

Kentucky Agricultural Experiment Station

UNIVERSITY OF KENTUCKY

THOMAS P. COOPER, Director

COMMERCIAL FERTILIZERS IN KENTUCKY IN 1944

By J. D. TURNER, H. R. ALLEN and LELAH GAULT

CONTENTS

	Page		Page
Sales by grade, 1944		Penalties for violating the	
Table 1	2	fertilizer law	9
Approved grades of mixed		Points a farmer should con-	
fertilizers, 1945	2	sider in buying fertilizer	9
Mixed fertilizer grades	2	Points a dealer should con-	
Function of nitrogen, phos-		sider	9
phorus, and potassium in		Points a manufacturer	
plant nutrition	3	should consider	10
Need for nitrogen, phos-		Explanation of the tables...	10
phorus, and potassium	4	Farmers' Guide	12
Supplement manure and to-		Standing of manufacturers,	
bacco stalks with phos-		Table 2	13
phate	5	Analyses of inspection sam-	
How to apply commercial		ples of mixed fertilizers,	
fertilizer	6	super-phosphate, and fer-	
Relation between soil fer-		tilizer salts, Table 3.....	14
tility and quality of feeds		Analyses of inspection sam-	
grown	7	ples of bone, rock phos-	
Farmers' samples	8	phate, and basic slag,	
Information on guaranty tag	8	Table 4	50

The amount of commercial fertilizer sold in Kentucky in 1944, as estimated from reports of manufacturers, was 226,265 tons. This was an increase of 46.5 percent over the tonnage for 1943. Of the total tonnage, 135,969 tons were mixed fertilizer, 78,846 tons were superphosphate, and the remainder was fertilizer salts and materials. In addition, 67,000 tons of superphosphate were distributed by the Agricultural Adjustment Administration.

There was an encouraging increase in the tonnage of some of the higher grades of mixed fertilizer, notably 4-10-6, 4-12-8, 4-12-4 and 6-8-6.

SALES BY GRADE, 1944

A summary of fertilizer sales by grade, as reported by the manufacturers, is given in Table 1. The total of 226,265 tons in this summary is somewhat less than that calculated from the tax receipts.

TABLE 1.—SALES BY GRADE, AS REPORTED BY MANUFACTURERS

Mixed fertilizer	Tons	Other materials	Tons
2-12-6	36,958	Superphosphate 20%..	48,922
3-9-6	33,634	Superphosphate 18%..	26,814
6-8-6	18,906	Ammonium nitrate	5,049
4-10-6	11,393	Rock phosphate	3,287
4-12-4	9,393	Superphosphate 19%..	3,035
4-12-8	8,170	Nitrate of soda	1,524
0-14-7	6,482	Cyanamid	587
0-14-4	5,170	Basic slag	400
3-12-12.....	1,703	Manures, processed....	181
4-12-0	1,619	Florida waste	
0-12-12.....	1,174	phosphate	100
5-10-10.....	687	Bones	96
2-14-4	131	Triple superphosphate	75
8-8-8	124	Sulfate of potash-	
10-6-4	116	magnesia	60
6-10-4	45	Muriate of potash.....	55
3-18-9	40	Manure salts	42
3-12-6	40	Sulfate of potash	28
0-20-20	40	Urea	25
0-14-14	35	Sulfate of ammonia..	16
Miscellaneous	109		
Total	135,969	Total	90,296

APPROVED GRADES OF MIXED FERTILIZERS, 1945

This list of approved grades of mixed fertilizer for Kentucky for 1944-1945 was limited to fifteen by the War Production Board as a war economy measure. The list is as follows:

0-12-12	4-12- 0
0-14- 7	4-12- 4
0-20-10	4-12- 8
0-20-20	5-10-10
2-12- 6	6- 8- 6
3- 9- 6	8- 8- 8
3-12-12	10- 6- 4
3-18- 9	

In addition to the grades of mixed fertilizer, superphosphate, potash salts, and chemical nitrogen materials were available.

MIXED FERTILIZER GRADES

The tonnage of mixed fertilizer sold, as reported by manufacturers, was an increase of 30.2 percent over the amount sold in 1943. As in the previous year, the number of grades sold was restricted by

the War Production Board and all grades contained a minimum of 18 percent of plant food.

At a meeting of representatives of the fertilizer industry, Station Agronomists and members of this Department at the Experiment Station in November, 1944, one of the topics discussed was grades of mixed fertilizers. A representative of each fertilizer company was asked to state any grades his company desired, other than those on a list submitted by the Agronomy Department. Several additional grades were suggested but only one, 5-10-5, was not on the present approved list of the War Production Board. No one advocated a grade containing less than 18 percent of plant food. This is very encouraging and we hope it indicates that the reduced number of grades and higher plant food content of mixed fertilizers will be continued voluntarily when the present controls are lifted.

FUNCTION OF NITROGEN, PHOSPHORUS, AND POTASSIUM IN PLANT NUTRITION

The percentages of *guaranteed* nutrients present in a commercial fertilizer are printed on the state tag as nitrogen, phosphoric acid, and potash. These are the nutrients needed in greatest amount and 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 in a fertilizer which 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 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

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 by returning part or all of the top growth to the land, or by feeding them and returning the manure. If not, a nitrogen fertilizer should be used, provided the expected value of the crop increase exceeds 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 crop yields.

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 should 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, 5 pounds for each pound applied; and grass hay crops, 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. Estimate the crop yield if no nitrogen is used, and apply enough nitrogen to obtain the yield wanted. 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 60 to 80

pounds of phosphoric acid per acre should be made on tobacco. Also, before a 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 10 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 soils needing them, both phosphorus and potassium can be used profitably even when crops 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 40 to 80 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 probably will 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, better yet, 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 broadcast 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.

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 the 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 have responded to fertilization with borax.

FARMERS' SAMPLES

The Kentucky fertilizer law provides that any person in the state not a dealer in or agent for the sale of any fertilizer, who may purchase fertilizer, for his own use, and not for sale, may have it analyzed free of charge by the Kentucky Agricultural Experiment Station. However, the law further provides that in order for such analysis to be made the sample must be taken in a prescribed way. If a farmer desires to have his fertilizer analyzed by the Experiment Station, he should write the Department of Feed and Fertilizer Control for instructions. This is important, for no analysis of fertilizer will be made unless proper procedure in taking the sample is followed.

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, tankage, 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 THE TABLES

Table 2 gives the standing of manufacturers as determined by the results of analysis of official samples. Figures in the last column give the number of deficiencies of more than one-fourth of 1 percent

in nitrogen, phosphoric acid, or potash. This is the tolerance allowed in Kentucky Fertilizer Law. Deficiencies less than this tolerance are not considered evidence of fraudulent intent by the manufacturer.

The number of deficiencies of more than one-fourth of 1 percent increased somewhat over last year. Deficiency in available phosphoric acid in many cases was accompanied by high insoluble phosphoric acid. This may have been caused in part by using in mixtures superphosphate or base goods which had not cured for a sufficient length of time. In a number of cases when part of the potash was guaranteed from sulfate and part from muriate, analysis, as determined by the amount of chlorides present, showed too great a proportion from muriate. This may be due to use of manure salts in place of high grade muriate of potash to supply the potash from muriate.

Table 3 gives the results of analysis of all inspection samples except bones, rock phosphate, and basic slag, which are given in Table 4.

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

FARMERS' GUIDE

A farmer who buys fertilizer has several aids in selecting the right kind. He should know the needs of his soil, if he does not he should consult his County Agent or the Experiment Station. He should read the guaranty tag carefully and base his selection on the information given on the tag. Then by consulting the tables of results in this bulletin he can gain an idea of the reliability of the manufacturer. If the manufacturer's record is good, the fertilizer is likely to be what it is represented to be on the tag. If his record is bad, then the fertilizer is likely to be poor.

Farmers who buy on price instead of on price plus quality are practicing false economy. Low-grade fertilizer is costliest.

TABLE 2.—STANDING OF MANUFACTURERS, BASED ON OFFICIAL SAMPLES ANALYZED IN 1944.

COMPANY	Number of inspection samples	Number equal to guaranty in value	Number 4 percent or more low in value	Nitrogen, phosphoric acid, and potash	
				Number of analyses made	Number of deficiencies of more than $\frac{1}{4}$ of 1%
American Agricultural Chemical Company	53	40	0	124	16
American Cyanamid Company..	3	1	0	3	1
Armour Fertilizer Works	95	82	5	235	13
Louisville Fertilizer Company	5	5	0	15	1
Morris Fertilizer Company	1	1	0	3	1
Tennessee Chemical Company	14	13	1	33	4
Associated Cooperatives	2	2	0	2	0
The Barrett Division, Allied Chemical and Dye Corp.....	4	4	0	4	0
Buhner Fertilizer Company	14	13	0	39	6
Chilean Nitrate Sales Corp.....	2	2	0	2	0
Cumberland Chemical Company	21	19	0	46	4
Darling and Company	1	1	0	1	0
Davison Chemical Corporation Hopkins Fertilizer Division	24	24	0	64	2
Read Phosphate Division	55	39	7	132	29
Federal Chemical Company	85	76	3	216	22
Hutson Chemical Company	6	3	0	12	2
International Minerals and Chemical Corporation	56	50	1	140	11
Knoxville Fertilizer Company....	57	42	3	125	16
North American Fertilizer Company	45	36	4	120	20
National Chemical Company	1	1	0	3	0
Price Chemical Company	31	29	0	78	4
Consolidated Chemical Company	12	11	0	27	0
Ruhm Phosphate and Chemical Company	7	5	0	7	2
Swift and Company Fertilizer Works	20	20	0	49	0
Tennessee Coal, Iron and Railroad Company	1	1	0	1	0
Tennessee Corporation	10	7	0	23	5
Virginia-Carolina Chemical Corporation	59	57	0	138	3
Totals	684	584	24	1642	162

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
The American Agricultural Chemical Co., Cincinnati, O.		
6334	6-8-6 (Muriate)	Harlan Fruit Co., Harlan
6445		Geo. W. Hill, Covington
6620		John A. Sheehan, Falmouth
6289	4-12-4 (Muriate)	Whitesburg Wholesale Co., Whitesburg
6290		Mountain Dew Coal Co., Lexington
6335		Walters and Thompson, Shelbyville
6446		Henderson & Hardy Co., Shepherdsville
6447		J. H. Fedders & Son, Covington
6291	4-12-0	Mountain Dew Coal Co., Lexington
6336		H. W. Smith, Horse Cave
6448		A. T. Hayes Hardware Co., Glendale
6449		G. C. Townsend, Carlisle
6450	4-10-6 (Muriate)	L. F. Wellman, Louisa
6337	4-10-6 (Muriate 2, Sulfate 4)	Lebanon Carriage & Implement Co., Lebanon
6338		Bedford & Tuttle, Winchester
6339		Pollard Brothers, Cropper
6340		Bale Hardware Co., Horse Cave
6451		C. V. King, Oakland
6621		Raymond Martin, Utica
6292	3-9-6 (Muriate)	J. J. Hughes, Campton
6341		Lebanon Carriage & Implement Co., Lebanon
6452		L. F. Wellman, Louisa
6622		J. H. McClure, Springfield
6623		C. B. Carden, Hartford
6624		W. E. Bibb, Sacramento
6342	2-12-6 (Muriate)	Lebanon Carriage & Implement Co., Lebanon
6453		Walton & Readnour, Walton
6454		Baughman Milling Co., Stanford
6625		Hayes Hardware Store, Dawson Springs
6626		John A. Sheehan, Falmouth
6772		Lebanon Carriage & Implement Co., Lebanon
6773		Baughman Milling Co., Stanford
6774		Caulk Hardware Co., Campbellsville
6836		Magnolia Hardware Co., Magnolia
6837		Henderson & Hardy Co., Shepherdsville

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
5.97	5.93	8.32	6.07	.....	37.8	38.2	6334
6.12	6.04	8.20	6.02	.....	37.8	38.5	6445
5.67	5.63	8.45	6.52	.....	37.8	37.8	6620
4.25	4.15	11.55	3.97	.....	33.2	33.5	6289
4.22	4.08	11.10	4.02	.....	33.2	32.9	6290
4.09	3.99	11.65	4.19	.....	33.2	33.3	6335
4.18	4.06	12.05	4.25	.....	33.2	34.2	6446
4.14	4.08	11.50	5.17	.....	33.2	34.5	6447
4.25	4.00	11.35	.....	.....	28.4	28.5	6291
4.51	4.28	11.45	.....	.....	28.4	29.5	6336
4.35	4.13	11.82	.....	.....	28.4	29.4	6448
4.00	3.81	12.02	.....	.....	28.4	28.4	6449
3.94	3.87	10.15	6.10	.....	33.2	33.3	6450
3.94	3.87	10.50	5.84	No ¹	33.2	33.4	6337
3.96	3.90	10.37	5.34	No ²	33.2	32.7	6338
4.12	4.07	10.12	6.11	No ³	33.2	33.9	6339
3.93	3.83	10.52	6.05	No ⁴	33.2	33.6	6340
3.98	3.89	10.67	6.59	Yes	33.2	34.6	6451
4.08	4.00	10.37	6.10	No ⁵	33.2	34.0	6621
2.75	2.69	9.30	5.61	.....	28.5	27.5	6292
2.91	2.83	8.90	6.06	.....	28.5	28.1	6341
3.37	3.35	9.00	6.30	.....	28.5	30.2	6452
3.10	3.06	9.72	6.02	.....	28.5	29.7	6622
2.93	2.82	9.82	6.45	.....	28.5	29.8	6623
3.03	2.98	9.37	6.10	.....	28.5	29.2	6624
2.02	1.95	11.72	6.27	.....	28.6	28.7	6342
2.08	2.03	11.80	6.40	.....	28.6	29.1	6453
2.00	1.95	11.32	6.15	.....	28.6	28.0	6454
2.14	2.02	12.65	6.44	.....	28.6	30.4	6625
1.91	1.85	12.55	6.40	.....	28.6	29.4	6626
1.81	1.67	11.47	6.16	.....	28.6	27.5	6772
1.94	1.86	12.17	6.24	.....	28.6	28.9	6773
1.61	1.48	12.70	6.14	.....	28.6	28.2	6774
1.93	1.81	11.98	6.33	.....	28.6	28.7	6836
1.82	1.70	11.95	6.03	.....	28.6	28.0	6837

¹ Excess muriate equivalent to 2.76 percent potash.

