	----	----	----
MISSISSIPPI RIVER CHEMICAL CO., ST. LOUIS, MO.				
Steamboat Ammonium Nitrate				
Guarantee	33.5			
101	33.9	----	----	----
140	34.1	----	----	----
246	34.1	----	----	----
439	33.8	----	----	----
684	33.9	----	----	----
1021	33.6	----	----	----
1242	33.9	----	----	----
1287	33.6	----	----	----
1314	33.6	----	----	----
1335	33.7	----	----	----
1415	33.8	----	----	----
1479	33.8	----	----	----
1508	33.6	----	----	----
1552	33.4	----	----	----
1722	33.5	----	----	----
1893	33.7	----	----	----
1894	33.6	----	----	----
1987	33.8	----	----	----
2160	33.6	----	----	----
2161	33.6	----	----	----
2234	33.6	----	----	----
2235	33.6	----	----	----
2312	33.9	----	----	----
2404	33.6	----	----	----
2432	33.6	----	----	----
2433	33.7	----	----	----
2479	33.6	----	----	----
MISSOURI FARMERS ASS'N., INC., COLUMBIA, MO.				
M.F.A. 0-20-20				
Guarantee			20.0	20.0
22	----	.9	21.9	17.5**
530	----	1.3	22.3	18.6*
617	----	1.3	22.9	18.2**
767	----	.6	23.9	19.1*
1246	----	.7	21.7	19.2*
1320	----	.6	23.0	19.3*
1396	----	.5	21.7	20.1
1490	----	1.1	21.2	20.6
1567	----	1.1	18.2**	21.5
1638	----	1.0	21.1	21.1
1733	----	.5	21.7	20.4
1909	----	.8	20.5	20.2
2088	----	.6	20.7	19.5
2171	----	1.2	20.0	21.1
2252	----	1.0	21.4	20.5
M.F.A. 0-20-20 With Borax				
Guarantee			20.0	20.0
531	----	1.3	20.6	18.6*
847	----	1.1	19.8	20.9
848	----	.5	21.4	20.0
2087	----	.9	20.3	21.5
2170	----	.5	22.1	20.1
2417	----	1.4	22.7	18.8*
M.F.A. 3-9-27				
Guarantee	3.0		9.0	27.0
775	3.2	.6	9.1	28.4

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %	MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %				Insoluble %	Available %	
1038	3.0	.2	9.7	28.6	1405	4.6	.5	18.7*	23.3
1398	2.9	.5	9.4	28.6	1528	5.8	1.0	18.9*	19.7
M.F.A. 3-12-12					1576	5.7	.7	20.5	20.4
Guarantee	3.0		12.0	12.0	1671	5.8	.7	19.5	21.5
25	3.7	1.1	13.8	12.0	1672	5.9	.5	19.7	21.6
158	3.3	1.2	12.2	12.3	1674	5.8	.7	19.4*	21.3
226	3.2	1.1	12.4	12.5	1747	5.9	.8	19.2*	21.5
356	3.0	1.5	12.3	11.8	2110	5.3	.6	20.8	22.2
540	2.9	1.4	12.2	13.5	2113	5.9	.8	21.0	20.3
543	3.0	1.2	12.5	12.3	2273	5.7	.8	20.4	22.2
850	3.3	2.4	11.5	12.4	2445	5.0	.7	21.3	22.2
851	3.2	2.0	11.5	12.7	2446	5.2	.6	20.2	23.4
1039	2.8	1.7	11.0*	12.2	2448	5.7	.9	19.7	21.0
1043	2.9	1.6	11.2*	12.0	M.F.A. 6-12-12				
1247	3.1	1.6	10.9*	12.8	Guarantee	6.0		12.0	12.0
1296	3.2	1.8	12.2	12.2	169	6.0	.9	12.4	12.1
1321	2.9	2.4	10.2**	12.8	866	7.5	.6	13.8	11.3*
1522	2.8	1.5	10.9*	12.5	1749	5.7	.9	13.4	11.7
1646	3.0	1.6	11.1*	13.0	1939	6.1	.6	12.9	12.0
1650	3.0	1.9	10.6*	12.4	2192	5.8	.6	12.6	12.9
1738	3.0	.9	12.6	12.5	M.F.A. 8-8-8				
1831	3.7	1.9	11.2*	12.7	Guarantee	8.0		8.0	8.0
1918	3.3	1.3	12.5	12.0	170	8.1	.5	8.6	8.1
2007	3.1	2.0	11.1*	12.2	565	7.7	.9	10.3	8.8
2093	2.9	1.0	12.4	13.0	869	8.0	.7	9.3	8.3
2094	3.0	1.1	12.8	12.1	873	8.1	.5	8.6	8.3
2099	3.1	1.1	12.3	12.5	1077	7.7	.6	9.2	8.4
2173	3.1	1.3	11.3*	12.3	1079	8.3	.7	9.3	8.4
2178	3.2	1.6	11.7	12.6	1081	9.3	.4	8.8	9.0
2180	3.3	1.0	12.4	12.3	1083	8.3	.7	7.5*	8.7
2181	3.9	.7	12.6	12.1	1255	8.4	1.0	8.7	9.0
2257	3.7	1.3	11.6	12.3	1326	8.4	.5	8.1	8.5
2261	3.1	.9	13.1	12.4	1406	8.0	.7	10.5	9.3
M.F.A. 4-12-4					1447	8.7	.5	9.5	8.0
Guarantee	4.0		12.0	4.0	1450	8.4	.5	9.5	8.0
27	4.4	1.2	12.5	4.6	1533	8.8	.6	7.6	8.4
227	4.8	1.5	12.9	7.0	1535	8.6	.5	8.5	9.7
464	4.1	1.9	11.7	4.6	1682	8.1	.8	8.4	8.7
854	4.0	1.1	11.9	4.3	1687	8.3	.6	8.2	9.9
1048	4.2	.9	12.2	4.7	1944	8.4	.6	8.5	8.7
1050	3.5*	3.6	8.5**	4.1	2116	8.5	.8	8.5	8.7
1249	3.4*	4.3	7.9**	4.0	2121	8.0	.5	11.0	8.2
1322	3.8	3.5	9.5**	4.4	2199	7.8	.4	9.6	8.2
1402	4.7	2.3	11.9	7.5	2275	8.5	.7	8.9	8.6
1427	3.9	1.1	12.5	4.6	M.F.A. Garden Grow 8-8-8				
1430	4.1	1.1	12.9	4.4	Guarantee	8.0		8.0	8.0
1657	3.9	2.3	12.2	5.2	45	8.6	.5	9.1	8.6
1659	6.0	1.5	14.9	9.6	122	8.7	.4	8.9	9.1
1741	4.3	1.5	12.4	5.0	231	9.0	.4	8.8	9.5
2104	4.2	.7	13.1	4.5	876	8.8	.4	8.8	9.3
2265	3.9	2.8	10.7*	4.6	M.F.A. 8-24-8				
2267	4.4	.4	12.3	4.3	Guarantee	8.0		24.0	8.0
2418	4.5	1.3	12.7	6.5	178	8.2	1.3	24.3	8.2
M.F.A. 4-16-16					882	8.5	1.1	23.8	8.7
Guarantee	4.0		16.0	16.0	884	8.9	.9	23.2*	9.1
1930	4.1	1.2	16.4	16.0	885	7.8	1.6	23.9	8.0
M.F.A. 4-24-12					888	8.3	1.2	23.9	8.2
Guarantee	4.0		24.0	12.0	982	8.4	1.1	25.2	8.0
165	4.2	1.4	24.2	12.7	1092	7.8	1.1	22.9*	9.7
1250	4.0	1.2	24.3	11.6	1096	7.6	1.5	23.1*	8.3
1323	3.8	1.2	24.8	13.0	1203	7.7	1.1	22.6*	9.5
1434	4.1	.9	23.1*	11.1*	1263	7.7	1.4	22.8*	8.8
1666	3.7	1.1	25.3	13.1	1330	7.4*	1.1	24.4	9.2
2027	3.8	1.1	25.2	12.9	1453	7.6	1.3	23.4*	10.8
2109	3.7	.9	26.7	12.1	1454	8.4	1.0	23.8	9.7
2271	4.7	1.3	22.2**	12.5	1497	8.4	1.3	22.7*	10.0
2420	4.0	1.3	21.8**	11.1*	1582	8.6	1.5	22.7*	8.8
M.F.A. 5-20-20					1754	7.8	1.0	23.8	9.7
Guarantee	5.0		20.0	20.0	1758	8.6	1.6	23.3*	8.2
38	4.7	.8	20.4	22.3	1851	8.6	.9	24.5	8.0
632	5.9	.5	20.5	20.2	1949	8.7	1.8	22.6*	8.6
793	5.6	.6	19.4*	19.6	2046	7.3*	1.1	22.8*	12.2
862	5.5	1.5	19.2*	20.0	2131	8.3	1.1	25.0	9.0
963	6.5	.6	17.2**	17.5**	2204	8.6	1.4	22.3**	8.0
1179	5.3	.4	19.1*	19.8	2278	9.8	.7	24.2	8.9
1251	5.1	.5	18.1**	21.0	2423	8.3	.8	25.0	8.8
1298	5.6	.4	18.5*	20.9	2424	10.0	.7	24.0	8.7

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
2457	9.3	.8	24.1	9.8
2512	9.4	.8	24.7	8.7
M.F.A. 10-20-10				
Guarantee	10.0		20.0	10.0
992	10.0	1.1	18.7*	10.5
2138	10.0	1.7	20.6	10.8
2210	9.9	1.7	21.6	10.3
2211	10.2	1.0	18.8*	11.1
2289	10.3	1.1	19.4*	11.9
2370	10.2	1.1	19.8	11.1
2371	10.3	1.0	19.5	11.4
2461	10.1	1.2	19.6	11.6
M.F.A. 10-20-20				
Guarantee	10.0		20.0	20.0
66	10.3	.1	20.2	21.1
581	10.4	.0	20.7	20.1
653	10.9	.0	23.9	18.6*
896	10.3	.3	20.3	20.2
1104	10.4	.0	20.1	20.2
1303	10.5	.1	20.6	19.9
1772	10.3	.1	22.2	20.0
1773	10.4	.1	22.2	20.3
M.F.A. 11-48-0				
Guarantee	11.0		48.0	
677	11.6	.1	47.3	----
M.F.A. 12-12-12				
Guarantee	12.0		12.0	12.0
10	12.3	.4	11.6	12.1
84	11.3*	.6	12.1	11.9
201	11.9	.4	12.2	12.6
207	11.1*	.8	11.8	12.1
235	12.1	.4	12.1	12.0
500	11.3*	.7	12.6	12.3
588	11.6	.7	11.8	13.3
901	12.2	.5	14.1	10.2**
906	11.6	1.0	11.7	12.6
1009	12.1	.9	11.4*	12.3
1109	11.7	.4	13.9	12.3
1118	12.7	.3	10.7*	12.2
1120	11.8	.5	11.2*	12.2
1223	12.2	.8	10.4**	12.3
1224	11.8	.7	11.3*	12.6
1271	12.3	.7	14.0	9.2**
1304	11.8	.6	11.4*	12.1
1332	11.4*	.4	11.5	15.9
1333	12.0	.6	10.9*	12.0
1461	11.6	.9	12.4	12.2
1463	11.6	.6	13.3	11.4
1467	11.7	.7	13.7	11.5
1502	11.7	.5	11.8	12.7
1540	11.5	.9	11.6	12.3
1545	12.5	.8	10.9*	12.5
1701	11.6	1.2	11.5	13.8
1706	12.2	.1	12.4	12.7
1779	11.2*	.5	12.5	14.7
1786	11.9	1.0	11.9	12.0
1866	11.8	.8	12.0	12.0
1961	11.8	.8	11.6	12.9
1969	12.3	.0	12.7	11.4
2062	10.7*	.1	11.7	13.9
2066	13.0	.0	13.2	12.5
2069	11.7	1.0	11.7	12.0
2139	12.3	.8	10.7*	12.6
2143	12.1	.6	15.5	8.2**
2144	12.1	.1	12.9	11.4
2147	11.1*	.1	12.0	12.7
2214	12.0	.7	11.3*	13.0
2218	12.1	.8	11.4*	12.3
2221	11.8	.1	12.2	12.9
2296	11.8	.7	11.3*	13.7
2303	12.3	.8	11.3*	12.5
2383	12.2	.7	11.5	12.7
2465	11.7	.9	12.4	12.0
2470	12.3	.8	11.1*	12.7
2472	12.3	.8	11.1*	12.9
2519	12.1	.8	11.5	12.1

