

Commercial Fertilizers in Kentucky, 1947

Including a Report on Official Fertilizer Samples
Analyzed

July — December, 1947



Kentucky Agricultural Experiment Station
University of Kentucky

Lexington

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Commercial Fertilizers in Kentucky, 1947

This bulletin contains analyses of official samples of commercial fertilizer made between July 1 and December 31, 1947. Analyses of samples made between January 1, 1947 and June 30, 1947 were published in Regulatory Bulletin 60.

Manufacturers reported that 404,811 tons of commercial fertilizer were sold in Kentucky in 1947. This was an increase of about 25 percent over the tonnage in 1946. In addition, 36,515 tons of 20 percent superphosphate, or equivalent, was distributed in Kentucky under the "Contractual Plan" by the Production and Marketing Administration, Field Service Branch.

SALES BY GRADE, 1947

A summary of fertilizer sales by grade, as reported by manufacturers, is given in Table 1. This tonnage is somewhat less than that calculated from tag receipts.

TABLE 1.—FERTILIZER SOLD IN KENTUCKY, BY GRADE, JAN. 1 TO DEC. 31, 1947
(As reported by the Manufacturers)

Grade	Tons	Grade	Tons
2-12-6	85,582	Phosphate Rock	26,324
3-9-6	83,109	20% Superphosphate	24,523
6-8-6	59,123	Triple Superphosphate.....	10,548
4-12-4	35,233	18% Superphosphate	10,346
3-10-3	14,644	Ammonium Nitrate	10,224
4-12-8	8,818	19% Superphosphate	6,080
0-14-7	7,599	Florida Waste Pond	
0-14-4	4,651	Phosphate	5,787
4-10-6	1,766	Cyanamid	2,498
3-12-4	1,400	Basic Slag	1,800
5-10-10	897	Nitrate of Soda	1,011
4-12-0	885	Sulfate of Potash	
3-12-12	844	Magnesia	878
0-12-12	794	Dried Manure	186
5-10-5	458	Ammonium Sulfate	25
6-8-3	361	Bone	23
8-8-8	208	Muriate of Potash	11
10-6-4	42		
Miscel.	113		
	304,527		100,264

PLANT FOODS OR NUTRIENTS

The minimum percentages of guaranteed plant foods, or nutrients, present in a commercial fertilizer are printed on the state tag as nitrogen, available phosphoric acid, and potash, These are the

nutrients needed by plants in largest amounts and also those in which the soil is most likely to be deficient. The element corresponding to phosphoric acid is phosphorus and the element corresponding to potash is potassium.

FERTILIZER GRADE

Grade designates the minimum percentage of nitrogen, available phosphoric acid, and potash in the fertilizer. A 6-8-6 grade means that the fertilizer contains 6 percent nitrogen, 8 percent available phosphoric acid, and 6 percent potash. The nutrients are always listed in this order. A 0-20-0 grade refers to a superphosphate fertilizer containing 20 percent available phosphoric acid. A 0-0-60 grade refers to a potash fertilizer containing 60 percent potash.

LOW-GRADE VERSUS HIGH-GRADE FERTILIZERS

A high-grade or high-analysis mixed fertilizer is defined by this Department as one in which the sum of the percentages of nitrogen, available phosphoric acid, and potassium is at least 20 percent. Plant foods in such fertilizers usually cost less per unit than in low-analysis fertilizer, because costs for mixing, bags, freight, and other incidental costs are the same per bag regardless of the analysis. The amount of plant food in 1,500 pounds of 4-12-8, for example, is the same as in 2,000 pounds of 3-9-6 fertilizer. In using the 4-12-8, however, instead of the 3-9-6, a farmer saves cost of handling, hauling, and spreading 500 pounds of practically inactive material. Lighter applications per acre of the high-analysis fertilizers will supply the same amount of plant food as heavier applications of the low-analysis fertilizers.

FEWER GRADES NEEDED

Fewer grades of fertilizer than are now offered would meet the needs of Kentucky agriculture. Most of these needs can be met with 6-8-6, 8-8-8, 4-12-8, 5-10-10, 3-12-12, and 0-14-7, or 0-12-12 supplemented with straight fertilizers—ammonium nitrate, nitrate of soda, ammonium sulfate, or cyanamid to furnish nitrogen; superphosphate to furnish phosphoric acid; and muriate and sulfate of potash to furnish potash. If cyanamid is used, the manufacturer's directions should be followed closely.

Two grades, 2-12-6 and 3-9-6, constituted 55 percent of the mixed fertilizer sold in Kentucky during 1947. Although 2-12-6 is 20 percent plant food, it is doubtful whether 2 percent nitrogen is enough to be of much benefit in many cases where 2-12-6 is used.

COMPOSITION OF MIXED FERTILIZER

A mixed fertilizer is made up mainly of various chemical salts and compounds, which contain the nutrients as part of the compounds. For instance, a 100-pound bag of 6-8-6 fertilizer contains only 20 pounds of nitrogen, available phosphoric acid, and potash, but the compounds containing these plant foods make up a much larger part of the mixture.

An ordinary superphosphate fertilizer contains from 18 to 20 percent available phosphoric acid. Ammonium sulfate contains 20.5 percent nitrogen; ammonium nitrate contains 32.5 to 33.5 percent nitrogen, and muriate of potash contains 50 to 60 percent potash.

A 6-8-6 fertilizer could thus be made from the following formula:

Ammonium Sulfate, 20.5 percent nitrogen	390 pounds
Ammonium Nitrate, 32.5 percent nitrogen	124 pounds
Superphosphate, 16 percent phosphoric acid.....	1000 pounds
Muriate of Potash, 60 percent potash	200 pounds
Total	<u>1714 pounds</u>

The total weight of materials used is 1714 pounds. To make a ton of fertilizer, 286 pounds of other materials must be added. A material such as sand or dolomitic limestone may be used for this "filler." Sand adds no value to the fertilizer, but dolomitic limestone adds 2 plant nutrients, calcium and magnesium, and neutralizes the potential acidity characteristic of most mixed fertilizers. However, the value of dolomitic limestone in a mixed fertilizer other than as a filler, should not be over emphasized. There are sources of calcium other than dolomitic limestone in most mixed fertilizers, and magnesium is not lacking in most Kentucky soils.

Another good filler is tobacco stems. They help to "condition" the fertilizer and carry some nitrogen and potash. If tobacco stems were used in the above formula, the weight of the nitrogen-bearing and potash-bearing materials could be reduced somewhat. Tobacco stems should be sterilized before using to prevent carrying tobacco diseases. Dolomitic limestone and tobacco stems are not "fillers" in the strict sense, for as has been mentioned, they add some value to the fertilizer.

The above formula illustrates the value of purchasing high-analysis fertilizer. The 6-8-6 grade is not considered a low-grade fertilizer, yet a fertilizer made from this formula could carry 286 pounds of filler. In lower-grade fertilizer the amount of filler is even greater.

FARMERS' SAMPLES

Anyone in Kentucky who buys commercial fertilizer for his own use may submit samples for free analysis to the Department of Feed and Fertilizer, Agricultural Experiment Station, Lexington 29, Kentucky.

1. *Samples taken according to provisions of K. R. S. No. 250.360 through No. 250.480 (Kentucky Fertilizer Law).*—To make the sample official it should be taken according to Section No. 250.440 of the statute referred to above. This section of the statute requires that witnesses be present when the sample is taken. Copies of the statute may be obtained from the Department of Feed and Fertilizer.

2. *Unofficial samples.*—If an analysis is wanted for the purchaser's information only, samples of fertilizer may be taken in the following manner:

Take portions (each about a handful) from 10 percent of the bags, unless this requires portions from more than 20 bags. If there are less than 10 bags, sample all. Take samples from as far down in the bags as possible. Place all portions on a clean paper and mix well. Place about one quart in a tight container, include a tag from one of the bags, mark the container with name and address of the sender and send to the Department of Feed and Fertilizer, Agricultural Experiment Station, University of Kentucky, Lexington 29, Kentucky.

State in a letter the amount of fertilizer on hand, the number of bags sampled, and the reason for wanting analysis. If analysis is materially below guaranty, a representative of the Feed and Fertilizer Department may be sent to take an inspector's sample.

INFORMATION ON GUARANTY TAG

A state guaranty tag issued by the Kentucky Agricultural Experiment Station, showing the manufacturer's guaranty, must be attached to each bag of fertilizer before it can be lawfully offered for sale in Kentucky. It is a violation of the law to change the tag in any manner, either by addition or erasure. Purchasers of fertilizer should be guided by the information printed on the guaranty tag in selecting a fertilizer. If the fertilizer is not tagged with a state guaranty tag, or if the tag has been changed in any manner, it should be reported to the Agricultural Experiment Station immediately. The following information is printed on the guaranty tag:

Brand name of fertilizer
Name and address of manufacturer

Guaranteed analysis showing:

- Minimum nitrogen percent
- Minimum available phosphoric acid, percent
- Minimum potash, from muriate or sulfate, percent
- Estimated value per 100 pounds

Total phosphoric acid, in place of available phosphoric acid, is guaranteed in bone, tankage, basic slag, and rock phosphate. Official fertilizer labels are required by law to carry the estimated value per 100 pounds. The estimated value is used for comparing values of fertilizers of different grades. An additional use of this value is in determining the relationship of the guaranteed analysis and the actual analysis. This relationship is shown in the last two columns of Tables 3 and 4.

The estimated value should not be confused with the selling price. Selling price is determined by those offering the fertilizer for sale.

PENALTIES FOR VIOLATING THE FERTILIZER LAW

Any manufacturer, firm, dealer, or vendor who sells or exposes for sale in Kentucky commercial fertilizer without complying with the provisions of the fertilizer law is subject to a fine of from \$100.00 to \$500.00 for each offense. Furthermore, if a fertilizer is short in net weight or short in the essential plant-food nutrients, a manufacturer, firm, or dealer may not only be fined \$100.00 to \$500.00 for violating the fertilizer law, but "shall be liable for reasonable damages sustained by the purchaser of such fertilizer."

It is important therefore that the dealer should protect himself by purchasing from reliable firms who comply with the law. Otherwise, he will lay himself liable for selling fertilizers in violation of the law.

EXPLANATION OF TABLES 2, 3 AND 4

The standings of manufacturers as determined by the results of analysis of official samples are given in Table 2. Purchasers of fertilizer can learn, through a study of this table, how well any manufacturer met his guarantees on the samples analyzed.

It should be noted that the first 3 columns of figures in Table 2 refer to number of *samples* and that the last 3 columns refer to number of analyses of nitrogen, available phosphoric acid and potash. Attention is directed to the third column of figures which gives for each manufacturer the percentage of *samples* which are equal to guaranty in all respects, and to column 6, which gives the percentage

of *analyses* which were deficient by more than 1/4 of 1 percent (the tolerance of the Kentucky Fertilizer Law).

In some samples a deficiency in one nutrient is accompanied by an over-run in another nutrient. This is evidence of improper mixing or weighing by the manufacturer. Extreme variations of this kind cannot be attributed to separation of materials (segregation), though this may be a minor factor. Excess of one nutrient cannot compensate for deficiency of another nutrient. The purchaser is entitled to receive the full guaranty in all nutrients as expressed by the manufacturer on the tag.

The results of analysis of all inspection samples except bone, rock, phosphate, and basic slag are given in Table 3. Results of the last three are given in Table 4.

If an analysis shows a deficiency of more than one-fourth of 1 percent below the amount claimed for nitrogen, phosphoric acid, or potash, or if the relative value is 4 percent or more below the guaranty, the result is indicated in the tables in bold-face type.

