

State of Connecticut

The Connecticut Agricultural
Experiment Station

NEW HAVEN, CONN.

Bulletin 233

BEING THE

FERTILIZER REPORT FOR 1921

With appended analyses of insecticides and fungicides

CONNECTICUT AGRICULTURAL EXPERIMENT STATION
OFFICERS AND STAFF

Connecticut Agricultural Experiment Station

NEW HAVEN, CONN.

BULLETIN 233

NOVEMBER, 1921

Fertilizer Report for 1921

By E. H. JENKINS, *Director*, and
E. M. BAILEY, *Chemist in Charge of the
Analytical Laboratory*.

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OFFICERS AND STAFF

October, 1921.

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Report on Commercial Fertilizers, 1921

BY E. H. JENKINS, *Director*, and E. M. BAILEY,
Chemist in Charge of the Analytical Laboratory.

We desire here to emphasize certain points regarding the law and the gratuitous analysis of fertilizers, which do not seem to be fully understood by those concerned. Complete understanding of these points will greatly increase the effectiveness of our work and its value, both to sellers and users of fertilizers.

What is required of all who sell commercial fertilizers in this state?

The seller is responsible for the proper labeling of each package, as provided in Section 1 of the law, for the registration at the Station of every brand sold by him and for the payment of the analysis fee, before offering for sale, and annually thereafter on January 1st.

The seller must also, on the 1st of January and July, report the tonnage of fertilizer sold within the preceding six months and pay to the director of the Station a tonnage fee of 6 cents per ton.

On request, copies of the law and blanks for registration and for tonnage reports will be supplied by the Station.

If, however, proper labeling, registration and payments have been provided for by the manufacturer of the brands or by another responsible person, all sellers of such brands are released from the above mentioned requirements. *The retailer, therefore, should assure himself that the requirements of the law have been met by the manufacturers of the brands which he handles, or himself be prepared to meet all these requirements.*

What is required of persons drawing samples for analysis?

The Station every year analyzes a large number of samples sent by individuals, representing fertilizers bought by them for their own use. The object of the sender is to learn whether the fertilizer contains all that is guaranteed, and, if it does not, to provide evidence for a claim against the seller. *It is absolutely necessary that the sample should be taken essentially in the way prescribed by the law and in the presence of a witness.* If this is not done, it will be difficult to prove the fairness of the sample, the Station will have been put to useless expense and the analysis of the sample will not be of any value to the sender. Therefore, the Station will supply to any applicant a form which describes the method of sampling and on which the sample should be fully described. This description should be sent to the Station with

(not in) the sample. It thus makes the analysis of public interest and value, which is the only justification for doing the work at state expense, and it is the only way by which it is possible for the sender to learn the true composition of the stock sampled and to prove its composition if a claim for rebate is made.

The Station desires to know the retail cash ton price of each fertilizer but, if so requested, will not publish the information.

In 1921, 76 individuals and firms registered for sale in this state 544 brands of commercial fertilizers, classified as follows:

Nitrogenous superphosphates	330
Cotton seed meal and castor pomace	61
Other chemicals and unmixed materials	153
Total	544

To meet the legal requirements, the following list of registered brands has been prepared:

American Agricultural Chemical Co., 2 Rector St., New York, N. Y.

Basic Lime Phosphate
 Bone-Phosphate and Potash
 Castor Pomace
 Complete Potato Mixture
 Cotton Seed Meal
 Double A Tobacco Fertilizer
 Dry Ground Fish
 Fine Ground Bone
 Fish and Potash
 Grass and Lawn Top Dressing
 Grass and Oats Fertilizer
 Ground Tankage
 High Grade Acid Phosphate
 High Grade Ground Bone
 High Grade Sulphate of Potash
 Kainit
 Monarch Potato Manure
 Muriate of Potash
 Nitrate of Soda
 Pulverized Sheep Manure
 16% Acid Phosphate
 Special Ground Bone
 Sulphate of Ammonia
 Tobacco Mixer
 Tobacco Special
 Universal Phosphate
 Bradley's Complete Manure for Top Dressing Grass and Grain
 Bradley's Corn Phosphate
 Bradley's New Method Fertilizer
 Bradley's Northland Potato Grower
 Bradley's Potato Fertilizer
 Bradley's Potato Manure
 Bradley's Reliable 6% Potash Fertilizer

Bradley's Valley Tobacco Fertilizer
 Bradley's XL Superphosphate of Lime
 Great Eastern General 1921
 Great Eastern Northern Corn Special 1920
 Great Eastern Potato Manure 1920
 Packers' Union Animal Corn Fertilizer
 Packers' Union Potato Manure 1921
 Packers' Universal Fertilizer 1920
 Quinnipiac Climax Phosphate
 Quinnipiac Corn Manure
 Quinnipiac Phosphate
 Quinnipiac Potato Phosphate
 Quinnipiac Potato Manure
 Quinnipiac Wrapper Leaf Brand Tobacco Manure Revised
 Wheeler's Corn Fertilizer
 Wheeler's Cuban Tobacco Grower
 Wheeler's Potato Manure 1920
 Williams & Clark's Americus Ammoniated Bone Superphosphate
 Williams & Clark's Americus Corn Phosphate
 Williams & Clark's Americus Potato Manure
 Williams & Clark's Potato Phosphate
 Williams & Clark's Prolific Fertilizer
 Williams & Clark's Seed Leaf Tobacco Manure

American Agricultural Chemical Co. of New Jersey, Newark, N. J.

Listers Balancer for Cotton Seed Meal
 Listers Bone Meal 1916
 Listers Celebrated Ground Bone and Tankage Acidulated
 Listers Celebrated Tobacco Fertilizer
 Listers Complete Tobacco Fertilizer without Potash
 Listers Complete Tobacco Manure
 Listers Corn and Potato Fertilizer
 Listers Eastern Pride Fertilizer
 Listers Fish and Potash Fertilizer
 Listers 4-8-4 Fertilizer
 Listers High Grade Acid Phosphate
 Listers Standard Pure Superphosphate of Lime
 Listers Success Fertilizer
 Listers Tobacco Fertilizer
 Nitrate of Soda

American Cotton Oil' Co., 65 Broadway, New York, N. Y.

"Acco" Brand Cotton Seed Meal
 "Surety" Brand Cotton Seed Meal

American Milling Co., Peoria, Ill.

43% Amco Cottonseed Meal

Apothecaries Hall Co., Waterbury, Conn.

Acid Phosphate
 Bone and Meat Tankage
 Bone Meal
 Castor Pomace
 Fish
 Ground Animal Tankage
 Liberty Corn, Fruit and All Crops
 Liberty Market Gardeners' Special
 Liberty Market Gardeners' Special (potash)
 Liberty Potato and Vegetable Special
 Liberty 3-8-4
 Liberty Tobacco Special
 Liberty Tobacco Special (potash)

Muriate of Potash
 Nitrate of Soda
 Sheep Manure
 Sulphate of Ammonia
 Sulphate of Potash

Armour Fertilizer Works, 305 Broadway, New York, N. Y.

Armour's Big Crop Acid Phosphate
 Armour's Big Crop Fertilizer 0-10-5
 Armour's Big Crop Fertilizer 3-8-4
 Armour's Big Crop Fertilizer 4-10-0
 Armour's Big Crop Fertilizer 5-8-5
 Armour's Big Crop Potato & Onion 4-8-4
 Armour's Big Crop Tobacco Special 5-4-5
 Armour's Corn Grower 2-8-2
 Armour's Fertilizer 5-4-3
 Armour's General Crop 1-7-1
 Armour's Nitrate of Soda
 Armour's Sheep Manure

Ashcraft-Wilkinson Co., 1309 Candler Building, Atlanta, Ga.

Helmet Brand Prime Cotton Seed Meal
 Monarch Brand
 Paramount Brand Good Cotton Seed Meal

Atlantic Packing Co., New Haven, Conn.

Atlantic Acid Phosphate
 Atlantic Cotton Seed Meal
 Atlantic Dry Ground Fish
 Atlantic 5-8
 Atlantic 4-8-6
 Atlantic Grain Fertilizer
 Atlantic Potato Phosphate
 Atlantic Special Vegetable
 Atlantic Superphosphate
 Atlantic Tankage
 Atlantic Tobacco
 Atlantic Tobacco Grower
 Atlantic Tobacco Manure
 Atlantic Tobacco Special

Baker Castor Oil Co., 120 Broadway, New York, N. Y.

Pure Castor Pomace

Barrett Company, 17 Battery Place, New York, N. Y.

Arcadian Sulphate of Ammonia

Berkshire Fertilizer Co., Bridgeport, Conn.

Acid Phosphate
 Berkshire Ammoniated Bone Phosphate
 Berkshire Complete Fertilizer
 Berkshire Complete Tobacco
 Berkshire Grass Special
 Berkshire Long Island Special
 Berkshire Market Garden Fertilizer
 Berkshire Potato and Vegetable Phosphate
 Berkshire Tobacco Grower
 Berkshire Tobacco Starter
 Castor Pomace
 Dry Ground Fish
 Fine Ground Bone
 43% Protein Cotton Seed Meal
 Ground Sheep Manure

Muriate of Potash
 Nitrate of Soda
 Precipitated Bone Phosphate
 Sulphate of Potash
 Tankage 7-5-10
 Tankage 5-18
 Vegetable Potash

Boardman, F. E., Middletown, Conn.

Boardman's Complete Fertilizer for Potatoes and General Crops
 Boardman's Complete Fertilizer for Tobacco

Bowker Fertilizer Co., 60 Trinity Place, New York, N. Y.

Bowker's 16% Acid Phosphate
 Bowker's All Round Fertilizer
 Bowker's Conn. Valley Tobacco Fertilizer
 Bowker's Corn, Grain and Grass Phosphate
 Bowker's Fisherman's Brand Fish and Potash
 Bowker's Fresh Ground Bone
 Bowker's Hill and Drill Phosphate
 Bowker's Lawn and Garden Dressing Revised
 Bowker's Nitrate of Soda
 Bowker's Potato and Vegetable Phosphate
 Bowker's Square Brand Farm and Garden Phosphate
 Bowker's Superphosphate with Ammonia 4%
 Bowker's Sure Crop Phosphate Revised
 Bowker's Tobacco Elements
 Bowker's Tobacco Grower
 Maryland Corn Phosphate
 Maryland Standard Fertilizer
 Maryland Truck Garden Fertilizer
 Stockbridge "B" General Crop Manure
 Stockbridge Early Crop Manure
 Stockbridge Market Garden Manure
 Stockbridge Tobacco Manure
 Stockbridge Top Dressing and Forcing Manure

Brodé's Sons, Amos D., Inc., Hazardville, Conn.

Corn, Potato and General Purpose Fertilizer
 Special Tobacco Fertilizer

Brodé, F. W., Corporation, 119 Madison Ave., Memphis, Tenn.

Owl Brand 43 Cotton Seed Meal
 Owl Brand 41 Cotton Seed Meal

Buckeye Cotton Oil Co., Gwynn Building, 6th and Main Sts., Cincinnati, Ohio.

"Buckeye" Good Cotton Seed Meal
 "Buco" Cotton Seed Feed

Chittenden, E. D., Co., Bridgeport, Conn.

Chittenden's Complete Tobacco and Onion Grower with 4% Potash
 Chittenden's Complete Tobacco and Onion Grower with 6% Potash
 Chittenden's Complete Tobacco and Onion Grower without Potash
 Chittenden's Dry Ground Fish
 Chittenden's High Grade Potato with 4% Potash
 Chittenden's Tobacco Special with 5% Potash
 Chittenden's Tobacco Special without Potash
 Chittenden's Vegetable and Onion Grower with 3% Potash
 Chittenden's Vegetable and Onion Grower without Potash
 Ground Castor Pomace

Clark, Everett B., Seed Co., Milford, Conn.

Clark's Special Mixture for General Use

Clark's Special Mixture with Potash (4-10-4)

Clark's Special Mixture with Potash (4-8-6)

16% Acid Phosphate

Coe-Mortimer Co., Inc., 51 Chambers St., New York, N. Y.

E. Frank Coe's Basic Fruit and Legume Phosphate (Basic Lime Phosphate) (Key-Plow Brand)

E. Frank Coe's Celebrated Special Potato Fertilizer Revised

E. Frank Coe's Columbian Corn and Potato Fertilizer

E. Frank Coe's Connecticut Wrapper Grower

E. Frank Coe's Cotton Seed Supplement

E. Frank Coe's Gold Brand Excelsior Guano Revised

E. Frank Coe's New Englander Special

E. Frank Coe's 16% Superphosphate

E. Frank Coe's Special Grass Top Dressing

E. Frank Coe's Tobacco Leaf Fertilizer

Fine Ground Bone

Nitrate of Soda

Connecticut Fat Rendering & Fertilizing Corporation, New Haven, Conn.

Tankage

Cornwall, H. B., Meriden, Conn.

Cornwall's Potato and General Use

Cornwall's Tobacco Grower

Davis, S. P., Little Rock, Ark.

Beauty Brand Cotton Seed Meal

Good Luck 41% Protein Cotton Seed Meal and Cracked Screened Cake

Steerboy 43% Protein Cotton Seed Meal and Cracked Screened Cake

Dold, Jacob, Packing Co., Buffalo, N. Y.

Dold Quality Bone Meal

Eastern States Farmers' Exchange, 292 Worthington St., Springfield, Mass.

Bone Meal

Castor Pomace

Dried Ground Fish

Eastern States 16% Acid Phosphate

Eastern States 2-8-2

Eastern States 3-8-4

Eastern States 4-8-4

Eastern States 4-10

Eastern States 4-8-7

Eastern States 5-4-3

Eastern States 5-4-5

Eastern States 5-8-5

Ground Bone

Ground Tankage

Muriate of Potash

Nitrate of Soda

Precipitated Bone

Sulphate of Ammonia

Sulphate of Potash

Essex Fertilizer Co., 39 North Market St., Boston, Mass.

Essex 1-10-1 for Grain and Grass

Essex 2-8-2 for Farm and Garden

Essex 2-8-3 for All Crops

Essex 4-8-4 for Potatoes, Roots and Vegetables

Essex Fish Fertilizer 3-8-3 for All Crops

Essex 5-8-6

Essex Ground Bone
 Essex Market Garden 3-8-4 for Vegetables and Grass
 Essex Special Tobacco 5-5-4
 Essex Tobacco Manure 5-7-2

Frisbie, L. T., Co., New Haven, Conn.

Castor Pomace
 Cotton Seed Meal
 Frisbie's Acid Phosphate
 Frisbie's Bone Meal
 Frisbie's Corn and Grain Fertilizer
 Frisbie's Dry Ground Fish
 Frisbie's 2-10
 Frisbie's 4-10
 Frisbie's 5-8
 Frisbie's 5-8-7
 Frisbie's High Grade Sulphate of Potash
 Frisbie's Market Garden
 Frisbie's Special 4-10-6
 Frisbie's Special (3-8-4)
 Frisbie's Special (5-8-5-5)
 Frisbie's Special Vegetable and Potato Grower
 Frisbie's Sulphate of Ammonia
 Frisbie's Superphosphate
 Frisbie's Tankage (5-14)
 Frisbie's Tankage (9-6.40)
 Frisbie's 3-8-6
 Frisbie's Tobacco
 Frisbie's Tobacco Grower
 Frisbie's Tobacco Special
 Muriate of Potash
 Nitrate of Soda
 Tobacco Manure 5-8-6

Hailey, John H., Co., Houston, Texas.

Texas Brand (Cotton Seed Cake or Meal)

Hall, W. D., Co., Atlanta, Ga.

Hall Brand Good Cotton Seed Meal

Hayes Grain & Commission Co., Little Rock, Ark.

Hayes Brand Cotton Seed Meal and Cake
 Nutrine Brand Cotton Seed Meal and Cake

Head & Co., Dallas, Texas.

Rabbitfoot Brand Cotton Seed (Cake and) Meal

Humphreys-Godwin Co., (Not Inc.), Memphis, Tenn.

Bull Brand Cotton Seed Meal
 Danish Brand Cotton Seed Meal
 Dixie Brand Cotton Seed Meal
 Unit—1
 Unit—2
 Unit—3

Industrial Cotton Oil Properties, 65 Broadway, New York, N. Y.

Longhorn Brand Prime Cotton Seed Meal

International Agricultural Corporation, Buffalo Fertilizer Works, 126

State St., Boston, Mass.
 Bone Meal
 Buffalo Economy
 Buffalo Farmers' Choice
 Buffalo General Favorite
 Buffalo High Grade Manure

- Buffalo New England Special
 Buffalo Onion Special
 Buffalo Phosphate and Potash
 Buffalo 16%
 Buffalo 10-8
 Buffalo Tobacco Grower
 Buffalo Tobacco Producer
 Buffalo Tobacco Special
 Buffalo Top Dresser and Starter
 Buffalo Vegetable and Potato
 Dry Ground Fish
 I. A. C. Complete
 I. A. C. Complete Tobacco
 I. A. C. Early Harvest
 Nitrate of Soda
- Jennings-Brown Co., Inc., Shreveport, La.**
 Robin Brand Good Cotton Seed Meal
- Joynt, John, Lucknow, Ontario, Canada.**
 The Joynt Brand Unleached Hardwood Ashes
- Lovitt, L. B., & Co., Memphis, Tenn.**
 "Lovit"
 "Memphis"
 "Neal's Choice"
 "Thirty Six"
- Lowell Fertilizer Co., 40 North Market St., Boston, Mass.**
 Dry Ground Fish
 Lowell Acid Phosphate 16%
 Lowell Animal Brand 3-8-4 for All Crops
 Lowell Bone Fertilizer 2-8-2 for Corn, Grain, Grass and Vegetables
 Lowell Empress 1-10-1 for Grain and Vegetables
 Lowell 2-8-3 for Vegetables and Grain
 Lowell 3-8-3 for Corn, Grain and Vegetables
 Lowell 4-8-4 for Potatoes, Corn and Vegetables
 Lowell 5-8-0 for Grass, Grain and Vegetables
 Lowell 5-8-4 for Vegetables and Grass
 Lowell Ground Bone
 Lowell 4-10
 Lowell Lawn and Garden Dressing 4-7-2
 Lowell 5-8-6
 Lowell Tobacco 5-5-4 for Tobacco, Fruits and Vines
 Lowell Tobacco 5-6-0 for Tobacco, Fruit and Vines
 Lowell Tobacco 5-7-2
 Nitrate of Soda
- Lyle & Lyle, Huntsville, Ala.**
 Economy Cotton Seed Feed
 Lyle's Best Cotton Seed Meal
- Mapes Formula & Peruvian Guano Co., 143 Liberty St., New York, N. Y.**
 Mapes Connecticut Valley Special
 Mapes Corn Manure
 Mapes Cotton Seed Tobacco Manure
 Mapes General Tobacco Manure
 Mapes General Truck Manure
 Mapes General Use Manure
 Mapes Grain Brand
 Mapes Potato Manure
 Mapes Pure Ground Bone

- Mapes Tobacco Ash Constituents
 Mapes Tobacco Starter Improved
 Mapes Top Dresser
- Meech & Stoddard, Inc., Middletown, Conn.**
 Connecticut Cotton Seed Meal
 Pure Raw Bone Meal
- Middlesex Fertilizer Co., Middletown, Conn.**
 White Star Fertilizer
- Miller Fertilizer Co., Maryland Life Bldg., 10 South St., Baltimore, Md.**
 Acid Phosphate
 Miller's Clermont
 Miller's 5-8-7
 No. 1 Potato and Vegetable Grower
 Standard Phosphate
- Mitchell, W. L., 699 Forest St., New Haven, Conn.**
 Mitchell's Raw Phosphate Float
- National Fertilizer Ct., 60 Trinity Place, New York, N. Y.**
 National Complete Grass Fertilizer
 National Complete Tobacco Fertilizer
 National Eureka Potato Fertilizer
 National 5-4 Tobacco Manure
 National Market Garden Fertilizer Revised
 National Nitrogen Phosphate Mixture No. 2
 National Nitrogen Phosphate Mixture No. 4
 National Potato Phosphate
 National 16% Plain Superphosphate
 National Special Tobacco Revised
 National Tobacco Foundation
 National Universal Phosphate
 National XXX Fish and Potash
- Natural Guano Co., Aurora, Ill.**
 "Sheep's Head" Pulverized Sheep Manure
- New England Fertilizer Co., 40A North Market St., Boston, Mass.**
 N. E. Corn Phosphate 2-8-2 for Grain and Vegetables
 N. E. 2-8-3 for Vegetables and Grain
 N. E. 3-8-3 for Corn, Grain and Vegetables
 N. E. Superphosphate 3-8-4 for All Crops
 N. E. 4-8-6 for Potatoes and Vegetables
 N. E. 5-8-7 for Potatoes and Market Gardens
 N. E. Tobacco 5-6-0
 N. E. Tobacco Manure 5-5-4
 N. E. 5-8-6
- Nitrate Agencies Co., 85 Water St., New York, N. Y.**
 Naco Brand Acid Phosphate
 Naco Brand Fish
 Naco Brand Muriate of Potash
 Naco Brand NitraPo
 Naco Brand Nitrate Soda
 Naco Brand Sulphate of Ammonia
 Naco Brand Sulphate of Potash
 Naco Brand Tankage
 Naco Brand 2-8-2 Formula
 Naco Brand 3-8-4 Formula
 Naco Brand 4-8-4 Formula
 Naco Brand 4-8-7 Formula
 Naco Brand 5-8-5 Formula