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
M.F.A. 12-12-12 With Aldrin				
Guarantee	12.0		12.0	12.0
1462	11.9	.7	11.2*	12.4
M.F.A. 12-36-12				
Guarantee	12.0		36.0	12.0
90	11.8	.0	35.6	12.1
91	12.3	.0	37.1	12.4
210	12.1	.0	36.4	12.9
243	12.0	.0	36.8	12.4
244	12.8	.0	37.2	13.2
503	12.6	.1	36.1	12.0
601	12.1	.0	37.3	12.2
751	11.9	.1	36.5	12.9
825	13.0	.0	37.5	12.3
911	12.6	.0	37.2	13.0
1113	12.2	.0	35.8	12.0
1123	12.0	.0	36.0	12.6
1238	12.7	.0	35.5	12.7
1334	12.7	.0	37.2	13.2
1804	12.6	.0	37.8	13.1
1889	12.1	.2	36.6	12.7
2151	12.1	.0	37.7	12.3
2228	12.0	.1	36.6	12.7
2229	12.0	.1	36.8	12.7
2307	12.6	.2	37.0	12.9
2390	12.3	.1	38.7	12.5
2391	12.2	.1	37.4	12.4
2430	12.2	.1	38.4	12.9
2476	12.7	.3	36.4	12.0
2530	12.7	.2	36.6	12.3
M.F.A. 14-14-14				
Guarantee	14.0		14.0	14.0
94	14.4	.0	14.5	14.8
95	14.2	.1	14.9	14.8
212	14.2	.1	13.7	14.9
245	14.1	.1	14.9	14.9
433	14.0	.1	13.9	14.7
505	14.4	.2	14.5	14.2
602	14.2	.0	14.4	14.4
669	14.2	.1	14.1	14.9
914	13.9	.1	14.7	14.9
915	14.2	.1	14.6	14.8
916	14.1	.1	14.3	14.9
1808	13.8	.0	15.0	14.4
1809	13.8	.0	15.0	14.4
1978	14.2	.3	14.1	15.5
1979	14.1	.4	14.6	14.4
2153	14.1	.1	15.0	14.0
2154	14.0	.1	14.8	14.1
2155	14.1	.1	15.0	14.9
2233	14.5	.1	14.7	14.8
2308	14.1	.1	15.3	14.5
2394	14.5	.1	14.2	14.9
2395	14.1	.1	14.0	15.2
2396	14.4	.1	14.2	14.4
2531	14.0	.1	15.1	14.6
M.F.A. 14-28-14				
Guarantee	14.0		28.0	14.0
96	13.9	.2	28.7	14.4
604	14.1	.1	29.0	14.5
917	13.8	.1	28.4	15.5
1551	13.8	.1	28.5	15.1
1810	13.8	.1	26.8*	15.4
1811	15.5	.1	31.4	10.9**
1980	13.6	.2	28.7	15.3
2156	14.2	.2	28.9	14.9
2157	14.3	.2	29.1	15.0
2397	14.1	.2	28.3	15.3
2398	14.2	.1	28.7	14.9
2399	13.9	.2	28.7	15.5
2477	13.9	.2	29.0	15.4
M.F.A. 16-20-0				
Guarantee	16.0		20.0	
680	16.5	.2	22.0	----
1284	16.4	.0	19.2*	----
M.F.A. 16-48.0				
Guarantee	16.0		48.0	
2401	15.8	.1	48.9	----

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
M. F. A. Calcium Metaphosphate 62%				
Guarantee			62.0	
2084	---	2.4	60.4*	---
2169	---	2.6	59.7**	---
MISSOURI PLANT FOOD CO., SIKESTON, MO.				
Mule 0-20-20				
Guarantee			20.0	20.0
613	---	.6	19.0*	21.5
766	---	.5	20.6	18.5*
1153	---	.6	18.8*	21.7
1825	---	.5	20.3	20.4
Mule 3-9-18				
Guarantee	3.0		9.0	18.0
621	3.8	.2	9.2	19.2
772	3.5	.1	8.8	20.4
934	3.4	.3	9.2	19.4
1642	3.5	.2	9.3	19.8
Mule 3-9-27				
Guarantee	3.0		9.0	27.0
116	3.2	.2	9.1	26.6
623	3.3	.2	9.0	27.1
774	3.2	.2	9.2	26.8
776	3.2	.1	9.2	26.3
779	3.0	.1	9.0	27.6
936	3.0	.2	9.3	28.8
937	2.8	.2	8.9	28.9
1829	3.4	.3	9.0	27.3
Mule 3-12-12				
Guarantee	3.0		12.0	12.0
781	4.1	.4	11.7	13.8
940	3.7	.5	11.5	13.5
Mule 4-12-4				
Guarantee	4.0		12.0	4.0
786	4.4	.4	12.0	4.6
787	4.5	.6	11.7	5.8
947	4.3	.5	11.9	4.8
951	4.7	.6	11.9	5.0
Mule 4-16-16				
Guarantee	4.0		16.0	16.0
789	4.1	.3	15.5	16.0
2107	4.1	1.3	15.4*	15.3*
Mule 5-20-20				
Guarantee	5.0		20.0	20.0
794	5.6	.3	19.3*	19.4
2111	4.8	.8	19.1*	19.0*
Mule 6-9-18				
Guarantee	6.0		9.0	18.0
633	4.9**	.1	9.4	17.3*
Mule 8-8-8				
Guarantee	8.0		8.0	8.0
2117	8.2	.3	9.1	8.9
Mule 8-24-8				
Guarantee	8.0		24.0	8.0
979	7.6	1.0	23.0*	8.3
2126	7.5*	1.7	20.2**	7.7
Mule 10-10-20				
Guarantee	10.0		10.0	20.0
809	9.2*	.2	10.3	21.6
Mule 10-20-10				
Guarantee	10.0		20.0	10.0
1864	9.7	.6	19.7	9.9
Mule 12-12-12				
Guarantee	12.0		12.0	12.0
131	11.6	.2	12.7	11.5
299	12.2	.2	12.2	12.4
821	12.0	.2	11.9	12.4
998	11.8	.2	12.6	12.6

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
999	11.4*	.6	11.5	12.9
1865	11.9	.5	13.2	11.1*
Mule 0-46-0				
Guarantee			46.0	
931	---	.9	46.4	---
Mule Sul-Po-Mag				
Guarantee				22.0
838	---	---	---	22.0
Mule 0-0-60				
Guarantee				60.0
143	---	---	---	59.4
839	---	---	---	60.9
1023	---	---	---	58.9*
1243	---	---	---	59.9
MONSANTO CHEMICAL CO., ST. LOUIS, MO.				
Folium 20-20-20				
Guarantee	20.0		20.0	20.0
1134	20.2	.0	20.5	20.0
1135	20.1	.0	20.7	20.6
1240	19.9	.0	21.0	20.1
NATURES FERTILIZER CO., CHICAGO, ILL.				
Thrive 5-4-0				
Guarantee	5.0		4.0	
828	5.8	1.1	4.3	---
NEOSHO FERTILIZER, INC., CHANUTE, KANS.				
Golden Harvest 4-16-16				
Guarantee	4.0		16.0	16.0
1354	4.3	.6	14.6*	16.7
Golden Harvest 10-20-0				
Guarantee	10.0		20.0	
1386	9.3*	3.0	20.8	---
Golden Harvest 11-11-11				
Guarantee	11.0		11.0	11.0
1368	9.9*	.2	11.9	15.6
Golden Harvest 15-15-0				
Guarantee	15.0		15.0	
1390	15.3	.3	14.8	---
NITROGEN DIV., ALLIED CHEMICAL & DYE CORP., NEW YORK, N.Y.				
Arcadian 12-12-12				
Guarantee	12.0		12.0	12.0
72	12.1	.4	12.2	12.5
74	12.2	.4	12.5	12.0
81	12.4	.3	12.1	12.3
83	12.3	.5	11.8	12.4
132	12.0	.4	12.3	12.5
298	12.0	.4	12.0	12.7
306	11.9	.2	12.7	12.1
416	12.2	.6	12.0	12.3
421	12.0	.7	11.9	12.4
495	12.2	.6	11.9	12.0
597	12.0	.5	12.4	12.7
900	12.1	.5	12.1	12.3
1220	12.0	.3	12.7	12.3
1279	12.1	.4	12.0	12.5
1308	12.0	.4	12.0	12.2
1470	12.1	.5	12.6	12.2
1542	12.1	.2	12.4	12.2
1546	12.0	.2	12.0	12.2
1598	12.3	.4	11.8	12.5
1604	11.9	.3	12.4	12.3
1703	12.0	.5	12.3	12.3
1704	12.0	.3	12.6	12.2
1790	11.8	.3	12.9	12.3
1793	12.1	.4	12.5	12.2
1800	11.7	.6	12.5	12.6
1871	11.9	.3	12.6	12.7
1967	12.0	.3	12.7	12.0

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
2076	11.9	.3	12.7	12.1
2220	11.9	.2	12.5	12.6
2225	11.9	.4	12.4	12.6
2382	12.1	.5	12.1	12.7
2384	12.3	.2	12.6	12.3
2487	12.1	.4	12.6	12.5
Urea 45%				
Guarantee	45.0			
1480	45.9	---	----	----
OKLAHOMA FERTILIZER AND CHEMICAL CO., OKLAHOMA CITY, OKLA.				
Big Boy 0-45-0				
Guarantee			45.0	
20	---	1.4	46.1	----
930	----	2.6	44.5	----
OLIN MATHIESON CHEMICAL CORP., LITTLE ROCK, ARK.				
Mathieson 3-9-27				
Guarantee	3.0		9.0	27.0
777	3.7	.6	9.5	27.9
Ammo-Phos 5-15-30				
Guarantee	5.0		15.0	30.0
628	5.4	.2	15.7	28.5*
Ammo-Phos 6-24-24				
Guarantee	6.0		24.0	24.0
42	6.2	1.5	23.9	24.1
269	6.2	1.5	24.5	24.8
388	6.2	1.6	25.6	24.8
719	6.3	1.9	24.7	24.4
795	6.0	1.4	24.2	26.2
867	6.4	.6	27.1	24.3
969	6.6	1.5	25.4	23.5
970	6.4	1.7	24.2	25.6
971	6.0	1.3	24.7	25.6
1445	6.3	1.6	25.7	24.0
1680	6.2	1.7	25.1	24.1
1750	6.1	1.9	24.9	24.6
2115	6.3	1.2	24.9	24.6
2194	6.2	1.6	25.0	24.5
Ammo-Phos 8-24-8				
Guarantee	8.0		24.0	8.0
53	8.9	4.1	25.3	8.0
331	8.6	4.9	23.4*	8.5
797	9.1	3.5	25.2	9.6
983	8.1	5.3	24.4	12.1
1258	8.3	5.4	25.4	9.2
1496	8.8	4.4	25.0	9.1
1688	8.3	6.5	25.4	8.9
1752	8.3	6.8	25.4	8.9
1759	8.7	5.5	24.9	8.6
2047	8.1	7.6	23.9	8.5
2125	8.9	5.1	25.0	8.6
2356	8.0	7.6	23.7	8.8
2365	8.0	7.3	23.2*	9.3
2514	8.8	5.1	25.4	8.8
Ammo-Pho 10-20-20				
Guarantee	10.0		20.0	20.0
897	9.8	.1	20.9	20.1
2372	10.0	.4	20.0	20.6
Ammo-Phos 10-30-10				
Guarantee	10.0		30.0	10.0
654	11.1	.7	31.1	11.3
734	10.6	1.4	29.8	10.8
898	10.6	1.1	30.4	10.4
1592	10.6	.6	31.6	11.0
1593	10.9	.4	31.0	12.6
1774	10.8	.8	31.1	11.3
Ammo-Phos 11-48.0				
Guarantee	11.0		48.0	
920	11.5	2.0	46.6*	----

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
Ammo-Phos 12-12-12				
Guarantee	12.0		12.0	12.0
75	12.4	1.9	13.0	12.4
128	12.2	1.9	12.8	12.6
302	12.1	1.2	13.9	13.1
587	12.3	1.8	13.2	12.7
594	12.3	2.2	12.9	12.7
814	11.9	1.5	13.7	13.0
822	12.3	1.8	12.3	12.9
909	12.2	2.0	12.9	12.6
1011	12.1	2.0	13.2	12.8
1273	11.9	1.3	13.4	12.9
1280	12.2	1.9	12.2	13.1
1469	12.2	.5	13.9	12.7
1498	12.0	.7	12.5	12.1
1599	12.2	.9	12.0	12.9
1705	13.1	.1	13.7	13.8
1776	12.1	2.3	11.9	12.5
1803	13.1	.1	13.8	13.9
1887	12.6	.8	13.1	13.0
1874	12.3	1.1	13.4	13.1
1881	12.2	2.4	11.5	12.4
1973	12.1	2.4	11.6	12.6
2067	12.3	1.4	12.8	12.9
2070	12.4	2.2	11.6	12.0
2381	12.2	2.1	11.6	13.3
2468	12.4	1.8	12.4	12.6
Ammo-Phos 12-24-12				
Guarantee	12.0		24.0	12.0
89	12.2	.1	23.8	12.1
135	12.2	.1	23.3*	12.3
427	12.1	.0	24.1	12.1
428	12.2	.1	24.1	12.0
429	11.8	.4	24.2	13.0
600	11.8	.1	24.5	12.8
824	11.9	.4	24.7	12.0
910	12.3	.0	23.9	12.0
1017	12.1	.2	24.3	12.3
1504	11.7	.0	24.5	12.9
1550	12.1	.1	24.3	12.4
1606	11.8	.1	24.5	12.5
1607	11.8	.5	24.2	12.4
1717	12.1	.2	24.7	12.6
1888	11.9	.1	24.6	13.1
2149	12.1	.1	24.9	12.3
2305	12.0	.1	23.9	13.7
2429	12.3	.3	24.6	12.2
2475	11.9	.5	23.9	13.2
Ammo-Phos 13-13-13				
Guarantee	13.0		13.0	13.0
13	13.1	.1	13.7	14.1
92	12.5	.3	13.0	17.0
136	13.1	.3	13.3	13.6
137	13.2	.1	13.6	13.9
311	13.4	.2	14.0	14.0
430	13.4	.2	14.0	14.1
431	13.4	.2	14.0	13.7
666	13.5	.2	12.9	13.4
667	13.1	.4	13.4	14.5
752	13.2	.4	13.3	14.4
826	13.3	.3	13.7	14.1
912	13.3	.4	13.3	13.6
1282	13.6	.2	13.8	13.0
1472	13.1	.2	13.9	13.6
1608	13.2	.1	13.6	14.3
1609	13.1	.3	13.3	14.1
1805	13.1	.1	13.9	15.0
1806	13.1	.1	13.9	14.3
1807	13.3	.2	13.6	13.6
2079	13.2	.2	13.9	13.6
2232	13.2	.4	13.7	14.0
2392	13.2	.4	13.7	14.0
2393	12.8	.2	14.4	14.9
2431	12.8	.2	13.9	14.8
Ammo-Phos 13-13-13 With Aldrin				
Guarantee	13.0		13.0	13.0
2231	12.9	.5	13.4	13.7