TABLE 2—STANDING OF MANUFACTURERS, BASED ON OFFICIAL SAMPLES ANALYZED IN 1947

Company	Number of inspection samples		Equal to guaranty in all respects		Nitrogen, phosphoric acid and potash		Deficiencies of more than 1/4 of 1%	
	Number	Percent*	Number	Percent*	Number of analyses made	Number	Percent*	
								Number
American Agricultural Chemical Company	100	52	247	23	9			
American Cyanamid Company	9	67	9	2	22			
Armour Fertilizer Works	179	59	469	31	7			
Louisville Fertilizer Company	6	33	13	3	2			
Morris Fertilizer Company	3	1	8	1	12			
Tennessee Chemical Company	25	10	64	8	3			
Associated Cooperatives	37	37	37	1	23			
Buhner Fertilizer Company	37	35	103	24	0			
Cooperative Fertilizer Service	26	25	78	0	15			
Cumberland Chemical Company	22	12	48	7	6			
Davison Chemical Corporation:								
Hopkins Fertilizer Division	37	73	98	6	9			
Read Phosphate Division	97	60	234	21	9			
Ellis Chemical Company, Incorporated	4	1	12	3	15			
Federal Chemical Company	91	30	258	40	10			
Hutson Chemical Company	1	0	3	0	10			
International Minerals and Chemical Corporation	119	78	303	31	10			
Kentucky Fertilizer Works	17	11	41	4	10			
Knoxville Fertilizer Company	97	67	252	17	7			
Lion Oil Company	2	2	2	0	0			
Midwestern Phosphate Corporation	3	3	3	0	0			
North American Fertilizer Company	86	42	240	40	17			
National Chemical Company	12	5	36	5	14			
Price Chemical Company	49	33	137	12	9			
Consolidated Chemical Company	1	1	3	0	0			
The Pulverized Manure Company	1	1	3	0	0			
Ralston Purina Company	5	4	15	0	0			
Robin Jones Phosphate Company	1	0	1	1	1			
Ruhm Phosphate and Chemical Company	6	2	6	4	67			
Schrock Fertilizer Service	3	3	3	0	0			
O. M. Scott and Sons	1	0	3	0	0			
Sears, Roebuck and Company	1	1	3	0	0			
Spencer Chemical Company	11	11	11	0	0			
Swift and Company Plant Food Division	45	19	135	16	12			
Tennessee Coal, Iron and Railroad Company	2	2	2	0	0			
Tennessee Corporation	21	19	53	1	2			
Thompson Sales Company	5	4	5	1	20			
Thomson Phosphate Company	5	3	5	2	40			
Valley Counties of Kentucky Cooperative	5	5	5	0	0			
Virginia-Carolina Chemical Corporation	88	69	202	11	5			
Totals	1260	765	3150	315	10.0			

* Percent is not indicated when number of samples is less than 5.

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avail- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
The American Agricultural Chemical Company, Cincinnati, Ohio							
6-8-6 (Muriate 3, Sulfate 3)							
442 M. H. Sidwell, Monticello	5.87	5.82	8.50	6.08	Yes	35.6	36.0
443 Allen County Mills, Scottsville	5.95	5.85	8.65	6.11	Yes	35.6	36.4
444 A. T. Hayes & Son, Glendale	5.82	5.57	8.35	6.04	Yes	35.6	35.7
445 Watson Coal & Feed Co., Princeton ..	5.67	5.55	8.50	6.31	No ¹	35.6	35.9
446 L. F. Wellman, Louisa	5.80	5.73	8.53	6.35	Yes	35.6	36.2
4-12-8 (Muriate 4, Sulfate 4)							
447 H. W. Smith's Store, Horse Cave	4.07	3.99	12.18	8.15	Yes	38.4	38.9
448 M. H. Sidwell, Monticello	3.95	3.84	11.95	8.36	Yes	38.4	38.6
3-9-6 (Muriate)							
449 Rowland's Feed and Hardware Store, Owensboro	2.88	2.86	9.03	5.99	---	30.8	30.6
601 Baughman Milling Co., Stanford	2.75	2.69	9.25	6.16	---	30.8	30.8
3-9-6 (Muriate 3, Sulfate 3)							
577 Booneville Wholesale Co., Booneville ..	2.80	2.73	9.23	6.23	Yes	30.8	30.9
602 J. W. Davidson, Science Hill	2.81	2.73	9.08	6.16	Yes	30.8	30.7
2-12-6 (Muriate)							
450 Taner and Wakin, Middlesboro	2.12	2.03	12.58	6.21	---	32.4	33.6
628 Sam Litton, Morehead	2.02	1.90	11.55	6.04	---	32.4	31.9
646 Norris Hdw. & Seed Co., Henderson ..	1.76	1.67	12.05	6.05	---	32.4	32.0
678 Caulk Hardware Co., Campbellsville ..	1.97	1.86	11.50	6.21	---	32.4	32.0
746 C. C. Hdw., Feed & Seed Store, Hartford	1.85	1.68	10.80	6.23	---	32.4	30.9
747 J. W. Davidson, Science Hill	1.96	1.86	11.48	6.00	---	32.4	31.7
748 Ross Feed Company, Murray	1.93	1.78	11.90	6.07	---	32.4	32.2
749 Baughman Milling Co., Stanford	1.90	1.79	10.95	6.29	---	32.4	31.2
750 Rowland's Feed Store, Owensboro	1.83	1.69	11.95	5.92	---	32.4	31.9
751 Denton Hdw. Co., Madisonville	1.91	1.81	12.00	6.08	---	32.4	32.3
752 T. S. Roberts, Mill Springs	2.01	1.88	10.70	6.24	---	32.4	31.1
945 E. J. Vanhook, Moreland	2.12	2.00	12.00	5.85	---	32.4	32.5
946 Baughman Milling Co., Stanford	1.97	1.84	11.05	6.36	---	32.4	31.6
0-14-7 (Muriate)							
753 Coppoch Hatchery, Campbellsville ..	---	---	14.25	7.14	---	29.8	30.2
754 J. W. Davidson, Science Hill	---	---	14.50	7.00	---	29.8	30.4
947 Farmers Supply Co., Somerset	---	---	14.15	6.89	---	29.8	29.9
18% Superphosphate							
451 J. H. McClure & Son, Springfield	---	---	18.20	---	---	23.4	23.7
647 Norris Hdw. & Seed Co., Henderson ..	---	---	18.55	---	---	23.4	24.1
755 Rowland's Feed & Hdw. Co., Owensboro	---	---	17.95	---	---	23.4	23.3
756 Ross Feed Co., Murray	---	---	18.03	---	---	23.4	23.4
757 C. C. Hdw., Feed & Seed Store, Hartford	---	---	19.08	---	---	23.4	24.8
948 Watson Coal & Feed Co., Princeton ..	---	---	17.98	---	---	23.4	23.4
849 Woodson Lewis, Greensburg	---	---	18.55	---	---	23.4	24.1
American Cyanamid Company, New York 20, N. Y.							
20.60% "Aero" Cyanamid							
453 Kinnett and Coe, Jamestown	20.64	---	---	---	---	49.4	49.5
629 Southern States Co-op., Glasgow	20.44	---	---	---	---	49.4	49.1
630 Southern States Co-op., Carlisle	20.52	---	---	---	---	49.4	49.3
759 Southern States Co-op., Somerset	20.32	---	---	---	---	49.4	48.5
760 Penn & Ratcliffe, Campbellsville	20.64	---	---	---	---	49.4	49.5
761 Campbell's Mill, Kevil	20.32	---	---	---	---	49.4	48.8
951 J. W. Settle Feed Store, Frankfort ..	21.24	---	---	---	---	49.4	51.0
33.50% "Aeroprills" Ammonium Nitrate Fertilizer							
984 Bale Hdw. & Impl. Co., Horse Cave ..	33.96	---	---	---	---	67.0	67.9
Armour Fertilizer Works, Cincinnati, O., Jeffersonville, Ind., Nashville, Tenn.							
6-8-6 (Muriate) "Big Crop"							
952 D. H. Tate, Monticello	5.91	5.65	8.20	6.17	---	35.6	35.8
6-8-6 (Sulfate) Armour's							
454 Sphar & Company, Winchester	6.08	5.88	8.78	6.50	Yes	35.6	37.2

¹ Excess Muriate equivalent to 0.29 percent potash.

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS—Continued

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avail- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
Armour Fertilizer Works—Continued							
4-12-4 (Muriate) "Big Crop"							
455 Letcher Grocery, Whitesburg	3.81	3.52	13.05	4.58	-----	34.4	35.9
456 Powell-Hackney Grocery Co., Hazard	3.86	3.56	12.88	4.39	-----	34.4	35.6
457 International Harvester Co., Benham	4.00	3.75	12.05	3.96	-----	34.4	34.4
604 Bell Milling Co., Monticello	3.93	3.48	11.95	4.20	-----	34.4	34.4
662 Butterworth Seed Co., Mayfield	3.83	3.44	11.68	4.24	-----	34.4	33.9
679 H. B. McClary, Auburn	3.68	3.05	11.85	4.02	-----	34.4	33.6
680 Forbes Hardware Co., Hopkinsville	3.84	3.25	11.90	4.14	-----	34.4	34.1
762 Gid Hollingsworth, Tompkinsville	3.79	3.17	11.98	3.99	-----	34.4	34.0
763 Cadiz Hardware Co., Cadiz	4.09	3.66	11.85	4.55	-----	34.4	35.0
764 Mitchell Implement Co., Princeton	4.14	3.69	11.20	4.30	-----	34.4	34.0
765 J. R. Williams Hardware Co., Beaver Dam	3.81	3.23	11.85	4.09	-----	34.4	33.9
953 Yopp Seed Co., Paducah	4.01	4.45	11.83	4.09	-----	34.4	34.3
954 Guy Hollingsworth, Mud Lick	3.98	3.29	11.35	3.72	-----	34.4	33.3
4-12-4 (Muriate) Old Black Joe							
766 McWhorter Produce Co., Albany	3.90	3.29	11.88	4.11	-----	34.4	34.2
4-12-4 (Sulfate) Armour's							
458 Marattay Brothers, Taylorsville	4.00	3.70	11.90	4.14	Yes	34.4	34.4
459 Powell-Hackney Grocery Co., Beattyville	4.10	3.89	12.65	4.90	Yes	34.4	36.3
3-9-6 (Muriate) "Big Crop"							
460 Butterworth Seed Co., Mayfield	2.81	2.61	8.90	5.86	-----	30.8	30.2
767 Butterworth Seed Co., Mayfield	2.68	2.46	9.45	5.85	-----	30.8	30.7
768 The T. J. Turley Co., Owensboro	3.15	2.95	9.80	5.65	-----	30.8	31.7
769 Kuttawa Milling Co., Kuttawa	3.21	2.90	11.18	4.67	-----	30.8	32.5
770 Denton Hardware Co., Madisonville	2.68	2.49	9.03	5.90	-----	30.8	30.1
3-9-6 (Sulfate) Armour's							
461 Gibson Produce Co., Monticello	2.88	2.59	9.05	6.16	Yes	30.8	30.8
462 R. A. Wilson Co., Russellville	2.98	2.60	9.10	6.02	Yes	30.8	30.9
463 L. D. Flanagan, Russell Springs	3.04	2.60	10.70	5.98	Yes	30.8	32.9
2-12-6 (Muriate) Old Black Joe							
464 Sandusky Brothers, Harrodsburg	1.85	1.77	12.23	6.10	-----	32.4	32.5
465 Bryant's Mill, Caneyville	1.95	1.81	12.03	6.08	-----	32.4	33.6
466 Gibson Produce Co., Monticello	2.16	1.73	12.30	6.05	-----	32.4	33.1
605 F. B. Marksburg, Lancaster	1.85	1.56	12.10	6.13	-----	32.4	32.4
681 Upton Hardware Co., Upton	1.90	1.61	12.08	6.16	-----	32.4	32.5
682 Ramsey Feed Store, Campbellsville	1.96	1.61	11.70	6.22	-----	32.4	32.2
683 Hatter Hardware Co., Franklin	1.84	1.54	12.25	5.34	-----	32.4	31.7
771 W. M. Childs, Brandenburg	1.92	1.64	11.93	6.10	-----	32.4	32.3
772 Slaughters Mercantile Co., Slaughters	2.03	1.78	11.98	6.05	-----	32.4	32.5
773 J. Leonard Stamper, Grassy Creek	1.89	1.63	11.90	5.96	-----	32.4	32.0
774 G. M. Haycraft & Son, Leitchfield	1.90	1.64	12.00	6.19	-----	32.4	32.4
775 Irvington Truck Lines, Irvington	1.92	1.57	11.78	5.99	-----	32.4	32.0
776 L. H. Gilleg, Lecta	1.86	1.60	12.00	6.08	-----	32.4	32.2
777 Bales Hardware Co., Horse Cave	2.09	1.92	12.05	6.04	-----	32.4	32.7
778 D. H. Tate, Monticello	1.92	1.71	11.63	6.01	-----	32.4	31.8
955 J. F. Bertram & Son, Vanceburg	2.12	1.82	12.05	6.32	-----	32.4	33.0
956 London Hardware Co., London	2.10	1.75	11.88	6.32	-----	32.4	32.8
957 E. M. Bryant, Tollesboro	2.14	1.70	12.08	6.29	-----	32.4	33.1
958 J. C. Everett & Co., Maysville	2.06	1.50	12.35	6.32	-----	32.4	33.3
0-14-7 (Muriate) "Big Crop"							
467 J. F. Bertram & Son, Vanceburg	-----	-----	14.15	7.04	-----	29.8	30.0
631 Barren County Hdw. Co., Glasgow	-----	-----	14.15	7.34	-----	29.8	30.3
684 U. L. Rogers, Gradyville	-----	-----	13.80	7.03	-----	29.8	29.6
685 Upton Hardware Co., Upton	-----	-----	13.95	7.34	-----	29.8	30.1
779 Irvington Truck Lines, Irvington	-----	-----	13.60	7.49	-----	29.8	29.8
780 L. H. Gilley, Lecta	-----	-----	13.93	7.51	-----	29.8	30.2
781 G. M. Haycraft & Son, Leitchfield	-----	-----	14.38	6.91	-----	29.8	30.2
782 W. M. Childs, Brandenburg	-----	-----	13.83	7.71	-----	29.8	30.3
783 D. H. Tate, Monticello	-----	-----	14.20	7.35	-----	29.8	30.4
959 Anderson & Spilman, Danville	-----	-----	14.18	7.63	-----	29.8	30.7
960 M. G. Parman, London	-----	-----	14.40	7.68	-----	29.8	31.0
961 W. M. Hurley, Annville	-----	-----	14.25	7.85	-----	29.8	30.5

