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COMMERCIAL FERTILIZERS

Report for 1952



H. J. FISHER
Chief Chemist

THE CONNECTICUT AGRICULTURAL EXPERIMENT
STATION, NEW HAVEN, CONNECTICUT

CONTENTS

	Page
CONNECTICUT LAW AND REGULATIONS REGARDING COMMERCIAL FERTILIZERS	5
Official definitions of fertilizer terms and materials	6
REGISTRATIONS	7
FERTILIZER INSPECTION FOR 1952	16
CLASSIFICATION OF FERTILIZER MATERIALS AND FERTILIZER TONNAGE	18
Mixed fertilizer tonnage	19
I. Raw materials chiefly valuable for nitrogen	19
II. Raw materials chiefly valuable for phosphoric acid	20
III. Raw materials chiefly valuable for potash	20
IV. Raw materials supplying nitrogen and phosphoric acid	20
V. Mixed fertilizers	20
Commercial mixtures	20
Special and home mixtures	21
State purchases of fertilizer	21
VI. Miscellaneous	21
MAINTENANCE OF GUARANTIES	24
TABLES OF ANALYSES	25
1. Materials supplying chiefly nitrogen	25
2. Superphosphate, etc.	29
3. Potash salts, etc.	31
4. Ground fish, bone, etc.	32
5. Mixed fertilizers	34
6. Sheep manure, etc.	50
7. Limestone and similar materials	52
8. Small package fertilizers	53
9. Polyelectrolyte soil amendments	60
10. Other miscellaneous materials	61
INDEX	63

REPORT ON INSPECTION AND ANALYSIS OF COMMERCIAL FERTILIZERS, 1952

H. J. FISHER, Chief Chemist¹

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).

¹Analyses 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 Goffi.

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. Cloaninger, Drawer 392, 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 & Co., 25 Faneuil Hall Sq., Boston 9, Mass.

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

The American Agricultural Chemical Co., 285 River St., No. Weymouth 91, Mass.

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 Turf 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 Cottonhull 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

Ashcraft-Wilkinson Co., 601 Trust Co. of Georgia Bldg., Atlanta 3, Ga.

Cow-Eta Brand 36% Protein Cottonseed Meal
Cow-Eta Brand 41% Protein Cottonseed Meal

Associated Seed Growers, Inc., Railroad Ave., Milford, Conn.

Asgrow Lawn Food
Japedizer

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

DRICONURE

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 41% Protein Cottonseed Meal

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

AGRIGAIR

Brainard Nursery & Seed Co., 636 Enfield St., Thompsonville, Conn.

Braco 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 41% 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 Gardenrite
Farmrite Hi-organic
Farmrite Sheep Manure
Farmrite Turf Organite

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

Chilean Nitrate of Soda—Champion Brand

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

Castor Pomace
 Corenco 0-10-20 Hay and Pasture Special
 Corenco 0-14-14 Top Dresser
 Corenco 0-20-20
 Corenco 4-12-4 Complete Manure
 Corenco 4-12-16 Ladino Special
 Corenco 5-5-15 Tobacco Starter
 Corenco 5-8-7 Potato and General Crop
 Corenco 5-10-5 Home Garden
 Corenco 5-10-5 Onion Special-Super Truck
 Corenco 5-10-10 Peerless Potato
 Corenco 5-10-10-1.2 with Water Soluble Magnesium
 Corenco 6-3-6 Premium Tobacco Grower
 Corenco 6-3-6 Special Tobacco Grower
 Corenco 6-8-8 Potato Special
 Corenco 7-7-7 Complete Fruit and Top Dressing
 Corenco 8-6-4 Landscape
 Corenco 8-16-16 Two-in-One
 Corenco Bone Meal 3.2%
 Corenco Ground Bone 1.5%
 Corenco Organic Tankage
 Corenco Sheep Manure
 Corenco Special Ground Bone
 Corenco Spurz-on
 Corenco 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

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

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

Eastern States Farmers' Exchange, Inc., 26 Central St., West Springfield, Mass.

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 0-10-30
Old Fox Brand 0-12-24
Old Fox Brand 0-20-0
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 Stumpp & 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 Sawconure
Red Barn Treewiz
Sheep Manure
Sulphate of Ammonia
Superphosphate

A. H. Hoffman, Inc., Landisville, Lancaster County, Pa.

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
- L. B. Lovitt & Co., 314 Cotton Exchange Bldg., Memphis, Tenn.**
"Lovit Brand" 41% Protein Cottonseed Meal
- The Mamlon Co., 1089 Whalley Ave., New Haven 15, Conn.**
FER-MEL Water Soluble Turf and Tree Food
- Marianna Sales Co., 510 Cotton Exchange Bldg., Memphis, Tenn.**
"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 Fertilizer Co., Inc., 20 Sugarloaf St., So. Deerfield, Mass.**
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

Ralston Purina Co., Mill and Perkins St., St. Johnsbury, Vt.

- 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, Inc., Div. Wilson & Co., Delaware Ave. & Venango St., Philadelphia 34, Pa.**

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

Stimuplant Laboratories Co., 791 So. Lazelle St., Columbus 16, Ohio
Stim-U-Plant for African Violets

Swift & Co., 25 Faneuil Hall Sq., Boston 9, Mass.

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.

Bovung

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 Fertilizer Works, Inc., Sackett Point Rd., No. Haven, Conn.

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

FERTILIZER 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:

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

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:

<u>Ratio</u>	<u>Minimum Grade</u>
0-1-1	0-14-14
0-1-2	0-10-20
1-1-1	8- 8- 8
1-1-3	5- 5-15
1-2-1	5-10- 5
1-2-2	5-10-10
2-1-2	6- 3- 6
3-4-4	6- 8- 8
4-3-1	8- 6- 2 (For maintenance of established turf)
5-8-7	5- 8- 7

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)

	Page	No. of samples	Tonnage	
I. Containing chiefly nitrogen:				
Nitrate of ammonia	25	1	471	
Nitrate of soda	25	7	748	
Sulphate of ammonia	25	2	132	
Cyanamid and urea	25	6	85	
Castor pomace	26	8	2,449	
Cottonseed meal	26	113	9,592	
Horn and hoof meal	28	3	200	
Linseed oil meal	28	8	132	
Soybean oil meal	28	17	355	
Tankage	28	1	8	
Tung nut pomace .....	..	1	.....
Other materials	28	3	325	
				14,497
II. Containing chiefly phosphoric acid:				
Superphosphate 18%	29	1	695	
20%	29	14	4,160	
Precipitated bone phosphate	30	11	291	
Phosphate rock	30	5	119	
Monocalcium phosphate .....	..	1	.....
				5,265
III. Containing chiefly potash:				
Muriate of potash	31	11	1,310	
Sulphate of potash	31	4	202	
Sulphate of potash-magnesia	31	2	36	
Cottonhull ashes	31	11	695	
				2,243
IV. Containing nitrogen and phosphoric acid:				
Dry ground fish	32	24	939	
Bone meal	32	15	623	
Other materials	33	2	781	
				2,343
V. Mixed fertilizers:				
Commercial mixtures	34	212	54,230 ¹	
Special and home mixtures .....	..	116	756	
				54,986
VI. Miscellaneous:				
Aluminum sulphate	57	1	4	
Borax .....	..	..	5	
Sheep and cattle manure	50	16	1,071	
Limestone and similar materials ..	52	10	.....
Fertilizers sold in small packages ..	53	66	.....
Polyelectrolyte soil amendments ..	60	11	.....
Other miscellaneous materials	61	31	.....
Check meals and fertilizers .....	..	37	.....
				1,080
Totals		771		80,414

¹For distribution of this tonnage see next page.

Mixed Fertilizer Tonnage*Grades Approved for Connecticut*

<i>Grade</i>	<i>Tons</i>	<i>Grade</i>	<i>Tons</i>
0-10-20	572	8- 4- 8	792
0-15-30	586	8- 8- 8	145
5- 5-15	437	8-12-16	87
6- 3- 6	14,946	10-10-10	896
6- 8- 8	2,714		

Total	21,175
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*Other Grades**(More than 50 tons)*

0-12-18	132	6- 4- 6	103
0-14-14	847	6- 7- 4	210
0-19-19	202	6- 8- 2	85
0-20-20	1,071	6- 8- 6	96
3-12- 6	77	6-10- 4	376
3-12-12	442	6-12-12	164
4- 4- 2	100	7- 7- 7	2,829
4- 8- 4	51	8- 6- 2	677
4-10- 0	213	8- 6- 4	598
4-12- 4	816	8-12-12	1,096
5- 3- 0	80	8-16- 8	420
5- 3- 5	1,121	8-16-16	1,106
5- 8- 7	6,478	9- 7- 4	470
5- 8-10	226	10- 5- 5	133
5-10- 5	2,860	10- 6- 2	278
5-10-10	8,797	10- 6- 4	202
5-15-15	390		

Total	32,746
-------	--------

(Less than 50 tons)

0-10-30	5	6-12- 6	6
0-12-24	37	7- 8- 5	8
3- 2- 1	29	7-10- 5	17
3.5-3.5-1.5	8	7-11- 5	46
4- 6- 4	10	12- 4- 4	12
4-10- 4	19	12- 6- 4	8
4-12-16	38	23-21-17	7
5- 8- 6	28	24-12-12	8
5- 9- 6	6	Other grades	17

Total	309
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Grand Total	54,230
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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:

Total number of samples	199	
Samples deficient in:		
one item	53	
two items	5	
three items	2	60
Percentage of samples meeting guaranties		70
Total guaranties made		570 ¹
Guaranties not met:		
nitrogen	43	
phosphoric acid	11	
potash	15	69
Percentage met		88

¹One hundred and seventy-two samples with three guaranties and 27 samples with two guaranties (guaranties for minor elements not included).

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¹One 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 0.23% 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:

<i>Materials</i>	<i>No. of Samples</i>	<i>Reference</i>
Supplying nitrogen	6	Table 1
Supplying phosphoric acid	2	Table 2
Supplying potash	4	Table 3
Supplying nitrogen and phosphoric acid	3	Table 4
Mixed fertilizers	27	Table 5
	Total	
	42	

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."¹

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".²)

¹Frontiers of Plant Science, 5, 4 (1952).

²Vol. 7, No. 11, pp. 37-38 (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 ("Aerotil Soil Conditioner" has a pH of 9.70 and the pH of "Krilium 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.¹ 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'

¹T. R. Swanback, "Granite Stone Meal as a Source of Potash for Tobacco", Conn. Agr. Expt. Sta. Bul. 536 (1950).