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
Ammo-Phos 13-39-0				
Guarantee	13.0		39.0	
830	13.3	.3	38.9	----
Ammo-Phos 15-30-0				
Guarantee	15.0		30.0	
678	15.1	.6	30.6	----
832	12.8**	.6	35.8	----
Ammo-Phos 16-8-8				
Guarantee	16.0		8.0	8.0
317	15.8	.2	9.1	9.3
Ammo-Phos 16-20-0				
Guarantee	16.0		20.0	
833	16.1	.2	22.3	----
921	16.2	.3	20.9	----
1505	16.1	.1	21.3	----
1610	16.3	.3	20.4	----
2080	16.1	.5	20.6	----
Mathieson Ammonium Nitrate				
Guarantee	33.5			
99	33.5	----	----	----
T.V.A. Calcium Metaphosphate 62%				
Guarantee			62.0	
451	----	.9	62.2	----
845	----	1.8	61.7	----
2440	----	1.4	62.9	----
OZARK-MAHONING CO., TULSA, OKLA.				
P.D.Q. 6-24-24				
Guarantee	6.0		24.0	24.0
2034	5.3*	.6	21.2**	26.4
2353	5.9	.7	22.1**	20.8**
P.D.Q. 8-24-8				
Guarantee	8.0		24.0	8.0
1953	8.3	1.5	19.4**	9.1
P.D.Q. 10-20-0				
Guarantee	10.0		20.0	
1383	8.5*	2.7	17.6**	----
1384	9.5	3.4	19.7	----
1385	9.7	3.5	19.3*	----
P.D.Q. 12-12-12				
Guarantee	12.0		12.0	12.0
1369	11.1*	1.3	11.7	11.2*
1370	10.8*	1.5	15.0	11.1*
1371	11.5	1.1	10.5*	12.0
P.D.Q. 15-15-0				
Guarantee	15.0		15.0	
1387	13.1**	3.1	16.2	----
1388	11.9**	1.5	16.7	----
1389	10.6**	2.0	16.4	----
P.D.Q. 16-20-0				
Guarantee	16.0		20.0	
1391	13.8**	1.6	19.1*	----
1392	13.5**	2.6	18.0**	----
PHILLIPS CHEMICAL CO., BARTLESVILLE, OKLA.				
Phillips 66 Ammonium Sulphate				
Guarantee	21.0			
1611	21.0	----	----	----
Phillips 66 Ammonium Nitrate				
Guarantee	33.5			
435	33.6	----	----	----
1618	33.5	----	----	----
2402	33.5	----	----	----

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
PLANTABBS CORP., BALTIMORE, MD.				
Plantabbs				
Guarantee	11.0		15.0	20.0
1108	11.4	.0	18.7	26.6
POTASH COMPANY OF AMERICA, CARLSBAD, N. M.				
P.C.A. Muriate of Potash 60%				
Guarantee				60.0
222	----	----	----	62.1
328	----	----	----	62.7
444	----	----	----	62.1
691	----	----	----	60.9
1620	----	----	----	60.8
1898	----	----	----	61.0
2163	----	----	----	61.4
2317	----	----	----	62.0
2483	----	----	----	61.9
2484	----	----	----	62.9
PROEN PRODUCTS CO., BERKELEY, CALIF.				
Water Feed 15-5-5				
Guarantee	15.0		5.0	5.0
1125	15.8	.0	5.7	5.0
Water Feed 15-40-10				
Guarantee	15.0		40.0	10.0
1129	15.5	.0	40.0	11.9
RA-PID-GRO CORP., DANSVILLE, N.Y.				
Ra-Pid-Grow				
Guarantee	23.0		21.0	17.0
1137	23.0	.0	20.1*	16.4
1138	23.8	.0	20.0*	16.1*
1139	23.2	.0	19.1**	17.5
1241	23.5	.0	19.3**	17.7
RICKMAN PHOSPHATE CO., SAVANNAH, MO.				
12-12-12				
Guarantee	12.0		12.0	12.0
664	12.1	1.0	11.4*	12.1
1791	12.1	.3	13.0	12.2
1877	12.1	.5	12.5	12.8
2291	12.1	.4	12.4	12.3
ROSE MANUFACTURING CO., BEACON, N.Y.				
Viol-Ogen				
Guarantee	13.0		26.0	13.0
1124	12.9	.0	28.9	13.5
ROSS DANIELS, INC., DES MOINES, IOWA				
Ross Root Feeder 8-16-8				
Guarantee	8.0		16.0	8.0
1088	8.6	.0	18.1	9.2
Ross Root Feeder 10-20-20				
Guarantee	10.0		20.0	20.0
1105	11.3	.1	22.0	21.8
Ross Root Feeder 10-52-17				
Guarantee	10.0		52.0	17.0
1106	13.1	.0	.6**	45.6
1460	10.4	.0	52.6	16.7
Ross Root Feeder 15-25-10				
Guarantee	15.0		25.0	10.0
1127	16.6	.0	29.0	12.4

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	

ST. LOUIS NATIONAL STOCKYARDS CO.,
NATIONAL STOCK YARDS, ILL.

Wizard Sheep Manure				
Guarantee	2.0		1.0	2.0
1036	1.8	.2	1.3	3.3
1037	1.9	.3	1.0	2.0
1397	2.0	.2	1.2	2.3

O. M. SCOTT AND SONS CO.,
MARYSVILLE, OHIO

Scott's Organic 5-2-3				
Guarantee	5.0		2.0	3.0
1057	6.2	.2	2.3	3.1
1435	6.0	.2	2.4	3.6

Scott's Weed and Feed 7-11-5				
Guarantee	7.0		11.0	5.0
1074	7.7	.1	10.4*	5.6
1076	7.1	.2	11.6	7.1
1446	7.5	.3	12.2	5.5

Scott's Turf Builder 9-7-4				
Guarantee	9.0		7.0	4.0
986	10.2	.1	7.0	5.2
1098	9.6	.1	8.6	4.7
1099	10.1	.2	8.0	4.9
1457	9.4	1.3	9.9	4.7

SEWERAGE COMMISSION OF MILWAUKEE,
MILWAUKEE, WIS.

Milorganite 5.5-4-0				
Guarantee	5.5		4.0	
1144	5.4	.6	3.2*	----
1474	5.4	.7	3.3*	----

SMITH AGRICULTURAL CHEMICAL CO.,
INDIANAPOLIS, IND.

Sacco 4-12-4				
Guarantee	4.0		12.0	4.0
1047	4.1	.8	12.6	4.7

Wedo 6-10-4				
Guarantee	6.0		10.0	4.0
1068	6.3	.4	10.0	4.0

SOIL BUILDERS INTERNATIONAL CORP.,
NEW YORK, N.Y.

Glorion 4-8-8				
Guarantee	4.0		8.0	8.0
1045	4.3	.5	8.7	8.2
1046	4.3	.6	9.0	8.1
1426	4.1	.7	8.6	8.6

SOUTHERN COTTON OIL CO.,
MEMPHIS, TENN.

Sco-Co 12-12-12				
Guarantee	12.0		12.0	12.0
304	13.0	.2	12.0	12.1

SOUTHWEST POTASH CORP.,
CARLSBAD, N.M.

High K Muriate of Potash 60%				
Guarantee				60.0
1024	----	----	----	60.3
1510	----	----	----	60.6
1819	----	----	----	60.3
1991	----	----	----	61.3
2411	----	----	----	61.1

SPENCER CHEMICAL CO.,
KANSAS CITY, MO.

Nr. N. Ammonium Nitrate				
Guarantee	33.5			
15	33.6	---	----	----

98	33.6	---	----	----
100	33.6	---	----	----
141	33.7	---	----	----
437	33.7	---	----	----
438	33.7	---	----	----
686	33.6	---	----	----
1022	33.5	---	----	----
1477	33.6	---	----	----
1507	33.5	---	----	----
1615	33.6	---	----	----
1619	33.5	---	----	----
1719	33.7	---	----	----
1721	33.5	---	----	----
1895	33.7	---	----	----
1989	33.7	---	----	----
2162	33.6	---	----	----
2237	33.7	---	----	----
2238	33.6	---	----	----
2313	33.7	---	----	----
2314	33.7	---	----	----
2405	33.6	---	----	----
2478	33.6	---	----	----
2480	33.7	---	----	----
2482	33.6	---	----	----
2532	33.7	---	----	----

STARK BROTHERIES NURSERIES AND
ORCHARDS CO., LOUISIANA, MO.

Stark-Tre-Pep				
Guarantee	22.75		24.0	12.0
1136	22.4	.0	25.2	12.3

STIMULANT LABORATORIES CO.,
COLUMBUS, OHIO

Stim-U-Plant				
Guarantee	11.0		12.0	15.0
1107	11.1	.0	19.9	26.6
1219	11.0	.1	20.1	27.1

SUPER CROP PLANT FOODS, INC.,
OTTUMWA, IOWA

Super Crop 0-20-20				
Guarantee			20.0	20.0
1294	----	.5	19.3*	18.1**

Super Crop 3-12-12				
Guarantee	3.0		12.0	12.0
542	2.9	.8	13.8	12.7

Super Crop 5-20-20				
Guarantee	5.0		20.0	20.0
556	5.6	.4	19.7	19.0*
712	6.2	.5	18.7*	17.6**

Super Crop 10-10-10				
Guarantee	10.0		10.0	10.0
730	9.7	.2	11.5	11.0
731	9.3*	.3	11.7	10.4

Super Crop 12-12-12				
Guarantee	12.0		12.0	12.0
744	10.7*	.6	13.2	12.9
1305	10.5*	.4	12.3	13.6
1306	10.3**	.4	12.9	12.9

SUP-RO MANUFACTURING AND SALES CO.,
KANSAS CITY, MO.

Sup-Ro				
Guarantee	6.0		6.0	6.0
714	5.6	.5	6.9	7.0
1443	5.7	.5	6.5	7.2

SWIFT AND CO., NATIONAL STOCK
YARDS, ILL.

