COMMERICAL FERTILIZERS
Report for 1952

H. J. FISHER
Chief Chemist

THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION, NEW HAVEN, CONNECTICUT
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REPORT ON INSPECTION AND ANALYSIS OF COMMERCIAL FERTILIZERS, 1952

H. J. FISHER, Chief Chemist

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 which have not been artificially treated or manipulated, marl and lime". An amendment of the law in 1949 permitted fertilizers to be labelled with guaranties of elements other than nitrogen, phosphorus and potassium, but did not change the requirement that mixed fertilizers contain at least 0.82 per cent of nitrogen and 1 per cent of either phosphoric acid or potash for guaranties of these elements to be made. Phosphorus must be declared as available phosphoric acid (except in the case of bone, tankage and other natural organic materials, where total phosphoric acid is guaranteed) and potassium as water-soluble potash; all other elements must be guaranteed in terms of percentages of the elements, not as oxides or salts. A registration fee of $10.00, payable annually, is charged for each element guaranteed in each brand of fertilizer; there is also a six cent tonnage tax, payable semiannually.

While manufacturers usually register their own fertilizers, if a retailer sells a fertilizer manufactured by an out-of-state firm, and that firm refuses to register, under the law the retailer is responsible for registration fees and tonnage taxes. The retailer, therefore, should assure himself that the requirements of the law have been met by the manufacturers of the brands which he handles, or himself be prepared to meet all these requirements.

The law exempts from registration, and from other requirements, 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.

Cottonseed, linseed, peanut and soybean oil 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 per brand. This fee and the tonnage tax are entirely apart from the registration fee required by the feeding stuffs law for vegetable meals used as feeds (there is no tonnage tax on feeds).

*Analyses were made by Messrs. O.L. Nolan and Sherman Squires and Miss Helen Kocaba; inspection and sampling by Mr. Richard Nichols; compilations by Mr. Nolan and Miss Lillian Goff.*
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**

It is expected that fertilizers sold in this State will comply with the regulations and standards of the Association of American Fertilizer Control Officials. A copy of the “Official Publication” of that Association giving these definitions and regulations may be obtained from the secretary-treasurer, B. D. Claninger, Drawer 892, Clemson, South Carolina, for $1.00.
REGISTRATIONS

Late Registrations for 1951

To the brands registered for 1951 in our last report should be added the following:

Apothecaries Hall Co., 28 Benedict St., Waterbury 20, Conn.
    Liberty Fertilizer 0-10-20

    Swift’s 41% Protein Cottonseed Meal

Registrations for 1952

For 1952, 76 firms and individuals registered 361 brands of fertilizer at this Station for sale in the State. As required by statute, the brands are listed as follows:

Agricultural Supply Co., 221 Richmond Ave., West Haven, Conn.
    Yale Special Mixture

Allied Chemical & Dye Corp., The Barrett Div., 40 Rector St., New York 6, N.Y.
    A-N-L Brand Fertilizer Compound
    ARCADIAN the American Nitrate of Soda
    Sulphate of Ammonia

    AA Quality Fertilizer 0-10-20
    AA Quality Fertilizer 5-8-7
    AA Quality Fertilizer 5-10-10
    AA Quality Phosphate Rock
    Agrico Country Club Fertilizer 6-10-4
    Agrico Country Club Fertilizer 8-6-2
    Agrico Country Club Fertilizer 10-6-4
    Agrico for Broadleaf Evergreens 6-10-4
    Agrico for Corn 4-12-4
    Agrico for Gardens 5-10-5
    Agrico for Grain 3-12-6
    Agrico for Lawns, Trees and Shrubs 6-10-4
    Agrico for New England 5-8-7
    Agrico for Potatoes 5-10-10-1.2
    Agrico for Seeding Down 3-12-12
    Agrico for Tobacco 6-3-6
    Agrico for Top Dressing 7-7-7
    Agrico for Truck 5-10-5
    Agrico for Turf 6-8-2
    Agrico Phosphate and Potash 0-10-20
    Agrico Phosphate and Potash 0-14-14
    Agrico Rose Food 5-9-6
    Agrinite
    Bone Meal
    Muriate of Potash
    18% Normal Superphosphate

American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N.Y.
    AERO Cyanamid, Granular
    AERO Cyanamid, Special Grade
    AERO-PHOS Florida Natural Phosphate (31% Total)
American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.—Cont’d.

AERO-PHOS Florida Natural Phosphate (33% Total)
AEROPRILLS Ammonium Nitrate Fertilizer

Apothecaries Hall Co., 28 Benedict St., Waterbury, Conn.

Bone Meal 2.25
Bone Meal 4.0
Castor Pomace
Cotton Hull Ashes
Dry Ground Fish
Liberty Fertilizer 0-10-20
Liberty Fertilizer 0-14-14
Liberty Fertilizer 0-20-20
Liberty Fertilizer 3-12-12
Liberty Fertilizer 4-12-4
Liberty Fertilizer 5-8-10
Liberty Fertilizer 5-8-10 with 1.2% Magnesium
Liberty Fertilizer 5-10-5
Liberty Fertilizer 5-10-10
Liberty Fertilizer 5-10-10 with 1.2% Magnesium
Liberty Fertilizer 6-8-8
Liberty Fertilizer 6-8-8 with 1.2% Magnesium
Liberty Fertilizer 8-16-16
Liberty Fertilizer with Sulphate of Potash 6-8-8
Liberty Green-Gro Fertilizer 6-7-4
Liberty Green-Gro 3-Way-3 Lawn Dressing 6-10-4
Liberty High Grade Market Gardeners 5-8-7
Liberty High Grade Market Gardeners 5-8-7 with 1.2% Magnesium
Liberty High Grade Market Gardeners with Sulphate of Potash 5-8-7
Liberty Landscape and Golf Course 8-6-2
Liberty Special for Fruit and Grass 7-7-7
Liberty Tobacco Mixture 5-3-5
Liberty Tobacco Mixture 6-3-6
Liberty Tobacco Mixture with Castor Pomace 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
Precipitated Bone
Sheep Manure
Sulphate of Ammonia
Sulphate of Potash
Sul-Po-Mag
Superphosphate

Archer-Daniels-Midland Co., 600 Roanoke Bldg., Minneapolis, Minn.
Archer Quality 32% Protein Expeller Linseed Oil Meal

Armour Fertilizer Works, Carteret, N.J.

Armour’s Big Crop Fertilizer 0-14-14
Armour’s Big Crop Fertilizer 0-20-20
Armour’s Big Crop Fertilizer 5-8-7
Armour’s Big Crop Fertilizer 5-10-10
Armour’s Big Crop Fertilizer 5-10-10-1.2
Armour’s Big Crop Fertilizer 7-7-7
Armour’s Big Crop Fertilizer Tobacco Special 6-3-6
Armour’s Big Crop Superphosphate 20%
Armour’s Bone Meal Fertilizer
Armour’s Pulverized Sheep Manure
Armour’s Vertagreen Plant Food 5-10-5
Armour’s Vertagreen Plant Food for Commercial Crops 6-12-6
Armour Fertilizer Works, Carteret, N. J.—Cont’d.
Armour’s Vertagreen Plant Food for Commercial Crops 6-12-12
Armour’s Vertagreen Plant Food for Professional Use 10-6-4

Cow-Eta Brand Peptide Protein Cottonseed Meal
Cow-Eta Brand Peptide Protein Cottonseed Meal

Associated Seed Growers, Inc., Railroad Ave., Milford, Conn.
Asgrow Lawn Food
Japedizer

Atkins & Durbin, Inc., 165 John St., New York 38, N. Y.
DICONURE

H. J. Baker & Bro., 600 Fifth Ave., New York 20, N. Y.
MONTANSALPETER (Ammonium Sulphate Nitrate)

The F. A. Bartlett Tree Expert Co., 60 Canal St., Stamford, Conn.
Bartlett Green Tree Food

The Boswell Co., 171 Blackland Rd., N.W., Atlanta, Ga.
Pure Gold Peptide Protein Cottonseed Meal

Botany Mills, Inc., 84-182 Dayton Ave., Passaic, N. J.
AGRIGAIR

Brainard Nursery & Seed Co., 636 Enfield St., Thompsonville, Conn.
Baco Brand Aluminum Sulphate

Joseph Breck & Sons Corp., 401 Summer St., Boston 10, Mass.
Breck’s Quick-Life
Brexone Garden-Gro
Brexone Turf-Gro

The Buckeye Cotton Oil Co., 6th & Main Sts., Cincinnati, Ohio
Buckeye Peptide Protein Cottonseed Meal for Fertilizer

California Spray-Chemical Corp., Lucas and Ortho Way, Richmond, Calif.
ORTHO-GRO Liquid Plant Food
ORTHO Lawn Groom

Campbell Fertilizer Co., Inc., 102 Japhet St., Houston 20, Tex.
HOU-ACTINITE

Carbola Chemical Co., Inc., Natural Bridge, N. Y.
CCC Triple-20 Plant Food

Central Chemical Corp., Box 532, Lebanon, Pa.
Farmrite Gardenite
Farmrite Hi-organic
Farmrite Sheep Manure
Farmrite Turf Organite

Chilcan Nitrate Sales Corp., 120 Broadway, New York 5, N. Y.
Chilcan Nitrate of Soda—Champion Brand
Castor Pomace
Coreno 0-10-20 Hay and Pasture Special
Coreno 0-14-14 Top Dresser
Coreno 0-20-20
Coreno 4-12-4 Complete Manure
Coreno 4-12-16 Ladino Special
Coreno 5-5-15 Tobacco Starter
Coreno 5-8-7 Potato and General Crop
Coreno 5-10-5 Home Garden
Coreno 5-10-5 Onion Special-Super Truck
Coreno 5-10-10 Peerless Potato
Coreno 5-10-10-1.2 with Water Soluble Magnesium
Coreno 6-5-5 Premium Tobacco Grower
Coreno 6-8-6 Special Tobacco Grower
Coreno 6-8-8 Potato Special
Coreno 7-7-7 Complete Fruit and Top Dressing
Coreno 8-6-4 Landscape
Coreno 8-16-16 Two-in-One
Coreno Bone Meal 9.2%*  
Coreno Ground Bone 1.5%
Coreno Organic Tankage
Coreno Sheep Manure
Coreno Special Ground Bone
Coreno Spurz-on
Coreno Superphosphate 20%
Muriate of Potash

The Davey Tree Expert Co., 117 S. Water St., Kent, Ohio
Davey Shredded Cattle Manure
Davey Tree Food

R. G. Davis & Sons, Inc., 560 Grand Ave., New Haven, Conn.
“Organo”

The Davison Chemical Corp., Charles & Fayette Sts., Baltimore 3, Md.
Davco Granulated Fertilizer 0-20-20
Davco Granulated Fertilizer 5-8-7
Davco Granulated Fertilizer 5-10-5
Davco Granulated Fertilizer 5-10-10
Davco Granulated Fertilizer 6-8-8 with 0.23% Boron and 0.17% Manganese
Davco Granulated Fertilizer 7-7-7
Davco Granulated Superphosphate 20%
Muriate of Potash

The Doggett-Pfeil Co., 642 Morris Turnpike, Springfield, N. J.
D & P Rose Food

The Doughten Seed Co., 151 Twelfth St., Jersey City 2, N. J.
Faith Soil Food with Insect Control

DU PONT NU GREEN Fertilizer Compound 44%
DU PONT NU GREEN Fertilizer Compound 45%

Eastern States 0-15-30
Eastern States 0-20-20
Eastern States 5-10-10-0.6
Eastern States 5-15-15-0.6
Eastern States 6-4-6-1.2 Tobacco
Eastern States Farmers’ Exchange, Inc., 26 Central St., West Springfield, Mass.—Cont’d.