² Excess muriate equivalent to 2.63 percent potash.

³ Excess muriate equivalent to 3.37 percent potash.

⁴ Excess muriate equivalent to 0.26 percent potash.

⁵ Excess muriate equivalent to 3.65 percent potash.

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
The American Agricultural Chemical Co.—Continued		
6455	0-14-7 (Muriate)	Isaac Craig, Mt. Sterling
6838		A. T. Hayes Hardware Co., Glendale
6456	0-14-4 (Muriate)	L. F. Wellman, Louisa
6627		Davidson & Crawford, Science Hill
6628		Ross Feed Co., Murray
6776	Superphosphate 20%	Davidson & Crawford, Science Hill
6343	Superphosphate 18%	V. R. Sanders, Rocky Hill
6344		Lebanon Carriage & Implement Co., Lebanon
6457		K. E. Pruitt, Halfway
6458		L. C. McLoney & Son, Cynthiana
6459		Baughman Milling Co., Stanford
6629		Mountain Wholesale Co., Lothair
6630		Bennett & Spinett, Livia
6775		Lebanon Carriage & Implement Co., Lebanon
6839		A. T. Hayes Hardware Co., Glendale
6840		Corbett Hardware Co., Elizabethtown
6841		Crab Orchard Lumber Co., Crab Orchard
6928		Denton Hardware Co., Madisonville
American Cyanamid Co., New York, N. Y.		
6777	"Aero" Cyanamid Granular 20.60%	Lebanon Carriage & Implement Co., Lebanon
6842		Bale Hardware Co., Horse Cave
6929		Harralson's Feed & Seed Store, Owensboro
Armour Fertilizer Works, Cincinnati, O., Nashville, Tenn. Jeffersonville, Ind.		
6460	"Big Crop" 6-8-6 (Muriate)	Harper & Runyon, Catlettsburg
6461		F. B. Marksburg, Lancaster
6462	Armour's 6-8-6 (Sulfate)	Somerset Produce Co., Somerset
6463		Hulett Hardware Co., Williamstown
6464		Sphar & Co., Winchester
6465		John B. Penn, Georgetown
6466		Carlisle Mill & Supply Co., Carlisle
6631		J. P. Page & Son, Barlow
6632	"Big Crop" 4-12-8 (Muriate)	J. P. Page & Son, Barlow
6633		Slaughtersville Mercantile Co., Slaughters
6265	Armour's 4-12-8 (Sulfate)	J. C. Everett, Maysville
6293		Fayette Coal & Feed Co., Lexington
6467		Anderson & Spilman, Danville
6468		T. E. Clausen, Bonnieville
6469		Carlisle Mill & Supply Co., Carlisle

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
.....	.....	13.32	7.47	.....	25.2	24.9	6455
.....	.....	14.00	6.97	.....	25.2	25.2	6838
.....	.....	13.32	5.02	.....	21.6	22.0	6456
.....	.....	13.35	4.52	.....	21.6	21.4	6627
.....	.....	15.10	4.30	.....	21.6	23.3	6628
.....	.....	20.25	.....	.....	24.0	24.3	6776
.....	.....	19.00	.....	.....	21.6	22.8	6343
.....	.....	17.87	.....	.....	21.6	21.4	6344
.....	.....	19.57	.....	.....	21.6	23.5	6457
.....	.....	18.57	.....	.....	21.6	22.3	6458
.....	.....	18.70	.....	.....	21.6	22.4	6459
.....	.....	18.80	.....	.....	21.6	22.6	6629
.....	.....	18.55	.....	.....	21.6	22.3	6630
.....	.....	18.62	.....	.....	21.6	22.3	6775
.....	.....	18.13	.....	.....	21.6	21.8	6839
.....	.....	19.65	.....	.....	21.6	23.6	6840
.....	.....	19.90	.....	.....	21.6	23.9	6841
.....	.....	20.30	.....	.....	21.6	24.4	6928
20.40	19.43	.....	.....	.....	43.3	42.8	6777
20.16	19.61	.....	.....	.....	43.3	42.3	6842
21.08	20.58	.....	.....	.....	43.3	44.3	6929
5.98	5.79	8.80	6.38	.....	37.8	39.2	6460
5.90	5.82	8.22	5.92	.....	37.8	37.6	6461
5.89	5.50	8.02	6.38	Yes	37.8	37.9	6462
6.14	5.96	8.50	6.19	Yes	37.8	39.1	6463
6.25	6.06	8.62	6.05	Yes	37.8	39.5	6464
5.93	5.47	8.57	6.02	Yes	37.8	38.3	6465
6.21	6.04	8.52	6.07	Yes	37.8	39.2	6466
6.08	5.04	9.20	6.87	No ¹	37.8	40.6	6631
3.84	3.54	12.57	7.43	.....	38.0	37.4	6632
3.70	3.35	12.32	7.20	.....	38.0	36.4	6633
4.01	3.10	12.65	7.93	Yes	38.0	38.7	6265
4.10	3.47	12.00	8.33	Yes	38.0	38.8	6293
3.99	3.41	12.10	8.16	Yes	38.0	38.3	6467
4.02	3.44	12.25	7.99	Yes	38.0	38.4	6468
3.98	3.11	12.37	7.84	Yes	38.0	38.2	6469

¹ Excess muriate equivalent to 0.40 percent potash.

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
Armour Fertilizer Works—Continued		
6294	"Big Crop" 4-12-4 (Muriate)	Whitesburg Wholesale Co., Whitesburg
6345		Home Fruit Co., Harlan
6470		Colonial Coal & Supply Co., Erlanger...
6471		Upton Hardware Store, Upton.....
6634		Sam Terry, Big Clifty
6778		G. M. Hedrick, Monticello
6266	Armour's 4-12-4 (Sulphate)	Cogar-Rumley Co., Midway
6346		G. M. Haycraft & Son, Leitchfield
6472		Hulett Hardware Co., Williamstown
6473		J. C. Everett & Co., Maysville
6474		Somerset Produce Co., Somerset
6635	"Big Crop" 4-10-6 (Muriate)	Wilson Hardware Co., Henderson
6636		J. S. Whittinghill, Fordsville
6475	"Big Crop" 3-12-12 (Muriate)	R. P. Clary, Fullerton
6267	"Big Crop" 3-9-6 (Muriate).....	Olive Hill Cut Rate Grocery, Olive Hill
6347		Mt. Vernon Produce Co., Mt. Vernon....
6348		G. C. Cornett, Cumberland
6349		Parman Brothers, London
6476		Lester & Lynd, Ashland
6637		Sanitary Market, Nortonville
6638		McWhorter & Thrasher, Albany
6930		The T. J. Turley Co., Owensboro
6295	Armour's 3-9-6 (Sulfate)	Hatter Hardware Co., Franklin
6296		Irvington Truck Line, Irvington
6477		Keller Hay & Grain Co., Newport
6478		John B. Penn, Georgetown
6479		Carlisle Mill & Supply Co., Carlisle....
6480		Somerset Produce Co., Somerset
6639		Borders Bros. Hardware Co., Lebanon
6640		Farmers Union Supply Co., Versailles....
6297	Old Black Joe 2-12-6 (Muriate)....	J. H. Nunnery, Prestonsburg
6350		Taylor County Supply Co., Campbellsville
6351		Bullock & Bullock, Mt. Vernon
6352		Jellico Grocery Co., Corbin
6353		R. A. Wilson Co., Russellville
6354		Thomas Buchanan, Rockhold
6481		Durham Implement Co., Stanford
6482		W. C. Dickens, Mentor
6483		Lee & Bybee, Cave City
6484		Upton Hardware Store, Upton
6641		J. W. Galloway, Sacramento
6642		Powell-Hackney Grocery Co., Jackson
6643		C. E. Martin & Co., Greenville
6779		J. C. Everett & Co., Maysville.....
6780		Jasper Produce Co., Science Hill.....
6843		Parman Bros., 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	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
4.07	3.87	12.00	4.35	.....	33.2	33.9	6294
4.04	3.77	12.52	4.09	.....	33.2	34.1	6345
3.91	3.55	12.77	4.25	.....	33.2	34.1	6470
3.89	3.72	12.10	3.82	.....	33.2	32.7	6471
3.92	3.72	12.62	3.96	.....	33.2	33.6	6634
3.43	3.13	11.80	3.82	.....	33.2	30.8	6778
3.89	3.29	11.70	3.88	Yes	33.2	32.3	6266
4.08	3.40	12.07	4.21	Yes	33.2	33.8	6346
4.00	3.21	12.62	4.32	Yes	33.2	34.3	6472
3.91	3.12	13.07	4.28	Yes	33.2	34.5	6473
3.92	3.40	11.82	4.06	Yes	33.2	32.8	6474
3.77	3.64	9.75	6.31	.....	33.2	32.5	6635
4.21	4.07	10.10	6.40	.....	33.2	34.5	6636
3.21	3.14	12.42	12.16	.....	39.3	40.7	6475
2.92	2.69	9.35	6.23	.....	28.5	28.9	6267
2.92	2.79	8.95	6.48	.....	28.5	28.7	6347
3.03	2.91	9.10	6.48	.....	28.5	29.3	6348
2.46	2.35	10.02	6.62	.....	28.5	28.6	6349
3.26	3.14	9.50	6.13	.....	28.5	30.2	6476
3.08	2.89	10.55	6.11	.....	28.5	30.8	6637
3.11	2.87	9.97	6.02	.....	28.5	30.1	6638
3.17	2.83	11.57	6.39	.....	28.5	32.6	6930
3.35	2.69	11.87	5.91	Yes	28.5	33.1	6295
3.12	2.68	9.47	6.31	Yes	28.5	29.9	6296
3.03	2.41	9.47	6.19	Yes	28.5	29.4	6477
3.09	2.68	9.00	6.00	Yes	28.5	28.8	6478
3.00	2.48	9.95	6.07	Yes	28.5	29.7	6479
3.01	2.60	9.25	6.07	Yes	28.5	28.9	6480
2.80	2.33	9.62	6.53	Yes	28.5	29.2	6639
3.00	2.44	9.92	6.07	Yes	28.5	29.7	6640
2.05	1.90	12.45	6.50	.....	28.6	29.9	6297
2.00	1.88	12.02	6.00	.....	28.6	28.6	6350
2.00	1.79	12.22	5.88	.....	28.6	28.7	6351
2.11	2.01	12.25	6.17	.....	28.6	29.5	6352
2.02	1.77	12.40	5.97	.....	28.6	29.1	6353
2.03	1.89	11.97	6.01	.....	28.6	28.7	6354
2.05	1.81	12.57	6.15	.....	28.6	29.6	6481
2.13	1.82	12.70	6.21	.....	28.6	30.2	6482
2.07	1.95	12.02	6.27	.....	28.6	29.2	6483
2.04	1.91	12.25	5.96	.....	28.6	29.0	6484
2.00	1.71	12.42	6.11	.....	28.6	29.2	6641
2.06	1.90	12.95	5.96	.....	28.6	30.0	6642
2.21	1.89	12.57	6.10	.....	28.6	30.1	6643
2.09	1.88	11.72	6.12	.....	28.6	28.7	6779
2.07	1.97	12.55	6.26	.....	28.6	29.8	6780
1.98	1.78	12.70	5.98	.....	28.6	29.4	6843