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.

	<i>No. of samples</i>	<i>No. of guaranties</i>	<i>Deficiencies</i>
Nitrate of ammonia	1	1	1
Nitrate of soda	6	6	0
Sulphate of ammonia	1	1	0
Cyanamid	3	3	0
Urea	2	2	0
Castor pomace	7	7	0
Cottonseed meal	25	25	3
Horn and hoof meal	2	2	1
Linseed oil meal	4	4	0
Soybean oil meal	4	4	0
Tankage	1	1	0
Miscellaneous organic materials ..	2	2	1
Superphosphate	12	12	3
Precipitated bone	3	3	0
Phosphate rock	5	5	1
Muriate of potash	11	11	1
Sulphate of potash	1	1	0
Sulphate of potash-magnesia	2	2	0
Cottonhull ashes	4	4	0
Dry ground fish	5	10	0
Bone meal	18	36	5
"Milorganite"	2	4	1
Mixed fertilizer	199	570	69
Totals	320	716	86
Per cent guaranties met			88

TABLE 1. ANALYSES OF MATERIALS SUPPLYING CHIEFLY NITROGEN¹

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent nitrogen	
			Found	Guaranteed
Nitrate of Ammonia				
1029	AEROPRILLS. American Cyanamid Co., New York, N. Y.	Willimantic: Eastern States Farmers' Exchange, Inc.	33.10	33.50
Nitrate of Soda				
9850	Arcadian, The American. Allied Chemical & Dye Corp., New York, N. Y. . .	South Windsor: South Windsor Tobacco Farms	16.00	16.00
973	Arcadian, The American. Allied Chemical & Dye Corp., New York, N. Y. . .	New Milford: Check-R-Board Feed Store	16.00	16.00
1084	Arcadian, The American. Allied Chemical & Dye Corp., New York, N. Y. . .	West Haven: New Haven Rendering Co.,	16.22	16.00
9847 ²	Chilean, Champion Brand. Chilean Nitrate Sales Corp., New York, N. Y. . .	East Windsor Hill: General Cigar Co., Inc.	15.96	16.00
431 ^{3,4}	Chilean, Champion Brand. Chilean Nitrate Sales Corp., New York, N. Y. . .	Cheshire: Conn. Reformatory	16.00	16.00
643 ^{3,5}	Chilean, Champion Brand. Chilean Nitrate Sales Corp., New York, N. Y. . .	Norwich: Norwich State Hospital	16.00	16.00
Sulphate of Ammonia				
849	Apothecaries Hall Co., Waterbury, Conn.	Greenwich: McArdle's Seed Store	21.00	20.50
Cyanamid				
1078	AERO, American Cyanamid Co., New York, N. Y.	Portland: The Rogers & Hubbard Co.	20.20	20.00
634 ³	AERO, Special Grade. American Cyanamid Co., New York, N. Y.	Middletown: Long Lane School	21.96	21.00
642 ³	AERO, Special Grade. American Cyanamid Co., New York, N. Y.	Norwich: Norwich State Hospital	22.42	21.00

¹Deficiencies are in bold face type.²Sodium guaranteed, 26.0%; found, 26.77%.³State purchases.⁴Sodium guaranteed, 26.0%; found, 26.26%.⁵Sodium guaranteed, 26.0%; found, 26.53%.

TABLE I. ANALYSES OF MATERIALS SUPPLYING CHIEFLY NITROGEN¹

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent nitrogen	
			Found	Guaranteed
Urea				
819	DU PONT NU GREEN Fertilizer Compound 44%. E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. . . .	Glastonbury: E. J. Bantle . . .	44.15	44.00
1074	DU PONT NU GREEN Fertilizer Compound 45%. E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. . . .	Portland: The Rogers & Hubbard Co.	45.15	45.00
Castor Pomace				
9846	Apothecaries Hall Co., Waterbury, Conn.	East Windsor Hill: General Cigar Co., Inc.	5.55	4.50
639 ²	Apothecaries Hall Co., Waterbury, Conn.	Middletown: Long Lane School	5.48	4.50
937	Consolidated Rendering Co., Boston, Mass.	West Suffield: H. L. Oppenheimer & Sons	6.17	4.52
751	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.	Wilson: Anders Christensen	5.59	5.55
1083	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.	West Haven: New Haven Rendering Co.	6.42	5.55
1203	Spencer Kellogg & Sons, Inc., Buffalo, N. Y.	South Deerfield, Mass.: Old Deerfield Fertilizer Co., Inc.	6.14	5.55
689	The Rogers & Hubbard Co., Portland, Conn.	Norwich: Norwich Grain Co.	5.46	4.50
Cottonseed Meal				
1059	Cow-Eta Brand 36%. Ashcraft-Wilkinson Co., Atlanta, Ga.	Portland: The Rogers & Hubbard Co.	6.16	5.76
1196	Cow-Eta Brand 36%. Ashcraft-Wilkinson Co., Atlanta, Ga.	North Haven: Woodruff Fertilizer Works, Inc.	5.62	5.76
815	Cow-Eta Brand 41%. Ashcraft-Wilkinson Co., Atlanta, Ga.	Glastonbury: E. J. Bantle	6.83	6.56
9825	Pure Gold 41%. The Boswell Co., Atlanta, Ga.	Scitico: Consolidated Cigar Co., Inc.	6.74	6.56
9827	Pure Gold 41%. The Boswell Co., Atlanta, Ga.	Scitico: Consolidated Cigar Co., Inc.	6.74	6.56
421	Pure Gold 41%. The Boswell Co., Atlanta, Ga.	Portland: Consolidated Cigar Co., Inc.	6.86	6.56
1048	Buckeye 41%. The Buckeye Cotton Oil Co., Cincinnati, Ohio	Norwalk: Libner Grain Co.	6.38	6.56

¹Deficiencies are in bold face type.²State purchases.

TABLE 1. ANALYSES OF MATERIALS SUPPLYING CHIEFLY NITROGEN¹

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent nitrogen	
			Found	Guaranteed
1102	Dixie Brand 41%. Humphreys-Godwin Co., Memphis, Tenn.	Windsorville: Apothecaries Hall Co.	6.64	6.56
1103	Dixie Brand 41%. Humphreys-Godwin Co., Memphis, Tenn.	Windsorville: Apothecaries Hall Co.	6.61	6.56
9802	"Lovit Brand" 41%. L. B. Lovitt & Co., Memphis, Tenn.	West Suffield: Hatheway-Steane Corp.	6.63	6.56
9805	"Lovit Brand" 41%. L. B. Lovitt & Co., Memphis, Tenn.	West Suffield: Hatheway-Steane Corp.	6.49	6.56
9806	"Lovit Brand" 41%. L. B. Lovitt & Co., Memphis, Tenn.	West Suffield: A. N. Shepard & Son	7.14	6.56
9842	"Lovit Brand" 41%. L. B. Lovitt & Co., Memphis, Tenn.	Hazardville: L. B. Haas & Co.	6.66	6.56
9843	"Lovit Brand" 41%. L. B. Lovitt & Co., Memphis, Tenn.	Hazardville: L. B. Haas & Co.	6.68	6.56
9849	"Lovit Brand" 41%. L. B. Lovitt & Co., Memphis, Tenn.	East Windsor Hill: General Cigar Co., Inc.	6.92	6.56
718 ²	"Lovit Brand" 41%. L. B. Lovitt & Co., Memphis, Tenn.	Southbury: Southbury Training School	6.92	6.56
1101	Goldenrod Brand 41%. Perkins Oil Co., Memphis, Tenn.	Windsorville: Apothecaries Hall Co.	6.81	6.56
2752	Ralston Purina Co., St. Johnsbury, Vt.	New Canaan: Clapboard Hill Feed Co., Inc.	6.34	....
9796	Swift's 41%. Swift & Co., Boston, Mass.	Granby: Cullman Bros., Inc.	6.64	6.56
9797	Swift's 41%. Swift & Co., Boston, Mass.	Granby: Cullman Bros., Inc.	6.62	6.56
9823	Swift's 41%. Swift & Co., Boston, Mass.	Scitico: Consolidated Cigar Co., Inc.	6.30	6.56
9826	Swift's 41%. Swift & Co., Boston, Mass.	Scitico: Consolidated Cigar Co., Inc.	6.86	6.56
9828	Swift's 41%. Swift & Co., Boston, Mass.	Scitico: Consolidated Cigar Co., Inc.	6.96	6.56
9848	Swift's 41%. Swift & Co., Boston, Mass.	East Windsor Hill: General Cigar Co., Inc.	6.86	6.56
424	Swift's 41%. Swift & Co., Boston, Mass.	Portland: Consolidated Cigar Co., Inc.	6.68	6.56

¹Deficiencies are in bold face type.²State purchases.

TABLE 1. ANALYSES OF MATERIALS SUPPLYING CHIEFLY NITROGEN¹

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent nitrogen	
			Found	Guaranteed
Horn and Hoof Meal				
9844	Olds & Whipple, Inc., Hartford, Conn.	Hazardville: L. B. Haas & Co.	12.48	14.00
420	The Rogers & Hubbard Co., Portland, Conn.	South Windsor: South Windsor Tobacco Farms	14.54	14.00
Linseed Oil Meal				
9799	Archer Quality 36%. Archer-Daniels-Midland Co., Minneapolis, Minn.	West Suffield: Hatheway-Steane Corp.	6.00	5.76
9820	Spencer Kellogg's 32%. Spencer Kellogg & Sons, Inc., Buffalo, N. Y.	West Suffield: A. N. Shepard & Son	5.78	5.12
1216	Spencer Kellogg's 32%. Spencer Kellogg & Sons, Inc., Buffalo, N. Y.	East Hartford: Olds & Whipple, Inc.	5.45	5.12
958	Spencer Kellogg's 34%. Spencer Kellogg & Sons, Inc., Buffalo, N. Y.	Darien: Brookside Nurseries	5.43	5.44
Soybean Oil Meal				
817	44%. Old Deerfield Fertilizer Co., Inc., South Deerfield, Mass.	Glastonbury: E. J. Bantle ..	7.80	7.04
9829	Oswego Soy Products Corp., Oswego, N. Y.	Scitico: Consolidated Cigar Co., Inc.	7.30	7.12
9839	Oswego Soy Products Corp., Oswego, N. Y.	Scitico: Consolidated Cigar Co., Inc.	7.29	7.14
422	Oswego Soy Products Corp., Oswego, N. Y.	Portland: Consolidated Cigar Co., Inc.	7.36	7.14
Miscellaneous				
988 ²	A-N-L. Allied Chemical & Dye Corp., New York, N. Y.	Bethel: Eastern States Farmers' Exchange, Inc.	20.20	20.50
698	Agrinite. The American Agricultural Chemical Co., North Weymouth, Mass. ...	Clinton: Clinton Nurseries ..	8.32	8.25
931	Corenco Organic Tankage. Consolidated Rendering Co., Boston, Mass.	West Suffield: H. L. Oppenheimer & Sons	8.40	8.25