Eastern States 8-4-8-1-2 Tobacco
Eastern States 8-12-12-1-2 L. C. S.
Eastern States 8-12-12-1-2 S. M.
Eastern States 8-12-16-1-2
Eastern States 8-16-8-0-6
Eastern States 8-16-16-0-6
Eastern States 10-10-10-0-6
Eastern States Castor Pomace
Eastern States Muriate of Potash
Eastern States Plant Starter
Eastern States Sulfate of Ammonia
Eastern States Sulfate of Potash
Eastern States Superphosphate—Granulated and Pulverized

The Espoma Co., P.O. Box 108, Millville, N. J.

Espoma
Holly-Tone

Faesy & Besthoff, Inc., 325 Spring St., New York 13, N. Y.

High Organic Pelletized All-Purpose 6-12-6
Pure Bone Meal
Rose Food 8-10-4

Ford Motor Co., 3000 Schaefer Road, Dearborn, Mich.

Ford Ammonium Sulphate

Fox Point Chemical Co., 49 Valley St., East Providence, R. I.

Old Fox Brand 6-10-30
Old Fox Brand 6-12-24
Old Fox Brand 6-20-0
Old Fox Brand 5-8-7-1-2
Old Fox Brand 5-10-10-1-2
Old Fox Brand 7-7-7-1-2
Old Fox Turf Brand Fertilizer 8-6-2

Goulard & Olena, Inc., Skillman, N. J.

G & O Ground Bone Fertilizer
G & O Prizegro 5-10-5
G & O Rose Food

Peter Henderson Stumpf & Walter Co., 1010 Garfield Ave., Jersey City, N. J.

Cottonseed Meal
Muriate of Potash
Nitrate of Soda
Red Barn Acidulous
Red Barn Bone Meal
Red Barn Economy
Red Barn Emerald Grass
Red Barn Garden
Red Barn Rose Food
Red Barn Sawcornure
Red Barn Treewiz
Sheep Manure
Sulphate of Ammonia
Superphosphate


Hoffman Cow Manure (Dehydrated)
Hoffman Sheep Manure (Kiln-Dried)
Hoover Soil Service, 121 No. Central St., Gilman, Ill.
A Soft Phosphate with Colloidal Clay

Humphreys-Godwin Co., 2246 Park Ave., Memphis, Tenn.
Dixie Brand 41% Cottonseed Meal

International Minerals & Chemical Corp., P.O. Box 230, Woburn, Mass.
International 5-8-7-0.6
International 6-12-12-1.2
International 20% Superphosphate
International Tobacco 6-3-6-1.2

Robin Jones Phosphate Co., P.O. Box 1021, Nashville, Tenn.
Arrow Brand Finely Ground Rock Phosphate

Spencer Kellogg & Sons, Inc., 98 Delaware Ave., Buffalo 2, N.Y.
Castor Pomace
Spencer Kellogg’s 32% Protein Old Process (Expeller) Linseed Oil Meal
Spencer Kellogg’s 34% Protein Old Process (Expeller) Linseed Oil Meal
Spencer Kellogg’s 44% Protein Toasted Soybean Oil Meal—Solvent Extracted

“Lovit Brand” 41% Protein Cottonseed Meal

The Mamlon Co., 1089 Whalley Ave., New Haven 15, Conn.
FER-MEL Water Soluble Turf and Tree Food

“WHITE MULE BRAND” 41% Protein Cottonseed Meal

McCormick & Co., Inc., McCormick Bldg., Baltimore 2, Md.
HY-GRO

Mock Seed Co., 1218 Smallman St., Pittsburgh, Pa.
Green Magic Lawn Food

Natural Plant Food Co., 210 W. California St., Oklahoma City, Okla.
Longhorn Brand Cattle Manure

Old Deerfield Castor Pomace
Old Deerfield Cotton Hull Ash 40%
Old Deerfield Dry Ground Fish
Old Deerfield Muriate of Potash 60%
Old Deerfield 5-8-7 Fertilizer
Old Deerfield 5-8-7-1.2 Fertilizer
Old Deerfield 5-10-5 Fertilizer
Old Deerfield 5-10-10 Fertilizer
Old Deerfield 6-3-6 Complete Tobacco
Old Deerfield 6-8-8 Special Potato Fertilizer
Old Deerfield 7-7-7 Fertilizer
Old Deerfield 20% Superphosphate
44% Protein Soybean Oil Meal (Mfr’d. by West Tennessee Soya Mill)
Steamed Bone Meal

Olds & Whipple, Inc., 168 State St., Hartford, Conn.
Horn and Hoof Meal
O & W Bone Meal
O & W Castor Pomace
Olds & Whipple, Inc., 168 State St., Hartford, Conn.—Cont’d.

O & W Cotton Hull Ash
O & W Menhaden Dry Ground Fish
O & W Sulphate of Potash
O & W Superphosphate
O & W 0-14-14 Fertilizer
O & W 0-20-20 Fertilizer
O & W 4-8-4 Complete Lawn and Grass Fertilizer
O & W 4-12-4 Market Garden Fertilizer
O & W 5-3-5 Complete Tobacco Fertilizer-Potash derived from Cotton Hull Ash
O & W 5-5-15 High Grade Tobacco Starter
O & W 5-8-6 Luxura
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 5-10-10 Potato Fertilizer
O & W 5-10-10 Potato Fertilizer with 1.2% Magnesium
O & W 6-3-6 Blue Label Tobacco Fertilizer
O & W 6-3-6 Blue Label Tobacco Fertilizer-Potash derived from Cotton Hull Ash
W/0.13 Cu
O & W 6-3-6 Pomace Base Fertilizer-Potash derived from Cotton Hull Ash
O & W 6-8-8 Special Potato Fertilizer
O & W 6-8-8 Special Potato Fertilizer with 1.2 Magnesium
O & W 7-7-7 Top Dressing and Grass Fertilizer
O & W 8-8-8 Special Fertilizer
Precipitated Bone Phosphate
Sulphate of Potash and Magnesia

Oswego Soy Products Corp., E. Seneca St., Oswego, N.Y.

Soybean Oil Meal—Toasted

Perkins Oil Co., 727 Beale Ave., Memphis, Tenn.

Golden Rod Brand 41% Protein Cottonseed Meal—Prime Quality

The Frank S. Platt Co., Inc., 450 State St., New Haven, Conn.

Platt’s Special 10-5-5 Lawn Fertilizer

Premier Peat Moss Corp., 535 Fifth Ave., New York 17, N.Y.

Premier-Nure

The Pulverized Manure Co., 503 Exchange Bldg., Chicago 9, Ill.

Wizard Brand Cow Manure
Wizard Brand Pulverized Sheep Manure


Cottonseed Meal

Ra-Pid-Gro Corp., 88 Ossian St., Dansville, N.Y.

Ra-Pid-Gro

The Rogers & Hubbard Co., Bank St., Portland, Conn.

Castor Pomace
Fish Meal
Gro-Fast Aluminum Sulphate
Gro-Fast Acid Fertilizer
Gro-Fast Bone Meal
Gro-Fast Cow Manure
Gro-Fast Plant Food
Gro-Fast Rose Food
Gro-Fast Sheep Manure
Horn and Hoof Meal
The Rogers & Hubbard Co., Bank St., Portland, Conn.—Cont'd.

Hubbard 0-20-20
Hubbard 6-8-8 for Potatoes
Hubbard 10-5-5
Hubbard 10-6-2
Hubbard Alfalfa Fertilizer 0-14-14
Hubbard Alfalfa Fertilizer 0-14-14 W/0.55 Boron
Hubbard Corn Fertilizer
Hubbard Dairy Fertilizer
Hubbard Double Strength Fertilizer
Hubbard Garden Fertilizer
Hubbard General Crop Fertilizer
Hubbard General Crop Fertilizer with Magnesium
Hubbard Golf Course Fertilizer
Hubbard High Potash Fertilizer
Hubbard Potato Fertilizer
Hubbard Seeding Fertilizer
Hubbard Tobacco Grower
Hubbard Top Dressing Fertilizer
Hubbard Vegetable Fertilizer
Hubbard Weed-Kil Lawn Food (Contains 2, 4-D)
Muriate of Potash
Superphosphate

Rose Manufacturing Co., 6 Main St., Beacon, N.Y.
Triogen Rose Food

Ruhm Phosphate & Chemical Co., 1585 Maple Ave., Evanston, Ill.
Red Seal Brand Ruhm's Phosphate Rock

O.M. Scott & Sons Co., Marysville, Ohio
Scott's Turf Builder
Scott's Weed and Feed

Sears, Roebuck and Co., 925 S. Homan Ave., Chicago 7, Ill.
Cross Country Azalea Food
Cross Country Berry Food
Cross Country Bone Meal
Cross Country Bulb Food
Cross Country Cattle Manure
Cross Country Evergreen Food
Cross Country Lawn Food
Cross Country Lawn Food and Weed Killer
Cross Country Liquid Plant Food
Cross Country Peat Manure
Cross Country Plant Food
Cross Country Rose Food
Cross Country Sheep Manure
Cross Country Sulphate of Ammonia

Sewerage Commission of the City of Milwaukee, P.O. Box 2079, Milwaukee 1, Wis.
Milorganite

M.L. Shoemaker's "Swift-Sure" Tobacco Starter

The Smith Agricultural Chemical Co., 618 No. Champion Ave., Columbus 16, Ohio
Sacco Plant Food

Wendell S. Still, Middle Country Rd., Selden, N.Y.
Farmanure
Stimulant Laboratories Co., 791 So. Larelle St., Columbus 16, Ohio
Stim-U-Plant for African Violets

All Organic Lawn Food
Blenn
Brimm
Pasturgro 0-10-20
Pasturgro 5-10-10
Red Steer 0-10-20
Red Steer 0-20-20
Red Steer 5-8-7
Red Steer 5-10-10
Red Steer 8-6-4
Sheep Manure
Swift's 41% Protein Cottonseed Meal
Vigoro 5-10-5
Vigoro C.G.

