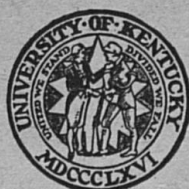


# Commercial Fertilizers in Kentucky, 1946

Including a Report on Official Fertilizer Samples  
Analyzed

July—December, 1946



Kentucky Agricultural Experiment Station  
University of Kentucky  
Lexington

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## Commercial Fertilizers in Kentucky, 1946

This bulletin contains analyses of official samples of commercial fertilizer made between July 1 and December 31, 1946. Analyses of samples made between January 1, 1946 and June 30, 1946, were published in Regulatory Bulletin 53.

Manufacturers reported that 323,278 tons of commercial fertilizer were sold in Kentucky in 1946. This was an increase of 19.5 percent over the tonnage in 1945. In addition, 44,205 tons of 20 percent superphosphate, or equivalent, were distributed in Kentucky under the "Contractual Plan" by the Production and Marketing Administration, Field Service Branch.

### SALES BY GRADE, 1946

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

TABLE 1—FERTILIZER SALES BY GRADE, 1946, REPORTED BY MANUFACTURERS

| Mixed fertilizer | Tons    | Other materials                    | Tons   |
|------------------|---------|------------------------------------|--------|
| 3-9-6 .....      | 77,518  | 20% Superphosphate .....           | 39,053 |
| 2-12-6 .....     | 64,623  | 18% Superphosphate .....           | 16,248 |
| 6-8-6 .....      | 43,612  | Raw Rock Phosphate .....           | 9,278  |
| 4-12-8 .....     | 13,809  | Ammonium Nitrate .....             | 8,710  |
| 4-12-4 .....     | 12,987  | 10% Superphosphate .....           | 5,263  |
| 0-14-7 .....     | 12,194  | Cyanamid .....                     | 3,392  |
| 3-12-12 .....    | 2,445   | Triple Superphosphate .....        | 3,382  |
| 0-14-4 .....     | 2,396   | Nitrate Soda .....                 | 1,813  |
| 4-12-0 .....     | 1,023   | Basic Slag .....                   | 920    |
| 0-12-12 .....    | 874     | Florida Waste Pond Phosphate ..... | 490    |
| 3-12-4 .....     | 805     | Activated Sludge .....             | 250    |
| 5-10-10 .....    | 705     | Ammonium Sulfate .....             | 171    |
| 8-8-8 .....      | 705     | Sulfate of Potash Magnesia .....   | 100    |
| 6-10-4 .....     | 163     | Pulverized Manure .....            | 115    |
| 10-6-4 .....     | 83      | Muriate of Potash .....            | 51     |
| Miscel. ....     | 100     |                                    |        |
| Total .....      | 234,042 | Total .....                        | 89,236 |

### PLANT FOODS OR NUTRIENTS

The minimum percentages of guaranteed plant foods, or nutrients, present in a commercial fertilizer are printed on the state tag as nitrogen, available phosphoric acid, and potash. These are the nutrients needed by plants in largest amounts and also those in which the soil is most likely to be deficient. The element corresponding to phosphoric acid is phosphorus and the element corresponding to potash is potassium.

### FERTILIZER GRADE

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

### LOW-GRADE VERSUS HIGH-GRADE FERTILIZERS

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

### FEWER GRADES NEEDED

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

Two grades, 2-12-6 and 3-9-6, constituted 60 percent of the mixed fertilizer sold in Kentucky during 1946. Although 2-12-6 is 20 percent plant food, it is doubtful whether 2 percent nitrogen is enough to be of much benefit in many cases where 2-12-6 is used.

### COMPOSITION OF MIXED FERTILIZER

A mixed fertilizer is made up mainly of various chemical salts and compounds, which contain the nutrients as part of the compounds. For instance, a 100-pound bag of 6-8-6 fertilizer contains

only 20 pounds of nitrogen, available phosphoric acid, and potash, but the compounds containing these plant foods make up a much larger part of the mixture.

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

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

|  |             |
|--|-------------|
| Ammonium Sulfate, 20.5 percent nitrogen .....    | 390 pounds  |
| Ammonium Nitrate, 32.5 percent nitrogen .....    | 124 pounds  |
| Superphosphate, 16 percent phosphoric acid ..... | 1000 pounds |
| Muriate of Potash, 60 percent potash .....       | 200 pounds  |

|             |             |
|-------------|-------------|
| Total ..... | 1714 pounds |
|-------------|-------------|

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

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

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

### FARMERS' SAMPLES

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

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

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

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

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

### INFORMATION ON GUARANTY TAG

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

Brand name of fertilizer  
Name and address of manufacturer  
Guaranteed analysis showing:  
Minimum nitrogen, percent  
Minimum available phosphoric acid, percent  
Minimum potash, from muriate or sulfate, percent  
Estimated value per 100 pounds

Total phosphoric acid, in place of available phosphoric acid, is guaranteed in bone, tankage, basic slag, and rock phosphate. 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.

### EXPLANATION OF TABLES 2, 3 AND 4

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

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

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

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

TABLE 2—STANDING OF MANUFACTURERS, BASED ON OFFICIAL SAMPLES ANALYZED IN 1946

| Company   | Number of inspection samples |          | Equal to guaranty in all respects |          | Nitrogen, phosphoric acid and potash |                                     |          |
|---|------------------------------|----------|-----------------------------------|----------|--------------------------------------|-------------------------------------|----------|
|   | Number                       | Percent* | Number                            | Percent* | Number of analyses made              | Deficiencies of more than 1/4 of 1% |          |
|   |                              |          |                                   |          |                                      | Number                              | Percent* |
| American Agricultural Chemical Company          | 63                           | 44       | 28                                | 44       | 153                                  | 21                                  | 14       |
| American Cyanamid Company                       | 3                            | .....    | 3                                 | .....    | 3                                    | 0                                   | .....    |
| Armour Fertilizer Works                         | 116                          | 66       | 76                                | 66       | 277                                  | 18                                  | 6        |
| Louisville Fertilizer Company                   | 1                            | .....    | 1                                 | .....    | 3                                    | 0                                   | .....    |
| Morris Fertilizer Company                       | 6                            | 100      | 6                                 | 100      | 13                                   | 0                                   | 0        |
| Tennessee Chemical Company                      | 26                           | 69       | 18                                | 69       | 66                                   | 6                                   | 9        |
| Associated Cooperatives                         | 6                            | 100      | 6                                 | 100      | 6                                    | 0                                   | 0        |
| Buhner Fertilizer Company                       | 24                           | 67       | 16                                | 67       | 68                                   | 7                                   | 10       |
| Chilean Nitrate Sales Corporation               | 2                            | .....    | 2                                 | .....    | 2                                    | 0                                   | .....    |
| Cooperative Fertilizer Service                  | 19                           | 84       | 16                                | 84       | 63                                   | 2                                   | 3        |
| Cumberland Chemical Company                     | 24                           | 83       | 20                                | 83       | 59                                   | 4                                   | 7        |
| Davison Chemical Corporation:                   |                              |          |                                   |          |                                      |                                     |          |
| Hopkins Fertilizer Division                     | 31                           | 80       | 25                                | 80       | 87                                   | 2                                   | 2        |
| Read Phosphate Division                         | 94                           | 70       | 66                                | 70       | 216                                  | 24                                  | 11       |
| Federal Chemical Company                        | 91                           | 37       | 34                                | 37       | 238                                  | 45                                  | 19       |
| Hutson Chemical Company                         | 2                            | .....    | 1                                 | .....    | 4                                    | 1                                   | .....    |
| International Minerals and Chemical Corporation | 80                           | 65       | 52                                | 65       | 197                                  | 20                                  | 10       |
| Kentucky Fertilizer Works                       | 10                           | 30       | 3                                 | 30       | 28                                   | 5                                   | 18       |
| Knoxville Fertilizer Company                    | 88                           | 54       | 48                                | 54       | 222                                  | 29                                  | 13       |
| Midwestern Phosphate Corporation                | 1                            | .....    | 0                                 | .....    | 1                                    | 0                                   | .....    |
| North American Fertilizer Company               | 50                           | 60       | 30                                | 60       | 144                                  | 14                                  | 10       |
| National Chemical Company                       | 6                            | 83       | 5                                 | 83       | 18                                   | 0                                   | 0        |
| Price Chemical Company                          | 39                           | 82       | 32                                | 82       | 111                                  | 4                                   | 3        |
| Consolidated Chemical Company                   | 9                            | 80       | 7                                 | 80       | 26                                   | 0                                   | 0        |
| Ralston Purina Company                          | 2                            | .....    | 0                                 | .....    | 6                                    | 0                                   | .....    |
| Ruhm Phosphate and Chemical Company             | 3                            | .....    | 1                                 | .....    | 3                                    | 1                                   | .....    |
| Swift and Company Plant Food Division           | 25                           | 68       | 17                                | 68       | 73                                   | 3                                   | 4        |
| Tennessee Coal, Iron and Railroad Company       | 1                            | .....    | 1                                 | .....    | 1                                    | 0                                   | .....    |
| Tennessee Corporation                           | 16                           | 69       | 11                                | 69       | 46                                   | 2                                   | 4        |
| Valley Counties of Kentucky Cooperative         | 3                            | .....    | 3                                 | .....    | 3                                    | 0                                   | .....    |
| Virginia-Carolina Chemical Corporation          | 49                           | 61       | 30                                | 61       | 116                                  | 14                                  | 12       |
| Totals  | 890                          | 62.7     | 558                               | 62.7     | 2253                                 | 222                                 | 9.8      |

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



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

| Manufacturer, brand name, guaranty,<br>and from whom obtained                          | Nitrogen |                  | Phos-<br>phoric<br>acid<br>Avail-<br>able | Potash | Sulfate<br>guar.<br>met | Index of<br>relative<br>value |       |
|--|----------|------------------|---|--------|-------------------------|-------------------------------|-------|
|  | Total    | Water<br>soluble |   |        |                         | Guar.                         | Found |
| <b>The American Agricultural Chemical Co., Cincinnati, O.</b>                          |          |                  |   |        |                         |                               |       |
| 6-8-6 (Muriate)<br>Weisenberger Sanitary Flour Mill, Midway                            | 5.78     | 5.74             | 8.35                                      | 5.85   | -----                   | 35.6                          | 35.4  |
| 6-8-6 (Muriate 3, Sulfate 3)<br>Lebanon Carriage & Impl. Co., Lebanon                  | 5.49     | 5.40             | 8.47                                      | 5.94   | Yes                     | 35.6                          | 35.1  |
| <b>3-9-6 (Muriate)</b>   |          |                  |   |        |                         |                               |       |
| Norris Hdw. & Seed Co., Henderson  | 2.97     | 2.93             | 9.55                                      | 6.15   | -----                   | 30.8                          | 31.6  |
| Woodson Lewis, Greensburg  | 2.85     | 2.80             | 9.55                                      | 5.68   | -----                   | 30.8                          | 30.8  |
| Lebanon Carriage & Impl. Co., Lebanon  | 2.85     | 2.79             | 9.02                                      | 5.95   | -----                   | 30.8                          | 30.5  |
| <b>2-12-6 (Muriate)</b>  |          |                  |   |        |                         |                               |       |
| Bale Hardware Co., Horse Cave  | 1.99     | 1.95             | 12.00                                     | 6.66   | -----                   | 32.4                          | 33.0  |
| Pruitt Implement Co., Bowling Green  | 1.93     | 1.84             | 11.40                                     | 6.44   | -----                   | 32.4                          | 32.0  |
| Thomas Warren, Guthrie   | 2.49     | 2.39             | 11.68                                     | 6.41   | -----                   | 32.4                          | 33.4  |
| Baughman Milling Co., Stanford   | 1.95     | 1.90             | 12.00                                     | 6.23   | -----                   | 32.4                          | 32.5  |
| J. H. Fedders & Son, Covington   | 1.95     | 1.84             | 11.57                                     | 5.93   | -----                   | 32.4                          | 31.7  |
| Woodson Lewis, Greensburg  | 2.03     | 2.01             | 12.70                                     | 6.22   | -----                   | 32.4                          | 33.5  |
| T. S. Roberts Milling Co., Mill Springs  | 1.95     | 1.88             | 12.47                                     | 5.87   | -----                   | 32.4                          | 32.7  |
| Walters & Thompson, Shelbyville  | 1.84     | 1.71             | 11.93                                     | 5.96   | -----                   | 32.4                          | 32.0  |
| Carroll County Farm Bureau, Carrollton   | 2.02     | 1.89             | 11.90                                     | 6.05   | -----                   | 32.4                          | 32.4  |
| Watson Coal & Feed Co., Princeton  | 1.88     | 1.74             | 12.70                                     | 6.69   | -----                   | 32.4                          | 33.7  |
| H. C. Harmon, Perryville   | 1.93     | 1.80             | 11.55                                     | 6.26   | -----                   | 32.4                          | 32.0  |
| Crab Orchard Lumber Co., Crab Orchard  | 1.97     | 1.89             | 12.25                                     | 5.99   | -----                   | 32.4                          | 32.6  |
| <b>18% Superphosphate</b>  |          |                  |   |        |                         |                               |       |
| Lebanon Carriage & Impl. Co., Lebanon  | -----    | -----            | 18.85                                     | -----  | -----                   | 23.4                          | 24.5  |
| Robert James Feeds Co., Franklin   | -----    | -----            | 19.50                                     | -----  | -----                   | 23.4                          | 25.4  |
| Thomas Warren, Guthrie   | -----    | -----            | 19.30                                     | -----  | -----                   | 23.4                          | 25.1  |
| C. B. Carden, Hartford   | -----    | -----            | 17.72                                     | -----  | -----                   | 23.4                          | 23.0  |
| Norris Hdw. & Seed Co., Henderson  | -----    | -----            | 18.47                                     | -----  | -----                   | 23.4                          | 24.0  |
| Crab Orchard Lumber Co., Crab Orchard  | -----    | -----            | 19.20                                     | -----  | -----                   | 23.4                          | 25.0  |
| Lebanon Carriage & Impl. Co., Lebanon  | -----    | -----            | 19.15                                     | -----  | -----                   | 23.4                          | 24.9  |
| Ross Feed Co., Murray  | -----    | -----            | 18.00                                     | -----  | -----                   | 23.4                          | 23.4  |
| J. W. Davidson, Science Hill   | -----    | -----            | 18.95                                     | -----  | -----                   | 23.4                          | 24.6  |
| Watson's Feed & Coal Co., Princeton  | -----    | -----            | 19.03                                     | -----  | -----                   | 23.4                          | 24.7  |
| Carroll County Farm Bureau, Carrollton   | -----    | -----            | 18.90                                     | -----  | -----                   | 23.4                          | 24.6  |
| Yopps Seed Co., Paducah  | -----    | -----            | 18.40                                     | -----  | -----                   | 23.4                          | 23.9  |
| <b>American Cyanamid Co., New York 20, N. Y.</b>                                       |          |                  |   |        |                         |                               |       |
| <b>20.60% "Aero" Cyanamid Granular</b>   |          |                  |   |        |                         |                               |       |
| Fox Hardware Co., Madisonville   | 20.56    | -----            | -----                                     | -----  | -----                   | 49.4                          | 49.3  |
| Danville Hdw. & Supply Co., Danville   | 20.72    | -----            | -----                                     | -----  | -----                   | 49.4                          | 49.7  |
| <b>Armour Fertilizer Works, Cincinnati, O., Jeffersonville, Ind., Nashville, Tenn.</b> |          |                  |   |        |                         |                               |       |
| <b>10-6-4 (Muriate) "Big Crop Brand"</b>   |          |                  |   |        |                         |                               |       |
| Meacham's Koreandale Farm, Morganfield   | 9.92     | 9.67             | 6.62                                      | 4.50   | -----                   | 39.2                          | 40.3  |
| <b>6-8-6 (Sulfate) Armour's</b>  |          |                  |   |        |                         |                               |       |
| J. W. Connley, Warsaw  | 5.93     | 5.60             | 8.05                                      | 6.29   | Yes                     | 35.6                          | 35.8  |
| <b>4-12-8 (Muriate) "Big Crop Brand"</b>   |          |                  |   |        |                         |                               |       |
| Forbes Hardware Co., Hopkinsville  | 3.94     | 2.75             | 10.90                                     | 8.31   | -----                   | 38.4                          | 37.3  |
| Lewisport Mill Co., Lewisport  | 3.88     | 3.58             | 11.90                                     | 8.15   | -----                   | 38.4                          | 38.2  |
| <b>4-12-4 (Muriate) "Big Crop Brand"</b>   |          |                  |   |        |                         |                               |       |
| Guy Armes, Hardinsburg   | 4.04     | 3.74             | 12.07                                     | 4.72   | -----                   | 34.4                          | 35.3  |
| U. L. Rogers, Gradyville   | 4.20     | 3.86             | 11.80                                     | 4.78   | -----                   | 34.4                          | 35.3  |
| W. D. Cunningham, Webbs Cross Roads  | 3.99     | 3.77             | 11.90                                     | 4.10   | -----                   | 34.4                          | 34.4  |
| Farmers Supply Co., Morganfield  | 3.98     | 3.75             | 11.87                                     | 3.99   | -----                   | 34.4                          | 34.2  |
| Guy Armes, Hardinsburg   | 4.00     | 3.72             | 12.02                                     | 4.56   | -----                   | 34.4                          | 35.0  |
| Farmers Supply Co., Glasgow  | 3.90     | 3.63             | 11.60                                     | 4.77   | -----                   | 34.4                          | 34.5  |
| Browning, McReynolds & Co., Lewisburg  | 3.76     | 3.32             | 12.35                                     | 3.99   | -----                   | 34.4                          | 34.3  |
| D. H. Tate, Monticello   | 3.82     | 3.51             | 11.65                                     | 3.94   | -----                   | 34.4                          | 33.6  |
| <b>3-9-6 (Muriate) "Big Crop Brand"</b>  |          |                  |   |        |                         |                               |       |
| Forbes Hardware Co., Hopkinsville  | 3.06     | 2.91             | 8.82                                      | 6.34   | -----                   | 30.8                          | 31.0  |
| Yopp Seed Co., Paducah   | 3.07     | 2.92             | 9.05                                      | 6.01   | -----                   | 30.8                          | 31.0  |
| Big Four Feed & Impl. Co., Scottsville   | 2.98     | 2.78             | 9.55                                      | 5.90   | -----                   | 30.8                          | 31.3  |
| D. H. Tate, Monticello   | 3.24     | 3.02             | 9.45                                      | 5.96   | -----                   | 30.8                          | 31.8  |
| T. J. Turley Co., Owensboro  | 3.17     | 2.86             | 9.20                                      | 6.10   | -----                   | 30.8                          | 31.5  |