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
Armour Fertilizer Works—Continued		
6844	Old Black Joe 2-12-6 (Muriate)	Wallace Hardware Co., Central City
6845		Hatter Hardware Co., Franklin
6846		C. E. Martin & Co., Greenville
6847		Sam Terry, Big Clifty
6848		J. J. Carter, Waynesburg
6931		Irvington Truck Line, Irvington
6355	"Big Crop" 0-14-7 (Muriate)	L. C. Orndorff, Adairville
6849		Somerset Produce Co., Somerset
6485	"Big Crop" 0-14-4 (Muriate)	13th Street Market, Ashland
6486		Somerset Produce Co., Somerset
6781	"Big Crop" 0-12-12 (Muriate).....	J. C. Everett & Co., Maysville
6850		R. A. Wilson Co., Russellville
6356	"Big Crop" Superphosphate 20%	H. Singleton, Broadhead
6357		Mt. Vernon Produce Co., Mt. Vernon.....
6487		Durham Implement Co., Stanford
6488		Barren County Grocery & Hardware Co., Glasgow
6489		Lee & Bybee, Cave City
6644		Wallace Hardware Co., Central City
6645		McLean County Hardware Co., Calhoun
6782		Jasper Produce Co., Science Hill
6783		Borders Hardware Co., Lebanon
6784		Humphrey Brothers, Bloomfield
6851		T. E. Clausen, Bonnieville
6852		Farmers Supply Co., Hodgenville
6853		Farmers Supply Co., Eminence
6854		Taylor County Supply Co., Campbellsville
6855		Somerset Produce Co., Somerset.....
6856		G. M. Haycraft & Son, Leitchfield.....
6857		Cadiz Hardware Co., Cadiz.....
6858		Walter McGlasson, Horse Cave
6859		Barren County Hardware Co., Glasgow
6490	Big Crop Superphosphate 18%	13th Street Market, Ashland.....
6298	Armour's Nitrate of Soda 16%	Hatter Hardware Co., Franklin
6491	Ammonium Nitrate 32.50%	Sphar & Co., Winchester
Associated Cooperatives, Sheffield, Ala.		
6492	Ammonium Nitrate Fertilizer 32.50%	C. W. Buckner, Pembroke
6646		Caulk Hardware Co., Campbellsville.....
The Barrett Division, Allied Chemical & Dye Corporation, New York, N. Y.		
6493	By-product Nitrate of Soda 14%	Thompson Hardware Co., Trenton.....
6647		Borders Hardware Co., Lebanon
6648		W. H. Brock & Co., Maysville
6649		I. K. Miller & Son, 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	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
2.24	1.90	12.10	6.47	-----	28.6	30.1	6844
1.94	1.61	13.02	5.90	-----	28.6	29.5	6845
2.16	1.83	11.68	6.46	-----	28.6	29.3	6846
1.97	1.76	12.10	6.14	-----	28.6	28.8	6847
1.97	1.76	12.08	6.19	-----	28.6	28.8	6848
1.99	1.83	12.20	6.38	-----	28.6	29.3	6931
-----	-----	15.12	4.93	-----	25.2	24.1	6355
-----	-----	13.37	7.47	-----	25.2	25.0	6849
-----	-----	14.37	4.17	-----	21.6	22.2	6485
-----	-----	14.07	4.69	-----	21.6	22.5	6486
-----	-----	12.27	12.06	-----	28.8	29.2	6781
-----	-----	11.78	13.35	-----	28.8	30.2	6850
-----	-----	20.32	-----	-----	24.0	24.4	6356
-----	-----	20.05	-----	-----	24.0	24.1	6357
-----	-----	19.75	-----	-----	24.0	23.7	6487
-----	-----	20.02	-----	-----	24.0	24.0	6488
-----	-----	20.05	-----	-----	24.0	24.1	6489
-----	-----	20.07	-----	-----	24.0	24.1	6644
-----	-----	20.27	-----	-----	24.0	24.3	6645
-----	-----	19.40	-----	-----	24.0	23.3	6782
-----	-----	19.05	-----	-----	24.0	22.9	6783
-----	-----	19.95	-----	-----	24.0	23.9	6784
-----	-----	20.70	-----	-----	24.0	24.8	6851
-----	-----	20.03	-----	-----	24.0	24.0	6852
-----	-----	20.00	-----	-----	24.0	24.0	6853
-----	-----	19.90	-----	-----	24.0	23.9	6854
-----	-----	18.90	-----	-----	24.0	22.7	6855
-----	-----	20.35	-----	-----	24.0	24.4	6856
-----	-----	20.45	-----	-----	24.0	24.5	6857
-----	-----	20.45	-----	-----	24.0	24.5	6858
-----	-----	20.00	-----	-----	24.0	24.0	6859
-----	-----	18.12	-----	-----	21.6	21.7	6490
16.32	-----	-----	-----	-----	44.8	45.7	6298
32.52	-----	-----	-----	-----	74.8	74.8	6491
-----	-----	-----	-----	-----	74.8	75.6	6492
32.88	-----	-----	-----	-----	74.8	76.1	6646
33.08	-----	-----	-----	-----	-----	-----	-----
14.92	-----	-----	-----	-----	39.2	41.8	6493
15.28	-----	-----	-----	-----	39.2	42.8	6647
15.52	-----	-----	-----	-----	39.2	43.5	6648
15.36	-----	-----	-----	-----	39.2	43.0	6649

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
The Buhner Fertilizer Co., Seymour, Ind.		
6650	Buhner's 4-12-4 (Muriate)	P. S. Young, Caneyville
6651		J. H. Hubbard, Leitchfield
6358	Buhner's 3-12-12 (Muriate)	Springfield Feed & Grain Co., Springfield
6359	Buhner's 3-9-6 (Muriate)	E. C. Miller, Buechel
6494		U. B. Sellers, Okolona
6495	Buhner's 2-12-6 (Muriate)	J. L. Wilson, Canmer
6496		Harris & Beck, Jamestown
6652		Harris & Beck, Jamestown
6653		Allison Shipp, Campbellsville
6785		Harris & Beck, Jamestown
6786		Allison Shipp, Campbellsville
6860		J. H. Hubbard, Leitchfield
6861	Buhner's 0-14-7 (Muriate)	Allison Shipp, Campbellsville
6497	Muriate of Potash 50%	Fulkerson Brothers, Sonora
Chilean Nitrate Sales Corporation, New York, N. Y.		
6299	"Champion Brand" Chilean Nitrate of Soda 16%	Robert James, Franklin
6360		Lebanon Carriage & Implement Co., Lebanon
Consolidated Chemical Co., Subsidiary of Price Chemical Co., Louisville, Ky.		
6361	Camel Brand 6-8-6 (Muriate)	Thompson Store, Loretto
6654	Camel Brand 6-8-6 (Sulfate of Potash Magnesia)	Star Roller Mills, Cloverport
6498	Camel Brand 4-12-0	Star Roller Mills, Cloverport
6362	Camel Brand 3-9-6 (Muriate)	Thompson Store, Loretto
6862		Monarch Milling Co., Mt. Sterling
6655	Camel Brand 3-9-6 (Sulfate of Potash Magnesia)	Star Roller Mill, Cloverport
6499	Camel Brand 2-12-6 (Muriate)	Star Roller Mills, Cloverport
6863		Star Roller Mills, Cloverport
6864	Camel Brand Superphosphate 20%	Star Roller Mills, Cloverport
6363	Camel Brand Superphosphate 18%	Thompson Store, Loretto
6656		Star Roller Mills, Cloverport
6865		National Farm Store, 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	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
4.06	3.79	13.97	4.11	.....	33.2	35.9	6650
4.22	3.94	12.47	4.42	.....	33.2	35.0	6651
3.10	2.98	11.70	14.36	.....	39.3	42.1	6358
3.18	2.99	10.00	8.06	.....	28.5	32.8	6359
3.85	3.65	10.57	6.63	.....	28.5	34.1	6494
2.25	2.11	11.10	7.38	.....	28.6	30.1	6495
2.23	2.09	10.85	8.09	.....	28.6	30.5	6496
2.22	2.07	10.67	8.63	.....	28.6	30.9	6652
2.25	2.09	10.90	7.74	.....	28.6	30.2	6653
2.27	2.14	13.20	5.80	.....	28.6	30.8	6785
2.16	2.04	13.12	6.13	.....	28.6	30.7	6786
2.14	2.00	13.20	6.26	.....	28.6	30.8	6860
.....	.....	13.93	7.96	.....	25.2	26.3	6861
.....	.....	.....	49.40	.....	45.0	44.5	6497
16.12	.....	.....	.....	.....	44.8	45.1	6299
16.20	.....	.....	.....	.....	44.8	45.4	6360
5.79	5.61	9.30	6.07	.....	37.8	38.7	6361
5.90	5.68	8.82	6.38	No ¹	37.8	38.9	6654
4.31	3.97	12.20	.....	.....	28.4	29.7	6498
3.41	3.22	9.52	5.79	.....	28.5	30.3	6362
2.97	2.51	9.90	6.31	.....	28.5	29.9	6862
3.42	3.19	10.05	5.93	Yes	28.5	31.2	6655
2.62	2.46	12.25	6.36	.....	28.6	31.5	6499
2.06	1.68	13.30	6.00	.....	28.6	30.4	6863
.....	.....	20.35	.....	.....	24.0	24.4	6864
.....	.....	18.17	.....	.....	21.6	21.8	6363
.....	.....	17.87	.....	.....	21.6	21.4	6656
.....	.....	18.60	.....	.....	21.6	22.3	6865

¹ Excess muriate equivalent to 0.69 percent potash.

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
Cumberland Chemical Co., Hopkinsville, Ky.		
6657	Cumberland 6-8-6 (Muriate)	C. W. Buckner, Pembroke
6500	Cumberland 5-10-10 (Sulfate).....	T. W. Hall, Elkton
6658		M. F. Bryant & Son, Nebo
6659	Victory Garden Fertilizer 4-12-4 (Muriate)	Clark and Vaughn, Clay
6300	Cumberland 4-10-6 (Muriate)	Young Hardware Co., Hopkinsville.....
6301		Trigg County Trading Co., Cadiz
6660	Cumberland 3-9-6 (Muriate)	Smith-Reynolds & Co., Slaughters
6661		Ratliff Hardware Co., Princeton
6866	Cumberland 2-12-6 (Muriate).....	Mose Dunning, Crofton
6867		Fox Hardware Store, Madisonville
6868		Ratliff Hardware Co., Princeton
6662	Cumberland 0-14-7 (Muriate).....	Sturgis Implement & Hardware Co., Sturgis
6869		Cayce-Yost Co., Hopkinsville
6870		The Planters Hardware Co., Hopkinsville
6663	Cumberland Superphosphate 20%	V. K. Rudd, Hanson
6664		Economy Feed Store, Murray
6665		Mose Dunning, Crofton
6871		Ratliff Hardware Co., Princeton
6872		Trigg County Trading Co., Cadiz
6932		C. G. Davis, Sturgis
6666	Cumberland Sulfate of Potash- Magnesia 21.50%	The Planters Hardware Co., Hopkinsville
Darling and Company, Chicago, Ill.		
6667	Darling's Superphosphate 18%.....	Farmers Supply Co., White Plains
The Davison Chemical Corp., Hopkins Fertilizer Div., New Albany, Ind.		
6268	Old Time 6-8-6 (Muriate)	Buechel Produce Exchange, Buechel...
6269		Lillard Miles, Nicholasville
6364		Climax Roller Mills, Shelbyville
6501		Mrs. Harvey Ward, Munfordville
6365	Old Time 3-9-6 (Muriate)	Jewell & Haydon Co., Bardstown
6366		Albert Patrick, Williamsburg
6502		Moore's Feed Store, Shively
6668		Warsaw Hardware Co., Warsaw
6669		William P. Miller, Shively
6787		Buechel Produce Exchange, Buechel...
6503	Old Time 3-9-6 (Sulfate)	Blue Grass Produce Co., Carlisle

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
<i>perct.</i> 6.03	<i>perct.</i> 5.96	<i>perct.</i> 8.65	<i>perct.</i> 6.03	.....	37.8	38.7	6657
5.41	5.25	10.70	10.07	Yes	41.5	43.9	6500
5.02	4.83	11.07	9.94	Yes	41.5	42.8	6658
4.25	4.06	14.05	3.55	.....	33.2	36.0	6659
4.18	4.02	10.35	6.85	.....	33.2	35.3	6300
4.19	4.06	10.07	6.62	.....	33.2	34.7	6301
3.19	3.09	9.75	6.58	.....	28.5	30.8	6660
3.14	3.05	9.62	6.38	.....	28.5	30.2	6661
2.34	2.26	12.35	6.09	.....	28.6	30.3	6866
2.06	1.88	12.08	5.90	.....	28.6	28.8	6867
2.20	2.07	11.95	7.40	.....	28.6	30.9	6868
.....	.....	14.85	7.35	.....	25.2	26.6	6662
.....	.....	14.70	6.42	.....	25.2	25.3	6869
.....	.....	14.30	6.62	.....	25.2	25.1	6870
.....	.....	20.27	.....	.....	24.0	24.3	6663
.....	.....	20.07	.....	.....	24.0	24.1	6664
.....	.....	19.70	.....	.....	24.0	23.6	6665
.....	.....	19.85	.....	.....	24.0	23.8	6871
.....	.....	20.20	.....	.....	24.0	24.2	6872
.....	.....	20.92	.....	.....	24.0	25.1	6932
.....	.....	.....	21.86	Yes	23.7	24.0	6666
.....	.....	18.20	.....	.....	21.6	21.8	6667
5.96	5.83	8.62	6.58	.....	37.8	39.1	6268
5.72	5.60	8.55	6.95	.....	37.8	38.6	6269
6.01	5.89	8.65	6.41	.....	37.8	39.1	6364
6.03	5.85	8.62	6.37	.....	37.8	39.1	6501
3.06	2.91	9.00	6.22	.....	28.5	29.0	6365
2.98	2.84	9.32	6.29	.....	28.5	29.2	6366
2.87	2.75	9.35	5.99	.....	28.5	28.5	6502
3.01	2.86	9.00	6.40	.....	28.5	29.0	6668
2.95	2.83	9.00	6.46	.....	28.5	28.9	6669
3.15	3.01	9.47	6.01	.....	28.5	29.6	6787
2.97	2.85	9.32	6.02	Yes	28.5	28.8	6503