Tennessee Corp., Lockland 15, Ohio
Loma 5-10-5
Loma 5-10-5 Mineralized
Loma 8-8-8 Mineralized

The Van Iderstine Co., 37-30 Review Ave., Long Island City 1, N.Y.
Vico Steamed Bone Meal—Fertilizer

Victor Chemical Works, 141 W. Jackson Blvd., Chicago 4, Ill.
"Take-Hold"

Walker-Gordon Laboratory Co., Plainsboro, N. J.
Boung

Oscar F. Warner, 24 E. Aurora St., Waterbury, Conn.
Warner's Grubedizer
Warner's Lawn Fertilizer
Warner's Tree Food

Werner & Bolle, 2 Broadway, New York, N.Y.
Werbol Brand Extracted Linseed Meal

West Tennessee Soya Mill, Inc. (See Old Deerfield Fertilizer Co.)
Garfield Williamson, Inc., 1072 Westside Ave., Jersey City 6, N. J.
Plantspur

F. H. Woodruff & Sons, Inc., 9 Depot St., Milford, Conn.
Turf-Maker Lawn Food (Gro-Sod)

Woodruff's Castor Pomace
Woodruff's 0-14-14 Fertilizer
Woodruff's 5-8-7 Fertilizer
Woodruff's 5-10-5 Fertilizer
Woodruff's 5-10-10 Fertilizer
Woodruff's 6-8-8 Fertilizer
Woodruff's 7-7-7 Fertilizer
Woodruff's Lawn & Tree Food
Woodruff's Muriate of Potash 60%
Woodruff's Superphosphate 20%
Woodruff's Tobacco Fertilizer with Cottonseed Base 6-3-6
Woodruff's Tobacco Fertilizer with Pomace Base 6-3-6
Woodruff's Tobacco Starter 5-5-15
FERILIZER INSPECTION FOR 1952

The Connecticut fertilizer law does not provide for compulsory limitation of the grades of fertilizer that may be sold in this State, but the New England agronomists compile annual lists of recommended fertilizer ratios and minimum grades that they believe to be sufficient to take care of all the requirements of New England agriculture. At a meeting in Boston on September 28, 1951, they approved a list for the 1951-1952 season that differed from those of recent past years in that the phosphoric acid percentages were reduced to compensate for the market shortage in superphosphate caused by the world-wide shortage in sulphur; this list was as follows:

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<th>Ratio</th>
<th>Minimum Grade</th>
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<td>0-1-2</td>
<td>0-10-20</td>
</tr>
<tr>
<td>1-1-1</td>
<td>8- 8- 8</td>
</tr>
<tr>
<td>1-1-3</td>
<td>5- 5-15 (Tobacco fertilizer)</td>
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<tr>
<td>2-1-2</td>
<td>6- 9-12 (Tobacco fertilizer)</td>
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<td>2-3-4</td>
<td>6- 8- 8</td>
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<td>3-4-4</td>
<td></td>
</tr>
</tbody>
</table>

Usually about 86 per cent of the mixed fertilizers sold in Connecticut are of approved grades, but apparently this year most farmers stuck to the grades they were familiar with and refused to follow the new recommendations, because during the 1951-1952 season only 39 per cent of the mixed fertilizers fell within the approved list.

On October 7, 1952, the agronomists and fertilizer dealers of southern New England met at Storrs and agreed that, because the supply of superphosphate had again become more adequate, the 1950-1951 list should be reestablished for the 1952-1953 season, with certain minor additions and changes as follows:

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Minimum Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1-1</td>
<td>0-14-14</td>
</tr>
<tr>
<td>0-1-2</td>
<td>0-10-20</td>
</tr>
<tr>
<td>1-1-1</td>
<td>8- 8- 8</td>
</tr>
<tr>
<td>1-1-3</td>
<td>5- 5-15</td>
</tr>
<tr>
<td>1-2-1</td>
<td>5-10- 5</td>
</tr>
<tr>
<td>1-2-2</td>
<td>5-10-10</td>
</tr>
<tr>
<td>2-1-2</td>
<td>6- 3- 6</td>
</tr>
<tr>
<td>3-4-4</td>
<td>6- 8- 8</td>
</tr>
<tr>
<td>4-3-1</td>
<td>8- 6- 2 (For maintenance of established turf)</td>
</tr>
<tr>
<td>5-8-7</td>
<td>5- 8- 7</td>
</tr>
</tbody>
</table>
During the past season the Station agent collected samples of all registered brands that could be found on the market. Certain registered fertilizer materials, particularly vegetable meals, are purchased almost wholly by tobacco growers for direct shipment in carload lots from outside the State. Most tobacco growers submit unofficial samples from each carload for analysis by this Station, but in addition an attempt has been made by our agent to take official samples from as many of these shipments as possible. The total number of fertilizer samples of all kinds analyzed in 1952 was 771, which is 59 more than in 1951 but still 53 short of the 824 analyzed in 1950.

The following tabulation lists the total number of samples analyzed, both official and unofficial, of each class of fertilizer, as well as the tonnage sold in the period between July 1, 1951 and June 30, 1952 (these tonnage figures do not include fertilizer distributed under the Federal Agricultural Adjustment Program):
### CLASSIFICATION OF FERTILIZER MATERIALS AND FERTILIZER TONNAGE

*(Tonnage is for the period July 1, 1951 to June 30, 1952)*

<table>
<thead>
<tr>
<th>Description</th>
<th>Page</th>
<th>No. of samples</th>
<th>Tonnage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Containing chiefly nitrogen:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrate of ammonia</td>
<td>25</td>
<td>1</td>
<td>471</td>
</tr>
<tr>
<td>Nitrate of soda</td>
<td>25</td>
<td>7</td>
<td>748</td>
</tr>
<tr>
<td>Sulphate of ammonia</td>
<td>25</td>
<td>2</td>
<td>132</td>
</tr>
<tr>
<td>Cyanamid and urea</td>
<td>25</td>
<td>6</td>
<td>85</td>
</tr>
<tr>
<td>Castor pomace</td>
<td>26</td>
<td>8</td>
<td>2,449</td>
</tr>
<tr>
<td>Cottonseed meal</td>
<td>26</td>
<td>113</td>
<td>9,592</td>
</tr>
<tr>
<td>Horn and hoof meal</td>
<td>28</td>
<td>3</td>
<td>200</td>
</tr>
<tr>
<td>Linseed oil meal</td>
<td>28</td>
<td>8</td>
<td>132</td>
</tr>
<tr>
<td>Soybean oil meal</td>
<td>28</td>
<td>17</td>
<td>355</td>
</tr>
<tr>
<td>Tankanlage</td>
<td>28</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Tung nut pomace</td>
<td>28</td>
<td>1</td>
<td>323</td>
</tr>
<tr>
<td>Other materials</td>
<td>28</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14,497</td>
</tr>
<tr>
<td>II. Containing chiefly phosphoric acid:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superphosphate 18%</td>
<td>29</td>
<td>1</td>
<td>695</td>
</tr>
<tr>
<td>20%</td>
<td>29</td>
<td>14</td>
<td>4,160</td>
</tr>
<tr>
<td>Precipitated bone phosphate</td>
<td>30</td>
<td>11</td>
<td>291</td>
</tr>
<tr>
<td>Phosphate rock</td>
<td>30</td>
<td>5</td>
<td>119</td>
</tr>
<tr>
<td>Monocalcium phosphate</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5,265</td>
</tr>
<tr>
<td>III. Containing chiefly potash:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muriate of potash</td>
<td>31</td>
<td>11</td>
<td>1,310</td>
</tr>
<tr>
<td>Sulphate of potash</td>
<td>31</td>
<td>4</td>
<td>202</td>
</tr>
<tr>
<td>Sulphate of potash-magnesia</td>
<td>31</td>
<td>2</td>
<td>36</td>
</tr>
<tr>
<td>Cottonhull ashes</td>
<td>31</td>
<td>11</td>
<td>695</td>
</tr>
<tr>
<td>*</td>
<td></td>
<td></td>
<td>2,243</td>
</tr>
<tr>
<td>IV. Containing nitrogen and phosphoric acid:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dry ground fish</td>
<td>32</td>
<td>24</td>
<td>939</td>
</tr>
<tr>
<td>Bone meal</td>
<td>32</td>
<td>15</td>
<td>628</td>
</tr>
<tr>
<td>Other materials</td>
<td>33</td>
<td>2</td>
<td>781</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2,343</td>
</tr>
<tr>
<td>V. Mixed fertilizers:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial mixtures</td>
<td>34</td>
<td>212</td>
<td>54,230</td>
</tr>
<tr>
<td>Special and home mixtures</td>
<td></td>
<td>116</td>
<td>756</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>54,986</td>
</tr>
<tr>
<td>VI. Miscellaneous:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum sulphate</td>
<td>57</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Borax</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Sheep and cattle manure</td>
<td>50</td>
<td>16</td>
<td>1,071</td>
</tr>
<tr>
<td>Limestone and similar materials</td>
<td>52</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Fertilizers sold in small packages</td>
<td>53</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>Polyelectrolyte soil amendments</td>
<td>60</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Other miscellaneous materials</td>
<td>61</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Check meals and fertilizers</td>
<td></td>
<td>87</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1,080</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>771</td>
<td>80,414</td>
</tr>
</tbody>
</table>

1 For distribution of this tonnage see next page.
Mixed Fertilizer Tonnage

Grades Approved for Connecticut

<table>
<thead>
<tr>
<th>Grade</th>
<th>Tons</th>
<th>Grade</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10:20</td>
<td>572</td>
<td>8- 4: 8</td>
<td>792</td>
</tr>
<tr>
<td>0-15:30</td>
<td>586</td>
<td>8- 8: 8</td>
<td>145</td>
</tr>
<tr>
<td>5- 5:15</td>
<td>437</td>
<td>8-12:16</td>
<td>87</td>
</tr>
<tr>
<td>6- 3:6</td>
<td>14,946</td>
<td>10-10:10</td>
<td>896</td>
</tr>
<tr>
<td>6- 8:8</td>
<td>2,714</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>21,175</td>
</tr>
</tbody>
</table>

Other Grades

(More than 50 tons)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Tons</th>
<th>Grade</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-12:18</td>
<td>132</td>
<td>6- 4: 6</td>
<td>103</td>
</tr>
<tr>
<td>0-14:14</td>
<td>847</td>
<td>6- 7: 4</td>
<td>210</td>
</tr>
<tr>
<td>0-19:19</td>
<td>202</td>
<td>6- 8: 2</td>
<td>85</td>
</tr>
<tr>
<td>0-20:20</td>
<td>1,071</td>
<td>6- 8: 6</td>
<td>96</td>
</tr>
<tr>
<td>3-12: 6</td>
<td>77</td>
<td>6-10: 4</td>
<td>376</td>
</tr>
<tr>
<td>3-12:12</td>
<td>442</td>
<td>6-12:12</td>
<td>164</td>
</tr>
<tr>
<td>4- 4:2</td>
<td>100</td>
<td>7- 7: 7</td>
<td>2,829</td>
</tr>
<tr>
<td>4- 8:4</td>
<td>51</td>
<td>8- 6: 2</td>
<td>677</td>
</tr>
<tr>
<td>4-10: 0</td>
<td>213</td>
<td>8- 6: 4</td>
<td>598</td>
</tr>
<tr>
<td>4-12: 4</td>
<td>816</td>
<td>8-12:12</td>
<td>1,096</td>
</tr>
<tr>
<td>5- 3:0</td>
<td>80</td>
<td>8-16: 8</td>
<td>420</td>
</tr>
<tr>
<td>5- 3:5</td>
<td>1,121</td>
<td>8-16:16</td>
<td>1,106</td>
</tr>
<tr>
<td>5- 8:7</td>
<td>6,478</td>
<td>9- 7: 4</td>
<td>470</td>
</tr>
<tr>
<td>5- 8:10</td>
<td>226</td>
<td>10- 5: 5</td>
<td>133</td>
</tr>
<tr>
<td>5-10: 5</td>
<td>2,860</td>
<td>10- 6: 2</td>
<td>278</td>
</tr>
<tr>
<td>5-10:10</td>
<td>8,797</td>
<td>10- 6: 4</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>32,746</td>
</tr>
</tbody>
</table>