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

TABLE 2. ANALYSES OF SUPERPHOSPHATE, ETC.¹

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent phosphoric acid				
			Citrate-insoluble	Total	"Available"		
					Found	Guaranteed	
	Superphosphate						
926	18% Normal. The American Agricultural Chemical Co., North Weymouth, Mass.	Pawcatuck: The C. W. Campbell Co.	0.93	18.30	17.37	18.00	
9804	Apothecaries Hall Co., Waterbury, Conn.	West Suffield: Hatheway-Steane Corp.	2.18	22.55	20.37	20.00	
1119	Armour's Big Crop 20%. Armour Fertilizer Works, Carteret, N. J.	East Windsor Hill: Farmers' Hardware Co.	0.80	21.80	21.00	20.00	
1034	Corenco 20%. Consolidated Rendering Co., Boston, Mass.	Waterbury: H. S. Coe & Co.	0.10	19.75	19.65	20.00	
650	Davco Granulated 20%. The Davison Chemical Corp., Baltimore, Md.	Norwich: Checkerboard Feed Store ..	0.38	22.00	21.62	20.00	
1028	Eastern States Granulated. Eastern States Farmers' Exchange, Inc., West Springfield, Mass.	Willimantic: Eastern States Farmers' Exchange, Inc.	1.88	23.00	21.12	20.00	
925	Old Fox Brand. Fox Point Chemical Co., East Providence, R. I.	Pawcatuck: The C. W. Campbell Co. ...	0.23	20.90	20.67	20.00	
1208	Old Deerfield 20%. Old Deerfield Fertilizer Co., Inc., South Deerfield, Mass.	South Deerfield: Old Deerfield Fertilizer Co., Inc.	0.75	20.80	20.05	20.00	
818	O & W. Olds & Whipple, Inc., Hartford, Conn. ...	Glastonbury: E. J. Bantle	1.90	22.85	20.95	20.00	
633 ²	The Rogers & Hubbard Co., Portland, Conn.	Middletown: Long Lane School	0.05	20.80	20.75	20.00	
708 ²	The Rogers & Hubbard Co., Portland, Conn.	Newtown: Fairfield State Hospital ...	0.23	20.45	20.22	20.00	
1194	Woodruff Fertilizer Works, Inc., North Haven, Conn.	North Haven: Woodruff Fertilizer Works, Inc.	1.35	18.45	17.10	20.00	

¹Deficiencies are in bold face type.²State purchases.

TABLE 2. ANALYSES OF SUPERPHOSPHATE, ETC.¹

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent phosphoric acid			
			Citrate-insoluble	Total	"Available"	
					Found	Guaranteed
Precipitated Bone Phosphate						
9798	Apothecaries Hall Co., Waterbury, Conn.	Granby: Cullman Bros., Inc.	0.15	44.20	44.05	38.00
9801	Apothecaries Hall Co., Waterbury, Conn.	West Suffield: Hatheway-Steane Corp.	0.53	43.70	43.17	38.00
1218	Olds & Whipple, Inc., Hartford, Conn.	East Hartford: Olds & Whipple, Inc. ...	1.20	41.15	39.95	38.00
Phosphate Rock						
834 ³	AA Quality. The American Agricultural Chemical Co., North Weymouth, Mass.	East Hartford: The American Agricultural Chemical Co. ....	...	31.90	....	....
955 ³	AA Quality. The American Agricultural Chemical Co., North Weymouth, Mass.	Darien: Brookside Nurseries	26.75	31.15	4.40	....
1140 ³	AA Quality. The American Agricultural Chemical Co., North Weymouth, Mass.	East Hartford: The American Agricultural Chemical Co. ....	....	31.60	....	....
1058 ⁴	AERO-PHOS Florida Natural. American Cyanamid Co., New York, N. Y.	Portland: The Rogers & Hubbard Co.	29.25	33.00	3.75	3.00
927 ³	Red Seal Brand Ruhm's. Ruhm Phosphate & Chemical Co., Evanston, Ill.	Pawcatuck: The C. W. Campbell Co.	....	29.65	....	....

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

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent potash	
			Found	Guaranteed
Muriate of Potash				
1054	The American Agricultural Chemical Co., North Weymouth, Mass.	West Haven: The American Agricultural Chemical Co.	58.60	58.00
453 ²	Apothecaries Hall Co., Waterbury, Conn.	Cheshire: Conn. Reformatory	60.96	60.00
635 ²	Apothecaries Hall Co., Waterbury, Conn.	Middletown: Long Lane School	62.48	60.00
710 ²	Apothecaries Hall Co., Waterbury, Conn.	Newtown: Fairfield State Hospital	62.88	60.00
714 ²	Apothecaries Hall Co., Waterbury, Conn.	Southbury: Southbury Training School	62.96	60.00
1095	Consolidated Rendering Co., Boston, Mass.	West Haven: New Haven Rendering Co.	63.16	60.00
903	Eastern States. Eastern States Farmers' Exchange, Inc., West Springfield, Mass. ...	Rockville: Ellington-Vernon Farmers' Exchange, Inc. ...	62.76	60.00
987	Eastern States. Eastern States Farmers' Exchange, Inc., West Springfield, Mass. ...	Bethel: Eastern States Farmers' Exchange, Inc.	61.62	60.00
1204	Old Deerfield. Old Deerfield Fertilizer Co., Inc., South Deerfield, Mass.	South Deerfield, Mass: Old Deerfield Fertilizer Co., Inc.	61.44	60.00
1068	The Rogers & Hubbard Co., Portland, Conn.	Portland: The Rogers & Hubbard Co.	61.04	60.00
1155 ³	60%. Woodruff Fertilizer Works, Inc., North Haven, Conn.	North Haven: Woodruff Fertilizer Works, Inc.	48.84	60.00
Sulphate of Potash				
816	O & W. Olds & Whipple, Inc., Hartford, Conn.	Glastonbury: E. J. Bantle ..	48.15	48.00
Sulphate of Potash and Magnesia				
9841 ⁴	Sul-Po-Mag. Apothecaries Hall Co., Waterbury, Conn.	Hazardville: L. B. Haas & Co.	22.78	22.00
1219	Olds & Whipple, Inc., Hartford, Conn.	East Hartford: Olds & Whipple, Inc.	22.38	21.50
Cottonhull Ashes				
9800	Apothecaries Hall Co., Waterbury, Conn.	West Suffield: Hatheway-Steane Corp	41.04	unit basis
9819	Apothecaries Hall Co., Waterbury, Conn.	West Suffield: A. N. Shepard & Son	38.86	unit basis
9822	Old Deerfield 40%. Old Deerfield Fertilizer Co., Inc., South Deerfield, Mass. ...	Scitico: Consolidated Cigar Co., Inc.	41.64	40.00
9845	O & W. Olds & Whipple, Inc., Hartford, Conn.	East Windsor Hill: General Cigar Co., Inc.	36.70	35.00

¹Deficiencies are in bold face type.²State purchases.³Nitrogen in ammonia, 0.89%.⁴Magnesium guaranteed, 10.0%; found, 4.74%.

TABLE 4. ANALYSES OF GROUND FISH, BONE, ETC.¹

Station No.	Manufacturer or jobber	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
Dry Ground Fish								
9803	Apothecaries Hall Co., Waterbury, Conn.	West Suffield: Hatheway-Steane Corp.	9.35	9.00	6.95	5.00	....	....
9818	Apothecaries Hall Co., Waterbury, Conn.	West Suffield: A. N. Shepard & Son	9.31	9.00	7.70	5.00	....	....
425	Apothecaries Hall Co., Waterbury, Conn.	Portland: Consolidated Cigar Co., Inc.	9.82	9.00	7.40	5.00	....	....
9824	Old Deerfield. Old Deerfield Fertilizer Co., South Deerfield, Mass.	Scitico: Consolidated Cigar Co., Inc.	9.36	9.00	7.03	5.00	....	....
9840	O & W Menhaden. Olds & Whipple, Inc., Hartford, Conn.	Hazardville: L. B. Haas & Co. ..	9.94	9.00	6.65	5.00	....	....
Bone Meal								
2751	The American Agricultural Chemical Co., North Weymouth, Mass.	Woodbridge: Allen Patterson	4.43	2.50	17.05	20.00	44.0	56.0
843 ²	Apothecaries Hall Co., Waterbury, Conn.	Greenwich: McArdle's Seed Store	5.37	4.00	21.25	14.00	51.0	49.0
908	Armour's. Armour Fertilizer Works, Carteret, N. J.	East Windsor Hill: Farmers Hardware Co.	2.62	2.30	25.55	23.00	55.5	44.5
460	Corenco. Consolidated Rendering Co., Boston, Mass.	New Haven: The Frank S. Platt Co.	3.94	3.20	24.80	25.00	27.0	73.0
584 ³	Corenco Ground. Consolidated Rendering Co., Boston, Mass.	Meriden: Undercliff Sanatorium	1.64	1.50	28.55	27.00	50.0	50.0
640 ³	Corenco Ground. Consolidated Rendering Co., Boston, Mass.	Middletown: Long Lane School	1.60	1.50	27.60	27.00	43.0	57.0

