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UNIVERSITY OF KENTUCKY

THOMAS P. COOPER, Director

COMMERCIAL FERTILIZERS IN KENTUCKY IN 1945

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As estimated from reports of manufacturers, 270,479 tons of commercial fertilizer were sold in Kentucky in 1945. This was an increase of about 19 percent over the tonnage in 1944. Of the total tonnage, 180,309 tons were mixed fertilizers and 71,853 tons were superphosphate. In addition, 119,820 tons of 20-percent superphosphate (or equivalent) were distributed by the Production and Marketing Administration, Field Service Branch.

<sup>1</sup>Deceased, January 1, 1946. This bulletin was prepared under the supervision of Bruce Poundstone, who succeeded Mr. Turner as Head of the Department of Feed and Fertilizer Control.

### SALES, BY GRADE, 1945

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 stamp receipts.

TABLE 1.—FERTILIZER SALES, BY GRADE, 1945, REPORTED BY MANUFACTURERS

Other materials	Tons	Mixed fertilizer	Tons
2-12-6.....	49,766	Superphosphate, 20% .....	47,758
3- 9-6.....	47,519	Superphosphate, 18% .....	12,908
6- 8-6.....	37,404	Superphosphate, 19% .....	11,187
4-12-8.....	16,660	Ammonium nitrate .....	5,107
0-14-7.....	11,527	Rock phosphate .....	4,785
4-12-4.....	8,155	Nitrate of soda .....	2,858
3-12-12.....	3,177	Cyanamid .....	2,148
0-12-12.....	1,892	Basic slag .....	1,650
4-12-0.....	1,334	Florida waste phosphate.....	840
5-10-10.....	857	Triple superphosphate .....	245
8- 8-8.....	843	Dried manure .....	245
10-6-4.....	307	Muriate of potash .....	182
0-20-20.....	232	Bone .....	142
3-18-9.....	195	Miscellaneous .....	115
Miscellaneous .....	441		
Total.....	180,309	Total.....	90,170

TABLE 2.—FERTILIZER USED IN KENTUCKY, 1918-1945

Year	Fertilizer purchased <sup>a</sup>	AAA 20-percent superphosphate or equivalent	Total fertilizer
	Tons	Tons	Tons
1918.....	134,000	.....	134,000
1919.....	102,000	.....	102,000
1920.....	88,000	.....	88,000
1921.....	62,131	.....	62,131
1922.....	85,203	.....	85,203
1923.....	90,958	.....	90,958
1924.....	85,000	.....	85,000
1925.....	93,000	.....	93,000
1926.....	91,500	.....	91,500
1927.....	70,000	.....	70,000
1928.....	92,000	.....	92,000
1929.....	93,000	.....	93,000
1930.....	114,000	.....	114,000
1931.....	105,000	.....	105,000
1932.....	55,000	.....	55,000
1933.....	58,000	.....	58,000
1934.....	62,000	.....	62,000
1935.....	73,000	.....	73,000

TABLE 2.—FERTILIZER USED IN KENTUCKY, 1918-1945—Continued

Year	Fertilizer purchased <sup>a</sup>	AAA 20-percent superphosphate or equivalent	Total fertilizer
1936.....	89,000	.....	89,000
1937.....	117,078	18,000	135,078
1938.....	110,201	33,000	143,201
1939.....	119,400	37,000	156,400
1940.....	123,090	41,500	164,590
1941.....	121,975	187,481 <sup>b</sup>	309,456
1942.....	146,416	221,171 <sup>b</sup>	367,587
1943.....	164,016	105,272	269,288
1944.....	246,168	67,000	313,188
1945.....	282,000	119,820 <sup>c</sup>	401,820

<sup>a</sup> Calculated from stamp receipts.

<sup>b</sup> Includes 58,000 tons of 47-percent triple superphosphate in 1941, and 12,367 tons in 1942.

<sup>c</sup> The AAA also distributed 8,800 tons of rock phosphate in 1945.

#### GRADES OF MIXED FERTILIZER IN 1946

Restriction on number and kind of mixed fertilizer grades in effect during the war has been lifted. There has been a definite trend in Kentucky toward higher-analysis fertilizers, and it is hoped this trend will continue.

At a meeting of representatives of the fertilizer industry, Station Agronomists, and members of this Department in November, 1945, manufacturers expressed general satisfaction with the list of grades in force during the war. It is hoped therefore that all manufacturers will cooperate in keeping the number of grades at a minimum and in advocating use of high-grade fertilizer.

This Department has pointed out the saving to the purchaser in use of high-grade fertilizer. Low-grade fertilizer costs more per unit of plant food supplied because the cost of mixing, bags, freight, and other incidental costs are the same per bag for high-grade as for low-grade fertilizer. The saving in using high-grade fertilizer may be shown by an example: 3-9-6 and 4-12-8 have the same ratio (1-3-2) of nitrogen, phosphoric acid, and potash and 1,500 pounds of 4-12-8 fertilizer contain the same amount of plant food as 2,000 pounds of 3-9-6 fertilizer. In buying the higher grade, the purchaser saves freight, bags, and other such costs on 500 pounds of practically inert material.

This Department considers as high-grade any mixed fertilizer containing not less than 20 percent of plant food. All mixed fertilizer

grades sold in Kentucky last year had a minimum of 20 percent of plant food except 3-9-6 and 4-12-0.

Two grades, 2-12-6 and 3-9-6, constituted about 54 percent of the mixed fertilizer sold in Kentucky during 1945. Although 2-12-6 has 20 percent of plant food, it is doubtful whether 2 percent of nitrogen is enough to be of much benefit in many cases where it has been used. Less 3-9-6 and more of higher grades should be used.

### FUNCTIONS OF NITROGEN, PHOSPHORUS, AND POTASSIUM IN PLANT NUTRITION

The percentages of *guaranteed* nutrients present in a commercial mixed fertilizer are printed on the state tag as nitrogen, available phosphoric acid, and potash, in this order. These are the nutrients needed in greatest amount by crops and are most likely to be deficient in soils. Some of the functions of these nutrients are the following:

*Nitrogen* promotes leaf and stem development, produces rapid early growth and, in proper amount, aids in maturing the plant. It adds to the percentage of protein in the plant. In excess it may delay maturity. The principal sources of water-soluble nitrogen in fertilizers are ammonium sulfate, ammonia liquors, sodium nitrate, ammonium nitrate, calcium cyanamid, and urea. The sources of water-insoluble nitrogen are bone, tankage and similar materials. Most of the nitrogen in mixed fertilizers is water soluble.

*Phosphorus* promotes root formation, acts as a balancer of an excess of nitrogen, aids maturity of plants and fruiting, and increases the ratio of grain and fruit to the plant stalk. It is usually present in fertilizers in various forms of calcium and ammonium phosphates. It is guaranteed and reported as phosphoric acid ( $P_2O_5$ ) of which 43.7 percent is phosphorus. Available phosphoric acid is that part of this plant nutrient which is soluble in water and can be readily utilized by plants. The percentage of *available* phosphoric acid in mixed fertilizers and superphosphate is guaranteed and printed on the guaranty tag. The percentage of *total* phosphoric acid in bone, tankage, rock phosphate, basic slag, and similar materials is guaranteed and printed on the guaranty tag.

*Potassium* is usually present in fertilizers as potassium chloride or potassium sulfate and is guaranteed and reported as potash ( $K_2O$ ), of which 83 percent is potassium. It aids in the general growth of the

plant, in resistance to disease, and in the development of sugar and starch; and it improves the quality of the plant and fruit. Potash in fertilizers is soluble in water.

### NEED FOR NITROGEN, PHOSPHORUS, AND POTASSIUM<sup>1</sup>

*Nitrogen.*—Most soils in Kentucky are low in nitrogen. Constant attention must be given to have enough for crops. Enough nitrogen may be furnished by growing legumes and either returning part or all of the top growth to the land or feeding them and returning the manure. If this is not done a nitrogen fertilizer may be used, if the value of the expected crop increase would exceed the cost of the fertilizer. When production of livestock or livestock products is a main farm enterprise and a considerable acreage of legume crops is grown for feed and pasturage, enough nitrogen should be furnished by the legumes for good yields of general field crops.

Fertilizer nitrogen will have most of its effect on the immediate crop. In a seasonable year, on soil needing nitrogen but not lacking phosphorus and potassium, the proper application of nitrogen may give increases as large as the following: corn, 1 bushel for each 2 to 3 pounds applied; wheat, 1 bushel for each 3 pounds applied; tobacco, 6 pounds for each pound applied; and grass hay, 50 pounds for each pound applied. On land capable of giving moderate to high yields without addition of nitrogen, smaller increases than these are to be expected. Nitrogen fertilizers usually are not profitable on meadows and pastures where legumes make up over half the herbage.

*Phosphorus.*—The phosphorus content of most soils is too low for good crop yields. This is true of all soils in Kentucky except part of the soils in the Bluegrass region, particularly in the Inner Bluegrass, and the most productive bottomland soils. It is very profitable to use fertilizer phosphorus on low-phosphorus soils. On low-phosphate land phosphorus should be added in fertilizers at the rate of 20 pounds of phosphoric acid per acre per year. Half this amount should be enough on soils of moderate phosphorus content in the Bluegrass region. None is needed on the high-phosphorus soils of the Inner Bluegrass. The entire quantity for a rotation usually should be applied to the small-grain crop in which the legumes and grasses are seeded. Another application, however, furnishing about 80 pounds of phosphoric acid per acre should be made on tobacco. Also, before a

<sup>1</sup>This and the next two sections were prepared by P. E. Karraker, of the Agronomy Department.

new seeding of alfalfa, an application should be made to furnish 20 pounds per acre of phosphoric acid for each year the crop is to occupy the land. Permanent pastures should be top-dressed every few years with enough phosphorus fertilizer to add 20 pounds of phosphoric acid per acre per year.

*Potassium.*—Most soils in Kentucky are well supplied with potassium but often it does not become available fast enough for large crops. Most of the potassium in crops is in the roots, stalks, stems, and leaves. If these parts of the crop are carefully returned to the soil either as crop residues or as farm manure, fairly good yields of most crops can be produced without using potassium fertilizers. If this is not done, these fertilizers must be used on most soils for continued production of good crops. Tobacco and corn are the first crops to suffer from lack of potassium. Alfalfa is close behind. On soil needing them, both phosphorus and potassium can be used profitably even when crop prices are low.

For most crops, where potassium fertilizer is needed, it should be applied at a rate to supply a total of 25 to 50 pounds of potash per acre during a 3- to 4-year rotation. Usually this can be applied most conveniently on the small grain in the rotation. If this has not been done and potassium deficiency is expected, a potassium fertilizer also should be applied on corn at a rate to furnish 20 to 40 pounds of potash per acre. Also enough potassium fertilizer should be applied on tobacco to supply 50 to 100 pounds of potash per acre unless it is certain that the soil has enough potassium for tobacco. For a new seeding of alfalfa, 20 to 30 pounds of potash should be applied for each year the crop is to occupy the land. On limed land well supplied with phosphorus, it may be profitable to top-dress permanent pasture with a potassium fertilizer every few years at the rate of 10 pounds of potash per acre per year.

#### **SUPPLEMENT MANURE AND TOBACCO STALKS WITH PHOSPHATE**

An application of 10 to 15 tons of average farm manure per acre or 1½ to 2½ tons of tobacco stalks per acre in the rotation will supply the nitrogen and potassium needed for good yields of general farm crops in Kentucky. But as these materials are low in phosphate, 300

pounds per acre of superphosphate should be added except on those soils in the Bluegrass region which have a moderate to high phosphate content.

Nitrogen fertilizers such as ammonium nitrate, ammonium sulfate, and sodium nitrate, are effective when applied to the surface of the soil for small grain, hay, and pasture crops or as side dressings for row crops. They are soluble and are carried into the soil by rain. However, in dry seasons they are most effective for row crops when plowed under or applied at the bottom of the furrow in plowing, but this should be done after the first of April, because nitrogen may be lost by leaching if applied earlier. These fertilizers when placed deep also stimulate growth of seedling weeds much less than when placed shallow.

Phosphorus and potassium are held by the soil where placed and hence are not very effective on the immediate crop unless placed in the soil so as to be easily accessible to plant roots. These fertilizer constituents, unless applied heavily, are much less effective on the immediate crop when mixed with the soil than when concentrated in bands.

### **HOW TO APPLY COMMERCIAL FERTILIZER**

On tobacco, commercial fertilizer, unless applied heavily (more than 800 pounds per acre) is most effective applied in two bands, one on each side of the row, 3 to 4 inches from the row and at least three inches below the surface of the soil. The fertilizer should not come in contact with the roots of the plants when set, and should be deep enough to be in moist soil during dry periods. Special fertilizer attachments to setters apply fertilizers fairly well in this way, or a one-row fertilizer distributor can be used. The application should be made shortly before, during, or soon after setting, except that nitrogen is fairly effective applied later.

When more than 800 pounds is applied, it may be best to apply only 200 or 300 pounds at the row and distribute the rest more uniformly. A more even residual effect of the fertilizer on following crops is obtained in this way. The part not to be applied at the row can be broadcast before plowing and plowed under or applied at the bottom of the furrow in plowing. Attachments to plows to do this can be bought or made. Less preferably, the fertilizer may be broad-

cast after plowing and disked in as deep as possible. This does not place the fertilizer deep enough in dry seasons. If applied after plowing, drilling in deep with a grain drill may be better.

On corn, fertilizer attachments to planters apply fertilizer with satisfactory results up to 200 or 300 pounds per acre at the hill or 500 pounds along the row. When more is applied, stand and growth of the young plants may be injured in dry seasons. For heavier applications, use one of the methods mentioned in the foregoing paragraph.

Refer to Table 3 for conversion of pounds of nitrogen, available phosphoric acid and potash to pounds of various grades of mixed fertilizer and materials.

TABLE 3.—POUNDS OF VARIOUS GRADES OF MIXED FERTILIZER AND MATERIALS REQUIRED TO FURNISH 20 POUNDS OF NITROGEN, AVAILABLE PHOSPHORIC ACID, AND POTASH

Grade	Pounds of fertilizer needed to furnish 20 pounds of—		
	Nitrogen	Available phosphoric acid	Potash
2-12-6 .....	1000	166	333
3-9-6 .....	666	222	333
3-12-12 .....	666	166	166
4-12-4 .....	500	166	500
4-12-8 .....	500	166	250
5-10-10 .....	400	200	200
6-8-6 .....	333	250	333
8-8-8 .....	250	250	250
Superphosphate, 20 percent.....		100	.....
Sodium nitrate, 16 percent.....	125	.....	.....
Ammonium nitrate, 32.50 percent.....	61.5	.....	.....
Sulfate of potash, 48 percent.....		.....	41.7
Muriate of potash, 50 percent.....		.....	40

### RELATION BETWEEN SOIL FERTILITY AND QUALITY OF FEEDS GROWN

How to grow good yields of high-quality food and feed crops, rich in the mineral elements essential for both man and livestock, is one of the great problems of agriculture. Knowledge that infertile, worn-out soil will not return good yields is, of course, nearly as old as farming itself. But the fact that crops grown on soil capable of producing satisfactory yields may be inferior as feed or food because they are deficient in some nutrient element for which they are dependent on the soil, is less generally known and is only beginning to receive the attention it deserves. Experiments have shown that where the soil is



deficient in some essential nutrient, the crops grown, though satisfactory in yield, may nevertheless be inferior as feed, and may lead to unthriftiness of livestock. In Tennessee, for example, legume hay produced on soil where phosphorus was deficient was too low in phosphorus to give the results generally expected of legumes for growing or producing livestock, unless supplemented by some other source of phosphorus. Improvement of the feeding quality of crops is therefore another important reason for use of the proper fertilizers, where needed.

For good yields of high-quality plants the mineral nutrients must not only be present in the soil, but they must be in proper amounts and in available form. Some are required in relatively large amounts; some only in small amount. Nitrogen, phosphorus, potassium, and calcium are required in largest amounts and, of all nutrients, are most likely to be needed as soil amendments; consequently these (except calcium) are the nutrients usually guaranteed in commercial fertilizers. Magnesium, sulfur, iron, manganese, boron, copper, zinc, and probably molybdenum also are essential nutrients of plants but they are needed only in relatively small amounts. Animals need, in addition, iodine, cobalt, sodium, and chlorine, which are obtained from the soil indirectly through feed plants, though sodium and chlorine are supplied chiefly in common salt. Iron, manganese, boron, copper, zinc, iodine, and cobalt become toxic if present in quantities slightly larger than those required. Fluorine, barium, arsenic, lead, and selenium are highly toxic at low percentages.

Present knowledge of the need for "minor elements" in Kentucky soils does not justify general recommendations for inclusion of them in fertilizer mixtures. There are some indications that the application of these nutrients to soils where they are not needed might, in time, do much more harm than good. Best practice seems to favor the use of a minor-element fertilizer only when a definite need for a particular element has been demonstrated. Most Kentucky soils seem, according to our present knowledge, to be supplied with these minor elements for ordinary farm crops, though boron has been found deficient for alfalfa and some fruits in some soils. These crops on these soils has responded to fertilization with borax.