Red Steer 0-18-18 With Borax				
Guarantee			18.0	18.0
1152	----	.6	17.1*	19.4

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %	MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %				Insoluble %	Available %	
Red Steer 0-19-19 With Borax					Red Steer 4-24-12				
Guarantee			19.0	19.0	Guarantee	4.0		24.0	12.0
2	----	.6	19.1	19.5	33	3.7	.6	21.9**	15.4
2000	----	.9	17.9*	20.9	551	4.6	1.2	22.6*	11.3*
2086	----	1.0	18.6	18.9	552	4.0	1.2	23.1*	11.9
Red Steer 0-20-20					959	4.5	1.0	20.7**	12.6
Guarantee			20.0	20.0	1178	5.0	1.5	22.4**	9.5**
21	----	.7	20.6	20.2	2108	4.6	1.2	21.8**	12.5
112	----	.6	20.0	20.3	Red Steer 5-20-20				
Red Steer 3-9-27					Guarantee	5.0		20.0	20.0
Guarantee	3.0		9.0	27.0	36	4.8	.8	18.5*	20.4
114	2.9	.2	9.3	26.3	1843	5.0	.6	18.7*	20.1
939	3.2	.7	8.8	25.8*	Golden Vigoro 6-10-4				
Red Steer 3-12-12					Guarantee	6.0		10.0	4.0
Guarantee	3.0		12.0	12.0	964	6.3	.9	10.0	4.2
350	3.8	.6	11.9	12.0	1064	6.2	.5	10.4	4.3
358	2.8	.3	11.7	12.2	1067	6.0	.4	10.2	4.2
456	2.7*	.4	11.8	12.5	1188	6.4	1.2	9.8	4.2
541	3.2	.6	11.7	10.5*	2189	6.6	1.5	9.9	4.4
703	3.2	.9	11.5	11.4	Vigoro 6-10-4				
946	3.2	.8	11.5	11.6	Guarantee	6.0		10.0	4.0
1164	2.9	.8	11.5	13.0	965	5.8	.5	10.3	4.4
1165	3.4	.9	12.6	12.2	1065	6.0	.5	10.2	4.4
1644	3.5	.5	12.0	11.3*	1069	4.9**	1.0	11.2	4.1
1653	3.2	.5	11.6	13.3	1187	5.6	.3	9.8	3.9
1655	3.0	1.1	12.2	11.4	Vigoro Rose Food 6-10-4				
2011	3.8	.4	13.0	12.1	Guarantee	6.0		10.0	4.0
2012	3.3	.5	12.0	12.5	1066	6.3	.7	10.2	4.4
2097	3.5	.5	12.2	10.9*	Brimm 6-12-18				
2172	3.2	.6	11.6	11.5	Guarantee	6.0		12.0	18.0
2177	3.4	.5	12.2	13.0	40	5.7	.6	12.2	18.0
2259	3.2	.7	11.6	11.3*	41	5.6	.5	12.3	16.7*
2499	3.2	.7	11.5	12.0	472	5.1*	.5	13.4	16.2**
Vigoro 4-8-12					718	5.6	.5	13.0	16.2**
Guarantee	4.0		8.0	12.0	967	5.3*	.7	12.0	19.1
785	3.9	.5	8.2	12.3	Red Steer 8-8-8				
Vigoro Commercial Grower 4-8-12					Guarantee	8.0		8.0	8.0
Guarantee	4.0		8.0	12.0	722	7.8	.3	7.8	7.8
4	3.7	.5	8.6	12.8	975	8.5	.5	8.0	8.4
Red Steer 4-12-4					978	8.0	.4	8.1	8.4
Guarantee	4.0		12.0	4.0	1086	7.4*	.3	8.5	8.0
372	4.0	.6	12.5	6.3	1195	8.0	.4	8.2	8.0
375	3.7	.8	12.3	5.1	1197	8.1	.3	8.2	8.1
548	4.0	.6	11.5	4.4	1407	8.6	.4	8.1	7.8
953	3.7	.8	11.2*	3.6	1681	6.4**	.5	10.6	9.7
1174	3.8	.7	12.0	4.8	1685	9.1	.6	8.5	7.6
1344	4.3	.7	12.2	5.2	Red Steer 8-24-8				
1349	4.0	.7	11.5	5.1	Guarantee	8.0		24.0	8.0
1403	4.0	.7	12.7	5.2	46	7.1*	1.2	23.2*	8.2
1658	4.0	.6	13.3	5.5	55	7.2*	1.2	21.5**	8.8
2503	4.2	.7	12.2	4.5	401	8.0	1.3	21.8**	8.0
Blenn 4-16-16					476	8.0	1.5	21.9**	8.0
Guarantee	4.0		16.0	16.0	570	7.8	1.4	21.7**	8.2
5	4.2	.8	16.0	15.4	728	7.7	.8	21.5**	10.4
30	4.1	.7	15.8	16.1	1095	8.0	1.1	19.6**	9.0
31	4.3	.9	15.8	14.8*	1208	8.0	1.5	21.7**	8.7
466	4.3	.6	15.7	14.7*	1265	7.9	1.8	21.7**	7.9
550	4.3	.6	15.5	14.8*	1362	7.8	1.6	21.6**	8.0
710	4.3	.8	15.4*	16.4	1760	8.0	1.0	23.0*	9.5
955	4.2	.9	15.9	15.3*	2129	7.7	.7	23.3*	8.5
1055	3.9	.6	15.4*	16.2	2133	8.3	.8	21.7**	9.0
1175	5.4	.5	14.6*	13.9**	2203	7.7	.8	24.0	8.2
1524	4.2	.9	14.8*	16.8	Red Steer 10-10-10				
Red Steer 4-16-16					Guarantee	10.0		10.0	10.0
Guarantee	4.0		16.0	16.0	2286	7.7**	.5	11.7	11.4
377	4.9	.6	14.9*	15.1*	Pasturgo 12-12-12				
1176	4.0	2.0	15.5	16.2	Guarantee	12.0		12.0	12.0
1525	3.9	1.1	15.2*	16.0	57	10.4**	.4	13.0	13.0
1664	6.0	.6	15.6	14.6*	237	10.5*	.3	13.2	12.4
1665	3.9	1.5	16.1	15.2*	240	10.7*	.3	12.8	12.7
2025	4.2	.7	15.9	15.9	749	9.3**	.3	11.9	14.5
2026	4.2	1.0	16.0	16.0					
2106	4.2	.6	15.5	15.6					

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
Red Steer 12-12-12				
Guarantee	12.0		12.0	12.0
68	11.0*	.3	13.1	12.4
76	10.9*	.3	13.0	13.2
127	10.4**	.2	13.7	13.4
236	10.3**	.5	12.9	12.6
422	11.4*	.3	12.3	12.0
425	11.9	.3	11.1*	11.1*
488	12.0	.2	11.3*	11.0*
589	12.0	.4	11.9	11.6
593	11.3*	.3	13.3	13.0
1001	11.2*	.5	11.6	13.0
1005	11.1*	.4	11.8	12.6
1116	10.9*	.5	12.5	12.0
1234	11.6	.5	12.0	11.8
1372	11.4*	.4	11.9	11.6
1375	10.7*	.3	12.4	11.7
1413	11.2*	.1	12.5	12.0
1541	12.0	.4	11.8	11.4
1543	11.4*	.4	11.9	12.0
1700	11.6	.3	12.1	11.6
1788	11.8	.4	12.3	12.5
2074	12.2	.3	12.8	11.1*
2146	11.5	.3	12.6	13.3
2217	11.5	.4	12.6	12.3
2297	11.9	.4	12.8	11.5
1427	12.9	.5	12.9	10.4*
2523	11.4*	.5	13.5	11.2*
Red Steer 12-12-12 With Aldrin				
Guarantee	12.0		12.0	12.0
1233	10.6*	.2	11.7	12.9
Vigoro Commercial Grower 12-12-12				
Guarantee	12.0		12.0	12.0
12	11.4*	.2	10.7*	12.9
126	11.0*	.2	12.4	12.0
595	10.6*	.2	13.9	13.0
747	11.8	.3	12.0	10.8*
1119	10.7*	.2	12.1	14.2
Instant Vigoro				
Guarantee	19.0		28.0	14.0
1019	19.1	.0	27.7	15.4
1131	19.7	.0	26.8*	15.2
1132	19.9	.0	28.1	14.5
1133	18.8	.0	26.9*	15.2
Red Steer 0-20-0				
Guarantee			20.0	
1151	----	.2	20.3	----
1395	----	.2	19.9	----
TENNESSEE CORP., LOCKLAND, CINCINNATI, OHIO				
Loma 5-10-5				
Guarantee	5.0		10.0	5.0
1436	5.0	.7	10.8	5.6
1437	5.0	.9	10.8	5.2
TRI-STATE CHEMICAL CO., WEBB CITY, MO.				
Gro-Mor 0-20-20				
Guarantee			20.0	20.0
335	----	.2	18.4**	23.9
Gro-Mor 3-12-12				
Guarantee	3.0		12.0	12.0
155	3.3	.9	11.3*	13.3
345	3.7	.6	11.3*	12.9
346	3.3	1.0	11.5	12.9
347	3.3	.6	11.7	12.3
536	3.8	.5	11.7	12.0
701	2.5*	.4	11.9	12.1
1920	3.9	.7	13.0	13.3
Gro-Mor 4-12-4				
Guarantee	4.0		12.0	4.0
160	3.5*	.4	11.0*	4.9
366	3.6*	.5	10.9*	5.3

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
367	3.4*	.5	10.6*	4.8
368	3.5*	.6	11.7	4.0
370	3.5*	.6	11.6	4.4
545	3.3*	.6	11.8	4.7
546	3.2*	.6	11.7	4.5
547	3.2*	.6	11.0*	4.7
708	3.1**	.4	9.7**	4.5
1928	4.5	1.1	11.5	5.7
Gro-Mor 5-10-5				
Guarantee	5.0		10.0	5.0
1935	5.0	.4	9.9	5.3
Gro-Mor 6-12-12				
Guarantee	6.0		12.0	12.0
562	5.9	1.4	11.9	13.5
1940	5.9	1.6	11.2*	13.5
Gro-Mor 8-8-8				
Guarantee	8.0		8.0	8.0
391	7.5*	.3	8.5	9.4
721	7.7	.6	7.8	9.1
Gro-Mor 8-24-8				
Guarantee	8.0		24.0	8.0
176	7.7	1.0	24.1	8.5
1756	8.2	.7	23.1*	8.3
1952	8.3	.9	22.7*	9.1
2045	8.5	1.0	22.1**	9.2
Gro-Mor 8-32-0				
Guarantee	8.0		32.0	
1382	7.7	1.4	30.1**	----
Gro-Mor 10-20-0				
Guarantee	10.0		20.0	
577	8.7*	.6	20.6	----
Gro-Mor 10-20-10				
Guarantee	10.0		20.0	10.0
485	9.7	.5	19.8	10.4
579	9.9	.8	19.9	11.2
580	9.4*	.8	20.2	11.0
1958	8.9*	1.0	20.9	9.8
Gro-Mor 12-12-12				
Guarantee	12.0		12.0	12.0
412	10.2**	.5	12.4	12.1
585	10.3**	.4	13.1	12.7
1778	10.3**	.5	12.1	13.9
1782	10.5*	.5	12.4	13.8
1783	11.6	.6	12.1	13.7
1970	10.5*	.6	12.4	13.2
1971	11.1*	.4	13.3	12.7
2064	10.4**	.5	11.9	13.5
Triple Superphosphate 45%				
Guarantee			45.0	
332	----	1.9	45.3	----
TRI-STATE FERTILIZER CO., CANTON, MO.				
Farmers Blend 12-12-12				
Guarantee	12.0		12.0	12.0
423	12.7	.2	11.0*	11.4
TRI-STATE FERTILIZER CO., BURLINGTON, IOWA				
Trico 3-12-12				
Guarantee	3.0		12.0	12.0
362	3.7	.3	12.3	12.6
Trico 12-12-12				
Guarantee	12.0		12.0	12.0
426	10.9*	.3	12.9	13.2

