

# COMMERCIAL FERTILIZERS

## REPORT FOR 1946

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Connecticut  
Agricultural Experiment Station  
New Haven

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FRED R. ZELLER,  
*State Comptroller.*

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# Report on Inspection and Analysis of Commercial Fertilizers, 1946

H. J. FISHER, *Chemist in Charge*<sup>1</sup>

## CONNECTICUT LAW AND REGULATIONS REGARDING COMMERCIAL FERTILIZERS

The term "commercial fertilizers" as used in the Connecticut fertilizer statute includes any and every substance imported, manufactured, prepared or sold for fertilizing or manuring or soil amendment purposes, except barnyard manure and stable manure that have not been artificially treated or manipulated, marl and lime. But no commercial fertilizer containing less than 0.82 per cent of nitrogen, or less than 1 per cent of phosphoric acid, or less than 1 per cent of potash is acceptable for registration.

*The seller is responsible for the proper labelling of each package of fertilizer, for the registration of each brand sold or offered for sale, for the payment of the required analysis fee and for the payment of the tonnage tax. If, however, proper labelling, registration and payments of analysis fees and of tonnage tax have been provided for by the manufacturer or by another responsible person, all sellers of such brands are released from the above-mentioned requirements. The retailer, therefore, should assure himself that the requirements of the law have been met by the manufacturer of the brands which he handles, or himself be prepared to meet all these requirements.*

*It frequently happens that a manufacturer or jobber sells fertilizer materials which are the products of, and which are registered by, another firm or individual. Distributors in such cases should sell such materials by the exact brand names under which they are registered in order that there may be no mistake as to the identity of brands. Any change in the brand names, or failure to make the identity of the brand and its manufacturer clear, makes the distributor liable for the registration of the product as his own brand.*

The law exempts from registration, and from other requirements referred to, only (1) fertilizers passing through the State in transit; (2) fertilizers and fertilizer materials shipped to regular fertilizer factories to be used for manufacturing purposes, and (3) fertilizers and fertilizer chemicals sold to the Connecticut Agricultural Experiment Station for experimental purposes.

<sup>1</sup>E. M. Bailey was in charge of the Department of Analytical Chemistry until his retirement on October 1, 1945. Analyses reported were made by Messrs. O. L. Nolan, Richard Merwin, D. C. Walden (deceased), Alphonse Wickroski and Miss Helen Kocaba; inspection and sampling by Messrs. George Smith and Richard Nichols; and compilations by Mr. Nolan and Mrs. M. B. Vosburgh.



*Cottonseed, linseed and soybean meals, when sold or used for fertilizer purposes, must be registered as fertilizers and the specified fees paid thereon. For such products the registration fee is \$10.00 for each brand, payable annually, and six cents per ton tonnage fee, payable semi-annually.*

*These fees are entirely apart from those required by the feeding stuffs statute.*

*Because manufacturers or jobbers do not know how much, if any, of their vegetable meal tonnage is sold or used as fertilizer, local dealers and purchasers report their sales or purchases to this Station. The information is not for publication but is used to inform manufacturers of the total sales of their meal as fertilizer in this State. It is expected that the fees provided for by statute will be paid by the manufacturer or other party responsible for the brands.*

### Official Definitions of Fertilizer Terms and Materials<sup>1</sup>

An *acid-forming fertilizer* is one that is capable of increasing the residual acidity of soil.

A *non-acid-forming fertilizer* is one that is not capable of increasing the residual acidity of the soil.

*Acidulated fish tankage or acidulated fish scrap* is the rendered product derived from fish and treated with sulfuric acid.

*Activated sewage products* are those made from sewage freed from grit and coarse solids and aerated after being inoculated with micro-organisms. The resulting flocculated organic matter is withdrawn from the tanks, filtered with or without the aid of coagulants, dried, ground and screened.

*Agricultural liming material* is material whose calcium and magnesium content is capable of neutralizing soil acidity.

*Air-slaked lime* is a product composed of varying proportions of the oxide, hydroxide and carbonate of calcium, or of calcium and magnesium, and derived from exposure of quicklime.

*Ammoniated superphosphate* is the product obtained when superphosphate is treated with ammonia or with a solution containing free ammonia and other forms of nitrogen dissolved therein.

The word *analysis*, as applied to fertilizers, shall designate the percentage composition of the product expressed in those terms that the law requires and permits.

*Ashes from leached wood* are unleached ashes resulting from burning wood that has been exposed to or digested in water or other

<sup>1</sup> Cited from Methods of Analysis, 6th Ed. 1945, Association Official Agricultural Chemists.

liquid solvent, as in the extraction of dyes, so that a part of the plant food has been dissolved and removed.

*Available phosphoric acid* is the sum of the water-soluble and the citrate-soluble phosphoric acid.

*"Basic" lime phosphate (lime-based superphosphate)* is a superphosphate to which liming materials have been added in a quantity at least six per cent (6%) calcium carbonate equivalents in excess of the quantity required to convert all water-soluble phosphate to the citrate-soluble form.

*Basic phosphate slag* is a by-product in the manufacture of steel from phosphatic iron ores. The product shall be finely ground and shall contain no admixture of materials other than what results in the original process of manufacture. It shall contain not less than twelve per cent (12%) of total phosphoric acid ( $P_2O_5$ ), not less than eighty per cent (80%) of which shall be soluble in two per cent (2%) citric acid solution according to the Wagner method of analysis, 2.19 or 2.20. Any phosphate slag not conforming to this definition shall be designated *low grade*.

*Bat guano* is partially decomposed bat manure.

*Bat manure* is the dry excrement from bats.

A *brand* is a term, design or trademark used in connection with one or several grades of fertilizers.

A *brand name* is a specific designation applied to an individual fertilizer.

*Calcium nitrate* (nitrate of lime) is a commercial product consisting chiefly of calcium nitrate, and it shall contain not less than fifteen per cent (15%) of nitrogen.

*Citrate-soluble ("reverted") phosphoric acid* is that part of the total phosphoric acid in fertilizer that is insoluble in water but soluble in a solution of citrate of ammonia according to the method adopted by the Association of Official Agricultural Chemists.

*Crude, inert, or slow-acting nitrogenous materials* are unprocessed organic substances relatively high in nitrogen but having a very low value as plant food and showing a low activity by both the alkaline and neutral permanganate methods (below 50% and 80%, respectively).

*Cyanamid* is a commercial product composed chiefly of calcium cyanamide ( $CaCN_2$ ), and it shall contain not less than twenty-one per cent (21%) of nitrogen.

*Dicalcium phosphate* is a manufactured product consisting chiefly of a dicalcic salt of phosphoric acid.

*Dissolved bone* is ground bone or bone meal that has been treated with sulfuric acid.

*Dolomite* is a mineral composed chiefly of carbonates of magnesium and calcium in substantially unimolal (1-1.19) proportions.

*Dried blood* is the collected blood of slaughtered animals, dried and ground and containing not less than twelve per cent (12%) of nitrogen in organic forms.

*Dried, pulverized, or shredded manures* are what the name indicates, and not mixtures of manures and other materials.

*Fertilizer grade* shall represent the minimum guaranty of its plant food expressed in terms of *nitrogen (not ammonia)*, *available phosphoric acid*, and *water-soluble potash*.

*Fish tankage, fish scrap, dry ground fish or fish meal fertilizer grade*, is the dried ground product derived from rendered or unrendered fish.

*Garbage tankage* is the rendered, dried and ground product derived from waste household food materials.

*Pulverized limestone (fine-ground limestone)* is the product obtained by grinding either calcitic or dolomitic limestone so that all the material will pass a 20-mesh sieve and at least seventy-five per cent (75%) will pass a 100-mesh sieve.

*Ground limestone (coarse-ground limestone)* is the product obtained by grinding either calcitic or dolomitic limestone so that all the material will pass a 10-mesh sieve, and at least fifty per cent (50%) will pass a 100-mesh sieve.

*Ground shells* is the product obtained by grinding the shells of mollusks so that not less than fifty per cent (50%) shall pass a 100-mesh sieve. The product shall also carry the name of the mollusk from which said product is made.

*Ground shell marl* is the product obtained by grinding natural deposits of shell marl so that at least seventy-five per cent (75%) shall pass a 100-mesh sieve.

*Ground raw bone* is dried ground animal bones that have not been steamed previously under pressure.

*Ground steamed bone* is ground animal bones that have been steamed previously under pressure.

*Gypsum, land plaster or crude calcium sulfate* is a product consisting chiefly of calcium sulfate. It may contain twenty per cent (20%) of combined water. (It does not neutralize acid soils.)

*High calcic products* are materials of which ninety per cent (90%) or more of the total calcium and magnesium content consists of calcium oxide.

*High magnesian products* are materials in which more than ten

per cent (10%) of the total calcium and magnesium oxide consists of magnesium oxide.

*Hoof and horn meal* is processed, dried, ground hoofs and horns.

*Hydrated or slaked lime* is a dry product consisting chiefly of the hydroxide of calcium and oxide-hydroxide of magnesium.

*Kainit* is a potash salt containing potassium and sodium chlorides and sometimes sulfate of magnesia with not less than twelve per cent (12%) of potash ( $K_2O$ ).

*Leached wood ashes* are ashes from burned unleached wood with part of their plant food removed by artificial means or by exposure to rains, snows, or other solvent.

The word *lime* when applied to liming materials means either calcium oxide or calcium and magnesium oxides.

*Magnesia* (magnesium oxide) is a product consisting chiefly of the oxide of magnesium. Its grade shall be stipulated. Example: Magnesia - 75 per cent  $MgO$ .

*Manganese*. The water-soluble (or available) manganese in fertilizers shall be expressed as manganese ( $Mn$ ).

*Manganese sulfate*. The term manganese sulfate, when applied to an ingredient of a mixed fertilizer, shall designate anhydrous manganous sulfate ( $MnSO_4$ ).

*Manure salts* are potash salts containing high percentages of chloride and from twenty per cent (20%) to thirty per cent (30%) of potash ( $K_2O$ ). The term *double manure salts* should be discontinued.

*Monoammonium phosphate (fertilizer grade)* is a commercial salt made by combining phosphoric acid with ammonia. It shall contain not less than ten per cent (10%) of nitrogen and not less than forty-six per cent (46%) of available phosphoric acid.

*Muriate of potash* (commercial potassium chloride) is a potash salt containing not less than forty-eight per cent (48%) of potash ( $K_2O$ ), chiefly as chlorides.

*Nitrate of ammonia* (ammonium nitrate) is a product composed chiefly of nitrate of ammonium. Its nitrogen content shall be stipulated. Example: Ammonium nitrate - 30 per cent N.

*Nitrate of potash* (commercial potassium nitrate) is a salt containing not less than twelve per cent (12%) of nitrogen and forty-four per cent (44%) of potash ( $K_2O$ ).

*Nitrate of soda* (commercial sodium nitrate) is commercial sodium nitrate containing not less than fifteen per cent (15%) of nitrogen, chiefly as sodium nitrate.



*Nitrate of soda and potash* is a commercial product containing nitrates of sodium and potassium, and it shall contain not less than fourteen per cent (14%) of nitrogen (N) and fourteen per cent (14%) of potash ( $K_2O$ ).

*Peat* is a partly decayed vegetable matter of natural occurrence. It is composed chiefly of organic matter that contains some nitrogen of low activity.

*Charred peat* is peat artificially dried at a temperature that causes partial decomposition.

*Phosphate rock* is a natural rock containing one or more calcium phosphate minerals of sufficient purity and quantity to permit its use, either directly or after concentration, in the manufacture of commercial products.

The term *phosphoric acid* designates phosphorus pentoxide ( $P_2O_5$ ).

The term *potash* designates potassium oxide ( $K_2O$ ).

*Precipitated bone phosphate* is a by-product from the manufacture of glue from bones and is obtained by neutralizing the hydrochloric acid solution of processed bone with calcium hydroxide. The phosphoric acid is chiefly present as dicalcium phosphate.

*Precipitated phosphate* is a product consisting mainly of dicalcium phosphate obtained by neutralizing with calcium hydroxide the acid solution of either phosphate rock or processed bone.

*Primary fertilizer components* are those at present generally recognized by law as necessary to be guaranteed in fertilizers, namely: nitrogen, phosphoric acid ( $P_2O_5$ ), and potash ( $K_2O$ ).

*Secondary fertilizer components* are those other than the "primary fertilizer components" that are essential to the proper growth of plants and that may be needed by some soils. Some of these components are calcium, magnesium, sulfur, manganese, copper, zinc and boron.

*Process tankages* are products made under steam pressure from crude inert nitrogenous materials, with or without the use of acids, for the purpose of increasing the activity of the nitrogen. These products shall be called "Process Tankages" with or without further qualification. The water-insoluble nitrogen in these products shall test at least fifty per cent (50%) active by the alkaline, or eighty per cent (80%) by the neutral permanganate method.

*Products secured by heating calcium phosphate with alkali salts containing potash* are non-acid phosphates with potash. They are not potassium phosphate.

*Quick lime, burned lime, caustic lime, lump lime, unslaked lime.* These designations shall apply to calcined materials, the major part

of which is calcium oxide, in natural association with a lesser amount of magnesium oxide, and which is capable of slaking with water.

*Sheep manure—wool waste* is the by-product from wool-carding establishments consisting chiefly of sheep manure, seeds, and wool fiber.

*Soft phosphate with colloidal clay* is a very finely divided low-analysis by-product from mining Florida rock phosphate by a hydraulic process in which the colloidal materials settle at points in artificial ponds and basins farthest from the washer, and are later removed after the natural evaporation of the water.

*Sulfate of ammonia (commercial ammonium sulfate)* is a commercial product composed chiefly of ammonium sulfate. It shall contain not less than twenty and five-tenths per cent (20.5%) of nitrogen.

*Sulfate of potash-magnesia* is a potash salt containing not less than twenty-five per cent (25%) of potash ( $K_2O$ ), nor less than twenty-five per cent (25%) of sulfate of magnesia, and not more than two and one-half per cent (2.5%) of chlorine.

*Sulfate of potash (commercial potassium sulfate)* is a potash salt containing not less than forty-eight per cent (48%) of potash ( $K_2O$ ) chiefly as sulfate, and not more than two and one-half per cent (2.5%) of chlorine.

*Superphosphate* is a commercial phosphate, the phosphoric acid ( $P_2O_5$ ) content of which is due chiefly to monocalcium phosphate. (The grade that shows the available phosphoric acid should always be used as a prefix to the name. Example: 16 per cent superphosphate.)

*Tankage* (without qualification) is the rendered, dried and ground by-product, largely meat and bone from animals (slaughtered or that have died otherwise).

*A unit of plant food* is twenty (20) pounds, or one per cent (1%) of a ton.

*Unleached wood ashes* are ashes from burned unleached wood that have had no part of their plant food removed and that contain four per cent (4%) or more of water-soluble potash ( $K_2O$ ).

*Waste lime, by-product lime*, is any industrial waste or by-product containing calcium or calcium and magnesium in forms that will neutralize acids. It may be designated by prefixing the name of the industry or process by which it is produced, i.e., gas-house lime, tanners' lime, acetylene lime-waste, lime-kiln ashes, calcium silicate, etc.