(Less than 50 tons)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Tons</th>
<th>Grade</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10:30</td>
<td>5</td>
<td>6-12: 6</td>
<td>6</td>
</tr>
<tr>
<td>0-12:24</td>
<td>37</td>
<td>7- 8: 5</td>
<td>8</td>
</tr>
<tr>
<td>3- 2: 1</td>
<td>29</td>
<td>7-10: 5</td>
<td>17</td>
</tr>
<tr>
<td>3.5-3.5-1.5</td>
<td>8</td>
<td>7-11: 5</td>
<td>46</td>
</tr>
<tr>
<td>4- 6: 4</td>
<td>10</td>
<td>12- 4: 4</td>
<td>12</td>
</tr>
<tr>
<td>4-10: 4</td>
<td>19</td>
<td>12- 6: 4</td>
<td>8</td>
</tr>
<tr>
<td>4-12:16</td>
<td>38</td>
<td>23-21:17</td>
<td>7</td>
</tr>
<tr>
<td>5- 8: 6</td>
<td>28</td>
<td>24-12:12</td>
<td>8</td>
</tr>
<tr>
<td>5- 9: 6</td>
<td>6</td>
<td>Other grades</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>309</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grand Total</td>
<td>54,230</td>
</tr>
</tbody>
</table>

I. Raw Materials Chiefly Valuable for Nitrogen

Sulphate of ammonia and ammonia solutions may be the cheapest sources of nitrogen for commercial mixed fertilizers, but very little sulphate of ammonia and no ammonia in solution are sold in Connecticut for use as such. Eighty-six per cent (12,528 tons) of the primarily nitrogenous fertilizers purchased for fertilizer use in Connecticut during the 1952 season were vegetable meals, all or substantially all of which were used as tobacco fertilizers.
Analyses of the 58 official samples of nitrogenous fertilizers are given in Table 1. All except six of these (one sample of nitrate of ammonia, three of cottonseed meal and one each of horn and hoof meal and "A-N-L", a nitrate of ammonia-limestone mixture) substantially met their guaranties.

II. Raw Materials Chiefly Valuable for Phosphoric Acid

Analyses of 11 official samples of 20 per cent superphosphate and one sample of the 18 per cent grade are given in Table 2; the 18 per cent and two of the 20 per cent superphosphates were below guaranty. Of three samples of precipitated bone and five of phosphate rock, all except one phosphate rock sample met their guaranties.

III. Raw Materials Chiefly Valuable for Potash

Eleven official samples of muriate of potash, one of sulphate of potash, two of sulphate of potash-magnesia and four of cottonhull ashes were analyzed. All samples except one of muriate of potash met their guaranties.

Analyses are given in Table 3.

IV. Raw Materials Supplying Nitrogen and Phosphoric Acid

This group comprises chiefly dry ground fish and bone meal. Guaranties of "available" phosphoric acid are not required on such products, and most of them bear guaranties of total nitrogen and total phosphoric acid only. All of the five official samples of dry ground fish exceeded their guaranties; of the 18 official samples of bone meal, three were deficient in nitrogen and two others were deficient in phosphoric acid. Of two samples of "Milorganite", a treated sewage sludge, one was deficient in nitrogen.

Analyses are given in Table 4.

V. Mixed Fertilizers

Commercial Mixtures

Analyses of 199 official samples of mixed fertilizers are given in Table 5. Results are summarized as follows:

<table>
<thead>
<tr>
<th>Total number of samples</th>
<th>199</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samples deficient in:</td>
<td></td>
</tr>
<tr>
<td>one item</td>
<td>56</td>
</tr>
<tr>
<td>two items</td>
<td>5</td>
</tr>
<tr>
<td>three items</td>
<td>2</td>
</tr>
<tr>
<td>Percentage of samples meeting guaranties</td>
<td>79</td>
</tr>
<tr>
<td>Total guaranties made</td>
<td>579</td>
</tr>
</tbody>
</table>

Guaranties not met:

<table>
<thead>
<tr>
<th>Guaranties not met:</th>
<th>Percentage met</th>
</tr>
</thead>
<tbody>
<tr>
<td>nitrogen</td>
<td>43</td>
</tr>
<tr>
<td>phosphoric acid</td>
<td>11</td>
</tr>
<tr>
<td>potash</td>
<td>15</td>
</tr>
<tr>
<td>Percentage met</td>
<td>88</td>
</tr>
</tbody>
</table>

1 One hundred and seventy-two samples with three guaranties and 27 samples with two guaranties (guaranties for minor elements not included).
Analyses of the 58 official samples of nitrogenous fertilizers are given in Table 1. All except six of these (one sample of nitrate of ammonia, three of cottonseed meal and one each of horn and hoof meal and "A-N-L", a nitrate of ammonia-limestone mixture) substantially met their guaranties.

II. Raw Materials Chiefly Valuable for Phosphoric Acid
Analyses of 11 official samples of 20 per cent superphosphate and one sample of the 18 per cent grade are given in Table 2; the 18 per cent and two of the 20 per cent superphosphates were below guaranty. Of three samples of precipitated bone and five of phosphate rock, all except one phosphate rock sample met their guaranties.

III. Raw Materials Chiefly Valuable for Potash
Eleven official samples of muriate of potash, one of sulphate of potash, two of sulphate of potash-magnesia and four of cottonhull ashes were analyzed. All samples except one of muriate of potash met their guaranties.

Analyses are given in Table 3.

IV. Raw Materials Supplying Nitrogen and Phosphoric Acid
This group comprises chiefly dry ground fish and bone meal. Guaranties of “available” phosphoric acid are not required on such products, and most of them bear guaranties of total nitrogen and total phosphoric acid only. All of the five official samples of dry ground fish exceeded their guaranties; of the 18 official samples of bone meal, three were deficient in nitrogen and two others were deficient in phosphoric acid. Of two samples of “Milorganite”, a treated sewage sludge, one was deficient in nitrogen.

Analyses are given in Table 4.

V. Mixed Fertilizers
Commercial Mixtures
Analyses of 199 official samples of mixed fertilizers are given in Table 5. Results are summarized as follows:

<table>
<thead>
<tr>
<th>Total number of samples</th>
<th>199</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samples deficient in:</td>
<td></td>
</tr>
<tr>
<td>one item</td>
<td>58</td>
</tr>
<tr>
<td>two items</td>
<td>5</td>
</tr>
<tr>
<td>three items</td>
<td>2</td>
</tr>
<tr>
<td>Percentage of samples meeting guaranties</td>
<td>70</td>
</tr>
<tr>
<td>Total guaranties made</td>
<td>570</td>
</tr>
<tr>
<td>Guaranties not met:</td>
<td></td>
</tr>
<tr>
<td>nitrogen</td>
<td>43</td>
</tr>
<tr>
<td>phosphoric acid</td>
<td>11</td>
</tr>
<tr>
<td>potash</td>
<td>15</td>
</tr>
<tr>
<td>Percentage met</td>
<td>88</td>
</tr>
</tbody>
</table>

1 One hundred and seventy-two samples with three guaranties and 27 samples with two guaranties (guaranties for minor elements not included).
Eighty-eight per cent of all guaranties were substantially met or exceeded—exactly the same percentage as was found for the 1951 season.

Twenty-two official samples guaranteed magnesium (usually 1.2 per cent) as well as the major fertilizer components; guaranties were met in all cases. One sample guaranteed 0.55 per cent of boron; one guaranteed 0.13 per cent of copper; two guaranteed both boron and copper; and one guaranteed five minor elements (boron, copper, iron, manganese and zinc). No serious deficiencies were found except in the two samples of “Davco Granulated Fertilizer 6-8-8 with 0.25% Boron and 0.17% Manganese”, whose average boron contents were only 0.093 per cent.

Special and Home Mixtures

One hundred and sixteen samples of special and home mixtures were analyzed during the year, the great majority for tobacco growers. Because the composition of these samples is not a matter of public interest, their analyses are not tabulated in this bulletin.

State Purchases of Fertilizer

Raw materials and mixed goods supplied to State institutions on State purchase orders are regularly included in our annual inspection. Fertilizers so supplied are subject to registration and tonnage tax (unless supplied to The Connecticut Agricultural Experiment Station for experimental purposes).

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

<table>
<thead>
<tr>
<th>Materials</th>
<th>No. of Samples</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplying nitrogen</td>
<td>6</td>
<td>Table 1</td>
</tr>
<tr>
<td>Supplying phosphoric acid</td>
<td>2</td>
<td>Table 2</td>
</tr>
<tr>
<td>Supplying potash</td>
<td>4</td>
<td>Table 3</td>
</tr>
<tr>
<td>Supplying nitrogen and phosphoric acid</td>
<td>3</td>
<td>Table 4</td>
</tr>
<tr>
<td>Mixed fertilizers</td>
<td>27</td>
<td>Table 5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42</strong></td>
<td></td>
</tr>
</tbody>
</table>

VI. Miscellaneous

Sheep and cattle manures. Sixteen official samples of dried sheep and cow manures were analyzed; all met their guaranties except for one dried cow manure (“Driconure”) that was deficient in nitrogen. Analyses are given in Table 6.

Limestone and similar materials. The legal definition of “commercial fertilizers” specifically excludes “marl and lime”, and therefore no regular inspection of liming materials is made. (The exclusion of “marl” also places out of control of the fertilizer law the greensands that have recently been sold to some extent as sources of water-insoluble potash.)
Occasional samples are analyzed for farmers or state or federal agencies, and analyses of nine such samples are given in Table 7 (one additional sample of hydrated lime that was not analyzed quantitatively has been omitted from the table).

_Fertilizers sold in small packages._ Fertilizers sold only in packages of 10 pounds or less are not required to be registered. No attempt, therefore, is made to sample all brands of such fertilizers on the market, but those that come to the attention of our agent are picked up and analyzed as a matter of interest. During the 1951-1952 season 67 samples were analyzed, of which 52, or 78 per cent, met their guaranties; this is higher than the 70 per cent found for mixed fertilizers sold in 100 lb. bags. Analyses are given in Table 8.

This table includes an analysis of “Gro-Fast Aluminum Sulphate”, which was registered with a guaranty of 9 per cent of aluminum but was sampled only in a small package; analysis showed 9.54 per cent of aluminum.

_Polyelectrolyte soil amendments._ During the past year there has been an enormous amount of public interest in a new type of product designed to modify the structure of the soil. The first of these preparations to attract attention was manufactured by the Monsanto Chemical Co. under the name of “Krilium”. In the original publicity “Krilium” was spoken of as a “sodium salt of hydrolyzed polyacrylonitrile”, but the manufacturer later stated that “Krilium” as it reached the market was a “modified vinyl acetate-maleic acid compound”.

The public interest in these products led a number of manufacturers to rush onto the market with proprietary preparations, some of which were advertised in newspapers and elsewhere with extravagant claims. To quote from Dr. Swanson of our Soils Department: “Some have said that the chemical takes the place of organic matter entirely, making topsoil of clay or sand. No working of the soil was required—all that needed to be done was to sprinkle the chemical solution onto the soil surface and in a few hours one would have a loose, mellow soil ideal for plant growth. Gone would be the back-breaking job of hoeing and cultivating.”