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %	MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %				Insoluble %	Available %	
U. S. PHOSPHORIC PRODUCTS, DIV. OF TENNESSEE CORP., TAMPA, FLA.					V-C 4-16-16				
Tenco "46"					Guarantee	4.0		16.0	16.0
Guarantee			46.0		1841	4.5	1.8	16.0	15.3*
448	----	.3	47.1	----	1931	5.0	1.1	17.0	16.3
763	----	.6	46.2	----	2187	4.0	.9	18.1	16.0
1319	----	.6	48.2	----	V-C 4-24-12				
1488	----	.4	47.1	----	Guarantee	4.0		24.0	12.0
1633	----	.4	47.4	----	381	4.5	1.9	22.2**	12.5
1731	----	.3	47.9	----	957	5.1	1.2	21.2**	12.7
2168	----	.6	46.6	----	1668	4.5	1.5	21.8**	13.1
2247	----	.6	47.2	----	1744	4.1	1.3	24.4	12.2
2328	----	1.0	47.0	----	V-C 5-20-20				
2329	----	.2	47.2	----	Guarantee	5.0		20.0	20.0
2437	----	.4	48.2	----	1063	5.4	.3	19.0*	18.4*
UNITED STATES POTASH CO., CARLSBAD, N.M.					1937	5.1	.9	20.5	20.0
U. S. P. Muriate of Potash 60%					2188	5.1	.6	21.0	18.3**
Guarantee			60.0		V-C 6-12-12				
443	----	----	60.9		Guarantee	6.0		12.0	12.0
445	----	----	61.0		39	6.2	.3	12.6	12.8
521	----	----	61.3		1679	5.9	.4	13.1	12.4
688	----	----	59.7		1938	6.1	.9	12.8	11.9
1723	----	----	59.8		2191	6.1	1.1	12.1	11.4
1724	----	----	59.2		2193	5.7	.9	12.4	12.1
2240	----	----	60.0		V-C 8-8-8				
VIRGINIA-CAROLINA CHEMICAL CORP., EAST ST. LOUIS, ILL.					Guarantee	8.0		8.0	8.0
V-C 0-25-25					121	7.4*	.8	10.0	9.0
Guarantee			25.0	25.0	974	8.4	.6	9.4	8.5
1639	----	.5	24.4*	22.7**	1192	8.4	.4	8.6	9.0
V-C 3-9-18					1196	8.2	.5	8.6	8.7
Guarantee	3.0		9.0	18.0	1325	8.5	.4	9.5	8.6
2089	3.2	.5	9.5	17.9	1360	7.7	.6	9.8	8.0
V-C 3-9-27					1409	8.0	.5	9.9	9.1
Guarantee	3.0		9.0	27.0	1452	7.7	.4	9.1	8.2
1158	3.4	.7	9.7	26.0	1847	8.0	.5	10.3	7.8
1399	3.3	.2	10.4	25.0*	2036	7.9	.4	9.9	8.8
V-C 3-12-12					2118	8.1	.4	8.7	8.7
Guarantee	3.0		12.0	12.0	2123	8.1	.4	8.9	9.1
154	3.2	.9	12.6	12.4	2197	8.2	.4	8.6	7.7
341	3.7	1.0	12.4	11.7	2354	7.9	.8	9.5	7.4*
352	3.5	1.4	12.2	12.5	V-C 8-24-8				
696	3.2	.7	13.3	12.0	Guarantee	8.0		24.0	8.0
784	3.6	.7	12.0	12.6	47	8.6	1.1	23.2*	8.0
942	3.5	1.2	12.0	12.6	50	8.3	.9	23.2*	8.2
1167	3.1	1.1	12.3	12.2	124	8.4	.9	23.2*	7.8
1342	3.3	.7	12.0	12.3	175	8.1	.4	24.1	9.2
1647	3.4	1.3	12.6	12.0	184	8.5	.8	23.1*	8.0
1648	3.1	1.0	12.8	12.0	396	8.6	.6	23.9	8.2
1656	3.1	1.2	12.6	12.2	298	8.0	.4	24.6	8.5
1834	3.4	.9	13.0	11.6	723	7.9	.7	24.2	8.3
1835	3.9	.7	13.2	11.7	804	7.8	1.0	24.0	9.3
1915	3.2	1.3	12.3	12.3	1586	7.6	.7	26.0	7.2*
1917	3.9	.8	13.5	11.7	1694	8.6	.5	24.2	8.5
2008	3.5	.9	13.0	11.8	1858	8.4	1.0	21.9**	8.7
2090	3.3	1.1	12.9	12.2	1950	8.7	1.1	23.1*	8.5
2174	3.2	.9	12.9	12.1	2042	8.7	1.4	22.8*	8.7
2176	3.2	.8	12.5	12.0	2049	8.9	1.4	22.6*	8.0
2184	3.6	.8	12.7	10.8*	2206	8.7	.9	23.0*	8.0
V-C 4-12-4					2284	8.5	1.1	22.7*	8.7
Guarantee	4.0		12.0	4.0	2451	8.5	1.2	23.6	8.5
159	4.3	.8	13.1	9.9	2453	8.3	1.1	24.2	8.4
363	4.4	1.1	12.6	4.4	V-C 10-10-10				
705	4.0	1.0	12.4	5.7	Guarantee	10.0		10.0	10.0
1351	4.1	1.4	12.0	5.0	125	9.7	.4	11.2	10.6
1523	3.8	1.3	12.2	5.3	190	9.7	.4	11.0	10.8
1570	3.7	1.1	13.7	4.5	193	9.4*	.5	12.0	9.8
1661	4.6	1.0	12.9	5.0	404	9.6	.4	11.6	11.0
2185	4.0	1.0	13.1	6.2	989	10.6	.4	10.5	11.0
					1211	9.7	.4	11.8	10.1
					1217	9.6	.7	11.9	10.5
					1365	9.9	.3	11.0	11.8
					1411	10.3	.4	11.1	11.2
					1696	9.9	.5	11.4	10.0
					1859	9.8	.4	10.9	10.5
					1862	10.4	.4	10.6	10.0
					2053	10.1	.4	10.8	10.0
					2135	10.0	.5	10.3	10.6

TABLE 5 -- ANALYSIS AND GUARANTEE OF FERTILIZER SAMPLES, 1956 (Continued)

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
2208	10.0	.4	10.8	10.8
2288	9.9	.5	10.8	10.9
2459	10.2	.4	10.4	10.4
2460	9.5	.5	10.5	11.1
2517	10.0	.4	10.9	10.4
V-C 10-20-10				
Guarantee	10.0		20.0	10.0
2212	8.9*	.4	22.0	11.0
V-C 12-12-12				
Guarantee	12.0		12.0	12.0
71	11.0*	.5	13.4	11.9
133	11.4*	.4	12.6	11.9
202	11.6	.2	12.3	12.2
409	11.9	.4	12.1	12.1
411	11.4*	.3	13.8	11.9
419	11.6	.4	11.8	12.1
739	11.3*	.4	13.2	11.4
1003	11.5	.3	13.0	12.7
1229	11.5	.3	12.2	12.4
1376	11.8	.3	13.4	12.0
1414	11.1*	.3	12.1	12.7
1471	12.0	.4	13.1	12.3

MANUFACTURER, BRAND, AND LABORATORY NUMBER	NITROGEN %	PHOSPHORIC ACID		POTASH %
		Insoluble %	Available %	
1538	11.3*	.3	14.0	11.2*
1699	11.5	.3	12.9	12.0
1869	11.6	.3	12.3	12.7
1882	11.6	.3	13.7	12.0
1885	11.8	.4	11.6	12.1
1887	12.1	.4	12.3	11.6
2061	10.5*	.6	12.9	11.9
2071	11.4*	.4	13.0	12.3
2140	11.4*	.4	12.9	11.6
2226	12.0	.4	12.3	13.5
2304	11.0*	.4	12.7	13.3
2463	12.2	.4	12.2	11.8
V-C 12-12-12 With Aldrin				
Guarantee	12.0		12.0	12.0
1221	11.9	.4	12.8	11.9
V-C 0-20-0				
Guarantee			20.0	
1418	----	.7	20.9	----
V-C Triple Superphosphate 45%				
Guarantee			45.0	
2435	----	.2	46.2	----

TABLE 6 -- ANALYSIS AND GUARANTEE OF FERTILIZER DISTRIBUTED IN BULK, 1956

When fertilizers are sold to dealers in bulk, they are subject to contamination with materials previously occupying the dealers storage tank or bin. Since the original manufacturer is no longer in control of the analysis of the material, the dealer must assume responsibility for making and meeting the guaranteed analysis. Therefore, in this and the following tables, the dealer may be referred to as the "Guarantor."

If the sample was taken from a railroad car or from storage belonging to the manufacturer, the manufacturer is held responsible for guaranteeing the material and the dealer will not be listed.

MANUFACTURER		% GUARANTEE			% FOUND			
SAMPLE #	GUARANTOR IF OTHER THAN MFG.	NITROGEN	AVAIL. P ₂ O ₅	POTASH	NITROGEN	INSOL. P ₂ O ₅	AVAIL. P ₂ O ₅	POTASH
American Agricultural Chemical Co., National Stockyards, Ill.								
1715	Hugh Jamieson, Cyrene	12.0	12.0	12.0	11.5	.3	12.1	12.7
1725	Hugh Jamieson, Cyrene	----	----	60.0	----	----	----	61.2
Blytheville Plant Food Co., Inc., Blytheville, Ark.								
110	Crouthers Farms, Lilbourn	----	10.0	18.6	----	.1	9.3*	21.6
Central Missouri Chemical & Minerals, Inc., Jefferson City, Mo.								
1295	. . . . .	----	20.0	20.0	----	1.7	17.3**	21.2
1974	. . . . .	12.0	12.0	12.0	12.0	.1	13.2	12.3
1393	. . . . .	----	45.0	----	----	1.6	44.3	----
1993	. . . . .	----	----	60.0	----	----	----	61.2
Consumers Cooperative Association, Kansas City, Mo.								
1566	Consumers Oil & Supply Co., Braymer	----	45.0	----	----	1.0	46.0	----
Danco Fertilizer, Inc., Maryville, Mo.								
487	. . . . .	10.0	20.0	10.0	8.2**	.2	21.2	10.7
512	. . . . .	21.0	53.0	----	20.7	.0	53.0	----
520	. . . . .	45.0	----	----	45.6	----	----	----
449	. . . . .	----	46.0	----	----	.2	46.9	----
Darling & Co., East St. Louis, Ill.								
1710	Long's Feed Store, Perry	12.0	12.0	12.0	10.0**	.2	13.2	13.2
Davison Chemical Co., Joplin, Mo.								
1621	Farmers Rock & Lime Co., Nettleton	----	----	60.0	----	----	----	61.3
Falls City Fertilizer, Inc., Grand Island, Neb.								
151	AFCO Fertilizer Co. Fairfax	----	16.0	8.0	----	5.3	16.0	8.1
Farm Bureau Service Co. of Mo., Jefferson City, Mo.								
1636	Hugh Jamieson, Cyrene	----	20.0	20.0	----	1.0	19.2*	21.5
224	St. Charles County Farm Bureau Service Co., St. Charles.	----	45.0	----	----	1.2	47.8	----
253	St. Charles County Farm Bureau Service Co., St. Charles.	----	----	60.0	----	----	----	60.4
Farm Fertilizers, Inc., Omaha, Neb.								
152	AFCO Fertilizer Co., Fairfax	----	20.0	----	----	.5	20.7	----
D. B. Gray Farmers Elevator Co., Hull, Ill.								
334	. . . . .	----	19.0	25.0	----	.2	16.8**	29.4
2060	. . . . .	11.6	11.6	11.6	11.2	.6	11.5	12.9
Kaw Fertilizer Service, Inc., Lawrence, Kan.								
1844	Rock Acres Lime Co., Independence	6.0	18.0	6.0	5.8	----	19.0	5.9
Kenco Chemical Co., Inc., Summerdale, Ala.								
2515	. . . . .	8.0	26.0	6.0	6.9*	----	26.7	5.8
Lafayette Farm Supply, Inc., Lexington								
1494	. . . . .	8.0	8.0	8.0	7.4*	----	8.0	8.0
1495	. . . . .	8.0	8.0	8.0	7.5*	----	8.0	8.0
1946	. . . . .	8.0	8.0	8.0	7.7	----	8.2	8.1
Lange Brothers, Inc., St. Louis, Mo.								
232	Edward Hemsath, St. Charles	8.0	8.0	8.0	7.9	.3	9.1	8.2
1631	Hugh Jamieson, Cyrene	----	19.0	----	----	.5	16.0**	----
Missouri Farmers Association, Columbia, Mo.								
616	M. F. A. Bulk plant #9, Union	----	20.0	20.0	----	.2	21.8	19.0*
1154	M. F. A. Bulk plant #7, Rolla	----	20.0	20.0	----	.2	20.2	20.1
720	M. F. A. Bulk plant #10, Eldorado Springs	7.0	7.0	38.0	6.6	.0	6.9	38.3
868	M. F. A. Bulk plant #10, Eldorado Springs	8.0	8.0	8.0	8.2	.1	8.2	8.7
725	M. F. A. Bulk plant #12, Centralia	8.0	24.0	8.0	10.5	.0	31.6	12.6
880	M. F. A. Bulk plant #10, Eldorado Springs	8.0	24.0	8.0	8.2	.6	24.1	9.2
646	M. F. A. Bulk plant #9, Union	9.0	9.0	37.0	8.6	.0	10.2	37.4
575	M. F. A. Bulk plant #14, Columbia	10.0	10.0	10.0	9.9	.2	10.0	12.5
647	M. F. A. Bulk plant #9, Union	10.0	10.0	10.0	10.3	.0	10.6	10.4
890	M. F. A. Bulk plant #12, Centralia	10.0	10.0	10.0	10.0	.0	10.5	10.5
484	M. F. A. Bulk plant #7, Rolla	10.0	18.0	14.0	10.0	.1	19.0	14.0
2213	M. F. A. Bulk plant #7, Rolla	10.0	20.0	20.0	10.3	.1	21.0	20.1

TABLE 6 -- ANALYSIS AND GUARANTEE OF FERTILIZER DISTRIBUTED IN BULK, 1956 (Continued)