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS—Continued

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avail- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
Armour Fertilizer Works—Continued							
20% Superphosphate "Big Crop"							
468 Somerset Produce Co., Somerset.....	-----	-----	19.88	-----	-----	26.0	25.8
469 Sphar & Co., Winchester.....	-----	-----	19.75	-----	-----	26.0	25.7
962 Pyle & Hambrick, Burlington.....	-----	-----	20.45	-----	-----	26.0	26.6
963 Ramsey Feed Store, Campbellsville.....	-----	-----	20.25	-----	-----	26.0	26.3
964 M. G. Parman, London.....	-----	-----	20.25	-----	-----	26.0	26.3
965 Jim Pyles, Junction City.....	-----	-----	20.80	-----	-----	26.0	27.0
966 London Hardware Co., London.....	-----	-----	20.15	-----	-----	26.0	26.2
18% Superphosphate Armour's							
470 Gid Hollingsworth & Co., Tompkinsville.....	-----	-----	17.85	-----	-----	23.4	23.2
686 Hatter Hardware Co., Franklin.....	-----	-----	17.98	-----	-----	23.4	23.4
784 Slaughters Mercantile Co., Slaughters.....	-----	-----	19.30	-----	-----	23.4	25.1
785 Mitchell Implement Co., Princeton.....	-----	-----	18.33	-----	-----	23.4	23.8
786 McWhorter Produce Co., Albany.....	-----	-----	18.48	-----	-----	23.4	24.0
787 The T. J. Turley Co., Owensboro.....	-----	-----	19.35	-----	-----	23.4	25.2
967 M. C. Pruitt, Bowling Green.....	-----	-----	17.80	-----	-----	23.4	23.1
968 H. B. McClary, Auburn.....	-----	-----	19.50	-----	-----	23.4	25.4
969 J. R. Williams Hdw. Co., Beaver Dam.....	-----	-----	19.23	-----	-----	23.4	25.0
16% Nitrate of Soda, Armour's							
471 Sphar & Co., Winchester.....	16.12	-----	-----	-----	-----	48.0	48.4
970 S. E. Hale & Sen, Greenville.....	16.08	-----	-----	-----	-----	48.0	48.2
Associated Cooperatives, Sheffield, Ala.							
47% Superphosphate							
608 Farmers Cash Store, Liberty.....	-----	-----	46.05	-----	-----	61.1	59.9
687 Peyton's Hatchery, Horse Cave.....	-----	-----	48.28	-----	-----	61.1	62.8
688 Columbia Building & Supply Co., Columbia.....	-----	-----	48.73	-----	-----	61.1	63.4
792 Southern States Cooperatives, Somerset.....	-----	-----	48.20	-----	-----	61.1	62.7
793 Southern States Cooperative, Shelbyville.....	-----	-----	47.68	-----	-----	61.1	62.0
794 Brown & Jones Hdw. Co., Shepherdsville.....	-----	-----	49.05	-----	-----	61.1	63.8
46% Superphosphate							
474 Southern States Cooperatives, Glasgow.....	-----	-----	47.38	-----	-----	59.8	61.6
475 Farmers Supply Co., Monticello.....	-----	-----	47.00	-----	-----	59.8	61.1
476 Southern States Cooperative, Bowling Green.....	-----	-----	47.48	-----	-----	59.8	61.7
648 Meade Farmers Supply, Brandenburg.....	-----	-----	48.35	-----	-----	59.8	62.9
45% Superphosphate							
609 Farmers Supply Co., Monticello.....	-----	-----	48.93	-----	-----	58.5	63.6
32.50% Ammonium Nitrate							
477 Berea Seed Growers, Berea.....	33.12	-----	-----	-----	-----	65.0	66.2
478 Southern States Cooperative, Bowling Green.....	32.40	-----	-----	-----	-----	65.0	64.8
479 Southern States Cooperative, Glasgow.....	32.96	-----	-----	-----	-----	65.0	65.9
480 Calloway County Soil Improvement Association, Murray.....	32.88	-----	-----	-----	-----	65.0	65.8
481 Graves County Soil Association, Mayfield.....	32.56	-----	-----	-----	-----	65.0	65.1
579 Ballard County Cooperative, LaCenter.....	32.84	-----	-----	-----	-----	65.0	65.7
663 Marshall County Soil Improvement Association, Benton.....	32.92	-----	-----	-----	-----	65.0	65.8
689 Southern States Cooperative, Bowling Green.....	33.28	-----	-----	-----	-----	65.0	66.6
795 Farmers Supply Co., Paintsville.....	33.32	-----	-----	-----	-----	65.0	66.6
796 Deaton Brothers, Jackson.....	32.76	-----	-----	-----	-----	65.0	65.5
797 Southern States Cooperative, Shelbyville.....	33.00	-----	-----	-----	-----	65.0	66.0
798 Morgan Farmers Store, West Liberty.....	33.44	-----	-----	-----	-----	65.0	66.9
799 Graves County Soil Association, Mayfield.....	33.12	-----	-----	-----	-----	65.0	66.2
976 Southern States Cooperative, Glasgow.....	33.04	-----	-----	-----	-----	65.0	66.1

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS—Continued

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avail- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
Buhner Fertilizer Company, Seymour, Ind.							
6-8-6 (Muriate) Buhner's 482 Shepherdsville Feed Mills, Shepherdsville	5.59	5.59	8.23	6.47	-----	35.6	35.5
4-12-8 (Muriate) Buhner's 483 Shelby Feed & Seed Co., Shelbyville	3.59	3.52	12.00	8.92	-----	38.4	38.5
4-12-4 (Muriate) Buhner's 484 Sam Nahm & Co., Bowling Green	3.96	3.82	11.98	5.31	-----	34.4	35.6
485 Shelby Feed & Seed Co., Shelbyville	3.43	3.26	12.00	5.30	-----	34.4	34.6
486 Shepherdsville Feed Mill, Shepherdsville	3.65	3.47	12.30	6.01	-----	34.4	36.1
3-12-12 (Muriate) Buhner's 487 Joe Fister, Lexington	3.05	2.91	12.03	13.18	-----	40.4	41.8
800 W. C. Daws, Naomi	2.98	2.85	11.63	11.43	-----	40.4	39.4
3-9-6 (Muriate) Buhner's 488 Robert A. Heady, Glendale	2.73	2.61	9.20	7.24	-----	30.8	31.7
801 Roscoe Morris, Somerset	2.57	2.41	9.93	6.60	-----	30.8	31.7
2-12-6 (Muriate) Buhner's 690 Rizer Brothers, Bardstown	1.89	1.73	11.73	5.98	-----	32.4	31.8
691 Allison Shippe, Campbellsville	2.01	1.87	11.58	6.44	-----	32.4	32.4
802 Roscoe Morris, Somerset	2.01	1.89	11.68	6.38	-----	32.4	32.4
803 Fern Creek Feed & Hdw. Co., Buechel	1.96	1.81	11.65	6.55	-----	32.4	32.5
804 Buhner & Co., Louisville	1.93	1.81	11.63	5.38	-----	32.4	31.2
805 W. C. Daws, Naomi	1.92	1.83	12.10	6.67	-----	32.4	33.0
806 Beck & Harris, Jamestown	1.91	1.78	11.80	6.61	-----	32.4	32.6
0-14-7 (Muriate) Buhner's 489 Robert A. Heady, Glendale	-----	-----	14.15	8.25	-----	29.8	31.2
692 Allison Shippe, Campbellsville	-----	-----	13.25	8.64	-----	29.8	30.5
807 Buhner & Co., Louisville	-----	-----	13.63	8.38	-----	29.8	30.7
808 W. C. Daws, Naomi	-----	-----	13.70	8.47	-----	29.8	30.9
977 Riley Whittle, Smith's Grove	-----	-----	13.30	7.37	-----	29.8	29.3
Consolidated Chemical Co., Div. Price & Co., Louisville							
6-8-6 (Muriate) Camel Brand 403 Thompson Store, Loretto	6.17	6.01	8.38	6.52	-----	35.6	36.9
Cooperative Fertilizer Service, Richmond, Va.							
4-12-4 (Muriate) 978 Farm & Home Supply Co., Irvine	4.04	3.97	12.95	4.27	-----	34.4	35.9
2-12-6 (Muriate) 490 Southern States Cooperative, Leitchfield	2.15	2.05	12.50	6.55	-----	32.4	33.9
580 Graves County Soil Association, Mayfield	2.15	2.06	12.98	6.11	-----	32.4	34.0
581 Farmers Cash Store, Liberty	2.18	2.09	12.63	6.80	-----	32.4	34.3
664 Calloway County Soil Improvement Association, Murray	2.13	1.99	12.13	6.15	-----	32.4	33.0
693 Columbia Building & Supply Co., Columbia	2.09	2.00	12.15	6.46	-----	32.4	33.2
809 Farmers Service Store, Hardinsburg	2.18	2.11	12.30	6.16	-----	32.4	33.3
810 Southern States Cooperative, Glasgow	2.12	2.04	12.18	6.37	-----	32.4	33.2
811 Ballard County Cooperative, La Center	2.11	1.99	12.28	6.15	-----	32.4	33.1
812 Farmers Supply Co., Monticello	2.09	1.98	12.00	6.29	-----	32.4	32.9
813 Meade Farmers Supply Co., Brandenburg	2.13	2.03	12.43	6.21	-----	32.4	33.4
814 Farmers Supply Co., Paintsville	2.16	2.09	12.20	6.23	-----	32.4	33.2
815 Southern States Cooperative, Hawesville	2.10	2.02	12.15	6.32	-----	32.4	33.1
816 Morrison & Wallace, Hodgenville	2.15	2.02	12.13	6.29	-----	32.4	33.2
817 Taylors Farm Service, Beattyville	2.14	2.06	12.18	6.24	-----	32.4	33.1
979 P. S. Young Hdw. Co., Caneyville	2.18	2.06	12.50	6.25	-----	32.4	33.6
980 Southern States Cooperative, Inc., Maysville	2.14	2.06	12.28	6.46	-----	32.4	33.5