The label statements of most of these preparations have been rather vague as to the chemical composition of their ingredients, and few quantitative claims have been made. Such terms as “hydrolyzed polymer of acrylonitrile”, “hydrolyzed polyacrylonitrile”, “sodium polyacrylate” and “polyacrylonitrile” have been used. We believed it would be of interest to run comparative chemical analyses on as many of these products as possible, and therefore eleven different brands were procured through the courtesy of the Soils Department and analyzed with results as shown in Table 9. (Similar analyses have recently been reported by Lemmon in “Agricultural Chemicals”,

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1Frontiers of Plant Science, 5, 4 (1952).
In commenting on this table it should be pointed out that, since acrylonitrile contains 26.40 per cent of nitrogen, if any one of these preparations contained any substantial proportion of acrylonitrile, its organic nitrogen content would be high. Actually the highest percentage of nitrogen found was only 3.98; this was in “Nott’s Soilife”, which was labelled as containing 87 per cent of polyacrylonitrile but could not in fact have contained more than 15 per cent of this compound. Several of the products contained little or no nitrogen and consequently no or only very little polyacrylonitrile. However, it should be pointed out that hydrolysis of acrylonitrile or its polymer would lead to formation of acrylic acid or its polymer, which contain no nitrogen; it appears probable that the active ingredient in most of the preparations is sodium polyacrylate or a similar compound. That the concentration of active ingredient varies widely between different brands is obvious from the “organic matter” column in the table; some are aqueous solutions containing as much as 87 per cent of water and less than 9 per cent of total organic matter, while one (“Pluronic F68”) is almost 100 per cent organic. The preparations also differ in that some are quite alkaline and others are acid in reaction (“Acrotile Soil Conditioner” has a pH of 9.70 and the pH of “Krillium Soil Conditioner Formula 6” is only 4.90).

Only one product, “Loamium”, bore definite fertilizer guaranties; this was labelled as being of 15-15-15 grade, but since the actual grade found on analysis was only 0.8-2.1 it was far below guaranty for all three ingredients.

The Connecticut fertilizer law defines “commercial fertilizers” to include “any and every substance imported, manufactured, prepared or sold for... soil amendment purposes”, so these polyelectrolyte soil amendments clearly come under our fertilizer law. However, due to the fact that up to the present they have all been sold only in small packages (many of them by mail from outside the State) they have not been subject to registration.

Other miscellaneous materials. Thirty-one other miscellaneous products were examined; analyses are given in Table 10. Included are ten samples of crushed granite, which is being used to some extent as a tobacco fertilizer. Granite contains very little water-soluble potash but may contain as much as 5 per cent of insoluble potash; this potash is not usually considered to be available, but recent experiments have indicated that it may gradually be taken up by the tobacco plant. Granite meal may not be legally registered and sold as a fertilizer because guaranties of water-soluble potash only are permitted and most lots of granite contain less than the legal minimum of 1 per cent of soluble potash; all granite meal now on the market is being sold without specific claims for its potash content.

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, and ten samples were analyzed in connection with collaborative studies of methods for the determination of nitrogen and boron conducted by the Association of Official Agricultural Chemists. Thirty-seven samples in all were analyzed under these various programs.

**MAINTENANCE OF GUARANTIES**

The maintenance of guaranties as compiled from analyses of ingredient materials and mixed goods (Tables 1-6) is shown in the following tabulation. Deficiencies of 0.1 per cent or less in nitrogen or 0.2 per cent or less in phosphoric acid and potash are not counted. The proportion of guaranties substantially met was 88 per cent.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>No. of samples</th>
<th>No. of guaranties</th>
<th>Deficiencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrate of ammonia</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Nitrate of soda</td>
<td>6</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Sulphate of ammonia</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Cyanamid</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Urea</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Castor pomace</td>
<td>7</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Cottonseed meal</td>
<td>25</td>
<td>25</td>
<td>3</td>
</tr>
<tr>
<td>Horn and hoof meal</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Linseed oil meal</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Soybean oil meal</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Tankage</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous organic materials</td>
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<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Superphosphate</td>
<td>12</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Precipitated bone</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Phosphate rock</td>
<td>5</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Murate of potash</td>
<td>11</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Sulphate of potash</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Sulphate of potash-magnesia</td>
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<td>2</td>
<td>0</td>
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<tr>
<td>Cottonhull ashes</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Dry ground fish</td>
<td>5</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Bone meal</td>
<td>18</td>
<td>36</td>
<td>5</td>
</tr>
<tr>
<td>&quot;Milorganite&quot;</td>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Mixed fertilizer</td>
<td>199</td>
<td>570</td>
<td>69</td>
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</tbody>
</table>

<p>| Totals                              | 320            | 716               | 86           |
| Per cent guaranties met             |                |                   | 88           |</p>
<table>
<thead>
<tr>
<th>Station No.</th>
<th>Manufacturer or jobber</th>
<th>Sampled from stock of</th>
<th>Per cent nitrogen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Found</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Nitrate of Ammonia</strong></td>
<td></td>
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<tr>
<td>1029</td>
<td>AEROPRILLS, American Cyanamid Co., New York, N.Y.</td>
<td>Willimantic: Eastern States Farmers' Exchange, Inc.</td>
<td>33.10</td>
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<tr>
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<td><strong>Nitrate of Soda</strong></td>
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<td>973</td>
<td>Arcadian, The American, Allied Chemical &amp; Dye Corp., New York, N.Y.</td>
<td>New Milford: Check-R-Board Feed Store</td>
<td>16.00</td>
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<td>9847(^a)</td>
<td>Chilean, Champion Brand, Chilean Nitrate Sales Corp., New York, N.Y.</td>
<td>East Windsor Hill: General Cigar Co., Inc.</td>
<td>15.96</td>
</tr>
<tr>
<td>431(^a),(^4)</td>
<td>Chilean, Champion Brand, Chilean Nitrate Sales Corp., New York, N.Y.</td>
<td>Cheshire: Conn. Reformatory</td>
<td>16.00</td>
</tr>
<tr>
<td>643(^a),(^5)</td>
<td>Chilean, Champion Brand, Chilean Nitrate Sales Corp., New York, N.Y.</td>
<td>Norwich: Norwich State Hospital</td>
<td>16.00</td>
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<tr>
<td></td>
<td><strong>Sulphate of Ammonia</strong></td>
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<tr>
<td>849</td>
<td>Apothecaries Hall Co., Waterbury, Conn.</td>
<td>Greenwich: McArdle's Seed Store</td>
<td>21.00</td>
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<tr>
<td></td>
<td><strong>Cyanamid</strong></td>
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<tr>
<td>1078</td>
<td>AERO, American Cyanamid Co., New York, N.Y.</td>
<td>Portland: The Rogers &amp; Hubbard Co.</td>
<td>20.20</td>
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<tr>
<td>634(^a)</td>
<td>AERO, Special Grade, American Cyanamid Co., New York, N.Y.</td>
<td>Middletown: Long Lane School</td>
<td>21.96</td>
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<tr>
<td>642(^a)</td>
<td>AERO, Special Grade, American Cyanamid Co., New York, N.Y.</td>
<td>Norwich: Norwich State Hospital</td>
<td>22.42</td>
</tr>
</tbody>
</table>

\(^1\)Deficiencies are in bold face type.
\(^2\)Sodium guaranteed, 26.0%; found, 26.77%.
\(^3\)State purchases.
\(^4\)Sodium guaranteed, 26.0%; found, 26.28%.
\(^5\)Sodium guaranteed, 26.0%; found, 26.53%.
<table>
<thead>
<tr>
<th>Station No.</th>
<th>Manufacturer or Jobber</th>
<th>Sampled from stock of</th>
<th>Per cent nitrogen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td>Found</td>
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<tr>
<td>Urea</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>819</td>
<td>DU PONT NU GREEN Fertilizer Compound 44%, E.I. du Pont de Nemours &amp; Co., Inc., Wilmington, Del.</td>
<td>Glastonbury: E. J. Bantle</td>
<td>44.15</td>
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<td>1074</td>
<td>DU PONT NU GREEN Fertilizer Compound 45%, E.I. du Pont de Nemours &amp; Co., Inc., Wilmington, Del.</td>
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<td>45.15</td>
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<td>Castor Pomace</td>
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<td>Apothecaries Hall Co., Waterbury, Conn.</td>
<td>East Windsor Hill: General Cigar Co., Inc.</td>
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<td>639</td>
<td>Apothecaries Hall Co., Waterbury, Conn.</td>
<td>Middletown: Long Lane School</td>
<td>5.48</td>
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<tr>
<td>751</td>
<td>Spencer Kellogg &amp; Sons, Inc., Buffalo, N.Y.</td>
<td>Wilson: Anders Christensen</td>
<td>5.59</td>
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<td>1083</td>
<td>Spencer Kellogg &amp; Sons, Inc., Buffalo, N.Y.</td>
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<td>1203</td>
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<td>South Deerfield, Mass: Old Deerfield Fertilizer Co., Inc.</td>
<td>6.14</td>
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<td>689</td>
<td>The Rogers &amp; Hubbard Co., Portland, Conn.</td>
<td>Norwich: Norwich Grain Co.</td>
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<td>Cottonseed Meal</td>
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<tr>
<td>1196</td>
<td>Cow-Eta Brand 36%, Ashcraft-Wilkinson Co., Atlanta, Ga.</td>
<td>North Haven: Woodruff Fertilizer Works, Inc.</td>
<td>5.62</td>
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<tr>
<td>9825</td>
<td>Pure Gold 41%, The Boscwell Co., Atlanta, Ga.</td>
<td>Scitico: Consolidated Cigar Co., Inc.</td>
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<td>9827</td>
<td>Pure Gold 41%, The Boscwell Co., Atlanta, Ga.</td>
<td>Scitico: Consolidated Cigar Co., Inc.</td>
<td>6.74</td>
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<tr>
<td>421</td>
<td>Pure Gold 41%, The Boscwell Co., Atlanta, Ga.</td>
<td>Portland: Consolidated Cigar Co., Inc.</td>
<td>6.86</td>
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<tr>
<td>1048</td>
<td>Buckeye 41%. The Buckeye Cotton Oil Co., Cincinnati, Ohio</td>
<td>Norwalk: Libner Grain Co.</td>
<td>6.38</td>
</tr>
</tbody>
</table>

1Deficiencies are in bold face type.