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

| Manufacturer, brand name, guaranty,<br>and from whom obtained | Nitrogen |                  | Phos-<br>phoric<br>acid<br>Avail-<br>able | Potash | Sulfate<br>guar.<br>met | Index of<br>relative<br>value |       |
|---|----------|------------------|---|--------|-------------------------|-------------------------------|-------|
|   | Total    | Water<br>soluble |   |        |                         | Guar.                         | Found |
| <b>Armour Fertilizer Works—Continued</b>                      |          |                  |   |        |                         |                               |       |
| <b>3-9-6 (Sulfate) Armour's</b>                               |          |                  |   |        |                         |                               |       |
| H. V. Sebree, Dry Ridge .....                                 | 2.77     | 2.50             | 9.57                                      | 6.21   | Yes                     | 30.8                          | 31.2  |
| Jess Morris, New Liberty .....                                | 3.00     | 2.59             | 9.00                                      | 6.32   | Yes                     | 30.8                          | 31.1  |
| Gordon Young, Beaver Dam .....                                | 2.99     | 2.64             | 9.12                                      | 6.00   | Yes                     | 30.8                          | 30.9  |
| Sharpsburg Milling Co., Sharpsburg .....                      | 3.04     | 2.80             | 9.42                                      | 6.22   | Yes                     | 30.8                          | 31.6  |
| Ragland Brothers, Leitchfield .....                           | 2.92     | 2.59             | 9.15                                      | 5.95   | Yes                     | 30.8                          | 30.8  |
| Farmers Exchange, Burkesville .....                           | 2.99     | 2.66             | 9.42                                      | 6.04   | Yes                     | 30.8                          | 31.3  |
| Parker Seed Co., Murray .....                                 | 3.05     | 2.90             | 8.77                                      | 5.67   | Yes                     | 30.8                          | 30.3  |
| Gid Hollingsworth & Co., Tompkinsville .....                  | 2.81     | 2.54             | 9.10                                      | 5.74   | Yes                     | 30.8                          | 30.3  |
| Ramsey's Feed Store, Campbellsville .....                     | 2.95     | 2.59             | 9.45                                      | 5.82   | Yes                     | 30.8                          | 31.1  |
| Furkin Brothers, Beaumont .....                               | 3.07     | 2.65             | 8.90                                      | 6.14   | Yes                     | 30.8                          | 31.0  |
| <b>2-12-6 (Muriate) "Old Black Joe"</b>                       |          |                  |   |        |                         |                               |       |
| U. L. Rogers, Gradyville .....                                | 2.00     | 1.83             | 11.70                                     | 6.41   | -----                   | 32.4                          | 32.5  |
| T. J. Turley Co., Owensboro .....                             | 2.07     | 1.92             | 11.40                                     | 6.50   | -----                   | 32.4                          | 32.3  |
| H. B. Willoughby, Richmond .....                              | 2.02     | 1.94             | 12.00                                     | 6.13   | -----                   | 32.4                          | 32.6  |
| Hatter Hardware Co., Franklin .....                           | 2.16     | 2.10             | 12.17                                     | 5.83   | -----                   | 32.4                          | 32.8  |
| Jasper Produce Co., Science Hill .....                        | 2.18     | 2.11             | 12.82                                     | 6.04   | -----                   | 32.4                          | 33.8  |
| Parman Brothers, London .....                                 | 1.99     | 1.79             | 12.00                                     | 6.11   | -----                   | 32.4                          | 32.5  |
| J. H. Tate, Monticello .....                                  | 1.95     | 1.79             | 12.02                                     | 6.09   | -----                   | 32.4                          | 32.4  |
| Ramsey Feed Store, Campbellsville .....                       | 2.02     | 1.78             | 12.20                                     | 6.04   | -----                   | 32.4                          | 32.7  |
| Polson and Vinzant, Edmonton .....                            | 2.02     | 1.82             | 12.20                                     | 6.15   | -----                   | 32.4                          | 32.8  |
| Big Four Feed & Impl. Co., Scottsville .....                  | 1.87     | 1.52             | 12.32                                     | 6.24   | -----                   | 32.4                          | 32.8  |
| Bullock & Bullock, Mt. Vernon .....                           | 1.93     | 1.84             | 12.20                                     | 6.19   | -----                   | 32.4                          | 32.7  |
| London Hardware Co., London .....                             | 1.97     | 1.87             | 12.00                                     | 6.10   | -----                   | 32.4                          | 32.4  |
| Lee and Bybee, Cave City .....                                | 2.07     | 1.86             | 12.77                                     | 5.85   | -----                   | 32.4                          | 33.3  |
| Cadiz Hardware Co., Cadiz .....                               | 2.25     | 2.05             | 12.25                                     | 6.45   | -----                   | 32.4                          | 33.7  |
| Barber Hardware Co., Springfield .....                        | 2.03     | 1.84             | 11.90                                     | 5.85   | -----                   | 32.4                          | 32.2  |
| Schoolcraft & Rexroat, West Somerset .....                    | 2.05     | 1.92             | 12.13                                     | 6.04   | -----                   | 32.4                          | 32.7  |
| J. W. Galloway, Bremen .....                                  | 1.84     | 1.41             | 12.18                                     | 6.36   | -----                   | 32.4                          | 32.7  |
| <b>0-14-7 (Muriate) "Big Crop Brand"</b>                      |          |                  |   |        |                         |                               |       |
| O. R. Sellers, Sebree .....                                   | -----    | -----            | 14.52                                     | 6.80   | -----                   | 29.8                          | 30.2  |
| S. C. Coffelt, Tompkinsville .....                            | -----    | -----            | 14.05                                     | 6.91   | -----                   | 29.8                          | 29.8  |
| Ramsey Feed Store, Campbellsville .....                       | -----    | -----            | 13.65                                     | 7.85   | -----                   | 29.8                          | 30.2  |
| H. D. Jones, Glasgow .....                                    | -----    | -----            | 14.12                                     | 7.40   | -----                   | 29.8                          | 30.3  |
| J. H. Tate, Monticello .....                                  | -----    | -----            | 14.32                                     | 6.89   | -----                   | 29.8                          | 30.1  |
| Schoolcraft & Rexroat, West Somerset .....                    | -----    | -----            | 14.00                                     | 7.27   | -----                   | 29.8                          | 30.1  |
| Farmers Supply Co., Hodgenville .....                         | -----    | -----            | 14.00                                     | 7.18   | -----                   | 29.8                          | 30.0  |
| <b>20% Superphosphate "Big Crop Brand"</b>                    |          |                  |   |        |                         |                               |       |
| Grohmyer Coal & Lumber Co., Carrollton .....                  | -----    | -----            | 19.95                                     | -----  | -----                   | 26.0                          | 25.9  |
| E. L. Whitlow, Linwood .....                                  | -----    | -----            | 20.17                                     | -----  | -----                   | 26.0                          | 26.2  |
| J. H. Tate, Monticello .....                                  | -----    | -----            | 20.45                                     | -----  | -----                   | 26.0                          | 26.6  |
| Lee & Bybee, Cave City .....                                  | -----    | -----            | 20.35                                     | -----  | -----                   | 26.0                          | 26.5  |
| Bullock & Bullock, Mt. Vernon .....                           | -----    | -----            | 20.00                                     | -----  | -----                   | 26.0                          | 26.0  |
| Ramsey Feed Store, Campbellsville .....                       | -----    | -----            | 19.90                                     | -----  | -----                   | 26.0                          | 25.9  |
| J. C. Everett & Co., Maysville .....                          | -----    | -----            | 21.15                                     | -----  | -----                   | 26.0                          | 27.5  |
| H. D. Jones, Glasgow .....                                    | -----    | -----            | 20.52                                     | -----  | -----                   | 26.0                          | 26.7  |
| London Hardware Co., London .....                             | -----    | -----            | 19.60                                     | -----  | -----                   | 26.0                          | 25.5  |
| Parman Brothers, London .....                                 | -----    | -----            | 20.20                                     | -----  | -----                   | 26.0                          | 26.3  |
| Barren County Gro. & Hdw. Co., Glasgow .....                  | -----    | -----            | 20.30                                     | -----  | -----                   | 26.0                          | 26.4  |
| H. D. Jones, Glasgow .....                                    | -----    | -----            | 20.00                                     | -----  | -----                   | 26.0                          | 26.0  |
| <b>19% Superphosphate "Big Crop Brand"</b>                    |          |                  |   |        |                         |                               |       |
| Wilson Hardware Co., Russellville .....                       | -----    | -----            | 18.48                                     | -----  | -----                   | 24.7                          | 24.0  |
| Cadiz Hardware Co., Cadiz .....                               | -----    | -----            | 20.00                                     | -----  | -----                   | 24.7                          | 26.0  |
| J. W. Galloway, Bremen .....                                  | -----    | -----            | 18.53                                     | -----  | -----                   | 24.7                          | 24.1  |
| Farmers Supply Co., White Plains .....                        | -----    | -----            | 18.60                                     | -----  | -----                   | 24.7                          | 24.2  |
| H. B. McClary, Auburn .....                                   | -----    | -----            | 18.93                                     | -----  | -----                   | 24.7                          | 24.6  |
| <b>Associated Cooperatives, Sheffield, Alabama</b>            |          |                  |   |        |                         |                               |       |
| <b>32.50% Ammonium Nitrate</b>                                |          |                  |   |        |                         |                               |       |
| Watson Coal and Feed Co., Princeton .....                     | 32.64    | -----            | -----                                     | -----  | -----                   | 65.0                          | 65.3  |
| Calloway County Soil Improvement<br>Association, Murray ..... | 32.52    | -----            | -----                                     | -----  | -----                   | 65.0                          | 65.0  |
| Weisenberger Sanitary Flour Mills, Midway .....               | 32.56    | -----            | -----                                     | -----  | -----                   | 65.0                          | 65.1  |
| <b>45% Triple Superphosphate</b>                              |          |                  |   |        |                         |                               |       |
| W. C. Turner, Greensburg .....                                | -----    | -----            | 47.60                                     | -----  | -----                   | 58.5                          | 61.9  |