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS—Continued

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avail- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
Cumberland Chemical Co., Hopkinsville, Ky.							
3-9-6 (Muriate) Cumberland							
582 Trigg County Trading Co., Cadiz.....	2.98	2.81	9.18	5.55	-----	30.8	30.5
2-12-6 (Muriate) Cumberland							
694 Todd County Implement Co., Elkton....	2.02	1.82	12.05	6.17	-----	32.4	32.7
818 Mitchell Implement Co., Princeton....	1.94	1.74	11.63	6.21	-----	32.4	32.1
819 Todd County Implement Co., Elkton....	1.98	1.77	12.38	5.99	-----	32.4	32.8
820 Smith & Reynolds Co., Slaughters....	1.82	1.62	11.75	6.91	-----	32.4	32.7
0-14-7 (Muriate) Cumberland							
695 Todd County Implement Co., Elkton	-----	-----	13.50	7.99	-----	29.8	30.5
821 H. W. McGehee Produce House, Lewisburg	-----	-----	13.10	8.15	-----	29.8	29.9
18% Superphosphate—Cumberland							
491 Smith & Reynolds, Slaughters	-----	-----	19.75	-----	-----	23.4	25.7
583 Trigg County Trading Co., Cadiz.....	-----	-----	18.98	-----	-----	23.4	24.7
981 Ratliff Hardware Co., Princeton.....	-----	-----	19.33	-----	-----	23.4	25.1
982 Trenton Hardware Co., Trenton	-----	-----	19.25	-----	-----	23.4	25.0
983 Trigg County Trading Co., Cadiz.....	-----	-----	19.05	-----	-----	23.4	24.8
The Davison Chemical Corporation, Hopkins Fertilizer Div., New Albany, Ind.							
6-8-6 (Muriate) Old Time							
696 G. C. McPhetridge, London	6.18	6.00	8.35	6.32	-----	35.6	36.7
822 Henderson Grain & Commission Co., Henderson	5.70	5.54	8.75	6.24	-----	35.6	36.1
4-12-8 (Muriate) Old Time							
823 Buechel Produce Exchange, Buechel	4.10	3.90	12.50	8.26	-----	38.4	39.5
3-9-6 (Muriate) Old Time							
492 Jewell & Hayden Hdw. Co., Bardstown	3.01	2.86	9.25	6.01	-----	30.8	31.1
2-12-6 (Muriate) Old Time							
493 Buechel Produce Exchange, Buechel..	2.00	1.88	12.30	6.27	-----	32.4	33.0
649 Henderson Grain & Commission Co., Henderson	1.96	1.86	12.92	6.26	-----	32.4	33.7
824 Buechel Produce Exchange, Buechel..	2.17	2.07	12.73	6.16	-----	32.4	33.8
985 C. D. Baldwin, Annville	1.96	1.84	12.38	6.04	-----	32.4	32.8
0-14-7 (Muriate) Old Time							
986 Farmers Feed & Supply Co., London..	-----	-----	14.88	7.09	-----	29.8	31.0
20% Superphosphate—Old Time							
987 Farmers Feed & Supply Co., London..	-----	-----	20.43	-----	-----	26.0	26.6
988 C. D. Baldwin, Annville	-----	-----	20.25	-----	-----	26.0	26.3
The Davison Chemical Corporation, Read Phosphate Div., Nashville, Tenn.							
4-12-4 (Muriate) Davco Red Diamond							
494 Bell County Supply Co., Middlesboro..	4.32	4.11	12.35	4.11	-----	34.4	35.6
610 L. D. Flanagan, Russell Springs	4.08	3.78	11.83	4.10	-----	34.4	34.5
650 Farmers Supply Co., Morganfield	4.09	3.79	12.83	4.14	-----	34.4	35.7
665 Marshall County Soil Improvement Association, Benton	3.96	3.64	12.30	4.07	-----	34.4	34.8
697 Henry Durham, Greensburg	4.06	3.73	11.98	4.11	-----	34.4	34.6
698 N. Y. Landrum Feed Store, Bowling Green	4.06	3.81	12.18	4.10	-----	34.4	34.8
825 L. D. Flanagan, Russell Springs	3.61	3.36	12.00	3.60	-----	34.4	33.2
826 Eldred Hardware Co., Princeton	3.99	3.76	12.45	4.04	-----	34.4	35.0
827 Payton's Hatchery, Horse Cave	4.18	4.02	12.15	4.04	-----	34.4	35.0
828 Frank Snodgrass, Morgantown	3.91	3.62	12.38	3.96	-----	34.4	34.6
829 I. K. Miller & Son, Campbellsville..	3.89	3.74	11.90	4.16	-----	34.4	34.2
989 Young Lumber Co., Beaver Dam	4.01	3.86	12.15	4.30	-----	34.4	34.9
3-9-6 (Muriate) Davco Red Diamond							
495 Powell Farmers Supply Co., Clay City	3.15	3.06	8.95	6.00	-----	30.8	31.0
666 Marshall County Soil Improvement Association, Benton	2.81	2.70	10.75	5.86	-----	30.8	32.4
699 Bell County Supply Co., Middlesboro	3.08	2.95	9.98	5.96	-----	30.8	32.1
830 Ballard County Cooperative, LaCenter	3.04	2.85	9.80	5.88	-----	30.8	31.7
831 Calloway County Soil Improvement Association, Murray	3.15	2.96	10.00	5.98	-----	30.8	32.3

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS—Continued

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avail- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
The Davison Chemical Corporation—Continued							
2-12-6 (Muriate) Davco Red Diamond							
496 Cook & Moore, Tompkinsville	2.28	2.16	12.80	5.32	-----	32.4	33.2
611 L. D. Flanagan, Russell Springs	2.17	1.96	12.68	5.98	-----	32.4	33.5
636 Cook & Moore Feed Store, Tompkinsville	2.17	1.98	12.45	6.50	-----	32.4	33.8
667 Ross Feed Co., Murray	2.14	1.95	12.43	6.32	-----	32.4	33.5
700 H. Christensen & Co., Columbia	2.20	2.00	11.80	6.05	-----	32.4	32.6
701 Payton's Hatchery, Horse Cave	2.29	2.08	12.35	6.42	-----	32.4	33.8
702 Buckhorn Coal Co., Campbellsville	2.06	1.83	12.58	6.01	-----	32.4	33.2
832 J. W. Davidson, Science Hill	2.12	1.92	12.30	6.29	-----	32.4	33.3
833 Eldred Hardware Co., Princeton	2.00	1.85	12.48	6.08	-----	32.4	33.1
834 E. A. Cohen & Son, Greenville	2.08	1.88	12.90	5.60	-----	32.4	33.2
835 Elkton Cash Grocery, Elkton	2.03	1.85	13.78	5.59	-----	32.4	34.2
836 J. H. Hubbard, Leitchfield	2.11	1.92	12.50	6.21	-----	32.4	32.4
837 Star Roller Mills, Cloverport	2.34	2.24	11.98	5.85	-----	32.4	32.9
0-14-7 (Muriate) Davco Red Diamond							
668 Farmers Gin Co., Clinton	-----	-----	14.68	7.38	-----	29.8	31.0
703 Herndon Brothers Feed Store, Russellville	-----	-----	14.83	6.99	-----	29.8	30.8
0-14-4 (Muriate) Davco Red Diamond							
497 L. D. Flanagan, Russell Springs	-----	-----	13.38	4.61	-----	26.8	26.7
20% Superphosphate Davco Granular							
612 Farmers Supply Co., Danville	-----	-----	20.65	-----	-----	26.0	26.9
651 Henderson Grain & Commission Co., Henderson	-----	-----	21.23	-----	-----	26.0	27.6
704 H. Christensen & Co., Columbia	-----	-----	20.13	-----	-----	26.0	26.2
705 Bell County Supply Co., Middlesboro	-----	-----	19.83	-----	-----	26.0	25.8
706 Buckhorn Coal Co., Campbellsville	-----	-----	20.53	-----	-----	26.0	26.7
838 W. I. Smith, Sebree	-----	-----	20.05	-----	-----	26.0	26.1
839 I. K. Miller & Sons, Campbellsville	-----	-----	20.33	-----	-----	26.0	26.4
840 L. D. Flanagan, Russell Springs	-----	-----	20.50	-----	-----	26.0	26.7
841 D. K. Hurt, Elkton	-----	-----	20.48	-----	-----	26.0	26.6
842 Seay Brothers, Holland	-----	-----	20.30	-----	-----	26.0	26.4
843 Guenther Hardware Co., Owensboro	-----	-----	20.13	-----	-----	26.0	26.2
844 Star Roller Mills, Cloverport	-----	-----	20.13	-----	-----	26.0	26.2
845 Henderson Grain & Commission Co., Henderson	-----	-----	19.88	-----	-----	26.0	25.8
990 L. D. Flanagan, Russell Springs	-----	-----	20.63	-----	-----	26.0	26.8
19% Superphosphate—Davco Granulated							
613 L. D. Flanagan, Russell Springs	-----	-----	18.70	-----	-----	24.7	24.3
669 Farmers Gin Co., Clinton	-----	-----	18.35	-----	-----	24.7	23.9
707 Henry Durham, Greensburg	-----	-----	18.95	-----	-----	24.7	24.6
846 Cadiz Hardware Co., Cadiz	-----	-----	18.58	-----	-----	24.7	24.2
847 Payton's Hatchery, Horse Cave	-----	-----	18.65	-----	-----	24.7	24.3
848 Fulkerson Brothers, Sonora	-----	-----	19.35	-----	-----	24.7	25.2
Ellis Chemical Co., Inc., New Albany, Ind.							
6-8-6 (Muriate)							
498 Henderson Feed & Commission Co., Henderson	5.43	5.38	8.80	6.01	-----	35.6	35.4
584 Monarch Milling Co., Mt. Sterling	5.66	5.55	8.60	6.05	-----	35.6	35.7
3-12-12 (Muriate)							
585 Monarch Milling Co., Mt. Sterling	3.11	3.04	12.05	12.41	-----	40.4	41.1
2-12-6 (Muriate)							
652 Henderson Hybrid Seed Corn Co- operative, Henderson	2.20	2.11	11.50	6.33	-----	32.4	32.5
Federal Chemical Co., Inc., Louisville, Ky.							
6-8-6 (Muriate)—Federal							
499 Vine Street Feed Store, Lexington	5.99	5.90	8.48	5.90	-----	35.6	36.1
598 John P. Fister, Lexington	5.62	5.45	8.40	5.77	-----	35.6	35.1
6-8-6 (Sulfate)—Federal							
500 J. B. Barnes, Somerset	5.91	5.79	8.10	6.27	Yes	35.6	35.8

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS—Continued

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avail- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
Federal Chemical Co.—Continued							
3-9-6 (Muriate)—Federal							
586 John P. Fister, Lexington	3.03	2.83	9.30	6.25	-----	30.8	31.5
670 Clinton Hatchery, Clinton	2.76	2.61	9.13	6.21	-----	30.8	30.7
671 Crawford-Ferguson Co., Benton	2.76	2.61	9.58	6.23	-----	30.8	31.3
672 Thompson's Mill, Benton	2.80	2.65	9.48	6.25	-----	30.8	31.2
849 Mayfield Sweet Feed Mill, Mayfield	2.75	2.58	9.35	6.46	-----	30.8	31.2
850 Holloway Hardware Co., Wingo	2.81	2.64	9.50	6.32	-----	30.8	31.3
851 Parker Seed Co., Murray	2.81	2.69	9.43	6.03	-----	30.8	31.0
852 Murray Milling Co., Murray	2.86	2.70	9.40	6.30	-----	30.8	31.3
991 M. T. Riley Seed Co., Paducah	2.62	2.44	9.60	6.62	-----	30.8	31.4
2-12-6 (Muriate)—Federal							
501 Grayson County Supply Co., Leitchfield	1.98	1.80	11.80	6.19	-----	32.4	32.3
614 R. C. Taylor, Monticello	1.96	1.82	11.75	6.18	-----	32.4	32.2
637 Peoples Ice & Coal Co., Smiths Grove	1.88	1.63	12.23	5.70	-----	32.4	32.1
653 Calhoun Sweet Feed Co., Calhoun	2.04	1.83	12.25	6.02	-----	32.4	32.8
673 Clinton Hatchery, Clinton	2.13	1.92	11.80	6.47	-----	32.4	32.9
708 Allen & Jenkins, Bowling Green	2.10	1.92	12.28	6.00	-----	32.4	32.9
853 W. E. Richardson, Norfleet	2.18	2.04	11.53	6.10	-----	32.4	32.3
854 Southern States Cooperative, Somerset	1.94	1.81	11.83	5.59	-----	32.4	31.7
855 Oldham Feed & Supply Co., Buckner	2.01	1.88	12.03	6.35	-----	32.4	32.8
856 Penn & Ratcliffe, Campbellsville	1.86	1.73	11.83	5.68	-----	32.4	31.6
857 Carter Cash Market, Edmonton	1.99	1.85	11.78	6.13	-----	32.4	32.3
858 C. M. Littrel, Somerset	2.04	1.90	11.98	5.41	-----	32.4	31.9
859 Sam P. Tuggle, Highway	2.00	1.80	12.03	5.79	-----	32.4	32.2
860 Farmers Supply Co., Somerset	1.86	1.64	12.13	5.75	-----	32.4	32.0
861 Ford, Richardson & Son., Mayfield	2.09	1.92	12.08	6.49	-----	32.4	33.2
992 Southern States Cooperative, Maysville	1.96	1.79	12.40	6.05	-----	32.4	32.9
0-14-4 (Muriate)—Federal							
654 Calhoun Sweet Feeds Co., Calhoun	-----	-----	13.43	4.10	-----	26.8	26.2
709 Allen & Jenkins, Bowling Green	-----	-----	13.70	3.88	-----	26.8	26.3
862 Oldham Feed & Supply Co., Buckner	-----	-----	13.75	4.53	-----	26.8	27.0
863 Penn & Ratcliffe, Campbellsville	-----	-----	13.35	4.56	-----	26.8	26.6
864 Robinson Implement Co., Princeton	-----	-----	13.63	4.22	-----	26.8	26.6
993 Monarch Milling Co., Mt. Sterling	-----	-----	13.48	4.45	-----	26.8	26.6
994 H. D. Jones, Glasgow	-----	-----	13.78	4.87	-----	26.8	27.4
995 Fiechter Hardware Co., London	-----	-----	13.75	4.76	-----	26.8	27.3
16% Nitrate of Soda							
502 Robinson Implement Co., Princeton	16.04	-----	-----	-----	-----	48.0	48.1
674 Dairyman's Feed & Supply Co., Mayfield	16.08	-----	-----	-----	-----	48.0	48.2
International Minerals & Chemical Corporation, Cincinnati, O.							
6-8-6 (Muriate 2, Sulfate 4)							
503 Farmers Feed & Supply Co., London	6.07	5.99	7.93	6.21	Yes	35.6	35.9
504 H. D. McKeehan, Rockhold	5.89	5.86	8.65	6.36	Yes	35.6	36.5
587 W. S. Allen, Liberty	6.09	5.99	8.15	6.19	Yes	35.6	36.2
5-10-5 (Muriate)							
505 J. H. Fedders & Son, Covington	4.94	4.56	9.70	5.70	-----	35.0	35.2
506 Mary Helen Coal Corp., Coalgood	5.07	4.96	10.40	5.07	-----	35.0	35.7
996 Harlan Fruit Co., Harlan	4.64	4.51	10.68	5.59	-----	35.0	35.7
4-12-8 (Muriate)							
507 Earl Miller, Owingsville	4.11	4.04	11.88	7.90	-----	38.4	38.4
997 Rufus Whitt, Morehead	3.86	3.80	11.95	8.98	-----	38.4	39.0
4-12-8 (Sulfate)							
508 Cecilian Milling Co., Elizabethtown	3.97	3.81	12.25	8.98	Yes	38.4	39.6
4-12-8 (Muriate 4, Sulfate 4)							
509 Bryant's Mill, Caneyville	3.75	3.61	12.40	8.75	Yes	38.4	39.1
4-12-4 (Muriate)							
588 Kermit's Supermarket, Whitesburg	4.08	4.00	12.20	4.19	-----	34.4	35.0