## REGISTRATIONS

## Late Registrations for 1945

To the brands registered for 1945 in our last report should be added:

**Eastern States Farmers' Exchange, West Springfield, Mass.**  
Eastern States 0-20-20

## Registrations for 1946

For 1946, 56 firms and individuals registered 243 brands of fertilizers at this Station for sale in the State. As required by statute, the brands are listed as follows:

**Acme Guano Co., Baltimore, Md.**

Acme 4-12-4  
Acme 5-8-7  
Acme 5-10-5  
Acme 5-10-10  
Acme 7-7-7

**Agricultural Supply Co., West Haven, Conn.**

Yale Special Mixture 8-6-2

**Ted Alkire, Lubbock, Tex.**

Kireal Cotton Hull Ash

**Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.**

Arcadian, The American Nitrate of Soda  
Arcadian Sulphate of Ammonia  
Sulphate of Ammonia

**American Agricultural Chemical Co., No. Weymouth 91, Mass.**

AA Quality Fertilizer 5-8-7  
AA Quality Fertilizer 5-10-10  
Agrico Country Club Fertilizer 6-10-4  
Agrico for Corn 3-12-6<sup>1</sup>  
Agrico for Corn 4-12-8  
Agrico for Gardens 4-12-4  
Agrico for Gardens 5-10-5  
Agrico for Lawns, Trees and Shrubs 4-12-4  
Agrico for Lawns, Trees and Shrubs 6-10-4  
Agrico for New England 4-10-10  
Agrico for New England 5-8-7  
Agrico for Potatoes 5-10-10  
Agrico for Seeding Down 4-12-16  
Agrico for Tobacco 6-3-6  
Agrico for Top Dressing 7-7-7  
Agrico Phosphate and Potash 0-14-14  
18% Normal Superphosphate  
Pulverized Sheep and Goat Manure

**American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.**

20.6% 'Aero' Cyanamid Granular  
Ground Raw Phosphate Rock

**American Potash & Chemical Corp., 122 E. 42nd St., New York, N. Y.**

Trona Muriate of Potash

**American Sumatra Tobacco Corp., 102 Maiden Lane, New York 5, N. Y.**

Soybean Meal, 41%

**Apothecaries Hall Co., Waterbury, Conn.**

Bone Meal  
 Carbonate of Potash  
 Castor Pomace  
 Cotton Hull Ashes  
 Dry Ground Fish  
 Liberty Fertilizer 0-14-14  
 Liberty Fertilizer 0-20-20  
 Liberty Fertilizer 4-12-4  
 Liberty Fertilizer 5-10-5  
 Liberty Fertilizer 5-10-10  
 Liberty Fertilizer Special for Fruit and Grass 7-7-7  
 Liberty Fertilizer with Sulphate of Potash 5-10-10  
 Liberty Green Gro Fertilizer 6-7-4  
 Liberty High Grade Market Gardeners 5-8-7  
 Liberty High Grade Market Gardeners with Sulphate of Potash 5-8-7  
 Liberty Home Garden Fertilizer 5-10-5  
 Liberty Tobacco Mixture 5-3-5  
 Liberty Tobacco Mixture 6-3-6  
 Liberty Tobacco Mixture with Cotton Hull Ashes 6-3-6  
 Liberty Tobacco Starter 4-10-0  
 Liberty Tobacco Starter 5-5-15  
 Muriate of Potash  
 Nitrate of Potash  
 Precipitated Bone  
 Sheep Manure  
 Sulphate of Ammonia  
 Sulphate of Potash  
 Superphosphate 20%

**Archer-Daniels-Midland Co., Minneapolis 2, Minn.**

Archer Quality 32% Protein Old Process Linseed Oil Meal  
 Archer Quality 34% Protein Old Process Linseed Oil Meal  
 Archer Quality 41% Protein Soybean Oil Meal  
 Archer Quality 44% Protein Soybean Oil Meal

**Armour Fertilizer Works, 120 Broadway, New York 5, N. Y.**

Armour's Big Crop Fertilizer 0-14-7  
 Armour's Big Crop Fertilizer 0-14-14  
 Armour's Big Crop Fertilizer 4-12-4  
 Armour's Big Crop Fertilizer 5-8-7  
 Armour's Big Crop Fertilizer 5-10-5  
 Armour's Big Crop Fertilizer 5-10-10  
 Armour's Big Crop Fertilizer 7-7-7  
 Armour's Big Crop Fertilizer 8-16-16  
 Armour's Big Crop Tobacco Special 5-3-5  
 Armour's Big Crop Tobacco Special 6-3-6  
 Armour's Big Crop Superphosphate 20%  
 Armour's Bone Meal Fertilizer  
 Armour's Pulverized Sheep Manure  
 Armour's Special Ornamental Fertilizer 6-12-4  
 Castor Pomace

**Ashcraft-Wilkinson Co., Atlanta 3, Ga.**

Cow-Eta Brand 41% Protein Cottonseed Meal  
 Gilt Edge Brand Old Process 41% Soya Meal  
 Nitraprills Fertilizer Compound Chemically Prepared

**Associated Seed Growers Inc., Milford, Conn.**

Asgrow Lawn Food 10-6-4

**Atkins & Durbrow, Inc., 165 John St., New York 7, N. Y.**

Driconure



**The F. A. Bartlett Tree Expert Co., Stamford, Conn.**

Bartlett Green Tree Food 4-8-6  
 Bartlett Green Tree Food 6-8-6

**The Berkshire Chemical Co., Bridgeport, Conn.**

Berkshire Fertilizer 0-14-14  
 Berkshire Fertilizer 4-12-4  
 Berkshire Fertilizer 5-8-7  
 Berkshire Fertilizer 5-10-5  
 Berkshire Fertilizer 5-10-10  
 Berkshire Fertilizer 7-7-7  
 Berkshire Specialty Fertilizer 6-6-4  
 Berkshire Tobacco Fertilizer 6-3-6

**Chilean Nitrate Sales Corp., 120 Broadway, New York 5, N. Y.**

Chilean Nitrate of Soda—Champion Brand  
 Chilean Nitrate of Soda—Original Old Style

**Consolidated Rendering Co., 178 Atlantic Ave., Boston 10, Mass.**

Corenco 0-14-14 Top Dresser  
 Corenco 4-12-4 Complete Manure  
 Corenco 5-8-7 Potato and General Crop  
 Corenco 5-10-5 Home Garden Fertilizer  
 Corenco 5-10-10 Peerless Potato  
 Corenco 6-3-6 Special Tobacco Grower  
 Corenco 7-7-7 Complete Fruit and Top Dressing  
 Corenco 8-6-4 Landscape Fertilizer  
 Corenco Ground Bone  
 Corenco Sheep Manure  
 Corenco Superphosphate 20%

**The Davey Tree Expert Co., Kent, Ohio**

Davey Shredded Manure  
 Davey Tree Food 12-4-4

**Davison Chemical Corp., Baltimore, Md.**

Davco Granulated Fertilizer 5-10-10  
 Davco Granulated 20% Superphosphate

**E. I. du Pont de Nemours & Co., Wilmington 98, Del.**

Dupont Uramon Fertilizer Compound

**Eastern States Farmers' Exchange, West Springfield, Mass.**

Cottonhull Ash 30%  
 Eastern States 0-19-19 W/Borax  
 Eastern States 0-20-20  
 Eastern States 5-10-5 V.G.  
 Eastern States 5-10-10  
 Eastern States 5-15-5  
 Eastern States 5-15-20  
 Eastern States 8-4-8  
 Eastern States 8-16-16  
 Eastern States 8-16-16 LCS  
 Eastern States 8-24-8  
 Eastern States 10-10-10  
 Eastern States Superphosphate Granulated and Pulverized (20%)  
 Eastern States Triple Superphosphate 47%  
 Muriate of Potash 60%  
 Sulphate of Potash 48%

**Ford Motor Co., Dearborn, Mich.**

Ford Ammonium Sulphate

**A. H. Hoffman, Inc., Landisville, Lancaster County, Pa.**  
Hoffman Sheep Manure (Kiln-Dried)

**Hollandale Cotton Oil Co., Hollandale, Miss.**  
41% Protein Cottonseed Meal

**Spencer Kellogg & Sons, Inc., 98 Delaware Ave., Buffalo 5, N. Y.**  
Castor Pomace  
Spencer Kellogg's 41% Protein Soybean Oil Meal

**L. B. Lovitt & Co., Memphis, Tenn.**  
"Lovit Brand" 36% Protein Cottonseed Meal  
"Lovit Brand" 41% Protein Cottonseed Meal

**McCormick & Co., Inc., Baltimore 2, Md.**  
Hy-Gro 13-26-13

**Miller Chemical & Fertilizer Corp., Baltimore 31, Md.**  
VHPF 5-25-15

**Norwood Brand Fertilizer Co., No. Reading, Mass.**  
Norwood Brand Sheep Manure

**Old Deerfield Fertilizer Co., Inc., So. Deerfield, Mass.**  
Old Deerfield 5-8-7 All Crop Fertilizer  
Old Deerfield 5-5-15 Tobacco  
Old Deerfield 5-10-10 Potato Fertilizer  
Old Deerfield 6-3-6 Complete Tobacco Fertilizer  
Old Deerfield Castor Pomace 5.5%  
Old Deerfield Cottonhull Ashes 35%  
Old Deerfield Double Sulfate of Potash Magnesia 21.5%  
Old Deerfield Dry Ground Fish 9.5% and 5.00%  
Old Deerfield Hoof and Horn Meal  
Old Deerfield Steamed Bone 2.47%

**Olds & Whipple, Inc, Hartford, Conn.**  
O & W 4-8-4 Complete Lawn Grass Fertilizer  
O & W 4-12-4 Market Garden Fertilizer  
O & W 5-3-5 Complete Tobacco Fertilizer  
O & W 5-3-5 Complete Tobacco Fertilizer Potash derived from Cotton Hull Ash  
O & W 5-5-15 High Grade Tobacco Starter and Potash  
O & W 5-8-7 Potato and General Purpose Fertilizer  
O & W 5-8-7 Potato and General Purpose Fertilizer with Sulphate of Potash  
O & W 5-10-5 Fertilizer  
O & W 5-10-10 Potato Fertilizer  
O & W 6-3-6 Blue Label Tobacco Fertilizer  
O & W 6-3-6 Blue Label Tobacco Fertilizer Potash derived from Cotton Hull Ash  
O & W 7-7-7 Top Dressing and Grass Fertilizer  
O & W Bone Meal  
O & W Carbonate of Potash  
O & W Castor Pomace  
O & W Cotton Hull Ash  
O & W Luxura 5-8-6  
O & W Menhaden Dry Ground Fish  
O & W Sulphate of Potash  
O & W Superphosphate  
O & W Triple Superphosphate

**Plantspur Products Co., Jersey City, N. J.**  
Plantspur Fertilizer 4-4-2

- The Frank S. Platt Co., New Haven 10, Conn.**  
Platts's Special 10-5-5 Lawn Dressing
- Premier Peat Moss Corp., 535 Fifth Ave., New York, N. Y.**  
Premier-Nure.
- The Pulverized Manure Co., Chicago 9, Ill.**  
Wizard Brand Cow Manure  
Wizard Brand Pulverized Sheep Manure
- Ralston Purina Co., St. Louis, Mo.**  
Purina Plant Food 5-10-5
- The Rogers & Hubbard Co., Portland, Conn.**  
Castor Pomace  
Cotton Hull Ash  
Dry Ground Fish  
Gro-Fast Bone Meal  
Gro-Fast Cow Manure  
Gro-Fast Plant Food 5-8-5  
Gro-Fast Sheep Manure  
Hubbard High Potash Fertilizer 5-10-10  
Hubbard Potato Fertilizer 5-8-7  
Hubbard Raw Knuckle Bone Flour  
Hubbard Tobacco Grower 6-3-6  
Muriate of Potash  
Red-H 0-14-14  
Red-H 4-12-4  
Red-H 4-12-8  
Red-H 5-8-7  
Red-H 5-10-5  
Red-H 5-10-10  
Red-H 7-7-7  
Red-H 8-16-16  
Red-H Sulphate of Potash  
20% Superphosphate  
Victory Garden Fertilizer 5-10-5
- Ruhm Phosphate & Chemical Co., Mt. Pleasant, Tenn.**  
"Red Seal Brand Ruhm's Phosphate Rock 30%"
- O. M. Scott & Sons Co., Marysville, Ohio**  
Scott's Turf Builder 8-8-4<sup>s</sup>
- Sears, Roebuck & Co., Chicago 7, Ill.**  
Garden Master Plant Food 5-10-5  
Garden Master Sheep Manure
- The Sewerage Commission of the City of Milwaukee, Milwaukee 1, Wis.**  
Milorganite
- Shelco Milling Co., Memphis 1, Tenn.**  
Shelco Brand 41% Protein Cottonseed Meal, Prime Quality
- M. L. Shoemaker, Div. Wilson & Co., Inc., Philadelphia, Pa.**  
M. L. Shoemaker's "Swift-Sure" 4-10-0 Tobacco Starter  
M. L. Shoemaker's "Swift-Sure" 6-3-6 Tobacco Fertilizer
- Ernest W. Smith, Farmington, Conn.**  
Mr. O's Liquid Fertilizer 10-6-3
- Southern Cotton Oil Co., Memphis, Tenn.**  
Sco-Co Brand 41% Protein Cottonseed Meal
- A. E. Staley Manufacturing Co., Decatur, Ill.**  
Staley's Soybean Oil Meal

**Stumpp & Walter Co., 132 Church St., New York 8, N. Y.**

Sawco Bone  
Sawco Emerald Grass 5-10-5  
Sawco General Garden 5-10-5  
Sawco Superphosphate  
Sawconure

**Summers Fertilizer Co., Inc., Baltimore 2, Md.**

"Summers" 0-20-20 Fertilizer  
"Summers" 5-10-10 Fertilizer  
"Summers" 8-16-16 Fertilizer  
"Summers" 10-10-10 Fertilizer  
"Summers" 20% Superphosphate

**Swift & Co., Plant Food Div., Baltimore, Md.**

Red Steer Brand Superphosphate  
Sheep Manure  
Swift's Red Steer 5-8-7  
Swift's Red Steer 5-10-5  
Swift's Red Steer 5-10-10  
Vigoro 4-12-4

**Tennessee Corp., Lockland, Cincinnati 15, Ohio**  
5-10-5 Loma

**I. P. Thomas & Son Co., Camden, N. J.**

I. P. Thomas 4-12-8  
I. P. Thomas 5-8-7  
I. P. Thomas 5-10-10  
I. P. Thomas 7-7-7  
20% Superphosphate

**Walker-Gordon Laboratory Co., Plainsboro, N. J.**  
Bovung

**Stewart H. Willson, Thompsonville, Conn.**  
Willson's Old Enfield Tree Food 6-7-4

**F. H. Woodruff & Sons, Inc., Milford, Conn.**  
Gro-Sod Lawn Food 10-6-4

**The Woodruff Fertilizer Works, Inc., No. Haven, Conn.**

Clark's Tip Top Fertilizer 5-8-7  
Woodruff's Castor Pomace  
Woodruff's 4-12-4 Fertilizer  
Woodruff's 5-8-7 Fertilizer  
Woodruff's 5-10-5 Fertilizer  
Woodruff's 5-10-10 Fertilizer  
Woodruff's 6-3-6 Tobacco Fertilizer  
Woodruff's 7-7-7 Fertilizer  
Woodruff's Lawn Fertilizer 10-6-4

<sup>1</sup> Substituted for Agrico Country Club Fertilizer 8-6-2 which was discontinued.

<sup>2</sup> Later revised to "Scott's Turf Builder 8-7-3".



### FERTILIZER INSPECTION FOR 1946

During the war, under War Food Order No. 5 only certain specified grades of fertilizers were permitted to be sold. This restriction was revoked as of September 30, 1945. Since that date there has been no legal compulsion on manufacturers to limit the number of grades that they sell. Agronomists and most manufacturers are agreed, however, that the manufacture of a multiplicity of grades serves no useful purpose; it raises the cost of fertilizer to the farmer and offers him no compensating advantage in increased yields. A meeting of the New England agronomists in Boston in November, 1945, discussed the question of grade limitation at considerable length; it was agreed that, under the present fertilizer laws, manufacturers could not be compelled to limit the number of grades that they sold, but it was the unanimous opinion that a voluntary limitation of grades would be to the advantage of both manufacturers and consumers. In the hope that it would serve as a guide to manufacturers, the agronomists approved the following list of fertilizer ratios and minimum grades for each ratio that in their opinion would include all grades of mixed fertilizers for which there was any need in New England:

| Ratio | Minimum Grade                  |
|-------|--------------------------------|
| 0-1-1 | 0-14-14                        |
| 1-1-1 | 7- 7- 7                        |
| 1-1-3 | 5- 5-15 (Tobacco)              |
| 1-2-1 | 5-10- 5                        |
| 1-2-2 | 5-10-10                        |
| 1-3-2 | 4-12- 8                        |
| 1-3-3 | 4-12-12 (New Hampshire potato) |
| 1-3-4 | 4-12-16                        |
| 2-1-2 | 6- 3- 6 (Tobacco)              |
| 2-3-4 | 5- 7-10 (Maine potato)         |
| 2-3-5 | 6- 9-15 (Maine potato)         |

During the season the Station agents have collected samples of all the registered brands that could be found in the State. A classification of these, including samples submitted by purchasers, is given in the following tabulation. The classification includes also tonnage data for the year July 1, 1945, to June 30, 1946. This tonnage includes vegetable meal tonnage bought by tobacco growers for their own use direct from sources outside the State. It does not include fertilizer distributed in the State under the Federal Agricultural Adjustment Program.

## CLASSIFICATION OF FERTILIZER MATERIALS AND FERTILIZER TONNAGE

(Tonnage is for the period July 1, 1945 to June 30, 1946)

|  | Page | No. of<br>samples | Tonnage             |               |
|--|------|-------------------|---------------------|---------------|
| I. Containing chiefly nitrogen:              |      |                   |                     |               |
| Nitrate of ammonia .....                     | 24   | 2                 | 259                 |               |
| Nitrate of soda .....                        | 24   | 5                 | 2,191               |               |
| Sulphate of ammonia .....                    | 24   | 2                 | 104                 |               |
| Cyanamid and urea .....                      | 24   | 5                 | 149                 |               |
| Castor pomace .....                          | 24   | 14                | 3,733               |               |
| Cottonseed meal .....                        | 25   | 134               | 4,389               |               |
| Soybean meal .....                           |      | 7                 | 689                 |               |
| Horn and hoof meal .....                     | 25   | 2                 | 78                  |               |
| Linseed meal .....                           |      | 0                 | 90                  |               |
|  |      |                   |                     | 11,682        |
| II. Containing chiefly phosphoric acid:      |      |                   |                     |               |
| Superphosphate 20% .....                     | 26   | 12                | 4,296               |               |
| 18 - 19% .....                               | 26   | 1                 | 562                 |               |
| 47% .....                                    | 26   | 1                 | 33                  |               |
| Precipitated bone .....                      | 26   | 1                 | 173                 |               |
|  |      |                   |                     | 5,064         |
| III. Containing chiefly potash:              |      |                   |                     |               |
| Carbonate of potash .....                    | 27   | 10                | 416                 |               |
| Muriate of potash .....                      | 27   | 2                 | 425                 |               |
| Sulphate of potash .....                     | 27   | 3                 | 282                 |               |
| Sulphate of potash-magnesia .....            | 27   | 2                 | 114                 |               |
| Cottonhull ashes .....                       | 27   | 10                | 1,135               |               |
|  |      |                   |                     | 2,372         |
| IV. Containing nitrogen and phosphoric acid: |      |                   |                     |               |
| Dry ground fish .....                        | 28   | 8                 | 1,464               |               |
| Ground bone .....                            | 28   | 14                | 1,185               |               |
| Other materials .....                        | 29   | 1                 | 325                 |               |
|  |      |                   |                     | 2,974         |
| V. Containing nitrogen and potash:           |      |                   |                     |               |
| Nitrate of potash .....                      |      | 0                 | 160                 | 160           |
| VI. Mixed fertilizers:                       |      |                   |                     |               |
| Commercial mixtures .....                    | 30   | 144               | 59,095 <sup>1</sup> |               |
| Special and home mixtures .....              | 40   | 79                | 119                 |               |
|  |      |                   |                     | 59,214        |
| VII. Miscellaneous:                          |      |                   |                     |               |
| Sheep manure, etc. ....                      | 43   | 14                | 670                 |               |
| Limestone and similar materials ...          | 44   | 12                | ....                |               |
| Fertilizers sold in small packages ..        | 45   | 16                | ....                |               |
| Other miscellaneous materials .....          | 46   | 24                | ....                |               |
| Check meals and fertilizers .....            |      | 42                | ....                |               |
| Totals .....                                 |      | 567               |                     | 670<br>82,136 |

<sup>1</sup> For distribution of this tonnage see next page.