645 ^{3,4}	Corenco Ground. Consolidated Rendering Co., Boston, Mass.	Norwich: Uncas on Thames Sanatorium	2.74	1.50	22.50	27.00	43.0	57.0
942	Corenco Special. Consolidated Rendering Co., Boston, Mass.	Thompsonville: Brainard Nursery & Seed Co.	3.80	3.70	20.50	20.00	25.5	74.5
844	Pure. Faesy & Besthoff, Inc., New York, N. Y.	Greenwich: McArdle's Seed Store	2.18	2.47	29.20	23.00	64.0	36.0
1050	G & O Ground. Goulard & Olena, Inc., Skillman, N. J.	Bridgeport: City of Bridgeport, Beardsley Park	2.42	2.40	23.40	20.00	58.5	41.5
1124	Red Barn. Peter Henderson Stumpp & Walter Co., Jersey City, N. J.	Stamford: Peter Henderson Stumpp & Walter Co.	2.93	2.47	23.85	23.00	64.0	36.0
9821	Steamed. Old Deerfield Fertilizer Co., Inc., South Deerfield, Mass.	Scitico: Consolidated Cigar Co., Inc.,	0.72	0.80	32.95	32.00	73.0	27.0
423	Steamed. Old Deerfield Fertilizer Co., Inc., South Deerfield, Mass.	Portland: Consolidated Cigar Co., Inc.	0.62	0.80	32.70	32.00	75.0	25.0
820	O & W. Olds & Whipple, Inc., Hartford, Conn.	Glastonbury: E. J. Bantle	2.38	2.47	27.45	22.00	65.0	35.0
871	O & W. Olds & Whipple, Inc., Hartford, Conn.	Manchester: Bliss Hardware Co.	2.60	2.47	23.85	22.00	49.0	51.0
575	Gro-Fast. The Rogers & Hubbard Co., Portland, Conn.	New Haven: R.G. Davis & Sons, Inc.	2.54	2.00	27.65	23.00	67.0	33.0
1081	Cross Country. Sears, Roebuck & Co., Chicago, Ill.	Middletown: Sears, Roebuck & Co.	2.64	2.00	24.60	20.00	57.5	42.5
1063	Vico Steamed. The Van Iderstine Co., Long Island City, N. Y.	Portland: The Rogers & Hubbard Co.	2.03	2.47	30.10	23.00	71.0	29.0
Milorganite								
456	Sewerage Commission of the City of Milwaukee, Milwaukee, Wis.	New Haven: The Jackson-Marvin Hardware Co., Inc.	5.93 ⁵	6.0	3.81 ⁶	2.75	....	....
963	Sewerage Commission of the City of Milwaukee, Milwaukee, Wis.	Stamford: The F. A. Bartlett Tree Expert Co.	5.57⁷	6.0	3.85 ⁸	2.75	....	....

¹Deficiencies are in bold face type.

²Nitrogen in ammonia, 0.22%.

³State purchases.

⁴Nitrogen in ammonia, 0.13%.

⁵Found: nitrogen in ammonia, 0.02%; nitrogen organic water-soluble, 0.43%; nitrogen organic insoluble, 5.48%.

⁶Guaranteed "available" phosphoric acid, 2.0%; found, 3.01%.

⁷Found: nitrogen organic water-soluble, 0.24%; nitrogen organic insoluble, 5.33%.

⁸Guaranteed "available" phosphoric acid, 2.0%; found, 2.95%.

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
	Agricultural Supply Co., West Haven, Conn.	
1000	Yale Special Mixture 8-6-2	Fairfield
1094	Yale Special Mixture 8-6-2	West Haven
	The American Agricultural Chemical Co., North Weymouth, Mass.	
693	AA Quality Fertilizer 5-8-7	Branford
1161	AA Quality Fertilizer 5-10-10	East Hartford
1051	Agrico Country Club Fertilizer 6-10-4	West Haven
1055	Agrico Country Club Fertilizer 8-6-2	West Haven
1053	Agrico Country Club Fertilizer 10-6-4	West Haven
1162	Agrico for Broadleaf Evergreens 6-10-4	East Hartford
965	Agrico for Gardens 5-10-5	Darien
1160	Agrico for Grain 3-12-6	East Hartford
694	Agrico for Lawns, Trees and Shrubs 6-10-4	Branford
749	Agrico for New England 5-8-7	Wilson
1056	Agrico for Potatoes 5-10-10-1.2	West Haven
1159	Agrico for Seeding Down 3-12-12	East Hartford
1158	Agrico for Tobacco 6-3-6	East Hartford
699	Agrico for Top Dressing 7-7-7	Clinton
1052	Agrico for Truck 5-10-5	West Haven
1137	Agrico for Turf 6-8-2	East Hartford
1139	Agrico Phosphate and Potash 0-10-20	East Hartford
1156	Agrico Phosphate and Potash 0-14-14	East Hartford
995	Agrico Rose Food 5-9-6	Bridgeport
	Apothecaries Hall Co., Waterbury, Conn.	
800	Liberty Fertilizer 0-10-20	Bloomfield
1260	Liberty Fertilizer 0-14-14	Windsorville
939	Liberty Fertilizer 4-12-4	Suffield
974	Liberty Fertilizer 5-8-10 with 1.2 Mg	New Milford
1100	Liberty Fertilizer 5-8-10 with 1.2 Mg	Windsorville
980	Liberty Fertilizer 5-10-5	Danbury
929	Liberty Fertilizer 5-10-10	New London
1116	Liberty Fertilizer 5-10-10 with 1.2 Mg	Windsorville
1098	Liberty Fertilizer 6-8-8	Windsorville
798	Liberty Green-Gro Fertilizer 6-7-4	Bloomfield
845	Liberty Green-Gro 3-Way-3 Lawn Dressing 6-10-4	Greenwich
582	Liberty High Grade Market Gardeners 5-8-7	Mt. Carmel
1096	Liberty High Grade Market Gardeners 5-8-7 with 1.2 Mg	Windsorville
1099	Liberty High Grade Market Gardeners with Sulphate of Potash 5-8-7	Windsorville

¹Deficiencies are in bold face type.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

Per cent nitrogen					Per cent phosphoric acid			Per cent potash		Magnesium
In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muricite	Total	
0.23	5.12	2.24	0.83	8.42	0.08	6.70	6.62	3.99	5.08	.....
0.71	5.32	1.32	0.59	7.94	0.15	8.80	8.65	3.76	5.54	.....
0.11	4.28	0.00	0.22	4.61	0.35	9.85	9.50	5.13	7.32	.....
0.34	4.12	0.10	0.45	5.01	0.65	11.00	10.35	3.07	10.26	.....
0.63	5.00	0.18	0.62	6.43	0.73	11.50	10.77	4.03	4.08	.....
0.00	4.98	0.75	2.25	7.98	0.63	7.30	6.67	0.73	2.38	.....
0.56	8.24	0.00	0.16	8.96	0.48	8.80	8.32	3.88	4.28	.....
0.43	4.48	0.34	0.77	6.02	0.80	11.48	10.68	4.25	4.58	.....
0.29	4.28	0.20	0.23	5.00	0.75	11.93	11.18	4.44	5.20	.....
0.38	2.36	0.28	0.22	3.24	0.88	13.43	12.55	6.02	6.34	.....
0.16	4.26	0.26	0.98	5.96	0.80	11.38	10.58	3.34	3.76	.....
0.61	4.12	0.00	0.09	4.82	0.35	8.60	8.25	4.17	7.00	.....
0.45	3.98	0.22	0.11	4.76	0.83	11.93	11.10	7.89	9.30	1.72
0.42	2.28	0.28	0.14	3.12	0.95	13.20	12.25	8.36	11.16	.....
0.84	0.86	1.84	2.58	6.12	0.63	4.05	3.42	0.41	7.14	.....
0.49	6.32	0.08	0.39	7.28	0.45	8.38	7.93	6.59	7.40	.....
0.61	4.26	0.00	0.16	5.03	0.70	11.13	10.43	5.12	5.50	.....
0.72	2.14	0.68	2.72	6.26	0.73	8.88	8.15	2.06	2.06	.....
.....	.....	.....	.....	.....	0.43	10.73	10.30	20.54	20.54	.....
.....	.....	.....	.....	.....	0.50	14.93	14.43	15.35	15.72	.....
0.51	2.08	0.62	1.63	4.84	1.13	10.80	9.67	6.15	6.48	.....
.....	.....	.....	.....	.....	0.63	11.05	10.42	18.25	20.44	.....
.....	.....	.....	.....	.....	0.45	16.00	15.55	13.68	14.48	.....
0.65	3.22	0.10	0.35	4.32	1.05	13.08	12.03	3.84	5.14	.....
0.16	4.44	0.20	0.36	5.16	0.58	9.75	9.17	7.93	10.04	2.77
0.00	4.24	0.44	0.34	5.02	0.45	9.25	8.80	8.13	10.20	2.18
0.35	4.56	0.36	0.29	5.56	0.75	11.50	10.75	4.59	5.02	.....
0.53	4.00	0.20	0.36	5.09	1.08	12.05	10.97	9.24	10.26	.....
0.16	4.60	0.12	0.42	5.30	0.50	11.40	10.90	9.10	10.72	1.76
0.61	5.36	0.16	0.27	6.40	0.20	8.80	8.60	1.26	9.36	.....
0.29	4.78	0.46	0.75	6.28	0.33	8.13	7.80	3.63	4.44	.....
0.00	4.06	0.72	1.13	5.91	0.58	11.25	10.67	4.49	5.94	.....
0.39	4.20	0.12	0.34	5.05	0.55	8.75	8.20	5.37	7.42	.....
0.27	4.32	0.20	0.33	5.12	0.58	9.35	8.77	7.06	7.80	1.32
0.60	4.32	0.00	0.48	5.40	0.70	9.93	9.23	0.54	8.00	.....