### FARMERS' SAMPLES

Anyone who buys commercial fertilizer in Kentucky 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, if possible, 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 Department 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, tançage, basic slag, and rock phosphate. At the bottom of the tag must be a stamp on which is printed the net weight of the fertilizer in the package and authorization by the Director, of its sale. The estimated value is used for comparing values of fertilizers of different grades, and it should not be confused with the selling price. Selling price cannot be accurately estimated because of the many factors, some of them variable, which are included in it.

#### **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.

#### **POINTS A FARMER SHOULD CONSIDER IN BUYING FERTILIZER**

1. Ascertain the needs of the soil and what will supply them. No fertilizer will give proper results if it does not contain the plant nutrients in which the soil is deficient. If in doubt as to the kind of fertilizer the soil needs, consult the county agent or the Experiment Station.

2. Be guided by the information given on the state guaranty tag.
3. Buy no fertilizer that is not registered and tagged with a state

official tag. If it is not tagged with a state guaranty tag, it is being sold in violation of the law and it should be refused.

4. Buy high-grade fertilizer because plant food comes cheaper in those even though the price per bag is higher than for low-grade fertilizer.

### **POINTS A DEALER SHOULD CONSIDER**

1. Handle no fertilizer that is not registered and tagged with a state guaranty tag at the time of purchase.

2. Handle only high-grade fertilizer—fertilizer that will most economically serve your customers.

3. Buy only from reputable manufacturers who have good records and are complying with the fertilizer law and will assist you in complying with the law.

4. Have definitely in mind the kinds of fertilizer your trade needs, and buy only fertilizers that will meet these needs.

5. Insist that the tags be attached to the bags by the manufacturer when shipment is made. Some manufacturers place tags in the truck or car with the shipment of fertilizer without attaching them to the bags. This often results in confusion and failure to tag at all, as the tags may be misplaced or lost.

### **POINTS A MANUFACTURER SHOULD CONSIDER**

Before a manufacturer sells or offers fertilizer for sale to farmers or dealers in Kentucky, he should carefully consider and comply with the following:

1. Sell or offer no fertilizer for sale in Kentucky until it is registered and labeled according to the requirements of the law so that all concerned will be within the law and properly protected.

2. Every brand must be registered and bear a state official tag showing the manufacturer's guaranty.

3. The state official tag contains the only legal guaranty, and any statements on private tags or containers to the contrary are not within the requirements of the law.

4. No alteration, either by additions or erasures, of the official tag, is permissible under the law, and any alterations made are in violation of the law.

5. All fertilizers must equal or exceed the guaranties made by the manufacturers. An excess of one plant nutrient does not compensate for a deficiency of another.

6. A state official tag must be attached to each and every package of fertilizer. Do not make shipments to dealers or farmers in Kentucky without properly attaching tags, for you would thereby subject your customers to embarrassment in handling fertilizer not labeled according to law.

7. Check weights of ingredients in mixed fertilizers carefully, and mix thoroughly. Prepare as nearly as possible mixtures that will not segregate. Many analyses made by this Department show one nutrient to be considerably above guaranty while another is far below guaranty. This may be caused by insufficient mixing or by segregation.

#### EXPLANATION OF TABLES 4, 5, AND 6

Table 4 gives the standings of the manufacturers as determined by the results of analysis of official samples. Attention is directed to column 2, showing the number of samples equal to guaranty in all respects, and to the next-to-last column at the right, showing the number of deficiencies of more than  $\frac{1}{4}$  of 1 percent (the tolerance allowed in 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.

Table 5 gives the results of analysis of all inspection samples except bone, rock phosphate, and basic slag, which are given in Table 6.

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 *bold-face* type.

TABLE 4.—STANDING OF MANUFACTURERS, BASED ON OFFICIAL SAMPLES ANALYZED IN 1945.

Company	Number of inspection samples	Equal to guaranty in all respects		Nitrogen, phosphoric acid and potash		
		Number	Percent*	Number of analyses made	Deficiencies of more than ¼ of 1%	
					Number	Percent*
American Agricultural Chemical Company.....	72	55	76	175	7	4
American Cyanamid Company.....	7	7	100	7	0	0
Armour Fertilizer Works.....	119	77	65	301	28	9
Louisville Fertilizer Company.....	3	1	.....	7	0	.....
Morris Fertilizer Company.....	4	3	.....	10	2	.....
Tennessee Chemical Company.....	24	13	54	62	7	11
Barrett Division, Allied Chemical and Dye Corporation.....	5	5	100	5	0	0
Buhner Fertilizer Company.....	19	13	68	51	4	8
Bynum Bycolife Company.....	1	0	.....	3	2	.....
Chilean Nitrate Sales Corporation.....	2	2	.....	2	0	.....
Cooperative Fertilizer Service.....	16	15	94	36	1	3
Cumberland Chemical Company.....	26	16	61	61	7	11
Darling and Company.....	1	0	.....	3	1	.....
Davison Chemical Corporation:						
Hopkins Fertilizer Division.....	31	28	90	83	1	1
Read Phosphate Division.....	64	29	45	151	33	22
Federal Chemical Company.....	74	47	64	176	22	12
Hudson Chemical Company.....	6	3	50	15	2	13
International Minerals and Chemical Corporation.....	80	55	69	203	16	8
Knoxville Fertilizer Company.....	52	34	65	119	10	8
North American Fertilizer Company.....	47	26	55	127	12	9
Price Chemical Company.....	38	26	68	102	7	7
Consolidated Chemical Company.....	9	3	33	27	6	22
Ruhm Phosphate and Chemical Company.....	5	4	80	5	1	.....
Robin Jones Phosphate Company.....	2	2	.....	2	0	.....
Swift and Company Fertilizer Works.....	28	24	86	75	0	0
Tennessee Coal, Iron and Railroad Company.....	2	2	.....	2	0	.....
Tennessee Corporation.....	21	17	81	51	2	4
Thompson Sales Company.....	1	1	.....	1	0	.....
Virginia-Carolina Chemical Corporation.....	50	45	90	114	4	3
Totals.....	809	553	68.3	1976	175	8.9

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

**Tables 5 and 6  
follow on pages 16 to 60**

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>The American Agricultural Chemical Co., Cincinnati, O.</b>		
6951 7501	6-8-6 (Muriate)	Ravenna Grocery Co., Ravenna..... Watson Coal and Feed Co., Princeton....
7264	6-8-6 (Muriate 3, Sulfate 3)	Lebanon Carriage and Implement Co., Lebanon .....
6952 6953 7036 7037 7265 7266	4-12-8 (Muriate)	L. C. McLoney and Sons, Cynthiana..... Ravenna Grocery Co., Ravenna..... L. F. Wellman, Louisa..... Mountain Dew Coal Co., Lexington..... W. E. Mansfield, Oakland .....
6954 6955 7267 7268 7269	4-12-8 (Muriate 4, Sulfate 4)	George W. Hill, Covington..... John A. Sheehan, Falmouth..... J. E. Bryant, Scottsville..... J. R. Russell, Hartford..... Carroll County Farm Bureau, Carrollton .....
7270		Bobbitt and Hudson, Paris.....
6956 7038 7271 7272	4-12-4 (Muriate)	L. C. McLoney & Sons, Cynthiana..... Isaac Craig, Mt. Sterling .....
6957 6958 7039 7040	4-12-0	Morris Hardware & Seed Co, Henderson J. H. Fedders & Son, Covington..... Geo. W. Hill, Covington..... John A. Sheehan, Falmouth .....
6959 7041 7042 7043 7044 7273 7274 7275	3-9-6 (Muriate)	Henderson & Hardy Co., Shepherdsville H. W. Smith, Horse Cave..... Geo. W. Hill, Covington..... Isaac Craig, Mt. Sterling..... Henderson & Hardy Co., Shepherdsville Bale Hardware Co., Horse Cave..... L. F. Wellman, Louisa..... C. B. Goering, Hawesville..... W. M. Humphrey, Nuckols..... Lebanon Carriage & Implement Co, Lebanon .....
7276 7277 7278 7279 7280		Raymond Martin, Utica .....
6960 7045 7046	2-12-6 (Muriate)	C. B. Carden, Hartford..... A. G. Miller, Magnolia..... K. E. Pruitt, Halfway .....
		V. R. Sanders, Rocky Hill..... Ravenna Grocery Co., Ravenna..... A. G. Miller, Magnolia..... Baughman Milling Co., Stanford.....



FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
6.09	5.86	8.42	5.98	.....	35.6	36.3	6951
5.70	5.56	9.00	5.66	.....	35.6	35.9	7501
5.89	5.80	8.60	5.80	Yes	35.6	35.9	7264
4.32	4.24	12.10	7.94	.....	38.4	39.1	6952
4.21	4.13	12.35	7.88	.....	38.4	39.1	6953
4.10	4.06	12.15	7.90	.....	38.4	38.7	7036
3.92	3.82	12.20	7.82	.....	38.4	38.3	7037
4.03	3.96	12.52	8.05	.....	38.4	39.1	7265
4.11	3.95	12.47	7.99	.....	38.4	39.2	7266
4.08	4.02	12.57	8.23	No <sup>1</sup>	38.4	39.5	6954
4.08	3.99	12.52	7.95	Yes	38.4	39.1	6955
3.91	3.84	10.60	6.70	No <sup>2</sup>	38.4	35.2	7267
4.09	4.01	12.35	7.99	Yes	38.4	39.0	7268
4.18	4.11	12.57	7.90	Yes	38.4	39.3	7269
4.23	4.16	12.85	8.01	Yes	38.4	39.9	7270
3.76	3.62	12.62	4.25	.....	34.4	34.9	6956
4.20	4.11	12.50	3.88	.....	34.4	35.3	7038
4.12	3.81	12.17	4.44	.....	34.4	35.3	7271
4.25	4.05	12.60	4.12	.....	34.4	35.7	7272
3.98	3.69	12.42	.....	.....	28.4	28.9	6957
3.90	3.57	12.42	.....	.....	28.4	28.7	6958
4.06	3.81	12.70	.....	.....	28.4	29.4	7039
4.05	3.80	12.85	.....	.....	28.4	29.5	7040
2.92	2.85	9.10	5.99	.....	30.8	30.8	6959
2.94	2.83	9.27	5.62	.....	30.8	30.6	7041
3.04	2.94	9.30	6.03	.....	30.8	31.3	7042
3.01	2.89	9.35	5.87	.....	30.8	31.1	7043
3.05	2.91	9.52	5.86	.....	30.8	31.4	7044
3.16	3.09	9.22	6.27	.....	30.8	31.7	7273
2.94	2.84	9.97	5.94	.....	30.8	31.8	7274
3.07	2.99	9.45	6.08	.....	30.8	31.6	7275
3.07	3.01	10.30	6.08	.....	30.8	32.6	7276
3.03	2.95	9.22	5.96	.....	30.8	31.1	7277
3.19	3.10	9.47	6.67	.....	30.8	32.4	7278
3.12	3.04	9.32	6.10	.....	30.8	31.5	7279
3.19	3.10	9.37	6.79	.....	30.8	32.4	7280
2.08	1.98	12.00	6.00	.....	32.4	32.6	6960
1.99	1.87	12.30	5.79	.....	32.4	32.5	7045
2.06	1.95	12.42	6.21	.....	32.4	33.2	7046

<sup>1</sup> Excess muriate equivalent to 3.05 percent potash.

<sup>2</sup> Excess muriate equivalent to .67 percent potash.

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>The American Agricultural Chemical Co.—Continued</b>		
7047	2-12-6 (Muriate)	Davidson & Crawford, Science Hill.....
7048		Woodson Lewis, Greensburg .....
7281		Triplett Store, S. Corbin.....
7583		Caulk Hardware Co., Campbellsville.....
7584		Baugham Milling Co., Stanford.....
7655		J. H. Fedders & Son, Covington.....
7656		A. G. Miller, Magnolia .....
7657		Henderson & Hardy Co., Shepherdsville.....
7658		A. T. Hayes Hardware Co., Glendale....
7659		Denton Hardware Co., Madisonville.....
7744		Clarence Rowland, Owensboro.....
7745		C. B. Carden, Hartford .....
7049	0-14-7 (Muriate)	Davidson & Crawford, Science Hill.....
7050		J. J. Hughes, Campton .....
7282		Lebanon Carriage & Implement Co., Lebanon .....
7585		Woodson Lewis & Son, Greensburg.....
7051	0-12-12 (Muriate)	J. J. Hughes, Campton.....
7052	Superphosphate 20%	Davidson & Crawford, Science Hill.....
7053		Chas. Cornwell & Son, Rothwell.....
7746		Clarence Rowland, Owensboro.....
6961	Superphosphate 18%	Caulk Hardware Co, Campbellsville.....
7054		Lebanon Carriage & Implement Co., Lebanon .....
7055		Davidson & Crawford, Science Hill.....
7056		A. G. Miller, Magnolia .....
7283		C. B. Carden, Hartford.....
7284		A. T. Hayes Hardware Co., Glendale....
7586		Walter & Thompson, Shelbyville.....
7587		Lebanon Carriage & Implement Co., Lebanon .....
7660		Robert James, Franklin .....
7661		A. T. Hayes Hardware Co., Glendale....
7662		Henderson & Hardy Co., Shepherdsville.....
7663		Brown Supply Co., Vine Grove.....
7747		Norris Hardware & Seed Co., Henderson
<b>American Cyanamid Co., New York, N. Y.</b>		
7057	"Aero" Cyanamid Granular	Gentry McCauley, Versailles.....
	20.60%	C. W. Buckner, Pembroke .....
7285		Woodson Lewis & Sons, Greensburg....
7588		Lebanon Carriage & Implement Co., Lebanon .....
7589		A. Bresler, Son & Co., Owensboro.....
7664		H. D. Jones, Glasgow .....
7665		John H. Burba Co., Hodgenville.....
7666		

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
2.06	1.94	12.10	5.98	.....	32.4	32.6	7047
2.06	1.95	12.20	5.88	.....	32.4	32.6	7048
2.11	2.02	12.30	6.37	.....	32.4	33.4	7281
1.91	1.81	12.80	6.08	.....	32.4	33.3	7583
1.94	1.87	12.37	6.36	.....	32.4	33.1	7584
1.85	1.81	12.02	6.21	.....	32.4	32.3	7655
1.94	1.89	12.72	6.58	.....	32.4	33.7	7656
1.92	1.89	12.17	6.30	.....	32.4	32.7	7657
1.93	1.82	12.45	6.50	.....	32.4	33.3	7658
2.12	1.96	12.00	6.42	.....	32.4	33.1	7659
1.89	1.82	11.77	6.16	.....	32.4	32.1	7744
1.93	1.88	12.65	6.53	.....	32.4	33.6	7745
.....	.....	14.42	6.79	.....	29.8	30.1	7049
.....	.....	14.15	7.53	.....	29.8	30.5	7050
.....	.....	14.05	7.32	.....	29.8	30.2	7282
.....	.....	14.40	7.53	.....	29.8	30.8	7585
.....	.....	12.02	12.30	.....	32.4	32.7	7051
.....	.....	19.37	.....	.....	26.0	25.2	7052
.....	.....	19.32	.....	.....	26.0	25.1	7053
.....	.....	20.77	.....	.....	26.0	27.0	7746
.....	.....	18.55	.....	.....	23.4	24.1	6961
.....	.....	18.67	.....	.....	23.4	24.3	7054
.....	.....	18.85	.....	.....	23.4	24.5	7055
.....	.....	19.10	.....	.....	23.4	24.8	7056
.....	.....	19.10	.....	.....	23.4	24.8	7283
.....	.....	19.22	.....	.....	23.4	25.0	7284
.....	.....	18.82	.....	.....	23.4	24.5	7586
.....	.....	19.05	.....	.....	23.4	24.8	7587
.....	.....	18.80	.....	.....	23.4	24.4	7660
.....	.....	19.47	.....	.....	23.4	25.3	7661
.....	.....	19.47	.....	.....	23.4	25.3	7662
.....	.....	20.85	.....	.....	23.4	27.1	7663
.....	.....	19.67	.....	.....	23.4	25.6	7747
21.00	20.51	.....	.....	.....	49.4	50.4	7057
20.92	20.38	.....	.....	.....	49.4	50.2	7285
20.76	20.05	.....	.....	.....	49.4	49.8	7588
20.88	20.08	.....	.....	.....	49.4	50.1	7589
20.52	19.97	.....	.....	.....	49.4	49.3	7664
20.88	20.27	.....	.....	.....	49.4	50.1	7665
20.60	20.02	.....	.....	.....	49.4	49.4	7666

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>Armour Fertilizer Works, Cincinnati, O., Nashville, Tenn., Jeffersonville, Ind.</b>		
7286 7502	"Big Crop" 10-6-4 (Muriate).....	J. S. Whittinghill, Fordsville..... Denton Hardware Co., Madisonville.....
7287 7288 7289 7290 7291 7292	"Big Crop" 6-8-6 (Muriate).....	J. S. Whittinghill, Fordsville..... J. H. Peterson, Hiseville..... McLean County Hardware Co., Calhoun Denton Hardware Co., Madisonville..... Cadiz Hardware Co., Cadiz ..... J. W. Conley, Warsaw.....
6962 7058 7059 7293 7294 7295	Armour's 6-8-6 (Sulfate) .....	J. C. Everett & Co., Maysville..... Carlisle Mill & Supply Co., Carlisle..... Luttrell & Owens, Russell Springs..... W. D. Cunningham, Webbs Cross Roads Scottsville Feed Co., Scottsville..... Hatter Hardware Co., Franklin.....
6963 7060 7061 7062 7296 7503	"Big Crop" 4-12-8 (Muriate) .....	R. A. Wilson Co., Russellville..... Wallace Hardware Co., Central City..... J. H. Nunnery, Prestonsburg..... Louisa Supply Co., Louisa..... J. W. Galloway, Sacramento ..... Clifton Tapp, Corydon.....
6964 6965 7063 7064 7065 7297 7298 7299 7300 7504	Armour's 4-12-8 (Sulfate) .....	J. A. Bennett, Taylorsville..... J. C. Everett & Co., Maysville..... Anderson & Spillman, Danville..... Cogar-Rumley Co., Midway ..... Carlisle Mill & Supply Co., Carlisle..... Scottsville Feed Co, Scottsville..... J. H. Peterson, Hiseville ..... Mrs. Nannie P. Fitschen, Worthville..... Toler Lewis, Jamestown ..... L. D. Flanagan, Russell Springs.....
6966 6967 6968 7301	"Big Crop" 4-12-4 (Muriate).....	Home Fruit Co., Harlan ..... Ravenna Grocery Co., Ravenna ..... M. G. Parman, London ..... Bailey Feed Store, Corinth.....
6969 6970	Armour's 4-12-4 (Sulfate).....	J. C. Everett & Co., Maysville..... Taylor County Supply Co., Campbellsville .....