2State purchases.
<table>
<thead>
<tr>
<th>Station No.</th>
<th>Manufacturer or jobber</th>
<th>Sampled from stock of</th>
<th>Per cent nitrogen</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td>Found</td>
</tr>
<tr>
<td>1102</td>
<td>Dixie Brand 41%</td>
<td>Windsorville: Apothecaries</td>
<td>6.64</td>
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<tr>
<td></td>
<td>Humphreys-Godwin Co.,</td>
<td>Hall Co.</td>
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<tr>
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</tr>
<tr>
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<td></td>
<td>L. B. Lovitt &amp; Co.,</td>
<td>Steane Corp.</td>
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<td>West Suffield: Hatheway-</td>
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<tr>
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<td>Steane Corp.</td>
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<tr>
<td>9806</td>
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<tr>
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<tr>
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<tr>
<td>1101</td>
<td>Goldenrod Brand 41%</td>
<td>Southbury: Southbury Training School</td>
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<td>Perkins Oil Co.,</td>
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<td>St. Johnsbury, Vt.</td>
<td>Hall Co.</td>
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<tr>
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<td>Swift's 41%</td>
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<tr>
<td>9826</td>
<td>Swift's 41%</td>
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<td>Swift's 41%</td>
<td>East Windsor Hill: General Cigar Co., Inc.</td>
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<tr>
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<td></td>
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1 Deficiencies are in bold face type.
2 State purchases.
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<tr>
<th>Station No.</th>
<th>Manufacturer or jobber</th>
<th>Sampled from stock of</th>
<th>Per cent nitrogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>9844</td>
<td>Horn and Hoof Meal</td>
<td>Hazardville: L. B. Haas &amp; Co.</td>
<td>12.48 14.00</td>
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<td>420</td>
<td>Olds &amp; Whipple, Inc., Hartford, Conn.</td>
<td>South Windsor: South Windsor Tobacco Farms</td>
<td>14.54 14.00</td>
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<td>9799</td>
<td>Linseed Oil Meal</td>
<td>West Suffield: Hatheway-Steane Corp.</td>
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<td>9820</td>
<td>Archer Quality 36%, Archer-Daniels-Midland Co., Minneapolis, Minn.</td>
<td>West Suffield: A. N. Shepard &amp; Son</td>
<td>5.78 5.12</td>
</tr>
<tr>
<td>1216</td>
<td>Spencer Kellogg's 32%, Spencer Kellogg &amp; Sons, Inc., Buffalo, N.Y.</td>
<td>East Hartford: Olds &amp; Whipple, Inc.</td>
<td>5.45 5.12</td>
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<td>Darien: Brookside Nurseries</td>
<td>5.43 5.44</td>
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<tr>
<td>817</td>
<td>Soybean Oil Meal</td>
<td>Glastonbury: E. J. Bantle</td>
<td>7.80 7.04</td>
</tr>
<tr>
<td>9829</td>
<td>Old Deerfield Fertilizer Co., Inc., South Deerfield, Mass.</td>
<td>Scitico: Consolidated Cigar Co., Inc.</td>
<td>7.30 7.12</td>
</tr>
<tr>
<td>9839</td>
<td>Oswego Soy Products Corp., Oswego, N.Y.</td>
<td>Scitico: Consolidated Cigar Co., Inc.</td>
<td>7.29 7.14</td>
</tr>
<tr>
<td>422</td>
<td>Oswego Soy Products Corp., Oswego, N.Y.</td>
<td>Portland: Consolidated Cigar Co., Inc.</td>
<td>7.36 7.14</td>
</tr>
<tr>
<td>988</td>
<td>Miscellaneous</td>
<td>Bethel: Eastern States Farmers' Exchange, Inc.</td>
<td>20.20 20.50</td>
</tr>
</tbody>
</table>

1 Deficiencies are in bold face type.
2 Found: nitrogen in nitrates, 10.08%; nitrogen in ammonia, 10.12%; magnesium guaranteed, 4.22%; found, 4.30%.
### TABLE 2. ANALYSES OF SUPERPHOSPHATE, ETC.¹

<table>
<thead>
<tr>
<th>Station No.</th>
<th>Manufacturer or jobber</th>
<th>Sampled from stock of</th>
<th>Per cent phosphoric acid</th>
<th>&quot;Available&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Citrate-insoluble</td>
<td>Total</td>
</tr>
<tr>
<td>9804</td>
<td>Apothecaries Hall Co., Waterbury, Conn.</td>
<td>West Suffield: Hatheway-Steane Corp.</td>
<td>2.18</td>
<td>22.55</td>
</tr>
<tr>
<td>1119</td>
<td>Armour's Big Crop 20%, Armour Fertilizer Works, Carteret, N. J.</td>
<td>East Windsor Hill: Farmers' Hardware Co.</td>
<td>0.80</td>
<td>21.80</td>
</tr>
<tr>
<td>1034</td>
<td>Corenco 20%, Consolidated Rendering Co., Boston, Mass.</td>
<td>Waterbury: H.S. Coe &amp; Co.</td>
<td>0.10</td>
<td>19.75</td>
</tr>
<tr>
<td>650</td>
<td>Davco Granulated 20%, The Davison Chemical Corp., Baltimore, Md.</td>
<td>Norwich: Checkerboard Feed Store</td>
<td>0.38</td>
<td>22.00</td>
</tr>
<tr>
<td>925</td>
<td>Old Fox Brand. Fox Point Chemical Co., East Providence, R.I.</td>
<td>Pawcatuck: The C.W. Campbell Co.</td>
<td>0.23</td>
<td>20.90</td>
</tr>
<tr>
<td>1208</td>
<td>Old Deerfield 20%. Old Deerfield Fertilizer Co., Inc., South Deerfield, Mass.</td>
<td>South Deerfield: Old Deerfield Fertilizer Co., Inc.</td>
<td>0.75</td>
<td>20.80</td>
</tr>
<tr>
<td>818</td>
<td>O &amp; W. Olds &amp; Whipple, Inc., Hartford, Conn.</td>
<td>Glastonbury: E. J. Bantle</td>
<td>1.90</td>
<td>22.85</td>
</tr>
<tr>
<td>633¹</td>
<td>The Rogers &amp; Hubbard Co., Portland, Conn.</td>
<td>Middletown: Long Lane School</td>
<td>0.05</td>
<td>20.80</td>
</tr>
<tr>
<td>708¹</td>
<td>The Rogers &amp; Hubbard Co., Portland, Conn.</td>
<td>Newtown: Fairfield State Hospital</td>
<td>0.23</td>
<td>20.45</td>
</tr>
<tr>
<td>1194</td>
<td>Woodruff Fertilizer Works, Inc., North Haven, Conn.</td>
<td>North Haven: Woodruff Fertilizer Works, Inc.</td>
<td>1.35</td>
<td>18.45</td>
</tr>
</tbody>
</table>

¹Deviations are in bold face type.
²State purchases,
<table>
<thead>
<tr>
<th>Station No.</th>
<th>Manufacturer or Jobber</th>
<th>Sampled from stock of</th>
<th>Citrate-insoluble</th>
<th>Total</th>
<th>Found</th>
<th>Guaranteed</th>
</tr>
</thead>
<tbody>
<tr>
<td>9798</td>
<td>Apothecaries Hall Co., Waterbury, Conn.</td>
<td>Granby: Cullman Bros., Inc.</td>
<td>0.15</td>
<td>44.20</td>
<td>44.05</td>
<td>38.00</td>
</tr>
<tr>
<td>9801</td>
<td>Apothecaries Hall Co., Waterbury, Conn.</td>
<td>West Suffield: Hatheway-Steane Corp.</td>
<td>0.53</td>
<td>43.70</td>
<td>43.17</td>
<td>38.00</td>
</tr>
<tr>
<td>1218</td>
<td>Olds &amp; Whipple, Inc., Hartford, Conn.</td>
<td>East Hartford: Olds &amp; Whipple, Inc.</td>
<td>1.20</td>
<td>41.15</td>
<td>39.95</td>
<td>38.00</td>
</tr>
<tr>
<td>1058⁴</td>
<td>AERO-PHOS Florida Natural. American Cyanamid Co., New York, N.Y.</td>
<td>Portland: The Rogers &amp; Hubbard Co.</td>
<td>29.25</td>
<td>33.00</td>
<td>3.75</td>
<td>5.00</td>
</tr>
<tr>
<td>927³</td>
<td>Red Seal Brand Ruhm’s Ruhm Phosphate &amp; Chemical Co., Evanston, Ill.</td>
<td>Pawcatuck: The C.W. Campbell Co.</td>
<td>...</td>
<td>29.65</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹Deficiencies are in bold face type.
²State purchases.
³Total phosphoric acid guaranteed, 30.0%.
⁴Total phosphoric acid guaranteed, 33.0%.
### TABLE 3. ANALYSES OF POTASH SALTS, ETC.\(^1\)

<table>
<thead>
<tr>
<th>Station No.</th>
<th>Manufacturer or jobber</th>
<th>Sampled from stock of</th>
<th>Per cent potash</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Found</td>
</tr>
<tr>
<td>1054</td>
<td>The American Agricultural Chemical Co., North Weymouth, Mass.</td>
<td>West Haven: The American Agricultural Chemical Co.</td>
<td>58.60</td>
</tr>
<tr>
<td>453(^2)</td>
<td>Apothecaries Hall Co., Waterbury, Conn.</td>
<td>Cheshire: Conn. Reformatory School</td>
<td>60.96</td>
</tr>
<tr>
<td>635(^2)</td>
<td>Apothecaries Hall Co., Waterbury, Conn.</td>
<td>Middletown: Long Lane School</td>
<td>62.48</td>
</tr>
<tr>
<td>710(^4)</td>
<td>Apothecaries Hall Co., Waterbury, Conn.</td>
<td>Newtown: Fairfield State Hospital</td>
<td>62.88</td>
</tr>
<tr>
<td>714(^4)</td>
<td>Apothecaries Hall Co., Waterbury, Conn.</td>
<td>Southbury: Southbury Training School</td>
<td>62.96</td>
</tr>
<tr>
<td>1095</td>
<td>Consolidated Rendering Co., Boston, Mass.</td>
<td>West Haven: New Haven Rendering Co.</td>
<td>63.16</td>
</tr>
<tr>
<td>1204</td>
<td>Old Deerfield. Old Deerfield Fertilizer Co., Inc., South Deerfield, Mass.</td>
<td>South Deerfield, Mass: Old Deerfield Fertilizer Co., Inc.</td>
<td>61.44</td>
</tr>
<tr>
<td>1068</td>
<td>The Rogers &amp; Hubbard Co., Portland, Conn.</td>
<td>Portland: The Rogers &amp; Hubbard Co.</td>
<td>61.04</td>
</tr>
<tr>
<td>1155(^5)</td>
<td>60% Woodruff Fertilizer Works, Inc., North Haven, Conn.</td>
<td>North Haven: Woodruff Fertilizer Works, Inc.</td>
<td>48.84</td>
</tr>
<tr>
<td>816</td>
<td>O &amp; W. Olds &amp; Whipple, Inc., Hartford, Conn.</td>
<td>Glastonbury: E. J. Bantle</td>
<td>48.15</td>
</tr>
<tr>
<td></td>
<td><strong>Sulphate of Potash</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Sulphate of Potash and Magnesia</strong></td>
<td></td>
</tr>
<tr>
<td>9841(^4)</td>
<td>Sul-Po-Mag. Apothecaries Hall Co., Waterbury, Conn.</td>
<td>Hazardville: L. B. Haas &amp; Co.</td>
<td>22.78</td>
</tr>
<tr>
<td>1219</td>
<td>Olds &amp; Whipple, Inc., Hartford, Conn.</td>
<td>East Hartford: Olds &amp; Whipple, Inc.</td>
<td>22.38</td>
</tr>
<tr>
<td></td>
<td><strong>Cottonhull Ashes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9800</td>
<td>Apothecaries Hall Co., Waterbury, Conn.</td>
<td>West Suffield: Hatheway-Steane Corp.</td>
<td>41.04</td>
</tr>
<tr>
<td>9819</td>
<td>Apothecaries Hall Co., Waterbury, Conn.</td>
<td>West Suffield: A. N. Shepard &amp; Son</td>
<td>38.86</td>
</tr>
<tr>
<td>9822</td>
<td>Old Deerfield 40%, Old Deerfield Fertilizer Co., Inc., South Deerfield, Mass.</td>
<td>Scitico: Consolidated Cigar Co., Inc.</td>
<td>41.64</td>
</tr>
<tr>
<td>9845</td>
<td>O &amp; W. Olds &amp; Whipple, Inc., Hartford, Conn.</td>
<td>East Windsor Hill: General Cigar Co., Inc.</td>
<td>36.70</td>
</tr>
</tbody>
</table>