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS—Continued

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avail- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
International Minerals & Chemical Corp.—Continued							
3-12-12 (Muriate)							
510 Earl Miller, Owingsville	2.81	2.73	11.43	12.01	-----	40.4	39.4
589 J. L. Wilson, General Merchandise, Canmer	2.95	2.86	12.30	12.34	-----	40.4	41.0
865 J. S. Bottom & Son, Russell Springs	2.87	2.81	11.78	12.21	-----	40.4	40.1
866 Earl Miller, Owingsville	3.00	2.97	11.60	13.92	-----	40.4	41.8
3-9-6 (Muriate)							
511 John Adams, Jeff	3.00	2.92	8.30	6.22	-----	30.8	30.2
512 L. F. Thurmond, Murray	3.10	2.99	8.50	5.75	-----	30.8	30.2
513 Young Lumber Co., Beaver Dam	3.07	2.97	8.15	5.61	-----	30.8	29.5
514 Steve Rose Market, Campton	2.89	2.81	7.95	6.29	-----	30.8	29.6
515 Fields Feed & Grain Co., Cumberland	2.99	2.91	8.45	6.41	-----	30.8	30.5
867 Stout Feed Store, Mt. Washington	3.04	2.95	7.85	6.78	-----	30.8	30.3
868 Roy Burris, Zula	2.85	2.77	8.78	6.13	-----	30.8	30.4
869 Chas. Warner, Nancy	3.31	3.22	7.45	6.66	-----	30.8	30.2
3-9-6 (Muriate 3, Sulfate 3)							
516 Cecilian Milling Co., Elizabethtown	2.90	2.83	9.58	6.45	Yes	30.8	31.8
2-12-6 (Muriate)							
517 H. D. McKeenan, Rockhold	2.16	2.08	11.85	6.80	-----	32.4	33.3
518 L. F. Thurmond, Murray	2.00	1.83	12.20	5.41	-----	32.4	32.1
519 Earl Miller, Owingsville	2.16	2.06	11.93	6.70	-----	32.4	33.3
615 Hart Brothers, West Somerset	1.97	1.88	12.15	6.33	-----	32.4	32.7
870 Roy Burris, Zula	2.02	1.95	11.93	6.30	-----	32.4	32.7
871 Farmers Supply Co., Somerset	1.84	1.78	12.10	6.55	-----	32.4	32.8
872 Brent Norfleet, Nancy	1.96	1.84	11.90	6.37	-----	32.4	32.6
873 Boone Feed Store, Stanford	2.02	1.95	11.55	6.91	-----	32.4	32.8
998 The Cecilian Milling Co., Elizabethtown	2.33	2.23	12.45	6.63	-----	32.4	34.2
999 Ice's Produce Co., Bardstown	2.12	2.05	12.35	6.54	-----	32.4	33.6
0-14-7 (Muriate)							
520 Woodson Lewis & Son, Greensburg	-----	-----	14.10	8.66	-----	29.8	31.6
521 Earl Miller, Owingsville	-----	-----	14.55	7.08	-----	29.8	30.5
874 Cecilian Milling Co., Elizabethtown	-----	-----	16.55	6.94	-----	29.8	32.8
1000 Farmers Cooperative Store, Owensboro	-----	-----	14.10	6.93	-----	29.8	29.9
1001 Danville Hardware & Supply Co., Danville	-----	-----	14.48	7.32	-----	29.8	30.7
1002 Farmers Feed & Supply Co., London	-----	-----	13.83	7.69	-----	29.8	30.3
0-12-12 (Muriate)							
1003 Cundiff & Squires, Cane Valley	-----	-----	13.03	12.34	-----	32.4	34.0
20% Superphosphate							
616 W. S. Allen, Liberty	-----	-----	20.93	-----	-----	26.0	27.2
710 Ice's Produce Co., Bardstown	-----	-----	20.15	-----	-----	26.0	26.2
711 Rock's Farm Center, Munfordville	-----	-----	21.60	-----	-----	26.0	28.1
712 Woodson Lewis & Son, Greensburg	-----	-----	20.60	-----	-----	26.0	26.8
875 J. S. Bottom & Son, Russell Springs	-----	-----	19.93	-----	-----	26.0	26.0
876 Danville Hdw. & Supply Co., Danville	-----	-----	21.05	-----	-----	26.0	27.4
877 Brent Norfleet, Nancy	-----	-----	20.03	-----	-----	26.0	26.0
878 Earl Miller, Owingsville	-----	-----	21.00	-----	-----	26.0	27.3
879 Cecilian Milling Co., Elizabethtown	-----	-----	21.35	-----	-----	26.0	27.8
1004 Farmers Supply Co., Lexington	-----	-----	20.80	-----	-----	26.0	27.0
1005 Hart Brothers, West Somerset	-----	-----	20.55	-----	-----	26.0	26.7
33.50% Ammonium Nitrate							
522 Farmers Feed & Supply Co., London	33.56	-----	-----	-----	-----	67.0	67.1
20.60% Granular "Aero" Cyanamid							
1006 Cass & Cash, Brodhead	20.64	-----	-----	-----	-----	49.4	49.5
Kentucky Fertilizer Works, Winchester, Ky.							
6-8-6 (Muriate) "P.P.F."							
880 Manufacturer's warehouse	6.20	6.14	8.13	6.19	-----	35.0	36.4
1007 Manufacturer's warehouse	5.88	5.81	8.63	6.60	-----	35.0	36.7
6-8-6 (Sulfate) "P.P.F."							
523 Fox Brothers, Winchester	5.78	5.67	7.73	6.50	Yes	35.6	35.3
1008 Manufacturer's warehouse	5.96	5.86	8.30	6.44	Yes	35.6	36.3

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS—Continued

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avail- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
Kentucky Fertilizer Works—Continued							
3-9-6 (Muriate) "P.P.F."							
524 W. H. Brock & Co., Winchester	3.34	3.25	9.28	6.21	-----	30.8	32.0
525 Ewen & Palmer, Stanton	2.97	2.89	8.95	5.85	-----	30.8	30.5
881 Manufacturer's warehouse	2.98	2.91	9.30	6.78	-----	30.8	31.9
20% Superphosphate "P.P.F."							
526 Danville Hdw. & Supply Co., Danville	-----	-----	20.75	-----	-----	26.0	27.0
16% Nitrate of Soda "P.P.F."							
527 Danville Hdw. & Supply Co., Danville	16.00	-----	-----	-----	-----	48.0	48.0
528 Ewen & Palmer, Stanton	16.00	-----	-----	-----	-----	48.0	48.0
21% Sulfate of Potash Magnesia "P.P.F."							
529 Danville Hdw. & Supply Co., Danville	-----	-----	-----	22.01	No ¹	42.0	44.0
Knoxville Fertilizer Co., Knoxville and Nashville, Tenn.							
6-8-6 (Muriate) Knox Pulverized							
882 Arnold Weddle, Nancy	5.52	5.42	8.98	6.07	-----	35.6	35.9
1009 Arnold Weddle, Nancy	5.63	5.50	8.95	6.21	-----	35.6	36.2
5-10-5 (Muriate) Pulverized							
883 Arnold Weddle, Nancy	4.59	4.47	11.05	4.95	-----	35.0	35.4
4-12-4 (Muriate)							
620 Hobart & Milton Roberts, Monticello	4.10	3.99	12.53	4.47	-----	34.4	35.7
621 Foster Fertilizer Co., Hopkinsville	4.07	3.87	11.98	4.54	-----	34.4	35.1
713 Sherman Bengel, London	4.02	3.91	12.55	4.22	-----	34.4	35.3
714 H. B. McClary, Auburn	3.94	3.70	12.60	4.33	-----	34.4	35.3
884 W. H. Brock & Co., Winchester	4.19	4.05	12.03	4.48	-----	34.4	35.3
1010 Jellico Grocery, Corbin	3.99	3.82	12.75	4.32	-----	34.4	35.6
1011 Nay Chesnut, London	3.75	3.62	12.30	4.48	-----	34.4	34.7
3-12-4 (Muriate) "Special"							
530 Grayson County Supply Co., Leitchfield	3.30	3.14	11.68	4.45	-----	32.4	33.1
531 Allen County Mill, Scottsville	3.23	3.05	11.95	4.61	-----	32.4	33.4
532 G. H. Bowles & Son, Glasgow	3.15	3.02	13.23	3.75	-----	32.4	33.9
533 Elkton Cash Grocery, Elkton	3.28	3.14	12.70	4.17	-----	32.4	34.0
715 Harris Feed Co., Franklin	2.86	2.61	12.63	4.48	-----	32.4	33.4
885 W. B. Robertson, Springfield, Tenn.	3.04	2.77	12.28	5.77	-----	32.4	34.6
886 Covington Grain & Seed Co., Guthrie	2.98	2.75	12.85	4.19	-----	32.4	33.6
887 Wyndall's Feed & Hdw. Co., Owensboro	2.82	2.56	12.25	4.74	-----	32.4	33.1
3-9-6 (Muriate)							
622 O. E. Rector, Alpha	2.96	2.84	10.18	6.17	-----	30.8	32.3
716 H. B. McClary, Auburn	2.95	2.74	9.75	6.33	-----	30.8	31.9
888 C. M. Langdon, Science Hill	3.00	2.91	8.73	6.55	-----	30.8	31.0
1012 Foster Fertilizer Co., Hopkinsville	2.93	2.74	8.98	5.91	-----	30.8	30.6
3-9-6 (Muriate 4, Sulfate 2)							
361 Robey Harris Feed Co., Franklin	2.89	2.51	9.45	6.50	Yes	30.8	31.6
362 Allison Shippe, Campbellsville	3.09	2.70	9.10	6.41	No ¹	30.8	31.5
363 H. B. McClary, Auburn	2.98	2.65	9.38	6.50	Yes	30.8	31.7
623 Danville Hdw. & Supply Co., Danville	2.88	2.65	10.60	5.70	Yes	30.8	32.2
2-12-6 (Muriate) Knox							
624 Hobart & Milton Roberts, Monticello	2.18	2.10	13.05	6.42	-----	32.4	34.4
625 Foster Fertilizer Co., Hopkinsville	1.91	1.74	12.40	6.11	-----	32.4	32.8
717 Harris Feed Co., Franklin	1.94	1.74	11.90	6.24	-----	32.4	32.4
718 Farmers Feed Market, Bowling Green	2.09	1.87	12.10	6.73	-----	32.4	33.4
719 Cundiff Milling Co., Columbia	2.23	2.13	12.85	5.99	-----	32.4	33.9
720 Sherman Bengel, London	2.24	2.16	12.78	6.44	-----	32.4	34.3
889 Jack Shirley, Edmonton	2.08	1.84	11.90	6.49	-----	32.4	32.9
1013 Nay Chesnut, London	1.69	1.60	12.70	6.08	-----	32.4	32.7
1014 R. J. Jones, Tyner	1.96	1.88	12.60	6.33	-----	32.4	33.4
1015 Brock Brothers Grain Co., Maysville	2.01	1.92	12.40	6.34	-----	32.4	33.2
0-14-7 (Muriate) Knox							
890 C. M. Langdon, Science Hill	-----	-----	14.25	7.57	-----	29.8	30.7
1016 Pearl Nicholson, Greenmount	-----	-----	16.03	2.78	-----	29.8	28.0
1017 Brock Brothers Grain Co., Maysville	-----	-----	14.50	7.39	-----	29.8	30.8

¹ Excess Muriate equivalent to 0.93 percent potash.¹ Excess Muriate equivalent to 0.36 percent potash.