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

| Manufacturer, brand name, guaranty,<br>and from whom obtained                      | Nitrogen |                  | Phos-<br>phoric<br>acid<br>Avail-<br>able | Potash | Sulfate<br>guar.<br>met | Index of<br>relative<br>value |       |
|--|----------|------------------|---|--------|-------------------------|-------------------------------|-------|
|  | Total    | Water<br>soluble |   |        |                         | Guar.                         | Found |
| <b>The Buhner Fertilizer Co., Seymour, Ind.</b>                                    |          |                  |   |        |                         |                               |       |
| 3-12-12 (Muriate) Buhner's<br>Wilson Feed & Fertilizer Co., Canmer                 | 3.31     | 3.18             | 11.95                                     | 12.47  | -----                   | 40.4                          | 41.4  |
| 3-9-6 (Muriate) Buhner's<br>Roscoe Morris, Somerset                                | 3.19     | 2.96             | 9.30                                      | 5.99   | -----                   | 30.8                          | 31.5  |
| 2-12-6 (Muriate) Buhner's<br>Buhner's & Co., Louisville                            | 2.17     | 2.05             | 12.22                                     | 5.51   | -----                   | 32.4                          | 32.5  |
| Roscoe Morris, Somerset  | 2.00     | 1.87             | 12.37                                     | 6.78   | -----                   | 32.4                          | 33.6  |
| J. L. Hancock, Jr., Middletown   | 2.18     | 2.07             | 12.00                                     | 6.81   | -----                   | 32.4                          | 33.6  |
| Buhner & Co., Louisville   | 2.15     | 2.01             | 12.40                                     | 6.29   | -----                   | 32.4                          | 33.5  |
| Allison Shippe, Campbellsville   | 1.99     | 1.84             | 12.40                                     | 6.39   | -----                   | 32.4                          | 33.3  |
| Springfield Feed & Grain Co., Springfield  | 1.85     | 1.72             | 12.90                                     | 5.52   | -----                   | 32.4                          | 32.7  |
| 0-14-7 (Muriate) Buhner's<br>Buhner & Co., Louisville                              | -----    | -----            | 13.95                                     | 7.64   | -----                   | 29.8                          | 30.4  |
| Brody & Co., Gamaliel  | -----    | -----            | 14.05                                     | 6.52   | -----                   | 29.8                          | 29.4  |
| Shelby Feed & Seed Co., Shelbyville  | -----    | -----            | 14.25                                     | 7.32   | -----                   | 29.8                          | 30.4  |
| 0-12-12 (Muriate) Buhner's<br>Wilson's Feed & Fertilizer Store, Canmer             | -----    | -----            | 12.77                                     | 12.03  | -----                   | 32.4                          | 33.4  |
| <b>Consolidated Chemical Company, Division Price Chemical Co., Louisville, Ky.</b> |          |                  |   |        |                         |                               |       |
| 3-9-6 (Muriate) "Camel Brand"<br>Thompson Store, Loretto                           | 3.09     | 2.96             | 9.25                                      | 6.44   | -----                   | 30.8                          | 31.7  |
| Star Roller Mills, Cloverport  | 2.87     | 2.72             | 9.92                                      | 6.22   | -----                   | 30.8                          | 31.9  |
| W. L. Anderson & Son, Caneyville   | 3.02     | 2.84             | 10.35                                     | 6.44   | -----                   | 30.0                          | 32.9  |
| 2-12-6 (Muriate) "Camel Brand"<br>Star Roller Mills, Cloverport                    | 2.49     | 2.31             | 12.22                                     | 8.28   | -----                   | 32.4                          | 35.9  |
| <b>Cooperative Fertilizer Service, Inc., Richmond, Va.</b>                         |          |                  |   |        |                         |                               |       |
| 6-8-6 (Muriate)<br>Farmers Exchange, Burkesville                                   | 6.01     | 5.93             | 8.00                                      | 6.78   | -----                   | 35.6                          | 36.4  |
| 4-12-8 (Muriate)<br>Calloway County Soil Improvement<br>Association, Murray        | 4.03     | 3.88             | 12.22                                     | 8.26   | -----                   | 38.4                          | 39.0  |
| 4-12-4 (Muriate)<br>Brady and Co., Gamaliel  | 4.32     | 4.21             | 12.15                                     | 5.03   | -----                   | 34.4                          | 36.3  |
| Southern States Bowling Green Co-<br>operative, Bowling Green                      | 4.25     | 4.15             | 12.50                                     | 4.56   | -----                   | 34.4                          | 36.1  |
| <b>Cumberland Chemical Co., Hopkinsville, Ky.</b>                                  |          |                  |   |        |                         |                               |       |
| 6-8-6 (Muriate) "Cumberland"<br>Todd County Implement Co., Elkton                  | 5.98     | 5.84             | 8.00                                      | 6.16   | -----                   | 35.6                          | 35.7  |
| Greenville Coal Company Farm, Greenville   | 5.97     | 5.82             | 7.97                                      | 6.47   | -----                   | 35.6                          | 36.0  |
| 6-8-6 (Muriate 3, Sulfate 3) "Cumberland"<br>Guthrie Hardware Co., Guthrie         | 6.02     | 5.85             | 8.30                                      | 6.19   | Yes                     | 35.6                          | 36.2  |
| Todd County Implement Co., Elkton  | 6.00     | 5.84             | 9.40                                      | 6.50   | Yes                     | 35.6                          | 37.8  |
| 2-12-6 (Muriate) "Cumberland"<br>Guthrie Hardware Co., Guthrie                     | 2.14     | 2.00             | 12.37                                     | 6.91   | -----                   | 32.4                          | 34.0  |
| Vester Bidwell, Island City  | 2.04     | 1.86             | 12.00                                     | 6.62   | -----                   | 32.4                          | 33.1  |
| Manufacturer's Warehouse   | 1.90     | 1.71             | 12.20                                     | 7.07   | -----                   | 32.4                          | 33.5  |
| 0-14-7 (Muriate) "Cumberland"<br>Todd County Implement Co., Elkton                 | -----    | -----            | 13.50                                     | 7.80   | -----                   | 29.8                          | 30.0  |
| Greenville Coal Company Farm, Greenville   | -----    | -----            | 13.60                                     | 8.37   | -----                   | 29.8                          | 30.7  |
| 40% Triple Superphosphate "Cumberland"<br>Todd County Implement Co., Elkton        | -----    | -----            | 40.70                                     | -----  | -----                   | 52.0                          | 52.9  |
| 20% Superphosphate "Cumberland"<br>Greenville Coal Co. Farm, Greenville            | -----    | -----            | 19.90                                     | -----  | -----                   | 26.0                          | 25.9  |
| 18% Superphosphate "Cumberland"<br>Fox Hardware Co., Madisonville                  | -----    | -----            | 19.20                                     | -----  | -----                   | 23.4                          | 25.0  |
| 33.50% Domestic Ammonium Nitrate<br>Nebo Exchange Mill, Nebo                       | 32.56    | -----            | -----                                     | -----  | -----                   | 67.0                          | 65.1  |
| 21.50% Sulfate of Potash Magnesia<br>Trigg County Trading Co., Cadiz               | -----    | -----            | -----                                     | 21.58  | Yes                     | 43.0                          | 43.2  |

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

| Manufacturer, brand name, guaranty,<br>and from whom obtained                      | Nitrogen |                  | Phos-<br>phoric<br>acid<br>Avail-<br>able | Potash | Sulfate<br>guar.<br>met | Index of<br>relative<br>value |       |
|--|----------|------------------|---|--------|-------------------------|-------------------------------|-------|
|  | Total    | Water<br>soluble |   |        |                         | Guar.                         | Found |
| <b>The Davison Chemical Corporation, Hopkins Fertilizer Div., New Albany, Ind.</b> |          |                  |   |        |                         |                               |       |
| 6-8-6 (Muriate) "Old Time Brand"   |          |                  |   |        |                         |                               |       |
| Warsaw Hardware Co., Warsaw  | 6.00     | 5.88             | 8.45                                      | 6.77   | -----                   | 35.6                          | 36.9  |
| Henderson Grain & Commission Co.,<br>Henderson                                     | 5.93     | 5.74             | 8.17                                      | 6.50   | -----                   | 35.6                          | 36.2  |
| G. C. McPhetridge, London  | 5.81     | 5.66             | 9.07                                      | 6.21   | -----                   | 35.6                          | 36.7  |
| 3-9-6 (Muriate) "Old Time Brand"   |          |                  |   |        |                         |                               |       |
| Henderson Grain & Commission Co.,<br>Henderson                                     | 2.78     | 2.62             | 9.80                                      | 7.30   | -----                   | 30.8                          | 32.6  |
| Bert Whitaker, Stab  | 3.15     | 3.02             | 9.75                                      | 6.39   | -----                   | 30.8                          | 32.4  |
| 2-12-6 (Muriate) "Old Time Brand"  |          |                  |   |        |                         |                               |       |
| G. C. McPhetridge, London  | 2.02     | 1.89             | 12.77                                     | 6.08   | -----                   | 32.4                          | 33.4  |
| Bert Whitaker, Stab  | 1.93     | 1.80             | 13.02                                     | 6.67   | -----                   | 32.4                          | 34.2  |
| Henderson Grain & Commission Co.,<br>Henderson                                     | 2.12     | 1.95             | 12.20                                     | 6.67   | -----                   | 32.4                          | 33.6  |
| Nelson's Feed Store, Marion  | 2.07     | 1.97             | 13.23                                     | 6.47   | -----                   | 32.4                          | 34.5  |
| Duncan and Theiss, La Grange   | 2.14     | 1.98             | 12.58                                     | 6.73   | -----                   | 32.4                          | 34.1  |
| Buechel Produce Exchange, Buechel  | 2.01     | 1.89             | 13.78                                     | 6.41   | -----                   | 32.4                          | 35.0  |
| Jewell & Haydon, Bardstown   | 2.14     | 2.00             | 13.13                                     | 6.38   | -----                   | 32.4                          | 34.4  |
| Hobart Warner, Nancy   | 2.20     | 2.06             | 12.63                                     | 6.35   | -----                   | 32.4                          | 33.9  |
| 20% Superphosphate "Old Time Brand"  |          |                  |   |        |                         |                               |       |
| Bert Whitaker, Stab  | -----    | -----            | 18.60                                     | -----  | -----                   | 26.0                          | 24.3  |
| Hobart Warner, Nancy   | -----    | -----            | 19.53                                     | -----  | -----                   | 26.0                          | 25.4  |
| <b>The Davison Chemical Corporation, Read Phosphate Division, Nashville, Tenn.</b> |          |                  |   |        |                         |                               |       |
| 4-12-4 (Muriate) Davco Red Diamond Brand   |          |                  |   |        |                         |                               |       |
| Ross Feed & Seed Co., Murray   | 3.65     | 3.47             | 12.32                                     | 3.65   | -----                   | 34.4                          | 33.7  |
| City Coal Co., Fulton  | 4.09     | 3.87             | 12.02                                     | 4.08   | -----                   | 34.4                          | 34.7  |
| Henry Durham, Greensburg   | 3.66     | 3.50             | 13.15                                     | 4.05   | -----                   | 34.4                          | 35.2  |
| Stockton Brothers, Albany  | 4.29     | 4.15             | 12.00                                     | 4.50   | -----                   | 34.4                          | 35.5  |
| Robinson Implement Co., Princeton  | 3.60     | 3.34             | 13.08                                     | 4.41   | -----                   | 34.4                          | 35.3  |
| I. K. Miller & Son, Campbellsville   | 4.27     | 4.15             | 12.90                                     | 4.48   | -----                   | 34.4                          | 36.5  |
| Haydon Milling Co., Lebanon  | 4.22     | 4.06             | 12.73                                     | 4.48   | -----                   | 34.4                          | 36.2  |
| Gentry McCauley, Versailles  | 4.49     | 4.37             | 12.00                                     | 4.41   | -----                   | 34.4                          | 35.8  |
| E. A. Cohen, Greenville  | 4.17     | 4.00             | 12.83                                     | 4.41   | -----                   | 34.4                          | 36.2  |
| Cecilian Milling Co., Elizabethtown  | 4.08     | 3.93             | 11.95                                     | 4.30   | -----                   | 34.4                          | 34.8  |
| 3-9-6 (Muriate) Davco Red Diamond  |          |                  |   |        |                         |                               |       |
| Wilson Motor Co., Smithland  | 3.44     | 3.36             | 9.70                                      | 6.81   | -----                   | 30.8                          | 33.3  |
| Haydon Mill & Grain Co., Lebanon   | 3.54     | 3.48             | 9.85                                      | 6.78   | -----                   | 30.8                          | 33.7  |
| Bryant's Mill, Caneyville  | 3.07     | 2.96             | 9.95                                      | 5.99   | -----                   | 30.8                          | 32.1  |
| Eldred Hardware Co., Princeton   | 3.06     | 2.99             | 9.52                                      | 6.04   | -----                   | 30.8                          | 31.6  |
| I. K. Miller & Son, Campbellsville   | 3.01     | 2.94             | 10.12                                     | 6.38   | -----                   | 30.8                          | 32.5  |
| Paducah Hatchery, Paducah  | 3.14     | 3.07             | 9.40                                      | 5.82   | -----                   | 30.8                          | 31.4  |
| Davidson & Crawford, Science Hill  | 2.74     | 2.61             | 10.62                                     | 6.60   | -----                   | 30.8                          | 32.8  |
| Henry Durham, Greensburg   | 3.09     | 2.97             | 9.40                                      | 7.07   | -----                   | 30.8                          | 32.5  |
| Eldred Hardware Co., Princeton   | 3.28     | 3.17             | 10.20                                     | 6.29   | -----                   | 30.8                          | 33.1  |
| Bell County Supply Co., Middlesboro  | 3.22     | 3.14             | 10.00                                     | 6.41   | -----                   | 30.8                          | 32.9  |
| 2-12-6 (Muriate) Davco Red Diamond   |          |                  |   |        |                         |                               |       |
| Kenneth Cundiff, Columbia  | 2.33     | 2.24             | 13.32                                     | 6.37   | -----                   | 32.4                          | 35.0  |
| I. K. Miller & Son, Campbellsville   | 2.34     | 2.26             | 12.42                                     | 6.21   | -----                   | 32.4                          | 33.8  |
| J. H. Tate Co., Monticello   | 2.18     | 2.07             | 12.22                                     | 6.13   | -----                   | 32.4                          | 33.2  |
| P. V. Hunt, Franklin   | 2.07     | 1.96             | 12.07                                     | 5.79   | -----                   | 32.4                          | 32.4  |
| J. W. Davidson, Science Hill   | 2.23     | 2.13             | 12.55                                     | 6.22   | -----                   | 32.4                          | 33.7  |
| Hughes Hardware Co., Franklin  | 2.31     | 2.20             | 11.82                                     | 6.19   | -----                   | 32.4                          | 33.0  |
| Henry Durham, Greensburg   | 2.29     | 2.14             | 12.00                                     | 6.08   | -----                   | 32.4                          | 33.1  |
| Thomas Warren, Guthrie   | 2.22     | 2.10             | 12.05                                     | 6.44   | -----                   | 32.4                          | 33.3  |
| Columbia Feed & Grain Co., Columbia  | 2.39     | 2.29             | 12.95                                     | 6.46   | -----                   | 32.4                          | 34.8  |
| J. C. Cook, Tompkinsville  | 2.33     | 2.24             | 12.45                                     | 6.78   | -----                   | 32.4                          | 34.4  |
| Robinson Implement Co., Princeton  | 2.34     | 2.27             | 12.05                                     | 6.27   | -----                   | 32.4                          | 33.4  |
| I. K. Miller & Son, Campbellsville   | 2.22     | 2.10             | 13.55                                     | 6.30   | -----                   | 32.4                          | 35.0  |
| Haydon Milling Co., Lebanon  | 2.32     | 2.21             | 13.08                                     | 6.22   | -----                   | 32.4                          | 34.6  |
| 0-14-7 (Muriate) Davco Red Diamond   |          |                  |   |        |                         |                               |       |
| Henry Durham, Greensburg   | -----    | -----            | 15.42                                     | 6.91   | -----                   | 29.8                          | 31.4  |
| Dunagan and Dunagan, Horse Cave  | -----    | -----            | 14.25                                     | 7.60   | -----                   | 29.8                          | 30.7  |
| Buckhorn Coal Co., Campbellsville  | -----    | -----            | 14.80                                     | 6.49   | -----                   | 29.8                          | 30.3  |
| I. K. Miller & Son, Campbellsville   | -----    | -----            | 14.70                                     | 7.53   | -----                   | 29.8                          | 31.2  |