MANUFACTURER			% GUARANTEE			% FOUND			
SAMPLE #	GUARANTOR IF OTHER THAN MFG.		NITROGEN	AVAIL. P ₂ O ₅	POTASH	NITROGEN	INSOL. P ₂ O ₅	AVAIL. P ₂ O ₅	POTASH
737	M. F. A. Bulk plant	#10, Eldorado Springs	10.0	30.0	15.0	9.8	.0	27.9**	15.4
2059	M. F. A. Bulk plant	#9, Union	11.0	16.0	11.0	10.8	.1	17.1	11.2
750	M. F. A. Bulk plant	#12, Centralia	12.0	8.0	23.0	10.5*	.1	8.0	25.0
293	M. F. A. Bulk plant	#7, Rolla	12.0	12.0	12.0	12.3	.0	11.9	12.9
743	M. F. A. Bulk plant	#12, Centralia	12.0	12.0	12.0	11.5	.0	12.2	12.9
761	M. F. A. Bulk plant	#14, Columbia	12.0	12.0	12.0	11.6	.1	11.0*	14.8
812	M. F. A. Bulk plant	#7, Rolla	12.0	12.0	12.0	12.2	.0	12.5	12.3
823	M. F. A. Bulk plant	#9, Union	12.0	12.0	12.0	12.0	.1	12.0	13.6
1006	M. F. A. Bulk plant	#9, Union	12.0	12.0	12.0	12.0	.0	12.3	12.4
1378	M. F. A. Bulk plant	#8, Lockwood	12.0	12.0	12.0	11.8	.0	12.6	13.0
1880	M. F. A. Bulk plant	#6, Butler	12.0	12.0	12.0	11.9	.1	12.5	13.3
1966	M. F. A. Bulk plant	#10, Eldorado Springs	12.0	12.0	12.0	11.2*	.1	12.1	12.3
2386	M. F. A. Bulk plant	#6, Butler	12.0	12.0	12.0	11.4*	.1	12.0	13.8
665	M. F. A. Bulk plant	#9, Union	12.0	12.0	16.0	12.1	.1	12.6	16.9
1381	M. F. A. Bulk plant	#8, Lockwood	12.0	36.0	4.0	12.6	.1	36.6	4.2
2306	M. F. A. Bulk plant	#11, California	12.0	36.0	12.0	11.8	.1	36.6	13.8
913	M. F. A. Bulk plant	#11, California	13.0	16.0	16.0	13.1	.1	16.1	16.4
603	M. F. A. Bulk plant	#8, Lockwood	14.0	14.0	14.0	13.3*	.0	13.8	15.8
753	M. F. A. Bulk plant	#10, Eldorado Springs	15.0	15.0	10.0	15.2	.0	15.1	10.4
2310	M. F. A. Bulk plant	#9, Union	15.0	30.0	5.0	14.7	.1	29.6	5.0
218	M. F. A. Bulk plant	#10, Eldorado Springs	16.0	48.0	---	15.9	.0	50.2	---
1892	M. F. A. Bulk plant	#6, Butler	16.0	48.0	---	15.4*	.2	47.6	---
755	M. F. A. Bulk plant	#10, Eldorado Springs	17.0	17.0	17.0	16.5	.0	17.9	18.3
756	M. F. A. Bulk plant	#12, Centralia	18.0	9.0	18.0	15.3**	.0	8.5*	22.1
219	M. F. A. Bulk plant	#10, Eldorado Springs	19.0	19.0	---	19.0	.0	19.7	---
1239	M. F. A. Bulk plant	#7, Rolla	20.0	10.0	10.0	17.6**	.0	10.8	12.3
919	M. F. A. Bulk plant	#10, Eldorado Springs	20.0	12.0	12.0	19.6	.0	12.5	12.4
687	M. F. A. Bulk plant	#7, Rolla	25.0	---	10.0	25.6	---	---	10.2
757	M. F. A. Bulk plant	#10, Eldorado Springs	28.0	---	8.0	28.5	---	---	9.0
1561	M. F. A. Bulk plant	#14, Columbia	---	---	60.0	---	---	---	58.9*
Nitrogen Division, Allied Chemical & Dye Corporation, New York, N. Y.									
513			28.0	---	---	27.9	---	---	---
1985			32.0	---	---	33.7	---	---	---
516			41.0	---	---	40.4	---	---	---
2407			41.0	---	---	41.3	---	---	---
2409			41.0	---	---	41.2	---	---	---
1870	Davis Phosphate & Fertilizer Co., Butler		12.0	12.0	12.0	11.9	.5	12.4	12.7
1814	Reimer Fertilizer Service & Equip., Liberty		28.0	---	---	27.5	---	---	---
835	Semo Liquid Fertilizer, Inc., Charleston		32.0	---	---	31.8	---	---	---
1020	Missouri Valley Feed Store, Marshall		32.0	---	---	33.0	---	---	---
221	AFCO Fertilizer Co., Fairfax		45.0	---	---	45.6	---	---	---
Rickman Phosphate Co., Savannah, Mo.									
475			8.0	8.0	8.0	9.2	---	9.1	9.5
987			9.0	9.0	9.0	8.8	---	8.9	8.8
831			15.0	15.0	---	15.7	---	15.0	---
514			28.0	---	---	27.9	---	---	---
450			---	54.0	---	---	---	53.5	---
Schrock Fertilizer Service, Congerville, Ill.									
1897	Davis Phosphate & Fertilizer Co., Butler		---	---	60.0	---	---	---	61.2
Semo Liquid Fertilizers, Inc., Charleston, Mo.									
473			8.0	---	8.0	8.3	---	---	9.5
1849			8.9	8.9	7.1	8.9	---	8.6	6.9
806			9.0	9.0	9.0	8.7	---	8.7	8.8
Sur-Gro Plant Foods, Plattsburg, Mo.									
1571			5.0	10.0	10.0	5.1	---	9.9	9.5
968			6.0	18.0	6.0	6.0	---	17.2*	5.7
637			8.0	16.0	8.0	7.9	---	16.0	8.2
1578			8.0	16.0	8.0	7.9	---	15.8	8.1
1579			8.0	16.0	8.0	8.3	---	12.8**	7.8
645			9.0	9.0	9.0	9.4	---	9.0	8.8
648			10.0	10.0	10.0	8.2**	.0	9.1*	9.6
808			10.0	10.0	10.0	10.0	---	10.7	8.8*
811			12.0	12.0	6.0	12.0	---	11.8	5.8
994			12.0	12.0	6.0	11.6	---	11.6	5.7
1577			12.0	12.0	6.0	11.9	---	12.0	5.6
1433	Farm Service Corp., Boonville		4.0	12.0	10.0	4.5	.0	13.0	8.8*
United States Potash Co., Carlsbad, N. M.									
1622	Consumers Oil & Supply, Braymer		---	---	60.0	---	---	---	60.0
Walters Phosphate Co., Nevada, Mo.									
694			2.0	2.9	4.6	2.0	20.8	5.5	4.7
729			8.4	22.5	15.0	8.1	.8	24.2	13.5*

TABLE 7 -- ANALYSIS AND GUARANTEE OF ROCK PHOSPHATE SAMPLES, 1956

When bulk fertilizers such as rock phosphate have passed into the storage bin of a dealer and are subject to contamination with materials previously occupying the bin, the original producer is no longer in control of the analysis of the material. Therefore, the dealer assumes the responsibility of making and meeting the guaranteed analysis.

When the following samples were drawn from storage bins or trucks, the dealer was requested to state the source of

the material sampled. This indicated source is shown for all samples guaranteed by dealers.

If no dealer guarantor is listed, the reader may assume the sample was drawn from a railroad car or from bags bearing the label of the manufacturer.

MANUFACTURER, JOBBER OR DEALER INDICATED SOURCE		% GUARANTEE			% FOUND		
SAMPLE #	GUARANTOR IF OTHER THAN MFG.	TOTAL P ₂ O ₅	AVAIL. P ₂ O ₅	FINENESS	TOTAL P ₂ O ₅	AVAIL. P ₂ O ₅	FINENESS
American Agricultural Chemical Co., National Stockyards, Ill.							
102		30.0	3.0	70/200	30.4	3.7	75/200
440		30.0	3.0	70/200	30.7	4.6	71/200
1624		30.0	3.0	70/200	30.1	3.8	71/200
1902		30.0	3.0	70/200	31.1	3.1	70/200
1903		30.0	3.0	70/200	31.8	3.5	67/200
1994		30.0	3.0	70/200	31.5	3.0	77/200
2081		30.0	3.0	70/200	31.8	3.9	75/200
2319		30.0	3.0	70/200	30.9	3.3	66/200
2487		30.0	3.0	70/200	31.7	3.9	62/200*
2537		30.0	3.0	70/200	31.3	2.9	76/200
1416		30.0	3.0	None	30.3	4.1	58/200
146	Gliser & Reynolds, Paris	30.0	3.0	50/200	31.0	3.9	68/200
250	Farmers Cooperative Elevator Assn., O'Fallon	30.0	3.0	50/200	29.4	3.8	55/200
1728	Niemeyer Tractor Sales, Bowling Green	30.0	3.0	50/200	30.6	3.7	67/200
1729	Hugh Jamieson, Bowling Green	30.0	3.0	50/200	31.5	3.5	69/200
2414	Williams Rock Co., Postok	30.0	3.0	50/200	30.8	3.3	69/200
1315	Central Missouri Chemical & Minerals, Inc., Jefferson City	30.0	3.0	70/200	29.7	2.7	71/200
1511	Glasgow Cooperative Ass'n., Glasgow	30.0	3.0	70/200	31.5	4.4	68/200
1821	Southwest Limestone Co., Neosho	30.0	3.0	70/200	31.9	3.6	67/200
2241	Hudgens Fuel Service, Rolla	30.0	3.0	70/200	30.3	3.6	85/200
2243	F. J. Strothkamp, Cuba	30.0	3.0	70/200	30.5	3.1	71/200
2490	Garold W. Stark, Powersville	30.0	3.0	70/200	32.2	4.2	69/200
2536	E. L. Wallach, Eureka	30.0	3.0	70/200	31.0	3.2	66/200
1290	Jackson Naylor, Salisbury	30.0	3.0	70/200	30.5	3.5	67/200
Armour Fertilizer Works, North Kansas City, Mo.							
1899	Davis Phosphate & Fertilizer Co., Butler	31.0	3.0	70/200	31.8	2.9	76/200
M. C. Boyle Phosphate Co., Chicago, Ill.							
929		30.0	3.0	90/200	29.9	3.3	90/200
1901		30.0	3.0	93/200	29.8	2.6	94/200
2320		30.0	3.0	90/200	31.1	3.6	90/200
1289	Marvin Atkins, Kearney	30.0	3.0	70/200	31.0	3.3	96/200
145	Cupp & Brown, Madison	30.0	3.0	90/200	30.8	3.5	96/200
International Minerals & Chemical Corp., Chicago, Ill.							
692		30.0	3.0	70/200	30.2	4.0	71/200
841		30.0	3.0	70/200	30.0	3.8	69/200
842		30.0	3.0	70/200	29.6	3.8	78/200
843		30.0	3.0	70/200	29.3	3.9	75/200
1556		30.0	3.0	70/200	29.9	3.6	71/200
1557		30.0	3.0	70/200	31.0	3.9	70/200
2244		30.0	3.0	70/200	30.1	3.3	69/200
2321		30.0	3.0	70/200	30.1	3.2	76/200
2416		30.0	3.0	70/200	29.9	3.9	71/200
2486		30.0	3.0	70/200	31.0	2.9	68/200
150		31.0	3.0	70/200	31.2	3.7	77/200
1027		31.0	3.0	70/200	30.7	3.4	65/200
1316		31.0	3.0	70/200	30.9	2.9	69/200
1336		31.0	3.0	70/200	31.2	3.9	67/200
523		31.0	None	70/200	30.7	4.0	66/200
606		31.0	3.0	70/200	30.8	3.4	70/200
609		31.0	3.0	70/200	31.4	3.7	71/200
1417		31.0	3.0	70/200	31.4	4.5	77/200
1482		31.0	3.0	70/200	30.7	3.5	68/200
1627		31.0	3.0	70/200	30.8	3.3	65/200
2322		31.0	3.0	70/200	31.1	2.9	71/200
2434		31.0	3.0	70/200	30.9	3.7	69/200
2325		33.0	3.0	70/200	32.9	3.9	80/200
607		33.0	3.0	85/200	32.6	4.0	84/200
442	Marblehead Lime Co., Hannibal	33.0	3.0	70/200	32.5	3.6	68/200
Columbia Phosphate Co., St. Louis, Mo.							
103	Auxvasse Stone & Gravel Co., Auxvasse	30.0	3.0	70/200	30.7	4.3	69/200
104	Merrell Jones Phosphate Co., Hallsville	30.0	3.0	70/200	31.4	3.6	79/200
105	Merrell Jones Phosphate Co., Hallsville	30.0	3.0	70/200	30.7	3.6	64/200*
325	Davis Fertilizer Co., Maitland	30.0	3.0	70/200	29.8	3.3	69/200
1554	Lewis DeHart, Mexico	30.0	3.0	70/200	30.2	4.1	66/200
1558	Kersting & Fennewald, Martinsburg	30.0	3.0	70/200	29.9	3.4	73/200

TABLE 7 -- ANALYSIS AND GUARANTEE OF ROCK PHOSPHATE SAMPLES, 1956 (Continued)