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
The Davison Chemical Corp., Hopkins Fertilizer Div.—Continued		
6270	Old Time 2-12-6 (Muriate)	W. S. Allen, Liberty
6367		The Mitchell Co., Corbin
6670		Henderson Feed & Commission Co., Henderson
6671		Charles Emrich, Philpot
6672		Duncan & Theiss, LaGrange
6788		Jewell & Hayden Co., Bardstown
6789		Buechel Produce Exchange, Buechel
6873		Henderson Feed & Commission Co., Henderson
6874		G. C. McPhedridge, London
6368	Old Time Superphosphate 18%	Jewell & Hayden, Bardstown
6673		J. H. Bell, Philpot
6790		Jewell & Hayden Co., Bardstown
6875		Climax Roller Mills, Shelbyville
The Davison Chemical Corporation, Read Phosphate Division, Nashville, Tennessee.		
6303	Read 6-8-6 (Muriate)	C. S. Brent Seed Co., Lexington
6369		Hughes Hardware Co., Franklin
6504		Stockton Bros., Albany
6614		C. S. Brent Seed Co., Lexington
6674		Gentry McCauley, Versailles
6675		Atherton Lumber Co., Livermore
6676		Young Lumber Co., Beaver Dam
6271	Read 6-8-6 (Sulfate)	Haydon Mill & Grain Co., Lebanon
6302		C. S. Brent Seed Co., Lexington
6272	Read 4-12-4 (Muriate)	Garrard Mills, Lancaster
6304		C. S. Brent Seed Co., Lexington
6505		F. W. Dockins, Adairville
6933		Guenther Hardware Co., Owensboro
6305	Victory Garden Fertilizer 4-12-4 (Muriate)	C. S. Brent Seed Co., Lexington
6506		Geo. P. Taylor, Burnside
6677		Farmers Supply Co., Campbellsville
6273	Read 4-10-6 (Muriate)	Garrard Mills, Lancaster
6306		C. S. Brent Seed Co., Lexington
6507		G. M. Estes, Science Hill
6678		Garfield Mercantile Co., Garfield
6274	Read 3-9-6 (Muriate)	Sharpsburg Milling Co., Sharpsburg
6307		Noah Spears, Franklin
6370		J. B. Hatcher & Co., Park City
6371		Bell County Supply Co., Middlesboro
6508		L. D. Flanagan, Russell Springs
6679		Farmers Supply Co., Campbellsville
6791		Buckhorn Coal Co., Campbellsville
6792		Kenneth Cundiff, 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	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
2.20	2.06	12.02	6.56	.....	28.6	30.0	6270
1.97	1.85	12.32	6.09	.....	28.6	29.0	6367
1.93	1.84	12.47	6.08	.....	28.6	29.0	6670
1.93	1.79	12.60	5.64	.....	28.6	28.6	6671
1.90	1.70	12.05	6.06	.....	28.6	28.4	6672
1.99	1.89	12.77	6.50	.....	28.6	30.1	6788
2.00	1.88	12.70	6.65	.....	28.6	30.2	6789
1.88	1.76	13.20	6.46	.....	28.6	30.2	6873
1.98	1.83	13.20	6.44	.....	28.6	30.5	6874
.....	.....	18.15	.....	.....	21.6	21.8	6368
.....	.....	18.37	.....	.....	21.6	22.0	6673
.....	.....	19.32	.....	.....	21.6	23.2	6790
.....	.....	18.65	.....	.....	21.6	22.4	6875
4.64	4.56	8.60	6.25	.....	37.8	34.1	6303
5.72	5.67	8.52	6.62	.....	37.8	38.2	6369
4.48	4.41	10.55	5.33	.....	37.8	34.7	6504
6.31	6.24	8.12	6.85	.....	37.8	40.1	6614
5.25	5.19	9.07	5.98	.....	37.8	36.4	6674
5.28	5.22	8.42	6.69	.....	37.8	36.6	6675
6.09	6.02	7.65	6.26	.....	37.8	38.0	6676
5.87	5.69	8.02	6.02	Yes	37.8	37.4	6271
5.96	5.83	8.27	6.13	Yes	37.8	38.1	6302
4.27	4.17	11.47	4.15	.....	33.2	33.7	6272
3.65	3.57	12.25	4.04	.....	33.2	32.4	6304
4.32	4.25	10.60	5.74	.....	33.2	34.8	6505
4.24	4.16	11.57	4.64	.....	33.2	34.3	6933
4.26	4.21	11.92	4.57	.....	33.2	34.7	6305
4.25	4.17	11.35	4.67	.....	33.2	34.1	6506
3.88	3.80	12.10	4.40	.....	33.2	33.4	6677
3.80	3.74	10.52	5.65	.....	33.2	32.7	6273
4.05	3.99	10.70	5.51	.....	33.2	33.6	6306
4.64	4.56	10.17	5.49	.....	33.2	35.0	6507
3.88	3.83	10.00	6.73	.....	33.2	33.7	6678
2.97	2.90	9.95	5.57	.....	28.5	29.0	6274
2.85	2.81	9.00	7.16	.....	28.5	29.4	6307
3.11	3.06	9.00	6.41	.....	28.5	29.4	6370
3.21	3.17	8.90	6.64	.....	28.5	29.9	6371
3.55	3.50	9.42	6.06	.....	28.5	31.0	6508
3.01	2.96	8.27	6.35	.....	28.5	28.1	6679
3.00	2.92	9.05	6.54	.....	28.5	29.2	6791
3.12	3.05	10.50	4.75	.....	28.5	29.2	6792

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
The Davison Chem. Corp., Read Phosphate Division—Continued		
6509	Read 2-12-6 (Muriate)	Stockton Bros., Albany
6510		Geo. P. Taylor, Burnside
6680		Laswell Milling Co., Broadhead
6681		Guenther Hardware Co., Owensboro
6682		Hughes Hardware Co., Franklin
6793		Kenneth Cundiff, Columbia
6876		J. B. Hatcher & Co., Park City
6877		E. S. Ferrill & Son, Buffalo
6683	Read 2-12-6 (Sulfate)	O. M. Holloway, Mayfield
6684	Read 0-14-7 (Muriate)	Laswell Milling Co., Broadhead
6878		Noah Spears, Franklin
6685	Read 0-14-4 (Muriate)	Kenton Miller, Lynn Grove
6308	Davco Granulated Superphosphate 19%	Cadiz Hardware Co., Cadiz
6372		J. H. Lyons, Loretto
6373		Hughes Hardware Co., Franklin
6511		W. D. Cunningham, Webbs' Cross Roads
6512		R. D. Reynolds, Cave City
6686		Gentry McCauley, Versailles
6794		Grigsby & Co., Bardstown
6795		Buckhorn Coal Co., Campbellsville.....
6879		J. H. Lyon, Loretto
6880		Eldred Hardware Co., Princeton
6881		Hughes Hardware Co., Franklin
6374	Read Superphosphate 18%	Farmers Supply Co., Campbellsville.....
6513		Seay Brothers, Holland
6796		C. S. Brent & Co., Lexington
6797		Kenneth Cundiff, Columbia
Federal Chemical Co., Inc., Louisville, Ky.		
6309	Federal 6-8-6 (Muriate)	Merchants Grocery Co., Pikeville
6375		Hinkle & Jones, LaCenter
6376		U. L. Rogers, Gradyville
6514		John P. Fister, Lexington
6687		U. L. Rogers, Gradyville
6882		Allen & Jenkins, Bowling Green
6377	Federal 6-8-6 (Sulfate)	Grigsby & Co., Bardstown
6515		W. B. Tucker, Cynthia
6516		Thomas Warren, Guthrie
6688		Hobert Warner, Nancy
6378	Federal 4-12-8 (Muriate)	Sedalia Feed Mills, Sedalia
6379		W. M. Rhodes & Son, Mayfield
6883		Dairyman's Feed & Supply Co., Mayfield

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
4.07	3.96	11.90	4.58	.....	28.6	34.0	6509
2.20	2.07	12.15	6.21	.....	28.6	29.7	6510
2.19	2.03	12.67	6.02	.....	28.6	30.1	6680
2.32	2.19	12.00	6.28	.....	28.6	30.1	6681
1.68	1.56	12.77	6.10	.....	28.6	28.5	6682
1.88	1.81	11.20	6.00	.....	28.6	27.2	6793
1.87	1.81	11.40	5.97	.....	28.6	27.4	6876
1.82	1.76	11.18	5.80	.....	28.6	26.8	6877
1.95	1.74	11.87	6.33	No ¹	28.6	28.7	6683
.....	.....	14.47	6.34	.....	25.2	25.0	6684
.....	.....	14.00	7.16	.....	25.2	25.4	6878
.....	.....	13.70	5.17	.....	21.6	22.6	6685
.....	.....	19.15	.....	.....	22.8	23.0	6308
.....	.....	18.05	.....	.....	22.8	21.7	6372
.....	.....	17.67	.....	.....	22.8	21.2	6373
.....	.....	19.02	.....	.....	22.8	22.8	6511
.....	.....	19.37	.....	.....	22.8	23.2	6512
.....	.....	19.65	.....	.....	22.8	23.6	6686
.....	.....	19.00	.....	.....	22.8	22.8	6794
.....	.....	18.72	.....	.....	22.8	22.5	6795
.....	.....	20.03	.....	.....	22.8	24.0	6879
.....	.....	19.38	.....	.....	22.8	23.3	6880
.....	.....	20.00	.....	.....	22.8	24.0	6881
.....	.....	16.52	.....	.....	21.6	19.8	6374
.....	.....	18.55	.....	.....	21.6	22.3	6513
.....	.....	18.07	.....	.....	21.6	21.7	6796
.....	.....	19.00	.....	.....	21.6	22.8	6797
5.64	5.42	8.40	7.47	.....	37.8	38.8	6309
5.79	5.40	7.97	5.65	.....	37.8	36.6	6375
6.15	5.78	8.52	6.98	.....	37.8	40.1	6376
5.83	5.55	8.05	7.00	.....	37.8	38.5	6514
5.47	5.14	8.87	5.88	.....	37.8	36.8	6687
4.61	4.32	9.13	6.21	.....	37.8	34.5	6882
5.70	5.46	9.22	6.47	No ²	37.8	38.8	6377
5.88	5.58	8.65	6.10	Yes	37.8	38.3	6515
6.08	5.84	8.72	6.35	Yes	37.8	39.4	6516
6.01	5.64	8.82	5.74	Yes	37.8	38.5	6688
4.17	3.92	11.97	8.40	.....	38.0	39.0	6378
4.11	3.84	11.37	7.84	.....	38.0	37.4	6379
3.69	3.33	11.98	8.07	.....	38.0	37.0	6883

¹ Excess muriate equivalent to 5.42 percent potash.

² Excess muriate equivalent to 1.11 percent potash.