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

| Manufacturer, brand name, guaranty,<br>and from whom obtained | Nitrogen |                  | Phos-<br>phoric<br>acid<br>Avail-<br>able | Potash | Sulfate<br>guar.<br>met | Index of<br>relative<br>value |       |
|---|----------|------------------|---|--------|-------------------------|-------------------------------|-------|
|   | Total    | Water<br>soluble |   |        |                         | Guar.                         | Found |
| <b>The Davison Chemical Corporation—Continued</b>             |          |                  |   |        |                         |                               |       |
| 19% Superphosphate—Davco Granulated                           |          |                  |   |        |                         |                               |       |
| Wilson Motor Co., Smithland                                   | -----    | -----            | 19.55                                     | -----  | -----                   | 24.7                          | 25.4  |
| 18% Superphosphate—Davco Granulated                           |          |                  |   |        |                         |                               |       |
| Kenneth Cundiff, Columbia                                     | -----    | -----            | 20.22                                     | -----  | -----                   | 23.4                          | 26.3  |
| P. V. Hunt, Franklin  | -----    | -----            | 20.00                                     | -----  | -----                   | 23.4                          | 26.0  |
| Guenther Hardware Co., Owensboro                              | -----    | -----            | 18.45                                     | -----  | -----                   | 23.4                          | 24.0  |
| Kenneth Cundiff, Columbia                                     | -----    | -----            | 20.10                                     | -----  | -----                   | 23.4                          | 26.1  |
| I. K. Miller & Son, Campbellsville                            | -----    | -----            | 18.42                                     | -----  | -----                   | 23.4                          | 24.0  |
| I. K. Miller & Son, Campbellsville                            | -----    | -----            | 19.35                                     | -----  | -----                   | 23.4                          | 25.2  |
| Bell County Supply Co., Middlesboro                           | -----    | -----            | 18.55                                     | -----  | -----                   | 23.4                          | 24.1  |
| L. D. Flanagan, Russell Springs                               | -----    | -----            | 20.82                                     | -----  | -----                   | 23.4                          | 27.1  |
| Guenther Hardware Co., Owensboro                              | -----    | -----            | 18.62                                     | -----  | -----                   | 23.4                          | 24.2  |
| Henderson Feed & Commission Co.,<br>Henderson                 | -----    | -----            | 18.45                                     | -----  | -----                   | 23.4                          | 24.0  |
| Eldred Hardware Co., Princeton                                | -----    | -----            | 20.33                                     | -----  | -----                   | 23.4                          | 26.4  |
| I. K. Miller & Son, Campbellsville                            | -----    | -----            | 19.35                                     | -----  | -----                   | 23.4                          | 25.2  |
| E. A. Cohen, Greenville                                       | -----    | -----            | 20.20                                     | -----  | -----                   | 23.4                          | 26.3  |
| Robinson Implement Co., Princeton                             | -----    | -----            | 19.48                                     | -----  | -----                   | 23.4                          | 25.3  |
| <b>Federal Chemical Company, Inc., Louisville, Ky.</b>        |          |                  |   |        |                         |                               |       |
| 6-8-6 (Muriate) Federal                                       |          |                  |   |        |                         |                               |       |
| Herman Sugg, Henderson  | 5.58     | 5.44             | 8.40                                      | 6.60   | -----                   | 35.6                          | 35.8  |
| 4-12-8 (Muriate) Federal                                      |          |                  |   |        |                         |                               |       |
| Jackson & Davis, Arlington                                    | 4.13     | 3.99             | 11.63                                     | 7.80   | -----                   | 38.4                          | 38.0  |
| Clinton Hatchery, Clinton                                     | 3.77     | 3.63             | 11.57                                     | 7.94   | -----                   | 38.4                          | 37.4  |
| 4-12-4 (Muriate) Federal                                      |          |                  |   |        |                         |                               |       |
| John L. Howard, Whitesville                                   | 3.74     | 3.46             | 11.30                                     | 4.79   | -----                   | 34.4                          | 33.8  |
| Wright Waller Co., Morganfield                                | 3.56     | 3.36             | 11.68                                     | 4.19   | -----                   | 34.4                          | 33.3  |
| 3-12-12 (Muriate) Federal                                     |          |                  |   |        |                         |                               |       |
| Clinton Hatchery, Clinton                                     | 3.32     | 3.15             | 11.95                                     | 10.67  | -----                   | 40.4                          | 39.7  |
| Earl Ward, Paducah  | 3.05     | 2.85             | 11.77                                     | 11.75  | -----                   | 40.4                          | 40.0  |
| Youngblood Brothers, Mayfield                                 | 3.04     | 2.93             | 10.52                                     | 12.49  | -----                   | 40.4                          | 39.2  |
| Water Valley Milling Co., Water Valley                        | 3.09     | 2.97             | 12.05                                     | 11.82  | -----                   | 40.4                          | 40.5  |
| Parker Seed Co., Murray                                       | 2.87     | 2.75             | 11.12                                     | 11.75  | -----                   | 40.4                          | 38.8  |
| 3-9-6 Muriate—Federal   |          |                  |   |        |                         |                               |       |
| Crawford Ferguson Co., Benton                                 | 3.17     | 3.01             | 8.85                                      | 6.05   | -----                   | 30.8                          | 31.0  |
| E. R. Hunley, Leeta   | 2.80     | 2.64             | 9.85                                      | 5.82   | -----                   | 30.8                          | 31.2  |
| Farmers Supply Co., Henderson                                 | 2.88     | 2.79             | 9.05                                      | 6.05   | -----                   | 30.8                          | 30.7  |
| Nebo Exchange Mill, Nebo                                      | 3.08     | 3.00             | 9.00                                      | 6.26   | -----                   | 30.8                          | 31.2  |
| Clinton Hatchery, Clinton                                     | 2.59     | 2.46             | 9.37                                      | 6.36   | -----                   | 30.8                          | 30.8  |
| R. C. Taylor, Monticello                                      | 2.85     | 2.69             | 8.58                                      | 6.35   | -----                   | 30.8                          | 30.4  |
| Ross Feed Company, Murray                                     | 2.59     | 2.46             | 9.00                                      | 6.37   | -----                   | 30.8                          | 30.4  |
| J. J. Carter, Waynesburg                                      | 2.81     | 2.67             | 9.17                                      | 5.59   | -----                   | 30.8                          | 30.2  |
| Stevens Feed Store, Beaver Dam                                | 3.06     | 2.84             | 8.50                                      | 6.04   | -----                   | 30.8                          | 30.4  |
| Fiechter Hardware Co., London                                 | 2.79     | 2.61             | 9.10                                      | 6.03   | -----                   | 30.8                          | 30.5  |
| W. A. Robinson, Bremen  | 2.82     | 2.67             | 9.55                                      | 6.47   | -----                   | 30.8                          | 31.6  |
| 2-12-6 (Muriate)—Federal                                      |          |                  |   |        |                         |                               |       |
| Guy Armes, Hardinsburg  | 2.14     | 1.97             | 12.65                                     | 6.71   | -----                   | 32.4                          | 34.2  |
| Hall Seed Co., Louisville                                     | 2.09     | 1.96             | 11.30                                     | 6.54   | -----                   | 32.4                          | 32.3  |
| Hudgins Store, Pikeview                                       | 2.07     | 1.96             | 11.37                                     | 6.47   | -----                   | 32.4                          | 32.3  |
| Crowley Brothers Garage, Poole                                | 2.49     | 2.23             | 11.85                                     | 6.01   | -----                   | 32.4                          | 33.2  |
| Robert James Feed Co., Franklin                               | 2.24     | 2.07             | 11.40                                     | 6.38   | -----                   | 32.4                          | 32.5  |
| Fiechter Hardware Co., London                                 | 1.90     | 1.78             | 12.00                                     | 5.87   | -----                   | 32.4                          | 32.1  |
| Farmers Supply Co., Glasgow                                   | 1.99     | 1.88             | 12.30                                     | 6.05   | -----                   | 32.4                          | 32.8  |
| R. C. Taylor, Monticello                                      | 2.00     | 1.86             | 12.00                                     | 6.24   | -----                   | 32.4                          | 32.6  |
| J. B. Barnes, Somerset  | 1.99     | 1.82             | 12.28                                     | 6.09   | -----                   | 32.4                          | 32.8  |
| W. A. Robinson, Bremen  | 1.96     | 1.82             | 12.23                                     | 6.55   | -----                   | 32.4                          | 33.2  |
| Oldham Feed & Supply Co., Buckner                             | 2.07     | 1.93             | 12.08                                     | 6.42   | -----                   | 32.4                          | 33.1  |
| Thomson's Mill, Benton  | 2.14     | 1.95             | 12.28                                     | 6.22   | -----                   | 32.4                          | 33.2  |
| U. L. Rogers, Columbia  | 2.27     | 2.12             | 11.48                                     | 6.77   | -----                   | 32.4                          | 33.1  |
| 0-14-7 (Muriate)—Federal                                      |          |                  |   |        |                         |                               |       |
| Thomas Warren, Guthrie  | -----    | -----            | 14.62                                     | 7.27   | -----                   | 29.8                          | 30.8  |
| Robert James Feed Co., Franklin                               | -----    | -----            | 14.82                                     | 7.54   | -----                   | 29.8                          | 31.3  |
| E. W. James, Hickman  | -----    | -----            | 14.17                                     | 7.02   | -----                   | 29.8                          | 30.0  |
| Johnson's Store, Providence                                   | -----    | -----            | 14.10                                     | 6.03   | -----                   | 29.8                          | 29.0  |