- Nothorn, W. C., Box 414, Memphis, Tenn.**
 Bee Brand Cotton Seed Meal
 Queen Bee Brand Cotton Seed Meal
 Standard Cotton Seed Meal
- Olds & Whipple, Hartford, Conn.**
 Acid Phosphate
 Cotton Hull Ashes
 High Grade Sulphate of Potash
 Nitrate of Soda
 O & W Bone Phosphate and Potash Compound
 O & W Castor Pomace
 O & W Complete Corn, Onion and Potato Fertilizer
 O & W Complete Tobacco Fertilizer
 O & W Dry Ground Fish
 O & W H. G. Starter and Potash Compound
 O & W H. G. Tobacco Starter
 O & W Special Complete Corn, Onion and Potato Fertilizer
 O & W Special Grass Fertilizer
 O & W Tobacco Special Fertilizer
 Precipitated Bone Phosphate
- Pacific Manure & Fertilizer Co., 429 Davis St., San Francisco, Cal.**
 "Groz-It" Brand Pulverized Sheep Manure
- Park & Pollard Co., 131 State St., Boston, Mass.**
 Cloverland Cotton Seed Meal
 Highland Cotton Seed Meal
 Upland Cotton Seed Meal
- Parmenter & Polsey Fertilizer Co., 41 North Market St., Boston, Mass.**
 P & P 1-10-1 for Grain and Grass
 P & P Plymouth Rock Brand 3-8-4 for All Crops
 P & P 4-8-4 for Potatoes, Corn and Vegetables
 P & P 2-8-2 for Farm and Garden
 P & P 2-8-3 for Corn, Fruits and Vegetables
- Pentecost & Martin, Inc., 15 East 40th St., New York, N. Y.**
 Potash Marl
- Piedmont-Mt. Airy Guano Co., 707 Keyser Bldg., Baltimore, Md.**
 Brown's Corn and Grain Fertilizer
 Brown's Fish, Bone and Potash
 Brown's 5-8-7 Fertilizer
 Brown's Market Garden Fertilizer
 Brown's Potato Phosphate
 Brown's Special for Tobacco
 Brown's Top Dresser
 Home Mixture
 Muriate of Potash
 Nitrate of Soda
 8% Tankage
 Sulphate of Ammonia
 Piedmont 16% Acid Phosphate
 10% Fish (Dry Ground)
 3 50 Bone Meal
- Proto-Feed & Guano Co., 4121 South La Salle St., Chicago, Ill.**
 Master Brand Pulverized Sheep Manure
- Providence Farmers' Exchange, Inc., 16 South Water St., Providence, R. I.**
 Exchange Brand 2-8-2 Fertilizer
 Exchange 3-8-4 Fertilizer

- Exchange 4-8-4 Fertilizer
 Exchange 4-10-0 Fertilizer
 Exchange 5-8-5 Fertilizer
 16% Acid Phosphate
 Muriate of Potash
 Nitrate of Soda
 9-15 Tankage
- Pulverized Manure Co., 828 Exchange Ave., Union Stock Yards, Chicago, Ill.**
 Wizard Brand Manure
- Quality Seed & Fertilizer Co., Stamford, Conn.**
 All Crop Fertilizer
 Bartlett Brand Special Tree Fertilizer
 Grain Fertilizer
 Potato Fertilizer
 Sheep Manure Tankage
- Robinson, Geo. B., Jr., 18 Broadway, New York, N. Y.**
 "Robin" Cotton Seed Meal
- Rogers & Hubbard Co., Middletown, Conn.**
 Ground Fish (Dried)
 Hubbard's "Bone Base" Fertilizer for Seeding Down
 Hubbard's "Bone Base" Oats and Top Dressing Borax .40
 Hubbard's "Bone Base" Soluble Corn and General Crops Manure
 Hubbard's "Bone Base" Soluble Potato Manure
 Hubbard's Pure Raw Knuckle Bone Flour
 Hubbard's Strictly Pure Fine Bone
 Nebraska Potash
 Nitrate of Soda
 Rogers & Hubbard's All Soils-All Crops Phosphate
 Rogers & Hubbard's Climax Tobacco Brand
 Rogers & Hubbard's Complete Phosphate
 Rogers & Hubbard's Soluble Tobacco Manure
 Rogers & Hubbard's Tobacco Grower, Vegetable Formula
 The R & H Brand Cotton Seed Meal
- Royster, F. S., Guano Co., 1603 Munsey Bldg., Baltimore, Md.**
 Castor Pomace
 Dry Ground Fish
 Nitrate of Soda
 Royster's Arrowhead Tobacco Formula
 Royster's Bully Guano
 Royster's Fine Ground Bone Meal
 Royster's Fish and Potash
 Royster's Fish, Flesh and Fowl
 Royster's Landmark Brand
 Royster's Perfecto Tobacco Formula
 Royster's Prime Fish Brand
 Royster's Quality Trucker
 Royster's 16% Acid Phosphate
 Royster's Trucker's Delight
 Royster's Valley Tobacco Formula
- Sanderson Fertilizer & Chemical Co., New Haven, Conn.**
 Sanderson's Acid Phosphate
 Sanderson's Atlantic Coast Bone, Fish and Potash
 Sanderson's Complete Tobacco Grower
 Sanderson's Corn Superphosphate
 Sanderson's Fine Ground Bone
 Sanderson's Formula A

- Sanderson's Formula B
 Sanderson's High Grade Ammoniated Phosphate
 Sanderson's Kelsey's Bone, Fish and Potash
 Sanderson's Nitrate of Soda
 Sanderson's Phosphate without Potash
 Sanderson's Potato Manure
 Sanderson's South American Sheep and Goat Manure
 Sanderson's Tobacco Grower
 Sanderson's Top Dressing for Grass and Grain
- Shoemaker, M. L., & Co., Venango St. and Delaware Ave., Philadelphia, Pa.**
 Swift-Sure Bone Meal
 Swift-Sure Superphosphate Tobacco and General Use
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- Soper, J. E., Co., 206 Chamber of Commerce, Boston, Mass.**
 Pioneer Cotton Seed Meal
 Priscilla Cotton Seed Meal
 Puritan Cotton Seed Meal
- Southland Cotton Oil Co., Paris, Texas.**
 Climax Brand Cotton Seed Meal
- Springfield Rendering Co., Springfield, Mass.**
 Springfield Animal Brand
 Springfield Ground Bone
 Springfield Special Potato, Onion and Vegetable
 Springfield 2-8-2 Fertilizer
- Talfa Company, 43 Commercial St., Boston, Mass.**
 Nature's Plant Food
- Texas Cake & Linter Co., Dallas, Texas.**
 "Texoma Brand" Prime Cotton Seed Meal
- Van Iderstine Co., Long Island City, N. Y.**
 Van Iderstine's Pure Ground Bone
- Virginia-Carolina Chemical Co. (of Delaware), Equitable Bldg., 120 Broadway, New York, N. Y.**
 Bone Meal
 V-C Beaver Brand
 V-C Challenge Brand
 V-C Champion Brand
 V-C Cherokee Brand
 V-C Comet Brand
 V-C Fish Phosphate and Potash Brand
 V-C Indian Chief Brand
 V-C Marvel Brand
 V-C Nitrate of Soda
 V-C Owl Brand
 V-C Pawnee Brand
 V-C Perfection Brand
 V-C Plant Bed Brand
 V-C Plow Brand
 V-C Star Brand
 V-C Universal Brand
- Westervelt, A. C., & Co., Memphis, Tenn.**
 Planet Brand Cotton Seed Meal
 Star Brand Cotton Seed Meal
 Sun Brand Cotton Seed Meal
- What Cheer Chemical Co., Inc., 188 Grotto Ave., Pawtucket, R. I.**
 Shay's Corn
 Shay's Potato

- Shay's Special
- Superior Brand
- What Cheer Brand
- What Cheer Special
- Wilcox Fertilizer Co., Mystic, Conn.**
 - Acid Phosphate
 - Eldredge High Grade Fish and Potash
 - Nitrate of Soda
 - Precipitated Bone
 - Wilcox Corn Special
 - Wilcox Dry Ground Fish
 - Wilcox Fish and Potash
 - Wilcox Grass Fertilizer
 - Wilcox Potato and Vegetable Phosphate
 - Wilcox Potato Fertilizer
 - Wilcox Tobacco Special
- Witherbee, Sherman & Co., 2 Rector St., New York, N. Y.**
 - Barium-Phosphate Grade A
 - Ground Phosphate Rock
 - Nitrate of Potash
- Woodruff, S. D., & Sons, Orange, Conn.**
 - Woodruff's Home Mixed
- Worcester Rendering Co., Auburn, Mass.**
 - Royal Worcester Corn and Grain 2-8-2
 - Royal Worcester Ground Steam Bone
 - Royal Worcester Potato and Vegetable 4-8-4

During the year, V. L. Churchill, the station sampling agent, has visited 95 towns and villages and drawn 636 samples for analysis. These include all of the registered brands which could be found on sale.

CLASSIFICATION OF FERTILIZERS ANALYZED.

1. *Containing nitrogen as the chief active ingredient:*

Nitrate of soda.....	30
Sulphate of ammonia.....	9
Cotton seed meal.....	318
Castor pomace.....	19

2. *Containing phosphoric acid as the chief active ingredient:*

Barium-Phosphate	1
Ground rock phosphate.....	3
Precipitated bone phosphate.....	20
Dissolved rock phosphate or acid phosphate.....	28

3. *Containing potash as the chief active ingredient:*

Muriate of potash.....	9
Sulphate of potash.....	28
Nebraska potash.....	2
Cotton hull ashes.....	1
Vegetable potash.....	1
Kainit	1

4. <i>Raw materials containing nitrogen and potash:</i>	
NitraPo	2
Nitrate of potash.....	2
5. <i>Raw materials containing nitrogen and phosphoric acid:</i>	
Fish manures.....	48
Slaughterhouse tankage.....	20
Garbage tankage.....	1
Bone manures.....	33
Bone and tankage.....	3
6. <i>Mixed fertilizers:</i>	
Phosphate and potash compounds.....	9
Nitrogenous superphosphates without potash.....	38
Nitrogenous superphosphates with potash:	
Sampled by station.....	286
Sampled by purchasers.....	22
Home mixtures:	
Sampled by station.....	16
Sampled by purchasers.....	15
7. <i>Miscellaneous fertilizers, amendments and waste products:</i>	
Tobacco stems.....	2
Tobacco ashes.....	1
Sheep manure.....	13
Wood ashes.....	15
Lime	4
Peat or muck.....	6
Dried sludge.....	4
Miscellaneous wastes.....	16
	1,026
Fungicides and insecticides.....	13
Total	1,039

A review of the analyses which follow shows these facts regarding the cost to consumers of the plant food bought in fertilizer chemicals and raw materials.

Ammonium sulphate has been the cheapest source of fertilizer nitrogen this year; the cost of nitrogen per pound ranging from 22.3 to 17.2 cents per pound, the average cost being 19 cents.

Nitrate of soda has come next, its nitrogen in the samples examined ranging in price from 28.1 to 19.1 cents per pound, the average being 23.4 cents.

In cotton seed meal nitrogen has cost about 36 cents per pound but the cost has varied very greatly.

In castor pomace nitrogen has cost 45.1 cents per pound.

In fish scrap, if 10 cents per unit is allowed for bone phosphate, nitrogen has cost 38.6 cents per pound as the average, the cost ranging from 46.3 to 24 cents.

Phosphoric acid in ground raw rock has cost 3 cents per pound.

In precipitated bone, available phosphoric acid has cost 8.5 cents per pound as an average, prices ranging from 9.5 to 7.5 cents.

In acid phosphate available phosphoric acid has cost 9.5 cents per pound as an average, prices ranging from 11.7 cents to 6.9 cents.

Water-soluble potash in both muriate and sulphate has cost about 11 cents per pound.

I. RAW MATERIALS CHIEFLY VALUABLE FOR
NITROGEN.

NITRATE OF SODA.

Thirty samples were analyzed as follows:

16508. Sold by Apothecaries Hall Co., Waterbury. Stock of Connecticut Sumatra Tobacco Co., Hartford.

16658. Sold by Sanderson Fertilizer and Chemical Co., New Haven. Sampled at the factory.

17876. Sold by L. T. Frisbie Co., New Haven. Sent by H. F. Johnson, County Agent, Norwich.

17338. Sold by Coe-Mortimer Co., New York. Stock of W. R. Holcomb, Somerville.

17409. Sold by Eastern States Farmers' Exchange, Springfield, Mass. Stock of A. R. Carpenter, Bloomfield.

17245. Sold by The Rogers & Hubbard Co., Middletown.

Sampled at the factory:

16901. Sold by Olds & Whipple, Hartford. Stock of The Haviland Tobacco Co., East Windsor Hill.

17308. Sold by Armour Fertilizer Works, New York. Stock of Rockville Grain & Coal Co., Rockville.

16769. Sold by American Agricultural Chemical Co., New York. Stock of J. A. Glasnapp, West Cheshire.

16655. Sold by Olds & Whipple, Hartford. Sampled at the factory.

16937. Sold by Piedmont-Mt. Airy Guano Co., Baltimore, Md. Stock of Windsor Clark, Putnam.

17230. Sold by Providence Farmers' Exchange, Inc., Providence, R. I. Stock of Walter Scott, Niantic.

16881. Sold by Eastern States Farmers' Exchange, Springfield, Mass. Stock of John M. Herr, Burnside.

17374. Sold by International Agricultural Corp., Boston, Mass. Stock of P. Schwartz Co., New London.

16764. Sold by Lowell Fertilizer Co., Boston, Mass. Stock of Geo. S. Jennings, Southport.

16772. Sold by Piedmont-Mt. Airy Guano Co., Baltimore, Md. Stock of Joseph Adams, Green's Farms.

16849. Sold by Apothecaries Hall Co., Waterbury. Stock of Connecticut State School for Boys, Meriden.

16776. Sold by Wilcox Fertilizer Co., Mystic. Stock of Geo. R. Stannard, Branford.

16413. Sold by Berkshire Fertilizer Co., Bridgeport. Stock of J. E. Shepard, South Windsor.

16768. Sold by Bowker Fertilizer Co., New York. Stock of Goodsell Bros., Bristol.

17387. Sold by Virginia-Carolina Chemical Co., New York. Stock of J. R. Reinhard, West Cheshire.

17244. Sold by Nitrate Agencies Co., New York. Stock of E. N. Austin, Suffield.

17390. Sold by F. S. Royster Guano Co., Baltimore, Md. Stock of Silliman Hardware Co., New Canaan.

15796, 15797 and 15798. Sold by Wesel-Duval Co., New York. Stock of Griffin-Neuberger Tobacco Co., North Bloomfield.

16647. Sold by L. T. Frisbie Co., New Haven. Sampled at the factory.

16732. Sold by L. T. Frisbie Co., New Haven. Stock of H. Dudek, Talcottville.

17368. Manufacturer unknown. Sent by County Agent, F. L. Davis, Putnam.

17115. Manufacturer unknown. Sent by Hackett Bros., Buckland.

TABLE I. ANALYSES OF NITRATE OF SODA.

Station No.	Per cent. of Nitrogen		Cost per ton.	Nitrogen costs cents per pound.
	Guaranteed.	Found.		
16508	15.00	15.72	\$60.00	19.1
16658	15.00	15.79	63.00	19.9
17873	.....	15.54	66.00	21.2
17338	15.00	15.12	65.00	21.5
17409	14.80	15.54	68.00	21.9
17245	15.80	14.84	65.00	21.9
16901	15.00	15.86	70.00	22.1
17308	14.81	15.28	68.00	22.3
16769	15.00	15.60	70.00	22.4
16655	15.00	15.56	70.00	22.5
16937	15.23	15.42	70.00	22.7
17230	14.81	15.20	70.00	23.0
16881	14.80	14.76	68.75	23.3
17374	15.00	15.04	70.00	23.3
16764	15.00	14.83	70.00	23.6
16772	15.23	13.88	66.00	23.8
16849	15.00	15.04	72.00	23.9
16776	15.00	15.77	80.00	25.4
16413	13.98	15.08	77.00	25.5
16768	15.00	15.20	78.00	25.7
17387	14.80	15.12	80.00	26.5
17244	15.00	15.00	80.00	26.7
17390	15.00	15.12	85.00	28.1
15796	.....	15.10	.....	.....
15797	.....	15.16	.....	.....
17598	.....	15.52	.....	.....
16647	14.80	15.56	.....	.....
16732	14.80	15.84	.....	.....
17368	.....	15.40	.....	.....
17115	.....	15.70	.....	.....

The costs of nitrate of soda here reported have ranged from \$85.00 to \$60.00 per ton, but it has been bought in the late spring

at considerably lower prices. Since the beginning of the year the wholesale New York price fell from \$65.00 to \$40.00 per ton. With the exception of sulphate of ammonia, nitrate of soda has been the cheapest and most profitable form of nitrogen in our market.

The average cost of nitrogen in the samples here reported has been 23.4 cents per pound, ranging from 19.1 to 28.1 cents.

One sample, 16772, sold by the Piedmont-Mt. Airy Guano Co., failed to meet the guaranty of 15.23 per cent. of nitrogen. It contained only 13.88 per cent.

SULPHATE OF AMMONIA.

Nine samples were analyzed as follows:

17872. Sold by L. T. Frisbie Co., New Haven. Sampled by H. F. Johnson, County Agent, Norwich.

17419. Sold by Eastern States Farmers' Exchange, Springfield, Mass. Stock of H. H. McKnight, Ellington.

16773. Sold by Piedmont-Mt. Airy Guano Co., Baltimore, Md. Stock of Joseph Adams, Green's Farms.

16770. Sold by American Agricultural Chemical Co., New York. Stock of J. A. Glasnapp, West Cheshire.

16842. Sold by Apothecaries Hall Co., Waterbury. Sampled at factory.

16414. Sold by Berkshire Fertilizer Co., New York. Stock of J. E. Shepard, South Windsor.

16736. Sold by L. T. Frisbie Co., New Haven. Stock of H. Dudek, Talcottville.

17264. Sold by Nitrate Agencies Co., New York. Stock of J. McAllister, Farmers' Exchange, Cromwell.

17463. Sold by L. T. Frisbie Co., New Haven. Sampled at the factory.

TABLE II. ANALYSES OF SULPHATE OF AMMONIA.

Station No.	Per cent. of Nitrogen		Cost per ton.	Nitrogen costs cents per pound.
	Guaranteed.	Found.		
17872	.....	20.66	\$62.00	15.0
17419	20.56	20.66	71.00	17.2
16773	20.51	20.20	70.75	17.5
16770	20.16	20.20	75.00	18.6
16842	20.56	20.76	80.00	19.3
16414	20.75	20.94	93.30	22.3
16736	20.56	20.98	.....	....
17264	20.56	20.56	.....	....
17463	20.56	20.42	.....	....

This has been the cheapest form of nitrogen in our market this year, the average cost of nitrogen being about 19 cents per pound.

From January to August the wholesale price fell about 33 per cent.

Here again the only sample below guaranty, **16773**, was sold by the Piedmont-Mt. Airy Guano Co. and had 0.3 per cent. less nitrogen than was guaranteed.

COTTON SEED MEAL.

In a following table are analyses of 318 samples, the larger part of which represented car lots. The amount of cotton seed meal bought and used as a fertilizer in this state during the year cannot be far from fifteen thousand tons.

GUARANTIES.

Of 267 samples in which the guaranty is known, 32 failed to meet their guaranties, but 14 of these were deficient by less than 0.2 per cent. Those samples which had a larger deficiency are the following:

No.	Seller.	Nitrogen deficiency.
17277	Ashcraft-Wilkinson Co.	0.71
16091	F. W. Brode & Co.	0.35
16564	J. H. Hailey Co.	0.30
16565	J. H. Hailey Co.	0.39
16028	Humphreys-Godwin Co.	0.38
16459	Humphreys-Godwin Co.	0.23
16784	Humphreys-Godwin Co.	0.20
16287	Humphreys-Godwin Co.	0.25
16561	Humphreys-Godwin Co.	0.43
16280	Humphreys-Godwin Co.	0.27
17127	Humphreys-Godwin Co.	0.28
17248	Humphreys-Godwin Co.	0.32
16707	Humphreys-Godwin Co.	0.25
16462	L. B. Lovitt & Co.	0.37
16559	L. B. Lovitt & Co.	0.67
15896	McGregor Cotton Oil Co.	0.21
17455	W. C. Nothern	0.24
16490	G. B. Robinson, Jr.	0.34

In considering the larger number of deficiencies in meal sold by Humphreys-Godwin Co., it must be noted that the number of samples of their goods is very much larger than that of others and that the *percentage* of deficiencies is a little less than the average.

COMPOSITION.

The percentage of nitrogen has ranged from 5.5 to 8.11 and the average of 193 samples, in which the nitrogen found, nitrogen guaranteed and cost are all given, is 6.3, which is slightly lower than the average last year.

Cost.

The price of cotton seed meal, in common with that of all fertilizers, has fluctuated wildly since the summer of 1920. It was quoted in car lots f.o.b. factory at \$30.00 in January, 1921, at \$26.00 in May and \$35.00 in September. The wholesale prices prior to January were much higher. In the late spring, cut-prices prevailed. The car-lot prices to Connecticut buyers have ranged from \$70.00 to \$36.00.

The average cost per ton of 193 lots in this state was \$44.32 and the average cost per pound of nitrogen was 36 cents.

TABLE III. ANALYSES OF COTTON SEED MEAL.