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS—Continued

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avail- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
Knoxville Fertilizer Co.—Continued							
0-14-4 (Muriate) Basic							
534 Grayson County Supply Co., Leitchfield			14.35	4.76		26.8	28.0
535 Booneville Wholesale Co., Booneville			14.90	4.39		26.8	28.3
626 Hobart & Milton Roberts, Monticello			14.85	4.45		26.8	28.3
721 Cundiff Milling Co., Columbia			14.90	4.64		26.8	28.5
722 Farmers Feed & Supply Co., London			14.75	4.64		26.8	28.3
891 Grayson County Supply Co., Leitchfield			14.85	4.73		26.8	28.6
892 Jack Shirley, Edmonton			14.40	4.62		26.8	27.9
1018 Barnett, Sullivan & Co., Harrodsburg			15.10	4.62		26.8	28.7
1019 Patrick's Store, Williamsburg			14.38	4.35		26.8	27.6
19% Superphosphate Knox							
723 Farmers Feed & Supply Co., London			20.18			24.7	26.2
724 Sherman Bengé, London			20.28			24.7	26.4
893 Arnold Weddle, Nancy			19.65			24.7	25.6
1020 Pearl Nicholson, Greenmount			17.68			24.7	23.0
1021 Barnett, Sullivan & Co., Harrodsburg			20.30			24.7	26.4
1022 Nay Chesnut, London			19.05			24.7	24.8
16% Nitrate of Soda							
725 Farmers Feed & Supply Co., London	16.08					48.0	48.2
32.50% Ammonium Nitrate							
364 Parker S. Cooper, Monticello	33.12					65.0	66.2
365 C. M. Langdon, Science Hill	32.92					65.0	65.8
20.50% Calcium Cyanamid							
536 Hobart & Milton Roberts, Monticello	20.08					49.4	48.2
Lion Oil Company, El Dorado, Arkansas							
32.50% Ammonium Nitrate							
366 Farmers Supply Company, Danville	33.00					65.0	66.0
Louisville Fertilizer Co., Div. Armour & Co., Nashville, Tenn.							
6-8-6 (Sulfate) Louisville							
472 Mitt Cooper, Cooper	5.88	5.41	8.03	5.74	No ¹	35.6	35.1
3-9-6 (Muriate) Louisville							
606 Yopp Seed Co., Paducah	2.73	2.53	9.00	6.05		30.8	30.3
0-14-4 (Muriate) Louisville							
788 Gidd Hollingsworth, Tompkinsville			13.65	3.92		26.8	26.3
18% Superphosphate Louisville							
789 Yopp Seed Co., Paducah			20.15			23.4	26.2
971 Yopp Seed Co., Paducah			20.50			23.4	26.7
Midwestern Phosphate Corporation, Madison, Wisconsin							
20% Superphosphate							
894 V. B. Nuckols, Elkton			20.48			26.0	26.6
1023 V. B. Nuckols, Elkton			20.13			26.0	26.2
Morris Fertilizer Company, Div. Armour & Co., Nashville, Tenn.							
4-12-4 (Muriate) Morris							
607 Young Lumber Co., Beaver Dam	3.11	2.68	11.75	4.73		34.4	33.1
0-14-4 (Muriate) Morris							
972 S. E. Hale & Son, Greenville			14.20	3.91		26.8	27.0
National Chemical Co., Div. North American Fert. Co., Louisville, Ky.							
6-8-6 (Muriate) "Big Pay"							
393 D. H. Tate, Monticello	5.80	5.73	8.55	5.93		35.6	35.8
4-12-4 (Muriate) "Big Pay"							
657 Farmers Cooperative Store, Owensboro	4.16	4.04	12.28	4.38		34.4	35.4
1023 Southern States Cooperative, Harrodsburg	3.90	3.78	12.35	4.29		34.4	34.9

¹ Excess muriate equivalent to 0.55 percent potash.

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS.—Continued

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avall- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
National Chemical Co., Div. North American Fert. Co.—Continued							
3-10-3 (Muriate) "Big Pay"							
394 Barnett, Sullivan & Co., Harrodsburg	3.01	2.88	9.58	3.71	-----	29.0	29.2
3-9-6 (Muriate) "Big Pay"							
395 Morris Brothers, Somerset	3.03	2.71	8.35	6.09	-----	30.8	30.2
591 Lemons Brothers, Cynthiana	2.80	2.74	9.53	7.82	-----	30.8	32.9
2-12-6 (Muriate) "Pig. Pay"							
639 Southern States Cooperative, Flemingsburg	2.09	1.99	12.85	6.19	-----	32.4	33.8
912 Southern States Cooperative, Bowling Green	2.31	2.19	13.03	6.79	-----	32.4	35.1
North American Fertilizer Co., Louisville, Ky.							
6-8-6 (Muriate) N. Am.							
655 Farmers Cooperative Store, Owensboro	6.31	6.21	9.55	6.05	-----	35.6	38.1
367 Henry Shearrin, Danville	5.71	5.62	8.48	5.91	-----	35.6	35.5
537 State Reformatory, La Grange	5.85	5.73	8.55	5.64	-----	35.6	35.6
726 Caulk Hardware Co., Campbellsville	5.80	5.65	8.75	5.72	-----	35.6	35.8
727 I. K. Miller & Son, Campbellsville	5.79	5.68	8.58	6.53	-----	35.6	36.4
895 Kinnet & Coe, Jamestown	5.74	5.61	8.45	6.17	-----	35.6	35.8
1024 Penn Mercantile Co., Mannsville	5.95	5.79	8.65	5.96	-----	35.6	36.2
6-8-6 (Sulfate) N. Am.							
368 Dean & Hager, Nicholasville	5.37	5.05	8.83	5.94	No ¹	35.6	35.3
6-8-6 (Muriate 3, Sulfate 3) N. Am.							
369 W. C. Howk, Cynthiana	5.79	5.57	6.35	6.14	Yes	35.6	33.3
6-8-3 (Muriate) N. Am.							
370 Farmers Supply Co., Paintsville	6.24	6.19	8.00	2.99	-----	32.6	33.1
4-12-4 (Muriate) N. Am.							
371 I. K. Miller & Son, Campbellsville	4.02	3.77	10.30	4.19	-----	34.4	32.6
372 Central Kentucky State Hospital, Lakeland	3.96	3.66	10.25	3.94	-----	34.4	32.2
373 Curtis Lewis, West Liberty	4.12	4.01	11.30	4.15	-----	34.4	34.0
374 Carter's Supply Co., Forks of Elkhorn	4.24	4.12	11.30	3.91	-----	34.4	34.0
375 Western Kentucky State Hospital, Hopkinsville	3.92	3.63	10.80	3.99	-----	34.4	32.8
376 Kentucky Training Home, Frankfort	3.89	3.67	12.05	4.11	-----	34.4	34.4
896 M. C. Roberts, South Irvine	3.03	2.93	14.35	3.72	-----	34.4	35.0
897 Payton's Hatchery, Horse Cave	3.90	3.78	12.18	4.12	-----	34.4	34.5
599 Eastern State Hospital, Lexington	4.08	3.82	10.70	4.01	-----	34.4	33.0
4-12-0 N. Am.							
377 Dean & Hager, Nicholasville	5.10	4.89	12.33	-----	-----	28.4	31.0
378 Henry Shearrin, Danville	4.04	3.90	11.85	-----	-----	28.4	28.3
379 Bailey W. Newton, Simpsonville	4.12	3.99	11.85	-----	-----	28.4	28.5
3-10-3 (Muriate) N. Am.							
380 McCarley & Richardson, Russellville	3.07	2.94	10.03	3.03	-----	29.0	29.2
381 Western Kentucky State Hospital, Hopkinsville	3.04	2.91	10.00	3.08	-----	29.0	29.2
382 Henry Shearrin, Danville	3.13	3.04	9.70	3.21	-----	29.0	29.1
383 J. W. Davidson, Science Hill	3.42	3.29	8.83	2.46	-----	29.0	27.9
384 W. C. Turner, Greensburg	3.09	3.00	10.00	3.37	-----	29.0	29.6
385 I. K. Miller & Son, Campbellsville	3.23	3.15	9.75	3.39	-----	29.0	29.6
386 Owens Brothers, Russell Springs	3.20	3.11	10.00	2.70	-----	29.0	29.1
387 Kentucky Training Home, Frankfort	3.20	2.98	9.45	3.21	-----	29.0	29.0
388 Morris Brothers, Somerset	2.94	2.66	10.08	3.05	-----	29.0	29.0
728 Caulk Hardware Co., Campbellsville	3.23	3.10	10.70	3.52	-----	29.0	30.8
638 Miller & Cook, Magnolia	3.16	2.99	10.53	3.44	-----	29.0	30.4
898 U. L. Rogers, Columbia	3.35	3.26	11.28	3.51	-----	29.0	31.8
899 Farmers Elevator Co., Franklin	3.32	3.18	10.75	3.71	-----	29.0	31.3
3-9-6 (Muriate) N. Am.							
389 A. G. Miller & Co., Magnolia	3.29	3.08	9.05	5.66	-----	30.8	31.1
390 Lindsey & Reed, Brownsville	3.02	2.84	9.25	5.77	-----	30.8	30.9
391 I. K. Miller & Son, Campbellsville	3.16	3.01	9.60	5.70	-----	30.8	31.5
392 Cook & Moore, Tompkinsville	2.72	2.54	6.90	6.24	-----	30.8	28.0

¹ Excess Muriate equivalent to 1.35 percent potash.