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

| Manufacturer, brand name, guaranty,<br>and from whom obtained              | Nitrogen |                  | Phos-<br>phoric<br>acid<br>Avail-<br>able | Potash | Sulfate<br>guar.<br>met | Index of<br>relative<br>value |       |
|--|----------|------------------|---|--------|-------------------------|-------------------------------|-------|
|  | Total    | Water<br>soluble |   |        |                         | Guar.                         | Found |
| <b>Federal Chemical Co., Inc.—Continued</b>                                |          |                  |   |        |                         |                               |       |
| 0-14-7 (Muriate) Federal—Continued   |          |                  |   |        |                         |                               |       |
| R. C. Taylor, Monticello .....   | -----    | -----            | 13.22                                     | 6.86   | -----                   | 29.8                          | 28.7  |
| Clinton Hatchery, Clinton .....  | -----    | -----            | 12.82                                     | 7.03   | -----                   | 29.8                          | 28.4  |
| Farmers Supply Co., Glasgow .....  | -----    | -----            | 13.78                                     | 7.34   | -----                   | 29.8                          | 29.9  |
| Allen & Jenkins, Bowling Green .....                                       | -----    | -----            | 14.32                                     | 6.60   | -----                   | 29.8                          | 29.8  |
| J. C. Cook, Tompkinsville .....  | -----    | -----            | 13.94                                     | 7.30   | -----                   | 29.8                          | 30.0  |
| Cleo M. Wilson, Nancy .....  | -----    | -----            | 14.45                                     | 7.00   | -----                   | 29.8                          | 30.3  |
| Parker Seed Co., Murray .....  | -----    | -----            | 14.40                                     | 7.01   | -----                   | 29.8                          | 30.3  |
| Ed. C. Bryant, Rumsey .....  | -----    | -----            | 13.93                                     | 7.20   | -----                   | 29.8                          | 29.9  |
| 0-12-12 (Muriate)—Federal  |          |                  |   |        |                         |                               |       |
| U. L. Rogers, Columbia .....   | -----    | -----            | 10.85                                     | 10.33  | -----                   | 32.4                          | 29.4  |
| 20% Superphosphate—Federal   |          |                  |   |        |                         |                               |       |
| Jackson & Davis, Arlington .....   | -----    | -----            | 19.00                                     | -----  | -----                   | 26.0                          | 24.7  |
| Crowley Brothers, Poole .....  | -----    | -----            | 21.15                                     | -----  | -----                   | 26.0                          | 27.5  |
| 16% Nitrate of Soda  |          |                  |   |        |                         |                               |       |
| Farmers Supply Co., Glasgow .....  | 16.20    | -----            | -----                                     | -----  | -----                   | 48.0                          | 48.6  |
| <b>Hutson Chemical Co., Murray, Ky.</b>                                    |          |                  |   |        |                         |                               |       |
| 20% Superphosphate—Hutson's  |          |                  |   |        |                         |                               |       |
| Manufacturer's warehouse .....   | -----    | -----            | 20.00                                     | -----  | -----                   | 26.0                          | 26.0  |
| <b>International Minerals &amp; Chemical Corporation, Cincinnati, Ohio</b> |          |                  |   |        |                         |                               |       |
| 6-8-6 (Muriate 2, Sulfate 4)   |          |                  |   |        |                         |                               |       |
| Cecilian Milling Co., Elizabethtown .....                                  | 5.93     | 5.85             | 8.17                                      | 5.98   | Yes                     | 35.6                          | 35.6  |
| H. B. Willoughby, Richmond .....   | 5.86     | 5.78             | 8.25                                      | 6.16   | Yes                     | 35.6                          | 35.8  |
| 4-12-8 (Muriate)   |          |                  |   |        |                         |                               |       |
| Harrodsburg Feed Co., Harrodsburg .....                                    | 3.77     | 3.72             | 12.12                                     | 7.79   | -----                   | 38.4                          | 37.9  |
| 4-12-8 (Muriate 4, Sulfate 4)  |          |                  |   |        |                         |                               |       |
| Woodson Lewis, Greensburg .....  | 4.02     | 3.83             | 12.30                                     | 7.45   | Yes                     | 38.4                          | 38.3  |
| H. B. Willoughby, Richmond .....   | 4.24     | 4.07             | 12.00                                     | 7.06   | Yes                     | 38.4                          | 37.9  |
| 3-9-6 (Muriate)  |          |                  |   |        |                         |                               |       |
| Henderson Feed & Commission Co.,   |          |                  |   |        |                         |                               |       |
| Henderson .....  | 3.03     | 2.78             | 10.62                                     | 5.93   | -----                   | 30.8                          | 32.7  |
| Buckhorn Coal Co., Campbellsville .....                                    | 3.28     | 3.04             | 8.47                                      | 6.42   | -----                   | 30.8                          | 31.1  |
| Henderson Feed & Commission Co.,   |          |                  |   |        |                         |                               |       |
| Henderson .....  | 2.91     | 2.59             | 9.15                                      | 5.99   | -----                   | 30.8                          | 30.8  |
| Tony Bezold, Newport .....   | 2.95     | 2.84             | 10.80                                     | 5.82   | -----                   | 30.8                          | 32.7  |
| Boone Feed Store, Stanford .....   | 2.96     | 2.84             | 9.82                                      | 6.08   | -----                   | 30.8                          | 31.8  |
| J. S. Squires, Cane Valley .....   | 3.13     | 3.03             | 9.85                                      | 6.54   | -----                   | 30.8                          | 32.6  |
| Cecilian Milling Co., Elizabethtown .....                                  | 2.99     | 2.90             | 10.23                                     | 6.21   | -----                   | 30.8                          | 32.5  |
| Boone Feed Store, Stanford .....   | 3.06     | 2.95             | 10.35                                     | 6.13   | -----                   | 30.8                          | 32.7  |
| Carroll County Farm Bureau, Carrollton .....                               | 3.26     | 3.16             | 10.05                                     | 6.01   | -----                   | 30.8                          | 32.6  |
| 3-9-6 (Muriate 3, Sulfate 3)   |          |                  |   |        |                         |                               |       |
| Cecilian Milling Co., Elizabethtown .....                                  | 3.06     | 2.77             | 10.00                                     | 5.54   | Yes                     | 30.8                          | 31.7  |
| 2-12-6 (Muriate)   |          |                  |   |        |                         |                               |       |
| Henderson Feed & Commission Co.,   |          |                  |   |        |                         |                               |       |
| Henderson .....  | 2.09     | 1.73             | 12.30                                     | 6.91   | -----                   | 32.4                          | 33.9  |
| Wilson's Feed & Fert. Store, Canmer .....                                  | 3.30     | 2.95             | 10.92                                     | 6.56   | -----                   | 32.4                          | 34.3  |
| Bryant's Mill, Caneyville .....  | 2.04     | 1.72             | 12.52                                     | 6.01   | -----                   | 32.4                          | 33.1  |
| Buckhorn Coal Co., Campbellsville .....                                    | 2.10     | 1.75             | 11.97                                     | 6.57   | -----                   | 32.4                          | 33.1  |
| Boone Feed Store, Stanford .....   | 2.05     | 1.93             | 12.50                                     | 6.26   | -----                   | 32.4                          | 33.4  |
| Alexander & Zellar, West Somerset .....                                    | 2.17     | 2.08             | 12.80                                     | 6.35   | -----                   | 32.4                          | 34.1  |
| W. S. Allen & Co., Liberty .....   | 2.01     | 1.91             | 12.43                                     | 6.24   | -----                   | 32.4                          | 33.2  |
| J. S. Squires, Cane Valley .....   | 2.19     | 2.02             | 12.43                                     | 6.47   | -----                   | 32.4                          | 33.8  |
| D. G. Hayes, Hodgenville .....   | 2.13     | 1.95             | 12.20                                     | 6.58   | -----                   | 32.4                          | 33.5  |
| Cecilian Milling Co., Elizabethtown .....                                  | 2.13     | 2.08             | 12.35                                     | 6.33   | -----                   | 32.4                          | 33.4  |
| Caneyville Roller Mills, Caneyville .....                                  | 2.38     | 2.21             | 12.78                                     | 6.38   | -----                   | 32.4                          | 34.5  |
| 0-14-7 (Muriate)   |          |                  |   |        |                         |                               |       |
| Wilson's Feed & Fertilizer Store, Canmer.                                  |          |                  |   |        |                         |                               |       |
| W. S. Allen, Liberty .....   | -----    | -----            | 16.15                                     | 7.12   | -----                   | 29.8                          | 32.5  |
| Woodson Lewis, Greensburg .....  | -----    | -----            | 14.17                                     | 7.20   | -----                   | 29.8                          | 30.2  |
| Woodson Lewis, Greensburg .....  | -----    | -----            | 13.70                                     | 7.28   | -----                   | 29.8                          | 29.7  |
| Woodson Lewis, Greensburg .....  | -----    | -----            | 14.25                                     | 7.23   | -----                   | 29.8                          | 30.3  |
| Farmers Supply & Feed Store, London .....                                  | -----    | -----            | 14.00                                     | 6.98   | -----                   | 29.8                          | 29.8  |
| Cecilian Milling Co., Elizabethtown .....                                  | -----    | -----            | 15.80                                     | 6.36   | -----                   | 29.8                          | 31.3  |
| J. S. Squires, Cane Valley .....   | -----    | -----            | 14.10                                     | 8.16   | -----                   | 29.8                          | 31.1  |

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

| Manufacturer, brand name, guaranty,<br>and from whom obtained       | Nitrogen |                  | Phos-<br>phoric<br>acid<br>Avail-<br>able | Potash | Sulfate<br>guar.<br>met | Index of<br>relative<br>value |       |
|---|----------|------------------|---|--------|-------------------------|-------------------------------|-------|
|   | Total    | Water<br>soluble |   |        |                         | Guar.                         | Found |
| <b>International Minerals &amp; Chemical Corp.—Continued</b>        |          |                  |   |        |                         |                               |       |
| 20% Superphosphate  |          |                  |   |        |                         |                               |       |
| Cecilian Milling Co., Elizabethtown .....                           | .....    | .....            | 20.17                                     | .....  | .....                   | 26.0                          | 26.2  |
| Ragland Brothers, Elizabethtown .....                               | .....    | .....            | 20.00                                     | .....  | .....                   | 26.0                          | 26.0  |
| L. C. McLoney & Sons, Cynthiaiana .....                             | .....    | .....            | 19.42                                     | .....  | .....                   | 26.0                          | 25.3  |
| Farmers Feed & Supply Store, London .....                           | .....    | .....            | 20.05                                     | .....  | .....                   | 26.0                          | 26.1  |
| Woodson Lewis, Greensburg .....                                     | .....    | .....            | 20.00                                     | .....  | .....                   | 26.0                          | 26.0  |
| G. H. Bowles & Son, Glasgow .....                                   | .....    | .....            | 20.90                                     | .....  | .....                   | 26.0                          | 27.2  |
| Boone Feed Store, Stanford .....                                    | .....    | .....            | 19.75                                     | .....  | .....                   | 26.0                          | 25.7  |
| Alexander & Zeller, West Somerset .....                             | .....    | .....            | 20.13                                     | .....  | .....                   | 26.0                          | 26.2  |
| Carroll County Farm Bureau, Carrollton .....                        | .....    | .....            | 20.58                                     | .....  | .....                   | 26.0                          | 26.8  |
| 33.50% Ammonium Nitrate   |          |                  |   |        |                         |                               |       |
| Farmers Supply & Feed Store, London .....                           | 33.20    | .....            | .....                                     | .....  | .....                   | 67.0                          | 66.1  |
| <b>Kentucky Fertilizer Works, Winchester, Ky.</b>                   |          |                  |   |        |                         |                               |       |
| 6-8-6 (Muriate) "P.P.F. Brand"                                      |          |                  |   |        |                         |                               |       |
| Manufacturer's warehouse .....                                      | 6.11     | 6.03             | 8.17                                      | 5.74   | .....                   | 35.6                          | 35.8  |
| 4-12-4 (Muriate) "P.P.F. Brand"                                     |          |                  |   |        |                         |                               |       |
| Manufacturers' warehouse .....                                      | 4.14     | 4.04             | 12.05                                     | 4.19   | .....                   | 34.4                          | 34.9  |
| Robinson & Turley, Richmond .....                                   | 4.25     | 4.17             | 12.02                                     | 3.96   | .....                   | 34.4                          | 34.9  |
| 3-9-6 (Muriate) "P.P.F. Brand"                                      |          |                  |   |        |                         |                               |       |
| Manufacturer's warehouse .....                                      | 3.03     | 2.94             | 8.52                                      | 6.14   | .....                   | 30.8                          | 30.4  |
| 3-9-6 (Sulfate) "P.P.F. Brand"                                      |          |                  |   |        |                         |                               |       |
| Manufacturer's warehouse .....                                      | 3.16     | 3.07             | 9.45                                      | 5.76   | Yes                     | 30.8                          | 31.4  |
| Monarch Milling Co., Mt. Sterling .....                             | 3.05     | 2.94             | 9.12                                      | 5.87   | Yes                     | 30.8                          | 30.9  |
| Fox Brothers, Winchester .....                                      | 2.99     | 2.87             | 9.05                                      | 5.82   | Yes                     | 30.8                          | 30.7  |
| 2-12-6 (Muriate) "P.P.F. Brand"                                     |          |                  |   |        |                         |                               |       |
| Manufacturer's warehouse .....                                      | 1.96     | 1.89             | 12.02                                     | 6.08   | .....                   | 32.4                          | 32.4  |
| R. S. Taylor, Monticello .....                                      | 1.92     | 1.82             | 11.38                                     | 5.25   | .....                   | 32.4                          | 30.8  |
| 20% Superphosphate "P.P.F. Brand"                                   |          |                  |   |        |                         |                               |       |
| Manufacturer's warehouse .....                                      | .....    | .....            | 19.62                                     | .....  | .....                   | 26.0                          | 25.5  |
| <b>Knoxville Fertilizer Company, Knoxville and Nashville, Tenn.</b> |          |                  |   |        |                         |                               |       |
| 4-12-4 (Muriate)  |          |                  |   |        |                         |                               |       |
| G. H. Bowles & Son, Glasgow .....                                   | 3.66     | 3.41             | 12.02                                     | 4.04   | .....                   | 34.4                          | 33.8  |
| H. B. McClary, Auburn .....   | 3.70     | 3.44             | 11.75                                     | 3.98   | .....                   | 34.4                          | 33.5  |
| Fayette Seed Co., Lexington .....                                   | 4.12     | 3.95             | 12.45                                     | 4.66   | .....                   | 34.4                          | 35.8  |
| Grayson County Supply Co., Leitchfield .....                        | 2.61     | 2.22             | 11.40                                     | 4.45   | .....                   | 34.4                          | 31.4  |
| W. C. Turner, Greensburg .....                                      | 3.84     | 3.56             | 11.85                                     | 4.28   | .....                   | 34.4                          | 34.2  |
| W. H. Brock & Co., Maysville .....                                  | 3.83     | 3.75             | 12.95                                     | 4.20   | .....                   | 34.4                          | 35.4  |
| Parker S. Cooper, Monticello .....                                  | 3.60     | 3.41             | 13.10                                     | 4.02   | .....                   | 34.4                          | 34.9  |
| H. B. McClary, Auburn .....   | 4.01     | 3.80             | 11.88                                     | 4.68   | .....                   | 34.4                          | 35.0  |
| Arnold Weddle, Nancy .....  | 3.90     | 3.79             | 12.20                                     | 4.36   | .....                   | 34.4                          | 34.8  |
| 3-12-4 (Muriate) "Special Brand"                                    |          |                  |   |        |                         |                               |       |
| Parker S. Cooper, Monticello .....                                  | 3.00     | 2.90             | 12.73                                     | 3.99   | .....                   | 32.4                          | 33.3  |
| Nay Chesnut, London .....   | 3.05     | 2.92             | 12.75                                     | 3.82   | .....                   | 32.4                          | 33.2  |
| Allison Shippe, Campbellsville .....                                | 3.19     | 2.93             | 11.83                                     | 4.36   | .....                   | 32.4                          | 32.9  |
| Sherman Bengel, London .....  | 2.93     | 2.82             | 12.63                                     | 4.05   | .....                   | 32.4                          | 33.1  |
| W. C. Turner, Greensburg .....                                      | 3.12     | 2.88             | 11.65                                     | 4.45   | .....                   | 32.4                          | 32.7  |
| Harris Feed Co., Franklin .....                                     | 3.17     | 2.92             | 11.35                                     | 4.53   | .....                   | 32.4                          | 32.5  |
| Allison Shippe, Campbellsville .....                                | 3.15     | 2.89             | 12.10                                     | 4.47   | .....                   | 32.4                          | 33.3  |
| G. H. Bowles & Son, Glasgow .....                                   | 3.18     | 2.93             | 12.35                                     | 4.25   | .....                   | 32.4                          | 33.4  |
| Lancaster Coal & Feed Co., Lancaster .....                          | 2.79     | 2.68             | 12.83                                     | 4.01   | .....                   | 32.4                          | 33.0  |
| Babb & Diddle, Adairville .....                                     | 2.97     | 2.72             | 11.70                                     | 4.87   | .....                   | 32.4                          | 32.9  |
| 3-9-6 (Muriate) Knox Brand  |          |                  |   |        |                         |                               |       |
| Fox Hardware Co., Madisonville .....                                | 2.93     | 2.73             | 10.27                                     | 5.53   | .....                   | 30.8                          | 31.7  |
| Ruby H. Guffy, Morgantown .....                                     | 2.17     | 1.91             | 12.22                                     | 4.63   | .....                   | 30.8                          | 31.6  |
| Harris Feed Co., Franklin .....                                     | 3.00     | 2.68             | 10.17                                     | 5.53   | .....                   | 30.8                          | 31.7  |
| Allison Shippe, Campbellsville .....                                | 2.88     | 2.60             | 9.65                                      | 5.71   | .....                   | 30.8                          | 31.1  |
| H. B. McClary, Auburn .....   | 3.27     | 3.08             | 9.50                                      | 5.52   | .....                   | 30.8                          | 31.5  |
| Babb & Diddle, Adairville .....                                     | 3.17     | 2.91             | 8.17                                      | 5.39   | .....                   | 30.8                          | 29.5  |