**Mixed Fertilizer Tonnage****Grades Approved for Connecticut**

| Grade   | Tons   | Grade        | Tons          |
|---------|--------|--------------|---------------|
| 0-14-14 | 721    | 5-15-20      | 97            |
| 0-19-19 | 101    | 6- 3- 6      | 17,543        |
| 0-20-20 | 181    | 7- 7- 7      | 3,201         |
| 4-12- 8 | 371    | 8- 4- 8      | 870           |
| 4-12-16 | 105    | 8-16-16      | 1,475         |
| 5- 5-15 | 478    | 10-10-10     | 404           |
| 5-10- 5 | 2,049  | 13-26-13     | 1             |
| 5-10-10 | 10,493 |              |               |
|         |        | <b>Total</b> | <b>38,090</b> |

**Specialty and Other Grades****(Over 50 tons)**

|         |        |              |               |
|---------|--------|--------------|---------------|
| 2- 1- 1 | 286    | 6- 6- 4      | 96            |
| 3-12- 6 | 233    | 6- 7- 4      | 178           |
| 4- 8- 6 | 74     | 6-10- 4      | 115           |
| 4-10- 0 | 517    | 8- 6- 2      | 254           |
| 4-10-10 | 159    | 8- 6- 4      | 119           |
| 4-12- 4 | 3,181  | 8- 8- 4      | 75            |
| 5- 3- 5 | 744    | 8-24- 8      | 575           |
| 5- 8- 5 | 128    | 10- 6- 4     | 104           |
| 5- 8- 7 | 13,943 |              |               |
|         |        | <b>Total</b> | <b>20,781</b> |

**(Less than 50 tons)**

|         |    |                    |               |
|---------|----|--------------------|---------------|
| 0-10-20 | 5  | 6- 8- 2            | 11            |
| 0-14- 7 | 13 | 6-12- 4            | 7             |
| 4- 4- 2 | 22 | 8- 7- 3            | 30            |
| 4- 8- 4 | 39 | 10- 5- 5           | 31            |
| 5- 8- 6 | 21 | 10- 6- 3           | 1             |
| 5-15- 5 | 36 | 12- 4- 4           | 8             |
|         |    | <b>Total</b>       | <b>224</b>    |
|         |    | <b>Grand Total</b> | <b>59,095</b> |

**I. Raw Materials Chiefly Valuable for Nitrogen**

The principal sources of inorganic nitrogen used in fertilizers in the past have been nitrate of soda and sulphate of ammonia. During the 1945-1946 season there was still more nitrate of soda sold than of any other nitrogenous material, but the tonnage of another ammonium salt, nitrate of ammonia, exceeded that of sulphate of ammonia. Pure ammonium nitrate contains 35 per cent of nitrogen as against 21.2 per cent in the sulphate; the fertilizer grade was sold under a guaranty of 33.5 per cent nitrogen.

Other sources of nitrogen in considerable use are cyanamid and urea. Both of these are synthetic products made from inorganic raw materials, but for fertilizer purposes they are classed as sources of non-protein organic nitrogen.

The chief sources of organic nitrogen have been cottonseed meal and castor pomace; some soybean meal was used during the past year, but the total tonnage of vegetable meals used for fertilizer purposes

was less than in previous years, probably because more was not available. Tobacco growers are the chief consumers of organic nitrogenous fertilizers. Two samples of horn and hoof meal were analyzed.

Analyses of official samples of materials in this group are given in Table 1. Analyses of unofficial samples examined for purchasers are not tabulated.

## II. Raw Materials Chiefly Valuable for Phosphoric Acid

Superphosphate formerly contained 16 per cent of available phosphoric acid, but in recent years so-called "double" and "triple" superphosphates have appeared that contain 20 per cent or more of available phosphoric acid. These products are made by treating rock phosphate with phosphoric acid instead of the sulphuric acid used in preparing the ordinary superphosphate.

All but two of the official samples analyzed this season were of the 20 per cent grade; one each was sold under a guaranty of 18 and 47 per cent. All samples met or exceeded their guaranties.

One sample of precipitated bone exceeded the guaranty of 38 per cent.

Analyses of official samples are given in Table 2.

## III. Raw Materials Chiefly Valuable for Potash

Muriate of potash is the usual source of potash in mixed fertilizers in this State except for tobacco growing, where the presence of chloride is detrimental to the quality of the leaf. Only two official samples of muriate of potash were obtained this year; neither met its guaranty of 60 per cent potash ( $K_2O$ ).

Three samples of sulphate of potash, one of sulphate of potash-magnesia and two of carbonate of potash substantially met their respective guaranties. No sales of carbonate of potash were reported during the 1944-1945 season; this year the tonnage nearly equalled that of the muriate.

Cottonhull ashes, because of their variable quality, are generally sold on a unit basis. Of two official samples, one was sold on a guaranty of 30 per cent potash ( $K_2O$ ) but did not meet the guaranty.

Analyses of official samples are given in Table 3.

## IV. Raw Materials Supplying Nitrogen and Phosphoric Acid

Dry ground fish and ground bone are the principal items in this group. Last year two samples of ground bone were found to contain ammonium sulphate and rock phosphate; similar adulteration was not encountered this year.

Analyses of official samples of dry ground fish and ground bone, as well as of "Milorganite", a treated sewage sludge, are given in Table 4.



## V. Raw Materials Supplying Nitrogen and Potash

This year 160 tons of nitrate of potash were sold in the State. No sample of this salt was obtained by the Station agent. Pure potassium nitrate contains 13.7 per cent of nitrogen (N) and 46.6 per cent of potash ( $K_2O$ ). The fertilizer grade should contain at least 12 per cent of nitrogen and 44 per cent of potash.

## VI. Mixed Fertilizers

### COMMERCIAL MIXTURES

Analyses of 129 official samples of mixed fertilizer are given in Table 5. Results are summarized as follows:

|  |                  |
|--|------------------|
| Total number of samples .....                  | 129              |
| Samples deficient in                           |                  |
| one item .....                                 | 18               |
| two items .....                                | 4                |
| Percentage of samples meeting guaranties ..... | 83               |
| Total guaranties made .....                    | 379 <sup>1</sup> |
| Guaranties not met:                            |                  |
| nitrogen .....                                 | 12               |
| phosphoric acid .....                          | 8                |
| potash .....                                   | 6                |
| Percentage met .....                           | 93               |

Ninety-three per cent of all guaranties made were substantially met or exceeded.

### SPECIAL AND HOME MIXTURES

Seventy-nine samples of special and home mixtures were analyzed for tobacco growers during the year. Analyses are given in Table 6.

### STATE PURCHASES OF FERTILIZER

Raw materials and mixed goods supplied to State institutions on State purchase orders are regularly included in our usual inspection. Fertilizers so supplied are subject to registration and tonnage tax.

Samples representing State purchases are indicated in the several tables. They are summarized as follows:

| Materials                                    | No. of samples | Reference |
|--|----------------|-----------|
| Supplying nitrogen .....                     | 5              | Table 1   |
| Supplying phosphoric acid .....              | 3              | Table 2   |
| Supplying potash .....                       | 2              | Table 3   |
| Supplying nitrogen and phosphoric acid ..... | 1              | Table 4   |
| Mixed fertilizers .....                      | 11             | Table 5   |
| Total .....                                  | 22             |           |

## VII. Miscellaneous

*Sheep manure.* Fourteen official samples of sheep manure and other dried manures were analyzed. Analyses are given in Table 7.

*Limestone and similar materials.* No regular inspection of liming materials is made because our fertilizer law exempts "lime" from classification as commercial fertilizer. Twelve samples of limestone

<sup>1</sup> Eight samples with only two guaranties.

and agricultural lime were, however, analyzed for lime (CaO) and magnesia (MgO). Analyses are given in Table 8.

*Fertilizers sold in small packages.* Registration is not required of those brands of fertilizer that are sold only in packages of less than 10 pounds. Because it was of interest to see how well these small package fertilizers met their guaranties, the Station agent sampled 16 brands during the past year, and analyses are given in Table 9. Of the 38 items guaranteed in 14 of these brands, there was only one deficiency (in phosphoric acid); 97 per cent of all guaranties were substantially met or exceeded.

*Other miscellaneous materials.* Twenty-four other miscellaneous products were examined. Analyses of 16 of them are given in Table 10.

*Check meals and fertilizers.* Collaboration was continued with the check analysis programs sponsored by the American Oil Chemists' Society and the F. S. Royster Guano Company. Many chemists from official and commercial laboratories and the laboratories of fertilizer manufacturers take part in these programs, which are valuable to us in providing a continued check on the accuracy of our analysts.

#### MAINTENANCE OF GUARANTIES

The maintenance of guaranties as compiled from analyses of official samples of ingredient materials and mixed goods, Tables 1 - 5 and 7, is shown in the following tabulation. Deficiencies of 0.1 per cent or less in nitrogen and of 0.2 per cent or less in phosphoric acid and potash are not considered. The proportion of guaranties substantially met was 92 per cent. Under any circumstances, this would be a very satisfactory record for the fertilizer industry, and it is particularly striking that it was attained under the difficult conditions of war times:

|                                | No. of samples | No. of guaranties | Deficiencies |
|--------------------------------|----------------|-------------------|--------------|
| Nitrate of soda .....          | 3              | 3                 | 0            |
| Cyanamid .....                 | 2              | 2                 | 2            |
| Urea .....                     | 1              | 1                 | 0            |
| Nitrate of ammonia .....       | 2              | 2                 | 0            |
| Sulphate of ammonia .....      | 2              | 2                 | 0            |
| Castor pomace .....            | 5              | 5                 | 0            |
| Cottonseed meal .....          | 1              | 1                 | 1            |
| Horn and hoof meal .....       | 1              | 1                 | 0            |
| Superphosphate .....           | 13             | 13                | 0            |
| Precipitated bone .....        | 1              | 1                 | 0            |
| Muriate of potash .....        | 2              | 2                 | 2            |
| Sulphate of potash .....       | 3              | 3                 | 1            |
| Sulphate of potash-magnesia .. | 1              | 1                 | 0            |
| Cottonhull ashes .....         | 2              | 1                 | 1            |
| Carbonate of potash .....      | 2              | 2                 | 0            |
| Dry ground fish .....          | 4              | 8                 | 0            |
| Ground bone .....              | 9              | 18                | 2            |
| Milorganite .....              | 1              | 1                 | 0            |
| Mixed fertilizer .....         | 129            | 379               | 26           |
| Sheep manure .....             | 14             | 42                | 4            |
| Totals .....                   | 188            | 488               | 39           |
| Per cent guaranties met .....  |                |                   | 92           |

TABLE I. ANALYSES OF MATERIALS SUPPLYING CHIEFLY NITROGEN

| Station No.  | Manufacturer or jobber  | Sampled from stock of                               | Per cent nitrogen |            |
|--|---|---|-------------------|------------|
|  |   |   | Found             | Guaranteed |
| <b>Nitrate of Soda</b>                                 |   |   |                   |            |
| 5588   | Chilean, Champion Brand.<br>Chilean Nitrate Sales Corp.,<br>New York 5, N. Y. ....                          | New London: Eaton & Wil-<br>son Hardware Co. ....   | 16.06             | 16.00      |
| 5632 <sup>1</sup>                                      | Chilean, Champion Brand.<br>Chilean Nitrate Sales Corp.,<br>New York 5, N. Y. ....                          | Cheshire: Conn. Reformatory                         | 16.00             | 16.00      |
| 5702 <sup>1</sup>                                      | Chilean, Champion Brand.<br>Chilean Nitrate Sales Corp.,<br>New York 5, N. Y. ....                          | Middletown: Conn. State<br>Hospital .....           | 16.16             | 16.00      |
| <b>Cyanamid</b>  |   |   |                   |            |
| 5670 <sup>1</sup>                                      | 20.6%, 'Aero' Granular.<br>American Cyanamid Co.,<br>New York 20, N. Y. ....                                | Mansfield Depot: Mansfield<br>Training School ..... | 19.88             | 20.60      |
| 5703 <sup>1</sup>                                      | 20.6%, 'Aero' Granular.<br>American Cyanamid Co.,<br>New York 20, N. Y. ....                                | Middletown: Conn. State<br>Hospital .....           | 19.64             | 20.60      |
| <b>Uramon Fertilizer Compound</b>                      |   |   |                   |            |
| 5805   | E. I. du Pont de Nemours &<br>Co., Inc., Wilmington 98,<br>Del. ....  | Bridgeport: Bridgeport<br>Chemical Co. ....         | 43.40             | 42.00      |
| <b>Fertilizer Compound Containing Ammonium Nitrate</b> |   |   |                   |            |
| 5701 <sup>1</sup>                                      | Nitraprills Fertilizer Com-<br>pound Chemically Prepared.<br>Ashcraft - Wilkinson Co.,<br>Atlanta, Ga. .... | Middletown: Long Lane Farm                          | 33.17             | 32.50      |
| 5731   | Nitraprills Fertilizer Com-<br>pound Chemically Prepared.<br>Ashcraft - Wilkinson Co.,<br>Atlanta, Ga. .... | New Haven: L. T. Frisbie<br>Co. ....                | 33.33             | 33.50      |
| <b>Sulphate of Ammonia</b>                             |   |   |                   |            |
| 5690   | Apothecaries Hall Co., Wa-<br>terbury, Conn. ....   | East Windsor: Apothecaries<br>Hall Co. ....         | 20.84             | 20.50      |
| 5704 <sup>1</sup>                                      | Apothecaries Hall Co., Wa-<br>terbury, Conn. ....   | Middletown: Conn. State<br>Hospital .....           | 21.00             | 20.50      |
| <b>Castor Pomace</b>                                   |   |   |                   |            |
| 5838   | Apothecaries Hall Co., Wa-<br>terbury, Conn. ....   | East Windsor: Apothecaries<br>Hall Co. ....         | 5.84              | 4.50       |
| 5675   | Spencer Kellogg & Sons, Inc.,<br>Buffalo, N. Y. ....  | Brooklyn: Adelaid Lafram-<br>boise .....            | 6.17              | 4.52       |

<sup>1</sup> State sample.