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
9.38	9.14	6.87	4.10	.....	39.2	39.1	7286
8.66	8.40	7.35	4.10	.....	39.2	38.2	7502
5.35	5.04	9.65	5.49	.....	35.6	35.8	7287
6.03	5.56	8.07	6.30	.....	35.6	36.0	7288
5.94	5.80	8.37	6.50	.....	35.6	36.4	7289
6.25	6.18	8.40	6.17	.....	35.6	36.8	7290
5.94	5.84	8.57	6.03	.....	35.6	36.2	7291
5.76	5.67	9.32	6.00	.....	35.6	36.7	7292
5.95	5.51	8.60	5.99	Yes	35.6	36.2	6962
5.97	5.45	8.65	6.13	Yes	35.6	36.5	7058
6.26	5.40	8.80	6.54	No <sup>1</sup>	35.6	37.6	7059
5.72	5.14	8.95	6.44	No <sup>2</sup>	35.6	36.6	7293
5.90	5.33	8.95	6.24	Yes	35.6	36.8	7294
4.86	4.29	9.67	7.33	No <sup>3</sup>	35.6	36.7	7295
3.79	3.28	12.07	8.29	.....	38.4	38.4	6963
3.82	3.34	12.37	8.11	.....	38.4	38.6	7060
3.98	3.86	12.47	7.92	.....	38.4	38.8	7061
3.95	3.86	13.60	8.05	.....	38.4	40.3	7062
4.39	4.05	11.75	7.76	.....	38.4	38.6	7296
3.75	3.21	12.00	7.90	.....	38.4	37.8	7503
3.96	3.23	12.50	8.16	Yes	38.4	39.1	6964
4.19	3.79	12.02	7.84	Yes	38.4	38.6	6965
3.88	3.35	12.12	8.13	Yes	38.4	38.4	7063
3.85	3.51	12.45	7.37	No <sup>4</sup>	38.4	38.0	7064
4.18	3.62	11.97	7.92	Yes	38.4	38.6	7065
3.86	3.29	12.77	8.64	Yes	38.4	39.7	7297
3.89	3.39	12.20	7.95	Yes	38.4	38.4	7298
3.93	3.49	12.60	7.99	Yes	38.4	39.0	7299
4.22	3.78	11.40	7.30	No <sup>5</sup>	38.4	37.4	7300
3.94	3.05	12.52	8.44	Yes	38.4	39.3	7504
4.44	4.09	12.12	4.01	.....	34.4	35.4	6966
3.99	3.66	11.82	4.19	.....	34.4	34.4	6967
3.98	3.64	11.72	4.33	.....	34.4	34.4	6968
4.19	4.02	12.17	4.66	.....	34.4	35.6	7301
4.29	3.65	12.42	4.38	Yes	34.4	35.9	6969
4.02	3.38	12.42	4.72	No <sup>6</sup>	34.4	35.7	6970

<sup>1</sup> Excess muriate equivalent to 0.18 percent potash.

<sup>2</sup> Excess muriate equivalent to 0.85 percent potash.

<sup>3</sup> Excess muriate equivalent to 1.22 percent potash.

<sup>4</sup> Excess muriate equivalent to 2.71 percent potash.

<sup>5</sup> Excess muriate equivalent to 3.72 percent potash.

<sup>6</sup> Excess muriate equivalent to 0.29 percent potash.

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>Armour Fertilizer Works—Continued</b>		
7066	Armour's 4-12-4 (Sulfate).....	Fountain Run Feed Co., Fountain Run..
7067		Borders Brothers, Lebanon .....
7068		Anderson & Spilman, Danville.....
7069		Carlisle Mill & Supply Co, Carlisle.....
7302		Grobyer Coal & Lumber Co., Carrollton .....
7303	"Big Crop" 3-12-12 (Muriate).....	R. P. Clary, Fullerton.....
7304		L. C. Orndorff, Adairville.....
6971	"Big Crop" 3-9-6 (Muriate) .....	M. G. Parman, London.....
6972		Mt. Vernon Produce Co., Mt. Vernon...
7070		Powell-Hackney Grocery Co., Jackson..
7071		J. H. Nunnery, Prestonsburg.....
7072		McWhorter & Thrasher, Albany.....
7073		Burnside Milling Co., Burnside.....
7305		Lester L. Lynd, Ashland.....
7074	Armour's 3-9-6 (Sulfate).....	Sharpsburg Milling Co., Sharpsburg.....
7075		Taylor County Supply Co., Campbellsville .....
7076		J. J. Carter, Waynesburg.....
7077		Somerset Produce Co., Somerset.....
7306		Lee & Bybee, Cave City.....
7307		W. M. Patton, Oakley.....
7308		Hatter Hardware Co., Franklin.....
7309		Irvington Truck Line, Irvington.....
7310		Walton Feed Mills, Walton.....
7311		Barren County Hardware Co., Glasgow
7312		Upton Hardware Store, Upton.....
7313		Clyde Dean, Augusta .....
7505		Sam Terry, Big Clifty .....
6973	Old Black Joe 2-12-6 (Muriate).....	M. G. Parman, London .....
6974		Mt. Vernon Produce Co., Mt. Vernon...
7078		Stanley York, Jamestown .....
7079		McWhorter & Thrasher, Albany.....
7080		R. A. Wilson Co., Russellville.....
7314		C. E. Martin & Co., Greenville.....
7315		Upton Hardware Co., Upton .....
7316		Jasper Produce Co., Science Hill.....
7317		Walter McGlasson, Horse Cave.....
7318		Jack Harper, Wingo .....
7319		W. C. Dicken, Mentor .....
7320		A. H. Bryson & Son, Walsh.....
7506		Slaughtersville Mercantile Co., Slaughtersville .....

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
3.45	3.07	13.05	5.82	Yes	34.4	36.4	7066
3.25	2.78	13.32	5.07	No <sup>1</sup>	34.4	35.6	7067
3.85	3.09	12.22	4.41	No <sup>2</sup>	34.4	34.8	7068
4.34	3.73	12.82	4.10	Yes	34.4	36.2	7069
4.00	3.52	11.55	4.45	Yes	34.4	34.3	7302
3.04	2.99	13.02	12.11	.....	40.4	41.8	7303
3.24	3.00	10.27	14.46	.....	40.4	41.3	7304
3.08	2.98	9.57	5.98	.....	30.8	31.6	6971
2.93	2.67	9.30	5.67	.....	30.8	30.7	6972
2.97	2.80	9.50	6.00	.....	30.8	31.3	7070
3.09	2.96	9.40	6.15	.....	30.8	31.6	7071
3.04	2.75	9.62	6.09	.....	30.8	31.7	7072
3.06	2.90	9.37	6.34	.....	30.8	31.7	7073
3.15	3.05	9.72	6.05	.....	30.8	32.0	7305
3.13	2.60	9.32	6.05	Yes	30.8	31.5	7074
3.01	2.45	8.62	6.13	Yes	30.8	30.5	7075
3.00	2.45	8.55	6.03	Yes	30.8	30.3	7076
2.93	2.50	9.45	6.11	Yes	30.8	31.3	7077
3.05	2.55	9.27	6.17	Yes	30.8	31.4	7306
3.03	2.49	9.02	6.34	Yes	30.8	31.2	7307
2.65	2.06	10.27	6.67	No <sup>3</sup>	30.8	32.3	7308
3.08	2.44	9.47	6.08	Yes	30.8	31.6	7309
3.09	2.64	9.67	6.21	Yes	30.8	32.0	7310
3.10	2.55	9.07	6.46	Yes	30.8	31.5	7311
2.94	2.44	9.57	5.60	Yes	30.8	31.0	7312
3.05	2.57	9.50	6.19	Yes	30.8	31.7	7313
2.98	2.53	9.42	5.96	Yes	30.8	31.2	7505
2.17	2.09	12.30	6.13	.....	32.4	33.2	6973
1.97	1.76	12.02	6.50	.....	32.4	32.9	6974
2.14	1.73	12.00	6.65	.....	32.4	33.3	7078
2.17	1.80	12.20	6.01	.....	32.4	33.0	7079
2.18	1.79	12.67	6.00	.....	32.4	33.6	7080
1.81	1.46	12.17	6.24	.....	32.4	32.5	7314
1.93	1.76	12.32	6.17	.....	32.4	32.8	7315
2.09	1.92	12.42	6.03	.....	32.4	33.1	7316
1.98	1.81	12.10	6.13	.....	32.4	32.6	7317
1.95	1.63	12.47	6.25	.....	32.4	33.1	7318
2.24	2.09	12.50	6.52	.....	32.4	34.0	7319
2.10	2.02	12.50	6.48	.....	32.4	33.7	7320
1.95	1.61	12.90	6.00	.....	32.4	33.4	7506

<sup>1</sup> Excess muriate equivalent to 0.87 percent potash.

<sup>2</sup> Excess muriate equivalent to 0.39 percent potash.

<sup>3</sup> Excess muriate equivalent to 0.61 percent potash.

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>Armour Fertilizer Works—Continued</b>		
7507	Old Black Joe 2-12-6 (Muriate)	Taylor County Supply Co., Campbellsville .....
7508		Clifton Tapp, Corydon .....
7509		T. E. Clausen, Bonnieville.....
7590		M. G. Parman, London.....
7591		Taylor County Supply Co., Campbellsville .....
7667		Hatter Hardware Co., Franklin.....
7668		J. C. Everett & Co., Maysville.....
7748		Towsend's Store, Dixon.....
7081	"Big Crop" 0-14-7 (Muriate).....	Scottsville Feed Co., Scottsville.....
7082		Taylor County Supply Co., Campbellsville .....
7083		Somerset Produce Co., Somerset.....
7321		W. D. Cunningham, Webbs Cross Roads
7322		L. C. Orndorff, Adairville.....
7323		Sanitary Market, Nortonville .....
7510		Taylor County Supply Co., Campbellsville .....
7669		Scottsville Feed Co, Scottsville.....
7084	"Big Crop" 0-12-12 (Muriate).....	U. L. Rogers, Gradyville.....
7324		J. W. Galloway, Sacramento .....
7325		Hatter Hardware Co., Franklin.....
7670		R. A. Wilson Co., Russellville.....
7671		H. B. McClary, Auburn.....
7085	"Big Crop" Superphosphate 20%	Luttrell & Owens, Russell Springs.....
7086		J. J. Carter, Waynesburg .....
7087		Taylor County Supply Co., Campbellsville .....
7088		U. L. Rogers, Gradyville.....
7089		Anderson & Spilman, Danville.....
7326		Ed. Allen, Smith Grove .....
7327		J. S. Whittinghill, Fordsville.....
7511		G. M. Haycraft & Son, Leitchfield.....
7512		Towsend's Store, Dixon.....
7513		Clifton Tapp, Corydon .....
7592		M. G. Parman, London .....
7593		L. D. Flanagan, Russell Springs.....
7672		Hatter Hardware Co., Franklin.....
7673		Upton Hardware Co., Upton.....
7674		C. E. Martin & Co., Greenville.....
7675		Barren County Hardware Co, Glasgow
7676		J. C. Everett & Co., Maysville.....
7090	Armour's Nitrate of Soda 16%.....	Carlisle Mill & Supply Co., Carlisle.....
7329		Towsend's Store, Dixon.....
6975	Ammonium Nitrate 32.50%.....	J. C. Everett & Co., Maysville.....
7330		Hatter Hardware Co., Franklin.....



FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
2.04	1.83	12.22	6.47	.....	32.4	33.2	7507
1.89	1.60	12.50	5.94	.....	32.4	32.7	7508
2.07	1.86	12.22	6.24	.....	32.4	33.0	7509
2.17	2.08	11.87	6.42	.....	32.4	33.0	7590
2.04	1.85	12.87	6.19	.....	32.4	33.7	7591
2.14	1.79	12.42	6.05	.....	32.4	33.2	7667
2.02	1.97	12.67	5.75	.....	32.4	33.0	7668
2.25	1.96	11.72	6.50	.....	32.4	33.1	7748
.....	.....	14.67	7.00	.....	29.8	30.6	7081
.....	.....	17.07	3.72	.....	29.8	30.2	7082
.....	.....	13.52	7.35	.....	29.8	29.6	7083
.....	.....	14.37	6.93	.....	29.8	30.2	7321
.....	.....	14.02	6.94	.....	29.8	29.8	7322
.....	.....	14.35	6.86	.....	29.8	30.1	7323
.....	.....	14.30	7.09	.....	29.8	30.3	7510
.....	.....	14.65	6.68	.....	29.8	30.3	7669
.....	.....	11.47	12.82	.....	32.4	32.6	7084
.....	.....	12.82	10.63	.....	32.4	32.0	7324
.....	.....	12.20	14.25	.....	32.4	34.9	7325
.....	.....	13.15	11.25	.....	32.4	33.0	7670
.....	.....	12.20	12.98	.....	32.4	33.6	7671
.....	.....	19.97	.....	.....	26.0	26.0	7085
.....	.....	19.50	.....	.....	26.0	25.4	7086
.....	.....	20.02	.....	.....	26.0	26.0	7087
.....	.....	20.02	.....	.....	26.0	26.0	7088
.....	.....	19.72	.....	.....	26.0	25.6	7089
.....	.....	20.97	.....	.....	26.0	27.3	7326
.....	.....	20.32	.....	.....	26.0	26.4	7327
.....	.....	20.57	.....	.....	26.0	26.7	7511
.....	.....	20.85	.....	.....	26.0	27.1	7512
.....	.....	20.60	.....	.....	26.0	26.8	7513
.....	.....	20.02	.....	.....	26.0	26.0	7592
.....	.....	21.67	.....	.....	26.0	28.2	7593
.....	.....	20.05	.....	.....	26.0	26.1	7672
.....	.....	20.17	.....	.....	26.0	26.2	7673
.....	.....	20.97	.....	.....	26.0	27.3	7674
.....	.....	20.95	.....	.....	26.0	27.2	7675
.....	.....	20.32	.....	.....	26.0	26.4	7676
16.24	.....	.....	.....	.....	48.0	48.7	7090
16.12	.....	.....	.....	.....	48.0	48.4	7329
33.56	.....	.....	.....	.....	65.0	67.1	6975
32.60	.....	.....	.....	.....	65.0	65.2	7330

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>The Barrett Div., Allied Chem. &amp; Dye Corporation, New York, N. Y.</b>		
7517	By-product Nitrate of Soda 15%	H. D. Jones, Glasgow .....
7518		Joe Fister, Lexington .....
7092	By-product Nitrate of Soda 14%	Luttrell & Owen, Russell Springs.....
7348		Stewart's Grocery, Horse Cave.....
7349		W. D. Cunningham, Webbs Cross Roads
<b>The Buhner Fertilizer Co., Seymour, Ind.</b>		
7093	Buhner's 3-12-12 (Muriate).....	Springfield Feed & Grain Co., Springfield .....
7350		Beck & Harris, Jamestown .....
7519		Joe Fister, Lexington.....
6976	Buhner's 3-9-6 (Muriate).....	Allison Shippe, Campbellsville .....
7094		Springfield Feed & Grain Co., Springfield .....
7095		U. B. Sellers, Okolona .....
7680		Irvington Truck Line, Irvington.....
7096	Buhner's 2-12-6 (Muriate) .....	Allison Shippe, Campbellsville .....
7097		Beck & Harris, Jamestown .....
7520		Edgewood Feed Store, Louisville.....
7594		Allison Shippe, Campbellsville .....
7595		Roscoe Morris, Somerset .....
7681		U. B. Sellers, Okolona .....
7682		J. H. Hubbard, Leitchfield.....
7098	Buhner's 0-14-7 (Muriate) .....	Allison Shippe, Campbellsville.....
7521		Joe Fister, Lexington .....
7522		Allison Shippe, Campbellsville.....
7596		Roscoe Morris, Somerset .....
7523	Ammonium Nitrate 32.50%.....	Joe Fister, Lexington.....
<b>Bynum Bycolife Co., Charlotte, N. C.</b>		
7351	3-8-7 (Muriate)* .....	J. H. Mitchell & Co., Corbin.....
<b>Chilean Nitrate Sales Corporation, New York 5, N. Y.</b>		
7352	"Champion Brand" Chilean Nitrate of Soda 16%.....	Dairyman's Feed & Supply Co., Mayfield .....
7524		Economy Feed & Seed Store, Murray...
<b>Consolidated Chemical Co., Louisville, Ky.</b>		
7214	Camel Brand 6-8-6 (Muriate).....	Walter Corbin, Owingsville .....
7215		Stockton Brothers, Albany.....
7574		Star Roller Mills, Cloverport .....
7216	Camel Brand 4-12-4 (Muriate)....	Stockton Brothers, Albany.....