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS.—Continued

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avail- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
North American Fertilizer Co.—Continued							
538 Renfroe Supply Co., Williamsburg	2.56	2.50	10.53	5.34	-----	30.8	31.1
539 Lindsey & Reed, Brownsville	3.04	2.95	7.75	5.99	-----	30.8	29.4
590 Haydon Mill & Grain Co., Lebanon	3.20	3.10	9.80	5.93	-----	30.8	32.1
617 Farmers Supply Co., Monticello	3.08	2.97	10.18	6.10	-----	30.8	32.5
618 Baughman Milling Co., Stanford	3.08	2.97	10.05	5.90	-----	30.8	32.1
729 Allison Shippe, Campbellsville	3.11	3.00	9.45	5.98	-----	30.8	31.5
730 Caulk Hardware Co., Campbellsville	2.98	2.87	9.08	6.32	-----	30.8	31.2
900 M. C. Roberts, South Irvine	2.61	2.50	8.75	7.95	-----	30.8	31.7
901 Rufus Tarter, Norfleet	2.70	2.64	9.60	4.72	-----	30.8	29.6
902 U. L. Rogers, Columbia	3.33	3.31	9.78	6.30	-----	30.8	32.8
3-9-6 (Sulfate) N. Am.							
903 M. C. Roberts, South Irvine	2.14	2.03	7.30	7.20	No ¹	30.8	28.2
2-12-6 (Muriate) N. Am.							
619 Farmers Supply Co., Monticello	2.19	2.08	12.55	6.01	-----	32.4	33.5
656 Farmers Cooperative Store, Owensboro	2.30	2.21	12.88	6.05	-----	32.4	34.1
904 Owen Brothers, Russell Springs	2.08	1.95	11.55	5.77	-----	32.4	31.8
905 D. H. Tate, Monticello	2.20	2.07	12.05	5.98	-----	32.4	32.8
906 Kinnet & Coe, Jamestown	2.28	2.16	12.93	5.76	-----	32.4	33.8
1025 Kirtley Hardware Co., Island	2.26	2.17	12.75	6.46	-----	32.4	34.3
0-14-4 (Muriate) N. Am.							
907 Farmers Supply Co., Monticello	-----	-----	14.30	5.12	-----	26.8	28.3
908 M. C. Roberts, South Irvine	-----	-----	14.58	4.74	-----	26.8	28.2
909 Southern States Cooperative, Glasgow	-----	-----	14.58	5.12	-----	26.8	28.6
1026 Riley Whittle, Smiths Grove	-----	-----	14.65	4.46	-----	26.8	28.0
20% Superphosphate N. Am.							
731 Lindsey & Reed, Brownsville	-----	-----	20.18	-----	-----	26.0	26.2
732 Wilson Produce Co., Columbia	-----	-----	20.15	-----	-----	26.0	26.2
910 Stock Yards Feed & Supply Co., Louisville	-----	-----	20.65	-----	-----	26.0	26.9
911 W. L. Anderson & Sons, Caneyville	-----	-----	20.63	-----	-----	26.0	26.8
1027 Grigsby & Co., Bardstown	-----	-----	20.03	-----	-----	26.0	26.0
Price Chemical Co., Inc., Louisville, Ky.							
6-8-6 (Muriate) Price							
396 Coomer Feed Store, Columbia	6.39	6.30	9.00	6.03	-----	35.6	37.6
397 Hardin County Milling Co., Elizabethtown	6.01	5.91	9.15	5.60	-----	35.6	36.6
398 Kenneth Stewart, North Middletown	5.94	5.83	8.88	5.72	-----	35.6	36.3
540 P. B. Beckett, Flemingsburg	6.00	5.87	8.60	5.82	-----	35.6	36.1
541 Sam R. Lykins & Son, Stanton	6.39	6.23	8.70	6.83	-----	35.6	38.1
542 Monarch Milling Co., Mt. Sterling	6.55	6.40	8.83	6.04	-----	35.6	37.7
6-8-6 (Muriate 3, Sulfate 3) Price							
592 Monarch Milling Co., Mt. Sterling	6.09	5.91	9.30	6.47	Yes	35.6	37.8
600 Experiment Station Farm, Lexington	6.10	5.99	8.08	6.91	Yes	35.6	36.8
4-12-4 (Muriate) Price							
543 D. & M. Feed Store, Central City	4.04	3.93	12.70	5.00	-----	34.4	36.3
4-12-0 Price							
399 Kenneth Stewart, North Middletown	4.73	4.63	12.33	-----	-----	28.4	30.8
3-10-3 (Muriate) Price							
544 Jack Sherley Hardware Co., Edmonton	3.63	3.47	11.20	3.55	-----	29.0	32.3
3-9-6 (Muriate) Price							
545 P. B. Beckett, Flemingsburg	3.82	3.72	9.33	5.77	-----	30.8	32.6
546 Monarch Milling Co., Mt. Sterling	3.46	3.37	10.00	5.35	-----	30.8	32.3
547 Sam R. Lykins & Son, Stanton	2.95	2.79	9.63	6.97	-----	30.8	32.4
913 Monarch Milling Co., Mt. Sterling	2.75	2.52	9.30	6.47	-----	30.8	31.1
914 Hardin County Milling Co., Elizabethtown	3.54	3.27	9.50	6.01	-----	30.8	32.5
915 Hewey Norfleet, Norfleet	3.05	2.77	9.05	6.16	-----	30.8	31.1
1029 Guenther Hardware Co., Owensboro	2.95	2.82	10.03	6.63	-----	30.8	32.6

¹ All muriate.

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS.—Continued

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avail- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
Price Chemical Co.—Continued							
3-9-6 (Muriate 3, Sulfate 3) Price							
548 Caulk Hardware Co., Campbellsville..	3.30	3.08	9.30	6.42	No ¹	30.8	32.2
2-12-6 (Muriate) Price							
400 Caulk Hardware Co., Campbellsville..	2.80	2.63	11.78	7.17	-----	32.4	34.9
401 St. Matthews Produce Exchange, St. Matthews	2.36	2.21	13.83	6.04	-----	32.4	35.4
916 St. Matthews Produce Exchange, St. Matthews	2.01	1.76	13.13	6.01	-----	32.4	33.8
917 J. H. Lyons, Loretto	1.84	1.69	13.45	5.05	-----	32.4	32.9
918 Hewey Norfleet, Norfleet	2.14	1.94	12.00	5.95	-----	32.4	32.6
1030 Hollins-Inler Seed Co., South Union...	2.17	1.99	12.48	7.14	-----	32.4	34.5
1031 Guenther Hardware Co., Owensboro...	2.05	1.90	12.78	6.50	-----	32.4	33.9
0-14-4 (Muriate) with 200# tobacco stems—Price							
640 B. B. Houchens, Glasgow	-----	-----	15.45	3.57	-----	26.8	28.1
20% Superphosphate—Price							
402 Experiment Station Farm, Lexington..	-----	-----	19.23	-----	-----	26.0	25.0
32.50% Ammonium Nitrate							
733 Caulk Hardware Co., Campbellsville...	33.56	-----	-----	-----	-----	65.0	67.1
Ralston Purina Co., St. Louis, Mo.							
5-10-5 (Muriate 2.50, Sulfate 2.50) "Purina Plant Food"							
405 Clell Coleman & Sons, Harrodsburg...	4.83	4.72	10.23	5.18	Yes	35.0	35.1
406 Checkerboard Feed Store, Louisville..	4.90	4.78	10.28	5.31	Yes	35.0	35.5
Schrock Fertilizer Service, Congerville, Illinois							
20% Superphosphate							
919 V. B. Nuckols, Elkton	-----	-----	20.60	-----	-----	26.0	26.8
O. M. Scott & Sons, Marysville, Ohio							
8-7-3 (Muriate) Scott's							
551 Jack Dayton, Louisville	7.77	5.36	7.13	3.47	-----	35.4	35.6
Sears, Roebuck & Co., Chicago, Ill.							
4-12-4 (Muriate) "Garden Master"							
409 Sears, Roebuck & Co., Louisville.....	4.14	3.90	11.95	4.53	-----	34.4	35.2
Spencer Chemical Company, Pittsburg, Kans.							
32.50% Ammonium Nitrate Fertilizer							
410 Ralph Hovious, Hustonville	33.60	-----	-----	-----	-----	65.0	67.2
411 Morris Brothers, Somerset	33.24	-----	-----	-----	-----	65.0	66.5
412 Cecilian Milling Co., Elizabethtown...	33.24	-----	-----	-----	-----	65.0	66.5
413 W. S. Allen, Liberty	33.28	-----	-----	-----	-----	65.0	66.6
414 M. H. Sidwell, Monticello	33.20	-----	-----	-----	-----	65.0	66.4
552 Cecilian Milling Co., Elizabethtown...	33.28	-----	-----	-----	-----	65.0	66.6
553 Earl Miller, Owingsville	33.32	-----	-----	-----	-----	65.0	66.6
658 Guenther Hardware Co., Owensboro...	33.44	-----	-----	-----	-----	65.0	66.6
734 Farmers Feed & Supply Co., London	33.48	-----	-----	-----	-----	65.0	66.9
1034 Cass & Cash, Brodhead	32.52	-----	-----	-----	-----	65.0	67.0
Swift & Co., Plant Food Division, National Stock Yards, Ill.							
6-8-6 (Muriate 3, Sulfate 3) Red Steer							
415 Farmers Supply Co., Harrodsburg....	5.68	5.57	8.95	5.74	No ¹	35.6	35.8
4-12-8 (Muriate) "Brim" or "Red Steer"							
675 Calloway County Soil Improvement Association, Murray	3.93	3.82	11.58	8.62	-----	38.4	38.4
920 Farmers Feed & Supply Co., Arlington	3.41	3.30	12.48	7.69	-----	38.4	37.5
921 Graves County Soil Association, Mayfield	3.98	3.87	11.55	8.77	-----	38.4	38.6

¹ Excess Muriate equivalent to 0.21 percent potash.¹ Excess Muriate equivalent to 1.32 percent potash.

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS.—Continued

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phosphoric acid Available	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
Swift & Co., Plant Food Division—Continued							
4-12-4 (Muriate) "Vigoro Brand"							
416 Bale Hardware & Implement Co., Horse Cave	3.58	3.41	11.40	4.35	-----	34.4	33.2
417 Cecilian Milling Co., Elizabethtown	3.19	3.03	12.98	4.10	-----	34.4	34.1
641 Skimore Hardware Co., Elizabethtown	3.85	3.72	11.95	4.42	-----	34.4	34.5
676 Graves County Soil Association, Mayfield	3.96	3.77	12.05	4.27	-----	34.4	34.7
677 Clinton Hatchery, Clinton	3.89	3.72	12.05	4.23	-----	34.4	34.5
924 Hickman Hardware Co., Hickman	3.76	3.58	11.93	4.56	-----	34.4	34.4
925 L. F. Thurmond, Murray	3.80	3.71	12.18	4.12	-----	34.4	34.3
926 Guenther Hardware Co., Owensboro	3.40	3.23	11.88	4.39	-----	34.4	33.5
4-14-4 (Muriate) Red Steer							
922 Trigg County Trading Co., Cadiz	3.88	3.71	11.95	4.41	-----	34.4	34.5
923 Hickman Hardware Co., Hickman	3.51	3.38	12.58	4.44	-----	34.4	34.6
659 Morganfield Hardware Co., Morganfield	3.15	3.03	12.40	4.35	-----	34.4	33.5
2-12-6 (Muriate) Red Steer							
554 Farmers Feed & Supply Co., Arlington	2.09	2.02	12.00	6.30	-----	32.4	32.9
627 Trigg County Trading Co., Cadiz	1.96	1.80	12.90	6.25	-----	32.4	33.7
660 Morganfield Hardware Co., Morganfield	2.13	1.92	11.83	6.14	-----	32.4	32.6
735 Cayce-Yost Co., Hopkinsville	2.15	1.95	12.08	5.85	-----	32.4	32.7
927 Farmers Supply Co., Danville	1.98	1.79	12.25	6.04	-----	32.4	32.7
928 L. N. Kratzer, Mt. Sterling	1.97	1.82	11.80	6.44	-----	32.4	32.5
929 Farmers Feed & Supply Co., Arlington	2.09	1.88	12.30	5.98	-----	32.4	32.9
930 Hickman Hardware Co., Hickman	2.09	1.89	12.05	6.05	-----	32.4	32.7
Tennessee Chemical Co., Div. Armour & Co., Nashville, Tenn.							
6-8-6 (Muriate) Ox Brand							
473 Sewell & Co., Waterview	5.73	5.48	8.43	6.21	-----	35.6	35.8
4-12-4 (Muriate) Ox Brand							
632 H. W. Duvall Feed Store, Park City	3.73	3.11	11.95	4.06	-----	34.4	33.9
3-9-6 (Muriate) Ox Brand							
633 Sewell & Co., Waterview	2.61	2.42	9.40	5.65	-----	30.8	30.2
2-12-6 (Muriate) Ox Brand							
578 Sewell & Co., Waterview	2.01	1.62	12.80	6.06	-----	32.4	33.4
790 Harralson Seed Co., Owensboro	2.38	2.13	11.88	5.98	-----	32.4	33.0
0-14-4 (Muriate) Ox Brand							
634 Sewell & Co., Waterview	-----	-----	14.68	3.75	-----	26.8	27.4
973 Kuttawa Milling Co., Kuttawa	-----	-----	13.75	3.61	-----	26.8	26.1
974 L. C. Orndorff, Adairville	-----	-----	14.10	3.71	-----	26.8	26.6
975 H. B. McClary, Auburn	-----	-----	13.95	3.80	-----	26.8	26.5
18% Superphosphate Ox Brand							
635 Sewell & Co., Waterview	-----	-----	18.43	-----	-----	23.4	24.0
791 Harralson Feed Co., Owensboro	-----	-----	19.23	-----	-----	23.4	25.0
Tennessee Corporation, New Albany, Ind., Lockland, O.							
5-10-5 (Muriate) "Loma Brand"							
1035 Lester Lynd, Ashland	5.03	4.81	10.33	4.90	-----	35.0	35.4
3-9-6 (Muriate 3, Sulfate 3)							
419 I. K. Miller & Son, Campbellsville	3.07	2.90	9.88	5.98	Yes	30.8	32.0
2-12-6 (Muriate)							
420 Paul Bright, Hardinsburg	1.95	1.85	12.05	6.01	-----	32.4	32.4
421 I. K. Miller & Son, Campbellsville	1.95	1.87	12.38	6.21	-----	32.4	33.0
422 Coomer Feed Store, Columbia	1.97	1.89	12.38	6.01	-----	32.4	32.8
736 I. K. Miller & Son, Campbellsville	2.07	1.95	12.35	5.96	-----	32.4	32.9
737 Farmers Feed Market, Bowling Green	2.01	1.91	12.10	6.09	-----	32.4	32.6
931 Rufus Tarter, Norfleet	2.09	1.36	12.58	5.98	-----	32.4	33.3
1036 Hoagland's Hardware, Sacramento	2.23	2.12	13.95	6.36	-----	32.4	35.6
1037 I. K. Miller & Son, Campbellsville	1.92	1.76	12.05	6.13	-----	32.4	32.4
1038 F. J. Snider Implement Co., Elizabethtown	2.12	1.96	13.00	6.54	-----	32.4	34.4