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

| Manufacturer, brand name, guaranty,<br>and from whom obtained   | Nitrogen |                  | Phos-<br>phoric<br>acid<br>Avail-<br>able | Potash | Sulfate<br>guar.<br>met | Index of<br>relative<br>value |       |
|---|----------|------------------|---|--------|-------------------------|-------------------------------|-------|
|   | Total    | Water<br>soluble |   |        |                         | Guar.                         | Found |
| <b>Knoxville Fertilizer Co.—Continued</b>   |          |                  |   |        |                         |                               |       |
| 3-9— (Muriate) Knox Brand—Continued   |          |                  |   |        |                         |                               |       |
| Richardson Brothers, Eighty-Eight .....   | 3.09     | 2.88             | 9.37                                      | 6.35   | -----                   | 30.8                          | 31.7  |
| Kenneth Cundiff, Columbia .....   | 3.43     | 3.17             | 8.95                                      | 6.34   | -----                   | 30.8                          | 31.9  |
| Jack Shirley, Edmonton .....  | 2.93     | 2.67             | 9.40                                      | 6.05   | -----                   | 30.8                          | 31.2  |
| C. M. Langdon, Science Hill .....   | 2.97     | 2.79             | 9.33                                      | 5.51   | -----                   | 30.8                          | 30.7  |
| Arnold Weddle, Nancy .....  | 3.01     | 2.84             | 9.57                                      | 6.07   | -----                   | 30.8                          | 31.6  |
| Lancaster Coal & Feed Co., Lancaster.....   | 3.13     | 2.98             | 9.00                                      | 6.46   | -----                   | 30.8                          | 31.5  |
| 3-9-6 (Muriate 4, Sulfate 2) Knox Brand   |          |                  |   |        |                         |                               |       |
| Grobmyer Coal & Lumber Co., Carrollton..  | 3.00     | 2.77             | 10.37                                     | 6.00   | Yes                     | 30.8                          | 32.4  |
| H. B. McClary, Auburn .....   | 2.82     | 2.45             | 9.80                                      | 6.02   | Yes                     | 30.8                          | 31.4  |
| L. H. Gilley, Lecta .....   | 3.12     | 2.74             | 9.32                                      | 6.64   | Yes                     | 30.8                          | 32.1  |
| Greenwell Feed Store, Lebanon .....   | 3.01     | 2.70             | 9.75                                      | 6.10   | Yes                     | 30.8                          | 31.8  |
| 2-12-6 (Muriate) Knox Brand   |          |                  |   |        |                         |                               |       |
| Kenneth Cundiff, Columbia .....   | 2.18     | 1.96             | 12.17                                     | 6.50   | -----                   | 32.4                          | 33.5  |
| Harris Feed Co., Franklin .....   | 2.11     | 1.92             | 12.10                                     | 6.16   | -----                   | 32.4                          | 32.9  |
| Jack Shirley, Edmonton .....  | 2.11     | 1.82             | 11.95                                     | 5.98   | -----                   | 32.4                          | 32.5  |
| Kenneth Cundiff, Columbia .....   | 1.95     | 1.63             | 11.53                                     | 6.08   | -----                   | 32.4                          | 31.8  |
| Richardson Brothers, Eighty-Eight .....   | 2.00     | 1.70             | 12.03                                     | 6.50   | -----                   | 32.4                          | 32.9  |
| 0-14-7 (Muriate) Knox Brand   |          |                  |   |        |                         |                               |       |
| W. C. Turner, Greensburg .....  | -----    | -----            | 14.05                                     | 6.99   | -----                   | 29.8                          | 29.9  |
| Gid Hollingsworth, Tompkinsville .....  | -----    | -----            | 14.50                                     | 6.98   | -----                   | 29.8                          | 30.4  |
| H. B. McClary, Auburn .....   | -----    | -----            | 14.55                                     | 5.90   | -----                   | 29.8                          | 29.4  |
| 0-14-4 (Muriate) Basic  |          |                  |   |        |                         |                               |       |
| Farmers Feed & Supply Co., London.....  | -----    | -----            | 14.55                                     | 4.17   | -----                   | 26.8                          | 27.6  |
| Parker S. Cooper, Monticello .....  | -----    | -----            | 14.05                                     | 4.02   | -----                   | 26.8                          | 26.9  |
| C. M. Langdon, Science Hill .....   | -----    | -----            | 14.33                                     | 3.44   | -----                   | 26.8                          | 26.6  |
| W. C. Turner, Greensburg .....  | -----    | -----            | 14.10                                     | 4.38   | -----                   | 26.8                          | 27.3  |
| Allison Shippe, Campbellsville .....  | -----    | -----            | 13.15                                     | 4.35   | -----                   | 26.8                          | 26.1  |
| L. C. McLoney & Sons, Cynthiana .....   | -----    | -----            | 14.45                                     | 3.71   | -----                   | 26.8                          | 27.1  |
| Farmers Feed Store, Bowling Green .....   | -----    | -----            | 14.43                                     | 4.72   | -----                   | 26.8                          | 28.0  |
| H. B. McClary, Auburn .....   | -----    | -----            | 14.50                                     | 4.76   | -----                   | 26.8                          | 28.2  |
| G. H. Bowles & Son, Glasgow .....   | -----    | -----            | 14.75                                     | 4.45   | -----                   | 26.8                          | 28.2  |
| Babb & Diddle, Adairville .....   | -----    | -----            | 13.13                                     | 4.07   | -----                   | 26.8                          | 25.8  |
| Greenville Feed Store, Lebanon .....  | -----    | -----            | 13.30                                     | 4.73   | -----                   | 26.8                          | 26.7  |
| Allison Shippe, Campbellsville .....  | -----    | -----            | 13.50                                     | 4.25   | -----                   | 26.8                          | 26.5  |
| 20% Superphosphate, Knox Pulverized   |          |                  |   |        |                         |                               |       |
| H. B. McClary, Auburn .....   | -----    | -----            | 19.97                                     | -----  | -----                   | 26.0                          | 26.0  |
| Nay Chesnut, London .....   | -----    | -----            | 19.65                                     | -----  | -----                   | 26.0                          | 25.6  |
| Sherman Bengel, London .....  | -----    | -----            | 20.80                                     | -----  | -----                   | 26.0                          | 27.0  |
| W. H. Brock & Co., Maysville .....  | -----    | -----            | 20.15                                     | -----  | -----                   | 26.0                          | 26.2  |
| C. M. Langdon, Science Hill .....   | -----    | -----            | 20.25                                     | -----  | -----                   | 26.0                          | 26.3  |
| Parker S. Cooper, Monticello .....  | -----    | -----            | 19.95                                     | -----  | -----                   | 26.0                          | 25.9  |
| 18% Superphosphate, Knox  |          |                  |   |        |                         |                               |       |
| Grayson County Supply Co., Leitchfield..  | -----    | -----            | 18.35                                     | -----  | -----                   | 23.4                          | 23.9  |
| 20.50% Calcium Cyanamid   |          |                  |   |        |                         |                               |       |
| Greenville Feed Store, Lebanon .....  | 20.28    | -----            | -----                                     | -----  | -----                   | 49.2                          | 48.7  |
| Louisville Fertilizer Co., Div. Armour & Co., Cincinnati, O., Jeffersonville, Ind.,<br>Nashville, Tenn. |          |                  |   |        |                         |                               |       |
| 2-12-6 (Muriate)  |          |                  |   |        |                         |                               |       |
| Big Four Feed & Impl. Co., Scottsville.....   | 1.95     | 1.71             | 12.07                                     | 6.34   | -----                   | 32.4                          | 32.7  |
| Midwestern Phosphate Corporation, Madison, Wis.   |          |                  |   |        |                         |                               |       |
| 20% Superphosphate  |          |                  |   |        |                         |                               |       |
| V. B. Nuckols, Elkton .....   | -----    | -----            | 19.75                                     | -----  | -----                   | 26.0                          | 25.7  |
| Morris Fertilizer Co., Div. Armour & Co., Cincinnati, O., Jeffersonville, Ind., Nashville, Tenn.        |          |                  |   |        |                         |                               |       |
| 2-12-6 (Muriate) "Old Black Joe"  |          |                  |   |        |                         |                               |       |
| D. H. Tate, Monticello .....  | 1.99     | 1.75             | 13.05                                     | 6.42   | -----                   | 32.4                          | 34.1  |
| 0-14-7 (Muriate)—Morris   |          |                  |   |        |                         |                               |       |
| J. H. Tate Co., Monticello .....  | -----    | -----            | 14.40                                     | 7.55   | -----                   | 29.8                          | 30.8  |
| 19% Superphosphate—Morris   |          |                  |   |        |                         |                               |       |
| D. H. Tate, Monticello .....  | -----    | -----            | 20.10                                     | -----  | -----                   | 24.7                          | 26.1  |