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
Federal Chemical Co., Inc.—Continued		
6689	Federal 4-12-8 (Sulfate)	Dairyman's Feed & Supply Co., Mayfield
6275	Federal 4-12-4 (Muriate)	Sandy Valley Grocery Co., Ashland
6310		Crawford-Ferguson Co., Benton
6380		H. T. Hackney Co., Harlan
6517		Louisa Grocery Co., Louisa
6518		Fountain Run Feed Co., Fountain Run.
6381	Federal 4-12-0	T. M. Lee, Cave City
6519		J. C. Cook, Tompkinsville
6382	Federal 4-10-6 (Muriate)	Earl Ward & Son, Paducah
6383		Bell Grocery Co., Baxter
6520		John P. Fister, Lexington
6521		Howell Hardware Co., Mt. Sterling
6690		J. L. Taggart, Depoy
6691		W. M. Humphrey, Nuckols
6692		Campbell's Mill, Kevil
6884		M. T. Riley, Paducah
6522	Federal 3-12-12 (Muriate)	John P. Fister, Lexington
6523		Howell Hardware Co., Mt. Sterling
6524		Clarence LeBus, Estate, Cynthiana
6693		Dairyman's Feed & Supply Co., Mayfield
6694		A. B. Beale & Son, Murray
6384	Federal 3-9-6 (Muriate)	Nay Chestnut, London
6385		W. M. Rhodes & Son, Mayfield
6386		O. F. Higdon, Fancy Farm
6387		Sedalia Feed Mill, Sedalia
6388		Wm. Stanley, South Corbin
6525		W. B. Tucker, Cynthiana
6695		Crawford-Ferguson Co., Benton
6696		I. K. Miller & Son, Campbellsville
6798		Hobert Warner, Nancy
6799		C. F. Blankenship, Eubank
6885		I. L. Hancock, Louisville
6886		M. T. Riley, Paducah
6934		Crawford-Ferguson Co., Benton
6935		A. Bresler, Son & Co., Owensboro
6389	Federal 3-9-6 (Sulfate)	U. L. Rogers, Gradyville
6276	Federal 2-12-6 (Muriate)	Union Grocery Co., Morehead
6311		Grayson County Supply Co., Leitchfield
6390		Williamsburg Hardware Co., Williamsburg

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
4.23	3.86	13.42	8.44	No ¹	38.0	41.0	6689
4.18	3.81	12.30	4.38	.....	33.2	34.7	6275
3.88	3.48	11.47	4.09	.....	33.2	32.3	6310
4.02	3.75	11.97	4.84	.....	33.2	34.2	6380
4.06	3.70	12.02	4.56	.....	33.2	34.1	6517
3.98	3.58	11.37	4.21	.....	33.2	32.6	6518
4.20	3.85	12.47	.....	.....	28.4	29.7	6381
3.87	3.41	13.05	.....	.....	28.4	29.2	6519
4.20	3.98	11.62	6.02	.....	33.2	35.9	6382
3.94	3.73	10.35	6.19	.....	33.2	33.7	6383
4.03	3.84	9.92	6.19	.....	33.2	33.4	6520
4.12	3.86	10.17	6.50	.....	33.2	34.4	6521
3.92	3.69	10.02	6.53	.....	33.2	33.6	6690
3.98	3.73	10.50	6.27	.....	33.2	34.1	6691
4.23	3.92	10.27	6.63	.....	33.2	35.1	6692
3.83	3.52	11.30	6.23	.....	33.2	34.4	6884
3.23	3.08	12.02	11.85	.....	39.3	40.0	6522
3.13	2.97	12.00	11.86	.....	39.3	39.6	6523
3.16	3.02	12.17	11.73	.....	39.3	39.7	6524
3.00	2.78	12.92	11.62	.....	39.3	39.9	6693
3.38	3.08	12.15	11.53	.....	39.3	40.3	6694
3.00	2.77	9.27	6.11	.....	28.5	29.0	6384
3.02	2.81	8.67	6.31	.....	28.5	28.5	6385
2.74	2.54	8.40	6.15	.....	28.5	27.1	6386
3.01	2.80	8.72	6.37	.....	28.5	28.6	6387
3.01	2.80	8.97	6.27	.....	28.5	28.8	6388
3.10	2.92	9.35	6.00	.....	28.5	29.3	6525
3.08	2.76	10.02	5.49	.....	28.5	29.4	6695
3.01	2.86	10.37	6.32	.....	28.5	30.6	6696
2.87	2.80	10.45	5.80	.....	28.5	29.6	6798
2.76	2.58	9.87	5.49	.....	28.5	28.1	6799
3.40	3.29	9.45	6.15	.....	28.5	30.6	6885
3.43	3.11	9.77	6.65	.....	28.5	31.7	6886
3.44	3.30	9.52	6.63	.....	28.5	31.4	6934
3.11	2.86	10.32	5.82	.....	28.5	30.3	6935
2.96	2.69	10.22	6.53	No ²	28.5	30.5	6389
2.03	1.71	11.82	6.48	.....	28.6	29.1	6276
2.30	1.98	11.60	6.37	.....	28.6	29.6	6311
2.20	1.89	12.00	6.00	.....	28.6	29.3	6390

¹ Excess muriate equivalent to 7.52 percent potash.

² Excess muriate equivalent to 4.04 percent potash.

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
Federal Chemical Co., Inc.—Continued		
6697	Federal 2-12-6 (Muriate)	I. K. Miller & Son, Campbellsville
6698		W. A. Robinson, Bremen
6699		J. W. Aud, Whitesville
6800		Hobert Warner, Nancy
6801		Jasper Produce Co., Science Hill
6887		Brown Supply Co., Vine Grove
6888		Bale Hardware Co., Horse Cave
6889		Grigsby & Co., Bardstown
6936		L. F. Thurmond, Murray
6802	Federal 0-14-7 (Muriate)	Hobert Warner, Nancy
6803		U. L. Rogers, Gradyville
6890		Hall Seed Co., Louisville
6891		Allen V. Jenkins, Bowling Green
6391	Federal 0-14-7 (Muriate) with 200 lbs. tobacco stems	Nay Chestnut, London
6392	Federal 0-14-4 (Muriate)	Williamsburg Hardware Co., Williamsburg
6526		W. M. Webb, Whitley City
6527		Ideal Hardware Co., Glasgow
6700		O. L. Bristow, Philpot
6701		I. K. Miller & Son, Campbellsville
6702		Crawford-Ferguson Co., Benton
6804	Federal Superphosphate 20%	Hobert Warner, Nancy
6805		C. F. Blankenship, Eubank
6892		Hall Seed Co., Louisville
6893		Bale Hardware Co., Horse Cave
6894		H. D. Jones, Glasgow
6895		Grayson County Supply Co., Leitchfield
6393	Federal Superphosphate 18%	Grigsby & Co., Bardstown
6703		M. T. Riley, Paducah
6937		A. B. Beale & Son, Murray
6312	Nitrate of Soda 16%	Crawford-Ferguson Co., Benton
6528	Ammonium Nitrate 32.50%	John P. Fister, Lexington
6529		Clarence LeBus Estate, Cynthiana
6530		H. D. Jones, Glasgow
Hutson Chemical Co., Murray, Ky.		
6313	Hutson's 4-12-8 (Muriate)	Manufacturer's Warehouse
6314	Hutson's 3-9-6 (Muriate)	Manufacturer's Warehouse
6938	Hutson's 0-14-7 (Muriate)	Manufacturer's Warehouse
6704	Hutson's 0-14-4 (Muriate)	B. C. Swann, Lynn Grove

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
2.12	1.94	12.17	6.14	.....	28.6	29.4	6697
2.15	1.96	12.10	6.44	.....	28.6	29.8	6698
2.02	1.85	12.52	6.03	.....	28.6	29.3	6699
2.15	1.97	12.05	6.31	.....	28.6	29.6	6800
2.21	2.08	12.00	6.27	.....	28.6	29.7	6801
2.09	1.94	12.12	6.25	.....	28.6	29.4	6887
2.19	2.03	12.62	5.97	.....	28.6	30.0	6888
2.00	1.86	12.05	6.73	.....	28.6	29.5	6889
2.29	2.04	13.10	5.69	.....	28.6	30.6	6936
.....	.....	14.17	7.08	.....	25.2	25.5	6802
.....	.....	13.85	7.66	.....	25.2	25.8	6803
.....	.....	14.05	7.88	.....	25.2	26.3	6890
.....	.....	14.90	7.59	.....	25.2	27.0	6891
.....	.....	12.80	7.10	.....	25.2	23.9	6391
.....	.....	13.67	5.13	.....	21.6	22.6	6392
.....	.....	13.97	5.02	.....	21.6	22.8	6526
.....	.....	14.07	4.04	.....	21.6	21.7	6527
.....	.....	14.02	4.73	.....	21.6	22.5	6700
.....	.....	14.70	4.28	.....	21.6	22.8	6701
.....	.....	14.80	4.38	.....	21.6	23.0	6702
.....	.....	20.92	.....	.....	24.0	25.1	6804
.....	.....	20.52	.....	.....	24.0	24.6	6805
.....	.....	21.17	.....	.....	24.0	25.4	6892
.....	.....	21.30	.....	.....	24.0	25.6	6893
.....	.....	20.70	.....	.....	24.0	24.8	6894
.....	.....	20.30	.....	.....	24.0	24.4	6895
.....	.....	18.60	.....	.....	21.6	22.3	6393
.....	.....	19.05	.....	.....	21.6	22.9	6703
.....	.....	18.85	.....	.....	21.6	22.6	6937
16.24	.....	.....	.....	.....	44.8	45.5	6312
34.48	.....	.....	.....	.....	74.8	79.3	6528
34.32	.....	.....	.....	.....	74.8	78.9	6529
32.68	.....	.....	.....	.....	74.8	75.2	6530
3.97	3.86	11.90	8.60	.....	38.0	38.5	6313
3.06	2.96	9.62	6.24	.....	28.5	29.7	6314
.....	.....	13.52	7.06	.....	25.2	24.7	6938
.....	.....	14.45	4.87	.....	21.6	23.2	6704

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
Hutson Chemical Co.—Continued		
6896	Hutson's Superphosphate 20%.....	Dairyman's Feed & Supply Co., Mayfield
6939		Yopp Seed Co., Paducah
International Minerals & Chemical Corporation, Cincinnati, O., Wales, Tennessee.		
6531	6-8-6 (Sulfate)	Bi-County Farm Bureau Co-op Asso., Erlanger
6705		Woodson Lewis & Son, Greensburg
6706		H. E. Coons, Lexington
6315	5-10-10 (Sulfate)	Ingram & Murphy, Campton
6394		H. R. Squires, Greensburg
6316	Victory Garden Fertilizer	
	4-12-4 (Muriate)	Lexington Seed Co., Lexington
6395		Harlan Fruit Co., Harlan
6396	4-12-0	Woodson Lewis & Son, Greensburg.....
6532		L. C. McLoney & Son, Cynthiana.....
6533		Gulley & Pettit, Burlington
6317	4-10-6 (Muriate)	Lexington Seed Co., Lexington
6534		Denton Mercantile Co., Hillsboro
6535		Tony Bezold, Newport
6707	4-10-6 (Muriate 2, Sulfate 4).....	C. M. Brown, West Somerset
6708		J. S. Squires, Cane Valley
6709		Woodson Lewis & Son, Greensburg.....
6710		H. E. Coons, Lexington
6536	3-12-12 (Muriate)	Gulley & Pettit, Burlington
6537		Youtsey Bros., Alexandria
6318	Specialty Fertilizer 3-12-3 (Muriate)	Lexington Seed Co., Lexington
6319	3-9-6 (Muriate)	Chas. Cornwell, Rothwell
6397		H. R. Squires, Greensburg
6538		Cecilian Milling Co., Elizabethtown ...
6940		Young Lumber Co., Hartford
6320	3-9-6 (Sulfate)	Lexington Seed Co., Lexington
6539		G. H. Bowles & Son, Glasgow
6540		Denton Mercantile Co., Hillsboro
6541		C. M. Brown, West Somerset
6711		Beck & Harris, Jamestown

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
perct.	perct.	perct.	perct.				
.....	.....	19.87	.....	.....	24.0	23.8	6896
.....	.....	19.60	.....	.....	24.0	23.5	6939
5.99	5.73	8.32	5.62	Yes	37.8	37.7	6531
6.16	5.87	8.70	6.59	Yes	37.8	39.9	6705
6.03	5.77	8.60	6.49	Yes	37.8	39.2	6706
4.64	4.47	10.40	9.72	Yes	41.5	40.4	6315
4.44	4.26	10.80	9.43	No ¹	41.5	39.8	6394
4.11	3.99	12.67	4.75	.....	33.2	35.3	6316
3.86	3.70	13.00	4.36	.....	33.2	34.3	6395
4.02	3.81	12.07	.....	.....	28.4	28.6	6396
4.15	3.88	12.07	.....	.....	28.4	29.0	6532
4.01	3.79	11.97	.....	.....	28.4	28.4	6533
3.72	3.63	10.65	6.68	.....	33.2	33.8	6317
3.40	3.29	10.02	7.00	.....	33.2	32.3	6534
3.93	3.83	10.32	5.92	.....	33.2	33.2	6535
4.11	4.06	10.50	6.65	No ²	33.2	35.0	6707
4.17	3.95	10.02	6.54	No ³	33.2	34.5	6708
4.00	3.84	10.47	6.42	No ⁴	33.2	34.3	6709
4.11	3.87	10.27	6.93	No ⁵	33.2	35.0	6710
3.18	3.02	12.52	12.98	.....	39.3	41.7	6536
3.25	3.11	12.00	13.29	.....	39.3	41.7	6537
2.83	2.76	13.02	3.57	.....	28.5	29.8	6318
3.11	2.92	8.90	6.29	.....	28.5	29.1	6319
3.05	2.89	9.27	6.19	.....	28.5	29.2	6397
3.07	2.89	9.92	6.47	.....	28.5	30.4	6538
2.89	2.60	9.95	6.41	.....	28.5	29.8	6940
3.23	3.18	9.10	5.97	Yes	28.5	29.4	6320
3.13	3.09	9.60	5.94	No ⁶	28.5	29.6	6539
3.06	3.01	9.65	6.20	Yes	28.5	29.7	6540
3.09	2.87	9.20	6.13	Yes	28.5	29.2	6541
3.22	3.07	9.20	6.15	Yes	28.5	29.7	6711

¹ Excess muriate equivalent to 0.37 percent potash.
² Excess muriate equivalent to 0.79 percent potash.
³ Excess muriate equivalent to 1.48 percent potash.
⁴ Excess muriate equivalent to 1.22 percent potash.
⁵ Excess muriate equivalent to 1.43 percent potash.
⁶ Excess muriate equivalent to 2.85 percent potash.