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent. Nitrogen.		Cost per ton.
			Found.	Guaranteed.	
	American Cotton Oil Co., New York City.				
16040	Longhorn, 84265.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.14	6.88	.....
17164	Surety, 160194 Southern... American Milling Co., Peoria, Ill.	The Coles Co., Middletown.....	5.90	5.76	\$46.00
16398	Amco Brand	B. M. Rosenberg, Ellington.....	7.38	6.88	50.00
16486	Amco, 42562 Pa.....	The Coles Co., Middletown.....	6.91	6.88	41.50
17498	Amco.....	Station Agent, from J. W. McAllister, Farmers' Exchange, Cromwell.....	6.80	6.88	.....
16375	C. S. M. 14681 Pa.....	Broad Brook Lumber and Coal Co., Broad Brook.....	7.13	6.88	55.00
16377	C. S. M., T. P. W., 2353..	Broad Brook Lumber and Coal Co., Broad Brook.....	6.83	6.88	45.00
16399	C. S. M., 20456.....	Broad Brook Lumber and Coal Co., Broad Brook.....	7.00	6.88	45.00
	Apothecaries Hall Co., Waterbury, Conn.				
16471	C. S. M.....	Huntington Bros., Windsor.....	7.16	.....	.....
	Ashcraft-Wilkinson Co., Atlanta, Ga.				
17277	Helmet	Jeremiah McGrath, Broad Brook.	5.85	6.56	41.00
16588	Monarch.....	Station Agent, from A. D. Bridge Sons Co., Hazardville	7.07	6.88	44.00
16721	Monarch, 192371.....	The Coles Co., Middletown.....	6.80	6.88	47.00
16853	Monarch.....	Station Agent, from Arthur Manning, South Manchester.....	7.04	6.88	38.00
16882	Monarch.....	Manning & Kahn, Manchester...	7.08	6.88	38.00
16774	Paramount.....	Station Agent, from F. C. Morse, Guilford.....	5.98	5.76	39.00
	F. W. Brod�e Co., Memphis, Tenn.				
15975	Jay, J. E., 47778.....	Geo. E. Phelps & Co., Thomsonville	5.85	5.75	38.00
16528	Owl, J. L.....	Garber-Northam Grain Co., Hartford.....	6.99	6.88	44.00
16631	Owl, M. & St. P.....	E. H. Rollins, Granby.....	7.00	6.56	66.50
16634	Owl, C. B. & Q., 99150.....	E. H. Rollins, Granby.....	7.00	6.56	66.50
16957	Owl.....	Station Agent, from A. W. Shepard & Son, Hartford.....	6.96	6.88	42.75
16091	C. S. M., N. Y. C., 240346	Broad Brook Lumber & Coal Co., Broad Brook.....	6.53	6.88	45.50
16283	C. S. M., C. B. & Q., 107108	Broad Brook Lumber & Coal Co., Broad Brook.....	7.12	6.88	55.50
16295	C. S. M., 1312103.....	Broad Brook Lumber & Coal Co., Broad Brook.....	6.90	6.88	.....

TABLE III. ANALYSES OF COTTON SEED MEAL—(Continued).

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent. Nitrogen		Cost per ton.
			Found.	Guaranteed.	
16236	Buckeye Cotton Oil Co., Cincinnati, Ohio. Buckeye.....	J. B. Cannon, Granby.....	5.84	5.76	\$40.00
16156	Cotton Seed Products Co., Louisville, Ky. Prime, M. K. & T. 81653..	Broad Brook Lumber & Coal Co., Broad Brook.....	7.16	6.88	.....
16220	E. Crosby & Co., Brattleboro, Vt. C. S. M., N. Y. C., 258423	Spencer Bros., Inc., Suffield.....	5.83	5.75	50.00
15914	Dallas Peanut Feed Mfrs., Dallas, Texas. Besfeed, 47735.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.41	6.88	.....
16021	Besfeed, 89549.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.03	6.88	.....
16406	S. P. Davis, Little Rock, Ark. Beauty.....	Station Agent, from A. D. Bridge Sons Co., Hazardville.....	5.69	5.75	52.00
16628	Good Luck, 45225.....	E. H. Rollins, Granby.....	6.98	6.56	65.00
16632	Good Luck, M. P., 8492...	E. H. Rollins, Granby.....	6.98	6.56	64.50
17499	Good Luck.....	Station Agent, from Geo. Ackley, New Milford.....	6.48	6.50	42.50
16635	Good Luck, Wab., 78139..	E. H. Rollins, Granby.....	7.24	6.56	65.00
16418	Steerboy.....	Herbert Cotton, East Granby...	6.81	6.88	47.50
16630	Steerboy, N. Y. C., 218987	E. H. Rollins, Granby.....	6.71	6.88	45.00
16780	Steerboy.....	Station Agent, from C. F. Allen, Warehouse Pt.....	7.08	6.88	43.50
16786	Steerboy, S. S. W., 14062..	Geo. T. Soule, New Milford.....	7.04	6.88	43.00
16453	Dixie Cotton Oil Co., Little Rock, Ark. C. S. M., 170589.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.01	.....	.....
16898	Eastern States Farmers' Exch. Springfield, Mass. C. S. M.....	Station Agent, from C. B. Sikes, Ellington.....	7.10	6.87	43.00
15884	Ennis Cotton Oil & Mfg. Co., Ennis, Texas. C. S. M., N. H., 71436....	Geo. T. Soule, New Milford.....	7.43	6.88	.....

TABLE III. ANALYSES OF COTTON SEED MEAL—(Continued).

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent. Nitrogen		Cost per ton.
			Found.	Guaranteed.	
	Fidelity Products Co., Houston, Texas.				
16331	C. S. M., L. E. & W., 11906.	Broad Brook Lumber & Coal Co., Broad Brook.....	6.86	6.56	\$48.00
16378	C. S. M., Southern, 26935.	Broad Brook Lumber & Coal Co., Broad Brook.....	6.57	6.56	50.00
16494	C. S. M.....	Fred Lyman, Manchester.....	6.72	6.88	48.00
16629	C. S. M., S. S. W., 29178..	E. H. Rollins, Granby.....	7.16	6.88	41.25
	L. T. Frisbie Co., New Haven, Conn.				
16648	C. S. M.....	Station Agent, from factory.....	7.28	6.58	.....
16734	C. S. M.....	H. Dudek, Talcottville.....	6.89	6.88	.....
	John H. Hailey Co., Houston, Texas.				
16566	Texas.....	F. R. & R. M. Goodrich, Portland.	7.06	6.88	....¹
16609	Texas.....	The Allied Tobacco Co., Hartford.	7.28	6.88	42.50
17500	Texas.....	Station Agent, from W. J. Norton, Broad Brook.....	7.04	6.87	46.00
16564	C. S. M., P. R. R., 44433..	F. R. & R. M. Goodrich, Portland	6.76	7.06	....¹
16565	C. S. M., N. P., 39582....	F. R. & R. M. Goodrich, Portland	7.04	7.43	....¹
	W. D. Hall Co., Atlanta, Ga.				
15977	Good, 21727.....	Olin H. Osborn, Warehouse Point	5.94	5.76	51.50
17574	Good.....	Station Agent, from Leonard Grain Co., Winsted.....	6.21	5.76	45.00
	Hayes Grain & Comm. Co., Little Rock, Ark.				
16897	Hayes.....	Station Agent, from Patrick Col- bert, South Windsor.....	6.92	6.87	45.00
	Hill County Cotton Oil Co., Hillsboro, Texas.				
15903	C. S. M., 51344.....	Griffin-Neubergar Tobacco Co., North Bloomfield.....	7.43	6.88	.....
	Honey Grove Cotton Oil Co., Honey Grove, Texas.				
16407	C. S. M.....	Station Agent, from John Klaus, Scitico.....	7.00	6.88	59.00

¹ \$4.90 per unit ammonia.

TABLE III. ANALYSES OF COTTON SEED MEAL—(Continued).

Station No.	Manufacturer or Jobber, Car No. or Mark	Purchased, Sampled or Sent by	Per cent. Nitrogen.		Cost per ton.
			Found.	Guaranteed.	
	Humphreys-Godwin Co., Memphis, Tenn.				
15902	Bull, 8188.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.00	6.88	.....
15912	Bull, 29846.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.43	6.88	.....
15919	Bull, 79034.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.99	6.88	.....
15925	Bull, 44808.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.92	6.88	.....
16007	Bull, 124146.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.40	6.88	.....
16008	Bull, 22196.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.79	6.88	.....
16009	Bull, 48876.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.00	6.88	.....
16011	Bull, 120688.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.71	6.88	.....
16012	Bull, 121600.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.90	6.88	.....
16013	Bull, 18122.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.17	6.88	.....
16018	Bull, 36929.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.88	6.88	.....
16019	Bull, 104154.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.90	6.88	.....
16022	Bull, 49245.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.83	6.88	.....
16028	Bull, 41425.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.50	6.88	.....
16036	Bull, 16803.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.82	6.88	.....
16038	Bull, 122422.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.46	6.88	.....
16042	Bull, 34384.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.94	6.88	.....
16043	Bull, 76636.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.10	6.88	.....
16047	Bull, 29907.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.84	6.88	.....
16048	Bull, 28372.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.30	6.88	.....
16292	Bull, 24207 G. N.....	G. S. Phelps & Co., Thompsonville	7.24	6.88	\$48.50
16332	Bull, N. C., 62601.....	G. S. Phelps & Co., Thompsonville	7.29	6.88	48.50
16365	Bull, W. A. B., 67886.....	G. S. Phelps & Co., Thompsonville	6.94	6.88	42.75
16366	Bull, Southern, 131666.....	G. S. Phelps & Co., Thompsonville	6.70	6.88	44.00
16383	Bull, 10127, C. B.....	E. F. Miller, Ellington.....	7.30	6.88	42.50
16405	Bull, M. K. & T., 81176...	G. S. Phelps & Co., Thompsonville	6.82	6.88	44.00
16446	Bull, 5156.....	American Sumatra Tobacco Co., East Hartford.....	6.89	6.88	.....

TABLE III. ANALYSES OF COTTON SEED MEAL—(Continued).

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent. Nitrogen.		Cost per ton.
			Found.	Guaranteed.	
	Humphreys-Godwin Co., Memphis, Tenn. (Continued).				
16448	Bull, 34316.....	American Sumatra Tobacco Co., East Hartford.....	7.11	6.88	.....
16449	Bull, 130389.....	American Sumatra Tobacco Co., East Hartford.....	6.99	6.88	.....
16450	Bull, 36563.....	American Sumatra Tobacco Co., East Hartford.....	7.04	6.88	.....
16452	Bull, 37771.....	American Sumatra Tobacco Co., East Hartford.....	7.23	6.88	.....
16459	Bull, 14442.....	American Sumatra Tobacco Co., East Hartford.....	6.65	6.88	.....
16460	Bull, 29328.....	American Sumatra Tobacco Co., East Hartford.....	6.88	6.88	.....
16461	Bull, 26576.....	American Sumatra Tobacco Co., East Hartford.....	6.84	6.88	.....
16586	Bull.....	Station Agent, from J. E. Shepard, South Windsor.....	7.14	6.88	\$41.65
16595	Bull, I. C., 49448.....	G. S. Phelps & Co., Thompsonville	6.98	6.88	43.00
16596	Bull, C. & E., 60806.....	G. S. Phelps & Co., Thompsonville	7.49	6.88	43.00
16598	Bull, M. O. P., 32542.....	E. F. Miller, Ellington.....	7.14	6.88	42.50
16662	Bull.....	Station Agent from Fassler & Sil- berman, Hartford.....	6.84	6.88	49.50
16669	Bull, N.Y., N.H. & H., 74070	G. S. Phelps & Co., Thompsonville	7.20	6.88	44.75
16737	Bull, C. of G., 51046.....	G. S. Phelps & Co., Thompsonville	7.06	6.88	42.50
16738	Bull, A. C. L., 31464.....	G. S. Phelps & Co., Thompsonville	6.92	6.88	42.00
16760	Bull, M. P., 6298.....	G. S. Phelps & Co., Thompsonville	6.92	6.88	42.50
16761	Bull, 35548.....	G. S. Phelps & Co., Thompsonville	6.78	6.88	41.00
16762	Bull, 130617, Southern....	G. S. Phelps & Co., Thompsonville	6.76	6.88	40.00
16763	Bull, S. A. L., 27205.....	G. S. Phelps & Co., Thompsonville	7.00	6.88	41.00
16784	Bull.....	C. R. Dubia, Brookfield.....	6.68	6.88	.....
16880	Bull.....	John M. Herr, Burnside.....	7.30	6.88	49.50
16906	Bull.....	Station Agent, from Haviland To- bacco Co., East Windsor Hill...	7.30	6.88	42.25
16912	Bull, 37492.....	G. S. Phelps & Co., Thompsonville	6.94	6.88	40.00
16913	Bull, 7304.....	G. S. Phelps & Co., Thompsonville	7.22	6.88	40.00
16914	Bull, 8514.....	G. S. Phelps & Co., Thompsonville	6.86	6.88	40.00
16944	Bull, 7129.....	G. S. Phelps & Co., Thompsonville	6.98	6.88	40.00
17007	Bull, 30683.....	Steane, Hartman & Co., Hartford	7.13	6.88	.....
17008	Bull, 140962.....	Steane, Hartman & Co., Hartford	7.18	6.88	.....
17009	Bull, 107113.....	Steane, Hartman & Co., Hartford	7.08	6.88	.....
17010	Bull, 22127.....	Steane, Hartman & Co., Hartford	7.16	6.88	.....
17011	Bull, 33001.....	Steane, Hartman & Co., Hartford	7.28	6.88	.....
17122	Bull, B. & O., 195707.....	Spencer Bros., Inc., Suffield.....	7.18	6.88	43.00
16284	Danish, D. & R. S., 67092.	Spencer Bros., Inc., Suffield.....	5.83	5.75	50.00
16285	Danish, C. N. W., 27414..	Spencer Bros., Inc., Suffield.....	5.75	5.75	50.00
16286	Danish, A. C. L., 41711..	Spencer Bros., Inc., Suffield.....	5.85	5.75	.....
16287	Danish, Southern, 121499..	Spencer Bros., Inc., Suffield.....	5.50	5.75	50.00
16288	Danish, N. Y. C., 225933..	Spencer Bros., Inc., Suffield.....	6.07	5.75	50.00

TABLE III. ANALYSES OF COTTON SEED MEAL—(Continued).

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent. Nitrogen		Cost per ton.
			Found.	Guaranteed.	
Humphreys-Godwin Co., Memphis, Tenn. (Continued)					
16289	Danish, N. S., 21467.....	Spencer Bros., Inc., Suffield.....	6.27	5.75	\$50.00
16290	Danish, T. O. C., 14176....	Spencer Bros., Inc., Suffield.....	5.76	5.75	50.00
16297	Danish, Penn., 517571.....	Spencer Bros., Inc., Suffield.....	5.85	5.75	50.00
16298	Danish, Penn., 501717.....	Spencer Bros., Inc., Suffield.....	6.14	5.75	50.00
16463	Danish, N. & W., 62319....	G. S. Phelps & Co., Thompsonville	5.90	5.75	41.00
16464	Danish, R. I., 45718.....	Spencer Bros., Inc., Suffield.....	5.80	5.75	42.00
16465	Danish, N. Y. C., 260294..	Spencer Bros., Inc., Suffield.....	5.67	5.75	46.00
16487	Danish.....	S. J. Orr, West Suffield.....	5.81	5.75	61.50
16488	Danish.....	S. J. Orr, West Suffield.....	5.82	5.75	61.60
16560	Danish, R. I., 54548.....	Spencer Bros., Inc., Suffield.....	5.74	5.75	40.00
16561	Danish, G. N., 24206.....	Spencer Bros., Inc., Suffield.....	5.32	5.75	50.00
16562	Danish, S. S. W., 19460....	G. S. Phelps & Co., Thompsonville	5.58	5.75	41.00
16654	Danish, C. B. & Q., 107422	G. S. Phelps & Co., Thompsonville	5.98	5.75	41.00
17004	Danish.....	E. S. Lovell, Newtown.....	6.18	5.75	44.00
17057	Danish, C. V., 62735.....	Spencer Bros., Inc., Suffield.....	6.30	5.75	38.50
17058	Danish, Southern, 335756..	Spencer Bros., Inc., Suffield.....	6.00	5.75	38.50
17059	Danish, Southern, 151673..	Spencer Bros., Inc., Suffield.....	6.08	5.75	38.50
17060	Danish, N. Y. C., 161229..	Spencer Bros., Inc., Suffield.....	5.94	5.75	38.50
17061	Danish, B. & O., 171756..	Spencer Bros., Inc., Suffield.....	5.98	5.75	38.50
17062	Danish, 302510.....	Spencer Bros., Inc., Suffield.....	5.76	5.75	36.00
17063	Danish, L. & N., 103046..	Spencer Bros., Inc., Suffield.....	6.90	5.75	38.50
17064	Danish, Southern, 134287..	Spencer Bros., Inc., Suffield.....	6.24	5.75	38.50
17120	Danish, S. S. W., 13750..	Spencer Bros., Inc., Suffield.....	6.02	5.75	48.50
17121	Danish, C. B. & Q., 133067	Spencer Bros., Inc., Suffield.....	6.18	5.75	38.50
17525	Danish, St. L. & S. F., 124872	The Coles Co., Middletown.....	5.78	5.75	50.00
17573	Danish, 8152.....	The Coles Co., Middletown.....	5.66	5.75	52.00
17599	Danish.....	Station Agent, from Geo. S. Phelps & Co., Thompsonville.....	5.68	5.75	38.00
16030	Dixie, 107142.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.90	6.56	.....
16045	Dixie, 12158.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.11	6.56	.....
16280	Dixie.....	L. B. Haas & Co., Hartford.....	6.29	6.56	56.00
16281	Dixie.....	L. B. Haas & Co., Hartford.....	6.41	6.56	56.00
16282	Dixie.....	L. B. Haas & Co., Hartford.....	6.37	6.56	56.00
16367	Dixie, G. N., 24780.....	H. C. Nelson, West Suffield.....	6.46	6.56	47.00
16382	Dixie, P. & R., 4578.....	G. S. Phelps & Co., Thompsonville	6.56	6.56	42.75
16504	Dixie, D., 130621-71673...	Garber-Northam Co., Hartford...	6.58	6.56	50.50
16512	Dixie, 45619.....	Olds & Whipple, Hartford.....	6.64	6.56	40.00
16531	Dixie.....	G. S. Phelps & Co., Thompsonville	6.68	6.56	54.00
16580	Dixie.....	Station Agent, from Chas. Ott, Burnside.....	7.08	6.56	43.50
16590	Dixie.....	John Ewald, Cromwell.....	6.74	6.56	42.50
16620	Dixie, C. M. & St. P., 503721	G. S. Phelps & Co., Thompsonville	6.63	6.56	43.00
16829	Dixie, 66622.....	E. S. Seymour, Suffield.....	6.72	6.56	39.75
16828	Dixie, 22148.....	E. S. Seymour, Suffield.....	6.76	6.56	39.75

TABLE III. ANALYSES OF COTTON SEED MEAL—(Continued).

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent. Nitrogen.		Cost per ton.
			Found.	Guaranteed.	
	Humphreys-Godwin Co., Memphis, Tenn. (Continued)				
17127	Dixie.....	Station Agent, from A. Manning, Manchester.....	6.28	6.56	\$42.00
17248	Dixie.....	G. A. Peckham, Suffield.....	6.24	6.56	.....
15777	C. S. M., 102781.....	The Coles Co., Middletown.....	6.02	5.76	69.08
15894	C. S. M., 99958.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.80	.....	.....
15895	C. S. M., 13932.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.94	.....	.....
15897	C. S. M., 30695.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.31	.....	.....
15898	C. S. M., 17005.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.82	.....	.....
15899	C. S. M., 35613.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.05	.....	.....
15900	C. S. M., 241740.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.30	.....	.....
15901	C. S. M., 132692.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.96	.....	.....
15906	C. S. M., 11741.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.74	.....	.....
15907	C. S. M., 44729.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.63	.....	.....
15908	C. S. M., 55878.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.64	.....	.....
15909	C. S. M., 57284.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.27	.....	.....
15910	C. S. M., 87500.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.71	.....	.....
15913	C. S. M., 90104.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.25	.....	.....
15915	C. S. M., 101182.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.68	.....	.....
15916	C. S. M., 208711.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.39	.....	.....
15917	C. S. M., 4378.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.69	.....	.....
15918	C. S. M., 20196.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.33	.....	.....
15920	C. S. M., 13752.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.68	.....	.....
15921	C. S. M., 45886.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.86	.....	.....
15922	C. S. M., 2530.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.89	.....	.....
15923	C. S. M., 17239.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.01	.....	.....

TABLE III. ANALYSES OF COTTON SEED MEAL—(Continued).

Station No.	Manufacturer or Jobber. Car No. or Mark.	Purchased, Sampled or Sent by	Per cent. Nitrogen		Cost per ton.
			Found.	Guaranteed.	
	Humphreys-Godwin Co., Memphis, Tenn. (Continued.)				
15924	C. S. M., 15598.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.55	.....	.....
15926	C. S. M., 46131.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.04	.....	.....
16006	C. S. M., 30406.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.22	.....	.....
16010	C. S. M., 90489.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.16	.....	.....
16020	C. S. M., 234420.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.13	.....	.....
16023	C. S. M., 25507.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.96	.....	.....
16024	C. S. M., 54644.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.92	.....	.....
16025	C. S. M., 126125.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.05	.....	.....
16029	C. S. M., 63348.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.10	.....	.....
16031	C. S. M., 241750.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.13	.....	.....
16033	C. S. M., 93742.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.88	.....	.....
16034	C. S. M., 61573.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.90	.....	.....
16035	C. S. M., 102829.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.00	.....	.....
16039	C. S. M., 21763.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.98	.....	.....
16046	C. S. M., 14891.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.97	.....	.....
16215	C. S. M., S. F., 27712.....	Spencer Bros., Inc., Suffield.....	5.88	5.75	\$50.00
16216	C. S. M., N. Y. C., 115279	Spencer Bros., Inc., Suffield.....	5.60	5.75	50.00
16217	C. S. M., C. G. R., 84555..	Spencer Bros., Inc., Suffield.....	6.02	5.75	50.00
16218	C. S. M., Southern, 152676	Spencer Bros., Inc., Suffield.....	5.62	5.75	50.00
16219	C. S. M., C. H. D., 40299..	Spencer Bros., Inc., Suffield.....	6.04	5.75	50.00
16409	C. S. M.....	Station Agent, from J. E. Shepard, South Windsor.....	6.92	6.91	.....
16411	C. S. M.....	Station Agent, from J. E. Shepard, South Windsor.....	7.19	7.29	43.41
16416	C. S. M., 11359.....	Station Agent, from J. E. Shepard, South Windsor.....	7.88	7.96	46.95
16417	C. S. M., 84487.....	Station Agent, from J. E. Shepard, South Windsor.....	8.11	8.15	48.06
16455	C. S. M., 88678.....	American Sumatra Tobacco Co., East Hartford.....	7.14	.....	.....

TABLE III. ANALYSES OF COTTON SEED MEAL—(Continued).