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
Apothecaries Hall Co.—Cont'd.		
Waterbury, Conn.		
1117	Liberty Landscape and Golf Course 8-6-2	Windsorville
940	Liberty Special for Fruit and Grass 7-7-7	Suffield
1258	Liberty Tobacco Mixture 5-3-5	Windsorville
1104	Liberty Tobacco Mixture 6-3-6	Windsorville
1257	Liberty Tobacco Mixture with Castor Pomace 6-3-6	Windsorville
1256	Liberty Tobacco Mixture with Cottonhull Ashes 6-3-6	Windsorville
1118	Liberty Tobacco Starter 4-10-0	Windsorville
1259	Liberty Tobacco Starter 5-5-15	Windsorville
Armour Fertilizer Works,		
Carteret, N. J.		
906	Armour's Big Crop Fertilizer 0-14-14	East Windsor Hill ..
1097	Armour's Big Crop Fertilizer 5-8-7	Wapping
907	Armour's Big Crop Fertilizer 5-10-10	East Windsor Hill..
836	Armour's Big Crop Fertilizer 7-7-7	Bolton Notch
1254	Armour's Big Crop Fertilizer Tobacco Special 6-3-6	East Windsor Hill ..
837	Armour's Vertagreen Plant Food 5-10-5	Bolton Notch
835	Armour's Vertagreen Plant Food for Commercial Crops 6-12-12	Bolton Notch
909	Armour's Vertagreen Plant Food for Professional Use 10-6-4	East Windsor Hill ..
Associated Seed Growers, Inc.		
Milford, Conn.		
992	Asgrow Lawn Food 10-6-4	Milford
991	Japedizer 8-6-4	Milford
Joseph Breck & Sons Corp.,		
Boston, Mass.		
868	Brexone Turf-Gro 8-6-2	Manchester
Campbell Fertilizer Co., Inc.,		
Houston, Tex.		
2530	HOU-ACTINITE 6-3-0	Norwalk
Central Chemical Corp.,		
Lebanon, Pa.		
775	Farmrite Gardenrite 5-10-5	West Hartford
805	Farmrite Turf Organite 5-3-0	Hartford

¹Deficiencies are in bold face type.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

In nitrates	Per cent nitrogen				Per cent phosphoric acid			Per cent potash		Magnesium
	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
0.67	6.32	0.06	0.81	7.86	0.60	7.83	7.23	1.74	2.94	.....
0.56	6.34	0.00	0.13	7.03	0.28	7.75	7.47	3.92	7.92	.....
1.16	0.22	0.82	2.85	5.05	0.20	5.04	4.84	0.16	6.64	.....
1.01	0.26	2.08	2.69	6.04	0.25	4.66	4.41	0.62	6.44	.....
1.41	0.10	1.98	3.25	6.74	0.15	5.73	5.58	0.61	7.52	.....
1.23	0.14	1.92	2.97	6.26	0.23	4.80	4.57	0.47	7.08	.....
0.82	2.50	0.40	0.54	4.26	0.55	12.55	12.00	.....	.....	.....
1.41	0.00	2.00	1.30	4.71	0.23	6.93	6.70	0.61	15.94	.....
.....	.....	.....	.....	.....	0.53	14.75	14.22	14.16	14.16	.....
0.46	4.16	0.12	0.22	4.96	0.58	9.40	8.82	7.66	7.66	.....
0.25	4.40	0.10	0.13	4.88	0.50	11.28	10.78	9.36	9.96	.....
0.27	6.62	0.00	0.19	7.08	0.58	8.55	7.97	6.17	7.14	.....
0.42	0.56	2.56	2.24	5.78	0.33	4.41	4.08	1.36	7.95	.....
0.38	4.68	0.02	0.15	5.23	0.75	11.95	11.20	2.63	5.36	.....
0.40	5.24	0.00	0.15	5.79	0.68	12.00	11.32	10.43	11.74	.....
0.85	6.44	0.28	1.57	9.14	0.48	8.53	8.05	4.21	4.82	.....
0.45	5.88	2.64	0.97	9.94	0.25	7.38	7.13	4.81	5.12	.....
0.26	4.70	2.02	0.90	7.88	0.45	7.78	7.33	4.61	5.32	.....
0.35	6.88	0.02	0.59	7.84	0.10	6.80	6.70	0.19	2.46	.....
0.00	3.11	0.00	3.39	6.50	0.40	3.55	3.15	.....	.....	.....
1.00	3.60	0.04	0.18	4.82	0.90	11.90	11.00	4.56	5.96	.....
0.16	0.72	0.52	3.67	5.07	0.73	3.88	3.15	.....	.....	.....

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
Consolidated Rendering Co., Boston, Mass.		
1085	Corenco 0-10-20 Hay and Pasture Special	West Haven
1087	Corenco 0-14-14 Top Dresser	West Haven
1253	Corenco 0-20-20	Springfield, Mass.
1088	Corenco 4-12-4 Complete Manure	West Haven
1086	Corenco 4-12-16 Ladino Special	West Haven
1250	Corenco 5-5-15 Tobacco Starter	Springfield, Mass.
936	Corenco 5-8-7 Potato and General Crop	West Suffield
944	Corenco 5-10-5 Home Garden	Thompsonville
1038	Corenco 5-10-5 Onion Special—Super Truck	Norwalk
576	Corenco 5-10-10 Peerless Potato	New Haven
989	Corenco 5-10-10 Peerless Potato	Woodmont
1261	Corenco 5-10-10-1.2 with Water Soluble Magnesium ..	West Haven
1251	Corenco 6-3-6 Premium Tobacco Grower	Springfield, Mass.
1252	Corenco 6-3-6 Special Tobacco Grower	Springfield, Mass.
1093	Corenco 6-8-8 Potato Special	West Haven
743 ²	Corenco 7-7-7 Complete Fruit and Top Dressing	Southbury
938	Corenco 7-7-7 Complete Fruit and Top Dressing	West Suffield
744	Corenco 8-6-4 Landscape	Seymour
1089	Corenco 8-16-16 Two-In-One	West Haven
935	Spurz-on 3.5-3.5-1.5	West Suffield
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 ³	Davco Granulated Fertilizer 6-8-8 with 0.23% Boron and 0.17% Manganese	Wilson
752 ⁴	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, 0.097%; manganese, 0.18%.⁴Found: boron, 0.089%; manganese, 0.17%.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

In nitrates	Per cent nitrogen				Per cent phosphoric acid			Per cent potash		Magnesium
	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
.....	.....	.....	.....	.....	0.13	9.78	9.65	17.21	20.06	.....
.....	.....	.....	.....	.....	0.33	14.55	14.22	11.75	14.44	.....
.....	.....	.....	.....	.....	0.20	19.20	19.00	19.97	21.42	.....
0.98	3.00	0.00	0.30	4.28	1.05	12.95	11.90	4.90	5.05	.....
0.90	2.86	0.38	0.14	4.28	0.40	13.05	12.65	14.07	17.06	.....
0.31	0.20	2.20	2.13	4.84	0.18	5.95	5.77	0.54	15.32	.....
0.81	3.94	0.18	0.19	5.12	0.23	8.73	8.50	6.01	7.44	.....
0.81	3.28	0.36	0.13	4.58	0.63	11.08	10.45	4.85	5.84	.....
1.03	3.90	0.24	0.15	5.32	0.88	11.20	10.32	2.56	5.38	.....
0.58	4.42	0.34	0.16	5.50	0.18	10.78	10.60	5.54	9.96	.....
0.60	4.18	0.54	0.18	5.50	0.45	11.33	10.88	9.32	10.20	.....
0.79	4.06	0.12	0.27	5.24	0.25	10.53	10.28	8.53	10.76	2.00
0.00	0.16	3.12	2.50	5.78	0.10	3.90	3.80	0.19	7.30	.....
0.37	0.16	2.14	3.46	6.13	0.13	4.53	4.40	0.39	6.50	.....
0.69	5.04	0.66	0.11	6.50	0.20	9.25	9.05	8.59	8.92	.....
0.00	5.86	0.75	0.21	6.82	0.25	7.88	7.63	6.09	7.36	.....
0.85	5.82	0.00	0.17	6.84	0.28	7.98	7.70	6.09	7.84	.....
0.00	4.88	2.23	0.80	7.91	0.10	6.48	6.38	2.37	4.58	.....
1.02	6.58	0.00	0.20	7.80	0.50	17.60	17.10	13.61	16.50	.....
0.00	0.22	1.66	2.50	4.38	.....	3.81	.....	1.00	2.44	.....
0.96	9.54	0.14	0.71	11.35	0.38	5.33	4.95	4.33	4.92	.....
0.00	6.54	2.48	1.64	10.66	0.18	5.93	5.75	4.29	5.20	.....
0.00	4.70	0.06	0.05	4.81	0.55	8.20	7.65	4.74	6.56	.....
0.00	4.96	0.02	0.13	5.11	0.60	11.65	11.05	4.69	5.06	.....
0.00	4.88	0.11	0.02	5.01	0.68	11.65	10.97	9.40	10.38	.....
0.00	5.00	0.70	0.10	5.80	0.45	8.55	8.10	6.75	8.44	.....
0.26	5.00	0.80	0.14	6.20	0.48	8.38	7.90	4.25	8.08	.....
0.00	6.46	0.33	0.06	6.85	0.45	7.55	7.10	5.09	8.24	.....

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
	Eastern States Farmers' Exchange, Inc., West Springfield, Mass.	
986	Eastern States 0-15-30	Bethel
985	Eastern States 0-20-20	Bethel
646	Eastern States 5-10-10-0.6	Norwich
823	Eastern States 5-15-15-0.6	East Hartford
822	Eastern States 6-4-6-1.2 Tobacco	East Hartford
1198	Eastern States 8-4-8-1.2 Tobacco	North Haven
970	Eastern States 8-12-12-1.2 S.M.	New Milford
969	Eastern States 8-16-8-0.6	New Milford
827	Eastern States 8-16-16-0.6	East Hartford
647	Eastern States 10-10-10-0.6	Norwich
	The Espoma Co. Millville, N. J.	
847	Espoma 3-2-1	Greenwich
841	Holly-Tone 4-6-4	Greenwich
	Faesy & Besthoff, Inc., New York, N. Y.	
869	High Organic Pelletized All-Purpose 6-12-6	Manchester
	Fox Point Chemical Co., East Providence, R. I.	
923	Old Fox Brand 0-10-30	Pawcatuck
924	Old Fox Brand 0-12-24	Pawcatuck
912	Old Fox Brand 5-8-7-1.2	Groton
913	Old Fox Brand 5-10-10-1.2	Mystic
911	Old Fox Brand 7-7-7-1.2	Groton
921	Old Fox Turf Brand Fertilizer 8-6-2	Pawcatuck
	Peter Henderson Stump & Walter Co., Jersey City, N. J.	
1130	Red Barn Acidulous 4-10-4	Stamford
1123	Red Barn Emerald Grass 6-10-4	Stamford
1125	Red Barn Garden 5-10-5	Stamford
1127	Red Barn Rose Food 7-10-5	Stamford
1126	Red Barn Treewiz 8-6-4	Stamford
	Old Deerfield Fertilizer Co., Inc., South Deerfield, Mass.	
812	Old Deerfield 5-8-7 Fertilizer	Glastonbury
1202	Old Deerfield 5-8-7-1.2 Fertilizer	South Deerfield, Mass.
1201	Old Deerfield 5-10-5 Fertilizer	South Deerfield, Mass.