\(^1\) Deficiencies are in bold face type.  
\(^2\) State purchases.  
\(^3\) Nitrogen in ammonium, 0.88%.  
\(^4\) Magnesium guaranteed, 10.0%: found, 4.74%.
<table>
<thead>
<tr>
<th>Manufacturer or jobber</th>
<th>Samples from stock of</th>
<th>Per cent nitrogen</th>
<th>Per cent phosphoric acid</th>
<th>Mechanical analysis (in percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total found</td>
<td>Total guaranteed</td>
<td>Total found</td>
<td>Finer than 1/20 inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Coarse than 1/20 inch</td>
</tr>
<tr>
<td><strong>Dry Ground Fish</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9803 Apothecaries Hall Co., Waterbury, Conn.</td>
<td>West Suffield: Hatheway-Steane Corp.</td>
<td>9.35</td>
<td>9.00</td>
<td>6.95</td>
</tr>
<tr>
<td></td>
<td>West Suffield: A. N. Shepard &amp; Son</td>
<td>9.31</td>
<td>9.00</td>
<td>7.70</td>
</tr>
<tr>
<td>425 Apothecaries Hall Co., Waterbury, Conn.</td>
<td>Portland: Consolidated Cigar Co., Inc.</td>
<td>9.82</td>
<td>9.00</td>
<td>7.40</td>
</tr>
<tr>
<td>9824 Old Deerfield, Old Deerfield Fertilizer Co., South</td>
<td>Scitico: Consolidated Cigar Co., Inc.</td>
<td>9.36</td>
<td>9.00</td>
<td>7.03</td>
</tr>
<tr>
<td>Deerfield, Mass.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9840 O &amp; W Menhaden. Olds &amp; Whipple, Inc., Hartford, Conn.</td>
<td>Hazardville: L. B. Haas &amp; Co.</td>
<td>9.94</td>
<td>9.00</td>
<td>6.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bone Meal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2751 The American Agricultural Chemical Co., North</td>
<td>Woodbridge: Allen Patterson</td>
<td>4.43</td>
<td>2.50</td>
<td>17.05</td>
</tr>
<tr>
<td>Weymouth, Mass.</td>
<td>Greenwich: McArdle's Seed Store</td>
<td>5.37</td>
<td>4.00</td>
<td>21.25</td>
</tr>
<tr>
<td></td>
<td>East Windsor Hill: Farmers Hardware Co.</td>
<td>2.62</td>
<td>2.30</td>
<td>25.55</td>
</tr>
<tr>
<td>843 Apothecaries Hall Co., Waterbury, Conn.</td>
<td>New Haven: The Frank S. Platt Co.</td>
<td>3.94</td>
<td>3.20</td>
<td>24.80</td>
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<tr>
<td>908 Armour's Armour Fertilizer Works, Carteret, N. J.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>460 Coreno Consolidated Rendering Co., Boston, Mass.</td>
<td>Meriden: Undercliff Sanatorium</td>
<td>1.64</td>
<td>1.50</td>
<td>28.55</td>
</tr>
<tr>
<td>584 Coreno Ground Consolidated Rendering Co., Boston,</td>
<td>Middletown: Long Lane School</td>
<td>1.60</td>
<td>1.50</td>
<td>27.00</td>
</tr>
<tr>
<td>Mass.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>640 Coreno Ground Consolidated Rendering Co., Boston,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Millorganite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>645</td>
<td>Coreno Ground, Consolidated Rendering Co., Boston, Mass.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>942</td>
<td>Coreno Special, Consolidated Rendering Co., Boston, Mass.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>844</td>
<td>Pure Fens, Besthoff, Inc., New York, N.Y.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1050</td>
<td>G &amp; O Ground, Goulard &amp; Olena, Inc., Skillman, N.J.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1124</td>
<td>Red Barn, Peter Henderson Stumpf &amp; Walter Co., Jersey City, N.J.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>820</td>
<td>O &amp; W. Olds &amp; Whipple, Inc., Hartford, Conn.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>871</td>
<td>O &amp; W. Olds &amp; Whipple, Inc., Hartford, Conn.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>575</td>
<td>Gro-Fast, The Rogers &amp; Hubbard Co., Portland, Conn.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1081</td>
<td>Cross Country, Sears, Roebuck &amp; Co., Chicago, Ill.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1063</td>
<td>Vico Steamed, The Van Iderstowne Co., Long Island City, N.Y.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>456</td>
<td>Sewerage Commission of the City of Milwaukee, Milwaukee, Wis.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>963</td>
<td>Sewerage Commission of the City of Milwaukee, Milwaukee, Wis.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

|    | Norwich: Uncas on Thames Sanatorium & Seed Co.                               |
|    | Thompsonville: Brainard Nursery & Seed Co.                                   |
|    | Greenwich: McFarle's Seed Store & Bridgeport: City of Bridgeport, Beardsley Park |
|    | Stamford: Peter Henderson Stumpf & Walter Co.                                 |
|    | Scitico: Consolidated Cigar Co., Inc.                                         |
|    | Portland: Consolidated Cigar Co., Inc.                                        |
|    | Glastonbury: E. J. Bantle                                                     |
|    | Manchester: Bliss Hardware Co.                                                |
|    | New Haven: R.G. Davis & Sons, Inc.                                            |
|    | Middletown: Sears, Roebuck & Co.                                              |
|    | Portland: The Rogers & Hubbard Co.                                            |
|    | New Haven: The Jackson-Marvin Hardware Co., Inc.                              |
|    | Stamford: The F. A. Bartlett Tree Expert Co.                                  |

1. Deficiencies are in bold face type.  
2. Nitrogen in ammonia, 0.22%.  
4. Nitrogen in ammonia, 0.13%.  
5. Found: nitrogen in ammonia, 0.02%; nitrogen organic water-soluble, 0.43%; nitrogen organic insoluble, 5.48%.  
6. Guaranteed "available" phosphoric acid, 2.0%; found, 3.01%.  
7. Found: nitrogen organic water-soluble, 0.24%; nitrogen organic insoluble, 5.33%.  
8. Guaranteed "available" phosphoric acid, 2.0%; found, 2.95%.  
### TABLE 5. ANALYSES OF MIXED FERTILIZERS

<table>
<thead>
<tr>
<th>Station No.</th>
<th>Manufacturer and brand</th>
<th>Place of sampling</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>Yale Special Mixture 8-6-2</td>
<td>Fairfield</td>
</tr>
<tr>
<td>1094</td>
<td>Yale Special Mixture 8-6-2</td>
<td>West Haven</td>
</tr>
<tr>
<td></td>
<td><strong>Agricultural Supply Co.,</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>West Haven, Conn.</strong></td>
<td></td>
</tr>
<tr>
<td>695</td>
<td>AA Quality Fertilizer 5-8-7</td>
<td>Branford</td>
</tr>
<tr>
<td>1161</td>
<td>AA Quality Fertilizer 5-10-10</td>
<td>East Hartford</td>
</tr>
<tr>
<td>1031</td>
<td>Agrico Country Club Fertilizer 6-10-4</td>
<td>West Haven</td>
</tr>
<tr>
<td>1055</td>
<td>Agrico Country Club Fertilizer 8-6-2</td>
<td>West Haven</td>
</tr>
<tr>
<td>1053</td>
<td>Agrico Country Club Fertilizer 10-6-4</td>
<td>West Haven</td>
</tr>
<tr>
<td>1102</td>
<td>Agrico for Broadleaf Evergreens 6-10-4</td>
<td>East Hartford</td>
</tr>
<tr>
<td>965</td>
<td>Agrico for Gardens 5-10-5</td>
<td>Darien</td>
</tr>
<tr>
<td>1160</td>
<td>Agrico for Grain 3-12-6</td>
<td>East Hartford</td>
</tr>
<tr>
<td>694</td>
<td>Agrico for Lawns, Trees and Shrubs 6-10-4</td>
<td>Branford</td>
</tr>
<tr>
<td>749</td>
<td>Agrico for New England 5-8-7</td>
<td>Wilson</td>
</tr>
<tr>
<td>1056</td>
<td>Agrico for Potatoes 5-10-10-12</td>
<td>West Haven</td>
</tr>
<tr>
<td>1159</td>
<td>Agrico for Seeding Down 5-12-12</td>
<td>East Hartford</td>
</tr>
<tr>
<td>1158</td>
<td>Agrico for Tobacco 6-3-4</td>
<td>East Hartford</td>
</tr>
<tr>
<td>699</td>
<td>Agrico for Top Dressing 7-7-7</td>
<td>Clinton</td>
</tr>
<tr>
<td>1052</td>
<td>Agrico for Truck 5-10-5</td>
<td>West Haven</td>
</tr>
<tr>
<td>1137</td>
<td>Agrico for Turf 6-8-2</td>
<td>East Hartford</td>
</tr>
<tr>
<td>1139</td>
<td>Agrico Phosphate and Potash 6-10-20</td>
<td>East Hartford</td>
</tr>
<tr>
<td>1156</td>
<td>Agrico Phosphate and Potash 6-14-14</td>
<td>East Hartford</td>
</tr>
<tr>
<td>995</td>
<td>Agrico Rose Food 5-9-6</td>
<td>Bridgeport</td>
</tr>
<tr>
<td></td>
<td><strong>The American Agricultural Chemical Co.,</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>North Weymouth, Mass.</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Apothecaries Hall Co.,</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Waterbury, Conn.</strong></td>
<td></td>
</tr>
<tr>
<td>800</td>
<td>Liberty Fertilizer 0-10-20</td>
<td>Bloomfield</td>
</tr>
<tr>
<td>1260</td>
<td>Liberty Fertilizer 0-14-14</td>
<td>Windsorville</td>
</tr>
<tr>
<td>939</td>
<td>Liberty Fertilizer 4-12-4</td>
<td>Suffield</td>
</tr>
<tr>
<td>974</td>
<td>Liberty Fertilizer 5-8-10 with 1.2 Mg</td>
<td>New Milford</td>
</tr>
<tr>
<td>1100</td>
<td>Liberty Fertilizer 5-8-10 with 1.2 Mg</td>
<td>Windsorville</td>
</tr>
<tr>
<td>980</td>
<td>Liberty Fertilizer 5-10-5</td>
<td>Danbury</td>
</tr>
<tr>
<td>920</td>
<td>Liberty Fertilizer 5-10-10</td>
<td>New London</td>
</tr>
<tr>
<td>1116</td>
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*Deficiencies are in bold face type.*
### CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH

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<td>Liberty Tobacco Mixture with Cottonhull Ashes 6-3-6</td>
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**Armour Fertilizer Works, Carteret, N.J.**

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<td>Armour's Big Crop Fertilizer 5-8-7</td>
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<td>Bolton Notch</td>
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<td>837</td>
<td>Armour’s Vertagreen Plant Food 5-10-5</td>
<td>Bolton Notch</td>
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<td>Armour’s Vertagreen Plant Food for Commercial Crops 6-12-12</td>
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<td>Armour’s Vertagreen Plant Food for Professional Use 10-6-4</td>
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**Associated Seed Growers, Inc. Milford, Conn.**

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<td>991</td>
<td>Japedizer 8-6-4</td>
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**Joseph Breck & Sons Corp., Boston, Mass.**