Station No.	Manufacturer or Jobber, Car No. or Mark	Purchased, Sampled or Sent by	Per cent. Nitrogen.		Cost per ton.
			Found.	Guaranteed.	
	Humphreys-Godwin Co., Memphis, Tenn. (Continued).				
16470	C. S. M., N. Y. C., 238827	Huntington Bros., Windsor.....	7.24	.....	.....
16524	C. S. M.....	Huntington Bros., Windsor.....	7.06	.....	.....¹
16582	C. S. M., 34105.....	Station Agent, from J. E. Shepard, South Windsor.....	7.19	7.20	\$42.49
16583	C. S. M., 36005.....	Station Agent, from J. E. Shepard, South Windsor.....	7.08	7.07	42.14
16589	C. S. M.....	Station Agent, from J. E. Shepard, South Windsor.....	7.19	.....	42.43
16702	C. S. M., G. A., 8658.....	Spencer Bros., Inc., Suffield.....	6.10	5.75	40.00
16703	C. S. M., S. A. L., 24838..	Spencer Bros., Inc., Suffield.....	7.30	7.00	43.00
16704	C. S. M., A. T. & S. F., 27477	Spencer Bros., Inc., Suffield.....	5.70	5.75	39.00
16705	C. S. M., Southern, 133553	Spencer Bros., Inc., Suffield.....	7.08	7.00	45.00
16706	C. S. M., G. A., 5166.....	Spencer Bros., Inc., Suffield.....	6.09	5.75	38.00
16707	C. S. M., A. C. L., 39760..	Spencer Bros., Inc., Suffield.....	5.50	5.75	40.00
16708	C. S. M., Penn., 22004....	Spencer Bros., Inc., Suffield.....	6.20	5.75	41.00
16709	C. S. M., P. R. R., 14879..	Spencer Bros., Inc., Suffield.....	5.95	5.75	41.00
16710	C. S. M., Penn., 52944....	Spencer Bros., Inc., Suffield.....	5.58	5.75	40.00
16711	C. S. M., M. K. T., 88132..	Spencer Bros., Inc., Suffield.....	6.15	5.75	40.00
16712	C. S. M., Frisco, 32235....	Spencer Bros., Inc., Suffield.....	6.12	5.75	40.00
16713	C. S. M., G. A., 1005.....	Spencer Bros., Inc., Suffield.....	6.03	5.75	40.00
16886	C. S. M., G. T., 12821....	Spencer Bros., Inc., Suffield.....	6.02	5.75	40.00
16887	C. S. M., U. P., 10455.....	Spencer Bros., Inc., Suffield.....	5.82	5.75	39.00
16888	C. S. M., A. C. L., 35742..	Spencer Bros., Inc., Suffield.....	6.06	5.75	38.60
16889	C. S. M., St. L. & B. & M., 1646	Spencer Bros., Inc., Suffield.....	5.73	5.76	40.00
16890	C. S. M., St. L. & S. F., 125280	Spencer Bros., Inc., Suffield.....	5.74	5.75	38.50
16891	C. S. M., A. C. L., 32300..	Spencer Bros., Inc., Suffield.....	5.56	5.75	40.00
16892	C. S. M., N. S., 4023.....	Spencer Bros., Inc., Suffield.....	6.08	5.75	38.50
16893	C. S. M., A. C. L., 39956..	Spencer Bros., Inc., Suffield.....	5.90	5.75	50.00
16894	C. S. M., N. C. & St. L., 24516	Spencer Bros., Inc., Suffield.....	5.88	5.75	40.00
16972	C. S. M., N. Y. C., 255668	Spencer Bros., Inc., Suffield.....	5.97	.....	36.00
16973	C. S. M., 4067.....	Spencer Bros., Inc., Suffield.....	5.74	.....	36.00
16974	C. S. M., 14707.....	Spencer Bros., Inc., Suffield.....	5.78	.....	36.00
16975	C. S. M., R. I., 155248....	Spencer Bros., Inc., Suffield.....	6.01	.....	36.00
	Industrial Cotton Oil Prop't's, Houston, Texas.				
16665	Longhorn.....	Fassler & Silberman, Hartford....	7.12	6.88	46.75
	Jayton Cotton Oil Co., Jayton, Texas.				
15892	Ordinary, 16803.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.99	6.88	.....
15905	Ordinary, 180965.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.97	6.88	.....
16004	Ordinary, 52844.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.90	6.88	.....
16016	Ordinary, 2400.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.07	6.88	.....

¹ \$4.90 per unit ammonia.

TABLE III. ANALYSES OF COTTON SEED MEAL—(Continued).

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent. Nitrogen.		Cost per ton.
			Found.	Guaranteed.	
	Jefferson Oil Co., Jefferson, Texas				
16037	Ordinary, 248755.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.70	6.88	.....
16451	Jefferson, 130396.....	American Sumatra Tobacco Co., East Hartford.....	6.79	6.88	.....
	Kasco Mills, Waverly, N. Y.				
16621	C. S. M., 30916, D. W. P..	The Coles Co., Middletown.....	7.26	6.88	\$50.00
16623	C. S. M., Erie 72823.....	The Coles Co., Middletown.....	6.91	6.16	47.50
	L. B. Lovitt & Co., Memphis, Tenn.				
17540	Lovit.....	Station Agent, from T. J. Coleman, Warehouse Point.....	6.82	6.56	50.00
16783	Memphis.....	Station Agent, from W. C. Everett, Bloomfield.....	6.16	6.16	44.00
16960	Neal's Choice.....	Station Agent, from A. N. Shepard & Son, Hartford.....	7.12	6.88	47.50
16782	36 Brand.....	Station Agent, from A. R. Carpen- ter, Bloomfield.....	5.68	5.75	46.00
16237	C. S. M.....	Thomas Connor, Poquonock.....	6.30	.....	.....¹
16291	C. S. M.....	John B. Parker, Poquonock.....	6.79	.....	.....²
16376	C. S. M.....	John B. Parker, Poquonock.....	6.55	7.38	.....²
16462	C. S. M., G. T., 23273.....	A. R. Fairbanks, Windsor.....	6.32	6.69	69.19
16558	C. S. M.....	I. Meyer & Co., Windsor Locks...	6.00	5.76	41.00
16559	C. S. M.....	I. Meyer & Co., Windsor Locks..	5.09	5.76	41.00
	Lyle & Lyle Huntsville, Ala.				
16778	Economy.....	Station Agent, from Meech & Stod- ard, Middletown.....	6.04	5.76	39.00
16779	Lyle's Best.....	Station Agent, from H. C. Vibert, South Windsor.....	6.94	6.88	40.50
16809	Lyle's Best.....	Station Agent, from R. E. Hyde, Ellington.....	6.96	6.88	43.00
17874	Lyle's Best.....	H. F. Johnson, Co. Agent, Norwich	6.88	6.88	45.00
15785	C. S. M., 15698.....	The Coles Co., Middletown.....	5.87	5.76	70.00
16622	C. S. M., 36464.....	The Coles Co., Middletown.....	5.90	5.76	45.00
16962	C. S. M., 133187, Southern	Station Agent, from A. N. Shepard & Son, Hartford.....	7.04	6.88	42.75
	Mart Cotton Oil Co., Mart, Texas.				
16032	C. S. M., 8207.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.32	6.88	.....

¹ \$8.50 per unit ammonia.² \$8.85 per unit ammonia.

TABLE III. ANALYSES OF COTTON SEED MEAL—(Continued).

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent. Nitrogen		Cost per ton.
			Found.	Guaranteed.	
15896	McGregor Cotton Oil Co., McGregor, Texas. C. S. M., 24044.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.67	6.88	.....
16777	Meech & Stoddard, Inc., Middletown. Connecticut.....	Station Agent, from manufacturer	6.20	5.76	\$39.00
16447	Morrilton Cotton Oil Co., Morrilton, Ark. Big Four, 31055.....	American Sumatra Tobacco Co., East Hartford.....	7.29	6.88	.....
15904	Munger Oil & Cotton Co., Teague, Texas. C. S. M., 24480.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.23	6.88	.....
16005	C. S. M., 59617.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.50	6.88	.....
16015	C. S. M., 84008.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.40	6.88	.....
17496	W. C. Nothern, Memphis, Tenn. Bee.....	Station Agent, from Wm. Reeves, Windsorville.....	6.68	6.56	45.00
16852	Queen Bee, P. R. R., 32149	Station Agent, from D. E. and R. C. Neelans, Hazardville.....	6.98	6.88	48.00
17455	Queen Bee.....	Station Agent, from E. N. Austin, Suffield.....	6.64	6.88	43.00
16408	Standard.....	Station Agent, from Jos. Klaus, Scitico.....	6.10	5.75	57.00
16456	Osage Cotton Oil Co., Kansas City, Mo. Special Quality, 3427.....	American Sumatra Tobacco Co., East Hartford.....	6.92	6.88	.....
16458	Special Quality, 17678.....	American Sumatra Tobacco Co., East Hartford.....	7.07	6.88	.....
16041	C. S. M., 78632.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.27	6.88	.....
16044	C. S. M., 102643.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.28	6.88	.....
16454	C. S. M., 18926.....	American Sumatra Tobacco Co., East Hartford.....	7.28	6.88	.....

TABLE III. ANALYSES OF COTTON SEED MEAL—(Continued).

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent. Nitrogen.		Cost per ton.
			Found.	Guaranteed.	
	Park & Pollard Co., Boston, Mass.				
16767	Upland.....	Station Agent, from F. B. Newton Estate, Plainville.....	5.66	5.75	\$56.00
17005	Upland, 49459.....	Broad Brook Lumber and Coal Co., Broad Brook.....	6.88	5.75	40.00
16474	C. S. M., Southern, 40217.	Broad Brook Lumber and Coal Co., Broad Brook.....	6.73	6.56	52.00
16633	C. S. M., R. I., 36847.....	E. H. Rollins, Granby.....	7.05	6.88	59.00
	Planters Cotton Oil Co., Bonham, Texas.				
16027	C. S. M., 38766.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.83	6.88	.....
	Riverside Cotton Oil Co., Fort Worth, Texas.				
15893	C. S. M., 552825.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.12	6.88	.....
15911	C. S. M., 98181.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.89	6.88	.....
16017	C. S. M., 33252.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.74	6.88	.....
16026	C. S. M., 42455.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	6.90	6.88	.....
	G. B. Robinson, Jr., New York City.				
16489	Robin, P. R. R., 49566....	A. E. Potwine, East Windsor.....	6.60	6.50	39.80
16490	Robin, P. R. R., 40419....	A. E. Potwine, East Windsor.....	6.16	6.50	39.80
16827	C. S. M., 125145.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.13	6.88	40.75
	The Rogers & Hubbard Co., Middletown, Conn.				
16602	C. S. M., N. Y., N. H. & H., 89549.....	Fred. E. Lord, Warehouse Point..	6.61	6.58	43.50
16907	C. S. M.....	Station Agent, from Arthur Man- ning, South Manchester.....	6.44	6.17	42.00
17092	C. S. M.....	W. E. Harvey, Windsor.....	6.44	6.08	.....
17126	C. S. M.....	Station Agent, from Arthur Man- ning, South Manchester.....	6.58	6.58	42.00
17128	C. S. M.....	Station Agent, from Arthur Man- ning, South Manchester.....	6.64	6.58	42.00
17211	C. S. M.....	F. A. Hamilton, Warehouse Point.	6.96	6.58	42.50

TABLE III. ANALYSES OF COTTON SEED MEAL—(Concluded).

Station No.	Manufacturer or Jobber, Car No. or Mark	Purchased, Sampled or Sent by	Per cent. Nitrogen.		Cost per ton.
			Found.	Guaranteed.	
	J. E. Soper Co., Boston, Mass.				
16182	Priscilla	E. N. Austin, Suffield.....	7.23	6.75	\$49.00
16484	Priscilla	Arthur E. Pascoe, Warehouse Point	7.08	6.75	52.50
16781	Puritan.....	Station Agent, from R. F. Harvey, Burnside.....	6.12	5.75	48.50
	Southland Cotton Oil Co., Paris, Texas.				
16457	Climax, 172063.....	American Sumatra Tobacco Co., East Hartford.....	6.82	6.88	.....
16584	Climax, 84562.....	Station Agent, from J. E. Shepard, South Windsor.....	7.18	6.88	42.53
16585	Climax, 19481.....	Station Agent, from J. E. Shepard, South Windsor.....	7.20	6.88	42.53
	A. C. Westervelt & Co. Memphis, Tenn.				
16689	Planet, Southern, 150019..	Martin E. Noone, Suffield.....	7.10	6.88	41.00
16963	Planet.....	Station Agent, from A. N. Shepard & Son, Hartford.....	7.14	6.88	55.50
16965	Planet.....	Station Agent, from A. N. Shepard & Son, Hartford.....	7.08	6.88	55.50
16860	Sun.....	Fred D. Weed, Danbury.....	5.93	5.75	47.00
	West Cotton Oil Mill, West, Texas.				
16610	C. S. M.....	Richard & Cooley, East Hartford.	7.08	6.88	46.00
	E. H. Young Co., Inc., Fort Worth, Texas.				
16014	Young's 43, 50109.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....	7.15	6.88	.....
	Unknown.				
16299	C. S. M.....	A. N. Farnham, Westville.....	5.60	.....	.....
16510	C. S. M., 36285.....	Conn. Sumatra Tobacco Co., Buck- land.....	6.66	6.58	40.00
16805	C. S. M.....	Geo. C. Eno, Simsbury.....	6.90	.....	42.50
17111	C. S. M.....	Hackett Brothers, Buckland.....	7.08	.....	.....
17114	C. S. M.....	Hackett Brothers, Buckland.....	6.88	.....	.....

CASTOR POMACE.

Nineteen samples were analyzed as follows:

17288. Sold by Eastern States Farmers' Exchange, Springfield, Mass. Stock of Robert Gregg, West Suffield.

16516. Sold by Apothecaries Hall Co., Waterbury. Stock of Conn. Sumatra Tobacco Co., Buckland.

16604. Sold by Independent Trading Co., Inc., New York. Stock of J. H. Lynch, Ellington.

16976. Sold by Eastern States Farmers' Exchange, Springfield, Mass. Stock of Spencer Bros., Inc., Suffield.

16443. Sold by Baker Castor Oil Co., New York. Stock of American Sumatra Tobacco Co., East Hartford.

17329. Sold by E. D. Chittenden Co., Bridgeport. Stock of W. J. Norton, Broad Brook.

16445. Sold by Baker Castor Oil Co., New York. Stock of American Sumatra Tobacco Co., East Hartford.

16660. Sold by Olds & Whipple, Hartford. Sampled at factory.

16843. Sold by Apothecaries Hall Co., Waterbury. Sampled at factory.

16444. Sold by Baker Castor Oil Co., New York. Stock of American Sumatra Tobacco Co., East Hartford.

16744. Sold by Baker Castor Oil Co., New York. Stock of Olds & Whipple, Hartford.

16904. Sold by Baker Castor Oil Co., New York. Stock of Haviland Tobacco Co., East Windsor.

16680. Sold by Berkshire Fertilizer Co., Bridgeport. Sampled at factory.

16806. Sold by Olds & Whipple, Hartford. Stock of Geo. Eno, Simsbury.

17497. Sold by Apothecaries Hall Co., Waterbury. Stock of O. S. Olmsted, Hazardville.

15928. Sold by Baker Castor Oil Co., New York. Stock of Griffin-Neuberger Tobacco Co., North Bloomfield.

15929. Sold by Baker Castor Oil Co., New York. Stock of Griffin-Neuberger Tobacco Co., North Bloomfield.

16472. Sold by Olds & Whipple, Hartford. Stock of Huntington Bros., Windsor.

16651. Sold by L. T. Frisbie Co., New Haven. Sampled at factory.

TABLE IV. ANALYSES OF CASTOR POMACE.

Station No.	Per cent. of Nitrogen Found	Nitrogen Guaranteed.	Cost per ton.	Nitrogen costs cents per pound.
17288	6.18	5.76	\$51.50	41.7
16516	6.00	4.52	50.00	41.7
16604	5.96	....	50.00	41.9
16976	6.02	5.76	51.50	42.8
16443 ¹	5.19	4.50	45.00	43.4
17329	5.70	4.52	50.00	43.9
16445 ¹	5.10	4.50	45.00	44.1
16660	6.60	5.00	58.90	44.6
16843	5.58	4.52	50.00	44.8
16444 ¹	4.99	4.50	45.00	45.1
16744 ¹	5.58	4.50	52.00	46.6
16904 ¹	5.36	4.50	51.00	47.6
16680	5.18	4.52	50.00	48.3
16806	6.30	....	62.00	49.2
17497	5.40	4.53	55.00	50.9
15928	5.36	....	.....	....
15929	6.39	....	.....	....
16472	5.53	....	.....	....
16651	5.87	5.35	.....	....

¹ Guaranty of 1 to 3 per cent. potash and 1-3 per cent. phosphoric acid.

In ten of the samples about 5 per cent. nitrogen is guaranteed. 5.76 is the highest guaranty.

The average cost of nitrogen in castor pomace has been 45.1 cents per pound.

The usual amounts of phosphoric acid and potash found in castor pomace are shown in the following five analyses:

TABLE V. NITROGEN, PHOSPHORIC ACID AND POTASH IN CASTOR POMACE.

Station No.	16443	16445	16444	16744	16904	Average
Percentage of						
Nitrogen	5.19	5.10	4.99	5.58	5.36	5.24
Water-and citrate-soluble phosphoric acid	1.78	1.78	1.76	1.79	1.72	1.77
Total phosphoric acid ..	1.79	1.82	1.79	1.87	1.80	1.81
Total potash	1.12	1.17	1.09	1.00	1.06	1.09

II. RAW MATERIALS CHIEFLY VALUABLE FOR PHOSPHORIC ACID.

BARIUM-PHOSPHATE.

17391. Grade A. Sold by Witherbee, Sherman & Co., New York, N. Y. Stock of Chas. Q. Eldredge, Mystic. Guaranteed 28 per cent. phosphoric acid.

ANALYSIS OF BARIUM-PHOSPHATE.

Station No.	17391
<i>Percentage of</i>	
Water-soluble phosphoric acid.....	0.04
Citrate-soluble phosphoric acid.....	5.17
Insoluble phosphoric acid.....	25.34
Total phosphoric acid.....	30.55

RAW ROCK PHOSPHATE.

Three samples were analyzed as follows:

16883. Mitchell's Raw Phosphate Float. Sold by Walter Mitchell, New Haven. Sent by F. E. Prentice, North Haven.

17414. Mitchell's Raw Phosphate Float. Sold by Walter Mitchell, New Haven. Stock of Louis Schwartz, Mt. Carmel.

16577. Tetraphosphate, submitted by Herbert Myrick, Springfield, Mass.

TABLE VI. ANALYSES OF RAW ROCK PHOSPHATE.

Station No.	16883	17414	16577
<i>Percentage of</i>			
Water-soluble phosphoric acid.....	.....	.....	.....
Citrate-soluble phosphoric acid....	4.33	.....	1.75
Citrate-insoluble	26.35	.....	22.90
Total phosphoric acid.....	30.68	30.47	24.65
"Available" phosphoric acid	4.33	.....	1.75
Cost per ton.....	\$19.00	\$20.00	.....

PRECIPITATED BONE PHOSPHATE.

This is a manufacturing by-product, in fine mechanical condition, containing from 30 to 40 per cent. of phosphoric acid, most of it in "available" form.

The analyses of twenty samples are given in the table. There appear to be three distinct grades; four samples contained 38 per cent. or more of available phosphoric acid, ten contained from 33 to 38 per cent., four from 30 to 32, and two under 30 per cent.

Most of this phosphate was sold at a stated price "per unit" of available phosphoric acid, as shown by analysis, a "unit" being 20 pounds or one per cent.

In these samples the price has ranged from $7\frac{1}{2}$ to $9\frac{1}{2}$ cents per pound for available phosphoric acid.

15784 is of inferior quality selling at a high price, unless the quotation is at retail for small amounts.

17446 was found by a trade chemist to contain 39.92 per cent. of available phosphoric acid and a somewhat larger percentage of total phosphoric acid than this Station found. The difference probably is explained by a difference in the method of extraction, the method used here being prescribed by the fertilizer law.

TABLE VII. ANALYSES OF PRECIPITATED BONE PHOSPHATE.

Station No.	Manufacturer or Wholesale Dealer	Dealer or Purchaser.	Phosphoric Acid.					Cost per ton.
			Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.	"Available."	
			%	%	%	%	%	
	<i>Sampled by Station:</i>							
17584	Berkshire Fertilizer Co., B'dgeport	Sampled at factory.....	0.90	38.21	0.73	39.84	39.11 ¹	.....
16659	Olds & Whipple, Hartford.....	Sampled at factory.....	0.85	38.06	0.63	39.54	38.91 ²	.....
16905	Olds & Whipple, Hartford.....	Haviland Tob. Co., East Windsor Hill	0.73	38.50	0.23	39.46	39.23 ²	\$66.66
17446	Wilcox Fertilizer Co., Mystic....	M. E. Thompson, Ellington.....	0.77	37.09	0.36	38.22	37.86 ³	70.00
	<i>Sampled by Purchaser:</i>							
15930	American Glue Co., Boston, Mass.	Griffin-Neuberger Tobacco Co., North Bloomfield.....	2.12	30.96	1.56	34.64	33.08	.....
15931	American Glue Co., Boston, Mass.	Griffin-Neuberger Tobacco Co., North Bloomfield.....	1.80	33.32	2.32	37.44	35.12	.....
16434	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., East Hartford.....	0.98	33.83	0.73	35.54	34.81	.....
16435	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., East Hartford.....	0.76	35.57	0.79	37.12	36.33	.....
16436	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., East Hartford.....	0.68	35.59	0.99	37.26	36.27	.....
16437	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., East Hartford.....	0.73	35.34	0.95	37.02	36.07	.....
16438	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., East Hartford.....	0.71	37.00	0.93	38.64	37.71	.....
16439	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., East Hartford.....	0.84	36.23	0.93	38.00	37.07	.....
16878	East. St. Farm. Exch., Springfield.	John Herr, Burnside.....	0.61	36.54	0.87	38.02	37.15	57.00
15789	A. W. Higgins, Westfield, Mass...	Griffin-Neuberger Tobacco Co., North Bloomfield.....	1.80	30.41	1.33	33.54	32.21	.....
15790	A. W. Higgins, Westfield, Mass...	Griffin-Neuberger Tobacco Co., North Bloomfield.....	1.75	28.89	1.87	32.51	30.64	.....
15791	A. W. Higgins, Westfield, Mass...	Griffin-Neuberger Tobacco Co., North Bloomfield.....	1.58	29.46	3.45	34.49	31.04	.....
15792	A. W. Higgins, Westfield, Mass...	Griffin-Neuberger Tobacco Co., North Bloomfield.....	1.03	29.72	1.70	32.45	30.75	.....
16518	Olds & Whipple, Hartford.....	Conn. Sumatra Tobacco Co., Buckland	1.63	26.52	5.39	33.54	28.15	.....
16523	Olds & Whipple, Hartford.....	Huntington Bros., Windsor.....	0.68	37.57	0.13	38.38	38.25 ⁴	52.32
15784	Unknown.....	Quality Shop, Stamford.....	2.02	25.28	1.97	29.27	27.30	60.00

¹ Guaranty 38% "available."² Guaranty 30% "available."³ Guaranty 39.50% "available."⁴ Guaranty 36.08% phosphoric acid.