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
International Minerals & Chemical Corporation—Continued		
6398	2-12-6 (Muriate)	Woodson Lewis & Son, Greensburg.....
6399		E. O. Mays, Rockhold
6542		Gulley & Pettit, Burlington
6712		Farmers Mill, Clay
6806		W. S. Allen, Liberty
6807		C. M. Brown, West Somerset
6808		Columbia Building Supply Co., Columbia
6897		Jop Cash, Brodhead
6898		M. G. Williams Implement Co., Hopkinsville
6899		Cecilian Milling Co., Elizabethtown.....
6400	0-14-7 (Muriate)	Jop Cash, Brodhead
6401		Columbia Building Supply Co., Columbia
6713		J. S. Squires, Cane Valley
6809		Columbia Building Supply Co., Columbia
6900		M. G. Williams Implement Co., Hopkinsville
6543	0-12-12 (Muriate)	Youtsey Bros., Alexandria
6714		V. B. Nuckols, Elkton
6810		C. M. Brown, West Somerset
6402	Superphosphate 20%	Woodson Lewis & Son, Greensburg
6403		Jop Cash, Brodhead
6544		G. H. Bowles & Son, Glasgow
6545		C. M. Brown, West Somerset
6811		C. M. Brown, West Somerset
6812		W. S. Allen, Liberty
6813		Boone Feed Store, Stanford
6901		G. H. Bowles & Son, Glasgow
6546	Ammonium Nitrate 32.50%.....	C. M. Brown, West Somerset
Knoxville Fertilizer Co., Knoxville and Nashville, Tennessee.		
6321	Pulverized 6-8-6 (Muriate)	Vick Smith, Bowling Green
6404		Richmond Hatchery, Richmond
6547		Fayette Seed Co., Lexington
6715		McCauley Bros., Versailles
6277	4-12-4 (Muriate)	Bourbon Hardware Co., Paris
6322		Harris Feed Co., Franklin
6405		Barney Rasner, Columbia
6548		Wright Hardware Co., Flemingsburg....
6716		McCauley Bros. Seed Co., Versailles....
6814		Parker S. Cooper, Monticello
6815		A. T. Sanders, Lancaster
6278	Victory Garden Fertilizer	
6406	4-12-4 (Muriate)	Shipp & Buckner Mills, Campbellville Grays Hardware Co., Grays

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
1.96	1.90	12.35	6.26	.....	28.6	29.2	6398
1.95	1.87	12.17	6.11	.....	28.6	28.8	6399
2.02	1.94	12.12	6.01	.....	28.6	28.8	6542
2.14	2.08	12.12	6.83	.....	28.6	30.2	6712
2.18	2.07	12.05	6.35	.....	28.6	29.7	6806
2.02	1.84	12.25	6.06	.....	28.6	29.0	6807
1.78	1.67	12.40	6.02	.....	28.6	28.3	6808
2.02	1.81	12.32	6.19	.....	28.6	29.3	6897
2.22	2.12	12.42	6.41	.....	28.6	30.4	6898
2.20	2.11	11.52	6.14	.....	28.6	28.9	6899
.....	.....	14.35	7.53	.....	25.2	26.3	6400
.....	.....	13.80	7.39	.....	25.2	25.4	6401
.....	.....	14.42	7.59	.....	25.2	26.4	6713
.....	.....	13.97	7.00	.....	25.2	25.2	6809
.....	.....	14.62	7.34	.....	25.2	26.4	6900
.....	.....	12.20	12.72	.....	28.8	29.9	6543
.....	.....	12.77	12.55	.....	28.8	30.4	6714
.....	.....	12.27	12.78	.....	28.8	30.1	6810
.....	.....	21.00	.....	.....	24.0	25.2	6402
.....	.....	21.17	.....	.....	24.0	25.4	6403
.....	.....	20.00	.....	.....	24.0	24.0	6544
.....	.....	20.42	.....	.....	24.0	24.5	6545
.....	.....	19.72	.....	.....	24.0	23.7	6811
.....	.....	19.62	.....	.....	24.0	23.5	6812
.....	.....	19.50	.....	.....	24.0	23.4	6813
.....	.....	20.50	.....	.....	24.0	24.6	6901
34.40	.....	.....	.....	.....	74.8	79.1	6546
6.20	6.08	7.95	6.66	.....	37.8	39.2	6321
5.95	5.83	8.75	6.88	.....	37.8	39.6	6404
5.51	5.40	9.12	6.07	.....	37.8	37.5	6547
5.67	5.55	9.25	6.49	.....	37.8	38.7	6715
3.93	3.78	12.35	4.26	.....	33.2	33.7	6277
3.97	3.87	12.50	4.14	.....	33.2	33.9	6322
3.73	3.66	12.27	4.01	.....	33.2	32.6	6405
4.03	3.89	12.45	4.11	.....	33.2	34.0	6548
4.17	3.99	12.02	4.11	.....	33.2	34.0	6716
3.10	2.89	11.35	4.53	.....	33.2	29.9	6814
2.64	2.48	11.97	5.40	.....	33.2	30.1	6815
4.02	3.91	12.47	4.33	.....	33.2	34.2	6278
4.01	3.86	12.32	4.28	.....	33.2	34.0	6406

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
Knoxville Fertilizer Co.—Continued		
6279	Knox 3-9-6 (Muriate)	W. H. Brock & Co., Maysville
6323		W. H. Brock & Co., Winchester
6549		C. M. Langdon, Science Hill
6550		Parker S. Cooper, Monticello
6324	3-9-6 (Muriate 3, Sulfate 3)	Fayette Seed Co., Lexington
6407		Allison Shipp, Campbellsville
6408		H. B. McClary, Auburn
6551		Stuart's Grocery, Horse Cave
6552		L. C. McLoney & Son, Cynthiana
6553		G. H. Bowles & Son, Glasgow
6554		Arnold Weddle, Nancy
6555	Knox 2-12-6 (Muriate)	E. T. Meador, Scottsville
6816		C. M. Langdon, Science Hill
6817		W. C. Turner, Greensburg
6902		W. C. Stuart's Grocery, Horse Cave
6903		Sherman Bence, London
6818	Knox 0-14-7 (Muriate)	C. M. Langdon, Science Hill
6904		H. B. McClary, Auburn
6905		Vick Smith, Bowling Green
6906		Greenwell's Feed Store, Lebanon
6907		Harris Feed Co., Franklin
6409	Basic 0-14-4 (Muriate)	Jellico Grocery Co., Harlan
6410		Barney Rasner, Columbia
6411		H. B. McClary, Auburn
6556		J. B. Babb, Adairville
6717		Tom Craft, E. Bernstadt
6412	Knox Pulverized Superphosphate 20%	Nay Chesnut, London
6413		W. C. Turner, Greensburg
6414		H. B. McClary, Auburn
6557		E. T. Meador, Scottsville
6558		Gid Hollingsworth, Tompkinsville
6718		Grobmyer Coal & Lumber Co., Carrollton
6719		C. M. Langdon, Science Hill
6819		A. T. Sanders, Lancaster
6820		Parker S. Cooper, Monticello
6821		W. C. Turner, Greensburg
6908		Vick Smith, Bowling Green
6909		E. T. Meador, Scottsville
6720	Knox Superphosphate 18%	Cundiff & Cundiff, Columbia
6721		Allison Shipp, Campbellsville
6415	Nitrate of Soda 16%	Nay Chesnut, London
6559		E. T. Meador, Scottsville
6560		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	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
2.96	2.89	10.00	5.76	.....	28.5	29.3	6279
3.01	2.90	9.47	6.05	.....	28.5	29.2	6323
3.01	2.92	9.97	6.03	.....	28.5	29.7	6549
3.07	2.98	9.87	6.15	.....	28.5	30.0	6550
3.03	2.76	9.85	5.94	Yes	28.5	29.6	6324
3.33	3.01	9.12	6.26	Yes	28.5	30.1	6407
3.00	2.77	9.77	5.61	Yes	28.5	29.0	6408
3.53	3.09	9.77	5.95	Yes	28.5	31.2	6551
3.03	2.72	9.77	6.06	Yes	28.5	29.6	6552
2.72	2.50	9.60	5.92	Yes	28.5	28.1	6553
2.99	2.72	9.72	6.47	Yes	28.5	29.9	6554
1.86	1.70	11.92	5.07	.....	28.6	26.9	6555
1.77	1.62	12.27	5.40	.....	28.6	27.4	6816
2.01	1.84	12.02	5.74	.....	28.6	28.3	6817
1.95	1.78	13.12	5.56	.....	28.6	29.2	6902
1.99	1.84	12.55	5.93	.....	28.6	29.1	6903
.....	.....	14.17	6.85	.....	25.2	25.2	6818
.....	.....	14.15	7.04	.....	25.2	25.4	6904
.....	.....	14.25	6.46	.....	25.2	24.9	6905
.....	.....	14.12	7.29	.....	25.2	25.7	6906
.....	.....	14.22	7.04	.....	25.2	25.5	6907
.....	.....	14.15	4.17	.....	21.6	22.0	6409
.....	.....	14.20	4.28	.....	21.6	22.2	6410
.....	.....	14.07	4.40	.....	21.6	22.2	6411
.....	.....	14.05	4.58	.....	21.6	22.4	6556
.....	.....	15.27	3.99	.....	21.6	23.1	6717
.....	.....	20.70	.....	.....	24.0	24.8	6412
.....	.....	20.17	.....	.....	24.0	24.2	6413
.....	.....	20.27	.....	.....	24.0	24.3	6414
.....	.....	20.87	.....	.....	24.0	25.0	6557
.....	.....	19.87	.....	.....	24.0	23.8	6558
.....	.....	20.12	.....	.....	24.0	24.1	6718
.....	.....	21.15	.....	.....	24.0	25.4	6719
.....	.....	20.82	.....	.....	24.0	25.0	6819
.....	.....	19.75	.....	.....	24.0	23.7	6820
.....	.....	19.60	.....	.....	24.0	23.5	6821
.....	.....	19.87	.....	.....	24.0	23.8	6908
.....	.....	19.45	.....	.....	24.0	23.3	6909
.....	.....	17.37	.....	.....	21.6	20.8	6720
.....	.....	18.72	.....	.....	21.6	22.5	6721
16.20	.....	.....	.....	.....	44.8	45.4	6415
16.16	.....	.....	.....	.....	44.8	45.3	6559
16.20	.....	.....	.....	.....	44.8	45.4	6560

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
Knoxville Fertilizer Co.—Continued		
6280	Sulfate of Potash 48%	Greenwell Feed Store, Lebanon
Louisville Fertilizer Co., Div. Armour & Co., Cincinnati, O., Nashville, Tenn., Jeffersonville, Ind.		
6722	Louisville 6-8-6 (Sulfate)	Yopp Seed Co., Paducah
6416	Louisville 4-12-8 (Muriate)	Yopp Seed Co., Paducah
6417	Louisville 4-12-4 (Muriate)	Yopp Seed Co., Paducah
6723	Louisville 3-9-6 (Muriate)	Yopp Seed Co., Paducah
6724	Louisville 2-12-6 (Muriate)	Yopp Seed Co., Paducah
Morris Fertilizer Co., Div. Armour & Co., Cincinnati, O., Nashville, Tenn., Jeffersonville, Ind.		
6418	Morris 3-9-6 (Muriate)	U-Tote-Em Grocery Co., Mayfield
National Chemical Co. (owned by North American Fertilizer Co.,) Louisville, Ky.		
6725	"Big Pay" 6-8-6 (Sulfate)	Henry Durham, Greensburg
North American Fertilizer Co., Louisville, Ky.		
6325	N. Am. 6-8-6 (Muriate)	W. D. Cunningham, Webbs Cross Roads
6419		Browning Coal & Feed Co., Winchester
6443		Ky. Experiment Station, Lexington.....
6561		W. A. Farnau, Lancaster
6615		Ky. State Reformatory, LaGrange
6616		Eastern State Hospital, Lexington
6444	N. Am. 6-8-6 (Sulfate)	Ky. Experiment Station, Lexington.....
6562		W. C. Howk, Cynthiana
6420	N. Am. 4-12-4 (Muriate)	Renfro Supply Co., Williamsburg
6563		W. S. Allen, Liberty
6617		Central State Hospital, Lakeland
6726		Ky. Houses of Reform, Greendale
6910		Bunton Seed Co., Louisville
6564	N. Am. 4-12-0	Ratliff Bros., Carlisle
6326	N. Am. 4-10-6 (Muriate)	E. J. Terry, Jackson
6565		W. S. Allen, Liberty
6566		Joe Ballard, Burgin
6618		Feeble-Minded Institute, Frankfort ...
6619		Central State Hospital, Lakeland
6727		Arnold Turpin, Nancy
6728		Lewisport Mill Co., Lewisport
6729		Young Realty Co., Providence
6730		Ky. State Penitentiary Farm, Kuttawa
6731		Western State Hospital, Hopkinsville...