TABLE 1. ANALYSES OF MATERIALS SUPPLYING CHIEFLY NITROGEN—(Concluded)

| Station No. | Manufacturer or jobber  | Sampled from stock of                          | Per cent nitrogen |            |
|-------------|---|--|-------------------|------------|
|             |   |  | Found             | Guaranteed |
| 5828        | O & W. Olds & Whipple, Inc., Hartford .....   | Hartford: Olds & Whipple, Inc. ....            | 5.77              | 4.50       |
| 5835        | The Rogers & Hubbard Co., Portland, Conn. ....  | Portland: The Rogers & Hubbard Co. ....        | 6.24              | 4.50       |
| 5748        | Woodruff's. The Woodruff Fertilizer Works, No. Haven, Conn. ....                                    | No. Haven: The Woodruff Fertilizer Works ..... | 6.10              | 5.00       |
| 5778        | <b>Cottonseed Meal</b><br>"Lovit Brand", 41% L. B. Lovitt & Co., Memphis, Tenn. ....                | East Windsor: Apothecaries Hall Co. ....       | 6.43              | 6.56       |
| 5801        | <b>Horn and Hoof Meal</b><br>Old Deerfield. Old Deerfield Fertilizer Co., So. Deerfield, Mass. .... | Hazardville: L. B. Haas & Co. ....             | 14.31             | 14.00      |



TABLE 2. ANALYSES OF SUPERPHOSPHATE, ETC.

| Station No.       | Manufacturer or jobber   | Sampled from stock of                                 | Per cent phosphoric acid |       |             |            |
|-------------------|--|---|--------------------------|-------|-------------|------------|
|                   |  |   | Citrate-insoluble        | Total | "Available" |            |
|                   |  |   |                          |       | Found       | Guaranteed |
|                   | <b>Superphosphate</b>  |   |                          |       |             |            |
| 5589              | 18% Normal. The American Agricultural Chemical Co., No. Weymouth, Mass. ....                                 | New London: New London Grain Co. ....                 | 0.90                     | 19.40 | 18.50       | 18.00      |
| 5580              | 20%. Apothecaries Hall Co., Waterbury, Conn.   | Yalesville: The Barnes Bros. Nursery Co.              | 1.05                     | 22.40 | 21.35       | 20.00      |
| 5680              | Armour's Big Crop 20%. Armour Fertilizer Works, New York 5, N. Y. ....                                       | East Windsor Hill: David Ahearn .....                 | 0.95                     | 21.70 | 20.75       | 20.00      |
| 5599              | Coreoco 20%. Consolidated Rendering Co., Boston 10, Mass. ....   | New Haven: L. T. Frisbie Co. ....                     | 0.50                     | 22.05 | 21.55       | 20.00      |
| 5663              | Davco Granulated 20%. Davison Chemical Corp., Baltimore, Md. ....  | Bridgeport: The Berkshire Chemical Co.                | 0.58                     | 21.35 | 20.77       | 20.00      |
| 5640              | Eastern States Granulated and Pulverized 20%. Eastern States Farmers' Exchange, West Springfield, Mass. .... | East Hartford: Eastern States Farmers' Exchange ..... | 0.48                     | 21.65 | 21.17       | 20.00      |
| 5643              | O & W 20%. Olds & Whipple, Inc., Hartford, Conn. ....  | East Hartford: Olds & Whipple, Inc. ....              | 0.18                     | 21.80 | 21.62       | 20.00      |
| 5830              | O & W Triple 47%. Olds & Whipple, Inc., Hartford, Conn.  | East Hartford: Olds & Whipple, Inc. ....              | 0.38                     | 48.50 | 48.12       | 47.00      |
| 5674              | 20%. The Rogers & Hubbard Co., Portland, Conn. ....  | Mansfield Depot: G. Merritt Thompson ...              | 0.10                     | 20.15 | 20.05       | 20.00      |
| 5802 <sup>1</sup> | "Summers" 20%. Summers Fertilizer Co., Inc., Baltimore 2, Md. ....   | Somers: Osborn Prison Farm .....                      | 0.30                     | 21.60 | 21.30       | 20.00      |
| 5710 <sup>1</sup> | "Summers" 20%. Summers Fertilizer Co., Inc., Baltimore 2, Md. ....   | Meriden: Conn. School for Boys .....                  | 0.58                     | 21.00 | 20.42       | 20.00      |
| 5669 <sup>1</sup> | "Summers" 20%. Summers Fertilizer Co., Inc., Baltimore 2, Md. ....   | Cheshire: Conn. Reformatory .....                     | 0.05                     | 20.25 | 20.20       | 20.00      |
| 5571              | 20%. I. P. Thomas & Son Co., Camden, N. J.   | No. Haven: Joseph Beach .....                         | 0.58                     | 23.20 | 22.62       | 20.00      |
|                   | <b>Precipitated Bone</b>   |   |                          |       |             |            |
| 5800              | Apothecaries Hall Co., Waterbury, Conn. ....   | Hazardville: L. B. Haas & Co. ....                    | 0.05                     | 40.60 | 40.55       | 38.00      |

<sup>1</sup> State purchase.

TABLE 3. ANALYSES OF POTASH SALTS, ETC.

| Station No.                     | Manufacturer or jobber  | Sampled from stock of                    | Per cent potash |            |
|---------------------------------|---|--|-----------------|------------|
|                                 |   |  | Found           | Guaranteed |
| <b>Muriate of Potash</b>        |   |  |                 |            |
| 5594 <sup>1</sup>               | Apothecaries Hall Co., Waterbury, Conn. ....                                  | Niantic: Farm for Women ..               | 59.60           | 60.00      |
| 5631 <sup>1</sup>               | Apothecaries Hall Co., Waterbury, Conn. ....                                  | Cheshire: Conn. Reformatory              | 57.31           | 60.00      |
| <b>Sulphate of Potash</b>       |   |  |                 |            |
| 5839                            | Apothecaries Hall Co., Waterbury, Conn. ....                                  | East Windsor: Apothecaries Hall          | 48.97           | 48.00      |
| 5831                            | O & W. Olds & Whipple, Inc., Hartford, Conn. ....                             | East Hartford: Olds & Whipple, Inc. .... | 47.85           | 48.00      |
| 5788                            | Red-H. The Rogers & Hubbard Co., Portland, Conn. ....                         | Portland: The Rogers & Hubbard Co. ....  | 47.65           | 48.00      |
| <b>Sulphate Potash-Magnesia</b> |   |  |                 |            |
| 5553                            | Old Deerfield Double. Old Deerfield Fertilizer Co., So. Deerfield, Mass. .... | Hazardville: L. B. Haas & Co., Inc. .... | 21.70           | 21.50      |
| <b>Cottonhull Ashes</b>         |   |  |                 |            |
| 5777 <sup>2</sup>               | Apothecaries Hall Co., Waterbury, Conn. ....                                  | East Windsor: Apothecaries Hall Co. .... | 25.47           | ...        |
| 5833                            | O & W. Olds & Whipple, Inc., Hartford, Conn. ....                             | East Hartford: Olds & Whipple, Inc. .... | 26.85           | 30.00      |
| <b>Carbonate of Potash</b>      |   |  |                 |            |
| 5775                            | Apothecaries Hall Co., Waterbury, Conn. ....                                  | East Windsor: Apothecaries Hall Co. .... | 64.01           | 64.00      |
| 5832                            | O & W. Olds & Whipple, Inc., Hartford, Conn. ....                             | East Hartford: Olds & Whipple, Inc. .... | 66.67           | 65.00      |

<sup>1</sup> State sample.<sup>2</sup> Sold on a unit basis.

TABLE 4. ANALYSES OF GROUND FISH, BONE, ETC.

| Station No.            | Manufacturer and brand   | Sampled from stock of                           | Per cent nitrogen |                  | Per cent phosphoric acid |                  | Mechanical analysis (in percentage) |                        |
|------------------------|--|---|-------------------|------------------|--------------------------|------------------|-------------------------------------|------------------------|
|                        |  |   | Total found       | Total guaranteed | Total found              | Total guaranteed | Finer than 1/50 inch                | Coarser than 1/50 inch |
| <b>Dry Ground Fish</b> |  |   |                   |                  |                          |                  |                                     |                        |
| 5837 <sup>1</sup>      | Apothecaries Hall Co., Waterbury, Conn. ....                                   | East Windsor: Apothecaries Hall Co. ....        | 9.78              | 9.00             | 7.55                     | 5.00             | ....                                | ....                   |
| 5783 <sup>1</sup>      | Old Deerfield. Old Deerfield Fertilizer Co., Inc., So. Deerfield, Mass. ....   | Glastonbury: E. J. Bantle ....                  | 9.96              | 9.50             | 6.95                     | 5.00             | ....                                | ....                   |
| 5554 <sup>2</sup>      | O & W Menhaden. Olds & Whipple, Inc., Hartford, Conn. ....                     | Hazardville: L. B. Haas & Co. ....              | 10.26             | 9.00             | 6.65                     | 5.00             | ....                                | ....                   |
| 5793 <sup>3</sup>      | Hubbard. The Rogers & Hubbard Co., Portland, Conn. ....                        | Portland: The Rogers & Hubbard Co. ....         | 10.00             | 9.56             | 6.75                     | 5.00             | ....                                | ....                   |
| <b>Ground Bone</b>     |  |   |                   |                  |                          |                  |                                     |                        |
| 5592                   | Apothecaries Hall Co., Waterbury, Conn. ....                                   | New London: New London Grain Co. ....           | 2.72              | 2.25             | 25.70                    | 22.00            | 49.0                                | 51.0                   |
| 5772                   | Armour's. Armour Fertilizer Works, New York 5, N. Y. ....                      | East Windsor Hill: David Ahearn                 | 2.70              | 2.47             | 26.50                    | 23.00            | 62.0                                | 38.0                   |
| 5565                   | Corenco. Consolidated Rendering Co., Boston 10, Mass. ....                     | Thompsonville: Brainard Nursery & Seed Co. .... | 2.84              | 2.47             | 25.90                    | 23.00            | 57.0                                | 43.0                   |
| 5799                   | Corenco. Consolidated Rendering Co., Boston 10, Mass. ....                     | Manchester: C. R. Burr & Co. ...                | 4.25              | 2.47             | 20.50                    | 23.00            | 22.0                                | 78.0                   |
| 5798                   | O & W. Olds & Whipple, Inc., Hartford, Conn.                                   | Bloomfield: Bloomfield Farmers' Exchange ....   | 3.29              | 2.47             | 26.50                    | 22.00            | 34.0                                | 66.0                   |
| 5708                   | Gro-Fast. The Rogers & Hubbard Co., Portland, Conn. ....                       | Meriden: Raven Hardware Co. ...                 | 2.80 <sup>1</sup> | 2.00             | 26.25                    | 23.00            | 63.0                                | 37.0                   |
| 5787 <sup>5</sup>      | Gro-Fast. The Rogers & Hubbard Co., Portland, Conn. ....                       | Meriden: Undercliff Sanatorium .                | 2.63 <sup>3</sup> | 2.00             | 27.10                    | 23.00            | 70.0                                | 30.0                   |
| 5792                   | Hubbard Raw Knuckle Bone Flour. The Rogers & Hubbard Co., Portland, Conn. .... | Portland: The Rogers & Hubbard Co. ....         | 4.50              | 4.00             | 24.90                    | 23.00            | 57.9                                | 40.3                   |

|                    |   |                                   |                   |      |                   |       |      |      |
|--------------------|---|-----------------------------------|-------------------|------|-------------------|-------|------|------|
| 5629               | Sawco, Stumpp & Walter Co., New York 8,<br>N. Y. ....                   | Stamford: Stumpp & Walter Co.     | 2.28              | 2.47 | 25.55             | 24.00 | 50.0 | 50.0 |
| <b>Milorganite</b> |   |                                   |                   |      |                   |       |      |      |
| 5754               | Sewerage Commission of the City of Milwau-<br>kee, Milwaukee, Wis. .... | Darien: Ring's End Fuel Co., Inc. | 6.00 <sup>7</sup> | 6.00 | 3.90 <sup>8</sup> | 2.75  | .... | .... |

<sup>1</sup> Chlorine 0.40%.

<sup>2</sup> Chlorine 0.42%.

<sup>3</sup> Chlorine 0.34%.

<sup>4</sup> Nitrogen in ammonia 0.68%.

<sup>5</sup> State sample.

<sup>6</sup> Nitrogen in ammonia 0.52%.

<sup>7</sup> Found: nitrogen in nitrates 0.00; nitrogen in ammonia 0.12%; nitrogen organic water-soluble 0.49%; nitrogen organic insoluble 5.39%.

<sup>8</sup> Guaranteed "available" phosphoric acid 2.00%.



TABLE 5. ANALYSES OF MIXED FERTILIZERS

| Station No.   | Manufacturer and brand   | Place of sampling       |
|---|--|-------------------------|
| <b>The Acme Guano Co.,<br/>Baltimore, Md.</b>                         |  |                         |
| 5648  | Acme 5-8-7 .....   | Suffield .....          |
| 5705  | Acme 5-10-5 .....  | Middletown .....        |
| 5862  | Acme 7-7-7 .....   | Suffield .....          |
| <b>Agricultural Supply Co.,<br/>West Haven, Conn.</b>                 |  |                         |
| 5601  | Yale Special Mixture 8-6-2 .....   | New Haven .....         |
| <b>American Agricultural Chemical Co.,<br/>No. Weymouth 91, Mass.</b> |  |                         |
| 5694  | AA Quality Fertilizer 5-8-7 .....  | East Hartford .....     |
| 5693  | AA Quality Fertilizer 5-10-10 .....  | East Hartford .....     |
| 5734  | Agrico for Corn 3-12-6 .....   | West Haven .....        |
| 5602  | Agrico for Corn 4-12-8 .....   | West Haven .....        |
| 5603  | Agrico Country Club Fertilizer 6-10-4 .....                                  | West Haven .....        |
| 5576  | Agrico for Gardens 4-12-4 .....  | Wallingford .....       |
| 5606  | Agrico for Gardens 5-10-5 .....  | Milford .....           |
| 5578  | Agrico for Lawns, Trees and Shrubs 4-12-4 .....                              | Wallingford .....       |
| 5735  | Agrico for New England 4-10-10 .....   | West Haven .....        |
| 5582  | Agrico for New England 5-8-7 .....   | Groton .....            |
| 5575  | Agrico for Potatoes 5-10-10 .....  | Wallingford .....       |
| 5732  | Agrico for Seeding Down 4-12-16 .....  | West Haven .....        |
| 5692  | Agrico for Tobacco 6-3-6 .....   | East Hartford .....     |
| 5676  | Agrico for Top Dressing 7-7-7 .....  | Putnam .....            |
| 5604  | Agrico Phosphate and Potash 0-14-14 .....                                    | West Haven .....        |
| <b>Apothecaries Hall Co.,<br/>Waterbury, Conn.</b>                    |  |                         |
| 5687  | Liberty Fertilizer 4-12-4 .....  | East Windsor .....      |
| 5689  | Liberty Fertilizer 5-10-5 .....  | East Windsor .....      |
| 5591  | Liberty Fertilizer 5-10-10 .....   | New London .....        |
| 5685  | Liberty Fertilizer with Sulphate Potash 5-10-10 .....                        | East Windsor .....      |
| 5581  | Liberty Fertilizer Special for Fruit and Grass<br>7-7-7 .....                | Yalesville .....        |
| 5627  | Liberty Green Gro Fertilizer 6-7-4 .....                                     | Stamford .....          |
| 5611  | Liberty High Grade Market Gardeners 5-8-7 .....                              | Greenwich .....         |
| 5794 <sup>1</sup>   | Liberty High Grade Market Gardeners 5-8-7 .....                              | Portland .....          |
| 5684  | Liberty High Grade Market Gardeners with Sul-<br>phate of Potash 5-8-7 ..... | East Windsor .....      |
| 5586  | Liberty Home Garden Fertilizer 5-10-5 .....                                  | New London .....        |
| 5860  | Liberty Tobacco Mixture 5-3-5 .....  | East Windsor .....      |
| 5776  | Liberty Tobacco Mixture 6-3-6 .....  | East Windsor .....      |
| 5774  | Liberty Tobacco Mixture with Cotton Hull Ashes<br>6-3-6 .....                | East Windsor .....      |
| 5688  | Liberty Tobacco Starter Fertilizer 4-10-0 .....                              | East Windsor .....      |
| <b>Armour Fertilizer Works,<br/>New York 5, N. Y.</b>                 |  |                         |
| 5682  | Armour's Big Crop Fertilizer 4-12-4 .....                                    | East Windsor Hill ..... |
| 5679  | Armour's Big Crop Fertilizer 5-8-7 .....                                     | East Windsor Hill ..... |

<sup>1</sup> State purchase.

## CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH

| In nitrates | Per cent nitrogen |                       |                         |       | Per cent phosphoric acid |       |                       | Per cent potash |       | Station No. |
|-------------|-------------------|-----------------------|-------------------------|-------|--------------------------|-------|-----------------------|-----------------|-------|-------------|
|             | In ammonia        | Organic water-soluble | Organic water-insoluble | Total | Citrate-insoluble        | Total | So-called "available" | As muriate      | Total |             |
| 0.46        | 4.00              | 0.48                  | 0.15                    | 5.09  | 0.40                     | 8.75  | 8.35                  | 7.33            | 7.33  | 5648        |
| 0.00        | 4.72              | 0.20                  | 0.27                    | 5.19  | 0.85                     | 11.50 | 10.65                 | 4.85            | 4.85  | 5705        |
| 0.00        | 6.00              | 0.47                  | 0.19                    | 6.66  | 0.53                     | 7.58  | 7.05                  | 6.97            | 7.54  | 5862        |
| 0.00        | 5.20              | 2.65                  | 0.41                    | 8.26  | 0.58                     | 6.98  | 6.40                  | 2.40            | 2.40  | 5601        |
| 0.47        | 4.10              | 0.14                  | 0.27                    | 4.98  | 1.73                     | 10.75 | 9.02                  | 7.40            | 7.40  | 5694        |
| 0.63        | 4.20              | 0.14                  | 0.10                    | 5.07  | 0.85                     | 11.28 | 10.43                 | 9.57            | 10.06 | 5693        |
| 0.00        | 2.90              | 0.21                  | 0.15                    | 3.26  | 1.20                     | 13.70 | 12.50                 | 6.32            | 6.32  | 5734        |
| 0.61        | 3.12              | 0.22                  | 0.12                    | 4.07  | 0.58                     | 13.55 | 12.97                 | 7.97            | 8.00  | 5602        |
| 0.36        | 5.22              | 0.10                  | 0.26                    | 5.94  | 0.68                     | 11.35 | 10.67                 | 4.59            | 4.59  | 5603        |
| 0.74        | 3.00              | 0.16                  | 0.32                    | 4.22  | 1.05                     | 13.50 | 12.45                 | 4.04            | 4.17  | 5576        |
| 0.55        | 4.40              | 0.06                  | 0.17                    | 5.18  | 0.80                     | 10.98 | 10.18                 | 5.35            | 5.35  | 5606        |
| 0.40        | 3.32              | 0.22                  | 0.19                    | 4.13  | 1.20                     | 13.05 | 11.85                 | 4.13            | 4.13  | 5578        |
| 0.66        | 3.14              | 0.10                  | 0.10                    | 4.00  | 0.78                     | 10.90 | 10.12                 | 9.98            | 9.98  | 5735        |
| 0.52        | 4.24              | 0.10                  | 0.22                    | 5.08  | 1.05                     | 9.40  | 8.35                  | 7.00            | 7.00  | 5582        |
| 0.54        | 4.00              | 0.24                  | 0.16                    | 4.94  | 1.03                     | 11.13 | 10.10                 | 10.97           | 10.14 | 5575        |
| 0.40        | 2.92              | 0.58                  | 0.08                    | 3.98  | 0.98                     | 12.90 | 11.92                 | 15.90           | 15.90 | 5732        |
| 0.00        | 0.62              | 2.56                  | 2.56                    | 5.74  | 0.63                     | 4.73  | 4.10                  | 1.38            | 7.00  | 5692        |
| 0.27        | 6.28              | 0.30                  | 0.21                    | 7.06  | 0.90                     | 8.43  | 7.53                  | 6.90            | 6.90  | 5676        |
| ...         | ...               | ...                   | ...                     | ...   | 1.08                     | 15.53 | 14.45                 | 13.86           | 13.86 | 5604        |
| 0.59        | 3.12              | 0.16                  | 0.49                    | 4.36  | 0.48                     | 13.38 | 12.90                 | 4.29            | 4.63  | 5687        |
| 0.14        | 4.14              | 0.56                  | 0.62                    | 5.46  | 0.23                     | 11.73 | 11.50                 | 5.72            | 5.72  | 5689        |
| 0.73        | 3.82              | 0.08                  | 0.56                    | 5.19  | 0.70                     | 11.63 | 10.93                 | 9.32            | 9.98  | 5591        |
| 0.16        | 4.16              | 0.68                  | 0.40                    | 5.40  | 0.20                     | 11.05 | 10.85                 | 1.05            | 10.77 | 5685        |
| 0.42        | 5.48              | 0.16                  | 1.00                    | 7.06  | 0.50                     | 8.48  | 7.98                  | 7.34            | 7.34  | 5581        |
| 0.00        | 4.80              | 0.65                  | 1.12                    | 6.57  | 0.23                     | 7.68  | 7.45                  | 4.75            | 4.75  | 5627        |
| 0.00        | 4.14              | 0.63                  | 0.57                    | 5.34  | 0.40                     | 8.73  | 8.33                  | 2.27            | 8.14  | 5611        |
| 0.58        | 4.00              | 0.20                  | 0.75                    | 5.53  | 0.45                     | 9.83  | 9.38                  | 7.99            | 7.99  | 5794        |
| 0.00        | 4.56              | 0.40                  | 0.14                    | 5.10  | 0.73                     | 8.80  | 8.07                  | 0.77            | 7.03  | 5684        |
| 0.80        | 3.92              | 0.00                  | 0.63                    | 5.35  | 0.35                     | 11.30 | 10.95                 | 5.60            | 5.60  | 5586        |
| 0.74        | 1.00              | 0.40                  | 2.55                    | 4.69  | 0.15                     | 3.38  | 3.23                  | 0.54            | 6.01  | 5860        |
| 1.43        | 0.10              | 2.10                  | 2.65                    | 6.28  | 0.23                     | 4.18  | 3.95                  | 0.35            | 7.05  | 5776        |
| 1.07        | 0.04              | 2.48                  | 2.71                    | 6.30  | 0.23                     | 4.33  | 4.10                  | 0.48            | 6.61  | 5774        |
| 1.03        | 2.38              | 0.04                  | 0.81                    | 4.26  | 0.83                     | 11.80 | 10.97                 | ...             | ...   | 5688        |
| 0.20        | 3.00              | 0.58                  | 0.44                    | 4.22  | 1.23                     | 13.68 | 12.45                 | 4.25            | 4.25  | 5682        |
| 0.59        | 3.88              | 0.48                  | 0.26                    | 5.21  | 2.18                     | 11.10 | 8.92                  | 7.07            | 7.07  | 5679        |

TABLE 5. ANALYSIS OF MIXED FERTILIZERS

| Station No.  | Manufacturer and brand                           | Place of sampling       |
|--|--|-------------------------|
| 5681   | Armour's Big Crop Fertilizer 5-10-10 .....       | East Windsor Hill ..... |
| 5771   | Armour's Big Crop Tobacco Special 5-3-5 .....    | East Windsor Hill ..... |
| 5770   | Armour's Big Crop Tobacco Special 6-3-6 .....    | East Windsor Hill ..... |
| 5683   | Armour's Special Ornamental Fertilizer 6-12-4 .. | East Windsor Hill ..... |
| <b>Associated Seed Growers, Inc.,<br/>Milford, Conn.</b>             |  |                         |
| 5609   | Asgrow Lawn Food 10-6-4 .....                    | Milford .....           |
| <b>The F. A. Bartlett Tree Expert Co.,<br/>Stamford, Conn.</b>       |  |                         |
| 5753   | Bartlett Green Tree Food 6-8-6 .....             | Stamford .....          |
| <b>The Berkshire Chemical Co.,<br/>Bridgeport, Conn.</b>             |  |                         |
| 5660   | Berkshire Fertilizer 0-14-14 .....               | Bridgeport .....        |
| 5662   | Berkshire Fertilizer 4-12-4 .....                | Bridgeport .....        |
| 5598   | Berkshire Fertilizer 5-8-7 .....                 | Guilford .....          |
| 5698 <sup>1</sup>  | Berkshire Fertilizer 5-8-7 .....                 | Middletown .....        |
| 5803   | Berkshire Fertilizer 5-10-5 .....                | Bridgeport .....        |
| 5597   | Berkshire Fertilizer 5-10-10 .....               | Guilford .....          |
| 5661   | Berkshire Fertilizer 7-7-7 .....                 | Bridgeport .....        |
| 5804   | Berkshire Tobacco Fertilizer 6-3-6 .....         | Bridgeport .....        |
| <b>Consolidated Rendering Co.,<br/>Boston 10, Mass.</b>              |  |                         |
| 5600   | Corenco 0-14-14 Top Dresser .....                | New Haven .....         |
| 5552   | Corenco 4-12-4 Complete Manure .....             | New Haven .....         |
| 5878   | Corenco 4-12-4 Complete Manure .....             | New Haven .....         |
| 5551   | Corenco 5-8-7 Potato and General Crop .....      | New Haven ..            |
| 5568   | Corenco 5-10-5 Home Garden Fertilizer .....      | New Haven .....         |
| 5556   | Corenco 5-10-10 Peerless Potato .....            | Thompsonville .....     |
| 5730   | Corenco 6-3-6 Special Tobacco Grower .....       | New Haven .....         |
| 5547   | Corenco 7-7-7 Complete Fruit and Top Dressing .. | New Haven .....         |
| 5546   | Corenco 8-6-4 Landscape Fertilizer .....         | New Haven .....         |
| <b>The Davey Tree Expert Co.,<br/>Kent, Ohio</b>                     |  |                         |
| 5625   | Davey Tree Food 12-4-4 .....                     | Old Greenwich .....     |
| <b>Davison Chemical Corp.,<br/>Baltimore, Md.</b>                    |  |                         |
| 5806   | Davco Granulated Fertilizer 5-10-10 .....        | Wilson .....            |
| <b>Eastern States Farmers' Exchange,<br/>West Springfield, Mass.</b> |  |                         |
| 5573   | Eastern States 5-10-5 V G .....                  | No. Haven .....         |
| 5572   | Eastern States 5-10-10 .....                     | No. Haven .....         |
| 5642   | Eastern States 5-15-5 .....                      | East Hartford .....     |
| 5786   | Eastern States 8-4-8 .....                       | Melrose .....           |
| 5784   | Eastern States 8-16-16 .....                     | Broad Brook .....       |
| 5641   | Eastern States 8-24-8 .....                      | East Hartford .....     |
| 5785   | Eastern States 10-10-10 .....                    | Melrose .....           |

<sup>1</sup> State purchase.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH

| Per cent nitrogen |            |                       |                         |       | Per cent phosphoric acid |       |                       | Per cent potash |       | Station No. |
|-------------------|------------|-----------------------|-------------------------|-------|--------------------------|-------|-----------------------|-----------------|-------|-------------|
| In nitrates       | In ammonia | Organic water-soluble | Organic water-insoluble | Total | Citrate-insoluble        | Total | So-called "available" | As muriate      | Total |             |
| 0.76              | 4.10       | 0.46                  | 0.24                    | 5.56  | 0.48                     | 11.48 | 11.00                 | 10.00           | 10.00 | 5681        |
| 0.30              | 0.54       | 1.46                  | 3.32                    | 5.62  | 0.33                     | 4.30  | 3.97                  | 1.33            | 6.81  | 5771        |
| 0.40              | 0.64       | 1.64                  | 3.34                    | 6.02  | 0.25                     | 4.05  | 3.80                  | 1.30            | 6.74  | 5770        |
| 0.47              | 3.72       | 0.10                  | 0.25                    | 4.54  | 0.73                     | 15.53 | 14.80                 | 3.31            | 3.31  | 5683        |
| 0.23              | 1.48       | 8.00                  | 0.47                    | 10.18 | 0.30                     | 6.10  | 5.80                  | 5.15            | 5.15  | 5609        |
| 0.72              | 3.08       | 1.56                  | 0.45                    | 5.81  | 0.28                     | 8.45  | 8.17                  | 5.53            | 6.72  | 5753        |
| ...               | ...        | ...                   | ...                     | ...   | 0.60                     | 14.65 | 14.05                 | 14.32           | 14.32 | 5660        |
| 0.47              | 3.48       | 0.06                  | 0.21                    | 4.22  | 0.40                     | 13.43 | 13.03                 | 4.73            | 5.24  | 5662        |
| 0.53              | 4.52       | 0.06                  | 0.11                    | 5.22  | 0.35                     | 8.83  | 8.48                  | 6.96            | 7.21  | 5598        |
| 0.36              | 4.64       | 0.00                  | 0.13                    | 5.13  | 0.40                     | 8.58  | 8.18                  | 7.29            | 7.29  | 5598        |
| 0.75              | 3.90       | 0.22                  | 0.13                    | 5.00  | 0.45                     | 11.00 | 10.55                 | 5.14            | 5.14  | 5803        |
| 0.49              | 4.54       | 0.06                  | 0.13                    | 5.22  | 0.35                     | 11.23 | 10.88                 | 10.07           | 10.08 | 5597        |
| 0.41              | 6.36       | 0.08                  | 0.11                    | 6.96  | 0.25                     | 8.18  | 7.93                  | 7.09            | 7.09  | 5661        |
| 0.76              | 0.04       | 2.52                  | 2.80                    | 6.12  | 0.15                     | 4.10  | 3.95                  | 0.70            | 6.05  | 5804        |
| ...               | ...        | ...                   | ...                     | ...   | 0.53                     | 14.55 | 14.02                 | 14.29           | 15.37 | 5600        |
| 0.00              | 2.64       | 0.98                  | 0.18                    | 3.80  | 0.60                     | 12.98 | 12.38                 | 4.37            | 4.50  | 5552        |
| 0.00              | 3.64       | 0.54                  | 0.16                    | 4.34  | 0.68                     | 12.18 | 11.50                 | 4.49            | 5.25  | 5878        |
| 0.00              | 3.68       | 1.34                  | 0.12                    | 5.14  | 0.48                     | 8.58  | 8.10                  | 6.99            | 7.15  | 5551        |
| 0.00              | 3.70       | 1.23                  | 0.15                    | 5.08  | 0.73                     | 11.13 | 10.40                 | 0.51            | 5.46  | 5568        |
| 0.00              | 3.94       | 1.11                  | 0.10                    | 5.15  | 0.63                     | 10.67 | 10.04                 | 9.45            | 10.78 | 5556        |
| 0.00              | 0.40       | 2.78                  | 3.27                    | 6.45  | 0.18                     | 4.83  | 4.65                  | 0.31            | 5.32  | 5730        |
| 0.48              | 6.16       | 0.32                  | 0.09                    | 7.05  | 0.45                     | 7.53  | 7.08                  | 6.71            | 7.02  | 5547        |
| 0.00              | 5.24       | 2.68                  | 0.49                    | 8.41  | 0.45                     | 7.15  | 6.70                  | 4.21            | 4.21  | 5546        |
| 1.22              | 9.86       | 0.36                  | 0.69                    | 12.13 | 0.33                     | 5.95  | 5.62                  | 3.74            | 3.74  | 5625        |
| 0.36              | 4.46       | 0.18                  | 0.12                    | 5.12  | 0.40                     | 10.23 | 9.83                  | 10.54           | 10.54 | 5806        |
| 0.71              | 3.96       | 0.22                  | 0.21                    | 5.10  | 0.40                     | 11.13 | 10.73                 | 5.76            | 5.76  | 5573        |
| 0.83              | 4.04       | 0.22                  | 0.25                    | 5.34  | 0.90                     | 10.98 | 10.08                 | 10.33           | 10.33 | 5572        |
| 0.86              | 2.12       | 2.16                  | 0.30                    | 5.44  | 0.73                     | 15.85 | 15.12                 | 5.22            | 5.22  | 5642        |
| 0.00              | 0.52       | 4.64                  | 2.51                    | 7.67  | 0.28                     | 5.00  | 4.72                  | 1.24            | 9.24  | 5786        |
| 1.49              | 6.06       | 0.30                  | 0.23                    | 8.08  | 0.28                     | 16.55 | 16.27                 | 16.39           | 17.25 | 5784        |
| 1.35              | 6.34       | 0.12                  | 0.37                    | 8.18  | 0.40                     | 24.60 | 24.20                 | 9.54            | 9.54  | 5641        |
| 1.94              | 7.44       | 0.20                  | 0.42                    | 10.00 | 0.28                     | 10.50 | 10.22                 | 10.64           | 10.64 | 5785        |



TABLE 5. ANALYSIS OF MIXED FERTILIZERS

| Station No.       | Manufacturer and brand   | Place of sampling     |
|-------------------|--|-----------------------|
| 5857              | <b>McCormick &amp; Co., Inc.</b><br>Baltimore 2, Md.<br>Hy-Gro 13-26-13 .....                              | New Haven .....       |
| 5861              | <b>Miller Chemical &amp; Fertilizer Corp.,</b><br>Baltimore 31, Md.<br>VHPF 5-25-15 .....                  | Warehouse Point ..... |
| 5863              | <b>Old Deerfield Fertilizer Co., Inc.,</b><br>South Deerfield, Mass.<br>Old Deerfield 5-5-15 Tobacco ..... | West Suffield .....   |
| 5773              | Old Deerfield 6-3-6 Complete Tobacco Fertilizer .....  | Broad Brook .....     |
| 5797              | <b>Olds &amp; Whipple, Inc.,</b><br>Hartford, Conn.<br>O & W 4-8-4 Complete Lawn Grass Fertilizer ..       | Bloomfield .....      |
| 5645              | O & W 4-12-4 Market Garden Fertilizer .....  | East Hartford .....   |
| 5826              | O & W 5-3-5 Complete Tobacco Fertilizer Potash<br>derived from Cotton Hull Ashes .....                     | East Hartford .....   |
| 5859              | O & W 5-3-5 Complete Tobacco Fertilizer .....  | East Hartford .....   |
| 5807              | O & W 5-5-15 High Grade Tobacco Starter and<br>Potash .....  | East Hartford .....   |
| 5808              | Luxura 5-8-6 .....   | East Hartford .....   |
| 5796              | O & W 5-8-7 Potato and General Purpose<br>Fertilizer .....   | Bloomfield .....      |
| 5825              | O & W 5-8-7 Potato and General Purpose<br>Fertilizer with Sulphate Potash .....                            | East Hartford .....   |
| 5593 <sup>1</sup> | O & W 5-10-5 Fertilizer .....  | Niantic .....         |
| 5633 <sup>1</sup> | O & W 5-10-5 Fertilizer .....  | Cheshire .....        |
| 5595 <sup>1</sup> | O & W 5-10-10 Potato Fertilizer .....  | Niantic .....         |
| 5638 <sup>1</sup> | O & W 5-10-10 Potato Fertilizer .....  | Cheshire .....        |
| 5829              | O & W 6-3-6 Blue Label Tobacco Fertilizer ..   | East Hartford .....   |
| 5858              | O & W 6-3-6 Blue Label Tobacco Fertilizer<br>Potash derived from Cotton Hull Ashes .....                   | East Hartford .....   |
| 5827              | O & W 7-7-7 Top Dressing and Grass Fertilizer ..   | East Hartford .....   |
| 5555              | <b>The Frank S. Platt Co.,</b><br>New Haven 10, Conn.<br>Platt's Special 10-5-5 Lawn Dressing .....        | New Haven .....       |
| 5678              | <b>Ralston Purina Co.,</b><br>St. Louis, Mo.<br>Purina Plant Food 5-10-5 .....                             | Putnam .....          |
| 5549              | <b>The Rogers &amp; Hubbard Co.,</b><br>Portland, Conn.<br>Gro-Fast Plant Food 5-8-5 .....                 | New Haven .....       |
| 5709              | Gro-Fast Plant Food 5-8-5 .....  | Meriden .....         |
| 5696              | Hubbard High Potash Fertilizer 5-10-10 .....   | Portland .....        |
| 5585              | Hubbard Potato Fertilizer 5-8-7 .....  | New London .....      |
| 5834              | Hubbard Tobacco Grower 6-3-6 .....   | Portland .....        |

<sup>1</sup> State purchase.

## CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH

| In nitrates | Per cent nitrogen |                       |                         |       | Per cent phosphoric acid |       |                       | Per cent potash |       | Station No. |
|-------------|-------------------|-----------------------|-------------------------|-------|--------------------------|-------|-----------------------|-----------------|-------|-------------|
|             | In ammonia        | Organic water-soluble | Organic water-insoluble | Total | Citrate-insoluble        | Total | So-called "available" | As muriate      | Total |             |
| 1.98        | 6.50              | 6.78                  | 0.07                    | 15.33 | 0.13                     | 31.05 | 30.92                 | 8.32            | 12.85 | 5857        |
| 3.71        | 1.26              | 0.14                  | 0.00                    | 5.11  | 0.03                     | 30.00 | 29.97                 | 14.90           | 14.90 | 5861        |
| 1.08        | 0.62              | 3.28                  | 0.54                    | 5.52  | 0.28                     | 6.43  | 6.15                  | 1.22            | 16.67 | 5863        |
| 0.62        | 0.52              | 1.60                  | 3.61                    | 6.35  | 0.23                     | 4.58  | 4.35                  | 0.70            | 6.34  | 5773        |
| 0.38        | 2.68              | 0.72                  | 0.58                    | 4.36  | 0.68                     | 9.60  | 8.92                  | 4.21            | 4.65  | 5797        |
| 0.00        | 3.36              | 0.53                  | 0.50                    | 4.39  |                          | 12.88 | 12.33                 | 5.24            | 5.24  | 5645        |
|             |                   |                       |                         |       | 0.55                     |       |                       |                 |       |             |
| 1.19        | 0.12              | 2.08                  | 2.23                    | 5.62  | 0.33                     | 4.03  | 3.70                  | 0.40            | 5.39  | 5826        |
| 0.98        | 0.76              | 1.20                  | 2.34                    | 5.28  |                          | 3.68  | 3.45                  | 0.51            | 5.48  | 5859        |
|             |                   |                       |                         |       | 0.23                     |       |                       |                 |       |             |
| 2.61        | 0.00              | 0.68                  | 1.99                    | 5.28  | 0.43                     | 6.03  | 5.60                  | 0.65            | 16.05 | 5807        |
| 0.00        | 2.20              | 1.38                  | 2.12                    | 5.70  | 1.35                     | 12.45 | 11.10                 | 5.50            | 6.28  | 5808        |
| 0.00        | 4.56              | 0.37                  | 0.39                    | 5.32  | 0.28                     | 8.90  | 8.62                  | 7.50            | 7.50  | 5796        |
| 0.00        | 4.44              | 0.33                  | 0.63                    | 5.40  | 0.33                     | 8.43  | 8.10                  | 0.70            | 7.03  | 5825        |
| 0.28        | 2.84              | 1.76                  | 0.47                    | 5.35  | 0.53                     | 10.98 | 10.45                 | 4.97            | 5.67  | 5593        |
| 0.22        | 3.90              | 0.82                  | 0.49                    | 5.43  | 0.43                     | 11.00 | 10.57                 | 5.61            | 6.09  | 5633        |
| 0.57        | 3.96              | 0.28                  | 0.64                    | 5.45  | 0.43                     | 11.10 | 10.67                 | 9.82            | 10.06 | 5595        |
| 0.54        | 4.14              | 0.14                  | 0.56                    | 5.38  | 0.25                     | 11.35 | 11.10                 | 10.10           | 10.10 | 5638        |
| 1.27        | 0.18              | 2.20                  | 2.71                    | 6.36  | 0.33                     | 3.83  | 3.50                  | 0.56            | 6.06  | 5829        |
| 1.51        | 0.18              | 2.26                  | 2.07                    | 6.02  | 0.33                     | 4.13  | 3.80                  | 0.65            | 6.84  | 5858        |
| 0.48        | 5.70              | 0.38                  | 0.52                    | 7.08  | 0.23                     | 7.45  | 7.22                  | 7.03            | 7.03  | 5827        |
| 0.20        | 6.28              | 2.46                  | 1.20                    | 10.14 | 0.45                     | 5.88  | 5.43                  | 4.77            | 5.00  | 5555        |
| 0.58        | 4.20              | 0.08                  | 0.17                    | 5.03  | 0.43                     | 11.33 | 10.90                 | 3.59            | 5.43  | 5678        |
| 0.38        | 3.28              | 0.78                  | 1.06                    | 5.50  | 0.40                     | 9.03  | 8.63                  | 5.53            | 5.59  | 5549        |
| 0.42        | 2.86              | 0.80                  | 1.24                    | 5.42  | 0.28                     | 9.43  | 9.15                  | 5.41            | 5.41  | 5709        |
| 0.52        | 3.12              | 0.70                  | 1.46                    | 5.80  | 0.48                     | 10.83 | 10.35                 | 10.16           | 10.16 | 5696        |
| 1.31        | 3.12              | 0.63                  | 0.47                    | 5.53  | 0.25                     | 8.80  | 8.55                  | 8.04            | 8.04  | 5585        |
| 1.30        | 0.18              | 3.32                  | 2.50                    | 7.30  | 0.20                     | 3.93  | 3.73                  | 0.68            | 6.92  | 5834        |

TABLE 5 ANALYSIS OF MIXED FERTILIZERS

| Station No.       | Manufacturer and brand  | Place of sampling     |
|-------------------|---|-----------------------|
| 5697              | Red-H 0-14-14 .....   | Portland .....        |
| 5942              | Red-H 0-14-14 .....   | Norwich .....         |
| 5707              | Red-H 4-12-4 .....  | Meriden .....         |
| 5695              | Red-H 4-12-8 .....  | Portland .....        |
| 5584              | Red-H 5-8-7 .....   | New London .....      |
| 5789              | Red-H 5-10-5 .....  | Portland .....        |
| 5671              | Red-H 5-10-10 .....   | Mansfield Depot ..... |
| 5677              | Red-H 7-7-7 .....   | Putnam .....          |
| 5791              | Red-H 8-16-16 .....   | Portland .....        |
| 5790              | Victory Garden Fertilizer 5-10-5 .....  | Portland .....        |
|                   | <b>O. M. Scott &amp; Sons Co.,<br/>Marysville, Ohio</b>                               |                       |
| 5579              | Scott's Turf Builder 8-8-4 .....  | Yalesville .....      |
|                   | <b>M. L. Shoemaker,<br/>Division of Wilson &amp; Co., Inc.,<br/>Philadelphia, Pa.</b> |                       |
| 5567              | M. L. Shoemaker's "Swift-Sure" 4-10-0 .....   | Suffield .....        |
|                   | <b>Stumpp &amp; Walter Co.,<br/>New York 8, N. Y.</b>                                 |                       |
| 5628              | Sawco General Garden Fertilizer 5-10-5 .....  | Stamford .....        |
|                   | <b>Summers Fertilizer Co., Inc.,<br/>Baltimore 2, Md.</b>                             |                       |
| 5664 <sup>1</sup> | "Summers" 0-20-20 Fertilizer .....  | Southbury .....       |
| 5668 <sup>1</sup> | "Summers" 0-20-20 Fertilizer .....  | Cheshire .....        |
| 5665 <sup>1</sup> | "Summers" 5-10-10 Fertilizer .....  | Southbury .....       |
| 5596 <sup>1</sup> | "Summers" 8-16-16 Fertilizer .....  | Niantic .....         |
| 5667 <sup>1</sup> | "Summers" 10-10-10 Fertilizer .....   | Cheshire .....        |
| 5729 <sup>1</sup> | "Summers" 10-10-10 Fertilizer .....   | Meriden .....         |
|                   | <b>Swift &amp; Co.,<br/>Plant Food Div.,<br/>Baltimore, Md.</b>                       |                       |
| 5613              | Swift's Red Steer 5-8-7 .....   | Greenwich .....       |
| 5624              | Swift's Red Steer 5-10-10 .....   | Cos Cob .....         |
| 5548              | Vigoro 4-12-4 .....   | New Haven .....       |
|                   | <b>Stewart H. Willson,<br/>Thompsonville, Conn.</b>                                   |                       |
| 5691              | Willson's Old Enfield Tree Food 6-7-4 .....   | East Windsor .....    |
|                   | <b>Tennessee Corp.,<br/>Lockland, Ohio</b>  |                       |
| 5856              | Loma 5-10-5 .....   | Greenwich .....       |
|                   | <b>I. P. Thomas &amp; Son Co.,<br/>Camden, N. J.</b>                                  |                       |
| 5566              | I. P. Thomas 5-8-7 .....  | No. Haven .....       |
| 5666              | I. P. Thomas 5-10-10 .....  | Hamden .....          |

<sup>1</sup> State purchase.

## CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH

| Per cent nitrogen |            |                       |                         |       | Per cent phosphoric acid |       |                       | Per cent potash |       | Station No. |
|-------------------|------------|-----------------------|-------------------------|-------|--------------------------|-------|-----------------------|-----------------|-------|-------------|
| In nitrates       | In ammonia | Organic water-soluble | Organic water-insoluble | Total | Citrate-insoluble        | Total | So-called "available" | As muriate      | Total |             |
| ...               | ...        | ...                   | ...                     | ...   | 0.40                     | 13.95 | 13.55                 | 12.52           | 12.52 | 5697        |
| ...               | ...        | ...                   | ...                     | ...   | 0.10                     | 14.75 | 14.65                 | 13.44           | 13.97 | 5942        |
| 0.69              | 3.08       | 0.04                  | 0.53                    | 4.34  | 0.88                     | 13.08 | 12.20                 | 4.26            | 4.26  | 5707        |
| 0.82              | 3.40       | 0.16                  | 0.40                    | 4.78  | 0.85                     | 13.20 | 12.35                 | 9.22            | 9.22  | 5695        |
| 0.86              | 4.00       | 0.12                  | 0.55                    | 5.53  | 0.43                     | 8.93  | 8.50                  | 7.44            | 7.44  | 5584        |
| 1.08              | 3.88       | 0.24                  | 0.50                    | 5.70  | 0.43                     | 11.18 | 10.75                 | 5.72            | 5.72  | 5789        |
| 1.10              | 3.68       | 0.40                  | 0.18                    | 5.36  | 0.38                     | 10.85 | 10.47                 | 10.08           | 10.08 | 5571        |
| 0.48              | 6.04       | 0.24                  | 0.40                    | 7.16  | 0.15                     | 8.15  | 8.00                  | 7.37            | 7.37  | 5677        |
| 0.62              | 6.28       | 0.44                  | 0.39                    | 7.73  | 0.23                     | 15.30 | 15.07                 | 16.10           | 16.10 | 5791        |
| 0.91              | 4.00       | 0.08                  | 0.42                    | 5.41  | 0.53                     | 11.40 | 10.87                 | 5.50            | 5.50  | 5790        |
| 0.30              | 5.54       | 0.20                  | 1.47                    | 7.51  | 0.60                     | 9.25  | 8.65                  | 4.07            | 4.07  | 5579        |
| 0.66              | 2.90       | 0.12                  | 0.64                    | 4.32  | 0.93                     | 12.88 | 11.95                 | ...             | ...   | 5567        |
| 0.40              | 4.78       | 0.08                  | 0.45                    | 5.71  | 0.18                     | 9.33  | 9.15                  | 7.12            | 8.64  | 5628        |
| ...               | ...        | ...                   | ...                     | ...   | 0.58                     | 19.95 | 19.37                 | 17.79           | 20.01 | 5664        |
| ...               | ...        | ...                   | ...                     | ...   | 0.30                     | 17.75 | 17.45                 | 16.83           | 16.83 | 5668        |
| 0.79              | 3.82       | 0.28                  | 0.22                    | 5.11  | 0.60                     | 11.15 | 10.55                 | 10.79           | 11.44 | 5665        |
| 0.31              | 7.22       | 0.78                  | 0.05                    | 8.36  | 0.10                     | 12.90 | 12.80                 | 15.91           | 16.25 | 5596        |
| 4.76              | 4.98       | 0.08                  | 0.06                    | 9.88  | 0.15                     | 10.83 | 10.68                 | 10.64           | 10.64 | 5667        |
| 3.62              | 3.82       | 0.14                  | 0.10                    | 7.68  | 0.38                     | 11.63 | 11.25                 | 11.24           | 11.24 | 5729        |
| 0.24              | 4.50       | 0.18                  | 0.19                    | 5.11  | 0.48                     | 9.20  | 8.72                  | 7.21            | 7.21  | 5613        |
| 0.13              | 4.44       | 0.04                  | 0.39                    | 5.00  | 0.53                     | 10.90 | 10.37                 | 9.96            | 9.96  | 5624        |
| 0.31              | 3.30       | 0.14                  | 0.29                    | 4.04  | 0.40                     | 12.93 | 12.53                 | 3.58            | 4.05  | 5548        |
| 0.00              | 5.26       | 0.48                  | 0.68                    | 6.42  | 0.60                     | 8.25  | 7.65                  | 4.48            | 4.48  | 5691        |
| 0.25              | 4.04       | 0.42                  | 0.27                    | 4.98  | 0.23                     | 10.12 | 9.89                  | 5.13            | 5.78  | 5856        |
| 0.65              | 3.78       | 0.08                  | 0.32                    | 4.83  | 0.60                     | 9.85  | 9.25                  | 7.87            | 7.87  | 5569        |
| 0.57              | 4.14       | 0.30                  | 0.32                    | 5.33  | 0.58                     | 10.73 | 10.15                 | 10.67           | 10.67 | 5666        |



TABLE 5. ANALYSIS OF MIXED FERTILIZERS

| Station No. | Manufacturer and brand  | Place of sampling |
|-------------|---|-------------------|
| 5570        | I. P. Thomas 7-7-7 .....  | No. Haven .....   |
|             | <b>F. H. Woodruff &amp; Sons, Inc.,<br/>Milford, Conn.</b>      |                   |
| 5607        | Gro-Sod Lawn Food 10-6-4 .....                                  | Milford .....     |
|             | <b>The Woodruff Fertilizer Works, Inc.<br/>No. Haven, Conn.</b> |                   |
| 5608        | Clark's Tip-Top 5-8-7 Fertilizer .....                          | Milford .....     |
| 5747        | Woodruff's 4-12-4 Fertilizer .....                              | No. Haven .....   |
| 5746        | Woodruff's 5-8-7 Fertilizer .....                               | No. Haven .....   |
| 5739        | Woodruff's 5-10-5 Fertilizer .....                              | No. Haven .....   |
| 5740        | Woodruff's 5-10-10 Fertilizer .....                             | No. Haven .....   |
| 5738        | Woodruff's 6-3-6 Tobacco Fertilizer .....                       | No. Haven .....   |
| 5737        | Woodruff's 7-7-7 Fertilizer .....                               | No. Haven .....   |
| 5736        | Woodruff's Lawn Fertilizer 10-6-4 .....                         | No. Haven .....   |

## CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH

| In nitrates | Per cent nitrogen |                       |                         |       | Per cent phosphoric acid |       |                       | Per cent potash |       | Station No. |
|-------------|-------------------|-----------------------|-------------------------|-------|--------------------------|-------|-----------------------|-----------------|-------|-------------|
|             | In ammonia        | Organic water-soluble | Organic water-insoluble | Total | Citrate-insoluble        | Total | So-called "available" | As muriate      | Total |             |
| 0.49        | 5.36              | 0.26                  | 0.23                    | 6.34  | 0.65                     | 9.70  | 9.05                  | 7.97            | 8.08  | 5570        |
| 0.00        | 5.48              | 2.78                  | 1.81                    | 10.07 | 0.65                     | 6.87  | 6.22                  | 3.95            | 3.95  | 5607        |
| 0.00        | 4.74              | 0.13                  | 0.59                    | 5.46  | 0.68                     | 9.40  | 8.72                  | 7.07            | 7.07  | 5608        |
| 0.45        | 2.56              | 0.64                  | 0.56                    | 4.21  | 1.03                     | 13.20 | 12.17                 | 4.31            | 4.83  | 5747        |
| 0.00        | 3.64              | 0.75                  | 0.75                    | 5.14  | 1.05                     | 9.18  | 8.13                  | 6.23            | 6.90  | 5746        |
| 0.45        | 3.20              | 0.96                  | 0.70                    | 5.31  | 1.40                     | 11.18 | 9.78                  | 5.43            | 5.43  | 5739        |
| 0.00        | 2.76              | 1.59                  | 0.65                    | 5.00  | 0.65                     | 10.78 | 10.13                 | 9.73            | 9.73  | 5740        |
| 2.10        | 0.00              | 1.60                  | 2.37                    | 6.07  | 0.23                     | 3.70  | 3.47                  | 0.51            | 6.10  | 5738        |
| 0.11        | 1.20              | 5.44                  | 0.75                    | 7.50  | 0.55                     | 7.55  | 7.00                  | 7.17            | 7.17  | 5737        |
| 0.17        | 0.90              | 7.38                  | 1.80                    | 10.25 | 0.33                     | 6.40  | 6.07                  | 4.78            | 5.43  | 5736        |