DISSOLVED ROCK PHOSPHATE OR ACID PHOSPHATE.

The analyses of 28 samples are given in table VIII.

The guaranty is the same in all cases, except **17186**, sold by the Virginia-Carolina Chemical Co., in which 20 per cent. "available" was guaranteed and 18.87 per cent. was found.

Two other samples, **17051**, from the American Agricultural Chemical Co., and **17019**, from the Coe-Mortimer Co., did not meet their guaranties.

The cost of available phosphoric acid to the farmer in 21 samples ranged from 6.9 to 11.7 cents per pound and averaged 9.4 cents.

During the last year the price of acid phosphate has been very high and almost prohibitive until the market broke and forced sales reduced the price from \$30.00 or more to less than \$20.00.

The wholesale price of acid phosphate in bulk, f.o.b. N. Y., was \$16.00 in January and \$12.50 in the following September.

Sampled by Station:

17240. Sold by Nitrate Agencies Co., New York. Stock of J. McAllister, Farmers' Exchange, Cromwell.

17101. Sold by Eastern States Farmers' Exchange, Springfield, Mass. Stock of A. R. Carpenter, Bloomfield.

16765. Sold by Everett B. Clark Seed Co., Milford. Sampled at factory.

16771. Sold by Piedmont-Mt. Airy Guano Co., Baltimore, Md. Stock of Joseph Adams, Green's Farms.

16656. Sold by Olds & Whipple, Hartford. Sampled at factory.

16775. Sold by Wilcox Fertilizer Co., Mystic. Stock of G. R. Stannard, Branford.

17134. Sold by Providence Farmers' Exchange, Providence, R. I. Stock of Walter Scott, Niantic.

17451. Sold by Nitrate Agencies Co., New York. Stock of E. N. Austin, Suffield.

17146. Sold by Virginia-Carolina Chemical Co., New York. Stock of J. R. Reinhard, West Cheshire.

16678. Sold by Berkshire Fertilizer Co., Bridgeport. Stock of D. L. Clark & Sons, Milford.

17186. Sold by Virginia-Carolina Chemical Co., New York. Stock of J. D. Kelsey, Madison.

17373. Sold by International Agricultural Corp., Woburn, Mass. Stock of P. Schwartz Co., New London.

16845. Sold by Armour Fertilizer Works, New York. Stock of Rockville Grain & Coal Co., Rockville.

16766. Sold by Bowker Fertilizer Co., New York. Stock of W. T. McKenzie, Yalesville.

17198. Sold by F. S. Royster Guano Co., Baltimore, Md. Stock of Silliman Hardware Co., New Canaan.

TABLE VIII. ANALYSES OF ACID PHOSPHATE.

Station No.	Phosphoric Acid.				"Available" found.	Cost per ton.	"Available" phosphoric acid costs cents per pound.
	Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.			
	%	%	%	%	%		
17240	14.59	2.78	0.04	17.41	17.37	\$24.00	6.9
17101	12.31	3.74	0.63	16.68	16.05	33.00	7.5
16765	14.12	1.79	0.29	16.20	15.91	24.50	7.7
16771	13.30	2.59	0.61	16.50	15.89	25.75	8.1
16656	14.50	2.64	0.22	17.36	17.14	29.45	8.6
16775	15.21	3.04	0.15	18.40	18.25	31.50	8.6
17134	13.57	2.70	0.90	17.17	16.27	28.00	8.6
17451	14.69	2.10	0.05	16.84	16.79	30.00	8.9
17146	14.09	2.21	1.11	17.41	16.30	30.00	9.2
16678	14.99	1.64	1.61	18.24	16.63	31.00	9.3
17186	15.81	3.06	1.19	20.06	18.87	33.00	9.3
17373	11.11	4.94	1.23	17.28	16.05	30.00	9.3
16845	14.11	2.70	0.93	17.74	16.81	33.00	9.8
16657	13.57	3.23	1.01	17.81	16.80	34.75	10.3
17198	13.26	4.01	0.36	17.63	17.27	36.00	10.4
16683	11.97	4.84	0.75	17.56	16.81	36.00	10.7
17576	10.18	4.71	0.67	15.56	14.89	32.00	10.7
17023	12.24	4.40	0.63	17.27	16.64	36.00	10.8
17051	10.00	4.83	0.84	15.67	14.83	33.00	11.1
17019	10.73	4.46	0.87	16.06	15.19	35.50	11.7
16766	11.15	5.04	1.14	17.33	16.19	38.00	11.7
16649	13.18	3.76	0.28	17.22	16.94	.....	.....
16650	13.54	3.88	0.31	17.73	17.42	.....	.....
16851	14.28	2.39	0.70	17.37	16.67	.....	.....
16900	10.14	5.96	1.00	17.10	16.10	.....	.....
17332 ¹	15.44	0.96	0.12	16.52	16.40	.....	.....
17117	.....	.....	.....	17.33	.....	.....	.....
17875	14.27	3.27	0.52	18.06	17.54	24.00	6.9

¹ Old Stock.

16683. Sold by Miller Fertilizer Co., Baltimore, Md. Stock of Ansonia Flour & Grain Co., Ansonia.

17576. Sold by Miller Fertilizer Co., Baltimore, Md. Stock of Laden Bros., Inc., Wallingford.

17023. Sold by American Agricultural Chemical Co., New York. Stock of Frank Upham, Stafford.

17051. Sold by American Agricultural Chemical Co., New York. Stock of Fred Appel, Riverton.

17019. Sold by Coe-Mortimer Co., New York. Stock of Gunther Bros., Rockville.

16657. Sold by Sanderson Fertilizer & Chemical Co., New Haven. Sampled at factory.

16649. Sold by L. T. Frisbie Co., New Haven. Sampled at factory.
16650. Sold by Atlantic Packing Co., New Haven. Sampled at factory.
16851. Sold by Apothecaries Hall Co., Waterbury. Stock of Connecticut School for Boys, Meriden.
16900. Sold by National Fertilizer Co., New York. Stock of F. O. Williams, Silver Lane.
- 17332.¹ Stock of J. F. Brown, North Stonington.

Sampled by Purchaser:

17117. Stock of Hackett Bros., Buckland.
17875. Sold by L. T. Frisbie Co., New Haven. Stock of Norwich Coöp. Exchange, Norwich.

III. RAW MATERIALS CONTAINING POTASH.

In table IX are given analyses of 9 samples of muriate, 28 of high grade sulphate, 2 of Nebraska potash, and one each of kainit, "vegetable potash" and cotton hull ashes. Six of these failed to meet their guaranties. These were—

	Deficiency per cent.
17410 Eastern States Farmers' Exchange.....	4.75
17231 Providence Farmers' Exchange.....	3.30
16733 L. T. Frisbie Co.	0.40
17210 The Rogers & Hubbard Co.	0.25
16473 Olds & Whipple.....	0.80
16509	3.00

Every sample of potash salts analyzed was tested for borax with negative result.

The average cost per pound of potash as muriate in 5 samples drawn by the Station was 11.3 cents.

The average cost per pound of potash as sulphate in 7 samples drawn in the same way was 11.1 cents.

Muriate of Potash. Sampled by Station Agent.

16848. Sold by Apothecaries Hall Co., Waterbury. Stock of Connecticut School for Boys, Meriden.
16934. Sold by Piedmont-Mt. Airy Guano Co., Baltimore, Md. Stock of Farmers' Exchange, Putnam.
16681. Sold by Berkshire Fertilizer Co., Bridgeport. Sampled at factory.
17410. Sold by Eastern States Farmers' Exchange, Springfield, Mass. Stock of A. R. Carpenter, Bloomfield.

¹ Old stock.

17231. Sold by Providence Farmers' Exchange, Providence, R. I. Stock of Walter Scott, Niantic.

16401. Sold by Apothecaries Hall Co., Waterbury. Stock of Highwood Fruit Growers' Association, Highwood.

16646. Sold by L. T. Frisbie Co., New Haven. Sampled at factory.

17479. Sold by American Agricultural Chemical Co., New York. Stock of J. E. Stoddard, Abington.

Muriate of Potash. Sampled by Purchaser.

15960. Dealer unknown. Sent by S. G. McLean, South Glastonbury.

Sulphate of Potash. Sampled by Station Agent.

17871. Sold by L. T. Frisbie Co., New Haven. Stock of Norwich Cooperative Association.

16061. Sold by L. T. Frisbie Co., New Haven. Stock of A. N. Shepard & Son, Hartford.

16679. Sold by Berkshire Fertilizer Co., Bridgeport. Sampled at factory.

16661. Sold by Olds & Whipple, Hartford. Sampled at factory.

17412. Sold by Eastern States Farmers' Exchange, Springfield, Mass. Stock of C. B. Sikes, Ellington.

17449. Sold by Nitrate Agencies Co., New York. Stock of E. N. Austin, Suffield.

16902. Sold by Olds & Whipple, Hartford. Stock of Haviland Tobacco Co., East Windsor Hill.

16932. Sold by Nitrate Agencies Co., New York. Stock of W. R. Holcomb, Somerville.

16850. Sold by Apothecaries Hall Co., Waterbury. Stock of Connecticut School for Boys, Meriden.

Sulphate of Potash. Sampled by Purchaser.

16555. Sold by Grace & Co., Montreal, Canada. Stock of I. Meyer & Co., Windsor Locks.

16879. Sold by Eastern States Farmers' Exchange, Springfield, Mass. Stock of John M. Herr, Burnside.

16509. Seller unknown. Stock of Conn. Sumatra Tobacco Co., Broad Brook.

15799 to 15811 were sold by G. F. Taylor, New York, and sampled by the Griffin-Neuberger Tobacco Co., North Bloomfield.

16473. Sold by Olds & Whipple, Hartford. Stock of Huntington Bros., Windsor.

16733. Sold by L. T. Frisbie Co., New Haven. Stock of H. Dudek, Talcottville.

16858. Seller unknown. Sent by Department of Agronomy, Connecticut Agricultural College.

TABLE IX. ANALYSES OF POTASH SALTS.

Station No.	Potash.		Cost per ton.	Potash costs cents per pound.
	Found.	Guaranteed.		
	%	%		
16848	57.04	48.00	\$110.00	9.6
16934	49.96	50.00	97.00	9.7
16681	49.96	50.00	100.00	10.0
17410	43.28	48.00	96.00	11.1
17231	44.36	48.00	100.00	11.3
16401	56.60	.....	.....	.....
16646	50.24	48.00	.....	.....
17479	50.32	48.00	.....	.....
15960	56.76	.....	92.00	9.2
17871	50.24	.....	.....	.....
16061	49.32	48.00	85.00	8.6
16679	52.36	48.00	110.00	10.5
17449	51.16	47.00	120.00	11.7
16661	53.08	48.00	120.00	11.3
17412	48.16	48.00	110.00	11.4
17449	51.16	47.00	120.00	11.7
16902	49.40	48.65	118.00	11.9
16932	48.80	47.00	125.00	12.8
16850	50.60	48.00	.....	.....
16555	50.64	50.32	110.00	10.9
16879	48.68	48.00	110.00	11.3
16509	46.32	49.37	115.00	12.4
15799	49.40	.....	.....	.....
15800	49.92	.....	.....	.....
15801	49.32	.....	.....	.....
15802	49.04	.....	.....	.....
15803	50.00	.....	.....	.....
15804	50.36	.....	.....	.....
15805	50.44	.....	.....	.....
15806	49.16	.....	.....	.....
15807	49.16	.....	.....	.....
15808	50.12	.....	.....	.....
15809	49.20	.....	.....	.....
15810	50.68	.....	.....	.....
15811	50.12	.....	.....	.....
16473	49.92	50.73	.....	.....
16733	49.56	50.00	.....	.....
16858	50.00	.....	.....	.....
17332	27.74	27.50	49.00	8.8
16682	37.00	37.00	90.00	12.2
17210	27.24	27.50	42.50	7.8
15479	20.42	.....	.....	.....
17572	14.82	15.00	16.30	5.5

Miscellaneous Potash Materials. Sampled by Station Agent.

17332. Nebraska Potash. Sold by Rogers & Hubbard Co., Middletown. Sampled at factory.

16682. Vegetable Potash. Sold by Berkshire Fertilizer Co., Bridgeport. Sampled at factory.

Miscellaneous Potash Materials. Sampled by Purchaser.

17210. Nebraska Potash. Sold by Rogers & Hubbard Co. Stock of F. A. Hamilton, Warehouse Point.

15479. Cotton Hull Ashes. Sold by Olds & Whipple, Hartford. Stock of Windsor Tobacco Growers' Corporation.

17572. Kainit. Sold by Rogers & Hubbard Co., Middletown. Stock of the Lyman Farm, Middlefield.

IV. MATERIALS CONTAINING NITROGEN AND POTASH.

NITRAPO.

16475. Sold by Nitrate Agencies Co., New York. Sent by S. R. MacDonald, Atlantic City, N. J. Found to contain 14.88 per cent. nitrogen and 16.01 per cent. potash.

17270. Sold by Nitrate Agencies Co., New York. Stock of E. N. Austin, Suffield. Found to contain 9.96 per cent. nitrogen and 18.24 per cent. potash; guaranteed 14.80 nitrogen, 15 potash. Sold for \$107.00 per ton.

One sample of NitraPo meets its guaranty, the other is far below it in nitrogen.

One sample contained 0.18 per cent. of borax, the other 0.39 per cent.

NitraPo is said to be a by-product in the refining of nitrate of soda and should be an excellent source of both nitrogen and potash, if the amount of borax present is inconsiderable.

NITRATE OF POTASH.

16884. Sent by J. L. Watrous, Middlefield. Found to contain 12.56 per cent. of nitrogen and 42.92 per cent. of potash.

17386. Sold by Witherbee, Sherman & Co., New York. Sampled from stock of M. L. Coleman, Cheshire. Found to contain 12.47 per cent. of nitrogen and 43.40 per cent. of potash.

V. MATERIALS CONTAINING NITROGEN AND PHOSPHORIC ACID.

FISH MANURES.

In table X are analyses of 48 samples, 18 of them taken by the Station agent and 30 by other individuals.

GUARANTIES.

Six samples contained considerably less nitrogen than was guaranteed. They are—

		Per cent. deficiency.
17411	Eastern States Farmers' Exchange.....	0.58
17581	John Meehan & Son.....	0.49
16729	John Meehan & Son.....	0.96
16335	Apothecaries Hall Co.	0.34
17265	Nitrate Agencies Co.	0.42
17448	Nitrate Agencies Co.	0.34

COST.

As with other fertilizer chemicals, the price of fish to the farmer has varied widely. In the samples received here the highest price was \$91.00 and the lowest \$48.33. The usual fluctuations in the regular market have been increased by "resales," "forced sales," etc.

Allowing 10 cents per unit of bone phosphate, the cost of nitrogen has ranged from 46.3 cents to 24 cents per pound. The average is 38.6 cents.

The fish scrap has been of higher grade than it was last year, the average percentages of nitrogen and phosphoric acid being 9.11 and 7.78 respectively, as against 8.33 and 6.01 last year.

TABLE X. ANALYSES OF

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.
	<i>Sampled by Station Agent:</i>	
16864	American Agricultural Chemical Co....	F. S. Bidwell & Co., Windsor Locks....
17015	Apothecaries Hall Co.....	Sampled at factory.....
16587	Atlantic Packing Co.....	Ellsworth Sperry, East Windsor Hill...
16415	Berkshire Fertilizer Co.....	J. E. Shepard, South Windsor.....
17330	E. D. Chittenden Co.....	Frank Dowd, Ellington.....
17411	Eastern States Farmers' Exchange.....	C. B. Sikes, Ellington.....
16410	L. T. Frisbie Co.....	J. E. Shepard, South Windsor.....
16959	L. T. Frisbie Co.....	A. N. Shepard & Son, Hartford.....
17359	International Agric. Corp.....	Fred Bogli, Glastonbury.....
16844	Lowell Fertilizer Co.....	T. J. Coleman, Warehouse Point.....
17581	John Meehan & Son.....	W. J. Norton, Broad Brook.....
17265	Nitrate Agencies Co.....	J. McAllister, Farmers' Exchange, Cromwell.....
17448	Nitrate Agencies Co.....	E. N. Austin, Suffield.....
16903	Olds & Whipple.....	Haviland Tobacco Co., East Windsor Hill.....
16804	Piedmont-Mt. Airy Guano Co.....	Joseph Adams, Green's Farms.....
17246	Rogers & Hubbard Co.....	Sampled at factory.....
16838	Wilcox Fertilizer Co.....	Spencer Bros., Suffield.....
16809	F. S. Royster Guano Co.....	Geo. S. Phelps & Co., Thompsonville...
	<i>Sampled by Purchaser:</i>	
16049	American Glue Co.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....
16050	American Glue Co.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....
16051	American Glue Co.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....
16052	American Glue Co.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....
16053	American Glue Co.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....
16335	Apothecaries Hall Co.....	C. A. Huntington, Windsor.....
16511	Apothecaries Hall Co.....	Conn. Sumatra Tobacco Co., Buckland
17175	Atlantic Packing Co.....	F. Howard Ensing, East Hartford....
16227	Atlantic Packing Co.....	Ellsworth Sperry, East Windsor Hill..
16527	Atlantic Packing Co.....	John Leonard, Burnside.....
16877	Eastern States Farmers' Exchange....	John M. Herr, Burnside.....
16735	L. T. Frisbie Co.....	H. Dudek, Talcottville.....
16729	John Meehan & Son.....	Aaron Dobkin, Ellington.....
16603	John Meehan & Son.....	J. H. Lynch, Ellington.....
17125	New England Fertilizer Co.....	J. McGrath, East Windsor Hill.....

FISH MANURES.

Nitrogen.				Phosphoric Acid.					Cost per ton.	Nitrogen costs cents per pound. ¹
As ammonia.	As organic.	Total found.	Total guaranteed.	Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total found.	Total guaranteed.		
%	%	%	%	%	%	%	%	%		
0.18	8.74	8.92	8.23	0.69	6.03	1.34	8.06	6.00	\$81.00	44.4
0.40	8.40	8.80	8.20	1.03	6.04	1.65	8.72	5.50	.....	.....
0.24	9.42	9.66	8.22	.....	.....	.....	7.96	6.40	78.00	39.5
0.10	8.04	8.14	8.23	0.54	5.31	1.19	7.04	6.00	77.00	46.3
0.20	9.18	9.38	8.22	.....	.....	.....	7.52	6.00	80.00	41.8
0.13	.....	7.64	8.22	.....	.....	.....	5.25	4.58	52.00	33.3
0.17	9.00	9.17	8.24	0.58	6.11	1.61	8.30	6.40	77.00	40.9
0.24	9.28	9.52	8.22	0.57	5.65	1.24	7.46	6.40	87.90	45.3
0.16	7.96	8.12	8.00	.....	.....	.....	3.57	3.70	75.00	45.7
0.20	9.40	9.60	8.22	0.59	5.62	1.24	7.45	6.40	75.00	38.2
.....	.....	8.61	9.10	.....	.....	.....	7.54	.....	63.50	35.9
0.12	7.18	7.80	8.22	0.50	4.10	0.84	5.44	4.57	.....	.....
0.12	7.76	7.88	8.22	0.61	4.77	0.68	6.06	4.58	62.00	38.5
0.30	8.66	8.96	8.23	0.79	5.98	0.87	7.64	5.50	70.00	38.1
0.08	8.54	8.62	8.23	0.81	5.39	1.85	8.05	.....	51.40	28.8
0.18	8.60	8.78	8.25	0.38	12.09	1.06	13.53	12.50	65.00	35.3
0.16	9.36	9.52	8.24	0.53	6.37	1.27	8.17	5.00	80.00	41.0
0.20	9.04	9.24	8.24	0.62	6.08	1.91	8.61	5.00	87.00	46.0
0.15	8.88	9.03	.....	0.57	7.62	1.28	9.47	.....	.....	.....
0.09	9.86	9.95	.....	0.50	6.64	1.05	8.19	.....	.....	.....
0.89	8.55	9.44	.....	1.12	5.92	0.88	7.92	.....	.....	.....
0.11	10.01	10.12	.....	0.51	6.21	1.01	7.73	.....	.....	.....
0.16	9.42	9.58	.....	0.37	6.60	1.22	8.19	.....	.....	.....
0.10	9.43	9.53	9.87	0.62	4.80	1.54	6.96	5.50	56.55 ²	28.8
.....	.....	.....	9.16	0.70	4.90	2.81	8.41	7.51	52.00	27.7
.....	.....	9.82	8.22	.....	.....	.....	7.64	6.86	90.99	45.5
0.17	9.18	9.35	9.50	0.50	7.03	0.90	8.43	7.87	78.00	40.7
.....	.....	9.66	8.22	0.56	5.49	1.38	7.43	6.40	70.00	35.4
.....	.....	8.40	8.22	.....	.....	.....	5.62	4.58	52.00	.....
0.18	9.46	9.64	8.22	0.54	5.18	1.89	7.61	6.40	.....	.....
0.48	8.84	9.32	10.28	0.88	5.24	1.39	7.51	.....	83.00	43.6
0.42	8.28	8.70	.....	0.83	4.54	1.87	7.24	.....	82.00	46.2
0.14	8.62	8.76	.....	0.54	7.40	0.64	8.58	.....	70.00	38.8

¹ Allowing 10c. per unit of bone phosphate.² Cost \$4.75 per unit ammonia + \$.10 per unit bone phosphate.