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS.—Continued

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avail- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
	Tennessee Corporation—Continued						
45% Triple Superphosphate							
593 Bryant's Mill, Caneyville	-----	-----	45.70	-----	-----	58.5	59.4
738 Farmers Feed Market, Bowling Green	-----	-----	45.18	-----	-----	58.5	58.7
1039 Farmers Supply Co., Hodgenville	-----	-----	43.88	-----	-----	58.5	57.0
1040 Farmers Feed Mill, Bowling Green	-----	-----	44.78	-----	-----	58.5	58.2
1041 Lester Lynd, Ashland	-----	-----	45.10	-----	-----	58.5	58.6
Valley Counties of Kentucky Cooperative, Murray, Ky.							
47% Superphosphate							
423 Calloway County Soil Improvement Association, Murray	-----	-----	49.33	-----	-----	61.1	64.1
424 Marshall County Soil Improvement Association, Benton	-----	-----	49.13	-----	-----	61.1	63.9
558 Graves County Soil Association, Mayfield	-----	-----	48.05	-----	-----	61.1	62.5
559 Floyd Harrelson Sweet Feeds, Paducah	-----	-----	48.85	-----	-----	61.1	63.5
Virginia-Carolina Chemical Corporation, Cincinnati, O.							
6-8-6 (Muriate) V-C							
425 G. W. Bowling & Son, Catlettsburg	5.78	5.61	8.95	6.24	-----	35.6	36.5
560 Grayson Milling Co., Grayson	5.52	5.34	8.60	6.22	-----	35.6	35.6
561 Ashland Feed & Seed Co., Ashland	5.65	5.49	9.18	6.10	-----	35.6	36.4
562 Young Lumber Co., Beaver Dam	5.85	5.70	8.40	6.11	-----	35.6	35.9
563 Shelby Feed & Seed Co., Shelbyville	5.96	5.79	8.00	6.27	-----	35.6	35.8
564 The May Grocery Co., West Liberty	5.81	5.64	8.58	6.19	-----	35.6	36.1
6-8-6 (Muriate 3, Sulfate 3) V-C							
426 Stewart & Co., Munfordville	6.21	6.01	8.43	6.21	Yes	35.6	36.8
4-12-8 (Muriate) V-C							
565 Powell-Hackney Grocery Co., Jackson	3.93	3.78	12.13	8.18	-----	38.4	38.6
566 Joe Fister, Lexington	3.97	3.83	12.63	7.81	-----	38.4	38.9
567 Knox County Supply Co., Barbourville	3.91	3.75	12.10	8.48	-----	38.4	38.8
4-12-8 (Muriate 4, Sulfate 4) V-C							
427 Big Four Feed & Impl. Co., Scottsville	4.35	4.19	12.30	8.03	Yes	38.4	39.5
428 Miss Agnes Davis, Russellville	4.30	4.13	12.35	7.97	Yes	38.4	39.4
4-12-4 (Muriate) V-C							
568 Lewis Wholesale Co., Whitesburg	4.01	3.79	12.00	4.24	-----	34.4	34.7
569 Arnold Kincer, Neon	4.10	3.87	12.68	4.41	-----	34.4	35.8
3-9-6 (Muriate) V-C							
429 Carters Cash Market, Edmonton	2.96	2.80	8.90	6.07	-----	30.8	30.7
430 C. G. South, Center	2.86	2.66	8.70	6.26	-----	30.8	30.4
431 Stewart & Co., Munfordville	2.86	2.70	8.95	6.06	-----	30.8	30.5
570 Mountain Wholesale Grocery, Lothair	2.95	2.79	9.70	6.11	-----	30.8	31.7
594 Bell County Supply Co., Middlesboro	2.72	2.58	9.55	6.16	-----	30.8	31.1
739 Bell County Supply Co., Middlesboro	3.00	2.86	9.48	6.08	-----	30.8	31.5
2-12-6 (Muriate) V-C							
432 Hardin County Milling Co., Elizabethtown	2.09	1.85	12.85	6.35	-----	32.4	34.0
433 G. W. Bowling & Son, Catlettsburg	2.07	1.87	12.83	6.21	-----	32.4	33.8
434 U. L. Rogers, Gradyville	2.07	1.88	12.88	6.42	-----	32.4	34.0
435 Miss Agnes Davis, Russellville	2.02	1.77	11.80	6.56	-----	32.4	32.8
436 H. R. Squires, Greensburg	1.99	1.75	12.90	6.11	-----	32.4	33.6
595 Vernon Puckett, Irvine	1.95	1.77	12.58	6.01	-----	32.4	33.0
643 Big Four Feed & Impl. Co., Scottsville	2.03	1.79	12.70	6.02	-----	32.4	33.3
661 Farmers Supply Co., Morganfield	2.42	2.20	12.60	5.77	-----	32.4	33.7
740 U. L. Rogers, Gradyville	1.90	1.72	12.40	6.08	-----	32.4	32.8
936 D. K. Hurt, Elkton	1.98	1.66	12.50	6.42	-----	32.4	33.4
937 George Richardson, Somerset	2.23	1.82	12.13	6.31	-----	32.4	33.3
938 Powell-Hackney Grocery Co., Jackson	1.86	1.65	12.45	6.14	-----	32.4	32.8
939 Hardin County Milling Co., Elizabethtown	2.07	1.76	12.30	6.32	-----	32.4	33.2
1043 R. B. McCollum, Eubank	2.00	1.75	11.90	6.37	-----	32.4	32.7

Manufacturer, brand name, guaranty, and from whom obtained	Nitrogen		Phos- phoric acid Avail- able	Potash	Sulfate guar. met	Index of relative value	
	Total	Water soluble				Guar.	Found
Virginia-Carolina Chemical Corporation—Continued							
0-14-7 (Muriate) V-C							
741 Miss Agnes Davis, Russellville			14.63	6.98		29.8	30.5
940 Miss Agnes Davis, Russellville			15.00	6.61		29.8	30.6
Superphosphate 20%—V-C							
437 U. L. Rogers, Gradyville			20.95			26.0	27.2
438 Stewart & Co., Munfordville			21.18			26.0	27.5
439 H. R. Squires, Greensburg			21.33			26.0	27.7
571 Robinson Implement Co., Princeton			20.80			26.0	27.0
572 Grayson Milling Co., Grayson			20.20			26.0	26.3
573 Carters Cash Market, Edmonton			20.98			26.0	27.3
574 Greenup Milling Co., Greenup			20.93			26.0	27.2
575 Madison Farmers Supply Co., Richmond			20.90			26.0	27.2
644 Big Four Feed & Implement Co., Scottsville			21.08			26.0	27.4
645 Galbraith & Son, Carlisle			20.40			26.0	26.5
742 Miss Agnes Davis, Russellville			21.23			26.0	27.6
743 Knox County Supply Co., Barbourville			20.88			26.0	27.1
941 George Richardson, Somerset			20.25			26.0	26.3
942 Farmers Supply Co., Mt. Sterling			20.60			26.0	26.8
943 Powell-Hackney Grocery, Jackson			20.25			26.0	26.3
944 Shelby Feed & Seed Co., Shelbyville			20.25			26.0	26.3
1044 G. W. Bowling & Sons, Catlettsburg			20.45			26.0	26.6
18% Superphosphate V-C							
576 Bell County Supply Co., Middlesboro			20.40			23.4	26.5
596 Bell County Supply Co., Middlesboro			19.75			23.4	25.7
744 Bell County Supply Co., Middlesboro			19.63			23.4	25.5
16% Nitrate of Soda							
597 Bell County Supply Co., Middlesboro	16.04					48.0	48.1
745 Bell County Supply Co., Middlesboro	16.08					48.0	48.2
33.50% Ammonium Nitrate							
440 G. W. Bowling & Son, Catlettsburg	33.52					67.0	67.0

TABLE 4—ANALYSES OF INSPECTION SAMPLES OF ROCK PHOSPHATE, BONES, BASIC SLAGS, ETC.

Manufacturer, brand name, guaranty, and from who obtained	Nitrogen		Phosphoric acid		Potash		Index of relative value	
	Guar.	Found	Guar.	Found	Guar.	Found	Guar.	Found
The American Agricultural Chem. Co., Cincinnati, O.								
Ground Phosphate Rock								
452 Woodson Lewis & Son, Greensburg	-----	-----	31.00	31.60	-----	-----	15.5	15.8
603 Lancaster Coal & Feed Co., Lancaster	-----	-----	31.00	31.25	-----	-----	15.5	15.6
758 Farmers Supply Co., Somerset	-----	-----	31.00	31.05	-----	-----	15.5	15.5
950 A. T. Hayes & Son Hdw. Co., Glendale	-----	-----	31.00	30.80	-----	-----	15.5	15.4
The Pulverized Manure Co., Chicago 9, Ill.								
2-1-2 "Wizard Brand" Pulverized Sheep Manure								
404 Farmers Supply Co., Danville	2.00	1.86	1.00	1.80	2.00	4.17	15.0	17.1
Robin Jones Phosphate Company, Nashville, Tenn.								
Florida Waste Pond Rock Phosphate								
407 Farmers Supply Co., Danville	-----	-----	22.00	20.55	-----	-----	11.0	10.3
Ruhm Phosphate & Chemical Co., Mt. Pleasant, Tenn.								
Red Seal Brand Ruhm's Phosphate Rock								
408 W. D. Cunningham, Webbs Cross Roads	-----	-----	30.00	29.25	-----	-----	15.0	14.6
549 Seiler's Feed Store, Marion	-----	-----	30.00	28.30	-----	-----	15.0	14.2
550 Yopp Seed Co., Paducah	-----	-----	30.00	28.90	-----	-----	15.0	14.5
Schrock Fertilizer Service, Congerville, Ill.								
Phosphate Rock								
1032 Farmers Cooperative Store, Owensboro	-----	-----	33.00	33.65	-----	-----	16.5	16.8
1033 Farmers Cooperative Store, Owensboro	-----	-----	33.00	32.95	-----	-----	16.5	16.5
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.								
Low Grade Open Hearth Basic Slag								
418 Allison Shippe, Campbellsville	-----	-----	8.00	10.75	-----	-----	8.0	10.8
555 J. W. Hood, Scottsville	-----	-----	8.00	10.40	-----	-----	8.0	10.4
Thompson Sales Co., Montgomery, Ala.								
Florida Waste Pond Phosphate								
557 R. H. Woodcock, Glasgow	-----	-----	18.00	21.50	-----	-----	9.0	10.8
932 Walters & Thompson, Shelbyville	-----	-----	18.00	19.70	-----	-----	9.0	9.9
556 P. V. Hunt Grocery, Auburn	-----	-----	20.00	18.50	-----	-----	10.0	9.3
Thomson Phosphate Co., Chicago 5, Ill.								
"Four Leaf" Powdered Rock Phosphate								
642 Sam Litton, Morehead	-----	-----	30.00	30.90	-----	-----	15.0	15.5
934 Morgan Farmers Store, West Liberty	-----	-----	30.00	31.30	-----	-----	15.0	15.7
935 M. N. Griffin, Eubank	-----	-----	30.00	29.70	-----	-----	15.0	14.9
1042 Lois L. Williams, Scottsville	-----	-----	30.00	28.95	-----	-----	15.0	14.5
"Top Yield" Powdered Rock Phosphate								
933 Taylors Farm Service, Beattyville	-----	-----	31.00	31.30	-----	-----	15.5	15.7

PERRY PUBLISHING COMPANY
PRINTERS TO THE COMMONWEALTH OF KENTUCKY
FRANKFORT, KENTUCKY

4M—10-48