\* Not registered.

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
15.72	-----	-----	-----	-----	45.0	47.2	7517
15.40	-----	-----	-----	-----	45.0	46.2	7518
15.28	-----	-----	-----	-----	42.0	45.8	7092
14.60	-----	-----	-----	-----	42.0	43.8	7348
16.12	-----	-----	-----	-----	42.0	48.4	7349
2.75	2.62	12.05	12.18	-----	40.4	40.1	7093
3.27	3.20	13.12	13.40	-----	40.4	43.7	7350
3.38	3.27	12.75	13.68	-----	40.4	43.7	7519
3.57	3.46	9.57	9.86	-----	30.8	36.5	6976
3.61	3.46	10.10	10.10	-----	30.8	37.4	7094
3.52	3.40	9.70	10.12	-----	30.8	36.8	7095
3.39	3.13	8.55	6.77	-----	30.8	31.8	7680
2.07	1.94	12.72	6.11	-----	32.4	33.5	7096
2.03	1.91	12.70	6.09	-----	32.4	33.4	7097
2.25	1.88	12.02	7.17	-----	32.4	34.1	7520
2.11	1.93	11.72	7.73	-----	32.4	34.0	7594
2.19	2.01	11.62	7.03	-----	32.4	33.4	7595
2.16	2.03	12.00	6.47	-----	32.4	33.2	7681
2.18	2.09	12.50	6.53	-----	32.4	33.9	7682
-----	-----	14.20	7.92	-----	29.8	31.0	7098
-----	-----	14.62	7.63	-----	29.8	31.2	7521
-----	-----	13.77	8.29	-----	29.8	30.8	7522
-----	-----	13.42	7.55	-----	29.8	29.7	7596
33.44	-----	-----	-----	-----	65.0	66.9	7523
3.41	3.35	7.00	6.27	-----	30.6	29.5	7351
16.08	-----	-----	-----	-----	48.0	48.2	7352
16.16	-----	-----	-----	-----	48.0	48.5	7524
5.81	5.60	8.30	6.37	-----	35.6	36.0	7214
5.45	5.16	9.35	5.43	-----	35.6	35.6	7215
6.31	6.10	8.87	5.53	-----	35.6	36.8	7574
3.20	2.96	12.47	3.37	-----	34.4	32.7	7216

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>Consolidated Chemical Co.—Continued</b>		
7217 7463	Camel Brand 4-12-4 (Muriate)	Thompson Store, Loretto ..... Star Roller Mills, Cloverport .....
7575	Camel Brand 3-9-6 (Muriate)	Star Roller Mills, Cloverport .....
7218	Camel Brand 3-9-6 (Sulfate)	Thompson Store, Loretto .....
7576	Camel Brand 2-12-6 (Muriate)	Star Roller Mills, Cloverport .....
<b>Cooperative Fertilizer Service, Inc., Richmond, Va.</b>		
7525	6-8-6 (Muriate)	Southern States Somerset Cooperative, Somerset .....
7099 7100 7353	6-8-6 (Muriate 3, Sulfate 3)	Turners Market, Campbellville..... Farmers Supply Co., Monticello..... Carroll County Farm Bureau, Carrollton .....
7354		Southern States Lebanon Cooperative, Lebanon .....
7101	4-12-8 (Muriate)	Southern States Shelbyville Coopera- tive, Shelbyville .....
7102		Farmers Supply Co., Monticello.....
7103 7104	4-12-4 (Muriate)	Turner's Market, Campbellville..... Southern States Shelbyville Coopera- tive, Shelbyville .....
7105 7106	0-12-12 (Muriate)	Farmers Supply Co., Monticello..... Southern States Shelbyville Coopera- tive, Shelbyville .....
7107 7355 7356 7357 7526	Granulated Superphosphate 20%	Caulk Hardware Co., Campbellville.... Mrs. Nannie P. Fitschen, Worthville..... Farmers Supply Co., Monticello..... Carroll County Farm Bureau, Carrollton Yopp Seed Co., Paducah.....
<b>Cumberland Chemical Co., Hopkinsville, Ky.</b>		
7527	Cumberland 8-8-8 (Sulfate)	Cayce-Yost Co., Hopkinsville.....
7358	Cumberland 6-8-6 (Muriate)	Young Hardware Co., Hopkinsville.....
7359	Cumberland 4-12-8 (Muriate)	Sturgis Implement & Hardware Co., Sturgis .....
7360		Elkton Cash Grocery, Elkton .....
7361		Todd County Implement Co, Elkton.....

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
3.97	3.74	11.85	4.42	.....	34.4	34.6	7217
4.16	3.93	12.72	3.99	.....	34.4	35.6	7463
4.71	4.49	9.45	6.29	.....	30.8	35.1	7575
3.22	3.05	10.15	5.70	No <sup>1</sup>	30.8	32.3	7218
2.57	2.34	12.45	6.18	.....	32.4	34.3	7576
5.91	5.80	8.82	5.96	.....	35.6	36.4	7525
6.07	5.98	8.60	6.24	Yes	35.6	36.7	7099
6.06	5.96	8.37	6.33	Yes	35.6	36.5	7100
6.08	5.96	8.47	6.60	No <sup>2</sup>	35.6	36.9	7353
5.99	5.85	9.00	6.13	Yes	35.6	36.9	7354
4.33	4.26	12.10	8.75	.....	38.4	39.9	7101
4.28	4.22	12.40	8.60	.....	38.4	40.0	7102
4.10	4.01	12.55	4.42	.....	34.4	35.7	7103
4.21	4.12	12.00	4.53	.....	34.4	35.4	7104
.....	.....	13.10	10.91	.....	32.4	32.6	7105
.....	.....	12.50	12.83	.....	32.4	33.8	7106
.....	.....	21.07	.....	.....	26.0	27.4	7107
.....	.....	21.27	.....	.....	26.0	27.7	7355
.....	.....	21.15	.....	.....	26.0	27.5	7356
.....	.....	21.25	.....	.....	26.0	27.6	7357
.....	.....	21.30	.....	.....	26.0	27.7	7526
7.84	7.70	8.45	8.51	Yes	41.6	42.3	7527
5.99	5.83	8.55	6.44	.....	35.6	36.7	7358
3.98	3.84	12.40	7.38	.....	38.4	38.2	7359
3.94	3.81	12.17	7.57	.....	38.4	38.1	7360
3.90	3.72	12.52	6.98	.....	38.4	37.8	7361

<sup>1</sup> All potash from muriate.

<sup>2</sup> Excess muriate equivalent to 0.32 percent potash.

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>Cumberland Chemical Co., Hopkinsville, Ky.—Continued</b>		
7528	Cumberland 4-12-8 (Muriate).....	Clark & Vaughn, Clay .....
7529		Smith & Reynolds Co., Slaughters.....
7362	Cumberland 3-9-6 (Muriate).....	Todd County Implement Co., Hopkinsville .....
7363		Cadiz Hardware Co., Cadiz .....
7530		C. G. Davis, Sturgis .....
7531		Economy Feed & Seed Store, Murray..
7364	Cumberland 2-12-6 (Muriate).....	Mose Dunning, Crofton.....
7532		C. G. Davis, Sturgis.....
7683		Economy Feed & Seed Store, Murray....
7684		Cayce-Yost Co., Hopkinsville.....
7365	Cumberland 0-14-7 (Muriate).....	C. W. Buckner, Pembroke.....
7366		H. K. Jones, Sacramento .....
7533		Economy Feed & Seed Store, Murray....
7685		Todd County Implement Co., Elkton....
7686		Economy Feed & Seed Store, Murray....
7367	Cumberland Superphosphate	
	20% .....	Trigg County Trading Co., Cadiz.....
7687		The Planters Hardware Co., Hopkinsville .....
7688		Todd County Implement Co., Elkton....
7750		Fox Hardware Store, Madisonville.....
7534	Imported Ammonium Nitrate	
	32.50% .....	The Planters Hardware Co., Hopkinsville .....
7535	Sulfate of Potash Magnesia	
	21.50% .....	Cayce-Yost Co., Hopkinsville.....
<b>Darling and Company, Chicago, Ill.</b>		
7536	Darling's 3-12-12 (Muriate).....	Cayce-Yost Co., Hopkinsville.....
<b>The Davison Chemical Corporation, New Albany, Ind.</b>		
6977	Hopkins Old Time 6-8-6 (Muriate) .....	Summerhayes Lumber and Coal Co., Paris .....
7108		Climax Roller Mills, Shelbyville.....
7109		Lillard Miles, Nicholasville.....
7110		Blue Grass Produce Co., Carlisle.....
7111		W. S. Allen, Liberty.....
7368		Henderson Feed & Commission Co., Henderson .....
7369		Calvin Richards, Fordsville .....
7597		B. C. Chinn, Paris .....
7598		G. C. McPhetridge, London .....

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
4.13	3.95	11.72	8.18	.....	38.4	38.5	7528
4.09	3.87	12.15	7.04	.....	38.4	37.8	7529
3.56	3.36	9.52	6.36	.....	30.8	32.9	7362
2.94	2.82	9.00	5.87	.....	30.8	30.6	7363
3.10	2.93	9.82	6.85	.....	30.8	32.8	7530
3.25	3.12	9.45	6.13	.....	30.8	32.0	7531
1.99	1.76	12.75	7.22	.....	32.4	34.5	7364
2.00	1.69	11.77	7.50	.....	32.4	33.6	7532
2.36	2.15	12.20	7.04	.....	32.4	34.4	7683
2.22	2.02	12.65	7.01	.....	32.4	34.6	7684
.....	.....	14.07	6.94	.....	29.8	29.8	7365
.....	.....	13.75	6.63	.....	29.8	29.1	7366
.....	.....	14.90	7.04	.....	29.8	30.9	7533
.....	.....	14.62	7.65	.....	29.8	31.2	7685
.....	.....	14.57	6.41	.....	29.8	29.9	7686
.....	.....	21.77	.....	.....	26.0	28.3	7367
.....	.....	20.05	.....	.....	26.0	26.1	7687
.....	.....	21.40	.....	.....	26.0	27.8	7688
.....	.....	20.55	.....	.....	26.0	26.7	7750
33.20	.....	.....	.....	.....	65.0	66.4	7534
.....	.....	.....	22.34	Yes	43.0	44.7	7535
2.88	2.76	12.52	10.98	.....	40.4	39.8	7536
6.10	5.93	8.70	6.08	.....	35.6	36.7	6977
6.11	5.95	8.82	6.39	.....	35.6	37.2	7108
6.29	6.13	8.95	6.00	.....	35.6	37.3	7109
6.19	6.05	8.62	6.26	.....	35.6	37.0	7110
6.30	6.14	8.72	6.30	.....	35.6	37.4	7111
5.79	5.58	8.80	6.19	.....	35.6	36.3	7368
6.61	6.42	8.02	6.50	.....	35.6	37.3	7369
6.10	5.91	8.72	6.48	.....	35.6	37.1	7597
5.74	5.55	9.35	7.28	.....	35.6	38.0	7598

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>The Davison Chemical Corporation, New Albany, Ind.—Continued</b>		
7370	Hopkins Old Time 6-8-6 (Sulfate)	Mrs. Harvey Ward, Munfordville.....
6978	Hopkins Old Time 3-9-6 (Muriate)	Albert Patrick, Williamsburg .....
7112		Lillard Miles, Nicholasville .....
7113		Blue Grass Produce Co., Carlisle.....
7371		G. C. McPhetridge, London .....
7599		G. C. McPhetridge, London.....
7600		Buechel Produce Exchange, Buechel.....
7114	Hopkins Old Time 2-12-6 (Muriate)	Climax Roller Mills, Shelbyville.....
7372		Mrs. Harvey Ward, Munfordville.....
7373		Horace Emmick, Lewisport .....
7374		Duncan & Theiss, La Grange.....
7375		Buechel Produce Exchange, Buechel.....
7537		William P. Miller & Son, Shively.....
7601		G. C. McPhetridge, London .....
7602		Buechel Produce Exchange, Buechel.....
7689		Standard Milling Co., Elkton.....
7751		Henderson Feed & Commission Co., Henderson .....
7603	Hopkins Old Time Super- phosphate 20%	Jewell & Hayden, Bardstown.....
7604		Duncan & Theiss, La Grange.....
7115	Hopkins Old Time Super- phosphate 18%	Climax Roller Mills, Shelbyville.....
7116		Jewell-Hayden Co., Bardstown.....
7376		Morgan & Crenshaw, Georgetown.....
<b>The Davison Chemical Corporation, Nashville, Tenn.</b>		
6979	Read 6-8-6 (Muriate)	Robsinson & Turley, Richmond.....
6980		Hughes Hardware Co., Franklin.....
7117		C. S. Brent Seed Co., Lexington .....
7118		Noah Spears, Franklin .....
7119		Henry Durham, Greensburg .....
7120		Sharpsburg Milling Co., Sharpsburg...
7377		Fulkerson Brothers, Sonora .....
6981	Read 4-12-4 (Muriate)	Robsinson & Turley, Richmond.....
6982		Buckhorn Coal Co., Campbellsville.....
7121		Patterson Brothers, King's Mountain...
7122		Four Brothers, Science Hill .....
7378		Conditt and Johnson, Livermore.....
7379		Noah Spears, Franklin .....
7538		Young Lumber Co., Beaver Dam.....
6983	Read 3-9-6 (Muriate)	Bell County Supply Co, Middlesboro...
6984		Lemons Brothers, Cynthiaia .....



FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
5.84	5.66	9.12	5.93	Yes	35.6	36.6	7370
3.12	2.97	9.52	6.36	.....	30.8	32.0	6978
3.41	3.25	9.25	6.13	.....	30.8	32.1	7112
3.09	2.96	9.30	6.44	.....	30.8	31.8	7113
3.16	3.00	9.95	6.19	.....	30.8	32.5	7371
3.07	2.88	10.55	6.34	.....	30.8	33.1	7599
3.24	3.02	9.80	7.14	.....	30.8	33.4	7600
1.98	1.82	12.22	6.32	.....	32.4	32.9	7114
2.22	1.98	12.45	6.70	.....	32.4	34.1	7372
1.99	1.79	13.02	6.16	.....	32.4	33.8	7373
2.00	1.89	12.12	6.50	.....	32.4	33.0	7374
2.01	1.86	12.57	6.71	.....	32.4	33.8	7375
2.09	1.85	12.47	6.42	.....	32.4	33.6	7537
2.08	1.94	13.45	6.50	.....	32.4	34.8	7601
2.39	2.31	12.20	6.80	.....	32.4	34.2	7602
2.05	1.94	12.40	6.33	.....	32.4	33.3	7689
2.21	2.06	12.55	7.28	.....	32.4	34.8	7751
.....	.....	20.05	.....	.....	26.0	26.1	7603
.....	.....	20.12	.....	.....	26.0	26.2	7604
.....	.....	18.77	.....	.....	23.4	24.4	7115
.....	.....	18.02	.....	.....	23.4	23.4	7116
.....	.....	18.12	.....	.....	23.4	23.6	7376
5.37	5.30	8.10	7.61	.....	35.6	36.1	6979
5.70	5.60	8.67	6.01	.....	35.6	35.8	6980
5.74	5.68	7.70	6.91	.....	35.6	35.6	7117
5.50	4.42	8.57	6.21	.....	35.6	35.5	7118
5.99	5.92	8.00	6.52	.....	35.6	36.1	7119
5.67	5.59	8.55	6.18	.....	35.6	35.8	7120
6.07	5.97	7.85	6.01	.....	35.6	35.6	7377
4.05	3.93	11.82	4.32	.....	34.4	34.6	6981
4.21	4.08	11.50	4.61	.....	34.4	34.8	6982
4.17	4.05	11.50	4.31	.....	34.4	34.5	7121
3.86	3.73	11.57	4.11	.....	34.4	33.7	7122
4.43	4.32	12.05	4.61	.....	34.4	35.9	7378
4.18	4.03	11.70	4.12	.....	34.4	34.5	7379
3.40	3.27	11.57	5.10	.....	34.4	33.8	7538
3.31	3.22	9.10	6.35	.....	30.8	31.9	6983
3.31	3.22	9.12	6.24	.....	30.8	31.8	6984

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>The Davison Chemical Corporation, Nashville, Tenn.—Continued</b>		
7123	Read 3-9-6 (Muriate) .....	Buckhorn Coal Co., Campbellsville.....
7380		J. H. Peterson, Hiseville .....
7381		Trenton Hardware Co., Trenton .....
7382		E. A. Cohen, Greenville.....
7383		Kenneth Cundiff, Columbia .....
7539		Coleman Feed & Supply Co., Marion....
7540		O. M. Holloway, Mayfield .....
7541		Bale Hardware Co., Horse Cave.....
7605		Henry Durham, Greensburg .....
7124	Read 3-9-6 (Sulfate)	Farmers Supply Co., Harrodsburg.....
7125		J. B. Babb, Adairville .....
7126		Haydon Mill & Grain Co., Lebanon.....
7127		Patterson Brothers, King's Mountain....
7384		Noah Spears, Franklin .....
7128	Read 2-12-6 (Muriate) .....	G M. Hedrick, Monticello .....
7129		Four Brothers, Science Hill .....
7385		Kenneth Cundiff, Columbia .....
7386		Cadiz Hardware Co., Cadiz.....
7542		O. M. Holloway, Mayfield .....
7606		W. D. Cunningham, Webbs Cross Roads
7607		Four Brothers, Science Hill .....
7690		Noah Spears, Franklin .....
7691		E. S. Ferril & Son, Buffalo .....
6985	Read 0-14-7 (Muriate) .....	Buckhorn Coal Co., Campbellsville.....
7130		Four Brothers, Science Hill .....
7387		W. S. Allen, Liberty.....
7388		Kenneth Cundiff, Columbia .....
7608		L. D. Flanagan, Russell Springs.....
7609		I. K. Miller & Son, Campbellsville.....
7692		Elkton Cash Grocery, Elkton.....
7693		Noah Spears, Franklin .....
7131	Dayco Granulated Super-phosphate 19% .....	Farmers Supply Co., Harrodsburg.....
7132		P. S. Young, Caneyville.....
7133		L. D. Flanagan, Russell Springs .....
7389		W. D. Cunningham, Webbs Cross Roads
7543		Eldred Hardware Co., Princeton .....
7610		I. K. Miller & Son, Campbellsville.....
7611		Four Brothers, Science Hill.....
7612		L. D. Flanagan, Russell Springs .....
7694		Hughes Hardware Co., Franklin.....
7695		Guenther Hardware Co., Owensboro....
7752		Henderson Feed & Commission Co, Henderson .....