MANUFACTURER, JOBBER OR DEALER INDICATED SOURCE		% GUARANTEE			% FOUND		
SAMPLE #	GUARANTOR IF OTHER THAN MFG.	TOTAL P ₂ O ₅	AVAIL. P ₂ O ₅	FINENESS	TOTAL P ₂ O ₅	AVAIL. P ₂ O ₅	FINENESS
2485	T. & O. Rock Phosphate & Fertilizer Co., Sedalia	30.0	3.0	70/200	31.0	4.0	75/200
1029	Farmers Rock & Lime Co., Chillicothe	33.0	3.0	70/200	32.3	3.8	73/200
1628	Farmers Rock & Lime Co., Nettleton	33.0	3.0	70/200	33.0	4.1	74/200
1630	Farmers Rock & Lime Co., Nettleton	33.0	3.0	70/200	32.5	3.6	70/200
Farm Bureau Service Company of Missouri, Jefferson City, Mo.							
249	St. Charles County Farm Bureau Service Co., St. Charles	30.0	2.0	70/200	30.5	4.2	70/200
1625	Carroll County Farm Bureau Service Co., Carrollton	30.0	3.0	70/200	30.2	3.8	66/200
1822	DeKalb County Farm Bureau Service Co., Maysville	31.0	2.0	70/200	31.6	3.6	74/200
Missouri Farmers Association, Columbia, Mo.							
2415	M. F. A. Central Cooperative, New Hampton	30.0	3.0	70/200	31.1	4.2	74/200
17	M. F. A. Bulk plant #14, Columbia	31.0	2.0	70/200	31.7	5.4	77/200
1727	M. F. A. Central Cooperative, Louisiana	31.0	2.0	70/200	31.4	4.0	68/200
251	M. F. A. Central Cooperative, Truesdale	31.0	3.0	70/200	31.1	4.0	72/200
608	M. F. A. Bulk plant #8, Lockwood	31.0	3.0	70/200	31.1	3.8	70/200
1028	M. F. A. Bulk plant #13, Gallatin	31.0	3.0	70/200	30.9	3.7	69/200
1481	Emma Cooperative Elevator Co., Sweet Springs	31.0	3.0	70/200	31.0	3.6	67/200
1726	M. F. A. Bulk plant #9, Union	31.0	3.0	70/200	31.5	3.5	68/200
1900	M. F. A. Bulk plant #6, Butler	31.0	3.0	70/200	31.1	3.3	70/200
Schrock Fertilizer Service, Congerville, Ill							
1995	Walters Phosphate & Lime Co., Nevada	30.0	3.0	70/200	31.6	3.0	81/200
2082	Walters Phosphate & Lime Co., Nevada	31.0	2.0	70/200	31.0	3.5	65/200
Thomson Phosphate Dept., Chicago, Ill.							
2489	Central Farm Products Co., Trenton	30.0	3.0	70/200	30.6	2.8	91/200
Robin Jones Phosphate Co., Nashville, Tenn.							
1560	. . . . .	31.0	3.0	70/200	33.2	5.0	73/200
1996	. . . . .	31.0	3.0	70/200	31.9	3.5	76/200
1317	. . . . .	31.0	3.0	90/200	29.9*	2.7	90/200
1559	Soil Service, Laddonia	31.0	3.0	70/200	30.7	3.7	69/200
Ruhm Phosphate & Chemical Co., Columbia, Tenn.							
1485	. . . . .	30.0	3.0	85/300	30.2	2.5	74/300*
1555	. . . . .	30.0	3.0	85/300	30.3	2.6	93/300
2242	. . . . .	30.0	3.0	85/300	32.2	2.9	91/300
106	Frank Snell Phosphate Co., Centralia	30.0	3.0	85/300	31.4	2.3	92/300
2488	Hoover & Latta, Inc., Brookfield	30.0	3.0	85/300	34.6	3.5	91/300
San Francisco Chemical Co., Montpelier, Idaho							
522	Max Weidmand, Westboro	31.0	2.0	80/200	30.6	2.3	85/200
928	Bryan Produce & Feed Co., Princeton	31.0	2.0	80/200	30.3	2.5	85/200
2164	Benton Feed Store, St. Joseph	31.0	2.0	80/200	31.8	2.8	69/200*
Schrock Fertilizer Service, Congerville, Ill.							
223	Walters Phosphate & Lime Co., Nevada	31.0	3.0	70/200	31.1	3.2	67/200
Swift & Co., Chicago, Ill.							
2245	. . . . .	31.0	3.0	70/200	31.4	3.6	62/200*
2324	. . . . .	31.0	3.0	70/200	30.9	2.8	68/200
2491	. . . . .	31.0	3.0	70/200	31.6	3.2	58/200*
1629	. . . . .	33.0	3.0	70/200	32.6	3.7	67/200
147	Ambrose Quinn, Monroe City	33.0	3.0	60/200	32.7	3.5	76/200
Missouri Farmers Association, Columbia, Mo.							
2323	M. F. A. Central Cooperative, Union	31.0	3.0	70/200	31.2	2.9	65/200
2538	LaGrange Elevator, LaGrange	31.0	3.0	70/200	31.5	3.1	64/200*
2539	M. F. A. Central Cooperative, Shelbina	31.0	3.0	70/200	31.6	3.4	77/200
Thompson Sales Co., Montgomery, Ala.							
248	. . . . .	18.0	2.0	85/200	19.5	3.6	97/200
840	. . . . .	18.0	2.0	85/200	16.8*	1.8	98/200
Material Mixed or Manufacturer Unknown							
148	Farmers Elevator & Exchange, Monroe City	30.0	3.0	50/200	30.7	3.9	72/200
441	Marion County Farm Bureau Service Co., Palmyra	31.0	3.0	70/200	31.4	4.2	77/200
2492	M. F. A Exchange #231, Brookfield	31.0	2.0	70/200	31.3	4.2	74/200

TABLE 8 -- ANHYDROUS AMMONIA SAMPLES, 1956

Anhydrous ammonia samples are analyzed by a simple volatilization test which can be performed in the field. A measured amount of the liquid ammonia is drawn into a graduated tube and then allowed to volatilize. Being more volatile than any impurity likely to be present, the ammonia will be released as a gas when exposed to the air. This leaves any water or other probable contaminant in the tube to be measured. Pure ammonia contains approximately 82.25% nitrogen.

During the calendar year covered by this bulletin 41 samples of anhydrous ammonia were drawn from tank cars and dealer storage tanks. All samples collected either ex-

ceeded the guarantee of 82% nitrogen, or were well within the allowable tolerance range. These samples included materials manufactured by the following producers.

Cooperative Farm Chemicals, Inc.
 Grace Chemical Co.
 Hercules Powder Co.
 Lion Oil Co.
 Olin-Mathieson Chemical Corp.
 Mississippi Chemical Corp.
 Nitrogen Division, Allied Chemical & Dye Corp.
 Phillips Chemical Co.

Sample #	Dealer	Location	Date
1	M. F. A. Plant Foods Division	Marthasville	2-29-56
2	Mid-South Chemical Corporation	Dutzow	2-29-56
3	Mid-South Chemical Corporation	Seeburger	3- 1-56
4	Mid-South Chemical Corporation	Taylor	3-14-56
5	BIR Supply Company	Maitland	3-20-56
6	Missouri Growers Incorporated	Watson	3-21-56
7	Vogel & Son	Watson	3-21-56
8	Missouri Growers Incorporated	Westboro	3-21-56
9	M. F. A. Plant Foods Division	Sheridan	4- 4-56
10	Miller Agricultural Chemical Company	Arbela	6-12-56
11	Soil Services Company	Senath	6-19-56
12	Mid-South Chemical Corporation	Hornersville	6-19-56
13	Mid-South Chemical Corporation	Steele	6-19-56
14	South Pemiscot Oil Company	Steele	6-19-56
15	Mid-South Chemical Corporation	Shade	6-19-56
16	Mid-South Chemical Corporation	Bragg City	6-19-56
17	South East Missouri Chemical Company	Hayti	6-19-56
18	Mid-South Chemical Corporation	Portageville	6-20-56
19	South East Missouri Chemical Company	Portageville	6-20-56
20	E. B. Gee Cotton Company	Marston	6-20-56
21	Mid-South Chemical Corporation	New Madrid	6-20-56
22	David M. Barton Gin Company	Catron	6-20-56
23	Mid-South Chemical Corporation	Parma	6-20-56
24	M. F. A. Plant Foods Division	Bernie	6-20-56
25	Mid-South Chemical Corporation	Matthews	6-20-56
26	Lion Oil Company	Morley	6-21-56
27	M. F. A. Plant Food Division	Boonville	7-16-56
28	Farm Service Corporation	Estill	7-16-56
29	M. F. A. Plant Foods Division	Sweet Springs	7-17-56
30	M. F. A. Plant Foods Division	Odessa	7-17-56
31	M. F. A. Plant Foods Division	Butler	7-18-56
32	M. F. A. Plant Foods Division	Glasgow	8-29-56
33	M. F. A. Plant Foods Division	Columbia	9- 4-56
34	Abboud Farm Service	Mexico	9- 5-56
35	Mid-South Chemical Corporation	Ladonia	9- 6-56
36	Arnold Brothers Produce	Orrick	9-11-56
37	Quality Soil Service	Orrick	9-11-56
38	M. F. A. Plant Foods Division	Hamilton	9-12-56
39	Missouri Growers Incorporated	Breckenridge	9-12-56
40	M. F. A. Plant Foods Division	Louisiana	9-19-56
41	Galloway Limestone Company	Perry	9-20-56

AACO Fertilizer Co., P. O. Box 101, Atchison, Kan.
 R. L. Aggeler Coal & Fertilizer Co., West Water St.,
 Boonville, Mo.
 Agricultural Products Corp., P. O. Box 183, Webster City,
 Iowa.
 American Agricultural Chemical Co., P. O. Box 'E', National
 Stock Yards, Ill.
 American Bulb Co., 711 Third Ave., New York 17, N. Y.
 American Chemical Paint Co., Ambler, Penn.
 American Cyanamid Co., 30 Rockefeller Plaza, New York 20,
 N. Y.
 American Liquid Fertilizer Co., Inc., 2nd St. at St. Clair,
 Marietta, Ohio
 Anco Chemical Co., Inc., Cardington, Ohio
 Arkansas Plant Food Co., P. O. Box 112, North Little Rock,
 Ark.
 Ark-Mo Plant Food Co., Inc., Walnut Ridge, Ark.
 Armour Fertilizer Works, P. O. Box 5296, 2043 Singleton,
 Dallas, Texas
 Armour Fertilizer Works, P. O. Box 312, East St. Louis, Ill.
 Armour Fertilizer Works, P. O. Box 2357 Desoto Sta., 3967
 Weaver Rd., Memphis, Tenn.
 Armour Fertilizer Works, P. O. Box 7431, 110 West 19th,
 North Kansas City, Mo.
 Armour Fertilizer Works, P. O. Box 750, Waterloo, Iowa
 Associated Cooperatives, Inc., 750 West 20th Ave., Sheffield,
 Ala.
 Atkins & Durbrow, Inc., P. O. Box 55, Port Colborne, Ontario
 Atlas Fish Fertilizer Co., 1 Drumm St., San Francisco,
 Calif.
 Barrett Fertilizer Co., 78th & Cleveland, Kansas City, Mo.
 Bell's Plant Food Service, Inc., 102 First Ave. South, Ft.
 Dodge, Iowa
 Best Fertilizers Co., 8420 Manchester St., Houston, Texas
 Better Homes Bureau, 165 E. Union St., Newark, N. Y.
 Blytheville Plant Food Co., P. O. Box 619, Blytheville, Ark.
 Borden Co., 350 Madison Ave., New York, N. Y.
 M. C. Boyle Phosphate Co., 407 South Dearborn St., Chicago
 5, Ill.
 Bradley & Baker, 1401 Peachtree St., N. E., Atlanta, Ga.
 Bradley & Baker, 10 South Brentwood Blvd., St. Louis 5,
 Mo.
 Bruce-Ellen Co., Inc., 297 E. Center St., Marion, Ohio
 California Spray-Chemical Corp., Lucas & Ortho Way,
 Richmond, Calif.
 H. D. Campbell Co., 402-410 Dewey Ave., Rochelle, Ill.
 Carbola Chemical Co., Inc., Natural Bridge, N. Y.
 Central Missouri Chemical & Minerals, Inc., 1300 Industrial
 Ave., Jefferson City, Mo.
 Chicago Stock Yards Compost Co., 503 Exchange Bldg.,
 Chicago 9, Ill.
 Cloverset Farm, 105th & Wornall Rd., Kansas City, Mo.
 Colorado Fuel & Iron Corp., P. O. Box 1920, Denver 1,
 Colo.
 Columbia Phosphate Co., 1007 Washington Ave., St. Louis,
 Mo.
 Commercial Solvents Corp., 260 Madison Ave., New York
 16, N.Y.
 Consumers Cooperative Ass'n., P. O. Box 2359, 318 East
 10th St., Kansas City, Mo.
 William G. Cox Co., R. R. # 5, Jacksonville, Ill.
 Crawford Chemical Co., Inc., P. O. Drawer 309, Bartlesville,
 Okla.
 Danco Fertilizer, Inc., 523 N. Main, Maryville, Mo.
 Darling & Co., 4201 South Ashland Ave., Chicago 9, Ill.
 Davis Phosphate Fertilizer Co., Highway 71 South, Butler,
 Mo.
 Davison Chemical Co., Div. of W. R. Grace & Co., P. O.
 Box 987, Joplin, Mo.
 Deep Root Fertilizers, Inc., P. O. Box 14, Olathe, Kan.
 Charles Denny & Co., 1505 Big Bend Blvd., St. Louis 17,
 Mo.
 Doggett-Pfeil Co., 681 Morris Turnpike, Springfield, N. J.
 Duesterhaus Farm Supply, Front & Oak Sts., Quincy, Ill.
 E. I. du Pont de Nemours & Co., Wilmington, Dela.
 A. T. Earls Fertilizer Co., P. O. Box 543, Deering Mo.
 Eaton-Mann Phosphate Co., 301 Barber Bldg., Joliet, Ill.
 Econo Gas Div., P. O. Box 481, Atchison, Kan.
 Excell Laboratories, Inc., 2732 Indiana Ave., Chicago, Ill.
 Faesy & Besthoff, Inc., 325 Spring St., New York, N. Y.
 Falls City Fertilizer, Inc., P. O. Box 922, Grand Island,
 Nebr.
 Farm Belt Fertilizer & Chemical Co., 23rd & State Line,
 Kansas City 41, Mo.
 Farm Bureau Service Company of Missouri, Inc., 223 East
 Capitol, Jefferson City, Mo.
 Farmers Co-op Grain & Seed Co., Lamoni, Iowa
 Farmcraft Feeds, Inc., 2340 Maury St., Des Moines, Iowa
 Farm Fertilizers, Inc., 7500 South 13th St., Omaha, Nebr.
 Federal Chemical Co., 646 Starks Bldg., Louisville, Ky.
 Ferro Corp., 4150 East 56th St., Cleveland 5, Ohio
 Fert-O-Ganic Corp., 111 W. Jackson Blvd., Chicago 4, Ill.
 Ford Motor Co., 3000 Schaefer Rd., Dearborn, Mich.
 Foreign Products Corp., 283 McKinley Ave., East Orange,
 N. J.
 Fort Smith Cotton Oil Co., 723 No. First St., Fort Smith,
 Ark.
 Forward House, Div. of Olin Mathieson Chemical Corp., 745
 Fifth Ave., New York 22, N. Y.
 Garden Products Co., 3246 S. Grand Blvd., St. Louis 18, Mo.
 Garden Research Laboratories, Inc., 699 Madison Ave.,
 New York 21, N. Y.
 Geigy Agricultural Chemicals, Div. of Geigy Chemicals
 Corp., P. O. Box 430, Yonkers, N. Y.
 General Fertilizer Co., 301 East Washington St., Fremont,
 Nebr.
 Goulard & Olena, Inc., Skillman, N. Y.
 Grant Co., 2735 N. Ashland Ave., Chicago, Ill.
 Grace Chemical Co., Div. of W. R. Grace & Co., 501 Edway
 Bldg., Memphis, Tenn.
 D. B. Gray Farmers Elevator Co., Hull, Ill.
 Growth Products Co., P. O. Box 67, Pascagoula, Miss.
 Gulf Coast Organic & Minerals Co., 325 So. Cage Blvd.,
 Pharr, Tex.