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
.....	.....	.....	49.96	No ¹	52.8	55.0	6280
6.00	5.61	10.45	6.02	Yes	37.8	40.8	6722
3.87	3.40	13.30	7.57	.....	38.0	38.6	6416
3.89	3.59	12.87	4.08	.....	33.2	34.0	6417
3.26	3.15	9.62	6.30	.....	28.5	30.5	6723
1.92	1.69	12.32	5.90	.....	28.6	28.6	6724
3.53	3.25	12.67	4.94	.....	28.5	33.5	6418
5.82	5.72	8.40	6.51	No ²	37.8	38.3	6725
5.72	5.57	8.45	7.37	.....	37.8	39.0	6325
5.84	5.63	8.70	5.90	.....	37.8	38.0	6419
5.67	5.57	8.55	6.63	.....	37.8	38.1	6443
6.27	6.08	8.72	6.23	.....	37.8	39.9	6561
6.04	5.96	8.42	6.59	.....	37.8	39.2	6615
5.52	5.42	8.52	7.19	.....	37.8	38.2	6616
5.65	5.57	8.65	5.97	Yes	37.8	37.3	6444
5.90	5.83	8.55	6.46	Yes	37.8	38.7	6562
3.74	3.54	11.70	4.94	.....	33.2	33.1	6420
3.71	3.54	12.32	4.70	.....	33.2	33.4	6563
4.60	4.49	11.82	4.79	.....	33.2	36.0	6617
3.16	3.00	12.75	4.91	.....	33.2	32.3	6726
3.84	3.53	12.25	4.66	.....	33.2	33.7	6910
4.07	3.95	12.42	.....	.....	28.4	29.2	6564
4.49	4.36	10.00	6.04	.....	33.2	35.0	6326
4.26	4.12	10.05	6.42	.....	33.2	34.7	6565
4.10	3.97	10.22	6.29	.....	33.2	34.2	6566
3.90	3.79	10.37	7.05	.....	33.2	34.6	6618
3.93	3.82	10.70	6.11	.....	33.2	33.9	6619
3.15	3.00	10.75	7.46	.....	33.2	32.9	6727
4.17	4.01	9.12	5.48	.....	33.2	32.1	6728
4.16	3.99	10.10	6.34	.....	33.2	34.4	6729
4.45	4.28	9.15	7.11	.....	33.2	35.1	6730
3.84	3.69	10.67	6.17	.....	33.2	33.6	6731

¹ Excess muriate equivalent to 0.18 percent potash.

² Excess muriate equivalent to 0.45 percent potash.

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
North American Fertilizer Co.—Continued		
6327	N. Am. 3-9-6 (Muriate)	W. D. Cunningham, Webbs Cross Roads
6732		Ky. Houses of Reform, Greendale
6733		I. K. Miller & Son, Campbellsville
6734		Arnold Turpin, Nancy
6735	N. Am. 3-9-6 (Sulfate)	Watson Coal & Feed Co., Princeton.....
6328	N. Am. 2-12-6 (Muriate)	W. D. Cunningham, Webbs Cross Roads
6567		A. G. Miller, Magnolia
6568		W. S. Allen, Liberty
6736		I. K. Miller & Son, Campbellsville
6737		Henry Durham, Greensburg
6822		I. K. Miller & Son, Campbellsville
6911		Mrs. W. W. Owens, Russell Springs
6912	N. Am. 0-14-7 (Muriate)	Henry Durham, Greensburg
6569	N. Am. 0-14-4 (Muriate)	Mrs. W. W. Owens, Russell Springs....
6738		I. K. Miller & Son, Campbellsville
6739		Murphy Bros., Clementsville
6823	N. Am. Superphosphate 20%.....	Mrs. W. W. Owens, Russell Springs
6824		I. K. Miller & Son, Campbellsville.....
6825		Gribsby & Co., Bardstown
6570	N. Am. Superphosphate 19%	John J. Carter, Waynesburg
6740		Young Realty Co., Providence
Price Chemical Co., Louisville, Ky.		
6421	6-8-6 (Muriate)	St. Matthews Produce Exchange, St. Matthews
6422		Harralson Feed & Seed Store, Owensboro
6571		Lemon Brothers, Cynthiana
6572		Spears, Kiser Co., Paris.....
6741		Robinson & Turley, Richmond
6423	6-8-6 (Sulfate of Potash- Magnesia)	Perryville Ice & Produce Co., Perryville
6281	4-12-4 (Muriate)	Lemons Bros., Cynthiana
6424		Triplett Store, South Corbin
6573		Frank J. Murphy, Valley Station
6574		Feeders Supply Co., Ashland
6282	4-12-0	Monarch Milling Co., Mt. Sterling
6329		Trent & Board, Irvington
6425		Fox Brothers, Winchester
6426	4-10-6 (Muriate)	Triplett Store, South Corbin
6575		Noah Hall, Morehead

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
3.01	2.95	9.40	6.58	.....	28.5	29.7	6327
3.14	2.97	9.55	6.22	.....	28.5	29.9	6732
3.48	3.36	10.60	5.59	.....	28.5	31.6	6733
3.34	3.19	8.67	5.93	.....	28.5	29.2	6734
3.16	3.07	9.37	6.15	Yes	28.5	29.7	6735
2.20	2.12	12.32	6.13	.....	28.6	29.8	6328
2.37	2.27	12.50	5.80	.....	28.6	30.3	6567
2.15	2.05	12.05	5.80	.....	28.6	29.0	6568
1.66	1.51	13.02	6.01	.....	28.6	28.6	6736
2.07	1.92	12.02	6.40	.....	28.6	29.4	6737
1.93	1.80	12.45	6.49	.....	28.6	29.5	6822
1.94	1.84	11.95	6.45	.....	28.6	28.9	6911
.....	.....	14.27	7.63	.....	25.2	26.3	6912
.....	.....	13.30	4.53	.....	21.6	21.4	6569
.....	.....	14.02	4.30	.....	21.6	22.0	6738
.....	.....	12.32	4.61	.....	21.6	20.3	6739
.....	.....	19.07	.....	.....	24.0	22.9	6823
.....	.....	18.52	.....	.....	24.0	22.2	6824
.....	.....	19.77	.....	.....	24.0	23.7	6825
.....	.....	18.20	.....	.....	22.8	21.8	6570
.....	.....	19.42	.....	.....	22.8	23.3	6740
5.73	5.56	9.15	6.44	.....	37.8	38.8	6421
5.99	5.82	8.57	6.53	.....	37.8	39.1	6422
5.91	5.76	8.15	6.34	.....	37.8	38.1	6571
5.94	5.82	8.07	6.41	.....	37.8	38.2	6572
6.05	5.90	8.37	6.51	.....	37.8	39.0	6741
6.07	5.70	8.65	6.27	Yes	37.8	39.2	6423
4.09	3.90	12.12	4.44	.....	33.2	34.2	6281
5.97	5.79	8.90	6.18	.....	33.2	39.0	6424
3.36	3.18	13.40	4.22	.....	33.2	32.9	6573
4.41	4.24	12.75	4.68	.....	33.2	36.4	6574
4.29	3.87	12.65	.....	.....	28.4	30.2	6282
4.27	3.87	12.70	.....	.....	28.4	30.2	6329
4.58	4.14	12.42	.....	.....	28.4	30.9	6425
4.03	3.86	10.52	6.20	.....	33.2	34.2	6426
4.59	4.43	10.97	6.06	.....	33.2	36.5	6575

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
Price Chemical Co.—Continued		
6427	3-9-6 (Muriate)	Harralson Feed & Seed Store, Owensboro
6428		Triplett Store, South Corbin
6742		R. Z. Hook, Hardensburg
6743		Robinson & Turley, Richmond
6576	3-9-6 (Sulfate of Potash- Magnesia)	Monarch Milling Co., Mt. Sterling
6744	2-12-6 (Muriate)	Gish Furniture Co., Central City
6745		Caulk Hardware Co., Campbellsville
6746		Triplett Store, South Corbin
6826		G. M. Hedrick, Monticello
6913		W. L. Anderson & Son, Caneyville
6747	Superphosphate 20%	Caulk Hardware Co., Campbellsville....
6914		A. L. Hazle, Hodgenville
6429	Superphosphate 18%	Harralson Feed & Seed Store, Owensboro
6577		Monarch Milling Co., Mt. Sterling
6748		Caulk Hardware Co., Campbellsville
6915		W. L. Anderson & Son, Caneyville
Swift & Co., Fertilizer Works, National Stock Yards, Ill.		
6283	"Vigoro Brand" 4-12-4 (Muriate)	L. N. Kratzer, Mt. Sterling
6331		Hollingsworth-Young Hardware Co., Bowling Green
6580		Farmers Supply Co., Harrodsburg
6284	Red Steer 4-12-0	Stagg Brothers, Vanceburg
6285	Red Steer 4-10-6 (Muriate)	Stagg Brothers, Vanceburg
6581		Dorsey Brothers and Fisher, Carlisle ...
6582		Spears and Kiser, Paris
6583	Red Steer 4-10-6 (Sulfate)	L. N. Kratzer, Mt. Sterling
6750		Millersburg Coal & Lumber Co., Millersburg
6584	Red Steer 3-9-6 (Muriate)	Dorsey Brothers and Fisher, Carlisle ...
6585		Farmers Supply Co., Harrodsburg
6586		Spears and Kiser, Paris
6751		E. C. Miller, Buechel
6430	Red Steer 3-9-6 (Sulfate)	Knight Brothers, Pleasureville
6587		L. N. Kratzer, Mt. Sterling
6431	Red Steer Superphosphate 20%	Knight Brothers, Pleasureville
6588		Dorsey Brothers and Fisher, Carlisle ...
6941		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	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
3.41	3.27	9.12	6.26	.....	28.5	30.4	6427
3.16	3.01	9.62	6.29	.....	28.5	30.2	6428
3.19	3.04	9.37	6.03	.....	28.5	29.6	6742
3.16	3.01	9.10	6.39	.....	28.5	29.7	6743
3.63	3.43	10.32	6.50	Yes	28.5	32.9	6576
2.46	2.28	13.05	5.98	.....	28.6	31.5	6744
2.42	2.25	12.00	6.18	.....	28.6	30.3	6745
2.54	2.37	13.17	5.89	.....	28.6	31.8	6746
2.27	2.03	12.40	6.04	.....	28.6	30.1	6826
2.02	1.79	12.30	5.99	.....	28.6	29.0	6913
.....	.....	19.37	.....	.....	24.0	23.2	6747
.....	.....	20.02	.....	.....	24.0	24.0	6914
.....	.....	18.42	.....	.....	21.6	22.1	6429
.....	.....	18.35	.....	.....	21.6	22.0	6577
.....	.....	18.35	.....	.....	21.6	22.0	6748
.....	.....	18.45	.....	.....	21.6	22.1	6915
4.01	3.76	12.57	4.66	.....	33.2	34.7	6283
4.23	3.98	12.77	4.75	.....	33.2	35.8	6331
4.17	3.92	12.60	4.15	.....	33.2	34.7	6580
4.31	3.93	12.02	.....	.....	28.4	29.5	6284
3.78	3.55	10.55	6.15	.....	33.2	33.3	6285
3.95	3.76	10.22	6.50	.....	33.2	33.9	6581
4.14	4.00	10.82	6.07	.....	33.2	34.8	6582
4.26	4.01	10.50	5.80	Yes	33.2	34.5	6583
4.33	4.03	10.62	5.83	Yes	33.2	34.9	6750
2.93	2.76	9.27	6.46	.....	28.5	29.1	6584
3.14	2.95	9.12	6.00	.....	28.5	29.1	6585
3.01	2.84	9.22	6.64	.....	28.5	29.6	6586
2.84	2.62	9.52	6.00	.....	28.5	28.6	6751
3.14	2.92	9.17	5.92	Yes	28.5	29.1	6430
3.13	2.94	9.40	6.30	No ¹	28.5	29.8	6587
.....	.....	20.22	.....	.....	24.0	24.3	6431
.....	.....	20.42	.....	.....	24.0	24.5	6588
.....	.....	20.87	.....	.....	24.0	25.0	6941

¹ Excess muriate equivalent to 0.50 percent potash.