¹Deficiencies are in bold face type.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

In nitrates	Per cent nitrogen				Per cent phosphoric acid			Per cent potash		Magnesium
	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
.....	.....	.....	.....	.....	0.50	17.03	16.53	22.87	27.82	.....
.....	.....	.....	.....	.....	0.58	21.60	21.02	17.01	19.44	.....
1.22	3.86	0.02	0.07	5.17	0.50	11.23	10.73	5.12	10.34	1.97
1.13	3.46	0.10	0.18	4.87	0.70	17.68	16.98	10.74	13.42	1.41
0.00	0.54	2.09	3.17	5.80	0.23	4.73	4.50	0.97	6.72	2.71
0.23	0.84	4.46	3.00	8.53	0.20	4.43	4.23	0.47	9.46	2.12
0.40	6.64	0.88	0.08	8.00	0.50	13.40	12.90	9.12	12.26	2.66
0.90	6.44	0.72	0.15	8.21	0.63	16.70	16.07	5.98	8.66	1.46
1.49	6.00	0.00	0.10	7.59	0.65	17.95	17.30	12.44	15.64	0.98
1.36	8.36	0.16	0.12	10.00	0.43	11.03	10.60	4.51	10.56	1.28
.....
0.24	1.14	0.92	1.41	3.71	0.23	3.45	3.22	0.78	2.09	.....
0.00	1.54	0.54	1.42	3.50	0.38	6.33	5.95	2.22	3.32	.....
.....
0.54	3.16	0.18	1.43	5.31	0.55	12.75	12.20	0.20	6.06	.....
.....
.....	.....	.....	.....	.....	0.00	9.33	9.33	29.21	31.50	.....
.....	.....	.....	.....	.....	0.45	13.08	12.63	24.64	24.64	.....
0.52	4.46	0.14	0.10	5.22	0.50	9.10	8.60	7.66	7.66	1.79
0.57	4.26	0.00	0.11	4.94	0.40	10.73	10.33	8.65	9.48	1.67
0.71	6.28	0.06	0.13	7.18	0.15	7.95	7.80	7.30	7.30	1.35
0.62	6.00	0.02	1.49	8.13	0.15	7.00	6.85	2.94	2.94	.....
.....
0.65	4.54	0.04	0.21	5.44	0.40	10.35	9.95	6.03	6.08	.....
2.21	3.22	0.38	0.57	6.38	0.40	11.05	10.65	4.45	4.84	.....
0.48	3.18	0.64	0.16	4.46	1.00	11.08	10.08	5.42	5.42	.....
0.74	3.02	2.50	0.77	7.03	0.25	10.53	10.28	5.66	6.68	.....
0.64	8.30	0.46	0.22	9.62	0.40	7.05	6.65	5.33	6.10	.....
.....
0.70	3.66	0.86	0.23	5.45	0.68	8.93	8.25	5.37	7.18	.....
0.47	4.16	0.62	0.13	5.38	0.23	8.80	8.57	0.40	7.62	2.45
0.52	4.28	0.44	0.19	5.43	0.40	11.33	10.93	4.86	5.76	.....

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
Old Deerfield Fertilizer Co., Inc.—Cont'd. South Deerfield, Mass.		
809	Old Deerfield 5-10-10 Fertilizer	Glastonbury
813	Old Deerfield 6-3-6 Complete Tobacco Fertilizer	Glastonbury
1199	Old Deerfield 6-3-6 Complete Tobacco Fertilizer	South Deerfield, Mass.
1200	Old Deerfield 6-8-8 Special Potato Fertilizer	South Deerfield, Mass.
814	Old Deerfield 7-7-7 Fertilizer	Glastonbury
Olds & Whipple, Inc., Hartford, Conn.		
1215	O & W 0-14-14 Fertilizer	East Hartford
426 ²	O & W 0-20-20 Fertilizer	Cheshire
627 ²	O & W 0-20-20 Fertilizer	Meriden
716 ²	O & W 0-20-20 Fertilizer	Southbury
1214	O & W 4-8-4 Complete Lawn and Grass Fertilizer	East Hartford
867	O & W 4-12-4 Market Garden Fertilizer	Manchester
1210	O & W 5-3-5 Complete Tobacco Fertilizer—Potash derived from Cotton Hull Ash	East Hartford
1211	O & W 5-5-15 High Grade Tobacco Starter	East Hartford
1217	O & W 5-8-6 Luxura	East Hartford
430 ²	O & W 5-8-7 Potato and General Purpose Fertilizer	Cheshire
454 ²	O & W 5-8-7 Potato and General Purpose Fertilizer	New Haven
631 ²	O & W 5-8-7 Potato and General Purpose Fertilizer	Portland
427 ²	O & W 5-10-10 Potato Fertilizer	Cheshire
579 ²	O & W 5-10-10 Potato Fertilizer	Mt. Carmel
709 ²	O & W 5-10-10 Potato Fertilizer	Newtown
1213	O & W 5-10-10 Potato Fertilizer with 1.2% Mg	East Hartford
1209 ³	O & W 6-3-6 Blue Label Tobacco Fertilizer—Potash derived from Cotton Hull Ash	East Hartford
581 ²	O & W 6-3-6 Pomace Base Fertilizer—Potash derived from Cotton Hull Ash	Mt. Carmel
769 ²	O & W 6-3-6 Pomace Base Fertilizer—Potash derived from Cotton Hull Ash	Windsor
428 ²	O & W 6-8-8 Special Potato Fertilizer	Cheshire
715 ²	O & W 6-8-8 Special Potato Fertilizer	Southbury
1212	O & W 6-8-8 Special Potato Fertilizer with 1.2% Mg	East Hartford
429 ²	O & W 7-7-7 Top Dressing and Grass Fertilizer	Cheshire
711 ²	O & W 7-7-7 Top Dressing and Grass Fertilizer	Newtown
641 ²	O & W 8-8-8 Special Fertilizer	Norwich
The Frank S. Platt Co., Inc., New Haven, Conn.		
459	Platt's Special 10-5-5 Lawn Fertilizer	New Haven

¹Deficiencies are in bold face type.²State purchases.³Copper guaranteed, 0.13%; found, 0.30%.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

In nitrates	Per cent nitrogen				Per cent phosphoric acid			Per cent potash		Magnesium
	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As murate	Total	
1.17	3.88	0.08	0.27	5.40	0.55	11.38	10.83	8.12	10.30	....
0.50	0.60	1.84	3.13	6.07	0.35	4.30	3.95	0.66	7.82	....
0.30	0.72	2.12	3.32	6.46	0.23	4.29	4.06	0.94	8.43	....
1.24	5.00	0.00	0.11	6.35	0.50	9.25	8.75	6.91	8.28	....
0.07	6.56	0.40	0.20	7.23	0.30	7.73	7.43	6.25	7.40	....
....	....	....	....	....	0.63	15.50	14.87	10.79	13.33	....
....	....	....	....	....	0.50	21.20	20.70	9.08	19.00	....
....	....	....	....	....	0.15	20.10	19.95	14.50	21.88	....
....	....	....	....	....	0.50	21.30	20.80	15.60	20.96	....
0.59	2.28	0.56	0.70	4.13	0.55	9.23	8.68	2.58	4.88	....
0.00	3.89	0.00	0.23	4.12	0.75	13.25	12.50	3.81	4.72	....
0.90	0.16	1.42	2.70	5.18	0.13	3.49	3.36	0.29	6.48	....
1.20	0.00	2.74	1.48	5.42	0.68	6.40	5.72	1.06	15.09	....
0.57	2.32	0.60	1.56	5.05	0.63	10.93	10.30	5.01	7.42	....
0.56	3.98	0.26	0.48	5.28	0.10	9.23	9.13	5.61	7.70	....
0.63	4.00	0.04	0.53	5.20	0.73	9.30	8.57	5.42	7.56	....
1.09	4.32	0.00	0.27	5.68	0.58	8.85	8.27	5.14	7.76	....
0.82	4.32	0.06	0.25	5.45	0.38	11.08	10.70	8.92	10.76	....
0.85	4.32	0.10	0.20	5.47	0.35	11.23	10.88	8.08	10.80	....
0.65	4.36	0.10	0.21	5.32	0.35	11.18	10.83	8.24	10.50	....
0.42	4.00	0.46	0.47	5.35	0.40	10.90	10.50	8.69	10.00	1.36
0.97	0.20	1.86	2.97	6.00	0.20	3.69	3.49	0.44	6.80	....
0.80	0.06	2.88	2.32	6.06	0.13	4.13	4.00	0.70	6.16	....
1.01	0.26	2.54	2.47	6.28	0.08	3.93	3.85	0.62	6.06	....
0.78	4.86	0.00	0.62	6.26	0.08	9.00	8.92	5.42	8.56	....
0.50	4.90	0.30	0.60	6.30	0.55	8.90	8.35	2.71	8.22	....
0.37	4.92	0.34	0.45	6.08	0.20	9.20	9.00	1.20	8.18	1.38
0.69	3.98	1.86	0.78	7.31	0.50	8.05	7.55	5.93	7.56	....
0.98	4.36	1.12	0.80	7.26	0.73	8.10	7.37	4.36	7.76	....
0.00	5.94	2.10	0.10	8.14	0.38	9.38	9.00	2.06	8.42	....
0.23	5.60	2.40	1.17	9.40	0.10	6.48	6.38	3.96	5.74	....