J. Harris Manure Co., 121 Baugh Ave., East St. Louis, Ill.	Monsanto Chemical Co., Lion Oil Bldg., El Dorado, Ark.
Heller Greenhouse Laboratories, 218 East Pikes Peak Ave., Colorado Springs, Colo.	Monsanto Chemical Co., 1700 South Second St., St. Louis 4, Mo.
Hercules Powder Co., Wilmington, Dela.	Na-Churs Plant Food Co., 421 Monroe St., Marion, Ohio
A. H. Hoffman, Inc., Landisville, Penn.	National Fertilizer Co., 800 Arcade, Fairbury, Nebr.
Holland Liquid Fertilizer Co., Holland, Mo.	Natural Plant Food Co., 210 W. Cal., Oklahoma City 2, Okla.
Home Gas Service, Inc., 200 N. Washington St., Kahoka, Mo.	Neosho Fertilizer, Inc., P. O. Box 259, Chanute, Kan.
Hoover Soil Service, Gilman, Ill.	Nitro-Form Agricultural Chemicals, Div. Woonsocket Color & Chemicals, Inc., 92 Sunnyside Ave., Woonsocket, R. I.
House of Wesley, R. R. # 1, Bloomington, Ill.	Nitrogen Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
Hy-Gro Corp., 1101 Maryland Ave., Baltimore 1, Md.	Northern Field Seed Co., 115 East Second St., Winona, Minn.
Hydroponic Chemical Co., Inc., Copley, Ohio	North Platte Fertilizer, Inc., 2300 East 8th St., North Platte, Nebr.
Independence Hall Seed Co., 2700 Wilmarco Ave., Baltimore 23, Md.	Olin Mathieson Chemical Corp., P. O. Box 991, Little Rock, Ark.
International Minerals & Chemicals Corp., P. O. Box 928, Texarkana, Ark.	Ozark-Mahoning Co., 310 West 6th, Tulsa, Okla.
International Minerals & Chemical Corp., 20 North Wacker Drive, Chicago 6, Ill.	Pearson-Ferguson Chemical Co., 1400 Union Ave., Kansas City 1, Mo.
Jacksonville Fertilizer Co., P. O. Box 1225, Jacksonville, Tex.	Phillips Chemical Co., Adams Bldg., Bartlesville, Okla.
Kahn Brothers Co., 4425 S. Halsted St., Chicago 9, Ill.	Plantabbs Corp., 1105 Maryland Ave., Baltimore 1, Md.
Kansas Agricultural Chemical Co., Inc., 403 East 8th St., Junction City, Kan.	Proen Products Co., 9th & Grayson Sts., Berkeley, Calif.
Kansas City Stockyards Co., 1600 Genesee St., Kansas City, Mo.	Ra-Pid-Gro Corp., 88 Ossian St., Dansville, N. Y.
Kaw Fertilizer Service, Inc., P. O. Box 36, Lawrence, Kan.	C. M. Reed & Son, 302 S. McGregor St., Carthage, Mo.
Kelly-Western Seed Div., Utah Cooperative Ass'n., 580 West 13th South, Salt Lake City 10, Utah	Renard Co., 44 West 26th St., New York 10, N. Y.
Kel-Min Company of America, 301 Admiral Blvd., Kansas City 6, Mo.	Rickman Phosphate Co., 408 Court St., Savannah, Mo.
Kenco Chemical Co., Inc., P. O. Box 153, Summerdale, Ala.	Riley Feed Co., 839 Board of Trade Bldg., Kansas City, Mo.
Lafayette Farm Supply, Inc., 23rd & Monroe, Lexington, Mo.	Riverside Fertilizer Co., Marks, Miss.
Lange Brothers, Inc., 1 Angelica St., St. Louis, Mo.	Robin Jones Phosphate Co., 2001 Broadway, Nashville 4, Tenn.
La Plata Chemical Co., La Plata, Mo.	G. S. Robins & Co., 126 Chouteau Ave., St. Louis 2, Mo.
Lawn Seed Corp., 222 S. 3rd St., Milwaukee, Wis.	Roigina Products, P. O. Box 345, Lincoln 1, Nebr.
Lawn-Tex, Inc., 1640 W. Fulton St., Chicago, Ill.	Rose City Cotton Oil Mill Co., P. O. Box 950, Little Rock, Ark.
Lenox Fertilizer Corp., Lenox, Iowa	Rose City Nursery, P. O. Box 3218, Tyler, Tex.
Liquid Fertility & Chemical Co., P. O. Box 2303, Springfield, Mo.	Rose Manufacturing Co., 160 Main St., Beacon, N. Y.
Loncala Phosphate Co., P. O. Box 338, High Springs, Florida	Ross Daniels, Inc., 713 Mulberry, Des Moines, Iowa
McKesson & Robbins, Inc., 100 North 4th St., Burlington, Iowa	Ruhm Phosphate & Chemical Co., P. O. Box 361, Columbia, Tenn.
Maczuk, Inc., New Haven, Mo.	San Francisco Chemical Co., 720 Washington St., Montpelier, Idaho
Marblehead Lime Co., 300 W. Washington St., Chicago 6, Ill.	St. Louis National Stockyards Co., Exchange Bldg., National Stock Yards, Ill.
Earl May Seed Co., Shenandoah, Iowa	Schrock Fertilizer Service, Congerville, Ill.
Mid-South Chemical Corp., 1222 Riverside Blvd., Memphis, Tenn.	O. M. Scott & Sons Co., Marysville, Ohio
Mid-South Supply Ass'n., Inc., 44 South Front St., Memphis, Tenn.	Seaboard Seed Co., 701 S. Front St., Philadelphia 47, Penn.
Midwest Phosphate Co., Essington Rd., Route 1, Joliet, Ill.	Sears, Roebuck & Co., 925 S. Homan Ave., Chicago 7, Ill.
Mississippi Chemical Corp., P. O. Box 563, Yazoo City, Miss.	Semo Liquid Fertilizers, Inc., R. R. # 2, Charleston, Mo.
Missouri Farmers Ass'n., Inc., 201 South 7th St., Columbia, Mo.	Sewerage Commission of the City of Milwaukee, P. O. Box 2079, Milwaukee 1, Wis.
Missouri Plant Food Co., Inc., Highway 60, West, Sikeston, Mo.	J. R. Simplot Co., P. O. Box 912, Pocatello, Idaho
	Smith-Douglass Co., P. O. Box 457, Streator, Ill.
	Smith Agricultural Chemical Co., 1850 Kentucky Ave., Indianapolis, Ind.

Smith Equipment & Supply Co., 1615 N. Central Ave.,
Chicago 39, Ill.

Snyder Chemical Co., Inc., P. O. Box 946, Topeka, Kan.

Sohio Chemical Co., Ft. Amanda Rd., P. O. Box 628, Lima,
Ohio

Soil Booster Corp., 2501 N. E. 4th St., Oklahoma City, Okla.

Soil Builders International Corp., 33 West 42nd St., New
York 36, N. Y.

Soiltone Fertilizer Co., Inc., 22nd & Theresa St., Lincoln,
Nebr.

Southern Cotton Oil Co., P. O. Box 313, Memphis, Tenn.

Soylaid, Inc., P. O. Box 8006, San Antonio 12, Tex.

Spencer Chemical Co., 610 Dwight Bldg., Kansas City, Mo.

Standard Oil Co., 910 South Michigan Ave., Chicago, Ill.

Stark Brothers Nurseries & Orchards Co., Louisiana, Mo.

Stern's Garden Products, Inc., 404 William St., Geneva, N. Y.

Stim-U-Plant Laboratories, Inc., 2077 Parkwood Ave.,
Columbus 19, Ohio

Stockdale Fertilizer Co., Morris, Ill.

Super-Crop Plant Foods, Inc., P. O. Box 324, Ottumwa,
Iowa

Sup-Ro Mfg. & Sales Co., 1700 Liberty, Kansas City 2, Mo.

Sur-Gro Plant Food Co., P. O. Box 353, Plattsburg, Mo.

Swift & Co., National Stock Yards, Ill.

Tennessee Corp., 617-29 Grant Bldg., Atlanta 1, Ga.

Tennessee Corp., P. O. Box 7, Lockland, Cincinnati 15,
Ohio

Thomson Phosphate Dept., International Minerals & Chem-
ical Corp., 20 N. Wacker Drive, Chicago 6, Ill.

Thompson Sales Co., 17 Molton St., Montgomery, Ala.

Topeka Mill & Elevator Co., Inc., East 10th & Santa Fe
Tracks, Topeka, Kan.

Tri-State Chemical Co., P. O. Box 591, Webb City, Mo.

Tri-State Fertilizer Co., Canton, Mo.

Tri-State Fertilizer Co., P. O. Box 476, Burlington, Iowa

Umbaugh Agricultural Chemical Co., 3593 Central, Memphis,
Tenn.

United Seeds, Inc., Ralston, Nebr.

United States Steel Corp., 525 William Penn Place, Pittsburgh
30, Penn.

U. S. Phosphoric Products, Div. Tennessee Corp., P. O. Box
3269, Tampa, Fla.

Victor Chemical Works, 155 N. Wacker Drive, Chicago 6, Ill.

Virginia-Carolina Chemical Corp., P. O. Box 191, East St.
Louis, Ill.

Wallace Mineral Corp., 170 West Virginia Ave., Denver,
Colo.

Walters Phosphate & Lime Co., 405 S. Alma, Nevada, Mo.

Western Phosphates, Inc., P. O. Box 308, Garfield, Utah

Wichita Fertilizers, Inc., 2728 Ohio, P. O. Box 2337, Wichita,
Kan.

Wichita Union Stock Yards Co., 702 East 21st St., Wichita 2,
Kan.

Woodbury Chemical Co., 702 South Fourth St., St. Joseph, Mo.

Worm Profit Farms, 2233 Laura, Wichita 16, Kan.

UNIVERSITY OF MISSOURI
Columbia

FERTILIZER CONTROL FUND
Financial Report
For the Year Ended December 31, 1956

Balance - January 1, 1956		\$169,092.12
Receipts:		
Receipts from Fertilizer Fees	\$244,414.12	
Disbursements:		
Personal Service	\$78,183.19	
Travel	19,115.09	
Transportation of Things	614.65	
Communication Service	3,188.43	
Rents & Utility Service	7,840.28	
Publications & Printing	9,398.07	
Repairs & Replacements	36,946.02	
Supplies & Materials	54,771.97	
Equipment	46,878.79	
Land & Buildings	8,489.76	
Other Expense	167.60	
	265,593.85	
Excess Disbursements		21,179.73-
Balance - December 31, 1956		\$147,912.39

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