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
3.18	3.08	9.27	6.01	-----	30.8	31.5	7123
2.53	2.42	11.25	5.48	-----	30.8	32.0	7380
3.17	3.09	9.55	6.42	-----	30.8	32.2	7381
3.32	3.23	9.10	6.47	-----	30.8	32.0	7382
3.17	3.10	10.27	6.08	-----	30.8	32.7	7383
3.56	3.42	10.57	5.53	-----	30.8	33.3	7539
3.27	3.16	9.22	6.40	-----	30.8	32.0	7540
2.87	2.71	10.02	5.55	-----	30.8	31.3	7541
3.00	2.92	9.35	6.16	-----	30.8	31.4	7605
3.08	2.89	9.17	5.70	Yes	30.8	30.9	7124
3.47	3.28	9.37	5.00	No <sup>1</sup>	30.8	31.2	7125
3.37	3.26	9.05	6.36	No <sup>2</sup>	30.8	32.0	7126
3.18	2.92	9.00	5.77	Yes	30.8	30.9	7127
3.04	2.80	10.07	5.56	Yes	30.8	31.7	7384
2.65	2.55	11.62	5.95	-----	32.4	33.2	7128
2.99	2.89	11.15	7.56	-----	32.4	34.9	7129
2.03	1.89	12.82	6.38	-----	32.4	33.8	7385
3.35	3.27	9.22	6.08	-----	32.4	31.8	7386
2.21	2.08	10.65	6.04	-----	32.4	31.2	7542
2.39	2.30	11.07	5.79	-----	32.4	31.9	7606
1.98	1.89	12.27	6.10	-----	32.4	32.8	7607
2.11	2.01	11.10	6.01	-----	32.4	31.6	7690
2.07	1.98	11.62	6.03	-----	32.4	32.1	7691
-----	-----	14.02	6.36	-----	29.8	29.2	6985
-----	-----	14.27	6.44	-----	29.8	29.6	7130
-----	-----	13.35	5.91	-----	29.8	28.0	7387
-----	-----	13.95	6.87	-----	29.8	29.6	7388
-----	-----	15.37	7.14	-----	29.8	31.6	7608
-----	-----	15.40	7.17	-----	29.8	31.7	7609
-----	-----	14.17	6.75	-----	29.8	29.8	7692
-----	-----	11.90	7.45	-----	29.8	27.7	7693
-----	-----	18.85	-----	-----	24.7	24.5	7131
-----	-----	18.72	-----	-----	24.7	24.3	7132
-----	-----	17.67	-----	-----	24.7	23.0	7133
-----	-----	19.30	-----	-----	24.7	25.1	7389
-----	-----	19.00	-----	-----	24.7	24.7	7543
-----	-----	19.07	-----	-----	24.7	24.8	7610
-----	-----	20.30	-----	-----	24.7	26.4	7611
-----	-----	19.00	-----	-----	24.7	24.7	7612
-----	-----	19.37	-----	-----	24.7	25.2	7694
-----	-----	19.65	-----	-----	24.7	25.6	7695
-----	-----	19.15	-----	-----	24.7	24.9	7752

<sup>1</sup> Excess muriate equivalent to 0.97 percent potash.

<sup>2</sup> Excess muriate equivalent to 3.16 percent potash.

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>The Davison Chemical Corporation—Continued</b>		
7392	Davco Granulated Super-phosphate 18%	J. B. Hatcher & Co., Park City.....
7134	Nitrate of Soda 16%	Buckhorn Coal Co., Campbellsville.....
7135		J. C. Cook, Tompkinsville.....
7390		Guenther Hardware Co., Owensboro.....
7391	Nitrate of Soda 15%	Elkton Cash Grocery, Elkton.....
<b>Federal Chemical Co., Inc., Louisville, Ky.</b>		
6986	Federal 6-8-6 (Muriate)	Williamsburg Hardware Co., Williamsburg .....
6987		Farmers Supply Co., Pikeville.....
7136		Union Grocery Co., Morehead.....
7137		Thomas Smith, Bulan .....
7394		Stamping Ground Lumber Co., Stamping Ground .....
7395		Peoples Ice & Coal Co., Smiths Grove..
7544		Lewisport Mill Co., Lewisport.....
7545		Campbell's Mill, Kevil .....
7696		Allen & Jenkins, Bowling Green.....
6988	Federal 6-8-6 (Sulfate)	Bourbon Hardware Co., Paris.....
7546		J. B. Barnes, Somerset.....
7396	Federal 4-12-8 (Muriate)	W. M Rhodes & Son, Mayfield.....
7397		John W Whittemore & Co., Hickory.....
6989	Federal 4-12-4 (Muriate)	H. T. Hackney Co., Harlan.....
7138		Scott Grocery, Pikeville .....
7139		Robert James, Franklin .....
7140		Sandy Valley Grocery Co., Ashland.....
7141		J. C. Cook, Tompkinsville .....
7398		Perry O. Farris, Oakley.....
7142	Federal 4-12-0	J. C. Cook, Tompkinsville.....
7143		Four Brothers, Science Hill.....
7399		Vine Street Feed Store, Lexington.....
7400	Federal 3-12-12 (Muriate)	Ross Feed Co., Murray .....
7547		I. L. Hancock, Louisville.....
7548		H. F Asbury, Carlisle .....
6990	Federal 3-9-6 (Muriate)	Williamsburg Hardware Co, Williamsburg .....
6991		Sandy Valley Grocery Co., Paintsville..
7144		McClure-Harper Co., Winchester.....
7145		John P. Fister, Lexington .....
7401		Crowley Brothers Garage, Poole.....
7402		Otis Stevens, Beaver Dam.....
7403		M. T. Riley, Paducah.....
7404		Earl Ward & Son, Paducah.....
7405		H. D. Jones, Glasgow.....

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
.....	.....	18.32	.....	.....	23.4	23.8	7392
16.12	.....	.....	.....	.....	48.0	48.4	7134
16.16	.....	.....	.....	.....	48.0	48.5	7135
16.04	.....	.....	.....	.....	48.0	48.1	7390
15.28	.....	.....	.....	.....	45.0	45.8	7391
5.36	5.09	8.92	5.62	.....	35.6	35.0	6986
6.13	5.91	8.22	6.00	.....	35.6	36.1	6987
5.67	5.50	8.77	6.31	.....	35.6	36.2	7136
6.07	5.86	7.92	6.21	.....	35.6	35.9	7137
5.69	5.53	8.47	6.40	.....	35.6	35.9	7394
5.72	5.54	8.82	5.57	.....	35.6	35.6	7395
5.90	5.74	8.02	6.42	.....	35.6	35.8	7544
5.88	5.61	8.10	5.47	.....	35.6	35.0	7545
4.91	4.62	10.05	6.01	.....	35.6	35.9	7696
5.87	5.69	8.62	6.26	Yes	35.6	36.3	6988
6.21	6.05	8.10	6.16	Yes	35.6	36.3	7546
3.68	3.40	12.22	8.85	.....	38.4	38.9	7396
4.04	3.79	12.40	9.03	.....	38.4	40.0	7397
3.87	3.68	11.42	5.05	.....	34.4	34.5	6989
4.02	3.81	12.62	4.33	.....	34.4	35.5	7138
3.38	2.98	11.82	5.01	.....	34.4	34.0	7139
4.02	3.66	11.57	4.59	.....	34.4	34.5	7140
4.19	3.89	11.92	4.36	.....	34.4	35.0	7141
4.09	3.91	12.02	4.11	.....	34.4	34.7	7398
3.89	3.32	12.02	.....	.....	28.4	28.2	7142
2.73	2.40	13.37	.....	.....	28.4	27.5	7143
3.98	3.54	12.82	.....	.....	28.4	29.3	7399
3.84	3.57	12.52	10.18	.....	40.4	40.9	7400
3.07	2.93	12.00	13.17	.....	40.4	41.7	7547
2.83	2.71	12.12	13.02	.....	40.4	41.2	7548
3.25	3.02	9.75	6.04	.....	30.8	32.2	6990
3.30	3.11	9.32	6.39	.....	30.8	32.2	6991
3.21	3.02	9.25	5.90	.....	30.8	31.4	7144
3.00	2.85	9.10	6.04	.....	30.8	31.0	7145
3.14	2.87	9.80	6.24	.....	30.8	32.3	7401
3.12	2.97	9.67	6.21	.....	30.8	32.1	7402
3.14	2.87	9.85	6.15	.....	30.8	32.3	7403
3.56	3.31	9.07	5.98	.....	30.8	32.0	7404
2.60	2.46	9.95	6.73	.....	30.8	31.9	7405

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>Federal Chemical Co., Inc.—Continued</b>		
7406	Federal 3-9-6 (Muriate)	Peoples Ice & Coal Co., Smiths Grove..
7407		A. B. Beale & Son, Murray.....
7697		Ross Feed Co., Murray.....
6992	Federal 2-12-6 (Muriate)	Moses Supply Co., Richmond.....
6993		Slope Brothers, Jackson.....
7146		Vine Grove Supply Co., Vine Grove.....
7408		Wingo Milling Co., Wingo.....
7409		Grayson County Supply Co., Leitchfield
7549		Crawford-Ferguson Co., Benton .....
7550		Hobert Warner, Nancy .....
7613		U. L. Rogers, Gradyville.....
7614		Hobert Warner, Nancy .....
7699		Crawford-Ferguson Co., Benton .....
7700		E. C. Foltz, Louisville.....
7698		Hall Seed Co., Louisville.....
7147	Federal 0-14-7 (Muriate)	W. M. Webb, Whitley City.....
7148		Four Brothers, Science Hill.....
7410		Crawford-Ferguson Co., Benton .....
7411		O. L. Bristow, Philpot.....
7551		J. B. Barnes, Somerset .....
7701		Hall Seed Co., Louisville.....
7753		Crowley Bros., Poole .....
6994	Federal Superphosphate 20%	Williamsburg Hardware Co.,
		Williamsburg .....
7412		Crawford-Ferguson Co., Benton .....
7552		L. F. Thurmond, Murray .....
7553		Hinkle & Jones, La Center.....
7554		Sedalia Feed Mills, Sedalia .....
7615		Grigsby & Co., Bardstown.....
7616		Hobert Warner, Nancy .....
7617		J. B. Barnes, Somerset.....
7702		Brown Supply Co., Vine Grove.....
7704		Crawford-Ferguson Co., Benton.....
7703	Money Maker Brand Superphosphate 20%	Hall Seed Co., Louisville.....
6995	Federal Superphosphate 18%	Williamsburg Hardware Co.,
		Williamsburg .....
7149		Brown Supply Co., Vine Grove.....
7413		A. B. Beale & Son, Murray.....
7618		J. J. Carter, Waynesburg.....
7150	Nitrate of Soda 16%	John P. Fister, Lexington .....
7414		H. D. Jones, Glasgow.....
7415		Bale Hardware Co., Horse Cave.....
<b>Hutson Chemical Co., Murray, Ky.</b>		
7555	Hutson's 4-12-8 (Muriate)	Yopp Seed Co., Paducah.....
7705		Manufacturer's Warehouse .....

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
3.41	3.22	10.32	5.78	.....	30.8	33.0	7406
3.05	2.89	9.00	6.00	.....	30.8	31.0	7407
3.23	3.12	9.50	6.16	.....	30.8	32.0	7697
2.31	2.03	12.50	6.07	.....	32.4	33.7	6992
2.37	2.14	12.12	6.56	.....	32.4	33.8	6993
2.28	2.13	12.25	6.38	.....	32.4	33.6	7146
2.23	1.98	11.80	6.19	.....	32.4	32.8	7408
2.24	1.98	12.02	6.10	.....	32.4	33.0	7409
2.14	2.02	11.90	6.01	.....	32.4	32.6	7549
2.20	2.03	11.92	6.22	.....	32.4	32.9	7550
2.12	2.06	12.12	6.46	.....	32.4	33.2	7613
1.87	1.74	12.72	6.01	.....	32.4	33.0	7614
2.03	1.69	11.55	6.02	.....	32.4	31.9	7699
2.00	1.90	12.25	6.68	.....	32.4	33.4	7700
2.00	1.80	12.00	6.13	.....	32.4	32.5	7698
.....	.....	13.57	6.97	.....	29.8	29.3	7147
.....	.....	14.05	6.21	.....	29.8	29.1	7148
.....	.....	14.37	7.34	.....	29.8	30.6	7410
.....	.....	13.95	7.06	.....	29.8	29.8	7411
.....	.....	14.07	7.04	.....	29.8	29.9	7551
.....	.....	14.12	6.47	.....	29.8	29.4	7701
.....	.....	13.30	9.42	.....	29.8	31.4	7753
.....	.....	19.85	.....	.....	26.0	25.0	6994
.....	.....	20.67	.....	.....	26.0	26.9	7412
.....	.....	20.22	.....	.....	26.0	26.3	7552
.....	.....	20.27	.....	.....	26.0	26.4	7553
.....	.....	20.02	.....	.....	26.0	26.0	7554
.....	.....	20.00	.....	.....	26.0	26.0	7615
.....	.....	19.65	.....	.....	26.0	25.6	7616
.....	.....	20.15	.....	.....	26.0	26.2	7617
.....	.....	19.70	.....	.....	26.0	25.6	7702
.....	.....	20.87	.....	.....	26.0	27.1	7704
.....	.....	20.62	.....	.....	26.0	26.8	7703
.....	.....	18.07	.....	.....	23.4	23.5	6995
.....	.....	18.50	.....	.....	23.4	24.1	7149
.....	.....	18.92	.....	.....	23.4	24.6	7413
.....	.....	18.02	.....	.....	23.4	23.4	7618
16.16	.....	.....	.....	.....	48.0	48.5	7150
16.08	.....	.....	.....	.....	48.0	48.2	7414
16.12	.....	.....	.....	.....	48.0	48.4	7415
3.66	3.47	12.07	7.86	.....	38.4	37.7	7555
3.91	3.70	14.27	8.10	.....	38.4	41.0	7705

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>Hutson Chemical Co.—Continued</b>		
7556	Hutson's 3-9-6 (Muriate) .....	Dairyman's Feed & Supply Co., Mayfield .....
7557		B. C. Swann, Lynn Grove.....
7558	Hutson's 0-14-7 (Muriate) .....	Kenton Miller, Lynn Grove .....
7559	Hutson's Superphosphate 20%.....	Dairyman's Feed & Supply Co., Mayfield .....
<b>International Minerals &amp; Chemical Corporation, Cincinnati, O., Wales, Tenn.</b>		
7416	8-8-8 (Muriate) .....	John Beard, Crofton .....
6996	6-8-6 (Sulfate) .....	L. C. McLoney & Sons, Cynthiana.....
7151		Lexington Seed Co., Lexington.....
7152		Columbia Building Supply Co., Columbia .....
7417		H. B. Willoughby, Richmond.....
6997	5-10-10 (Muriate) .....	Ingram & Murphy, Campton.....
6998		L. C. McLoney and Sons, Cynthiana.....
7153		Lawson Hardware Co., Greenup.....
7154	5-10-10 (Sulfate) .....	Columbia Building Supply Co., Columbia .....
7418		V. B. Nuckols, Elkton.....
6999	4-12-8 (Muriate) .....	Tony Bezold, Newport .....
7155		Denton Mercantile Co., Hillsboro.....
7156		W. S. Allen, Liberty.....
7419		V. B. Nuckols, Elkton.....
7000	4-12-8 (Muriate 4, Sulfate 4).....	Bourbon Hardware Co., Paris.....
7157		Roy H. Vice, Owingsville.....
7158		Boone Feed Store, Stanford.....
7420		H. B. Willoughby, Richmond.....
7560		Farmers Mill, Clay .....
7001	4-12-4 (Muriate) .....	Harlan Fruit Co., Harlan.....
7002		W. N. Taylor, Pineville.....
7003	4-12-0 .....	L. C. McLoney & Sons, Cynthiana.....
7159		Lawson Hardware Co., Greenup.....
7160		Roy H. Vice, Owingsville.....
7421	3-12-12 (Muriate) .....	W. S. Allen, Liberty.....
7422		J. L. Wilson, Canmer.....
7706		Bi-County Farm Bureau Cooperative, Erlanger .....



## FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
2.86	2.68	9.00	6.13	.....	30.8	30.7	7556
3.01	2.84	9.15	6.29	.....	30.8	31.3	7557
.....	.....	14.22	4.41	.....	29.8	27.5	7558
.....	.....	20.67	.....	.....	26.0	26.9	7559
7.72	7.61	9.27	7.97	.....	41.6	42.5	7416
6.14	6.04	8.60	6.53	Yes	35.6	37.1	6996
5.77	5.66	8.35	6.47	Yes	35.6	36.0	7151
5.42	5.33	9.02	6.24	No <sup>1</sup>	35.6	35.9	7152
5.47	5.40	8.92	6.26	No <sup>2</sup>	35.6	35.9	7417
5.02	4.93	10.42	9.98	.....	40.0	40.5	6997
5.14	5.09	10.62	10.29	.....	40.0	41.3	6998
4.97	4.90	10.32	10.12	.....	40.0	40.4	7153
5.28	5.22	10.35	10.21	Yes	40.0	41.2	7154
5.16	5.08	10.55	10.04	Yes	40.0	41.0	7418
4.10	4.03	12.27	8.42	.....	38.4	39.3	6999
4.10	4.02	12.47	8.48	.....	38.4	39.6	7155
3.89	3.74	12.50	8.49	.....	38.4	39.3	7156
3.71	3.61	12.60	7.32	.....	38.4	37.9	7419
4.11	3.72	12.82	8.38	Yes	38.4	40.0	7000
3.93	3.50	12.72	8.02	Yes	38.4	39.1	7157
3.94	3.64	12.75	8.54	Yes	38.4	39.7	7158
4.11	3.73	12.67	8.57	Yes	38.4	40.0	7420
3.60	3.39	12.37	7.97	Yes	38.4	38.0	7560
4.02	3.94	12.32	4.39	.....	34.4	35.2	7001
3.97	3.81	12.25	4.53	.....	34.4	35.2	7002
4.16	3.89	11.75	.....	.....	28.4	28.4	7003
4.13	3.91	12.00	.....	.....	28.4	28.7	7159
3.79	3.59	10.85	.....	.....	28.4	26.6	7160
3.22	3.20	12.50	11.96	.....	40.4	41.4	7421
3.31	3.26	12.70	11.98	.....	40.4	41.8	7422
3.02	2.97	12.32	11.86	.....	40.4	40.7	7706

<sup>1</sup> Excess muriate equivalent to 0.40 percent potash.

<sup>2</sup> Excess muriate equivalent to 0.39 percent potash.

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>International Minerals and Chemical Corporation—Continued</b>		
7161	3-12-12 (Muriate 6, Sufate 6).....	Lawson Hardware Co., Greenup.....
7162		Roy H. Vice, Owingsville.....
7423		Carroll County Farm Bureau, Carrollton .....
7004	3-9-6 (Muriate) .....	W. N. Taylor, Pineville.....
7005		Harlan Fruit Co., Harlan.....
7163		C. M. Brown, West Somerset.....
7164		Denton Mercantile Co., Hillsboro.....
7424		Cecilian Milling Co., Elizabethtown.....
7425		Caulk Hardware Co., Campbellsville....
7426		J. L. Wilson, Canmer.....
7619		Columbia Building & Supply Co., Columbia .....
7620		Boone Feed Store, Stanford.....
7707		V. B. Nuckols, Elkton.....
7754		M. G. Williams Implement Co., Hopkinsville .....
7006	3-9-6 (Sulfate) .....	L. C. McLoney & Sons, Cynthiana.....
7007		Tony Bezold, Newport.....
7165		Richardson-Stewart Co., Mt. Sterling....
7427		W. S. Allen, Liberty .....
7008	3-9-6 (Muriate 3, Sulfate 3).....	Jop Cash, Brodhead.....
7166		W. S. Allen, Liberty.....
7167		Boone Feed Store, Stanford.....
7009	2-12-6 (Muriate) .....	Jop Cash, Brodhead .....
7168		W. S. Allen, Liberty.....
7169		J. S. Squires, Cane Valley.....
7428		Youtsey Brothers, Alexandria.....
7561		Young Realty Co., Providence.....
7562		Henderson Feed & Commission Co, Henderson .....
7621		Boone Feed Store, Stanford.....
7622		W. S. Allen, Liberty.....
7623		Orville Alexander, West Somerset.....
7708		Youtsey Brothers, Alexandria .....
7709		M. G. Williams Implement Co., Hopkinsville .....
7170	0-14-7 (Muriate) .....	Woodson Lewis, Greensburg .....
7171		Denton Mercantile Co., Hillsboro.....
7172		W. S. Allen, Liberty .....
7429		V. B. Nuckols, Elkton.....
7624		Columbia Building Supply Co., Columbia .....

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
2.94	2.87	12.62	12.35	Yes	40.4	41.4	7161
2.97	2.91	12.70	12.15	Yes	40.4	41.3	7162
3.08	2.98	12.30	11.77	No <sup>1</sup>	40.4	40.7	7423
2.80	2.65	9.97	5.70	.....	30.8	31.3	7004
3.10	2.98	9.25	6.26	.....	30.8	31.6	7005
3.24	3.12	9.32	6.13	.....	30.8	31.8	7163
3.11	3.00	9.37	7.06	.....	30.8	32.5	7164
3.10	2.99	9.82	6.36	.....	30.8	32.3	7424
3.10	2.96	9.57	5.83	.....	30.8	31.5	7425
3.24	3.10	9.35	6.37	.....	30.8	32.1	7426
2.96	2.91	8.52	6.14	.....	30.8	30.3	7619
3.08	3.05	10.37	6.78	.....	30.8	33.4	7620
2.99	2.57	9.72	5.98	.....	30.8	31.6	7707
2.56	2.11	13.22	4.84	.....	30.8	33.8	7754
3.00	2.88	9.00	5.98	Yes	30.8	30.8	7006
3.33	3.22	9.27	6.35	Yes	30.8	32.1	7007
3.20	3.08	9.72	6.11	Yes	30.8	32.2	7165
3.09	3.03	9.32	6.22	Yes	30.8	31.6	7427
3.22	3.12	9.07	6.52	Yes	30.8	31.8	7008
3.03	2.92	9.02	6.91	Yes	30.8	31.8	7166
3.00	2.86	9.17	6.55	Yes	30.8	31.6	7167
2.12	2.03	13.02	6.35	.....	32.4	34.2	7009
2.13	2.01	12.02	6.32	.....	32.4	33.0	7168
2.08	1.98	12.35	6.10	.....	32.4	33.1	7169
2.06	1.96	12.27	6.47	.....	32.4	33.3	7428
2.08	1.81	12.20	5.76	.....	32.4	32.6	7561
2.34	2.11	12.20	5.72	.....	32.4	33.0	7562
1.93	1.87	12.05	6.23	.....	32.4	32.6	7621
1.83	17.0	12.25	6.77	.....	32.4	33.1	7622
2.07	2.00	11.82	6.63	.....	32.4	33.0	7623
1.99	1.93	12.27	5.88	.....	32.4	32.6	7708
2.20	1.89	12.27	7.04	.....	32.4	34.2	7709
.....	.....	13.77	7.87	.....	29.8	30.4	7170
.....	.....	14.02	7.19	.....	29.8	30.0	7171
.....	.....	14.12	7.28	.....	29.8	30.2	7172
.....	.....	13.17	7.76	.....	29.8	29.6	7429
.....	.....	13.02	9.40	.....	29.8	31.0	7624

<sup>1</sup> Excess muriate equivalent to 0.21 percent potash.

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>International Minerals &amp; Chemical Corporation—Continued</b>		
7173	0-12-12 (Muriate) .....	C. M. Brown, West Somerset.....
7430		John Beard, Crofton .....
7431		Columbia Building & Supply Co., Columbia .....
7010	Superphosphate 20% .....	Harlan Fruit Co., Harlan.....
7174		Lawson Hardware Co., Greenup .....
7432		Cecilian Milling Co., Elizabethtown.....
7625		Woodson Lewis & Son, Greensburg.....
7626		Boone Feed Store, Stanford.....
7710		J. L. Wilson, Canmer.....
7711		R. M. Burnett & Son, Vine Grove.....
7712		Youtsey Brothers, Alexandria .....
7713	Canadian Ammonium Nitrate 33.50% .....	L. C. McLoney & Sons, Cynthiana.....
7175	Ammonium Nitrate 32.50%.....	Lawson Hardware Co., Greenup.....
7176		Lexington Seed Co., Lexington.....
7433	Nitrate of Soda 16%.....	Jop' Cash, Brodhead .....
7434	Muriate of Potash 50%.....	Jop Cash, Brodhead .....
<b>Knoxville Fertilizer Co., Knoxville and Nashville, Tenn.</b>		
7011	4-12-4 (Muriate) .....	Jellico Grocery Co., Barbourville.....
7435		Young Hardware Co., Hopkinsville.....
7436		W. H. Brock & Co., Winchester.....
7627		Parker S. Cooper, Monticello.....
7628		C. M. Langdon, Science Hill.....
7629		Kenneth Cundiff, Columbia.....
7630		W. C. Turner, Greensburg.....
7714		John Beard, Crofton .....
7715		H. B. McClary, Auburn .....
7716		Harris Feed Co., Franklin.....
7717		Farmers Feed Market, Bowling Green.....
7177	Knox Pulverized 4-12-0.....	McCauley Brothers Seed Co., Versailles.....
7012	Knox 3-9-6 (Muriate) .....	Jellico Grocery Co., Barbourville.....
7178		C. M. Langdon, Science Hill.....
7179		W. H. Brock & Co., Winchester.....
7013	3-9-6 (Muriate 4, Sulfate 2).....	H. B. McClary, Auburn.....
7014		Bourbon Hardware Co., Paris.....
7180		Harris Feed Co., Franklin.....
7181		Parker S. Cooper, Monticello.....
7182		W. H. Brock & Co., Winchester.....
7437		G. H. Bowles & Son, Glasgow.....

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
.....	.....	12.12	12.24	.....	32.4	32.8	7173
.....	.....	12.40	12.19	.....	32.4	33.1	7430
.....	.....	12.22	12.88	.....	32.4	33.5	7431
.....	.....	19.97	.....	.....	26.0	26.0	7010
.....	.....	20.57	.....	.....	26.0	26.7	7174
.....	.....	18.97	.....	.....	26.0	24.7	7432
.....	.....	21.27	.....	.....	26.0	27.7	7625
.....	.....	20.10	.....	.....	26.0	26.1	7626
.....	.....	21.95	.....	.....	26.0	28.5	7710
.....	.....	21.25	.....	.....	26.0	27.6	7711
.....	.....	19.72	.....	.....	26.0	25.6	7712
33.72	.....	.....	.....	.....	67.0	67.4	7713
33.40	.....	.....	.....	.....	65.0	66.8	7175
33.12	.....	.....	.....	.....	65.0	66.2	7176
16.08	.....	.....	.....	.....	48.0	48.2	7433
.....	.....	.....	51.64	.....	45.0	46.5	7434
4.42	4.32	12.57	4.02	.....	34.4	35.9	7011
3.81	3.65	12.45	4.36	.....	34.4	34.9	7435
4.25	4.13	12.87	4.35	.....	34.4	36.3	7436
4.23	4.10	12.65	4.30	.....	34.4	35.9	7627
4.20	4.07	13.12	4.31	.....	34.4	36.5	7628
3.53	3.38	12.27	4.56	.....	34.4	34.3	7629
4.02	3.90	12.65	4.22	.....	34.4	35.4	7630
3.76	3.59	12.67	4.38	.....	34.4	35.1	7714
3.94	3.79	12.57	4.12	.....	34.4	35.1	7715
3.95	3.81	12.27	4.45	.....	34.4	35.1	7716
3.93	3.77	12.37	4.17	.....	34.4	34.9	7717
3.92	3.70	12.02	.....	.....	28.4	28.3	7177
3.12	3.01	9.02	6.10	.....	30.8	31.2	7012
3.13	3.03	10.07	6.04	.....	30.8	32.4	7178
2.67	2.54	10.97	6.18	.....	30.8	32.7	7179
2.85	2.52	9.85	6.21	No <sup>1</sup>	30.8	31.7	7013
3.55	3.17	9.87	6.16	Yes	30.8	33.1	7014
2.78	2.37	9.72	6.37	Yes	30.8	31.6	7180
3.05	2.71	10.27	6.08	Yes	30.8	32.5	7181
3.35	3.00	10.20	6.16	Yes	30.8	33.1	7182
2.84	2.41	9.55	6.22	Yes	30.8	31.4	7437

<sup>1</sup> Excess muriate equivalent to 0.41 percent potash.

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>Knoxville Fertilizer Co.—Continued</b>		
7438	3-9-6 (Muriate 4, Sulfate 2)	Mrs. Nannie P. Fitscher, Worthville
7439		Greenwell Feed Store, Lebanon
7183	Knox 2-12-6 (Muriate)	Woodson Turner, Greensburg
7184		Parker S. Cooper, Monticello
7440		Grays Hardware Co., Grays
7441		Kenneth Cundiff, Columbia
7631		Parker S. Cooper, Monticello
7632		Kenneth Cundiff, Columbia
7718		E. T. Meador Co., Scottsville
7015	Knox 0-14-7 (Muriate)	H. B. McClary, Auburn
7016		Harris Feed Co., Franklin
7185		Farmers Grain & Produce Co., Springfield
7442		Greenwell Feed Store, Lebanon
7443		C. M. Langdon, Science Hill
7719		Farmers Feed Market, Bowling Green
7720		H. B. McClary, Auburn
7017	Knox Pulverized Super-phosphate 20%	W. H. Brock & Co., Maysville
7186		Woodson Turner, Greensburg
7187		Parker S. Cooper, Monticello
7444		E. T. Meador Co., Scottsville
7445		Stuart's Cash Grocery, Horse Cave
7446		Fayette Seed Co., Lexington
7633		C. M. Langdon, Science Hill
7634		W. C. Turner, Greensburg
7635		Parker S. Cooper, Monticello
7721		E. T. Meador Co., Scottsville
7722		Farmers Feed Market, Bowling Green
7191	Ammonium Nitrate 32.50%	W. H. Brock & Co., Winchester
7189	Nitrate of Soda 16%	Gid Hollingsworth, Tompkinsville
7190		W. H. Brock & Co., Winchester
<b>Louisville Fertilizer Co., Div. Armour &amp; Co., Cincinnati, O., Nashville, Tenn., Jeffersonville, Ind.</b>		
7331	4-12-8 (Muriate)	Yopp Seed Co., Paducah
7514	Louisville 3-9-6 (Muriate)	Ratliff Hardware Co., Princeton
7677	Louisville Superphosphate 20%	Yopp Seed Co., Paducah
<b>Morris Fertilizer Co., Div. Armour &amp; Co., Nashville, Tenn.</b>		
7332	Morris 6-8-6 (Muriate)	Young Lumber Co., Beaver Dam
7333	Morris 4-12-8 (Sulfate)	Young Lumber Co., Beaver Dam
7334	Morris 3-9-6 (Sulfate)	Young Lumber Co., Beaver Dam
7515	Morris Superphosphate 20%	Young Lumber Co., Beaver Dam

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
3.03	2.63	10.37	6.39	Yes	30.8	32.9	7438
2.86	2.43	9.70	6.29	Yes	30.8	31.7	7439
2.01	1.87	12.65	6.02	.....	32.4	33.2	7183
2.27	2.17	12.70	5.80	.....	32.4	33.6	7184
2.06	1.97	13.27	6.03	.....	32.4	34.1	7440
2.09	1.92	12.30	5.88	.....	32.4	32.8	7441
2.12	2.08	13.15	6.52	.....	32.4	34.5	7631
2.08	1.97	12.52	6.29	.....	32.4	33.5	7632
1.93	1.74	12.30	6.05	.....	32.4	32.7	7718
.....	.....	14.05	6.01	.....	29.8	28.9	7015
.....	.....	13.57	6.89	.....	29.8	29.2	7016
.....	.....	14.25	6.81	.....	29.8	29.9	7185
.....	.....	14.02	7.37	.....	29.8	30.2	7442
.....	.....	13.45	6.73	.....	29.8	28.9	7443
.....	.....	14.27	7.87	.....	29.8	31.0	7719
.....	.....	14.22	7.40	.....	29.8	30.5	7720
.....	.....	20.20	.....	.....	26.0	26.3	7017
.....	.....	19.57	.....	.....	26.0	25.4	7186
.....	.....	19.55	.....	.....	26.0	25.4	7187
.....	.....	17.00	.....	.....	26.0	22.1	7444
.....	.....	20.07	.....	.....	26.0	26.1	7445
.....	.....	20.65	.....	.....	26.0	26.9	7446
.....	.....	21.20	.....	.....	26.0	27.6	7633
.....	.....	20.95	.....	.....	26.0	27.2	7634
.....	.....	21.12	.....	.....	26.0	27.5	7635
.....	.....	18.90	.....	.....	26.0	24.6	7721
.....	.....	20.22	.....	.....	26.0	26.3	7722
33.16	.....	.....	.....	.....	65.0	66.3	7191
16.28	.....	.....	.....	.....	48.0	48.8	7189
16.12	.....	.....	.....	.....	48.0	48.4	7190
3.96	3.39	12.32	7.70	.....	38.4	38.4	7331
3.16	2.81	9.80	5.86	.....	30.8	31.9	7514
.....	.....	21.80	.....	.....	26.0	28.3	7677
4.97	4.67	10.70	4.54	.....	35.6	35.3	7332
3.94	3.17	12.32	8.35	No <sup>1</sup>	38.4	39.0	7333
3.21	2.49	10.27	6.61	Yes	30.8	33.4	7334
.....	.....	20.55	.....	.....	26.0	26.7	7515

<sup>1</sup> Excess muriate equivalent to 0.32 percent potash.