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
	Ra-Pid-Gro Corp., Danville, N. Y.	
707	Ra-Pid-Gro 23-21-17	Clinton
	The Rogers & Hubbard Co., Portland, Conn.	
779	Gro-Fast Acid Fertilizer 4-10-4	Bloomfield
630	Gro-Fast Plant Food 5-10-5	Meriden
996	Gro-Fast Rose Food 7-10-5	Bridgeport
1070	Hubbard 0-20-20	Portland
700 ²	Hubbard 10-5-5	New London
717 ²	Hubbard 10-5-5	Southbury
1065 ²	Hubbard 10-6-2	Portland
1071	Hubbard Alfalfa Fertilizer 0-14-14	Portland
1069 ³	Hubbard Alfalfa Fertilizer 0-14-14 with 0.55% Boron	Portland
636 ²	Hubbard Corn Fertilizer 4-12-4	Middletown
697	Hubbard Corn Fertilizer 4-12-4	Guilford
712 ²	Hubbard Corn Fertilizer 4-12-4	Newtown
1262 ²	Hubbard Corn Fertilizer 4-12-4	Newtown
968	Hubbard Dairy Fertilizer 0-10-20	New Milford
1067	Hubbard Double Strength Fertilizer 8-16-16	Portland
625 ²	Hubbard Garden Fertilizer 5-10-5	Meriden
632 ²	Hubbard Garden Fertilizer 5-10-5	Middletown
626 ²	Hubbard General Crop Fertilizer 5-10-10	Meriden
690	Hubbard General Crop Fertilizer 5-10-10 with 1.2% Mg	Norwich
1064	Hubbard General Crop Fertilizer 5-10-10 with 1.2% Mg	Portland
778	Hubbard Golf Course Fertilizer 8-6-2	Bloomfield
966	Hubbard Potato Fertilizer 5-8-7	New Milford
967	Hubbard Seeding Fertilizer 3-12-12	New Milford
1057	Hubbard Tobacco Grower 6-3-6	Portland
583 ²	Hubbard Top Dressing 7-7-7	Meriden
573	Hubbard Vegetable Fertilizer 5-8-7	New Haven
1079	Hubbard Weed-Kil Lawn Food 6-10-4 (contains 2,4-D)	Portland
	Rose Manufacturing Co., Beacon, N. Y.	
848	Triogen Rose Food 5-10-5	Greenwich
	O. M. Scott & Sons Co., Marysville, Ohio	
628	Scott's Turf Builder 9-7-4	Meriden
872	Scott's Weed and Feed 7-11-5	Manchester

¹Deficiencies are in bold face type.²State purchases.³Boron found, 0.54%.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

Per cent nitrogen					Per cent phosphoric acid			Per cent potash		Magnesium
In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muricate	Total	
3.50	4.46	15.02	0.08	23.06	0.00	21.70	21.70	0.00	16.08	.....
0.18	2.06	1.02	1.20	4.46	0.33	10.90	10.57	3.47	4.70	.....
0.45	1.86	1.58	1.21	5.10	0.30	10.65	10.35	4.66	5.80	.....
0.00	3.44	1.00	2.14	6.58	1.80	13.50	11.70	0.96	6.30	.....
					0.15	18.65	18.50	19.20	20.14	.....
0.32	4.88	4.12	0.27	9.59	0.28	6.35	6.07	4.29	5.42	.....
0.36	4.96	3.94	0.20	9.46	0.25	6.78	6.53	5.13	6.04	.....
0.69	8.56	0.00	0.31	9.56	0.20	8.15	7.95	2.27	3.18	.....
.....	.....	.....	.....	.....	0.53	14.88	14.35	12.74	14.82	.....
.....	.....	.....	.....	.....	0.13	14.25	14.12	14.19	15.54	.....
0.62	3.06	0.30	0.40	4.38	1.23	12.73	11.50	3.07	5.10	.....
0.33	3.36	0.50	0.31	4.50	1.43	12.73	11.30	3.91	4.86	.....
0.00	1.46	0.40	0.16	2.02	0.80	17.40	16.60	0.90	2.33	.....
0.82	3.34	0.00	0.20	4.36	1.20	13.15	11.95	3.35	4.20	.....
.....	.....	.....	.....	.....	0.28	10.85	10.57	17.95	20.76	.....
0.27	7.06	0.44	0.27	8.04	0.45	15.75	15.30	13.57	15.87	.....
0.62	4.32	0.12	0.24	5.30	0.78	11.78	11.00	2.54	5.58	.....
0.77	4.02	0.34	0.17	5.30	0.75	11.75	11.00	3.84	5.62	.....
0.86	4.12	0.00	0.19	5.17	0.45	13.48	13.03	8.20	10.66	.....
0.60	4.38	0.06	0.35	5.39	0.43	11.15	10.72	6.11	10.08	2.13
0.32	3.94	0.56	0.22	5.04	0.43	12.28	11.85	9.00	10.72	1.79
0.20	3.64	2.20	1.50	7.54	0.20	7.53	7.33	2.51	3.32	.....
0.49	3.00	0.74	1.39	5.62	0.43	8.65	8.22	6.37	7.52	.....
0.66	2.30	0.24	0.24	3.44	1.18	13.30	12.12	10.71	11.86	.....
1.35	0.32	1.74	2.83	6.24	0.18	3.73	3.55	0.52	7.34	.....
0.00	6.36	0.47	0.25	7.08	0.25	8.25	8.00	5.06	7.16	.....
0.00	4.10	0.97	0.25	5.32	0.40	8.78	8.38	4.40	7.06	.....
0.34	3.76	0.12	1.08	5.30	0.38	11.75	11.37	3.87	4.10	.....
0.58	2.88	1.12	0.62	5.20	1.03	11.15	10.12	0.82	5.22	.....
0.60	5.68	0.00	2.29	8.57	0.43	8.00	7.57	3.69	5.24	.....
0.00	4.30	0.14	3.25	7.69	0.23	12.10	11.87	3.40	5.22	.....

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
	Sears, Roebuck & Co., Chicago, Ill.	
1121	Cross Country Lawn Food 5-2.25-0	Stamford
1120	Cross Country Lawn Food and Weed Killer 5-10-5 ..	Stamford
994	Cross Country Plant Food 5-10-5	Bridgeport
	M. L. Shoemaker, Inc., Div. Wilson & Co., Philadelphia, Pa.	
770	M. L. Shoemaker's "Swift-Sure" Tobacco Starter 4-10-0	Windsor Locks
	Stimuplant Laboratories Co., Columbus, Ohio	
851	Stim-U-Plant for African Violets 3.2-6-5	Greenwich
	Swift & Co., Boston, Mass.	
922	All Organic Lawn Food 5-3-0	Pawcatuck
1037	Red Steer 5-8-7	Norwalk
455	Vigoro 5-10-5	New Haven
	Tennessee Corp., Lockland, Ohio	
842 ²	Loma 8-8-8 Mineralized	Greenwich
	Victor Chemical Works, Chicago, Ill.	
1033	"Take-Hold" 10-52-17	Waterbury
	Oscar F. Warner, Waterbury, Conn.	
1030	Warner's Grubedizer 8-6-4	Waterbury
1032	Warner's Lawn Food 8-6-4	Waterbury
1031 ¹	Warner's Tree Food 12-6-4	Waterbury
	F. H. Woodruff & Sons, Inc. Milford, Conn.	
993	Turf-Maker Lawn Food (Gro-Sod) 10-6-4	Milford

¹Deficiencies are in bold face type.

²Boron guaranteed, 0.05%; found, 0.046%; copper guaranteed, 0.15%; found, 0.34%; iron guaranteed, 0.20%; found, 0.27%; manganese guaranteed, 0.50%; found, 0.67%; zinc guaranteed, 0.20%; found, 0.17%.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

In nitrates	Per cent nitrogen				Per cent phosphoric acid			Per cent potash		Magnesium
	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
0.00	0.10	0.20	4.53	4.83	1.23	4.76	3.53	.....	.....	.....
0.35	4.16	0.06	1.13	5.70	1.23	9.70	8.47	7.64	9.34	.....
0.42	3.72	0.70	0.18	5.02	0.95	11.43	10.48	4.55	5.68	.....
0.50	2.34	0.52	0.92	4.28	1.13	11.75	10.62	.....	.....	.....
0.00	2.22	7.37	0.11	9.70	0.08	11.65	11.57	8.61	8.62	.....
0.00	0.00	0.39	4.94	5.33	0.70	4.95	4.25	.....	.....	.....
0.34	4.40	0.14	0.10	4.98	0.50	9.20	8.70	3.51	7.66	.....
0.60	4.56	0.00	0.11	5.27	0.53	10.75	10.22	4.57	5.74	.....
0.08	6.50	0.94	0.46	7.98	0.40	9.25	8.85	5.67	8.12	.....
0.50	9.04	0.12	0.02	9.68	0.05	52.80	52.75	0.00	19.09	.....
0.21	2.10	3.62	2.57	8.50	0.68	7.05	6.37	4.01	4.08	.....
0.11	1.80	3.24	2.85	8.00	0.45	6.48	6.03	4.49	4.70	.....
0.32	2.08	6.92	1.96	11.28	0.38	7.10	6.72	3.93	4.04	.....
0.46	3.82	2.82	2.12	9.22	0.15	7.33	7.18	3.61	4.34	.....

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
	Woodruff Fertilizer Works, Inc., North Haven, Conn.	
1163	Woodruff's 0-14-14 Fertilizer	North Haven
953	Woodruff's 5-8-7 Fertilizer	Hamden
1197	Woodruff's 5-8-7 Fertilizer	North Haven
1165	Woodruff's 5-10-5 Fertilizer	North Haven
954	Woodruff's 5-10-10 Fertilizer	Hamden
1166	Woodruff's 6-8-8 Fertilizer	North Haven
1157	Woodruff's 7-7-7 Fertilizer	North Haven
457	Woodruff's Lawn and Tree Food 10-5-5	New Haven
1193	Woodruff's Lawn and Tree Food 10-5-5	North Haven
1164	Woodruff's Tobacco Fertilizer with Cottonseed Base 6-3-6	North Haven
1141	Woodruff's Tobacco Starter 5-5-15	North Haven

¹Deficiencies are in bold face type.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH¹

In nitrates	Per cent nitrogen				Per cent phosphoric acid			Per cent potash		Magnesium
	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
.....	.....	.....	.....	.....	1.05	14.35	13.30	14.87	16.49	.....
0.51	3.56	0.72	0.24	5.03	0.33	8.50	8.17	6.15	7.14	.....
0.52	3.32	0.80	0.36	5.00	0.33	8.33	8.00	6.10	6.96	.....
1.29	3.38	0.38	0.18	5.23	0.33	11.30	10.97	3.79	5.54	.....
0.57	3.68	0.70	0.14	5.09	0.28	10.60	10.32	5.89	10.36	.....
1.41	4.00	0.36	0.27	6.04	0.45	8.78	8.33	6.91	8.03	.....
0.00	4.28	2.39	0.17	6.84	0.00	7.50	7.50	5.46	7.12	.....
0.81	3.96	1.10	0.29	6.16	0.25	6.75	6.50	5.34	6.82	.....
0.48	2.96	6.16	0.62	10.22	0.30	6.53	6.23	5.54	7.26	.....
0.46	0.98	2.20	2.67	6.31	0.30	3.48	3.18	0.44	6.28	.....
1.30	0.48	2.58	1.01	5.37	0.30	5.88	5.58	0.73	14.82	.....