TABLE X. ANALYSES OF

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.
	<i>Sampled by Purchaser—(Continued):</i>	
16431	Piedmont-Mt. Airy Guano Co.....	American Sumatra Tobacco Co., East Hartford.....
16557	Piedmont-Mt. Airy Guano Co.....	I. Meyer & Co., Windsor Locks.....
17209	Rogers & Hubbard Co.....	F. A. Hamilton, Warehouse Point....
15793	Wilcox Fertilizer Co.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....
15794	Wilcox Fertilizer Co.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....
15795	Wilcox Fertilizer Co.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....
15927	Wilcox Fertilizer Co.....	Griffin-Neuberger Tobacco Co., North Bloomfield.....
16432	Wilcox Fertilizer Co.....	American Sumatra Tobacco Co., East Hartford.....
16433	Wilcox Fertilizer Co.....	American Sumatra Tobacco Co., East Hartford.....
16400	Unknown.....	L. Wetstone, Hartford.....
16501	Unknown.....	Farnham Tobacco Corp., Hartford....
16502	Unknown.....	Farnham Tobacco Corp., Hartford....
16513	Unknown.....	Conn. Sumatra Tobacco Co., Buckland
16520	Unknown.....	Conn. Sumatra Tobacco Co., Buckland
17116	Unknown.....	Hackett Bros., Buckland.....

SLAUGHTER HOUSE TANKAGE.

Analyses of 20 samples appear in table XI.

The mechanical analyses show that some of these tankages are very coarse and, therefore, not so readily available to crops as they would be if more finely ground.

FISH MANURES—(Concluded).

Nitrogen.				Phosphoric Acid.					Cost per ton.	Nitrogen costs cents per pound. ¹
As ammonia.	As organic.	Total found.	Total guaranteed.	Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total found.	Total guaranteed.		
%	%	%	%	%	%	%	%	%		
0.12	9.32	9.44	.....	0.31	6.86	1.41	8.58	.....	.....	.....
0.14	9.34	9.48	9.60	0.58	6.52	1.61	8.71	7.56	\$48.33	24.0
.....	.....	8.66	8.00	.....	.....	.....	12.49	11.00	60.00	33.0
0.82	8.06	8.88	.....	1.34	4.71	0.79	6.84	.....	.....	.....
0.72	7.66	8.38	.....	0.82	5.32	0.86	7.00	.....	.....	.....
1.23	7.85	9.08	.....	1.54	4.83	0.51	6.88	.....	.....	.....
0.11	9.52	9.63	.....	0.55	6.41	0.74	7.70	.....	.....	.....
0.82	8.52	9.34	.....	1.10	4.87	0.67	6.64	.....	.....	.....
0.94	8.34	9.28	.....	1.04	4.85	0.92	6.81	.....	.....	.....
0.20	9.66	9.86	.....	0.58	6.05	1.78	8.41	.....	.....	.....
0.16	9.40	9.56	8.22	0.32	6.72	1.60	8.64	6.86	.....	.....
0.18	9.40	9.58	8.22	0.44	6.46	1.56	8.46	6.86	.....	.....
0.36	8.80	9.16	9.16	0.58	6.38	1.68	8.64	7.54	.....	.....
0.12	9.30	9.42	9.16	0.51	4.81	1.36	6.68	7.54	.....	.....
0.10	9.28	9.38	.....	0.59	7.15	0.97	8.71	.....	.....	.....

¹ Allowing 10c. per unit of bone phosphate.

Tankage is a general name used for any dried animal refuse and it varies greatly in composition and fertilizing value, which depend on the kind of refuse used and the process of rendering it. Thus, in these samples nitrogen ranges from $3\frac{1}{2}$ to 8 per cent. and phosphoric acid from 5 to $23\frac{1}{4}$ per cent. It is, therefore, not possible, as in the case of most other raw materials, to make a statement of average composition.

Garbage Tankage 17719, sent by J. A. Martin, Wallingford, contained 2.31 per cent. of nitrogen and 3.26 per cent. of phosphoric acid. Its commercial value was requested by the sender. The nitrogen of such material is not very available, though its solubility varies a good deal with the variations in the quality of the garbage. Neither the nitrogen nor the phosphoric acid of garbage can be worth more than half as much as they are in nitrate

TABLE XI. ANALYSES OF

Station No.	Manufacturer.	Dealer or Purchaser.
	<i>Sampled by Station Agent:</i>	
17458	American Agricultural Chemical Co.	L. F. Burr, Branford.....
16847	Apothecaries Hall Co.....	Conn. School for Boys, Meriden.....
17468	Atlantic Packing Co.....	Sampled at factory.....
17585	Berkshire Fertilizer Co.....	Sampled at factory.....
16643	Conn. Fat Rendering & Fertilizer Co.	Sampled at factory.....
17413	Eastern States Farmers' Exchange..	West Woods Farmers' Cooperative Assn., Mt. Carmel.....
16644	L. T. Frisbie Co.....	Sampled at factory.....
16645	L. T. Frisbie Co.....	Sampled at factory.....
16966	L. T. Frisbie Co.....	C. E. Lyman, Middlefield.....
17478	Lowell Fertilizer Co.....	M. E. Cook, Wallingford.....
17226	Piedmont-Mt. Airy Guano Co.....	Minor Ives, South Meriden.....
17579	P. J. O'Donnell & Son.....	Burr Nurseries, Manchester.....
	<i>Sampled by Purchaser:</i>	
16742	Apothecaries Hall Co.....	H. S. Coe, Waterbury.....
17305	Conn. Fat Rendering Co.....	C. Lewis Alling, West Haven.....
16908	L. T. Frisbie Co.....	A. E. Plant's Sons Co., Branford.....
16909	L. T. Frisbie Co.....	A. E. Plant's Sons Co., Branford.....
16403	Middlesex Fertilizer Co.....	A. N. Pierson, Inc., Cromwell.....
16717	Middlesex Fertilizer Co.....	A. N. Pierson, Inc., Cromwell.....
16718	Middlesex Fertilizer Co.....	A. N. Pierson, Inc., Cromwell.....
16296	Wilson Co.....	S. D. Woodruff & Sons, Orange.....

of soda and acid phosphate. We consider that twelve cents for nitrogen and five for phosphoric acid per pound would be the upper limit for their valuation in this material.

BONE MANURES.

Thirty-three samples of these manures have been analyzed this year.

Six samples failed to meet their nitrogen guaranty and two failed in phosphoric acid, but in every case the deficiency in one ingredient was more than met in money value by the overrun in the other.

SLAUGHTER HOUSE TANKAGE.

Nitrogen.				Phosphoric Acid.		Mechanical Analysis.		Cost per ton.
As ammonia.	As organic.	Total found.	Total guaranteed.	Found.	Guaranteed.	Finer than 1-50 inch.	Coarser than 1-50 inch.	
%	%	%	%	%	%	%	%	
0.41	5.35	5.76	4.94	17.33	13.73	58.00	42.00	\$45.00
0.50	5.50	6.00	5.82	13.13	15.00	40.00	60.00	.....
0.18	5.06	5.24	4.10	15.98	14.00	18.00	82.00	.....
0.09	6.37	6.46	6.17	11.45	10.00	55.00	45.00	.....
0.10	3.34	3.44	3.20	23.24	22.00	64.00	36.00	50.00
0.23	6.15	6.38	5.75	5.18	6.86	34.00	66.00	.....
0.20	7.28	7.48	7.40	12.19	6.40	26.00	74.00	.....
0.10	5.04	5.14	4.10	16.23	14.00	16.00	84.00	.....
0.18	4.94	5.12	4.10	16.30	14.00	20.00	80.00	30.00
0.28	....	5.14	4.82	14.10	14.00	35.00	65.00	53.00
0.44	6.17	6.61	6.58	5.86	....	30.00	70.00	45.00
....	....	5.04	4.94	18.15	18.00	62.00	38.00	40.00
0.16	7.90	8.06	5.76	8.42	15.00	60.00	40.00	50.00
0.02	3.76	3.78	....	21.93	....	60.00	40.00	.....
0.18	4.06	4.24	4.10	16.41	14.00	20.00	80.00	45.00
0.24	7.32	7.56	7.41	11.88	6.40	30.00	70.00	55.00
0.03	6.03	6.06	....	13.16	....	....	....	40.00
....	....	8.10	6.06	9.33	13.16	....	....	40.00
....	....	5.96	6.06	15.61	13.16	....	....	40.00
0.26	....	7.95	7.58	7.29	8.81	56.00	44.00	.....

As a rule the bone manures are in finer mechanical state than are tankages, only 9 of the 32 having less than half their weight coarser than 1/50 inch. Specially fine is Rogers & Hubbard's Pure Raw Knuckle Bone Flour, in which 97 per cent. is finer than 1/50 inch.

In the samples examined the average percentages of nitrogen and phosphoric acid are 2.95 and 24.35 respectively and the average cost of 26 samples is \$56.44.

TABLE XII. ANALYSES OF

Station No.	Manufacturer and Brand.	Dealer or Purchaser
<i>Sampled by Station Agent:</i>		
17000	Am. Agr. Chem. Co., Special Ground Bone	J. E. Stoddard, Abington.....
17430	Am. Agr. Chem. Co., Fine Ground Bone...	F. S. Bidwell & Co., Windsor Locks..
17439	Am. Agr. Chem. Co. of N. J., Listers Bone Meal.....	S. J. Orr, West Suffield.....
17440	Apothecaries Hall Co., Pure Bone Meal..	Sampled at factory.....
16412	Berkshire Fertz. Co., Fine Ground Bone..	J. E. Shepard, South Windsor.....
17433	Bowker Fertz. Co., Fresh Ground Bone..	Goodsell Bros., Bristol.....
17437	Coe-Mortimer Co., Inc., Fine Ground Bone	Morrison & Dunham, Bethel.....
17445	East' States Farmers' Exch., Ground Bone	C. B. Sikes, Ellington.....
17434	Essex Fertz. Co., Ground Bone.....	A. R. Brewer & Co., Hartford.....
17431	L. T. Frisbie Co., Bone Meal.....	Stamford Mason Supply Co., Stamford.....
17436	International Agr. Corp., Bone Meal....	Newcomb & Barber, Litchfield.....
17147	Lowell Fertz. Co., Ground Bone.....	John O. Fox & Co., Putnam.....
17438	Mapes Formula & Peruvian Guano Co., Pure Ground Bone.....	R. E. Morgan & Co., Windsor.....
16958	Meech & Stoddard, Inc., Fine Ground Bone	A. N. Shepard & Son, Hartford.....
16940	Piedmont-Mt. Airy Guano Co., Bone Meal	F. L. Davis, Farmers' Exch., Putnam..
17429	Rogers & Hubbard Co., Pure Raw Knuckle Bone Flour.....	Cadwell & Jones, Hartford.....
17435	Rogers & Hubbard Co., "Bone Base" Strictly Pure Fine Bone.....	Tuttle Brick Co., Newfield.....
17432	F. S. Royster Guano Co., Fine Ground Bone Meal.....	Plumb Bros. Co., Waterbury.....
17444	Sanderson Fertz. & Chem. Co., Fine Ground Bone.....	G. R. Stannard, Branford.....
17442	M. L. Shoemaker & Co., Swift-Sure Bone Meal.....	Olds & Whipple, Hartford.....
17450	Springfield Rendering Co., Ground Bone..	E. N. Austin, Suffield.....
17583	Springfield Rendering Co., Ground Bone..	Henry Adams, Suffield.....
17453	Van Iderstine Co., Pure Ground Bone...	McArdle Seed Store, Greenwich.....
17443	Virginia-Carolina Chem. Co., Bone Meal.	F. T. Blish Hardware Co., South Manchester.....
<i>Sampled by Purchaser:</i>		
16731	L. T. Frisbie Co., Steam Ground Bone...	H. Dudek, Talcottville.....
15886	Godfrey Fertilizer & Chemical Co., Pure Bone Meal.....	A. N. Pierson, Inc., Cromwell.....
16556	Products Mfg. Co., Ground Bone.....	I. Meyer & Co., Windsor Locks.....
15818	Unknown.....	Frank J. Beach, Woodmont.....
16503	Unknown.....	Farnham Tobacco Corp., Hartford..
16521	Unknown.....	Conn. Sumatra Tob. Co., Buckland..
17091	Unknown.....	S. B. Hoyt, Inc., New Canaan.....
15412	M. L. Shoemaker & Co., Unground Bone	Sent by Manufacturer.....
17112	Unknown.....	Hackett Bros., Buckland.....

BONE MANURES.

Nitrogen.		Phosphoric Acid.		Mechanical analysis.		Cost per ton.
Found.	Guaranteed.	Found.	Guaranteed.	Finer than 1-50 inch.	Coarser than 1-50 inch.	
%	%	%	%	%	%	
2.17	2.06	29.55	28.00	62.00	38.00	\$57.00
2.60	2.47	26.38	22.88	53.00	47.00	56.00
3.22	2.47	23.28	22.88	66.00	34.00	50.00
3.84	3.29	24.56	20.00	40.00	60.00	50.00
2.70	2.50	27.07	20.00	54.00	46.00	46.00
2.72	2.47	23.62	22.88	64.00	36.00	60.00
2.54	2.47	24.36	22.88	57.00	43.00	58.00
3.46	2.47	21.57	22.88	56.00	44.00	51.00
2.34	2.05	28.32	26.00	64.00	36.00	50.75
3.28	2.46	25.46	20.00	52.00	48.00	56.00
2.62	2.50	22.44	22.00	53.00	47.00	58.00
2.08	2.05	28.18	20.00	62.00	38.00	60.00
3.90	2.47	25.00	20.00	33.00	67.00	45.00
4.12	3.70	22.64	12.00	42.00	58.00	50.00
3.56	2.47	21.31	22.90	42.00	58.00	48.00
3.88	3.82	26.28	24.70	97.00	3.00	88.00
3.10	3.29	24.74	20.59	55.00	45.00	60.00
3.12	2.47	26.56	22.88	45.00	55.00	.....
3.24	2.47	24.69	22.88	48.00	52.00	59.00
4.62	4.53	24.69	20.00	73.00	27.00	71.25
1.80	2.47	29.81	23.00	75.00	25.00	55.00
1.56	2.47	30.44	23.00	69.00	31.00	50.00
1.62	2.00	30.32	27.00	65.00	35.00	60.00
2.64	2.47	25.87	22.00	53.00	47.00	53.50
2.30	2.47	28.55	22.88	40.00	60.00	.....
2.68	.....	24.33	.....	63.00	37.00	65.60
3.29	3.73	22.20	19.12	70.00	30.00	35.00
3.67	.....	25.94	.....	.....	.....	.....
2.63	2.47	27.38	22.88	45.00	55.00	77.00
3.52	3.29	20.88	18.30	32.00	68.00	.....
2.24	.....	12.59	.....	50.00	50.00	.....
3.28	.....	.....	.....	.....	.....	.....
3.86	.....	23.21	.....	.....	.....	.....

MIXED BONE AND TANKAGE.

17466. Listers Celebrated Ground Bone and Tankage Acidulated, made by American Agricultural Chemical Co. of New Jersey. Stock of J. F. Brown, North Stonington; cost \$64.00 per ton.

17014. Bone and Meat Tankage sold by Apothecaries Hall Co., Waterbury. Sampled at factory.

17441. Made by the Connecticut Fat Rendering Co., New Haven. Sold by Apothecaries Hall Co., Waterbury. Sent by Louis Warncke & Son, Cannondale; cost \$58.00.

ANALYSES OF MIXED BONE AND TANKAGE.

Station No.	17466	17014	17441
<i>Percentage of</i>			
Nitrogen in ammonia.....	0.38	0.22	....
Total nitrogen found.....	3.04	2.92	3.00
Total nitrogen guaranteed.....	2.67	3.29	3.29
Total phosphoric acid found.....	12.02	23.26	26.43
Total phosphoric acid guaranteed...	12.00	20.00	20.00

VI. MIXED FERTILIZERS.

MIXED FERTILIZERS CONTAINING PHOSPHATES
AND POTASH.

17002. American Agl. Chem. Co.'s Bone Phosphate and Potash. Stock of Frank Upham, Stafford.

17049. American Agl. Chem. Co.'s Grass and Oats Fertilizer. Stock of N. A. Johnson, Forestville.

16794. Armour's Big Crop Fertilizer. Stock of Lightbourn & Pond, New Haven.

17192. Armour's Big Crop Fertilizer. Stock of Lightbourn & Pond, New Haven.

17355. International Agricultural Corporation's Buffalo Phosphate and Potash. Stock of J. S. Dewey, Tariffville.

17378. International Agricultural Corporation's Buffalo Ten-Eight. Stock of Edward Bidwell, Glastonbury.

17237. Olds & Whipple's Bone Phosphate and Potash Compound. Stock of Fred Gerber, Ellington.

17145. Va.-Carolina Chemical Co.'s V. C. Comet Brand. Stock of E. O. Chapman, North Haven.

ANALYSES

Station No.	17002	17049	16794	17192	17355	17378	17237	17145
	%	%	%	%	%	%	%	%
Water-soluble phosphoric acid	6.64	7.76	7.95	7.82	4.32	4.66	1.13	8.83
Citrate-soluble phosphoric acid	5.54	4.46	1.69	1.89	7.11	5.82	3.61	1.80
Citrate-insoluble phosphoric acid	0.40	0.65	0.27	0.27	0.86	0.83	0.19	0.58

Total phosphoric acid found	12.58	12.87	9.91	9.98	12.29	11.31	4.93	11.21
Total phosphoric acid guaranteed	13.00	13.00	10.50	10.50	11.00	11.00	4.00	11.00
"Available" phosphoric acid found	12.18	12.22	9.64	9.71	11.43	10.48	4.74	10.63
"Available" phosphoric acid guaranteed ...	12.00	12.00	10.00	10.00	10.00	10.00	4.00	10.00
Potash as muriate ...	2.92	2.08	5.47	5.18	1.52	7.62	....	7.38
Total potash found..	2.92	2.08	5.47	5.18	5.07	8.60	16.16	7.38
Total potash guaranteed	2.00	2.00	5.00	5.00	4.00	8.00	15.00	8.00
Price per ton	\$46.00	\$45.00	\$55.00	\$55.00	\$48.00	\$59.75	\$73.00	\$54.50

A sample labeled "Potash," **16968**, sent by E. S. Seymour, Suffield, and stated to have been bought of Olds & Whipple, Hartford, for \$66.30 per ton, contained 5.94 per cent. of phosphoric acid and 14.60 per cent. of potash. This has the composition of O. & W's Phosphate and Potash Compound.

NITROGENOUS SUPERPHOSPHATES WITHOUT POTASH.

Thirty-eight samples of this class have been analyzed with the results given in Table XIII.

Of these **17251** was sent by G. A. Peckham, Suffield, stated to be Rogers & Hubbard's Soluble Corn & General Crop. This is not representative of any brand as we have been advised that it was bought several years ago and probably its composition has changed during storage.

DIFFERENCES IN GRADE AND COST OF NITROGEN.

Of the samples examined, 6 we class as low grade containing less than 2.5 per cent. of nitrogen, 13 we class as of medium grade having from 2.5 to 4.11 per cent., and 10 we class as high grade containing more than 4.11 per cent. of nitrogen.

From the quoted cash prices it appears that allowing ten cents per pound for available phosphoric acid the average cost of nitrogen in the low grade goods here reported was sixty-eight cents per pound, in the medium grade fifty cents and in the high grade fifty-six and six tenths cents per pound. It will be noted that all of these high grade goods were tobacco manures, probably most of them compounded with cotton seed meal.

This emphasizes the fact which we always urge that the buyer cannot afford to use low grade goods. Manufacturers are reducing the number of low grade fertilizers which they offer, and buyers should always give the preference to medium or high grade goods.

GUARANTIES.

Six of the brands failed to meet their nitrogen guaranties by more than one-tenth per cent., but in all but one case the money value of the nitrogen deficiency was more than made good by an overrun in the amount of phosphoric acid.

TABLE XIII. NITROGENOUS SUPERPHOSPHATES

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.	Nitrogen.	
				In nitrates.	In ammonia.
	<i>Sampled by Station Agent:</i>				
	American Agricultural Chem. Co., New York City.				
17452	Tobacco Special.....	Portland.....	\$63.00	0.92	0.12
	Apothecaries Hall Co., Waterbury.				
17301	Liberty Market Gardeners' Special.	Wapping.....	35.00	0.16	2.08
17315	Liberty Tobacco Special.....	Wapping.....	67.00	0.46	0.68
	Atlantic Packing Co., New Haven.				
17295	Atlantic 5-8.....	Prospect.....	54.00	1.52	1.06
	Berkshire Fertilizer Co., Bridgeport.				
16695	Long Island Special.....	Milford.....	48.35	1.80	0.28
17307	Tobacco Grower.....	Suffield.....	.....	1.42	0.14
16869	Tobacco Starter.....	Suffield.....	70.00	2.02	0.82
	Bowker Fertilizer Co., New York.				
17328	Superphosphate with Ammonia 4%	Avon.....	58.00	0.58	1.37
17312	Tobacco Grower.....	Avon.....	68.00	0.92	0.14
	E. D. Chittenden Co., Bridgeport.				
17020	Complete Tobacco & Onion Grower without Potash.....	Ellington.....	53.50	1.82	0.92
17331	Tobacco Special without Potash...	Suffield.....	62.00	0.78	0.48
16802	Vegetable & Onion Grower without Potash.....	Green's Farms...	48.00	0.54	1.38
	Everett B. Clark Seed Co., Milford.				
16810	Special Mixture for General Use...	Milford.....	45.00	0.20	2.00
	L. T. Frisbie Co., New Haven.				
17348	2-10.....	New Britain.....	49.00	0.70	0.04
17352	4-10.....	Clintonville.....	48.00	1.74	0.06
17351	5-8.....	Buckland.....	48.00	1.39	1.16
	International Agricultural Corp., Boston, Mass.				
17356	Buffalo Onion Special.....	Tariffville.....	55.00	1.10	0.25
16928	Buffalo Tobacco Grower.....	Glastonbury.....	66.75	0.75	1.21
17357	Buffalo Tobacco Special.....	West Suffield.....	60.00	0.78	0.63
17286	Buffalo Top Dresser and Starter...	Tariffville.....	74.00	2.93	0.24
	Lowell Fertilizer Co., Boston, Mass.				
17485	4-10.....	New Haven.....	.....	0.18	1.64
16922	5-8 for Grass, Grain and Vegetables	Warehouse Point.	60.00	0.96	1.00

WITHOUT POTASH.