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

| Manufacturer, brand name, guaranty,<br>and from whom obtained                     | Nitrogen |                  | Phos-<br>phoric<br>acid<br>Avail-<br>able | Potash | Sulfate<br>guar.<br>met | Index of<br>relative<br>value |       |
|---|----------|------------------|---|--------|-------------------------|-------------------------------|-------|
|   | Total    | Water<br>soluble |   |        |                         | Guar.                         | Found |
| <b>National Chemical Co., Div. North American Fertilizer Co., Louisville, Ky.</b> |          |                  |   |        |                         |                               |       |
| <b>3-9-6 (Muriate) "Big Pay Brand"</b>  |          |                  |   |        |                         |                               |       |
| Southern States Lebanon Cooperative,<br>Lebanon                                   | 3.18     | 3.01             | 8.95                                      | 6.21   | -----                   | 30.8                          | 31.3  |
| Farmers Cooperative Store, Owensboro  | 3.02     | 2.89             | 9.08                                      | 6.13   | -----                   | 30.8                          | 31.1  |
| Southern States Bowling Green,<br>Cooperative, Bowling Green                      | 2.90     | 2.70             | 9.30                                      | 6.04   | -----                   | 30.8                          | 31.0  |
| Southern States Glasgow Cooperative,<br>Glasgow                                   | 2.82     | 2.59             | 9.10                                      | 6.27   | -----                   | 30.8                          | 30.8  |
| <b>2-12-6 (Muriate) "Big Pay Brand"</b>   |          |                  |   |        |                         |                               |       |
| Farmers Cooperative Store, Owensboro  | 2.12     | 2.00             | 12.45                                     | 6.29   | -----                   | 32.4                          | 33.5  |
| Southern States Bowling Green<br>Cooperative, Bowling Green                       | 2.09     | 1.94             | 11.93                                     | 5.96   | -----                   | 32.4                          | 32.5  |
| <b>North American Fertilizer Co., Louisville, Ky.</b>                             |          |                  |   |        |                         |                               |       |
| <b>6-8-6 (Muriate) N. Am. Brand</b>   |          |                  |   |        |                         |                               |       |
| Coomer Feed Store, Columbia   | 6.08     | 5.98             | 9.05                                      | 7.22   | -----                   | 35.6                          | 38.2  |
| Central State Hospital, Lakeland  | 6.77     | 6.64             | 8.85                                      | 6.44   | -----                   | 35.6                          | 38.6  |
| P. V. Hunt, Franklin  | 6.83     | 6.74             | 8.95                                      | 7.25   | -----                   | 35.6                          | 39.7  |
| Farmers Supply Co., Hodgenville   | 5.86     | 5.64             | 8.35                                      | 7.20   | -----                   | 35.6                          | 36.9  |
| W. L. Anderson & Son, Caneyville  | 6.03     | 5.93             | 8.27                                      | 6.36   | -----                   | 35.6                          | 36.3  |
| I. K. Miller & Son, Campbellsville  | 5.20     | 5.14             | 7.25                                      | 5.96   | -----                   | 35.6                          | 33.1  |
| U. L. Rogers, Columbia  | 5.48     | 5.34             | 7.65                                      | 5.69   | -----                   | 35.6                          | 33.8  |
| Danville Hdw. & Supply Co., Danville  | 6.02     | 5.81             | 8.10                                      | 6.13   | -----                   | 35.6                          | 35.9  |
| I. K. Miller & Son, Campbellsville  | 5.60     | 5.41             | 8.15                                      | 5.80   | -----                   | 35.6                          | 34.8  |
| <b>6-8-6 (Sulfate) N. Am. Brand</b>   |          |                  |   |        |                         |                               |       |
| Haydon Mill & Grain Co., Lebanon  | 5.80     | 5.23             | 7.65                                      | 5.77   | Yes                     | 35.6                          | 34.6  |
| I. K. Miller & Son, Campbellsville  | 5.88     | 5.34             | 7.85                                      | 5.77   | Yes                     | 35.6                          | 35.0  |
| <b>5-10-5 (Muriate) N. Am. Brand</b>  |          |                  |   |        |                         |                               |       |
| Eastern State Hospital, Lexington   | 4.73     | 4.64             | 11.25                                     | 5.20   | -----                   | 35.0                          | 36.2  |
| <b>4-12-4 (Muriate) N. Am. Brand</b>  |          |                  |   |        |                         |                               |       |
| Central State Hospital, Lakeland  | 4.31     | 4.20             | 12.55                                     | 4.48   | -----                   | 34.4                          | 36.2  |
| Western State Hospital, Hopkinsville  | 4.16     | 3.96             | 12.05                                     | 4.31   | -----                   | 34.4                          | 35.1  |
| <b>3-9-6 (Muriate) N. Am. Brand</b>   |          |                  |   |        |                         |                               |       |
| W. D. Cunningham, Webbs Cross Roads   | 3.28     | 3.23             | 9.02                                      | 7.00   | -----                   | 30.8                          | 32.4  |
| L. H. DeJarnett, Hawesville   | 3.04     | 2.96             | 8.60                                      | 5.46   | -----                   | 30.8                          | 29.9  |
| J. M. Holt, Campbellsville  | 3.04     | 2.99             | 9.72                                      | 6.10   | -----                   | 30.8                          | 31.8  |
| Phoenix Milling Co., Providence   | 2.80     | 2.74             | 9.02                                      | 6.16   | -----                   | 30.8                          | 30.6  |
| Pulaski Produce Co., Somerset   | 3.09     | 2.94             | 8.83                                      | 5.98   | -----                   | 30.8                          | 30.8  |
| W. D. Cunningham, Webbs Cross Roads   | 3.00     | 2.82             | 8.83                                      | 6.42   | -----                   | 30.8                          | 31.0  |
| I. K. Miller & Son, Campbellsville  | 3.26     | 3.12             | 8.90                                      | 6.13   | -----                   | 30.8                          | 31.3  |
| <b>2-12-6 (Muriate) N. Am. Brand</b>  |          |                  |   |        |                         |                               |       |
| Dixon Hardware Co., Dixon   | 2.14     | 2.05             | 12.60                                     | 6.91   | -----                   | 32.4                          | 34.3  |
| Owens Brothers, Russell   | 2.33     | 2.23             | 11.90                                     | 5.80   | -----                   | 32.4                          | 32.7  |
| Pulaski Produce Co., Somerset   | 2.14     | 1.99             | 11.90                                     | 7.17   | -----                   | 32.4                          | 33.7  |
| <b>20% Superphosphate—N. Am. Brand</b>  |          |                  |   |        |                         |                               |       |
| Feeble-Minded Institute, Frankfort  | -----    | -----            | 19.85                                     | -----  | -----                   | 26.0                          | 25.8  |
| Phoenix Milling Co., Providence   | -----    | -----            | 19.77                                     | -----  | -----                   | 26.0                          | 25.7  |
| <b>Price Chemical Company, Louisville, Ky.</b>                                    |          |                  |   |        |                         |                               |       |
| <b>6-8-6 (Muriate) Price</b>  |          |                  |   |        |                         |                               |       |
| Harralson's Feed Store, Owensboro   | 6.06     | 5.87             | 8.00                                      | 7.37   | -----                   | 35.6                          | 37.1  |
| <b>4-12-8 (Muriate) Price</b>   |          |                  |   |        |                         |                               |       |
| Harralson's Feed Store, Owensboro   | 3.52     | 3.35             | 12.10                                     | 9.93   | -----                   | 38.4                          | 39.5  |
| <b>3-9-6 (Muriate) Price</b>  |          |                  |   |        |                         |                               |       |
| A. G. Miller & Co., Magnolia  | 2.72     | 2.56             | 9.90                                      | 6.92   | -----                   | 30.8                          | 32.2  |
| A. L. Hazel, Hodgenville  | 2.98     | 2.86             | 10.45                                     | 6.67   | -----                   | 30.8                          | 33.2  |
| Harralson's Feed Store, Owensboro   | 3.24     | 3.10             | 9.52                                      | 6.70   | -----                   | 30.8                          | 32.6  |
| Foster Fertilizer Co., Hopkinsville   | 3.16     | 2.90             | 9.30                                      | 6.96   | -----                   | 30.8                          | 32.4  |
| Gish Hardware Co., Central City   | 2.89     | 2.59             | 9.45                                      | 6.36   | -----                   | 30.8                          | 31.5  |
| <b>3-9-6 (Muriate 3, Sulfate 3) Price</b>   |          |                  |   |        |                         |                               |       |
| Fox Brothers, Winchester  | 3.14     | 2.92             | 9.35                                      | 7.11   | No <sup>1</sup>         | 30.8                          | 32.6  |

<sup>1</sup> Excess Muriate equivalent to 1.01 percent potash.

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS,

| Manufacturer, brand name, guaranty,<br>and from whom obtained  | Nitrogen |                  | Phos-<br>phoric<br>acid<br>Avail-<br>able | Potash | Sulfate<br>guar.<br>met | Index of<br>relative<br>value |       |
|--|----------|------------------|---|--------|-------------------------|-------------------------------|-------|
|  | Total    | Water<br>soluble |   |        |                         | Guar.                         | Found |
| <b>Price Chemical Co.—Continued</b>  |          |                  |   |        |                         |                               |       |
| 2-12-6 (Muriate) Price   |          |                  |   |        |                         |                               |       |
| Farmers Supply Co., Glasgow .....  | 2.18     | 2.03             | 12.00                                     | 7.20   | -----                   | 32.4                          | 34.0  |
| Jack Shirley, Edmonton .....   | 2.24     | 2.08             | 12.55                                     | 7.32   | -----                   | 32.4                          | 34.9  |
| St. Matthews Produce Exchange,<br>St. Matthews .....   | 2.33     | 2.19             | 12.45                                     | 7.35   | -----                   | 32.4                          | 35.0  |
| Joiner Hardware Co., Princeton .....   | 2.35     | 2.13             | 12.10                                     | 7.53   | -----                   | 32.4                          | 34.8  |
| Harralson's Feed Store, Owensboro .....  | 2.60     | 2.43             | 11.68                                     | 6.89   | -----                   | 32.4                          | 34.1  |
| Robinson & Turley, Richmond .....  | 2.34     | 2.19             | 13.27                                     | 6.27   | -----                   | 32.4                          | 34.9  |
| W. L. Anderson & Son, Caneyville .....   | 2.29     | 2.15             | 14.07                                     | 7.22   | -----                   | 32.4                          | 36.7  |
| Caulk Hardware Co., Campbellsville .....   | 2.26     | 2.02             | 12.15                                     | 6.63   | -----                   | 32.4                          | 33.7  |
| Smith Brothers, Beaver Dam .....   | 2.21     | 1.95             | 11.93                                     | 6.37   | -----                   | 32.4                          | 33.1  |
| Foster Fertilizer Co., Hopkinsville .....  | 2.24     | 1.98             | 12.28                                     | 6.68   | -----                   | 32.4                          | 33.9  |
| W. L. Anderson & Son, Caneyville .....   | 2.20     | 2.00             | 12.33                                     | 5.98   | -----                   | 32.4                          | 33.2  |
| St. Matthews Produce Exchange,<br>St. Matthews .....   | 2.30     | 2.10             | 12.88                                     | 6.64   | -----                   | 32.4                          | 34.7  |
| 0-14-7 (Muriate) with 200# tobacco stems—Price   |          |                  |   |        |                         |                               |       |
| Caulk Hardware Co., Campbellsville .....   | -----    | -----            | 14.30                                     | 7.97   | -----                   | 29.8                          | 31.1  |
| Gish Hardware Co., Central City .....  | -----    | -----            | 14.28                                     | 7.62   | -----                   | 29.8                          | 30.8  |
| A. L. Hazle, Hodgenville .....   | -----    | -----            | 13.73                                     | 7.93   | -----                   | 29.8                          | 30.4  |
| <b>Ralston Purina Co., St. Louis, Mo.</b>  |          |                  |   |        |                         |                               |       |
| 5-10-5 (Muriate 2.50, Sulfate 2.50) Purina Brand   |          |                  |   |        |                         |                               |       |
| Youngblood Brothers, Mayfield .....  | 4.82     | 4.71             | 10.60                                     | 4.81   | Yes                     | 35.0                          | 35.2  |
| <b>Swift &amp; Co., Plant Food Division, National Stock Yards, Ill.</b>  |          |                  |   |        |                         |                               |       |
| 4-12-4 (Muriate) "Red Steer"   |          |                  |   |        |                         |                               |       |
| Trigg County Trading Co., Cadiz .....  | 4.05     | 3.97             | 12.00                                     | 3.96   | -----                   | 34.4                          | 34.5  |
| Farmers Supply Co., Danville .....   | 4.09     | 3.99             | 12.25                                     | 4.22   | -----                   | 34.4                          | 35.1  |
| 4-12-4 (Muriate) "Vigoro Brand"  |          |                  |   |        |                         |                               |       |
| Cayce-Yost Co., Hopkinsville .....   | 4.09     | 3.95             | 12.42                                     | 3.99   | -----                   | 34.4                          | 35.1  |
| Harris Feed Store, Franklin .....  | 4.23     | 4.03             | 12.72                                     | 4.22   | -----                   | 34.4                          | 35.9  |
| Caulk Hardware Co., Campbellsville .....   | 4.24     | 3.95             | 12.80                                     | 4.44   | -----                   | 34.4                          | 36.3  |
| L. N. Kratzer, Mt. Sterling .....  | 4.08     | 3.89             | 12.27                                     | 4.62   | -----                   | 34.4                          | 35.5  |
| Farmers Supply Co., Harrodsburg .....  | 3.87     | 3.69             | 12.22                                     | 4.61   | -----                   | 34.4                          | 35.0  |
| Jewell & Hayden, Bardstown .....   | 3.78     | 3.55             | 12.45                                     | 4.40   | -----                   | 34.4                          | 34.9  |
| Parker Seed Co., Murray .....  | 3.71     | 3.44             | 13.15                                     | 4.58   | -----                   | 34.4                          | 35.8  |
| Gresham Brothers, Eddyville .....  | 4.01     | 3.85             | 12.50                                     | 4.25   | -----                   | 34.4                          | 35.3  |
| 3-9-6 (Muriate) "Red Steer"  |          |                  |   |        |                         |                               |       |
| Farmers Supply Co., Harrodsburg .....  | 3.42     | 3.33             | 10.07                                     | 6.00   | -----                   | 30.8                          | 32.9  |
| 2-12-6 (Muriate) "Red Steer"   |          |                  |   |        |                         |                               |       |
| Yopp Seed Store, Paducah .....   | 2.05     | 1.90             | 12.45                                     | 5.35   | -----                   | 32.4                          | 32.4  |
| Trigg County Trading Co., Cadiz .....  | 2.25     | 2.09             | 12.00                                     | 6.02   | -----                   | 32.4                          | 32.9  |
| Morganfield Hardware Co., Morganfield .....  | 2.08     | 1.95             | 11.65                                     | 6.42   | -----                   | 32.4                          | 32.6  |
| Trigg County Trading Co., Cadiz .....  | 2.20     | 2.06             | 12.25                                     | 5.87   | -----                   | 32.4                          | 33.0  |
| Farmers Supply Co., Harrodsburg .....  | 2.12     | 2.01             | 11.87                                     | 5.82   | -----                   | 32.4                          | 32.3  |
| Parker Seed Co., Murray .....  | 2.29     | 2.14             | 12.33                                     | 5.98   | -----                   | 32.4                          | 33.4  |
| Farmers Supply Co., Danville .....   | 2.13     | 2.02             | 12.38                                     | 7.15   | -----                   | 32.4                          | 34.3  |
| 0-14-7 (Muriate) "Red Steer"   |          |                  |   |        |                         |                               |       |
| Farmers Supply Co., Danville .....   | -----    | -----            | 14.85                                     | 6.81   | -----                   | 29.8                          | 30.6  |
| Morganfield Hardware Co., Morganfield .....  | -----    | -----            | 14.50                                     | 7.16   | -----                   | 29.8                          | 30.6  |
| Farmers Supply Co., Danville .....   | -----    | -----            | 13.90                                     | 7.65   | -----                   | 29.8                          | 30.3  |
| 18% Superphosphate "Red Steer"   |          |                  |   |        |                         |                               |       |
| Gresham Brothers, Eddyville .....  | -----    | -----            | 17.97                                     | -----  | -----                   | 23.4                          | 23.4  |
| <b>Tennessee Chemical Co., Div. Armour &amp; Co., Cincinnati, O., Jeffersonville, Ind.,<br/>Nashville, Tenn.</b> |          |                  |   |        |                         |                               |       |
| 6-8-6 (Muriate) "Ox"   |          |                  |   |        |                         |                               |       |
| Harralson's Feed & Seed Store, Owensboro .....   | 5.80     | 5.41             | 8.15                                      | 6.73   | -----                   | 35.6                          | 36.1  |
| 6-8-6 (Sulfate) "Ox"   |          |                  |   |        |                         |                               |       |
| Emrick's Store, Philpot .....  | 6.24     | 5.82             | 8.47                                      | 6.66   | Yes                     | 35.6                          | 37.3  |
| M. V. Christian, Whitesville .....   | 6.36     | 5.95             | 8.20                                      | 6.38   | Yes                     | 35.6                          | 36.9  |
| 4-12-8 (Muriate) "Ox"  |          |                  |   |        |                         |                               |       |
| W. L. Ambrose, Beech Grove .....   | 4.08     | 3.43             | 12.47                                     | 8.71   | -----                   | 38.4                          | 39.8  |