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
Swift & Co., Fertilizer Works—Continued		
6752	Swift's Red Steer Superphosphate 18%	Morganfield Hardware Co., Morganfield
6916		Yopp Seed Co., Paducah
Tennessee Chemical Co., Div. Armour and Co., Cincinnati, O., Nashville, Tenn., Jeffersonville, Ind.		
6917	Ox 10-6-4 (Muriate)	V. B. Nuckols, Elkton
6332	Ox 4-12-8 (Muriate)	Sexton-Douglas Hardware Co., Murray
6432	Ox 3-9-6 (Sulfate)	Ed. Allen, Smith's Grove
6589		M. L. Levy, Pembroke
6333	Ox 2-12-6 (Muriate)	Sexton-Douglas Hardware Co., Murray
6590		Thompson Hardware Co., Trenton
6753		Townsend's Store, Dixon
6918		V. B. Nuchols, Elkton
6942		W. H. Arnold and Co., Madisonville
6591	Ox 0-14-4 (Muriate)	Thompson Hardware Co., Trenton
6919	Ox Superphosphate 20%	V. B. Nuckols, Elkton
6920		S. B. Bilbro, Nortonville
6943		Sexton-Douglas Hardware Co., Murray
6754	Ox Superphosphate 18%	Lewisport Mill Co., Lewisport
Tennessee Corporation, New Albany, Ind.		
6755	2-12-6 (Muriate)	The T. J. Turley Co., Owensboro
6827		U. L. Rogers, Gradyville
6828		Jas. C. Miller and Co., Campbellsville
6921		Henry Durham, Greensburg
6944		Coleman Feed and Supply Co., Marion
6756	0-14-7 (Muriate)	I. K. Miller and Son, Campbellsville
6829		Jas. C. Miller and Co., Campbellsville
6830		U. L. Rogers, Gradyville
6757	Superphosphate 20%	I. K. Miller and Son, Campbellsville
6831		U. L. Rogers, Gradyville
Virginia-Carolina Chemical Corporation, Cincinnati, O., Mt. Pleasant, Tenn.		
6592	V-C 6-8-6 (Muriate)	John H. Burba Hardware Co., Hodgenville
6593		Stewart and Co., Munfordville
6594		J. H. Greene, Lexington
6595		Woodford Spears and Son, Paris
6758		R. B. McCollum, Eubank
6759		G. M. Hedrick, Monticello

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
.....	.....	19.00	.....	.....	21.6	22.8	6752
.....	.....	18.80	.....	.....	21.6	22.6	6916
3.70	3.58	11.97	5.66	.....	47.0	34.1	6917
3.94	3.44	13.02	9.25	.....	38.0	40.5	6332
2.86	2.73	10.47	5.65	No ¹	28.5	29.4	6432
4.40	4.01	9.10	5.35	No ²	28.5	32.7	6589
2.04	1.83	13.47	5.88	.....	28.6	30.4	6333
2.06	1.80	13.02	6.36	.....	28.6	30.5	6590
2.06	1.75	12.67	6.87	.....	28.6	30.7	6753
2.12	1.76	13.10	5.98	.....	28.6	30.3	6918
2.22	1.93	11.65	6.84	.....	28.6	30.0	6942
.....	.....	14.35	4.33	.....	21.6	22.4	6591
.....	.....	20.80	.....	.....	24.0	25.0	6919
.....	.....	20.15	.....	.....	24.0	24.2	6920
.....	.....	20.25	.....	.....	24.0	24.3	6943
.....	.....	18.70	.....	.....	21.6	22.4	6754
2.29	2.16	11.92	5.76	.....	28.6	29.2	6755
1.92	1.78	12.70	5.36	.....	28.6	28.4	6827
1.92	1.76	12.02	6.27	.....	28.6	28.7	6828
1.93	1.77	12.75	5.54	.....	28.6	28.7	6921
1.96	1.78	12.62	5.76	.....	28.6	28.9	6944
.....	.....	14.02	7.44	.....	25.2	25.8	6756
.....	.....	14.45	6.73	.....	25.2	25.4	6829
.....	.....	14.77	6.11	.....	25.2	25.1	6830
.....	.....	19.72	.....	.....	24.0	23.7	6757
.....	.....	19.85	.....	.....	24.0	23.8	6831
5.93	5.79	8.85	6.54	.....	37.8	39.2	6592
5.87	5.74	8.70	6.22	.....	37.8	38.5	6593
5.98	5.86	8.25	6.41	.....	37.8	38.5	6594
6.01	5.90	8.55	6.42	.....	37.8	39.0	6595
5.85	5.70	7.80	6.03	.....	37.8	37.1	6758
5.75	5.57	8.57	6.05	.....	37.8	37.7	6759

¹ All potash from muriate.

² Excess muriate equivalent to 1.88 percent potash.

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
Virginia-Carolina Chemical Corporation—Continued		
6286	V-C 4-12-8 (Sulfate)	Knox County Supply Co., Barbourville
6434		Farmers Supply Co., Eminence
6596		Scottsville Feed Co., Scottsville
6597		J. H. Greene, Lexington
6435	V-C 4-12-4 (Muriate)	U. L. Rogers, Gradyville
6436		Dyche Jones, London
6598		G. M. Hedrick, Monticello
6760		Whitesburg Wholesale Co., Whitesburg
6438	V-C 4-12-0	Shelby Feed and Seed Co., Shelbyville
6437	V-C 4-10-6 (Muriate)	Knox County Supply Co., Barbourville
6599		George Richardson, Somerset
6761		George Richardson, Somerset
6600	V-C 4-10-6 (Sulfate)	Scottsville Feed Co., Scottsville
6601		Adams and Moore, Cynthiana
6602		J. H. Greene, Lexington
6287	V-C 3-12-12 (Muriate)	A. T. Sanders, Lancaster
6288	V-C 3-9-6 (Muriate)	Grayson Milling Co., Grayson
6439		Stamper Feed and Seed Co., Corbin
6762		U. L. Rogers, Gradyville
6763		Williams Feed Store, Murray
6603	V-C 3-9-6 (Sulfate)	Adams and Moore, Cynthiana
6604		Woodford Spears and Son, Paris
6440	V-C 2-12-6 (Muriate)	Dyche Jones, London
6605		Denton Mercantile Co., Hillsboro
6606		Polson's Grocery, Glasgow
6764		U. L. Rogers, Gradyville
6765		G. P. Jones and Son, Hartford
6766		W. I. Smith, Sebree
6832		George Richardson, Somerset
6833		U. L. Rogers, Gradyville
6922		Scottsville Feed Co., Scottsville
6607	V-C 0-14-7 (Muriate)	Polson's Grocery, Glasgow
6608		J. H. Greene, Lexington
6609		Scottsville Feed Co., Scottsville
6767		George Richardson, Somerset
6923		Scottsville Feed Co., Scottsville
6924	V-C 0-12-12 (Muriate)	Miss Agnes Scott, Russellville

FERTILIZERS, SUPERPHOSPHATE, AND FERTILIZER SALTS

Nitrogen		Phosphoric acid available	Potash	Sulfate guaranty met	Index of relative value		Station number
Total	Water soluble				Guaranty	Found	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
4.16	4.02	12.22	8.69	Yes	38.0	39.7	6286
4.16	4.04	12.42	8.15	Yes	38.0	39.2	6434
3.99	3.87	13.22	7.18	No ¹	38.0	38.4	6596
4.08	3.98	12.65	7.99	Yes	38.0	39.1	6597
4.19	3.99	12.05	4.21	.....	33.2	34.2	6435
4.28	4.03	12.00	4.48	.....	33.2	34.8	6436
4.19	3.92	12.22	4.33	.....	33.2	34.5	6598
4.07	3.81	12.25	4.07	.....	33.2	33.8	6760
4.15	3.82	12.62	.....	.....	28.4	29.7	6438
4.09	3.93	10.52	6.34	.....	33.2	34.5	6437
4.28	4.15	10.30	6.54	.....	33.2	35.2	6599
3.79	3.60	10.20	6.34	.....	33.2	33.1	6761
3.85	3.68	10.97	6.21	No ²	33.2	34.1	6600
4.09	3.97	10.70	5.98	Yes	33.2	34.3	6601
4.01	3.80	10.40	6.04	Yes	33.2	33.8	6602
3.01	2.90	12.47	12.45	.....	39.3	40.4	6287
3.11	2.96	9.17	6.13	.....	28.5	29.2	6288
3.14	3.00	9.20	6.01	.....	28.5	29.2	6439
2.99	2.86	8.75	6.24	.....	28.5	28.5	6762
3.12	3.05	9.07	6.07	.....	28.5	29.1	6763
3.13	2.95	9.20	6.21	Yes	28.5	29.5	6603
3.14	2.93	9.25	6.07	Yes	28.5	29.4	6604
2.11	1.93	12.67	6.44	.....	28.6	30.3	6440
2.08	1.90	12.55	6.32	.....	28.6	29.9	6605
2.05	1.91	12.37	6.46	.....	28.6	29.8	6606
2.21	2.18	12.90	5.73	.....	28.6	30.1	6764
2.00	1.85	12.15	6.40	.....	28.6	29.3	6765
1.99	1.80	12.05	6.46	.....	28.6	29.2	6766
2.02	1.87	12.20	6.38	.....	28.6	29.4	6832
2.08	1.78	12.27	6.06	.....	28.6	29.3	6833
2.00	1.88	12.92	6.11	.....	28.6	29.8	6922
.....	.....	16.47	6.89	.....	25.2	28.0	6607
.....	.....	14.05	7.86	.....	25.2	26.3	6608
.....	.....	14.42	7.04	.....	25.2	25.8	6609
.....	.....	14.05	7.28	.....	25.2	25.6	6767
.....	.....	14.70	6.55	.....	25.2	25.5	6923
.....	.....	13.00	12.45	.....	28.8	30.5	6924

¹ Excess muriate equivalent to 0.26 percent potash.
² Excess muriate equivalent to 0.24 percent potash.

TABLE 3.—ANALYSES OF INSPECTION SAMPLES OF MIXED

Station	Name and address of manufacturer, brand name and guaranty	From whom obtained
Virginia-Carolina Chemical Corporation—Continued		
6441	V-C Superphosphate 20%	Stamper Feed and Seed Co., Corbin
6442		Thompson Store, Loretto
6610		Adams and Moore, Cynthiana.....
6768		R. B. McCollum, Eubank
6769		Cottingham Grain Co., Henderson
6834		G. M. Hedrick, Monticello
6835		George Richardson, Somerset
6925		Scottsville Feed Co., Scottsville
6926		Knox County Supply Co., Barbourville
6945		Young Lumber Co., Beaver Dam
6611	V-C Superphosphate 18%	J. C. Cook, Tompkinsville
6770		Coleman Feed and Supply Co., Marion
6771		Mountain Wholesale Co., Lothair
6927		Hardin County Milling Co., Elizabethtown
6612	Ammonium Nitrate 32.50%	J. N. Greene, Lexington
6613		Adams & Moore, Cynthiana

TABLE 4.—ANALYSES OF INSPECTION SAMPLES OF

Station number	Name and address of manufacturer, brand name and guaranty	From whom obtained
Ruhm Phosphate and Chemical Co., Mt. Pleasant, Tenn.		
6330	"Red Seal Brand" Ruhm Phosphate Rock	Yopp Seed Co., Paducah
6578		F. L. Gonce, Bowling Green
6579		Keath Jewell, Horse Cave
6749		Beldon Taylor, Calhoun
6946		J. K. Hooser, Hopkinsville
6947		Roy Melton, Sebree
6948		E. K. Taylor, Calhoun
Tennessee Coal, Iron and Railroad Co., Birmingham, Ala.		
6433	Low Grade Ground Open Hearth Basic Slag	H. G. Chilson, 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	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>				
.....	20.40	.....	.....	24.0	24.5	6441
.....	20.55	.....	.....	24.0	24.7	6442
.....	20.60	.....	.....	24.0	24.7	6610
.....	20.45	.....	.....	24.0	24.5	6768
.....	21.17	.....	.....	24.0	25.4	6769
.....	20.17	.....	.....	24.0	24.2	6834
.....	20.50	.....	.....	24.0	24.6	6835
.....	21.50	.....	.....	24.0	25.8	6925
.....	20.97	.....	.....	24.0	25.2	6926
.....	21.60	.....	.....	24.0	25.9	6945
.....	18.40	.....	.....	21.6	22.1	6611
.....	18.65	.....	.....	21.6	22.4	6770
.....	18.67	.....	.....	21.6	22.4	6771
.....	19.70	.....	.....	21.6	23.6	6927
33.40	74.8	76.8	6612
33.44	74.8	76.9	6613

BONE, ROCK PHOSPHATE AND BASIC SLAG

Phosphoric acid Total		Index of relative value		Station number
Guaranty	Found	Guaranty	Found	
<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	
30.00	30.05	15.0	15.0	6330
30.00	31.05	15.0	15.5	6578
30.00	34.35	15.0	17.2	6579
30.00	29.30	15.0	14.7	6749
30.00	31.35	15.0	15.7	6946
30.00	31.35	15.0	15.7	6947
30.00	29.65	15.0	14.8	6948
8.00	12.90	8.0	12.9	6433