Nitrogen.				Phosphoric Acid.								Station No.
Organic water-soluble.	Organic water-insoluble.	Total.		Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.		So-called "Available."			
		Found.	Guaranteed.				Found.	Guaranteed.	Found.	Guaranteed.		
0.13	3.35	4.52	4.11	2.02	3.95	0.20	6.17	5.00	5.97	4.00	17452	
0.06	0.94	3.24	3.29	8.08	2.26	0.78	11.12	11.00	10.34	10.00	17301	
none	3.30	4.44	4.11	0.88	3.17	0.26	4.31	5.00	4.05	4.00	17315	
0.41	1.25	4.24	4.10	3.78	5.46	1.07	10.31	9.00	9.24	8.00	17295	
0.32	1.26	3.66	3.30	3.29	4.83	0.90	9.02	9.00	8.12	8.00	16695	
0.18	2.58	4.32	4.11	0.81	4.97	0.22	6.00	4.00	5.78	4.00	17307	
0.11	1.95	4.90	5.00	2.06	2.87	0.28	5.21	5.00	4.93	4.00	16869	
0.47	0.75	3.17	3.29	7.44	3.40	0.79	11.63	11.00	10.84	10.00	17328	
0.31	3.57	4.94	4.11	2.22	3.36	0.20	5.78	5.00	5.58	4.00	17312	
none	0.62	3.36	3.29	7.40	2.81	1.10	11.31	11.00	10.21	10.00	17020	
0.06	2.82	4.14	4.12	2.00	2.76	0.75	5.51	5.00	4.76	4.00	17331	
0.08	0.47	2.47	2.47	8.41	2.10	0.47	10.98	11.00	10.51	10.00	16802	
0.02	1.34	3.56	3.29	8.70	2.62	1.92	13.24	10.50	11.32	10.00	16810	
0.30	0.86	1.90	1.64	7.03	4.18	0.51	11.72	11.00	11.21	10.00	17348	
0.32	1.18	3.30	3.28	7.02	4.57	0.46	12.05	11.00	11.59	10.00	17352	
0.39	1.30	4.24	4.10	2.92	5.95	0.90	9.77	9.00	8.87	8.00	17351	
0.55	0.54	2.44	2.50	5.32	5.57	2.03	12.92	11.00	10.89	10.00	17356	
0.08	2.10	4.14	4.10	2.04	2.54	0.35	4.93	5.00	4.58	4.00	16928	
0.06	1.87	3.34	3.30	1.69	2.35	0.26	4.30	4.00	4.04	3.00	17357	
0.16	2.65	5.98	5.80	3.42	3.44	0.87	7.73	7.00	6.86	6.00	17286	
0.48	1.44	3.74	3.28	7.97	3.92	0.52	12.41	11.00	11.89	10.00	17485	
0.70	1.00	3.66	4.10	3.91	4.05	0.51	8.47	9.00	7.96	8.00	16922	

TABLE XIII. NITROGENOUS SUPERPHOSPHATES

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.	Nitrogen.	
				In nitrates.	In ammonia.
	National Fertilizer Co., New York.			%	%
17268	5-4 Tobacco Manure	Windsorville.....	.....	0.22	0.84
17267	Nitrogen Phosphate Mixture No. 2	Melrose.....	44.00	0.60	0.48
16923	Nitrogen Phosphate Mixture No. 4	Silver Lane.....	.....	0.56	1.12
	New England Fertilizer Co., Boston, Mass.				
17271	5-6.....	East Granby.....	.....	1.06	0.12
	Olds & Whipple, Hartford.				
17242	High Grade Tobacco Starter.....	Pine Meadow....	.....	3.40	0.22
17238	Special Grass Fertilizer.....	Ellington.....	.....	2.88	0.08
17233	Tobacco Special Fertilizer.....	Glastonbury.....	\$66.00	1.00	0.10
	Providence Farmers' Exchange, Inc., Providence, R. I.				
17132	Exchange Brand 4-10.....	Waterbury.....	.....	0.36	2.00
	F. S. Royster Guano Co., Baltimore, Md.				
17194	Landmark.....	Waterbury.....	57.00	0.10	1.74
17110	Prime Fish Brand.....	Shelton.....	44.00	0.10	0.92
	Sanderson Fertilizer & Chem. Co., New Haven.				
16836	High Grade Ammoniated Phosphate	Wethersfield.....	54.25	0.94	1.18
17227	Phosphate without Potash.....	New Canaan.....	50.00	0.36	0.62
17395	Tobacco Grower.....	Warehouse Point.	63.00	0.80	0.09
	M. L. Shoemaker & Co., Philadelphia, Pa.				
16743	Swift-Sure Superphosphate Tobacco Starter.....	Hartford.....	58.90	0.90	0.10
17190	Swift-Sure Superphosphate Tobacco Starter.....	Suffield.....	62.00	1.08	0.10
	<i>Sampled by Purchaser:</i>				
17251*	Rogers & Hubbard's Soluble Corn & General Crop.....	Suffield: G. A. Peckham.....	.....	.....	.....
17161	Shoemaker's Swift-Sure Phosphate	Hartford.....	58.90	.....	.....
17177	Shoemaker's Swift-Sure.....	Granby.....	57.00	.....	.....

See note on page 73.

In 16922 Lowell Fertilizer Company's 5-8 for Grass, Grain and Vegetables, there was a nitrogen deficiency of 0.44%, which valued at thirty cents a pound would make a deficiency of \$2.64 per ton.

WITHOUT POTASH—(Concluded).

Nitrogen.				Phosphoric Acid.								Station No.
Organic, water-soluble.	Organic, water-insoluble.	Total.		Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.		So-called "Available."			
		Found.	Guaranteed.				Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	%	%		
0.05	3.21	4.32	4.11	1.50	4.11	0.17	5.78	5.00	5.61	4.00	17268	
0.01	0.61	1.70	1.65	6.17	4.88	1.15	12.20	11.00	11.05	10.00	17267	
0.10	1.66	3.44	3.29	7.54	2.79	1.29	11.62	11.00	10.33	10.00	16923	
0.31	2.29	3.78	4.10	4.29	2.76	0.28	7.33	7.00	7.05	6.00	17271	
0.30	4.70	8.62	8.23	2.63	1.80	0.29	4.72	3.00	4.43	3.00	17242	
0.16	1.72	4.84	4.95	6.36	3.14	0.20	9.70	8.00	9.50	8.00	17238	
none	3.19	4.29	4.11	2.16	3.17	0.17	5.50	4.00	5.33	4.00	17233	
0.20	0.78	3.34	3.29	8.22	2.24	0.68	11.14	10.50	10.46	10.00	17132	
0.06	1.28	3.18	3.29	7.82	2.43	0.56	10.81	10.50	10.25	10.00	17194	
none	0.68	1.70	1.65	5.86	2.20	0.17	8.23	8.50	8.06	8.00	17110	
0.13	0.85	3.10	3.29	7.68	3.77	1.24	12.69	11.00	11.45	10.00	16836	
0.14	0.68	1.80	1.65	6.17	4.81	1.37	12.35	11.00	10.98	10.00	17227	
0.04	3.13	4.06	4.11	1.80	3.93	0.33	6.06	5.00	5.73	4.00	17395	
0.81	2.01	3.82	3.30	5.54	4.39	2.16	12.09	12.00	9.93	10.00	16743	
0.83	1.83	3.84	3.30	8.04	3.65	1.92	13.61	12.00	11.69	10.00	17190	
....	....	1.16	2.50	....	....	....	5.16	12.00	....	....	17251
....	....	3.76	3.30	....	....	0.90	11.91	12.00	11.01	10.00	17161
....	....	3.22	3.30	....	....	....	13.29	12.00	....	....	17177

QUALITY OF THE NITROGEN.

In none of the samples was the availability of the organic nitrogen found to be decidedly poor.

NITROGENOUS SUPERPHOSPHATES CONTAINING POTASH.

In Table XIV are given analyses of 286 samples of this class of fertilizers with the cash ton prices quoted by the firms from whose stock the samples were drawn. There are also given 22 analyses of samples sent by purchasers.

GUARANTIES.

One hundred and thirty-one of the brands (45 per cent. of the whole number) did not fully meet their guaranty in all respects. Ninety-eight were deficient in one ingredient, thirty-one in two, and two in three ingredients.

In all but twenty-eight cases however the deficiency in one was more than made up in money value by an overrun in the other ingredients.

The following did not make up the money deficiency, if, as seems fair, nitrogen is reckoned at forty cents, available phosphoric acid at ten cents and potash at eleven cents per pound respectively.

Number.	Name.	Deficiency.
17084	Bradley's Northland Potash Grower	\$ 1.07
16992	A. A. C. Co.'s Quinnipiac Potato	1.64
17326	Bowker's Maryland Truck Garden Fertilizer	1.48
17417	Eastern States 4-8-7	3.37
17335	Essex Fertilizer Co.'s Fish Fertilizer 3-8-3	1.98
17082	Frisbie's Market Garden Fertilizer	1.60
17260	Frisbie's Market Garden Fertilizer	1.14
17371	Lowell's 5-8-0 Vegetable	4.40
16920	Lowell's Animal Brand	2.41
17537	Lowell's Animal Brand	3.36
17369	Lowell's Bone Fertilizer 2-8-2	2.87
16813	Lowell's Empress Brand	2.51
17149	Miller Fertilizer Co. 5-8-7	2.48
16752	Miller Fertilizer Co. No. 1 Potato and Vegetable	2.62
16685	Miller Fertilizer Co. Standard Phosphate	1.93
17266	New England Fertilizer Co.'s 3-8-3	3.22
17071	New England Fertilizer Co.'s 4-8-6	2.25
16939	Piedmont-Mt. Airy Co.'s Brown's 5-8-7	13.50
16967	Piedmont-Mt. Airy Co.'s Brown's Fish, Bone and Potash	3.74
16933	Piedmont-Mt. Airy Co.'s Brown's Market Garden ...	3.92
19635	Piedmont-Mt. Airy Co.'s Brown's Top Dresser	10.43
16803	Piedmont-Mt. Airy Co.'s Brown's Potato Phosphate	3.15
17185	Piedmont-Mt. Airy Co.'s Brown's Potato Phosphate	5.10
16936	Piedmont-Mt. Airy Co.'s Brown's Home Mixture ...	4.80
17197	F. S. Royster Co.'s Trucker's Delight	1.43
17087	F. S. Royster Co.'s Quality Trucker	2.75
17106	Shay's Special Fertilizer 3-8-3	2.54
17148	Worcester Rendering Co.'s Corn and Grain Fertilizer	2.04

Of thirteen brands of the Lowell Fertilizer Co. five were deficient in money value. All of the three Miller Fertilizer Co.'s

brands were thus deficient, and seven out of the "Brown" brands made by the Piedmont-Mt. Airy Co. were likewise deficient.

COMPOSITION AND NITROGEN COST.

Of two hundred and eighty brands

28	have a guarantee of 0.82 per cent. nitrogen
57	" " " " 1.65 " " "
65	" " " " 2.47 " " "
57	" " " " 3.29 " " "
60	" " " " 4.11 " " "
13	have a still higher nitrogen guaranty.

It is gratifying to note the relatively small number of brands in the State which have a low nitrogen content.

As nitrogen in organic forms costs at present about four times as much as available phosphoric acid or potash its cost is of special importance to purchasers.

The relative cost in brands of different grades is shown in the following statement.

Phosphoric acid is reckoned at ten cents and potash at eleven cents per pound respectively (which has been about their average price in raw materials) and the sum of these values is subtracted from the average cost of the fertilizer. This remainder divided by the number of pounds of nitrogen gives the cost per pound of nitrogen—plus the costs of manufacture and sale. As these are not very different for the different grades of goods, the nitrogen cost per pound shows fairly its relative difference in these different grades.

Such a comparison is as follows:

Formulas.	Number of brands.	Average Cost per ton.	Nitrogen costs per lb.	Average.
.82-8-2	11	\$46.11	\$0.96	\$1.18
.82-10-2	5	47.80	1.41	
1.65-8-2	30	50.08	0.90	.79
1.65-8-3	17	52.18	0.68	
2.47-8-3	13	53.70	0.63	.71
2.47-8-4	20	58.83	0.69	
2.47-8-6	5	69.95	0.82	.55
3.29-8-4	24	61.55	0.56	
3.29-8-6	10	64.03	0.54	.70
4.11-4-3	10	73.23	0.71	
4.11-4-4	4	74.38	0.70	.70
4.11-4-5	10	74.25	0.68	

It appears that the average cost of nitrogen has been lowest in the 3.29 grade and about half of what it has been in the low (0.82 per cent.) grade. The 4.11 grade consists chiefly of special tobacco fertilizers with cotton seed meal as the chief nitrogen base.

Superphosphates costing about \$65 were more economical than the low grade costing about \$47.

The National Fertilizer Association, composed of manufacturers of fertilizers, has urged its members to make and offer for sale fertilizers with high analysis. The Association points out that this is in the interest of both buyer and seller, since the costs of manufacture and sale are the same in both high-analysis and low-analysis goods and therefore the overhead expense per unit of plant food is less in the former than in the latter.

QUALITY OF THE WATER-INSOLUBLE NITROGEN.

The distribution of water-insoluble organic nitrogen into so-called active and inactive fractions is effected by means of two methods, both of which are based upon the action of permanganate of potash on the insoluble organic nitrogen, the one in alkaline solution, the other in neutral solution. The results obtained are taken as an index of the quality of the insoluble organic nitrogenous material. Thus if less than 50 per cent. is found to be "active" when the alkaline method is applied, or less than 80 per cent. when the neutral method is used, the substance and quality of the organic nitrogen present is regarded as inferior. That the so-called "active" insoluble nitrogen is available as plant food is substantiated by vegetation tests. The operation of these methods in inspection and commercial laboratories is reasonably uniform but the construction placed upon the results obtained varies considerably in practice. Thus, in some cases, quality is judged in connection with the proportion which the insoluble organic nitrogen bears to the total nitrogen present, and again, it has been suggested that the water-soluble organic nitrogen and the active insoluble portion should be reckoned together after the manner of expressing so-called available phosphoric acid. It has been our practice to judge the insoluble organic nitrogen on the basis of quality as contemplated by the authors of the methods, recognizing, however, that the distribution of small amounts (.3 per cent. or less) of insoluble nitrogen may lead to conclusions that are without practical significance, and further, that no criticism should attach to goods in which the total nitrogen found exceeds that guaranteed by an amount which equals or closely approximates the inactive insoluble organic nitrogen. It is clearly desirable, however, that some uniform method of expressing conclusions be arrived at to the advantage alike of the purchaser, the analyst and the manufacturer.

The following brands contained insoluble organic nitrogen, less than 50 per cent. of which was found to be "active" by the alkaline method and substantially less than 80 per cent. by the neutral method.

SOLUBILITY OF NITROGEN.

		Total Nitrogen		Water-insol. organic nitrogen.	"Active" by alkaline method.	by neutral method.
		Guaranteed.	Found.			
16701	Quinnipiac Potato Phosphate	1.65	1.54	0.48	49	69
16752	Miller No. 1 Potato and Vegetable Grower	3.30	2.96	0.70	38	67
17578	Miller Standard Phosphate ..	2.47	2.24	0.42	44	63
17149	Miller 5-8-7	4.12	3.82	0.64	37	66
17323	Chittenden Vegetable and Onion Grower, 3% Potash	2.47	2.34	0.75	43	46
16802	Chittenden Vegetable and Onion Grower without Potash	2.47	2.47	0.47	47	48
17281	Listers Tobacco Fertilizer ..	1.65	1.59	0.40	39	57
17416	Eastern States 3-8-4	2.46	2.48	0.62	45	63

HOME MIXTURES.

These include mixtures made by individuals from raw materials delivered to them or mixtures made for them by manufacturers from materials and formulas prescribed by the purchaser.

In Table XV are given analyses of 15 samples with the statements of the amounts of the several raw materials used in the mixture.

Table XVI includes 16 samples of which the formulas were not reported to the Station.

In general these home mixtures contain a higher average percentage of nitrogen than the average of factory-mixed goods. They are distinctly higher grade and indicate possibly a conviction that on our light soils, low in humus, and with the scarcity of stable manure, lack of available nitrogen is the fertilizer factor most likely to limit crop production.

16441. Formula B.1; **16440,** Formula B.2; **16442,** Formula S.L., were sent by the American Sumatra Tobacco Co., Hartford.

16402. Mixed by Olds & Whipple, Hartford. Sampled and sent by Brewer Bros., Hockanum.

16840. Stated to be a mixture of acid phosphate, cotton seed meal and wood ashes. Sampled and sent by W. H. Carrier, Glastonbury.

16863. Mixed by L. T. Frisbie Co. Sampled and sent by Frank J. Beach, Woodmont.

16984. Mixed by L. T. Frisbie Co. Sampled and sent by E. E. Tucker, Rockville.

16861. Sampled and sent by D. E. Golden, Hazardville.

16601. Mixed by Rogers & Hubbard Co., Middletown. Sampled and sent by F. E. Lord, Warehouse Point.

16563. Sampled and sent by Meyer & Mendelsohn, Inc., Hartford.

16607. Special mixture made by Olds & Whipple. Sampled and sent by the Allied Tobacco Co., Hartford.

TABLE XIV. NITROGENOUS SUPERPHOSPHATES

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
American Agricultural Chemical Co.			
17447	Complete Potato Mixture.....	Riverton.....	\$58.00
17480	Double A Tobacco Fertilizer.....	Windsor.....	80.00
16796	Fish & Potash.....	Southport.....	63.00
16793	Grass and Lawn Top-Dressing.....	Hazardville.....	73.00
16994	Monarch Potato Manure.....	New Haven.....	.....
17139	Special Mixture.....	South Manchester.....	7.00
16870	Tobacco Mixer.....	Suffield.....	76.00
16999	Universal Phosphate.....	Putnam.....	48.00
17293	Bradley's Complete Manure for Top Dressing Grass and Grain.....	Stafford Springs.....	70.00
17001	Bradley's Corn Phosphate.....	Stafford Springs.....	46.00
16797	Bradley's New Method Fertilizer.....	Norwalk.....	50.00
17084	Bradley's Northland Potato Grower.....	Putnam.....	65.00
16750	Bradley's Potato Manure.....	Hazardville.....	59.75
16991	Bradley's Potato Fertilizer.....	Thompsonville.....	54.00
17465	Bradley's 6% Potash Fertilizer.....	North Franklin.....	64.00
17297	Bradley's Valley Tobacco Fertilizer.....	New Milford.....	84.00
16690	Bradley's XL Superphosphate of Lime.....	Windsor Locks.....	55.00
17086	Great Eastern Northern Corn Special, 1920.....	Forestville.....	49.00
17054	Great Eastern General, 1921.....	Riverton.....	44.00
17294	Great Eastern Potato Manure, 1920.....	Forestville.....	51.00
17052	Packers' Union Animal Corn Fertilizer.....	Riverton.....	54.00
17298	Packers' Union Potato Manure, 1921.....	Waterford.....	54.00
17303	Packers' Union Universal Fertilizer, 1920.....	Westville.....	42.00
16694	Quinnipiac Climax.....	Milford.....	47.50
17193	Quinnipiac Climax Phosphate.....	North Haven.....	48.00
16795	Quinnipiac Corn Manure.....	Milford.....	53.50
17304	Quinnipiac Phosphate.....	North Haven.....	55.00
16992	Quinnipiac Potato Manure.....	Milford.....	56.00
16701	Quinnipiac Potato Phosphate.....	Southport.....	55.00
17135	Quinnipiac Potato Phosphate.....	Plainfield.....	50.00
17300	Quinnipiac Wrapper Leaf Tobacco Manure.....	Windsor.....	80.00
17296	Wheeler's Corn Fertilizer.....	Riverton.....	48.00
17482	Wheeler's Cuban Tobacco Grower.....	Granby.....	77.00
17053	Wheeler's Potato Manure, 1920.....	Riverton.....	51.00
16997	Williams & Clark's Americus Ammoniated Bone Superphosphate.....	Hazardville.....	53.
16993	Williams & Clark's Americus Potato Manure....	New Britain.....	55.00
17154	Williams & Clark's Americus Corn Phosphate....	New London.....	55.00
16867	Williams & Clark's Prolific Fertilizer.....	New Britain.....	54.00
16998	Williams & Clark's Potato Phosphate.....	Clark's Corner.....	.....
17302	Williams & Clark's Seed Leaf Tobacco Manure..	Granby.....	75.50

NITROGENOUS SUPERPHOSPHATES

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WITH POTASH.