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>North American Fertilizer Co., Louisville, Ky.</b>		
7192	N. Am. 6-8-6 (Muriate).....	Browning Coal & Feed Co., Winchester
7193		Luttrell & Owens, Russell Springs.....
7194		E. J. Terry, Jackson.....
7195		Farmers Feed Store, Lexington.....
7259		Ky. State Reformatory, La Grange.....
7260		Feeble-Minded Institute, Frankfort.....
7261		Eastern State Hospital, Lexington.....
7563		Western Kentucky State Hospital, Hopkinsville .....
7564		Farmers Feed Store, Lexington.....
7565		Kentucky Penitentiary, Kuttawa.....
7566		Bryant Milling Co., Caneyville.....
7636		Farmers Supply Co., Monticello.....
7018	N. Am. 6-8-6 (Sulfate).....	I. K. Miller & Son, Campbellsville.....
7196		W. S. Allen, Liberty.....
7447		W. C. Howk, Cynthiana.....
7197	N. Am. 6-8-6 (Muriate 3, Sulfate 3) .....	I. K. Miller & Son, Campbellsville.....
7198		Farmers Feed Store, Lexington.....
7258		Bourbon Hatchery, Paris.....
7448		W. C. Howk, Cynthiana .....
7449	N. Am. 4-12-8 (Muriate).....	R. D. Reynolds, Cave City.....
7262	N. Am. 4-12-4 (Muriate) .....	Central State Hospital, Lakeland.....
7723		Bunton Seed Co., Louisville.....
7199	N. Am. 4-12-0	E. J. Terry, Jackson.....
7567	N. Am. 3-12-12 (Muriate).....	Western Kentucky State Hospital, Hopkinsville .....
7019	N. Am. 3-9-6 (Muriate) .....	Robinson & Turley, Richmond.....
7200		Henry Durham, Greensburg.....
7201		Luttrell & Owens, Russell Springs.....
7568		Young Realty Co., Providence.....
7637	N. Am. 3-9-6 (Sulfate).....	J. J. Carter, Waynesburg .....
7202	N. Am. 2-12-6 (Muriate) .....	Farmers Supply Co., Hodgenville.....
7203		E. J. Terry, Jackson.....
7204		W. D. Cunningham, Webbs Cross Roads
7450		Luttrell & Owens, Russell Springs.....
7569		W. L. Anderson & Son, Caneyville.....
7638		Grigsby & Co., Bardstown .....
7639		Coomer Feed Store, Columbia .....



FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
6.27	6.18	8.75	6.70	.....	35.6	37.7	7192
5.70	5.63	9.00	5.98	.....	35.6	36.2	7193
5.81	5.67	9.15	6.60	.....	35.6	37.2	7194
5.91	5.84	8.82	6.00	.....	35.6	36.4	7195
5.56	5.46	9.02	6.32	.....	35.6	36.3	7259
6.14	6.01	9.00	6.39	.....	35.6	37.5	7260
5.40	5.33	8.00	6.55	.....	35.6	35.0	7261
5.56	5.45	9.10	6.36	.....	35.6	36.4	7563
6.90	6.78	7.97	7.04	.....	35.6	38.4	7564
5.83	5.68	8.90	6.75	.....	35.6	37.1	7565
5.18	5.07	8.70	6.87	.....	35.6	35.7	7566
5.63	5.50	8.52	6.15	.....	35.6	35.6	7636
5.96	5.79	8.85	6.70	Yes	35.6	37.2	7018
5.87	5.74	8.05	6.97	Yes	35.6	36.4	7196
6.10	5.88	8.70	6.98	No <sup>1</sup>	35.6	37.6	7447
6.19	6.06	8.55	6.09	No <sup>2</sup>	35.6	36.7	7197
6.10	5.99	8.72	6.37	No <sup>3</sup>	35.6	37.0	7198
6.03	5.85	9.50	6.32	No <sup>4</sup>	35.6	37.8	7258
6.00	5.90	8.97	6.17	No <sup>5</sup>	35.6	36.9	7448
4.38	4.28	12.02	9.60	.....	38.4	40.8	7449
4.42	4.30	11.87	4.63	.....	34.4	35.7	7262
4.36	4.13	12.27	4.76	.....	34.4	36.2	7723
5.35	5.28	10.35	.....	.....	28.4	29.1	7199
2.89	2.78	12.20	12.67	.....	40.4	41.1	7567
2.95	2.86	10.40	5.98	.....	30.8	32.4	7019
2.89	2.81	9.57	6.05	.....	30.8	31.3	7200
3.18	3.11	9.17	6.60	.....	30.8	32.0	7201
2.99	2.90	9.15	6.25	.....	30.8	31.2	7568
3.00	2.88	9.05	7.02	No <sup>6</sup>	30.8	31.9	7637
1.86	1.77	12.57	6.58	.....	32.4	33.4	7202
1.94	1.86	12.22	6.13	.....	32.4	32.7	7203
2.27	2.18	11.60	6.60	.....	32.4	33.1	7204
2.31	2.23	12.27	6.71	.....	32.4	34.1	7450
1.72	1.65	9.00	6.65	.....	32.4	28.9	7569
2.30	2.17	12.75	6.29	.....	32.4	34.2	7638
2.00	1.88	12.92	5.96	.....	32.4	33.5	7639

<sup>1</sup> Excess muriate equivalent to 2.43 percent potash.

<sup>2</sup> Excess muriate equivalent to 0.60 percent potash.

<sup>3</sup> Excess muriate equivalent to 0.95 percent potash.

<sup>4</sup> Excess muriate equivalent to 0.42 percent potash.

<sup>5</sup> Excess muriate equivalent to 0.47 percent potash.

<sup>6</sup> All potash from muriate.

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>North American Fertilizer Co.—Continued</b>		
7640	N. Amer. 2-12-6 (Muriate).....	J. J. Carter, Waynesburg.....
7724		Farmers Supply Co., Hodgenville.....
7205	N. Am. 0-14-7 (Muriate) .....	Luttrell & Owens, Russell Springs.....
7451		Coomer Feed Store, Columbia.....
7641		Coomer Feed Store, Columbia.....
7581	N. Am. 0-12-12 (Muriate).....	Farmers Supply Co., Monticello .....
7582		Farmers Supply Co., Monticello .....
7020	N. Am. Superphosphate 20%.....	Grigsby & Co., Bardstown.....
7263		Feeble-Minded Institute, Frankfort.....
7642		Grigsby & Co., Bardstown.....
7452	N. Am. Superphosphate 19%.....	Arthur Blackaby, Eminence .....
<b>Price Chemical Co., Louisville, Ky.</b>		
7021	6-8-6 (Muriate) .....	Walters & Thompson, Shelbyville.....
7206		J. H. Lyons, Loretto .....
7255		Agricultural Experiment Station, Lexington .....
7453		G. H. Nunnelley & Co., Georgetown.....
7454		A. C. Roberts, Scottsville.....
7570		W. L. Anderson & Son, Caneyville.....
7256	6-8-6 (Sulfate) .....	Agricultural Experiment Station, Lexington .....
7455		Sherman Bengé, London .....
7022	4-12-8 (Muriate) .....	Caulk Hardware Co., Campbellsville....
7207	4-12-4 (Muriate) .....	Monarch Milling Co., Mt. Sterling.....
7208		Feeders Supply Co., Ashland.....
7209		Perryville Ice & Produce Co., Perryville
7456		Frank J. Murphy, Valley Station.....
7457		Gish Furniture Co., Central City.....
7571		Gish Furniture Co., Central City.....
7023	4-12-0 .....	Lemons Brothers, Cynthiana .....
7024		Caulk Hardware Co., Campbellsville.....
7025	3-9-6 (Muriate) .....	Walters & Thompson, Shelbyville.....
7210		Meade & Co., Paintsville .....
7458		Gish Furniture Co., Central City.....
7459		Triplett Store, South Corbin .....
7460	3-9-6 (Sulfate) .....	R. H. Marrs & Co., Lawrenceburg.....
7211	2-12-6 (Muriate) .....	Monarch Milling Co., Mt. Sterling.....
7212		Noah Hall, Morehead .....
7461		Harralson Feed Store, Owensboro.....
7462		National Farm Store, Inc., Cave City.....
7572		R. Z. Hook, Hardinsburg.....

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
1.91	1.83	12.52	6.05	.....	32.4	32.9	7640
1.79	1.61	12.60	6.16	.....	32.4	32.9	7724
.....	.....	14.25	7.66	.....	29.8	30.8	7205
.....	.....	14.50	7.71	.....	29.8	31.1	7451
.....	.....	14.42	7.77	.....	29.8	31.1	7641
.....	.....	13.00	12.65	.....	32.4	34.3	7581
.....	.....	12.65	12.32	.....	32.4	33.5	7582
.....	.....	19.65	.....	.....	26.0	25.5	7020
.....	.....	20.20	.....	.....	26.0	26.3	7263
.....	.....	18.77	.....	.....	26.0	24.4	7642
.....	.....	20.37	.....	.....	24.7	26.5	7452
5.74	5.42	8.87	6.56	.....	35.6	36.7	7021
6.02	5.72	8.87	5.92	.....	35.6	36.6	7206
6.41	6.18	7.95	6.69	.....	35.6	37.1	7255
5.78	5.46	8.65	6.02	.....	35.6	36.0	7453
6.01	5.80	8.37	6.11	.....	35.6	36.2	7454
6.40	6.28	9.25	6.16	.....	35.6	38.1	7570
5.52	5.25	9.55	6.09	Yes	35.6	36.6	7256
6.17	6.04	8.12	6.62	Yes	35.6	36.7	7455
4.50	4.31	12.32	8.02	.....	38.4	39.8	7022
3.91	3.68	12.02	3.91	.....	34.4	34.2	7207
3.94	3.71	12.02	4.42	.....	34.4	34.7	7208
3.82	3.61	11.95	4.19	.....	34.4	34.2	7209
4.35	4.17	12.10	4.53	.....	34.4	35.8	7456
3.44	3.13	11.52	4.02	.....	34.4	32.7	7457
4.01	3.83	12.67	3.99	.....	34.4	35.2	7571
4.02	3.73	13.30	.....	.....	28.4	30.0	7023
4.09	3.80	12.77	.....	.....	28.4	29.5	7024
3.22	3.00	9.50	6.50	.....	30.8	32.3	7025
3.24	3.08	9.40	6.22	.....	30.8	32.0	7210
3.02	2.81	9.22	6.70	.....	30.8	31.8	7458
3.59	3.37	9.65	7.38	.....	30.8	34.1	7459
3.38	3.16	9.32	6.07	Yes	30.8	32.0	7460
2.42	2.22	12.12	6.10	.....	32.4	33.5	7211
2.47	2.26	13.72	5.77	.....	32.4	35.2	7212
2.51	2.20	12.30	5.88	.....	32.4	33.7	7461
2.49	2.23	13.07	6.98	.....	32.4	35.6	7462
2.54	2.20	12.75	6.01	.....	32.4	34.4	7572

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>Price Chemical Co.—Continued</b>		
7573	2-12-6 (Muriate) .....	W. L. Anderson & Son, Caneyville.....
7643	.....	Walters & Thompson, Shelbyville.....
7644	.....	Caulk Hardware Co., Campbellsville....
7725	.....	A. C. Roberts, Scottsville .....
7726	.....	Harralson's Feed & Seed Store, Owensboro .....
7213	0-14-7 (Muriate) with 200# tobacco stems .....	A. L. Hazle, Hodgenville.....
7645	.....	Caulk Hardware Co., Campbellsville....
7257	Superphosphate 20% .....	Experiment Station Farm, Lexington....
7646	.....	Caulk Hardware Co., Campbellsville....
7727	.....	Harralson's Feed & Seed Store, Owensboro .....
7728	Superphosphate 18% .....	A. C. Roberts, Scottsville.....
<b>Swift and Co., Fertilizer Works, National Stock Yards, Ill.</b>		
7219	Red Steer 4-12-8 (Muriate 4, Sulfate 4) .....	Farmers Supply Co., Danville.....
7466	.....	Millersburg Coal & Lumber Co., Millersburg .....
7467	.....	Stanley Penn, Lexington .....
7220	Red Steer 4-12-4 (Muriate) .....	Dorsey Brothers & Fisher, Carlisle.....
7221	.....	Millersburg Coal & Lumber Co., Millersburg .....
7732	.....	Yopp Feed Co., Paducah.....
7222	Vigoro Brand 4-12-4 (Muriate)....	Corbett Hardware Co., Elizabethtown....
7223	.....	L. N. Kratzer, Mt. Sterling.....
7224	.....	Roscoe Morris, Somerset.....
7225	.....	Robert James, Franklin .....
7226	.....	J. A. Bennett, Bloomfield.....
7227	.....	Jewell-Hayden Co., Bardstown.....
7468	.....	Denton Hardware Co., Madisonville....
7469	.....	Morganfield Hardware Co., Morganfield
7578	.....	J. P. Page & Son, Barlow.....
7228	Red Steer 3-9-6 (Muriate).....	Dorsey Brothers & Fisher, Carlisle.....
7470	.....	Stagg, Brothers, Vanceburg .....
7471	.....	Stanley Penn, Lexington .....
7472	.....	J. H. McClure & Son, Springfield.....
7473	Red Steer 2-12-6 (Muriate).....	Morganfield Hardware Co., Morganfield
7474	.....	Yopp Seed Co., Paducah .....
7755	.....	L. B. Carden, Hartford .....
7756	.....	Yopp Seed Co., Paducah .....
7733	Red Steer 0-14-7 (Muriate) .....	Mose Dunning, Crofton .....

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
1.83	1.66	12.85	5.68	.....	32.4	32.8	7573
2.21	2.02	12.72	6.66	.....	32.4	34.3	7643
2.70	2.50	13.22	5.96	.....	32.4	35.2	7644
2.40	2.21	13.10	5.88	.....	32.4	34.4	7725
2.55	2.37	13.32	5.43	.....	32.4	34.5	7726
.....	.....	14.25	7.34	.....	29.8	30.4	7213
.....	.....	14.47	7.68	.....	29.8	31.0	7645
.....	.....	17.20	.....	.....	26.0	22.4	7257
.....	.....	20.55	.....	.....	26.0	26.7	7646
.....	.....	20.85	.....	.....	26.0	27.1	7727
.....	.....	19.55	.....	.....	23.4	25.4	7728
3.96	3.71	12.05	8.16	Yes	38.4	38.5	7219
3.85	3.62	12.07	8.18	No <sup>1</sup>	38.4	38.4	7466
4.01	3.68	12.37	8.27	Yes	38.4	39.1	7467
4.07	3.70	12.05	4.38	.....	34.4	35.0	7220
3.99	3.67	12.20	4.25	.....	34.4	34.9	7221
4.48	4.24	12.02	4.28	.....	34.4	35.7	7732
4.06	3.80	12.52	4.38	.....	34.4	35.5	7222
4.09	3.85	12.12	4.48	.....	34.4	35.2	7223
3.89	3.63	12.57	4.19	.....	34.4	35.1	7224
3.93	3.67	12.75	4.17	.....	34.4	35.3	7225
4.10	3.87	12.57	4.10	.....	34.4	35.4	7226
3.99	3.71	12.30	4.25	.....	34.4	35.0	7227
3.97	3.70	12.70	4.19	.....	34.4	35.4	7468
4.13	3.87	12.40	4.53	.....	34.4	35.7	7469
4.07	3.80	12.60	4.56	.....	34.4	35.8	7578
2.99	2.81	9.37	6.13	.....	30.8	31.4	7228
3.02	2.81	9.17	6.30	.....	30.8	31.3	7470
2.90	2.66	9.95	6.13	.....	30.8	31.9	7471
2.98	2.78	9.35	6.16	.....	30.8	31.3	7472
2.29	2.08	12.07	6.01	.....	32.4	33.1	7473
2.41	2.22	11.80	6.78	.....	32.4	33.8	7474
1.96	1.82	12.27	6.29	.....	32.4	32.9	7755
2.10	1.96	12.55	6.34	.....	32.4	33.6	7756
.....	.....	14.75	7.35	.....	29.8	31.1	7733

<sup>1</sup> Excess muriate equivalent to 2.25 percent potash.