TABLE 6. ANALYSES OF SHEEP MANURE, ETC.¹

Station No.	Manufacturer and brand	Place of sampling
1255	Sheep Manure. Apothecaries Hall Co., Waterbury, Conn.	Windsorville: Apothecaries Hall Co.
846	Armour's Pulverized Sheep Manure. Armour Fertilizer Works, Carteret, N. J.	Greenwich: McArdle's Seed Store
803	DRICONURE. Atkins & Durbrow, Inc., New York, N. Y.	Hartford: Cadwell & Jones ..
804	Farmrite Sheep Manure. Central Chemical Corp., Lebanon, Pa.	Hartford: Cadwell & Jones ..
799	Corenco Sheep Manure. Consolidated Rendering Co., Boston, Mass.	Bloomfield: Bloomfield Farmers' Exchange, Inc.
961	Davey Shredded Manure. The Davey Tree Expert Co., Kent, Ohio	Old Greenwich: The Davey Tree Expert Co.
1131	Red Barn Sawconure. Peter Henderson Stumpp & Walter Co., Jersey City, N. J.	Stamford: Peter Henderson Stumpp & Walter Co.
838	Longhorn Brand Cattle Manure. Natural Plant Food Co., Oklahoma City, Okla. ..	Greenwich: McArdle's Seed Store
978	Wizard Brand Cow Manure. The Pulverized Manure Co., Chicago, Ill.	Danbury: H. E. Mecker
943	Wizard Brand Pulverized Sheep Manure. The Pulverized Manure Co., Chicago, Ill.	Thompsonville: Brainard Nursery & Seed Co.
696	Gro-Fast Cow Manure. The Rogers & Hubbard Co., Portland, Conn.	Guilford: Fred C. Morse & Son
928	Gro-Fast Sheep Manure. The Rogers & Hubbard Co., Portland, Conn.	New London: Aben Hardware Co.
982	Cross Country Sheep Manure. Sears, Roebuck & Co., Chicago, Ill.	Danbury: Sears, Roebuck & Co.
745	Farmanure. Wendell S. Still, Selden, N. Y. ..	Seymour: Seymour Grain & Coal Co.
964	Sheep Manure. Swift & Co., Boston, Mass. ..	Darien: Ring's End Fuel Co.
461	Bovung. Walker-Gordon Laboratory Co., Plainsboro, N. J.	New Haven: The Frank S. Platt Co.

¹Deficiencies are in bold face type.²Guaranteed available, 1.0%.³Guaranteed available, 0.75%.

TABLE 6. ANALYSES OF SHEEP MANURE, ETC.¹

In ammonia	Per cent nitrogen				Per cent phosphoric acid				Per cent potash		Sand
	Organic water-soluble	Organic water-insoluble	Total found	Total guaranteed	Citrate-insoluble	Total found	Total guaranteed	So-called "available" found	Total found	Total guaranteed	
0.00	0.36	0.64	1.09	1.00	....	0.54	0.25	....	3.07	1.00	53.40
0.00	0.36	1.44	1.80	1.50	....	2.19	1.00	....	3.04	2.00	27.17
0.22	0.57	0.75	1.54	2.00	0.23	1.41	....	1.18 ²	1.09	1.00	49.35
0.08	0.29	1.79	2.16	2.00	....	1.43	1.00	....	3.09	1.00	13.36
0.14	0.43	1.54	2.11	2.00	....	2.03	1.00	....	2.81	2.00	26.70
0.28	0.89	1.83	3.00	2.00	0.88	2.90	....	2.02 ²	2.21	1.00	15.60
0.30	1.02	1.68	3.00	2.00	0.38	4.89	....	4.51 ²	2.87	1.00	5.13
0.04	0.28	1.65	1.97	2.00	....	1.56	1.00	....	2.51	2.00	29.54
0.00	0.70	1.53	2.23	2.00	0.30	1.66	....	1.36 ²	2.97	1.00	12.83
0.08	0.40	1.72	2.20	2.00	0.28	2.33	....	2.05 ²	3.41	2.00	18.18
0.14	0.31	1.77	2.22	2.00	....	1.65	1.00	....	1.86	1.00	2.47
0.12	0.21	1.17	1.50	1.25	0.53	2.05	....	1.52 ²	3.39	2.00	31.01
0.04	0.33	1.50	1.87	1.50	0.33	2.05	....	1.72 ³	5.12	2.00	21.38
0.34	0.89	2.02	3.25	2.00	0.28	2.58	....	2.30 ²	1.64	1.00	19.30
0.10	0.22	1.45	1.77	2.00	0.35	2.08	....	1.73 ²	2.83	2.00	28.52
0.06	0.50	1.51	2.07	2.00	0.15	1.66	....	1.51 ²	2.33	1.00	....

TABLE 7. ANALYSES OF LIMESTONE AND SIMILAR MATERIALS¹

Station No.	Manufacturer and brand	Sampled from stock of or sent by	Calcium oxide, per cent	Magnesium oxide, per cent
	Connecticut Adamant Plaster Co., New Haven, Conn.			
8685	Land Plaster	Simsbury: Cullman Bros., Inc.	33.51	.....
9520	Land Plaster	Simsbury: Cullman Bros., Inc.	33.81	.....
	Manufacturer Unknown			
8213	Hydrated Lime	Waterbury: Apothecaries Hall Co.	37.23	25.80
8214	Hydrated Lime	Waterbury: Apothecaries Hall Co.	38.42	26.37
	New England Lime Co., Canaan, Conn.			
7685	Hydrated Lime	Bloomfield: American Sumatra Tobacco Co.	42.50	30.01
8686	Agricultural Hydrated Lime	Simsbury: Cullman Bros., Inc.	72.01 ²	0.52³
8819	Hydrated Lime	Suffield: Hatheway-Steane Corp.	42.73	27.98
8820	Hydrated Lime	Suffield: Hatheway-Steane Corp.	41.17	27.68
	Standard Milling Co., Chicago, Ill.			
8254	Land Plaster	Suffield: Hatheway-Steane Corp.	33.95	.....

¹Deficiencies are in bold face type.²Guaranteed, 70.00%.³Guaranteed, 0.05%.

TABLE 8. ANALYSES OF SMALL PACKAGE FERTILIZER¹

Station No.	Manufacturer and brand	Place of sampling	Per cent nitrogen					Per cent phosphoric acid			Per cent potash	
			In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total
1132	A-M-R Chemical Co., Inc., Brooklyn, N. Y. Kem Liquid Plant Food 0.08-16-10 ..	Stamford	0.01	0.02	0.05	0.00	0.08	0.00	0.17	0.17	0.00	0.36
	The American Agricultural Chemical Co., North Weymouth, Mass.											
695	Agrico for Broadleaf Evergreens 6-10-4	Branford	0.49	4.92	0.10	0.55	6.06	0.40	11.13	10.73	3.39	4.68
930	Agrico for Gardens 5-10-5	New London ...	0.59	4.44	0.00	0.11	5.14	0.60	11.55	10.95	5.12	6.00
1136	Agrico for Lawns, Trees and Shrubs 6-10-4	Stamford	0.57	4.60	0.18	0.88	6.23	0.70	11.53	10.83	4.41	5.00
833	Agrico Rose Food 5-9-6	East Hartford ..	0.23	2.44	0.98	1.96	5.61	1.18	10.38	9.20	5.63	5.63
	Apothecaries Hall Co., Waterbury, Conn.											
981	Green-Gro Acid Fertilizer 8-5-5	Danbury	0.00	6.66	0.68	1.12	8.46	0.13	6.35	6.22	5.34	5.58
1027	Green-Gro Fertilizer Mixture 6-7-4 ...	Fairfield	0.14	4.90	0.68	0.72	6.44	0.50	8.90	8.40	2.82	4.68
962	Green-Gro Home Garden Fertilizer 5-8-7	Old Greenwich .	0.32	4.36	0.20	0.65	5.53	0.60	9.35	8.75	7.02	7.02
713 ²	Green-Gro Raw Bone Meal 3.7-20 ...	Newtown .....	.....	0.10	.....	.....	4.32	.....	21.80	.....	.....	.....
746	Green-Gro Rose Food 5-7-6	Seymour	0.34	4.02	0.10	0.90	5.36	0.38	8.70	8.32	4.74	7.32
692 ³	Green-Gro Sheep Manure 1-0.25-1 ...	Norwich	0.00	0.02	0.19	1.29	1.50	0.45	1.91	1.46	.....	3.58

¹Deficiencies are in bold face type.²Mechanical analysis: fine, 2.0%; coarse, 98.0%.³Sand, 34.20%.

941	Carbola Chemical Co., Inc., Natural Bridge, N. Y. CCC Triple 20 Plant Food 20-20-20 ..	Thompsonville ..	3.99	7.62	8.82	0.05	20.48	0.05	20.05	20.00	0.00	21.70
959	Clay & Son, Stratford, London, England Clay's London Fertilizer 48-0	Darien	0.00	2.94	0.09	1.57	4.60	2.05	11.65	9.60	.....	.....
1133	Drum Chemicals, Brooklyn, N. Y. Boost Plant Food 10-20-10	Stamford	0.69	4.82	4.86	0.04	10.41	0.00	23.80	23.80	13.09	14.46
904	Eastern States Farmers' Exchange, Inc., West Springfield, Mass. Eastern States Plant Starter 10-52-17 ..	Rockville	0.32	8.80	0.00	0.00	9.12	0.00	52.00	52.00	0.15	19.72
866	Faesy & Besthoff, Inc., New York, N. Y. All Purpose High Organic Pelletized 6-12-6	Manchester	0.57	3.56	0.48	1.69	6.30	1.00	13.65	12.65	5.08	5.72
776	Goulard & Olena, Inc., Skillman, N. J. G & O Rhodo-Azalea-Camellia-Holly- Blueberry Food 3-20-3	West Hartford ..	0.58	2.84	0.22	1.44	5.08	0.43	7.20	6.77	14.22	15.35
2435	G & O Rhodo-Azalea-Camellia-Holly- Blueberry Food 3-20-3	West Hartford ..	0.00	1.81	0.55	1.00	3.36	0.68	18.45	17.77	4.62	5.56
952	G & O Rose Food 7-8-5	Thompsonville ..	0.57	3.68	0.66	1.61	6.52	0.75	10.58	9.83	5.09	6.00
1134 ⁴	Peter Henderson Stumpp & Walter Co., Jersey City, N. J. Bone Meal 2.47-23	Stamford .....	.....	.....	.....	.....	2.74	.....	23.90	.....	.....	.....
1135	Sawco General Garden Fertilizer 5-10-5	Stamford	0.66	3.36	0.42	0.20	4.64	0.90	11.35	10.45	5.44	6.70

¹Deficiencies are in bold face type.²Sand, 49.54%.³Sand, 21.75%.⁴Mechanical analysis: fine, 54.0%; coarse, 46.0%.