TABLE 6. ANALYSES OF SPECIAL AND HOME MIXTURES

| Station No. | Name of mixture                        | Sampled or submitted by            | Total nitrogen percent | Per cent phosphoric acid |       |                       | Per cent potash |       |          | Station No. |
|-------------|--|------------------------------------|------------------------|--------------------------|-------|-----------------------|-----------------|-------|----------|-------------|
|             |  |                                    |                        | Citrate-insoluble        | Total | So-called "available" | As muriate      | Total | Chlorine |             |
| 5231        | Fertilizer 1946 Formula, G             | Hartford: Consolidated Cigar Corp. | 5.86                   | 0.23                     | 4.13  | 3.90                  | 0.51            | 8.69  | 0.38     | 5231        |
| 5232        | Fertilizer 1946 Formula, Hu            | Hartford: Consolidated Cigar Corp. | 5.86                   | 0.30                     | 4.43  | 4.13                  | 0.45            | 7.15  | 0.34     | 5232        |
| 5545        | Fertilizer Formula SA-1946             | Hartford: Consolidated Cigar Corp. | 5.03                   | 0.33                     | 4.03  | 3.70                  | 0.70            | 8.88  | 0.53     | 5545        |
| 5814        | Home Mixture R H 1946 Formula, Bis     | Hartford: Consolidated Cigar Corp. | 7.06                   | 0.18                     | 2.85  | 2.67                  | 1.10            | 7.21  | 0.83     | 5814        |
| 5819        | 1946 O D Formula, 72 Tons, Lev         | Hartford: Consolidated Cigar Corp. | 5.08                   | 0.18                     | 4.68  | 4.50                  | 0.54            | 8.24  | 0.41     | 5819        |
| 5823        | 1946 O D Formula, 100 Tons, Bis        | Hartford: Consolidated Cigar Corp. | 7.06                   | 0.25                     | 4.00  | 3.75                  | 0.54            | 5.97  | 0.41     | 5823        |
| 4657        | Home Mixed Fertilizer - Formula 4-2-45 | Simsbury: Cullman Bros., Inc.      | 5.03                   | 0.27                     | 5.72  | 5.45                  | 0.54            | 4.71  | 0.41     | 4657        |
| 4658        | Home Mixed Fertilizer 4-3-45           | Simsbury: Cullman Bros., Inc.      | 4.91                   | 0.29                     | 6.01  | 5.72                  | 0.57            | 4.07  | 0.43     | 4658        |
| 4659        | Home Mixed Fertilizer 4-4-45           | Simsbury: Cullman Bros., Inc.      | 5.15                   | 0.24                     | 5.67  | 5.43                  | 0.51            | 4.05  | 0.38     | 4659        |
| 4660        | Home Mixed Fertilizer 4-5-45           | Simsbury: Cullman Bros., Inc.      | 4.92                   | 0.18                     | 6.07  | 5.89                  | 0.49            | 4.51  | 0.37     | 4660        |
| 4661        | Home Mixed Fertilizer 4-6-45           | Simsbury: Cullman Bros., Inc.      | 5.18                   | 0.20                     | 5.53  | 5.33                  | 0.58            | 4.26  | 0.44     | 4661        |
| 4662        | Home Mixed Fertilizer 4-7-45           | Simsbury: Cullman Bros., Inc.      | 5.30                   | 0.20                     | 5.57  | 5.37                  | 0.65            | 4.50  | 0.49     | 4662        |
| 4663        | Home Mixed Fertilizer 4-8-45           | Simsbury: Cullman Bros., Inc.      | 5.32                   | 0.25                     | 5.29  | 5.04                  | 0.62            | 4.54  | 0.47     | 4663        |
| 4681        | Home Mixed Fertilizer 5-1-45           | Simsbury: Cullman Bros., Inc.      | 5.25                   | 0.45                     | 4.65  | 4.20                  | 0.43            | 5.04  | 0.32     | 4681        |
| 4682        | Home Mixed Fertilizer 5-2-45           | Simsbury: Cullman Bros., Inc.      | 5.06                   | 0.30                     | 5.45  | 5.15                  | 0.58            | 6.57  | 0.44     | 4682        |
| 4683        | Home Mixed Fertilizer 5-3-45           | Simsbury: Cullman Bros., Inc.      | 5.39                   | 0.35                     | 4.66  | 4.31                  | 0.69            | 6.40  | 0.52     | 4683        |
| 4684        | Home Mixed Fertilizer 5-4-45           | Simsbury: Cullman Bros., Inc.      | 5.42                   | 0.32                     | 4.64  | 4.32                  | 0.68            | 6.60  | 0.51     | 4684        |
| 4685        | Home Mixed Fertilizer 5-5-45           | Simsbury: Cullman Bros., Inc.      | 5.34                   | 0.34                     | 4.45  | 4.11                  | 0.62            | 6.29  | 0.47     | 4685        |
| 4686        | Home Mixed Fertilizer 5-6-45           | Simsbury: Cullman Bros., Inc.      | 4.94                   | 0.51                     | 5.59  | 5.08                  | 0.70            | 6.65  | 0.53     | 4686        |
| 4687        | Home Mixed Fertilizer 5-7-45           | Simsbury: Cullman Bros., Inc.      | 5.08                   | 0.45                     | 5.36  | 4.91                  | 0.61            | 5.95  | 0.46     | 4687        |
| 4688        | Home Mixed Fertilizer 5-8-45           | Simsbury: Cullman Bros., Inc.      | 5.03                   | 0.40                     | 5.35  | 4.95                  | 0.65            | 6.82  | 0.49     | 4688        |
| 4703        | Home Mixed Fertilizer 7-S-K-45         | Simsbury: Cullman Bros., Inc.      | 4.82                   | 0.31                     | 6.50  | 6.19                  | 0.40            | 6.36  | 0.30     | 4703        |
| 4704        | Home Mixed Fertilizer 7-N-K-45         | Simsbury: Cullman Bros., Inc.      | 4.82                   | 0.35                     | 6.41  | 6.06                  | 0.47            | 6.59  | 0.35     | 4704        |
| 4705        | Home Mixed Fertilizer 7-H-4-45         | Simsbury: Cullman Bros., Inc.      | 4.32                   | 0.45                     | 5.99  | 5.54                  | 0.62            | 5.80  | 0.47     | 4705        |
| 4706        | Home Mixed Fertilizer 7-H-5-45         | Simsbury: Cullman Bros., Inc.      | 4.54                   | 0.54                     | 6.31  | 5.77                  | 0.53            | 6.36  | 0.40     | 4706        |
| 4707        | Home Mixed Fertilizer 7-H-2-45         | Simsbury: Cullman Bros., Inc.      | 4.52                   | 0.63                     | 6.33  | 5.70                  | 0.56            | 5.93  | 0.42     | 4707        |

TABLE 6. ANALYSES OF SPECIAL AND HOME MIXTURES—(Continued)

| Station No. | Name of mixture                          | Sampled or submitted by            | Total nitrogen percentage | Per cent phosphoric acid |       |                       | Per cent potash |          | Station No. |      |
|-------------|--|------------------------------------|---------------------------|--------------------------|-------|-----------------------|-----------------|----------|-------------|------|
|             |  |                                    |                           | Citrate-insoluble        | Total | So-called "available" | As muriate      | Chlorine |             |      |
| 4708        | Home Mixed Fertilizer 7-H-1-45           | Simsbury: Cullman Bros., Inc. .... | 4.13                      | 0.59                     | 6.70  | 6.11                  | 0.62            | 6.32     | 0.47        | 4708 |
| 4780        | Home Mixed Fertilizer 6-C-1-46           | Simsbury: Cullman Bros., Inc. .... | 4.74                      | 0.61                     | 4.55  | 3.94                  | 0.54            | 4.56     | 0.41        | 4780 |
| 4781        | Home Mixed Fertilizer 6-C-2A-46          | Simsbury: Cullman Bros., Inc. .... | 5.03                      | 0.74                     | 5.31  | 4.57                  | 0.56            | 6.50     | 0.42        | 4781 |
| 4782        | Home Mixed Fertilizer 6-2-46 ...         | Simsbury: Cullman Bros., Inc. .... | 5.00                      | 0.77                     | 5.35  | 4.58                  | 0.58            | 5.54     | 0.44        | 4782 |
| 4783        | Home Mixed Fertilizer 6-3-W-46           | Simsbury: Cullman Bros., Inc. .... | 5.31                      | 0.54                     | 5.30  | 4.76                  | 0.51            | 5.35     | 0.39        | 4783 |
| 4832        | Home Mixed Fertilizer 3-B-L-46           | Simsbury: Cullman Bros., Inc. .... | 5.50                      | 0.30                     | 4.66  | 4.36                  | 0.29            | 5.54     | 0.22        | 4832 |
| 4833        | Home Mixed Fertilizer 3-C-13-46          | Simsbury: Cullman Bros., Inc. .... | 5.60                      | 0.49                     | 5.70  | 5.21                  | 0.27            | 5.37     | 0.20        | 4833 |
| 4834        | Home Mixed Fertilizer 3-H-1-46           | Simsbury: Cullman Bros., Inc. .... | 5.62                      | 0.42                     | 5.78  | 5.36                  | 0.29            | 5.16     | 0.22        | 4834 |
| 4838        | Home Mixed Fertilizer 3-H-3-46           | Simsbury: Cullman Bros., Inc. .... | 4.89                      | 0.68                     | 6.01  | 5.33                  | 0.49            | 6.36     | 0.37        | 4838 |
| 4839        | Home Mixed Fertilizer 3-L-11-46          | Simsbury: Cullman Bros., Inc. .... | 5.32                      | 0.46                     | 5.20  | 4.74                  | 0.56            | 6.98     | 0.42        | 4839 |
| 4840        | Home Mixed Fertilizer 3-L-12-46          | Simsbury: Cullman Bros., Inc. .... | 5.54                      | 0.37                     | 5.55  | 5.18                  | 0.48            | 6.87     | 0.36        | 4840 |
| 4841        | Home Mixed Fertilizer 3-M-L-46           | Simsbury: Cullman Bros., Inc. .... | 5.25                      | 0.35                     | 5.15  | 4.80                  | 0.45            | 6.27     | 0.34        | 4841 |
| 4842        | Home Mixed Fertilizer 3-S-1-2-46         | Simsbury: Cullman Bros., Inc. .... | 5.32                      | 0.43                     | 5.35  | 4.92                  | 0.44            | 7.00     | 0.33        | 4842 |
| 4843        | Home Mixed Fertilizer 3-S-3-46           | Simsbury: Cullman Bros., Inc. .... | 5.53                      | 0.48                     | 5.60  | 5.12                  | 0.43            | 4.91     | 0.32        | 4843 |
| 4844        | Home Mixed Fertilizer 3-T-14-46          | Simsbury: Cullman Bros., Inc. .... | 5.32                      | 0.35                     | 5.30  | 4.95                  | 0.44            | 6.23     | 0.33        | 4844 |
| 4845        | Home Mixed Fertilizer 3-V-2-46           | Simsbury: Cullman Bros., Inc. .... | 5.89                      | 0.34                     | 4.88  | 4.54                  | 0.31            | 5.74     | 0.25        | 4845 |
| 4846        | Home Mixed Fertilizer 3-Z-L-46           | Simsbury: Cullman Bros., Inc. .... | 5.37                      | 0.37                     | 4.78  | 4.41                  | 0.44            | 7.04     | 0.33        | 4846 |
| 4884        | Home Mixed Fertilizer 1-A-1-46           | Simsbury: Cullman Bros., Inc. .... | 5.54                      | 0.36                     | 5.88  | 5.52                  | 0.20            | 5.46     | 0.15        | 4884 |
| 4885        | Home Mixed Fertilizer 1-A-2-46           | Simsbury: Cullman Bros., Inc. .... | 5.24                      | 0.44                     | 5.45  | 5.01                  | 0.23            | 5.69     | 0.17        | 4885 |
| 4886        | Home Mixed Fertilizer 1-A-3-46           | Simsbury: Cullman Bros., Inc. .... | 5.76                      | 0.50                     | 6.15  | 5.65                  | 0.16            | 5.53     | 0.12        | 4886 |
| 4887        | Home Mixed Fertilizer 1-A-4-46           | Simsbury: Cullman Bros., Inc. .... | 5.52                      | 0.38                     | 5.28  | 4.90                  | 0.21            | 4.96     | 0.16        | 4887 |
| 4888        | Home Mixed Fertilizer 1-B-1-46           | Simsbury: Cullman Bros., Inc. .... | 5.44                      | 0.60                     | 7.30  | 6.70                  | 0.24            | 5.28     | 0.18        | 4888 |
| 4889        | Home Mixed Fertilizer 1-M-1-46           | Simsbury: Cullman Bros., Inc. .... | 5.00                      | 0.35                     | 6.65  | 6.30                  | 0.33            | 6.19     | 0.25        | 4889 |
| 4890        | Home Mixed Fertilizer 1-M-2-46           | Simsbury: Cullman Bros., Inc. .... | 5.68                      | 0.35                     | 5.98  | 5.63                  | 0.41            | 4.71     | 0.31        | 4890 |
| 4891        | Home Mixed Fertilizer 1-Ma-2-46          | Simsbury: Cullman Bros., Inc. .... | 5.36                      | 0.40                     | 6.85  | 6.45                  | 0.25            | 5.89     | 0.19        | 4891 |
| 4892        | Home Mixed Fertilizer 1-Mc-P-46          | Simsbury: Cullman Bros., Inc. .... | 4.53                      | 0.28                     | 5.85  | 5.57                  | 0.47            | 6.50     | 0.35        | 4892 |
| 4893        | Home Mixed Fertilizer 1-Stj-1-46         | Simsbury: Cullman Bros., Inc. .... | 5.55                      | 0.43                     | 6.40  | 5.97                  | 0.20            | 5.30     | 0.15        | 4893 |
| 4894        | Home Mixed Fertilizer 1-S-M-<br>CS&NS-46 | Simsbury: Cullman Bros., Inc. .... | 10.76                     | 0.15                     | 2.60  | 2.45                  | 0.21            | 1.28     | 0.16        | 4894 |



TABLE 6. ANALYSES OF SPECIAL AND HOME MIXTURES.—(Concluded)

| Station No. | Name of mixture                  | Sampled or submitted by                                  | Total nitrogen per cent | Per cent phosphoric acid |       |                       | Per cent potash |          | Station No. |      |
|-------------|----------------------------------|--|-------------------------|--------------------------|-------|-----------------------|-----------------|----------|-------------|------|
|             |                                  |  |                         | Citrate-insoluble        | Total | So-called "available" | As muriate      | Chlorine |             |      |
| 4932        | Home Mixed Fertilizer 2-H-1-46   | Simsbury: Cullman Bros., Inc. ....                       | 4.75                    | 0.20                     | 6.65  | 6.45                  | 0.32            | 6.22     | 0.24        | 4932 |
| 4933        | Home Mixed Fertilizer 2-H-2-46   | Simsbury: Cullman Bros., Inc. ....                       | 5.00                    | 0.20                     | 6.55  | 6.35                  | 0.32            | 5.71     | 0.24        | 4933 |
| 4934        | Home Mixed Fertilizer 2-H-5-46   | Simsbury: Cullman Bros., Inc. ....                       | 4.76                    | 0.30                     | 7.25  | 6.95                  | 0.31            | 6.34     | 0.23        | 4934 |
| 4935        | Home Mixed Fertilizer 2-Ha-1-46  | Simsbury: Cullman Bros., Inc. ....                       | 5.00                    | 0.25                     | 6.98  | 6.73                  | 0.45            | 6.09     | 0.34        | 4935 |
| 4936        | Home Mixed Fertilizer 2-Ha-2-46  | Simsbury: Cullman Bros., Inc. ....                       | 4.94                    | 0.23                     | 6.08  | 5.85                  | 0.31            | 5.48     | 0.23        | 4936 |
| 4937        | Home Mixed Fertilizer 2-K-1-46   | Simsbury: Cullman Bros., Inc. ....                       | 4.96                    | 0.15                     | 6.23  | 6.08                  | 0.24            | 4.79     | 0.18        | 4937 |
| 4938        | Home Mixed Fertilizer 2-K-2-46   | Simsbury: Cullman Bros., Inc. ....                       | 4.98                    | 0.20                     | 6.40  | 6.20                  | 0.36            | 5.21     | 0.27        | 4938 |
| 4939        | Home Mixed Fertilizer 2-K-3-46   | Simsbury: Cullman Bros., Inc. ....                       | 4.94                    | 0.15                     | 6.68  | 6.53                  | 0.51            | 6.16     | 0.38        | 4939 |
| 4940        | Home Mixed Fertilizer 2-K-6-46   | Simsbury: Cullman Bros., Inc. ....                       | 4.84                    | 0.20                     | 6.75  | 6.55                  | 0.32            | 5.73     | 0.24        | 4940 |
| 4941        | Home Mixed Fertilizer 2-L&B-L-46 | Simsbury: Cullman Bros., Inc. ....                       | 5.29                    | 0.20                     | 5.78  | 5.58                  | 0.36            | 5.32     | 0.27        | 4941 |
| 4942        | Home Mixed Fertilizer 2-N2&SJ-46 | Simsbury: Cullman Bros., Inc. ....                       | 5.42                    | 0.23                     | 6.18  | 5.95                  | 0.32            | 6.09     | 0.24        | 4942 |
| 4943        | Home Mixed Fertilizer 2-N-3-46   | Simsbury: Cullman Bros., Inc. ....                       | 5.29                    | 0.23                     | 7.02  | 6.79                  | 0.45            | 6.20     | 0.34        | 4943 |
| 5170        | Fertilizer Mixture No. 1 A       | West Hartford: General Cigar Co., Inc., Farming Division | 5.44                    | 0.15                     | 4.08  | 3.93                  | 0.27            | 5.68     | 0.20        | 5170 |
| 5426        | Tobacco Fertilizer               | West Hartford: General Cigar Co., Inc., Farming Division | 5.98                    | 0.20                     | 3.15  | 2.95                  | 0.88            | 6.30     | 0.66        | 5426 |
| 5532        | Fertilizer Mixture No. 3         | West Hartford: General Cigar Co., Inc., Farming Division | 5.29                    | 0.43                     | 4.13  | 3.76                  | 0.29            | 5.70     | 0.22        | 5532 |
| 5533        | Buckland Mixture No. 3           | West Hartford: General Cigar Co., Inc.                   | 5.45                    | 0.38                     | 3.90  | 3.52                  | 0.35            | 5.29     | 0.26        | 5533 |
| 5716        | Home Mixture 46 A                | Hartford: L. B. Haas & Co.                               | 5.95                    | 0.28                     | 5.63  | 5.35                  | 1.10            | 6.59     | 0.83        | 5716 |
| 5717        | Home Mixture 46 B                | Hartford: L. B. Haas & Co.                               | 6.26                    | 0.28                     | 5.85  | 5.57                  | 0.40            | 6.74     | 0.30        | 5717 |
| 5718        | Home Mixture 46 C                | Hartford: L. B. Haas & Co.                               | 6.45                    | 0.43                     | 5.45  | 5.02                  | 0.74            | 6.41     | 0.56        | 5718 |
| 5719        | Home Mixture 46 D                | Hartford: L. B. Haas & Co.                               | 5.96                    | 0.20                     | 4.40  | 4.20                  | 0.44            | 6.40     | 0.33        | 5719 |
| 5720        | Home Mixture 46 E                | Hartford: L. B. Haas & Co.                               | 6.24                    | 0.25                     | 5.03  | 4.78                  | 0.47            | 6.38     | 0.35        | 5720 |
| 5721        | Home Mixture 46 F                | Hartford: L. B. Haas & Co.                               | 8.03                    | 0.40                     | 3.45  | 3.05                  | 0.82            | 4.09     | 0.62        | 5721 |
| 5810        | Fertilizer A                     | Buckland: Meyer & Mendelsohn, Inc.                       | 6.00                    | 0.28                     | 5.48  | 5.20                  | 0.72            | 6.72     | 0.54        | 5810 |
| 5811        | Fertilizer B                     | Buckland: Meyer & Mendelsohn, Inc.                       | 6.27                    | 0.55                     | 5.50  | 4.95                  | 0.72            | 5.49     | 0.54        | 5811 |
| 5850        | Tobacco Mixture Fertilizer       | So. Windsor: L. W. Newberry                              | 7.27                    | 0.30                     | 5.93  | 5.63                  | 1.50            | 12.60    | 1.13        | 5850 |