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>Swift and Co., Fertilizer Works—Continued</b>		
7229	Red Steer Superphosphate 20%	Dorsey Brothers & Fisher, Carlisle.....
7230	Red Steer Superphosphate 18%	Jewell-Hayden Co., Bardstown.....
7579		Yopp Seed Co., Paducah.....
7734		Yopp Seed Co., Paducah.....
<b>Tennessee Chemical Co, Div. Armour &amp; Co., Cincinnati, O., Jeffersonville, Ind., and Nashville, Tenn.</b>		
6950	Ox 10-6-4 (Muriate) .....	V. B. Nuckols, Elkton .....
7335		V. B. Nuckols, Elkton .....
7026	Ox 6-8-6 (Muriate) .....	V. B. Nuckols, Elkton .....
7336		G. M. Hedrick, Monticello.....
7337		Harralson Feed & Seed Store, Owensboro .....
7516		G. M. Hedrick, Monticello.....
7475	Ox 6-8-6 (Sulfate) .....	L. D. Flanagan, Russell Springs.....
7027	Ox 4-12-8 (Muriate) .....	V. B. Nuckols, Elkton.....
7338		Douglass Hardware Co., Murray.....
7339	Ox 4-12-8 (Sulfate) .....	L. D. Flanagan, Russell Springs.....
7340	Ox 4-12-4 (Muriate) .....	G. M. Hedrick, Monticello.....
7341	Ox 3-9-6 (Muriate) .....	M. L. Levy, Pembroke.....
7091	Ox 2-12-6 (Muriate) .....	V. B. Nuckols, Elkton.....
7342		M. L. Levy, Pembroke.....
7343		Douglass Hardware Co., Murray.....
7344		Harralson Feed & Seed Store, Owensboro .....
7678		W. H. Arnold & Co., Madisonville.....
7749		Harralson Feed & Seed Store, Owensboro .....
7679	Ox 0-14-7 (Muriate) .....	V. B. Nuckols, Elkton.....
7028	Ox 0-12-12 (Muriate) .....	V. B. Nuckols, Elkton.....
7345	Ox Superphosphate 20%.....	M. L. Levy, Pembroke.....
7346		Key Brothers, Nortonville .....
7347		Douglass Hardware Co., Murray.....
7476		L. D. Flanagan, Russell Springs.....
<b>Tennessee Corporation, New Albany, Ind.</b>		
7231	6-8-6 (Muriate) .....	Walters & Thompson, Shelbyville.....
7232		Gentry McCauley, Versailles.....
7233		E. J. Terry, Jackson.....
7479		L. B. Carden, Hartford.....

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
.....	.....	20.22	.....	.....	26.0	26.3	7229
.....	.....	17.87	.....	.....	23.4	23.2	7230
.....	.....	18.20	.....	.....	23.4	23.7	7579
.....	.....	18.02	.....	.....	23.4	23.4	7734
7.54	7.19	8.85	4.45	.....	39.2	38.2	6950
9.42	9.22	7.00	4.30	.....	39.2	39.5	7335
3.59	3.24	10.97	6.24	.....	35.6	34.6	7026
5.61	5.32	9.12	5.65	.....	35.6	35.8	7336
6.00	5.75	8.17	5.80	.....	35.6	35.6	7337
5.94	5.75	8.55	6.16	.....	35.6	36.3	7516
5.79	5.13	9.05	6.40	No <sup>1</sup>	35.6	36.8	7475
4.11	3.61	11.82	8.57	.....	38.4	39.0	7027
3.88	3.41	12.57	8.21	.....	38.4	39.1	7338
3.97	3.11	12.47	8.31	Yes	38.4	39.2	7339
3.89	3.55	12.45	4.38	.....	34.4	35.1	7340
2.63	2.40	10.72	5.72	.....	30.8	31.8	7341
2.18	1.81	13.30	6.66	.....	32.4	35.0	7091
2.12	1.79	12.32	6.33	.....	32.4	33.4	7342
1.91	1.61	12.45	5.95	.....	32.4	32.7	7343
2.00	1.70	12.67	6.13	.....	32.4	33.3	7344
1.75	1.33	12.65	6.44	.....	32.4	33.1	7678
2.08	1.73	12.35	6.46	.....	32.4	33.4	7749
.....	.....	14.07	7.19	.....	29.8	30.1	7679
.....	.....	12.00	12.01	.....	32.4	32.4	7028
.....	.....	20.22	.....	.....	26.0	26.3	7345
.....	.....	20.55	.....	.....	26.0	26.7	7346
.....	.....	21.12	.....	.....	26.0	27.5	7347
.....	.....	20.87	.....	.....	26.0	27.1	7476
5.97	5.84	8.02	5.98	.....	35.6	35.5	7231
6.18	6.07	7.77	6.04	.....	35.6	35.7	7232
6.04	5.89	8.12	6.05	.....	35.6	35.9	7233
6.00	5.83	8.80	6.08	.....	35.6	36.6	7479

<sup>1</sup> Excess muriate equivalent to 0.29 percent potash.

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>Tennessee Corporation—Continued</b>		
7234	3-9-6 (Muriate)	Walters & Thompson, Shelbyville.....
7235		I. K. Miller & Son, Campbellsville.....
7236		E. J. Terry, Jackson.....
7480		W. B. Huddleston, Campbellsville.....
7481	2-12-6 (Muriate)	W. R. Kendall, Campbellsville .....
7482		U. L. Rogers, Gradyville.....
7483		W. B. Huddleston, Campbellsville.....
7647		I. K. Miller & Son, Campbellsville.....
7735		The T. J. Turley Co., Owensboro.....
7648	0-14-7 (Muriate)	I. K. Miller & Son, Campbellsville.....
7484	0-12-12 (Muriate)	W. R. Kendall, Campbellsville .....
7649		I. K. Miller & Son, Campbellsville.....
7736		The T. J. Turley Co., Owensboro.....
7237	Superphosphate 20%	Blair Grocery Co., West Liberty.....
7238		I. K. Miller & Son, Campbellsville.....
7485		I. K. Miller & Son, Campbellsville.....
7486		L. B. Carden, Hartford.....
<b>Virginia-Carolina Chemical Corporation, Cincinnati, O., and Mt. Pleasant, Tenn.</b>		
7029	V-C 6-8-6 (Muriate)	Woodford Spears & Sons, Paris.....
7030		Knox County Supply Co., Barbourville
7239		Young Lumber Co., Beaver Dam.....
7487		Dyche Jones, London.....
7488		G. H. Nunnely, Georgetown .....
7489		J. H. Greene, Lexington .....
7240	V-C 4-12-8 (Muriate)	Scottsville Feed Co., Scottsville.....
7490		Dyche Jones, London .....
7241	V-C 4-12-8 (Muriate 2, Sulfate 6)	Farmers Supply Co., Eminence .....
7491		Miss Agnes Davis, Russellville.....
7242	V-C 4-12-4 (Muriate)	Salyersville Grocery Co., Salyersville....
7243		Mountain Wholesale Co., Lothair.....
7492		J. H. Greene, Lexington .....
7031	V-C 4-12-0	Madison Farmers Supply Co., Richmond .....
7032		Woodford Spears & Son, Paris.....
7244		Tuxedo Feed Store, Lexington.....
7033	V-C 3-9-6 (Muriate)	Bell County Supply Co., Middlesboro....
7034		Knox County Supply Co., Barbourville
7493		U. L. Rogers, Gradyville .....
7494		Stewart & Co., Munfordville.....



FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
3.24	3.11	9.02	6.08	.....	30.8	31.4	7234
3.21	3.08	8.97	6.30	.....	30.8	31.5	7235
3.19	3.06	9.07	6.42	.....	30.8	31.7	7236
3.04	2.75	10.62	7.43	.....	30.8	34.3	7480
2.00	1.93	12.20	6.94	.....	32.4	33.6	7481
2.11	1.94	12.12	6.19	.....	32.4	33.0	7482
2.00	1.88	12.37	6.97	.....	32.4	33.8	7483
1.99	1.77	12.17	6.08	.....	32.4	32.7	7647
2.00	1.80	12.47	6.24	.....	32.4	33.2	7735
.....	.....	14.02	7.16	.....	29.8	30.0	7648
.....	.....	13.72	6.87	.....	32.4	29.3	7484
.....	.....	12.47	11.86	.....	32.4	32.8	7649
.....	.....	12.67	11.57	.....	32.4	32.8	7736
.....	.....	20.70	.....	.....	26.0	26.9	7237
.....	.....	20.50	.....	.....	26.0	26.7	7238
.....	.....	20.85	.....	.....	26.0	27.1	7485
.....	.....	21.37	.....	.....	26.0	27.8	7486
5.97	5.89	8.67	6.09	.....	35.6	36.4	7029
6.17	6.01	8.20	6.47	.....	35.6	36.7	7030
5.72	5.56	9.07	5.88	.....	35.6	36.2	7239
6.29	6.05	8.27	6.39	.....	35.6	36.9	7487
6.02	5.82	8.52	6.35	.....	35.6	36.6	7488
6.02	5.87	8.27	6.57	.....	35.6	36.5	7489
4.07	3.92	12.40	8.26	.....	38.4	39.3	7240
4.39	4.16	12.25	8.52	.....	38.4	40.0	7490
4.18	4.03	12.45	8.17	No <sup>1</sup>	38.4	39.5	7241
4.15	4.03	12.60	8.21	Yes	38.4	39.6	7491
4.16	3.89	12.77	4.00	.....	34.4	35.6	7242
4.27	3.96	12.60	4.14	.....	34.4	35.8	7243
4.19	3.86	12.57	4.05	.....	34.4	35.5	7492
4.19	3.71	12.87	.....	.....	28.4	29.8	7031
4.14	3.67	12.60	.....	.....	28.4	29.4	7032
4.38	3.98	12.92	.....	.....	28.4	30.3	7244
3.04	2.91	9.27	5.98	.....	30.8	31.2	7033
3.32	3.18	9.47	6.17	.....	30.8	32.2	7034
3.24	3.03	9.72	6.42	.....	30.8	32.6	7493
3.01	2.85	10.02	6.21	.....	30.8	32.4	7494

<sup>1</sup> Excess muriate equivalent to 0.24 percent potash.

TABLE 5—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
<b>Virginia-Carolina Chemical Corporation—Continued</b>		
7246	V-C 3-9-6 (Sulfate) .....	Young Lumber Co., Beaver Dam.....
7247	V-C 2-12-6 (Muriate) .....	Young Lumber Co., Beaver Dam.....
7248		John H. Burba Co., Hodgenville.....
7249		Denton Mercantile Co., Hillsboro.....
7250		U. L. Rogers, Gradyville.....
7495		Thompson Store, Loretto .....
7650		George Richardson, Somerset .....
7651		R. B. McCollum & Co., Eubank.....
7738		Hardin County Milling Co., Elizabethtown .....
7739		Seiler's Feed Store, Marion .....
7757		Young Lumber Co., Beaver Dam.....
7251	V-C 0-14-7 (Muriate) .....	Scottsville Feed Co., Scottsville.....
7496		U. L. Rogers, Gradyville.....
7740		M. G. Williams Implement Co., Hopkinsville .....
7758		W. I. Smith, Sebree .....
7741	V-C 0-12-12 (Muriate).....	Miss Agnes Davis, Russellville .....
7252	V-C Superphosphate 20% .....	Scottsville Feed Co., Scottsville.....
7497		Dyche Jones, London .....
7652		Farmers Supply Co., Eminence .....
7653		Shelby Feed & Seed Co., Shelbyville....
7654		George Richardson, Somerset.....
7742		Seiler's Feed Store, Marion.....
7743		Delles K. Hurt, Elkton.....
7498	V-C Superphosphate 18%.....	Stewart & Co., Munfordville.....
7580		U. L. Rogers, Gradyville.....
7035	Nitrate of Soda 16% .....	Bell County Supply Co., Middlesboro....
7253		The May Grocery Co., West Liberty.....
7254	Ammonium Nitrate 32.50%.....	Salyersville Grocery Co., Salyersville..
7499		Scottsville Feed Co., Scottsville.....
7500		R. D. Reynolds, Cave City .....

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
3.16	3.00	10.75	5.00	Yes	30.8	32.2	7246
2.30	2.06	12.27	6.60	.....	32.4	33.9	7247
2.09	1.92	12.07	6.27	.....	32.4	32.9	7248
2.17	1.99	12.70	6.22	.....	32.4	33.8	7249
2.08	1.93	12.10	6.24	.....	32.4	32.9	7250
2.15	1.95	12.32	6.21	.....	32.4	33.3	7495
2.04	1.85	12.75	5.77	.....	32.4	33.2	7650
2.05	1.83	12.62	5.98	.....	32.4	33.2	7651
2.25	2.08	12.37	6.31	.....	32.4	33.7	7738
2.06	1.89	12.70	6.21	.....	32.4	33.6	7739
2.16	1.96	12.50	5.71	.....	32.4	33.0	7757
.....	.....	14.25	7.29	.....	29.8	30.4	7251
.....	.....	14.87	7.17	.....	29.8	31.0	7496
.....	.....	14.72	7.02	.....	29.8	30.7	7740
.....	.....	16.27	5.24	.....	29.8	30.8	7758
.....	.....	13.07	12.14	.....	32.4	33.8	7741
.....	.....	20.97	.....	.....	26.0	27.3	7252
.....	.....	20.62	.....	.....	26.0	26.8	7497
.....	.....	21.75	.....	.....	26.0	28.2	7652
.....	.....	21.85	.....	.....	26.0	28.4	7653
.....	.....	21.92	.....	.....	26.0	28.5	7654
.....	.....	21.75	.....	.....	26.0	28.3	7742
.....	.....	22.27	.....	.....	26.0	29.0	7743
.....	.....	20.20	.....	.....	23.4	26.3	7498
.....	.....	18.87	.....	.....	23.4	24.5	7580
16.24	.....	.....	.....	.....	48.0	48.7	7035
16.04	.....	.....	.....	.....	48.0	48.1	7253
33.92	.....	.....	.....	.....	65.0	67.8	7254
32.88	.....	.....	.....	.....	65.0	65.8	7499
33.16	.....	.....	.....	.....	65.0	66.3	7500

TABLE 6—ANALYSES OF INSPECTION SAMPLES OF BONE, ROCK PHOSPHATE, AND BASIC SLAG

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained	Total Nitrogen		Phosphoric Acid Total		Index of relative value		Station number
			Guaranty	Found	Guaranty	Found	Guaranty	Found	
7328	Armour Fertilizer Works, Cincinnati, O., Nashville, Tenn., Jeffersonville, Ind. Armour's Raw Bone Meal 3.70-22-0	The T. J. Turley Co., Owensboro	3.70	3.96	22.2	44.2	45.9	7328	
7393	The Davison Chemical Corporation, Nashville, Tenn. Raw Bone Meal 3.70-20-0	Guenther Hardware Co., Owensboro	3.70	4.11	22.4	42.2	47.1	7393	
7188	Knoxville Fertilizer Co., Nashville, Tenn. Raw Bone Meal 3.70-21.50-0	J. B. Babb, Adairville	3.70	4.03	21.55	43.7	45.7	7188	
6949	Robin Jones Phosphate Co., Nashville, Tenn. Florida Waste Pond Rock Phosphate	A. S. Gibson, Flemingsburg			22.00	22.75	11.0	6949	
7729	Standard Grade Arrow Rock Phosphate	Berea College, Berea			30.00	30.6	15.0	7729	
7464	Ruhm Phosphate & Chemical Co., Mt. Pleasant, Tenn. Red Seal Brand Ruhm's Phosphate Rock	Yopp Seed Co., Paducah Beldon Taylor, Calhoun Berea College, Berea			30.00 30.00 30.00	30.00 31.30 30.00	15.0 15.7 15.0	7464 7465 7730	
7577	Red Seal X Brand Ruhm's Phosphate Rock	G. W. Rock, Munfordville Beldon Taylor, Calhoun			32.00 32.00	32.25 31.15	16.0 15.6	7577 7731	
7477	Tennessee Coal, Iron & Railroad Co., Birmingham, Ala. Low Grade Ground Open Hearth Basic Slag	Hatter Hardware Co., Franklin Allison Shippe, Campbellsville			8.00 8.00	13.95 14.10	8.00 8.00	7477 7478	
7737	Thompson Sales Co., Montgomery, Ala. Florida Waste Pond Rock Phosphate	Farmers Supply Co., Hodgenville			18.00	20.70	9.00	7737	