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS,

| Manufacturer, brand name, guaranty,<br>and from whom obtained                      | Nitrogen |                  | Phos-<br>phoric<br>acid<br>Avail-<br>able | Potash | Sulfate<br>guar.<br>met | Index of<br>relative<br>value |       |
|--|----------|------------------|---|--------|-------------------------|-------------------------------|-------|
|  | Total    | Water<br>soluble |   |        |                         | Guar.                         | Found |
| <b>Tennessee Chemical Co., Div. Armour &amp; Co.—Continued</b>                     |          |                  |   |        |                         |                               |       |
| 4-12-8 (Sulfate) "Ox"<br>Harralson's Feed & Seed Store, Owensboro                  | 3.99     | 3.63             | 12.05                                     | 8.27   | Yes                     | 38.4                          | 38.7  |
| 4-12-4 (Muriate) "Ox"<br>Farmers Supply Co., Monticello                            | 3.70     | 3.41             | 12.32                                     | 4.41   | -----                   | 34.4                          | 34.6  |
| Farmers Supply Co., Monticello   | 3.67     | 3.25             | 12.03                                     | 3.88   | -----                   | 34.4                          | 33.7  |
| 3-12-12 (Muriate) "Ox"<br>W. L. Ambrose, Beech Grove                               | 2.97     | 2.62             | 11.92                                     | 12.57  | -----                   | 40.4                          | 40.8  |
| 3-9-6 (Muriate) "Ox"<br>Brody & Co., Gamaliel                                      | 2.88     | 2.76             | 9.00                                      | 5.92   | -----                   | 30.8                          | 30.5  |
| Farmers Supply Co., Monticello   | 3.14     | 2.92             | 9.05                                      | 5.93   | -----                   | 30.8                          | 31.1  |
| 3-9-6 (Sulfate) "Ox"<br>Forbes Hardware Co., Hopkinsville                          | 3.50     | 3.16             | 9.40                                      | 4.73   | Yes                     | 30.8                          | 31.0  |
| Forbes Hardware Co., Hopkinsville  | 2.82     | 2.73             | 10.50                                     | 5.66   | Yes                     | 30.8                          | 31.9  |
| J. H. Tate Co., Monticello   | 2.97     | 2.68             | 9.90                                      | 6.27   | Yes                     | 30.8                          | 32.1  |
| Farmers Supply Co., Monticello   | 3.36     | 3.17             | 9.00                                      | 6.24   | Yes                     | 30.8                          | 31.8  |
| 2-12-6 (Muriate) "Ox"<br>W. L. Ambrose, Beech Grove                                | 2.04     | 1.80             | 12.30                                     | 6.29   | -----                   | 32.4                          | 33.1  |
| Henderson Feed & Commission Co.,<br>Henderson                                      | 2.27     | 2.00             | 12.00                                     | 6.13   | -----                   | 32.4                          | 33.1  |
| Farmers Supply Co., Monticello   | 2.23     | 2.11             | 12.17                                     | 6.40   | -----                   | 32.4                          | 33.5  |
| Farmers Supply Co., Monticello   | 1.98     | 1.71             | 11.98                                     | 5.52   | -----                   | 32.4                          | 31.9  |
| 20% Superphosphate "Ox"<br>Farmers Supply Co., Monticello                          | -----    | -----            | 20.62                                     | -----  | -----                   | 26.0                          | 26.8  |
| W. L. Ambrose, Beech Grove   | -----    | -----            | 20.97                                     | -----  | -----                   | 26.0                          | 27.3  |
| Harralson Feed & Seed Co., Owensboro   | -----    | -----            | 20.95                                     | -----  | -----                   | 26.0                          | 27.2  |
| Farmers Supply Co., Monticello   | -----    | -----            | 21.20                                     | -----  | -----                   | 26.0                          | 27.6  |
| 19% Superphosphate "Ox"<br>Farmers Supply Co., Monticello                          | -----    | -----            | 19.90                                     | -----  | -----                   | 24.7                          | 25.9  |
| <b>Tennessee Corporation, Cincinnati 15, O.</b>                                    |          |                  |   |        |                         |                               |       |
| 3-9-6 (Muriate)<br>Whitmer's Feed Mill, Central City                               | 3.06     | 2.91             | 9.92                                      | 5.39   | -----                   | 30.8                          | 31.4  |
| Haydon Mill & Grain Co., Springfield   | 2.97     | 2.86             | 10.22                                     | 5.90   | -----                   | 30.8                          | 32.1  |
| Watson Feed & Coal Co., Princeton  | 3.00     | 2.89             | 9.95                                      | 6.01   | -----                   | 30.8                          | 32.0  |
| 3-9-6 (Muriate 3, Sulfate 3)<br>Baugman Milling Co., Stanford                      | 3.00     | 2.85             | 9.85                                      | 7.09   | Yes                     | 30.8                          | 32.9  |
| 2-12-6 (Muriate)<br>Shively Brothers, Whitesville                                  | 2.00     | 1.77             | 12.65                                     | 6.05   | -----                   | 32.4                          | 33.2  |
| T. J. Turley Co., Owensboro  | 1.97     | 1.81             | 12.43                                     | 5.92   | -----                   | 32.4                          | 32.8  |
| I. K. Miller & Son, Campbellsville   | 1.97     | 1.82             | 12.00                                     | 6.32   | -----                   | 32.4                          | 32.7  |
| 0-14-7 (Muriate)<br>J. M. Holt, Campbellsville                                     | -----    | -----            | 14.62                                     | 7.18   | -----                   | 29.8                          | 30.7  |
| <b>Valley Counties of Kentucky Cooperative, Murray</b>                             |          |                  |   |        |                         |                               |       |
| 47% Superphosphate<br>Calloway County Soil Improvement<br>Association, Murray      | -----    | -----            | 47.20                                     | -----  | -----                   | 61.1                          | 61.4  |
| Calloway County Soil Improvement<br>Association, Murray                            | -----    | -----            | 47.92                                     | -----  | -----                   | 61.1                          | 62.3  |
| 46% Superphosphate<br>Calloway County Soil Improvement<br>Association, Murray      | -----    | -----            | 46.90                                     | -----  | -----                   | 59.8                          | 61.0  |
| <b>Virginia-Carolina Chemical Corporation, Cincinnati, O., Mt. Pleasant, Tenn.</b> |          |                  |   |        |                         |                               |       |
| 8-8-8 (Muriate) V-C<br>Pruitt Implement Co., Bowling Green                         | 6.82     | 6.60             | 8.00                                      | 7.68   | -----                   | 41.6                          | 38.9  |
| 6-8-6 (Muriate) V-C<br>Miss Agnes Davis, Russellville                              | 5.88     | 5.66             | 8.80                                      | 6.18   | -----                   | 35.6                          | 36.5  |
| 4-12-8 (Muriate) V-C<br>Farmers Supply Co., Morganfield                            | 3.95     | 3.84             | 12.97                                     | 7.77   | -----                   | 38.4                          | 39.2  |

TABLE 3—ANALYSES OF INSPECTION SAMPLES OF MIXED FERTILIZERS,

| Manufacturer, brand name, guaranty,<br>and from whom obtained               | Nitrogen |                  | Phos-<br>phoric<br>acid<br>Avail-<br>able | Potash | Sulfate<br>guar.<br>met | Index of<br>relative<br>value |       |
|---|----------|------------------|---|--------|-------------------------|-------------------------------|-------|
|   | Total    | Water<br>soluble |   |        |                         | Guar.                         | Found |
| <b>Virginia-Carolina Chemical Corp.—Continued</b>                           |          |                  |   |        |                         |                               |       |
| 3-12-12 (Muriate) V-C<br>Seiler's Feed Store, Marion .....                  | 2.83     | 2.62             | 12.92                                     | 11.38  | -----                   | 40.4                          | 40.5  |
| 3-9-6 (Muriate) V-C<br>J. H. Greene, Lexington .....                        | 2.94     | 2.78             | 9.00                                      | 5.41   | -----                   | 30.8                          | 30.1  |
| U. L. Rogers, Gradyville .....  | 3.05     | 2.90             | 8.97                                      | 4.95   | -----                   | 30.8                          | 29.8  |
| Miss Agnes Davis, Russellville .....  | 3.15     | 2.99             | 9.25                                      | 6.47   | -----                   | 30.8                          | 31.9  |
| 2-12-6 (Muriate) V-C<br>Farmers Supply Co., Morganfield .....               | 2.01     | 1.83             | 13.20                                     | 6.47   | -----                   | 32.4                          | 34.3  |
| Miss Agnes Davis, Russellville .....  | 2.08     | 1.90             | 12.62                                     | 6.42   | -----                   | 32.4                          | 33.7  |
| Miss Agnes Davis, Russellville .....  | 1.99     | 1.75             | 12.87                                     | 6.13   | -----                   | 32.4                          | 33.6  |
| Seiler's Feed Store, Marion .....   | 1.93     | 1.71             | 12.85                                     | 6.66   | -----                   | 32.4                          | 33.9  |
| P. C. Pasco, Central City .....   | 1.96     | 1.75             | 12.77                                     | 6.08   | -----                   | 32.4                          | 33.3  |
| Farmers Supply Co., Morganfield .....                                       | 1.80     | 1.56             | 14.30                                     | 4.54   | -----                   | 32.4                          | 33.3  |
| Knox County Supply Co., Barbourville .....                                  | 2.08     | 1.79             | 12.10                                     | 6.14   | -----                   | 32.4                          | 32.8  |
| Seiler's Feed Store, Marion .....   | 2.08     | 1.82             | 11.95                                     | 6.08   | -----                   | 32.4                          | 32.6  |
| Big Four Feed & Implement Co.,<br>Scottsville .....                         | 2.15     | 1.88             | 12.00                                     | 6.04   | -----                   | 32.4                          | 32.7  |
| Miss Agnes Davis, Russellville .....  | 2.07     | 1.85             | 12.43                                     | 6.17   | -----                   | 32.4                          | 33.2  |
| 0-14-7 (Muriate) V-C<br>Big Four Feed & Implement Co.,<br>Scottsville ..... | -----    | -----            | 14.38                                     | 7.87   | -----                   | 29.8                          | 31.1  |
| M. G. Williams, Hopkinsville .....  | -----    | -----            | 14.25                                     | 7.20   | -----                   | 29.8                          | 30.3  |
| Cottingham Grain Co., Henderson .....                                       | -----    | -----            | 14.37                                     | 7.63   | -----                   | 29.8                          | 30.9  |
| Miss Agnes Davis, Russellville .....  | -----    | -----            | 14.65                                     | 7.15   | -----                   | 29.8                          | 30.7  |
| 0-12-12 (Muriate) V-C<br>Miss Agnes Davis, Russellville .....               | -----    | -----            | 12.60                                     | 11.51  | -----                   | 32.4                          | 32.6  |
| 20% Superphosphate V-C<br>J. C. Cook, Tompkinsville .....                   | -----    | -----            | 20.82                                     | -----  | -----                   | 26.0                          | 27.1  |
| Hardin County Milling Co., Elizabethtown .....                              | -----    | -----            | 20.00                                     | -----  | -----                   | 26.0                          | 26.0  |
| U. L. Rogers, Gradyville .....  | -----    | -----            | 20.05                                     | -----  | -----                   | 26.0                          | 26.1  |
| Miss Agnes Davis, Russellville .....  | -----    | -----            | 20.15                                     | -----  | -----                   | 26.0                          | 26.2  |
| M. G. Williams, Hopkinsville .....  | -----    | -----            | 18.12                                     | -----  | -----                   | 26.0                          | 23.6  |
| George Richardson, Somerset .....   | -----    | -----            | 20.02                                     | -----  | -----                   | 26.0                          | 26.0  |
| J. H. Greene, Lexington .....   | -----    | -----            | 18.90                                     | -----  | -----                   | 26.0                          | 24.6  |
| E. M. Osborne, Beech Grove .....  | -----    | -----            | 21.55                                     | -----  | -----                   | 26.0                          | 28.0  |
| Knox County Supply Co., Barbourville .....                                  | -----    | -----            | 20.20                                     | -----  | -----                   | 26.0                          | 26.3  |
| Miss Agnes Davis, Russellville .....  | -----    | -----            | 21.15                                     | -----  | -----                   | 26.0                          | 27.5  |
| 33.50% Ammonium Nitrate V-C<br>J. H. Greene, Lexington .....                | 33.40    | -----            | -----                                     | -----  | -----                   | 67.0                          | 66.8  |

TABLE 4—ANALYSES OF INSPECTION SAMPLES OF BONE AND ROCK PHOSPHATE

| Manufacturer, brand name, guaranty,<br>and from who obtained                           | Total Nitrogen |       | Phosphoric<br>acid total |       | Index of<br>relative<br>value |       |
|--|----------------|-------|--------------------------|-------|-------------------------------|-------|
|  | Guar.          | Found | Guar.                    | Found | Guar.                         | Found |
| <b>Armour Fertilizer Works, Cincinnati, O., Jeffersonville, Ind., Nashville, Tenn.</b> |                |       |                          |       |                               |       |
| 2-27-0 Bone Meal—Armour's Raw<br>Yopp Seed Company, Paducah .....                      | 2.00           | 1.95  | 27.00                    | 28.50 | 39.0                          | 40.2  |
| <b>Ruhm Phosphate &amp; Chemical Co., Mt. Pleasant, Tennessee</b>                      |                |       |                          |       |                               |       |
| "Red Seal X Brand" Ruhm's Phosphate Rock<br>W. C. Turner, Greensburg .....             | -----          | ----- | 32.00                    | 30.15 | 16.0                          | 15.1  |
| "Red Seal Brand" Ruhm's Phosphate Rock<br>A. L. Whitney, Columbia .....                | -----          | ----- | 30.00                    | 29.80 | 15.0                          | 14.9  |
| Farmers Supply Co., Monticello .....   | -----          | ----- | 30.00                    | 30.00 | 15.0                          | 15.0  |