| Station No.       | Name of mixture  | Sampled or submitted by                             | Per cent nitrogen |            | Per cent total phosphoric acid |                  | Per cent potash |            | Station No. |
|-------------------|--|---|-------------------|------------|--------------------------------|------------------|-----------------|------------|-------------|
|                   |  |   | Found             | Guaranteed | Found                          | Guaranteed       | Found           | Guaranteed |             |
| 5733              | Pulverized Sheep and Goat Manure. The American Agricultural Chemical Co., No. Weymouth, Mass. .... | West Haven: American Agricultural Chemical Co. .... | 1.65              | 1.25       | 1.83                           | 1.00             | 3.76            | 2.00       | 5733        |
| 5587              | Sheep Manure. Apothecaries Hall Co., Waterbury, Conn. ....   | New London: Eaton & Wilson Hardware ....            | 1.88              | 1.00       | 1.83                           | 0.50             | 3.66            | 1.00       | 5587        |
| 5700 <sup>a</sup> | Sheep Manure. Apothecaries Hall Co., Waterbury, Conn. ....   | Middletown: Long Lane Farm ....                     | 1.81              | 1.00       | 1.90                           | 0.50             | 4.15            | 1.00       | 5700        |
| 5836              | Armour's Pulverized Sheep Manure. Armour Fertilizer Works, New York, N. Y. ....                    | East Windsor Hill: David Ahearn ..                  | 1.59              | 1.50       | 1.37                           | 1.00             | 1.61            | 2.50       | 5836        |
| 5550              | Driconure. Atkins and Durbrow, Inc., New York, N. Y. ....  | New Haven: Lightbourne & Pond ..                    | 2.82              | 2.00       | 2.60                           | ... <sup>1</sup> | 1.47            | 1.00       | 5550        |
| 5574              | Corenco Sheep Manure. Consolidated Rendering Co., Boston, Mass. ....                               | Wallingford: A. E. Hall ....                        | 1.71              | 1.25       | 1.58                           | 1.00             | 3.24            | 2.00       | 5574        |
| 5626              | Davey Shredded Cattle Manure. The Davey Tree Expert Co., Kent, Ohio                                | Old Greenwich: The Davey Tree Expert Co. ....       | 2.12              | 1.00       | 2.00                           | ... <sup>2</sup> | 2.38            | 2.00       | 5626        |
| 5649              | Norwood Brand Sheep Manure. Norwood Brand Fertilizer Co., No. Reading, Mass. ....                  | Bridgeport: Willis Seed Store ....                  | 1.47              | 1.83       | 0.48                           | ... <sup>3</sup> | 2.73            | 1.03       | 5649        |
| 5557              | Wizard Brand Cow Manure. The Pulverized Manure Co., Chicago 9, Ill.                                | Thompsonville: Brainard Nursery & Seed Co. ....     | 1.91              | 2.00       | 1.50                           | ... <sup>4</sup> | 1.60            | 1.00       | 5557        |
| 5566              | Wizard Brand Pulverized Sheep Manure. The Pulverized Manure Co., Chicago 9, Ill. ....              | Thompsonville: Brainard Nursery & Seed Co. ....     | 1.76              | 2.00       | 2.40                           | ... <sup>5</sup> | 3.29            | 2.00       | 5566        |
| 5706              | Gro-Fast Sheep Manure. The Rogers & Hubbard Co., Portland, Conn. ....                              | Middletown: Meech & Stoddard, Inc.                  | 1.60              | 1.25       | 1.85                           | 1.00             | 3.57            | 2.50       | 5706        |
| 5749              | Sawconure. Stumpp & Walter Co., New York 8, N. Y. ....   | Stamford: Stumpp & Walter Co. ....                  | 3.67              | 2.00       | 2.73                           | ... <sup>6</sup> | 1.61            | 1.00       | 5749        |
| 5583              | Sheep Manure. Swift & Co., Plant Food Div., Baltimore, Md. ....                                    | Groton: C. W. Campbell Co. ....                     | 1.48              | 1.50       | 1.80                           | ... <sup>7</sup> | 3.84            | 2.50       | 5583        |
| 5756              | Bovung. Walker-Gordon Laboratory Co., Plainsboro, N. J. ....                                       | So. Norwalk: Fox Cycle Hardware Co. ....            | 2.07              | 2.00       | 1.80                           | 1.00             | 2.54            | 1.00       | 5756        |

<sup>1</sup> Guaranteed "available" phosphoric acid, 1.00 per cent; found 2.37 per cent.  
<sup>2</sup> Guaranteed "available" phosphoric acid, 1.00 per cent; found 1.77 per cent.  
<sup>3</sup> Guaranteed "available" phosphoric acid, 0.89 per cent; found 0.35 per cent.  
<sup>4</sup> Guaranteed "available" phosphoric acid, 1.00 per cent; found 1.10 per cent.  
<sup>5</sup> Guaranteed "available" phosphoric acid, 1.00 per cent; found 2.20 per cent.  
<sup>6</sup> Guaranteed "available" phosphoric acid, 1.00 per cent; found 2.60 per cent.  
<sup>7</sup> Guaranteed "available" phosphoric acid, 1.00 per cent; found 1.50 per cent.  
<sup>a</sup> State purchase.

TABLE 8. ANALYSES OF LIMESTONE AND SIMILAR MATERIALS

| Station No. | Manufacturer and brand                             | Sampled from stock of,<br>or sent by                       | Chemical analysis |            |                   |            | Total oxides,<br>per cent | Mechanical analysis<br>(in percentage) |          | Station No. |
|-------------|--|--|-------------------|------------|-------------------|------------|---------------------------|--|----------|-------------|
|             |  |  | Per cent lime     |            | Per cent magnesia |            |                           | 20 mesh                                | 100 mesh |             |
|             |  |  | Found             | Guaranteed | Found             | Guaranteed |                           |  |          |             |
|             | <b>Submitted by Station Agent</b>                  |  |                   |            |                   |            |                           |  |          |             |
|             | <b>Lee Lime Corp.,<br/>Lee, Mass.</b>              |  |                   |            |                   |            |                           |  |          |             |
| 5865        | Tobey Agra Hydrate .....<br>Submitted by Purchaser | West Suffield: H. L. Oppenheimer &<br>Son .....            | 39.86             | 35.00      | 28.09             | 25.00      | 67.95                     | .....                                  | .....    | 5865        |
|             | <b>Conklin Limestone Co.,<br/>Canaan, Conn.</b>    |  |                   |            |                   |            |                           |  |          |             |
| 5934        | Limestone—Sample #1 North ...                      | Canaan: Conklin Limestone Co. ....                         | 38.46             | .....      | 12.74             | .....      | 51.20                     | .....                                  | .....    | 5934        |
| 5935        | Limestone—Sample #2 South ...                      | Canaan: Conklin Limestone Co. ....                         | 32.23             | .....      | 14.81             | .....      | 47.04                     | .....                                  | .....    | 5935        |
|             | <b>Connecticut Agstone Co.,<br/>Danbury, Conn.</b> |  |                   |            |                   |            |                           |  |          |             |
| 5714        | Ground limestone .....                             | Hartford: Production and Marketing<br>Administration ..... | 41.72             | .....      | 4.89              | .....      | 46.61                     | 100.0                                  | 60.5     | 5714        |
|             | <b>Manufacturer Unknown</b>                        |  |                   |            |                   |            |                           |  |          |             |
| 4711        | Lime .....   | Hartford: Consolidated Cigar Corp. .                       | 47.09             | ....       | 33.00             | .....      | 80.09                     | .....                                  | .....    | 4711        |
| 5824        | Lime—10 ton G .....                                | Hartford: Consolidated Cigar Corp. .                       | 46.42             | .....      | 32.55             | .....      | 78.97                     | .....                                  | .....    | 5824        |
| 4957        | Pulverized limestone .....                         | Canaan: Robert D. May .....                                | 30.39             | .....      | 21.14             | .....      | 51.53                     | .....                                  | .....    | 4957        |
| 4958        | Gray limestone .....                               | Canaan: Robert D. May .....                                | 30.56             | .....      | 21.06             | .....      | 51.62                     | .....                                  | .....    | 4958        |
| 4959        | White limestone .....                              | Canaan: Robert D. May .....                                | 29.93             | .....      | 20.12             | .....      | 50.05                     | .....                                  | .....    | 4959        |
| 4882        | Limestone #1 .....                                 | Canaan: James R. Place .....                               | 29.79             | .....      | 20.47             | .....      | 50.26                     | .....                                  | .....    | 4882        |
| 4883        | Limestone #2 .....                                 | Canaan: James R. Place .....                               | 30.06             | .....      | 21.46             | .....      | 51.52                     | .....                                  | .....    | 4883        |
| 4656        | Ground limestone .....                             | Hartford: Production and Marketing<br>Administration ..... | 27.91             | .....      | 16.58             | .....      | 44.49                     | .....                                  | .....    | 4656        |

TABLE 9. ANALYSES OF SMALL PACKAGE FERTILIZERS

| Station No. | Manufacturer and brand   | Place of sampling  | Per cent nitrogen |            |                       |                          |                            | Per cent phosphoric acid |                   |       | Per cent potash       |            | Station No. |       |
|-------------|--|--------------------|-------------------|------------|-----------------------|--------------------------|----------------------------|--------------------------|-------------------|-------|-----------------------|------------|-------------|-------|
|             |  |                    | In nitrates       | In ammonia | Organic water-soluble | Organic active-insoluble | Organic inactive-insoluble | Total                    | Citrate-insoluble | Total | So-called "available" | As muriate |             | Total |
|             | <b>American Agricultural Chemical Co.,<br/>No. Weymouth, Mass.</b> |                    |                   |            |                       |                          |                            |                          |                   |       |                       |            |             |       |
| 5755        | Agrico for Broadleaf Evergreens 6-10-4 .....                       | Darien .....       | 0.00              | 5.38       | 0.20                  | 0.53                     | 0.13                       | 6.24                     | 1.55              | 12.58 | 10.03                 | 4.01       | 4.01        | 5755  |
| 5610        | Agrico for Gardens 4-12-4 .....                                    | Greenwich .....    | 0.78              | 2.92       | 0.40                  | 0.28                     | 0.18                       | 4.56                     | 1.10              | 14.00 | 12.90                 | 4.39       | 4.39        | 5610  |
| 5605        | Agrico for Gardens 5-10-5 .....                                    | Milford .....      | 0.42              | 4.24       | 0.36                  | 0.21                     | 0.11                       | 5.34                     | 0.78              | 11.25 | 10.47                 | 5.29       | 5.29        | 5605  |
|             | <b>Goulard &amp; Olena, Inc.,<br/>New York, N. Y.</b>              |                    |                   |            |                       |                          |                            |                          |                   |       |                       |            |             |       |
| 5757        | G & O Special 7-8-5 Rose Food .....                                | South Norwalk .... | 1.41              | 3.12       | 0.84                  | 1.22                     | 0.32                       | 6.91                     | 0.48              | 9.33  | 8.85                  | 4.94       | 4.94        | 5757  |
|             | <b>A. H. Hoffman, Inc.,<br/>Landisville, Pa.</b>                   |                    |                   |            |                       |                          |                            |                          |                   |       |                       |            |             |       |
| 5767        | Hoffman Bone Meal .....  | South Norwalk .... | ...               | ...        | ...                   | ...                      | ...                        | 3.86                     | ...               | 20.60 | ...                   | ...        | ...         | 5767  |
| 5768        | Hoffman's Cow Manure 2-1-1 .....                                   | South Norwalk .... | 0.00              | 0.28       | 0.86                  | ...                      | ...                        | 2.74                     | 0.13              | 2.20  | 2.07                  | ...        | 1.65        | 5768  |
| 5769        | Hoffman Sheep Manure .....   | South Norwalk .... | 0.00              | 0.08       | 0.12                  | ...                      | ...                        | 1.95                     | ...               | 1.78  | ...                   | ...        | 2.58        | 5769  |
|             | <b>Miller Chemical &amp; Fertilizer Corp.,<br/>Baltimore, Md.</b>  |                    |                   |            |                       |                          |                            |                          |                   |       |                       |            |             |       |
| 5894        | VHPF 5-25-15 .....   | Warehouse Point .. | 5.90              | 0.56       | 0.00                  | ...                      | ...                        | 6.64                     | trace             | 23.00 | 23.00                 | 0.20       | 20.22       | 5894  |
|             | <b>The Pulverized Manure Co.,<br/>Chicago, Ill.</b>                |                    |                   |            |                       |                          |                            |                          |                   |       |                       |            |             |       |
| 5612        | Wizard Brand Pulverized Sheep Manure 2-1-2                         | Greenwich .....    | 0.00              | 0.24       | 0.37                  | 0.85                     | 1.12                       | 2.28                     | 0.28              | 2.10  | 1.82                  | ...        | 3.95        | 5612  |
|             | <b>The Rogers &amp; Hubbard Co.,<br/>Portland, Conn.</b>           |                    |                   |            |                       |                          |                            |                          |                   |       |                       |            |             |       |
| 5639        | Gro-Fast Plant Food 5-8-5 .....                                    | Hartford .....     | 0.74              | 2.50       | 0.94                  | 0.84                     | 0.39                       | 5.41                     | 0.53              | 10.35 | 9.82                  | 6.05       | 6.05        | 5639  |
|             | <b>Stumpp &amp; Walter Co.,<br/>New York, N. Y.</b>                |                    |                   |            |                       |                          |                            |                          |                   |       |                       |            |             |       |
| 5751        | Sawco Nitrate of Soda 15-0-0 .....                                 | Stamford .....     | 16.06             | ...        | ...                   | ...                      | ...                        | ...                      | ...               | ...   | ...                   | ...        | ...         | 5751  |
| 5630        | Sawco Superphosphate 0-20-0 .....                                  | Stamford .....     | ...               | ...        | ...                   | ...                      | ...                        | ...                      | 0.38              | 20.90 | 20.52                 | ...        | ...         | 5630  |
| 5752        | Treewiz 8-6-4 .....  | Stamford .....     | 2.38              | 5.60       | 0.16                  | ...                      | ...                        | 8.34                     | 0.50              | 6.93  | 6.43                  | 4.65       | 4.65        | 5752  |
|             | <b>Swift &amp; Company,<br/>Baltimore, Md.</b>                     |                    |                   |            |                       |                          |                            |                          |                   |       |                       |            |             |       |
| 5614        | Vigoro Complete Plant Food 4-12-4 .....                            | Greenwich .....    | 0.49              | 3.56       | 0.00                  | ...                      | ...                        | 4.27                     | 0.50              | 13.35 | 12.85                 | 4.22       | 4.22        | 5614  |
| 5623        | Vigoro Complete Plant Food (for house plants)<br>4-12-4 .....      | Greenwich .....    | 0.45              | 3.56       | 0.16                  | ...                      | ...                        | 4.43                     | 0.45              | 13.58 | 13.13                 | 4.30       | 4.30        | 5623  |
| 5622        | Vigoro Complete Plant Food (Tablets) 4-12-4 ..                     | Greenwich .....    | 0.30              | 3.38       | 0.14                  | ...                      | ...                        | 4.11                     | 0.85              | 13.55 | 12.70                 | 4.32       | 4.32        | 5622  |





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