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<td>868</td>
<td>Brexone Turf-Gro 8-6-2</td>
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**Campbell Fertilizer Co., Inc., Houston, Tex.**

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<td>HOU-ACTINITE 6-3-0</td>
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**Central Chemical Corp., Lebanon, Pa.**

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<td>805</td>
<td>Farmrite Turf Organite 5-3-0</td>
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*Deficiencies are in bold face type.*
## CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH

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<th>Phosphoric Acid</th>
<th>Potash</th>
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<tr>
<td>In nitrites</td>
<td>In ammonia</td>
<td>Organic water-soluble</td>
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<td>0.67</td>
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<td>0.56</td>
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<table>
<thead>
<tr>
<th>Nitrogen</th>
<th>Phosphoric Acid</th>
<th>Potash</th>
</tr>
</thead>
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<td>In nitrites</td>
<td>In ammonia</td>
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<td>1085</td>
<td>Corenco 0-10-20 Hay and Pasture Special</td>
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<td>Corenco 0-14-14 Top Dresser</td>
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<td>Corenco 5-8-7 Potato and General Crop</td>
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<td>Corenco 5-10-5 Home Garden</td>
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<td>Corenco 5-10-5 Onion Special—Super Truck</td>
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<td>Spurz-on 3.5-3.5-1.5</td>
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### The Davey Tree Expert Co.,
Kent, Ohio

| 960        | Davey Tree Food 12-4-4 | Old Greenwich |

### R. G. Davis & Sons, Inc.,
New Haven, Conn.

| 574        | "Organo" 10-5-5 | New Haven |

### The Davison Chemical Corp.,
Baltimore, Md.

| 648        | Davco Granulated Fertilizer 5-8-7 | Norwich   |
| 971        | Davco Granulated Fertilizer 5-10-5 | New Milford |
| 972        | Davco Granulated Fertilizer 5-10-10 | New Milford |
| 748        | Davco Granulated Fertilizer 6-8-8 with 0.23% Boron and 0.17% Manganese | Wilson |
| 752        | Davco Granulated Fertilizer 6-8-8 with 0.23% Boron and 0.17% Manganese | Wilson |
| 649        | Davco Granulated Fertilizer 7-7-7 | Norwich   |

1Deficiencies are in bold face type.
2State purchase.
3Found: boron, 0.0097%; manganese, 0.18%.
4Found: boron, 0.089%; manganese, 0.17%.
**CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH**

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<th>In nitrates</th>
<th>Ammoniacal</th>
<th>Organic water-soluble</th>
<th>Organic water-insoluble</th>
<th>Total</th>
<th>Citric insoluble</th>
<th>Total</th>
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<th>As murate</th>
<th>Total</th>
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1Deficiencies are in bold face type.
### Commercial Fertilizers, 1952

**CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH**

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### TABLE 5. ANALYSES OF MIXED FERTILIZERS

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The Frank S. Platt Co., Inc., New Haven, Conn.

459 Platt's Special 10-5-5 Lawn Fertilizer | New Haven

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¹Deficiencies are in bold face type.
²State purchases.
³Copper guaranteed. 0.13%; found. 0.30%.
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<th>Nitrogen in nitrates</th>
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<th>Citric acid-insoluble</th>
<th>Total</th>
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1 Deficiencies are in bold face type.
2 State purchases.
3 Boron found, 0.54%.
CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH

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<th>Per cent phosphoric acid</th>
<th>Per cent potash</th>
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<td>In ammonia</td>
<td>Organic water-soluble</td>
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### TABLE 5. ANALYSES OF MIXED FERTILIZERS

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<th>Manufacturer and brand</th>
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1 Deficiencies are in bold face type.

2 Boron guaranteed, 0.05%; found, 0.046%; copper guaranteed, 0.15%; found, 0.34%; iron guaranteed, 0.20%; found, 0.27%; manganese guaranteed, 0.56%; found, 0.57%; zinc guaranteed, 0.26%; found, 0.17%.
## CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH

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<th>Per cent nitrogen</th>
<th>Per cent phosphoric acid</th>
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### TABLE 5. ANALYSES OF MIXED FERTILIZERS

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*Deficiencies are in bold face type.*
CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH

<table>
<thead>
<tr>
<th>In nitrates</th>
<th>In ammonia</th>
<th>Organic water-soluble</th>
<th>Organic water-insoluble</th>
<th>Total</th>
<th>Citrate-insoluble</th>
<th>Total</th>
<th>So-called &quot;available&quot;</th>
<th>As nitrate</th>
<th>Total</th>
<th>Magnesium</th>
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<td>1131</td>
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<td>Guilford: Fred C. Morse &amp; Son</td>
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<td>Bovung. Walker-Gordon Laboratory Co., Plainsboro, N. J.</td>
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1 Deficiencies are in bold face type.
2 Guaranteed available, 1.0%.
3 Guaranteed available, 0.75%.
<table>
<thead>
<tr>
<th></th>
<th>Per cent nitrogen</th>
<th>Per cent phosphoric acid</th>
<th>Per cent potash</th>
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<td></td>
<td>In ammonia</td>
<td>Organic water-soluble</td>
<td>Organic water-insoluble</td>
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<tr>
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<td>0.64</td>
<td>1.09</td>
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<tr>
<td>0.00</td>
<td>0.36</td>
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<td>1.80</td>
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<td>0.75</td>
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<td>2.16</td>
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<td>0.43</td>
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<td>0.28</td>
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<td>1.97</td>
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<tr>
<td>0.00</td>
<td>0.70</td>
<td>1.53</td>
<td>2.23</td>
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<td>2.20</td>
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<td>0.33</td>
<td>1.50</td>
<td>1.87</td>
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<tr>
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<td>0.89</td>
<td>2.02</td>
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</tr>
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<td>0.22</td>
<td>1.45</td>
<td>1.77</td>
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<tr>
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<td>0.50</td>
<td>1.51</td>
<td>2.07</td>
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### TABLE 7. ANALYSES OF LIMESTONE AND SIMILAR MATERIALS

<table>
<thead>
<tr>
<th>Station No.</th>
<th>Manufacturer and brand</th>
<th>Sampled from stock of or sent by</th>
<th>Calcium oxide, per cent</th>
<th>Magnesium oxide, per cent</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Connecticut Adamant Plaster Co., New Haven, Conn.</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>8685</td>
<td>Land Plaster</td>
<td>Simsbury: Cullman Bros., Inc.</td>
<td>33.51</td>
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<tr>
<td>9520</td>
<td>Land Plaster</td>
<td>Simsbury: Cullman Bros., Inc.</td>
<td>33.81</td>
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</tr>
<tr>
<td></td>
<td><strong>Manufacturer Unknown</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8213</td>
<td>Hydrated Lime</td>
<td>Waterbury: Apothecaries Hall Co.</td>
<td>37.23</td>
<td>25.80</td>
</tr>
<tr>
<td>8214</td>
<td>Hydrated Lime</td>
<td>Waterbury: Apothecaries Hall Co.</td>
<td>38.42</td>
<td>26.37</td>
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<tr>
<td></td>
<td><strong>New England Lime Co., Canaan, Conn.</strong></td>
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<tr>
<td>7685</td>
<td>Hydrated Lime</td>
<td>Bloomfield: American Sumatra Tobacco Co.</td>
<td>42.50</td>
<td>30.01</td>
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<tr>
<td>8686</td>
<td>Agricultural Hydrated Lime</td>
<td>Simsbury: Cullman Bros., Inc.</td>
<td>72.01(^a)</td>
<td>0.52(^a)</td>
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<td>8819</td>
<td>Hydrated Lime</td>
<td>Suffield: Hatheway-Steane Corp.</td>
<td>42.73</td>
<td>27.98</td>
</tr>
<tr>
<td>8820</td>
<td>Hydrated Lime</td>
<td>Suffield: Hatheway-Steane Corp.</td>
<td>41.17</td>
<td>27.68</td>
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<tr>
<td></td>
<td><strong>Standard Milling Co., Chicago, Ill.</strong></td>
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<tr>
<td>8254</td>
<td>Land Plaster</td>
<td>Suffield: Hatheway-Steane Corp.</td>
<td>33.95</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\)Deficiencies are in bold face type.

\(^a\)Guaranteed. 70.00%.

\(^b\)Guaranteed. 0.05%.
<table>
<thead>
<tr>
<th>Station No.</th>
<th>Manufacturer and brand</th>
<th>Place of sampling</th>
<th>Per cent nitrogen</th>
<th>Per cent phosphoric acid</th>
<th>Per cent potash</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>In nitrate</td>
<td>In ammonia</td>
<td>Organic water-soluble</td>
</tr>
<tr>
<td>1132</td>
<td>A-M-R Chemical Co., Inc., Brooklyn, N.Y.</td>
<td>Stamford</td>
<td>0.01</td>
<td>0.02</td>
<td>0.05</td>
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<tr>
<td>695</td>
<td>The American Agricultural Chemical Co., North Weymouth, Mass.</td>
<td>Branford</td>
<td>0.49</td>
<td>4.92</td>
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<tr>
<td>930</td>
<td>Agrico for Gardens 5-10-5</td>
<td>New London</td>
<td>0.59</td>
<td>4.44</td>
<td>0.00</td>
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<tr>
<td>1136</td>
<td>Agrico for Lawns, Trees and Shrubs 6-10-4</td>
<td>Stamford</td>
<td>0.57</td>
<td>4.60</td>
<td>0.18</td>
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<tr>
<td>833</td>
<td>Agrico Rose Food 5-9-6</td>
<td>East Hartford</td>
<td>0.23</td>
<td>2.44</td>
<td>0.98</td>
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<tr>
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<td>Danbury</td>
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<td>Green-Gro Home Garden Fertilizer 5-8-7</td>
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<td>Norwich</td>
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1 Deficiencies are in bold face type.
2 Mechanical analysis: fine, 2.0%; coarse, 98.0%.
3 Sand, 34.20%.
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<th>Place of sampling</th>
<th>Per cent nitrogen</th>
<th>Per cent phosphoric acid</th>
<th>Per cent potash</th>
<th>Per cent citrate-insoluble</th>
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<tbody>
<tr>
<td></td>
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<td></td>
<td>In nitrates</td>
<td>In ammoniac</td>
<td>Organic water-soluble</td>
<td>Organic water-insoluble</td>
<td>Total</td>
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<td>1.17</td>
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<td>Greenwich</td>
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<td>0.10</td>
<td>0.30</td>
<td>5.30</td>
</tr>
<tr>
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<td>Atkins &amp; Durbrow, Inc., New York, N. Y.</td>
<td>Norwich</td>
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<td>0.14</td>
<td>0.63</td>
<td>1.34</td>
<td>2.11</td>
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<td>Brainard Nursery &amp; Seed Co., Thompsonville, Conn.</td>
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<td>0.86</td>
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<td>0.86</td>
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<td>5.06</td>
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<td>For Your Garden Nitrate of Soda 15%</td>
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<td>0.86</td>
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<tr>
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<td>Company/Description</td>
<td>Location</td>
<td>3%</td>
<td>5%</td>
<td>7%</td>
<td>9%</td>
<td>11%</td>
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1. Deficiencies are in bold face type.
2. Sand, 49.54%.
3. Sand, 21.75%.
4. Mechanical analysis: fine, 54.0%; coarse, 46.0%.