In nitrates.	Nitrogen.						Phosphoric Acid.						Potash.			Station No.
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.	Guaranteed.	
				Found.	Guaranteed.				Found.	Guaranteed.	Found.	Guaranteed.				
0.27	1.00	0.47	0.76	2.50	2.47	4.19	3.91	1.24	9.34	9.00	8.10	8.00	4.00	4.00	4.00	17447
1.04	0.08	0.38	2.74	4.24	4.11	0.89	5.30	0.31	6.50	5.00	6.19	4.00	0.92	4.52	5.00	17480
0.10	0.74	0.39	1.05	2.28	2.47	8.17	2.86	1.01	12.04	11.00	11.03	10.00	2.94	2.94	3.00	16796
1.96	2.02	0.26	1.06	5.30	4.94	4.91	1.25	0.22	6.38	7.00	6.16	6.00	4.64	4.64	4.00	16793
0.60	1.32	0.18	1.26	3.36	3.29	5.15	3.25	1.43	9.83	9.00	8.40	8.00	1.41	3.74	4.00	16994
.....	.....	.....	.....	6.09	.....	.....	.....	0.40	5.50	.....	5.10	.....	8.05	9.50	.....	17139
1.76	0.01	none	0.63	2.40	2.47	1.04	8.04	0.55	9.63	9.00	9.08	8.00	0.88	5.80	6.00	16870
0.34	0.02	0.25	0.19	0.80	0.82	2.41	5.29	0.19	7.89	9.00	7.70	8.00	2.09	2.09	2.00	16999
2.82	1.48	0.27	0.43	5.00	4.94	3.29	3.37	0.40	7.06	7.00	6.66	6.00	4.14	4.14	4.00	17293
0.52	0.76	0.42	0.04	1.74	1.65	4.66	3.70	0.54	8.90	9.00	8.36	8.00	2.09	2.09	2.00	17001
0.10	0.12	0.23	0.55	1.00	0.82	3.27	4.96	1.56	9.79	9.00	8.23	8.00	0.35	1.90	2.00	16797
1.04	1.02	none	1.00	3.06	3.29	5.37	3.17	0.77	9.31	9.00	8.54	8.00	3.86	3.86	4.00	17084
0.74	0.98	0.07	0.67	2.46	2.47	5.85	2.48	0.92	9.25	9.00	8.33	8.00	4.06	4.06	4.00	16750
0.70	0.16	0.09	0.73	1.68	1.65	5.19	3.07	0.95	9.21	9.00	8.26	8.00	0.36	2.81	3.00	16991
1.08	1.54	0.23	0.55	3.40	3.29	4.65	3.36	0.77	8.78	9.00	8.01	8.00	5.49	5.49	6.00	17465
0.40	0.10	0.73	2.65	3.88	4.11	1.17	5.35	0.29	6.81	5.00	6.52	4.00	0.57	2.78	3.00	17297
0.26	0.80	0.10	1.36	2.52	2.47	5.95	3.08	1.05	10.08	10.00	9.03	9.00	2.49	2.49	2.00	16690
0.52	0.62	none	0.48	1.62	1.65	4.63	3.79	1.02	9.44	9.00	8.42	8.00	2.02	2.02	2.00	17086
none	0.14	0.41	0.39	0.94	0.82	2.52	5.33	1.27	9.12	9.00	7.85	8.00	1.95	1.95	2.00	17054
0.44	0.22	0.47	0.67	1.80	1.65	5.09	3.05	0.97	9.11	9.00	8.14	8.00	2.47	2.79	3.00	17294
0.58	0.96	0.50	0.58	2.62	2.47	5.40	3.75	1.30	10.45	10.00	9.15	9.00	1.75	2.00	2.00	17052
0.10	0.68	0.61	0.27	1.66	1.65	4.15	3.99	0.27	8.41	9.00	8.14	8.00	2.72	2.72	3.00	17298
none	0.24	0.28	0.36	0.88	0.82	3.72	4.22	1.05	8.99	9.00	7.94	8.00	1.87	1.87	2.00	17303
0.08	0.16	0.21	0.45	0.90	0.82	2.31	5.58	1.59	9.48	9.00	7.89	8.00	1.13	1.84	2.00	16694
0.10	0.18	0.39	0.35	1.02	0.82	1.88	6.14	1.28	9.30	9.00	8.02	8.00	0.84	1.83	2.00	17193
0.42	0.74	0.24	0.34	1.74	1.65	4.20	3.84	1.00	9.04	9.00	8.04	8.00	1.24	1.97	2.00	16795
0.24	0.94	0.48	0.82	2.48	2.47	5.47	3.09	1.39	9.95	10.00	8.56	9.00	2.30	2.30	2.00	17304
0.74	0.82	none	0.76	2.32	2.47	3.85	4.17	1.33	9.35	9.00	8.02	8.00	3.78	3.78	4.00	16992
0.28	0.48	0.30	0.48	1.54	1.65	5.06	3.33	0.83	9.22	9.00	8.39	8.00	2.76	2.76	3.00	16701
.....	.....	.....	.....	1.52	1.65	.....	.....	0.27	8.33	9.00	8.06	8.00	2.81	2.81	3.00	17135
0.97	0.08	0.35	2.61	4.01	4.11	1.18	4.54	0.28	6.00	5.00	5.72	4.00	0.70	3.16	3.00	17300
0.47	0.70	0.19	0.34	1.70	1.65	3.76	4.51	0.79	9.06	9.00	8.27	8.00	0.68	2.02	2.00	17296
1.00	0.08	0.76	2.72	4.56	4.11	0.76	4.71	0.31	5.78	5.00	5.47	4.00	0.94	4.73	5.00	17482
0.52	0.64	0.15	0.41	1.72	1.65	2.86	5.18	1.25	9.29	9.00	8.04	8.00	1.00	2.91	3.00	17053
0.54	0.78	0.31	0.77	2.40	2.47	5.86	3.98	1.37	11.21	10.00	9.84	9.00	2.09	2.09	2.00	16997
0.40	0.68	0.07	0.49	1.64	1.65	2.99	5.16	1.27	9.42	9.00	8.15	8.00	1.00	2.93	3.00	16993
0.58	0.76	0.12	0.36	1.82	1.65	3.60	4.76	0.54	8.81	9.00	8.27	8.00	2.13	2.13	2.00	17154
0.10	0.18	0.06	0.48	0.82	0.82	5.25	2.89	1.05	9.19	9.00	8.14	8.00	1.97	1.97	2.00	16867
1.66	0.14	0.19	0.53	2.52	2.47	5.04	3.66	0.64	9.34	9.00	8.70	8.00	3.65	3.65	4.00	16998
0.50	0.14	0.69	2.81	4.14	4.11	1.05	4.75	0.32	6.12	5.00	5.80	4.00	0.62	2.86	3.00	17302

TABLE XIV. NITROGENOUS SUPERPHOSPHATES

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
American Agricultural Chemical Co., of New Jersey, Newark, N. J.			
17317	Listers 4-8-4 Fertilizer	Rockville.....	.....
17376	Listers Balancer for C.S.M.....	Glastonbury.....	\$73.00
17283	Listers Celebrated Tobacco Fertilizer.....	Warehouse Point.....	.....
17278	Listers Corn & Potato Fertilizer.....	Norfolk.....	53.00
17379	Listers Fish & Potash Fertilizer.....	Warehouse Point.....	58.00
17467	Listers Standard Pure Superphosphate of Lime..	North Stonington.....	53.00
17088	Listers Success Fertilizer.....	Norfolk.....	50.00
17281	Listers Tobacco Fertilizer.....	Brookfield.....	51.00
Apothecaries Hall Co., Waterbury, Conn.			
16754	Liberty 3-8-4.....	Meriden.....	46.25
17311	Liberty Corn, Fruit and All Crops.....	Windsorville.....	45.75
16753	Liberty Market Gardeners' Special.....	Meriden.....	50.25
17313	Liberty Potato and Vegetable Special.....	Windsorville.....	56.00
17021	Liberty Tobacco Special.....	Windsorville.....	71.00
Armour Fertilizer Works, New York, N. Y.			
16798	Big Crop Fertilizer, 3-8-4.....	Norwalk.....	68.00
17131	Big Crop Fertilizer 3-8-4.....	New Canaan.....	60.00
16874	Big Crop Fertilizer 5-8-5.....	Rockville.....	70.00
16875	Big Crop Potato and Onion 4-8-4.....	Rockville.....	63.00
17017	Big Crop Tobacco Special 5-4-5.....	Rockville.....	83.00
17314	Big Crop Tobacco Special 5-4-5.....	Poquonock.....	78.50
16865	Corn Grower.....	New Haven.....	56.00
17137	Corn Grower.....	Poquonock.....	44.00
17044	Fertilizer 5-4-3.....	Rockville.....	75.00
16692	General Crop 1-7-1.....	New Haven.....	45.00
Atlantic Packing Co., New Haven, Conn.			
17108	4-8-6.....	New Haven.....	68.25
17487	4-8-6.....	New Haven.....	68.25
16996	Grain Fertilizer.....	New Britain.....	51.75
17484	Grain Fertilizer.....	New Haven.....	.....
17047	Potato Phosphate.....	New Haven.....	57.75
16995	Superphosphate.....	New Britain.....	60.35
17459	Special Vegetable.....	New Britain.....	68.85
17299	Tobacco Grower.....	South Windsor.....	.....
17469	Tobacco Manure.....	Silver Lane.....	70.00

WITH POTASH—(Continued).

In nitrates.	Nitrogen.						Phosphoric Acid.						Potash.			Station No.
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.	Guaranteed.	
				Found.	Guaranteed.				Found.	Guaranteed.	Found.	Guaranteed.				
1.64	0.28	0.61	0.77	3.30	3.29	4.36	4.28	1.25	9.89	9.00	8.64	8.00	3.28	3.28	4.00	17317
1.72	0.07	0.03	0.66	2.48	2.47	4.02	4.61	0.67	9.30	9.00	8.63	8.00	0.70	6.50	6.00	17376
1.01	0.10	none	3.39	4.50	4.11	3.50	2.14	0.42	6.06	5.00	5.64	4.00	0.28	3.43	3.00	17283
0.10	0.30	0.52	0.80	1.72	1.65	4.20	4.01	1.92	10.13	9.00	8.21	8.00	3.28	3.28	3.00	17278
0.73	0.25	0.55	0.84	2.37	2.47	6.75	3.78	1.16	11.69	11.00	10.53	10.00	2.85	2.85	3.00	17379
1.12	0.32	0.54	0.60	2.58	2.47	3.90	4.74	1.80	10.44	10.00	8.64	9.00	1.97	1.97	2.00	17467
0.20	0.18	0.48	0.69	1.55	1.65	4.57	3.76	1.70	10.03	9.00	8.33	8.00	1.97	1.97	2.00	17088
0.54	0.20	0.45	0.40	1.59	1.65	4.81	3.08	1.05	8.94	9.00	7.89	8.00	3.04	3.04	3.00	17281
0.12	1.90	0.02	0.38	2.42	2.47	6.77	1.52	0.35	8.64	8.00	8.29	8.00	4.01	4.01	4.00	16754
0.18	0.82	0.11	0.81	1.92	1.65	5.05	2.88	0.68	8.61	9.00	7.93	8.00	2.34	2.34	2.00	17311
0.10	2.46	0.08	0.50	3.14	3.29	7.36	0.93	0.26	8.55	9.00	8.29	8.00	3.86	3.86	4.00	16753
0.14	1.82	0.12	0.52	2.60	2.47	6.21	2.31	0.52	9.04	10.00	8.52	9.00	5.26	5.26	5.00	17313
0.66	0.66	none	3.10	4.42	4.11	1.53	2.73	0.40	4.66	5.00	4.26	4.00	0.57	5.29	5.00	17021
0.74	0.78	0.12	0.64	2.28	2.47	6.37	1.95	0.56	8.88	8.50	8.32	8.00	4.00	4.00	4.00	16798
.....	.....	.....	.....	2.34	2.47	.....	.....	0.45	8.67	8.50	8.22	8.00	.....	4.04	4.00	17131
1.00	1.84	none	1.13	3.97	4.11	4.74	3.32	0.92	8.98	8.50	8.06	8.00	5.40	5.40	5.00	16874
1.12	1.16	0.04	0.82	3.14	3.29	6.26	2.18	0.77	9.21	8.50	8.44	8.00	3.80	3.80	4.00	16875
0.88	0.12	none	2.94	3.94	4.11	3.72	2.54	0.37	6.63	4.50	6.26	4.00	0.21	5.35	5.00	17017
0.80	0.24	0.07	2.93	4.04	4.11	2.50	2.16	0.27	4.93	4.50	4.66	4.00	0.39	4.88	5.00	17314
0.54	0.36	none	0.70	1.60	1.65	5.06	3.19	0.55	8.80	8.50	8.25	8.00	1.77	1.77	2.00	16865
.....	.....	.....	.....	1.76	1.65	.....	.....	0.42	8.51	8.50	8.09	8.00	.....	2.00	2.00	17137
0.96	0.08	0.21	3.25	4.50	4.11	2.38	2.73	0.42	5.53	4.50	5.11	4.00	0.21	3.88	3.00	17044
0.12	0.44	none	0.38	0.94	0.82	1.76	5.39	0.91	8.06	7.50	7.15	7.00	1.10	1.10	1.00	16692
1.42	0.06	0.46	0.84	2.78	3.28	5.02	4.14	0.45	9.61	9.00	9.16	8.00	6.33	6.33	6.00	17108
1.62	0.09	0.95	0.86	3.52	3.28	4.93	4.10	0.64	9.67	9.00	9.03	8.00	5.48	5.48	6.00	17487
0.58	0.06	0.25	0.63	1.52	1.64	4.94	3.44	1.36	9.74	9.00	8.38	8.00	2.06	2.06	2.00	16996
0.05	0.67	0.43	0.57	1.72	1.64	4.97	4.35	0.97	10.29	9.00	9.32	8.00	2.33	2.33	2.00	17484
1.12	0.32	0.41	0.61	2.46	2.46	5.19	3.95	0.35	9.49	9.00	9.14	8.00	3.97	3.97	4.00	17047
0.76	0.44	0.35	0.81	2.36	2.46	4.34	4.13	1.06	9.53	9.00	8.47	8.00	3.17	3.17	3.00	16995
0.05	0.81	1.46	0.82	3.14	3.28	4.60	3.60	0.88	9.08	9.00	8.20	8.00	3.95	3.95	4.00	17459
1.51	0.12	0.33	2.22	4.18	4.10	1.78	4.94	0.38	7.10	6.00	6.72	5.00	0.68	4.02	4.00	17299
1.86	0.11	1.00	1.21	4.18	4.10	5.42	4.11	0.50	10.03	9.00	9.53	8.00	0.69	6.16	6.00	17469

TABLE XIV. NITROGENOUS SUPERPHOSPHATES

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
Berkshire Fertilizer Co., Bridgeport, Conn.			
16700	Ammoniated Bone Phosphate.....	Southport.....	\$45.00
17050	Ammoniated Bone Phosphate.....	Waterbury.....	52.00
17310	Grass Special.....	Ellington.....	.....
17013	Complete Fertilizer.....	Waterbury.....	63.00
17309	Complete Tobacco.....	Ellington.....	.....
16696	Market Garden Fertilizer.....	Milford.....	61.50
17012	Potato and Vegetable Phosphate.....	Milford.....	46.00
16943	Special Mixture.....	Brooklyn.....	48.00
F. E. Boardman, Middletown, Conn.			
17460	Complete Fertilizer for Potatoes & General Crops	Middletown.....	54.00
17461	Complete Fertilizer for Tobacco.....	Middletown.....	55.00
Bowker Fertilizer Co., New York City.			
17043	All Round Fertilizer.....	Yalesville.....	67.00
17321	Connecticut Valley Tobacco Fertilizer.....	Thompsonville.....	76.00
16873	Corn, Grain and Grass Phosphate.....	Rockville.....	47.00
17306	Fisherman's Brand Fish and Potash.....	Yalesville.....	66.00
17046	Hill and Drill Phosphate.....	Mansfield Depot.....	60.00
16800	Potato and Vegetable Phosphate.....	Plainville.....	56.00
16799	Square Brand Farm and Garden Phosphate.....	Yalesville.....	54.00
17022	Sure Crop Phosphate revised.....	Willimantic.....	40.00
16747	Tobacco Elements.....	Thompsonville.....	74.00
17085	Maryland Corn Phosphate.....	Willimantic.....	36.00
17326	Maryland Truck Garden Fertilizer.....	Willimantic.....	.....
17327	Stockbridge Early Crop Manure.....	Mansfield Depot.....	80.00
16814	Stockbridge Market Garden Manure.....	Plainville.....	68.00
16871	Stockbridge Tobacco Manure.....	Suffield.....	.....
A. D. Bridge's Sons, Inc., Hazardville, Conn.			
16667	Corn, Potato and General Purpose Fertilizer.....	Hazardville.....	60.00
16666	Special Tobacco Fertilizer.....	Hazardville.....	69.00
E. D. Chittenden Co., Bridgeport, Conn.			
17016	Complete Tobacco and Onion Grower with 4% Potash.....	Suffield.....	.....
17324	Complete Tobacco and Onion Grower with 6% Potash.....	Enfield.....	68.50
16941	High Grade Potato with 4% Potash.....	Brooklyn.....	52.50
16872	Tobacco Special 5% Potash.....	Suffield.....	.....
17323	Vegetable and Onion Grower, 3% Potash.....	Green's Farms.....	56.50

NITROGENOUS SUPERPHOSPHATES

WITH POTASH—(Continued).

Nitrogen.				Phosphoric Acid.								Potash.			Station No.	
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total		Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.		Guaranteed.
				Found.	Guaranteed.				Found.	Guaranteed.	Found.	Guaranteed.				
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0.64	0.14	none	0.24	1.02	0.80	9.51	1.81	0.24	11.56	11.00	11.32	10.00	1.84	1.84	2.00	16700
0.84	0.08	0.03	0.25	1.20	0.80	8.41	2.06	0.15	10.62	11.00	10.47	10.00	1.92	1.92	2.00	17050
4.04	0.28	0.10	1.38	5.80	5.75	0.72	4.23	0.18	5.13	5.00	4.95	4.00	3.95	3.95	4.00	17310
1.74	0.22	none	0.62	2.58	2.50	6.77	1.73	0.58	9.08	9.00	8.50	8.00	2.66	2.66	3.00	17013
1.46	0.14	0.19	2.51	4.30	4.11	1.19	4.85	0.37	6.41	4.00	6.04	4.00	0.56	4.70	4.00	17309
1.78	0.28	0.29	1.17	3.52	3.30	2.39	5.84	0.84	9.07	9.00	8.23	8.00	3.95	3.95	4.00	16696
1.18	0.16	none	0.48	1.82	1.70	6.77	1.77	0.35	8.89	9.00	8.54	8.00	2.64	2.64	2.00	17012
2.00	0.12	0.28	1.70	4.10	4.11	0.36	8.34	1.43	10.13	9.00	8.70	.....	4.84	4.84	5.00	16943
0.74	0.74	0.12	1.84	3.44	3.30	4.37	2.97	0.18	7.52	7.50	7.34	7.00	4.80	4.80	4.00	17460
0.91	0.84	0.18	1.71	3.64	3.30	4.81	3.56	0.23	8.60	7.50	8.37	7.00	0.23	4.06	4.00	17461
0.72	0.86	0.33	0.57	2.48	2.47	5.90	2.83	0.83	9.56	9.00	8.73	8.00	4.11	4.11	4.00	17043
1.02	0.13	0.03	2.94	4.12	4.11	1.19	4.49	0.41	6.09	5.00	5.68	4.00	0.78	3.36	3.00	17321
0.62	0.22	0.18	0.74	1.76	1.65	5.09	3.62	1.05	9.76	9.00	8.71	8.00	2.29	2.29	2.00	16873
0.16	0.76	0.38	1.07	2.37	2.47	7.92	3.14	0.88	11.04	11.00	11.06	10.00	2.71	2.71	3.00	17306
0.94	1.08	0.08	0.48	2.58	2.47	5.79	3.60	0.28	9.67	10.00	9.39	9.00	2.19	2.19	2.00	17046
0.32	0.62	0.33	0.47	1.74	1.65	3.12	4.92	1.41	9.45	9.00	8.04	8.00	1.16	3.08	3.00	16800
0.24	0.58	0.35	0.41	1.58	1.65	4.93	3.64	1.05	9.62	9.00	8.57	8.00	2.07	2.07	2.00	16799
0.38	0.10	0.15	0.19	0.82	0.82	2.59	5.45	0.75	8.79	9.00	8.04	8.00	2.11	2.11	2.00	17022
1.74	0.08	none	0.94	2.76	2.47	1.56	6.53	0.72	8.81	9.00	8.09	8.00	0.88	5.63	6.00	16747
0.64	0.74	none	0.28	1.66	1.65	4.41	3.83	0.42	8.66	9.00	8.24	8.00	2.06	2.06	2.00	17085
1.40	1.02	0.52	0.20	3.14	3.29	4.92	3.37	0.31	8.60	9.00	8.29	8.00	3.61	3.61	4.00	17326
1.24	1.82	0.34	0.66	4.06	4.11	5.11	2.96	0.41	8.48	9.00	8.07	8.00	7.43	7.43	7.00	17327
0.52	1.30	0.28	1.38	3.48	3.29	5.74	2.41	1.01	9.16	9.00	8.15	8.00	3.95	3.95	4.00	16814
1.28	0.06	0.30	2.58	4.22	4.11	1.26	4.09	0.29	5.64	5.00	5.35	4.00	0.64	4.77	5.00	16871
0.66	1.06	.....	.....	3.76	3.30	2.81	6.14	1.04	9.99	8.00	8.95	8.00	0.19	4.55	4.00	16667
0.54	0.06	.....	.....	4.26	4.11	1.14	4.36	0.49	5.99	4.00	5.50	4.00	0.28	4.89	4.00	16666
1.46	1.02	0.08	0.76	3.32	3.29	5.86	3.09	0.54	9.49	9.00	8.95	8.00	0.76	4.31	4.00	17016
1.62	0.90	none	0.68	3.20	3.29	5.21	3.54	0.54	9.29	9.00	8.75	8.00	5.86	5.86	6.00	17324
0.12	2.72	0.03	1.43	4.30	4.12	6.82	2.49	0.86	10.17	9.00	9.31	8.00	4.46	4.46	4.00	16941
1.65	0.02	none	2.79	4.46	4.12	4.46	2.31	0.26	5.03	5.00	4.77	4.00	0.35	6.24	5.00	16872
0.96	0.58	0.05	0.75	2.34	2.47	5.55	3.00	0.51	9.06	9.00	8.55	8.00	2.94	2.94	3.00	17323

TABLE XIV. NITROGENOUS SUPERPHOSPHATES

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
Everett B. Clark Seed Co., Milford, Conn.			
16868	Special Mixture with Potash (4-8-6).....	Milford.....	\$53.00
17322	Special Mixture with Potash (4-10-4).....	Southport.....	50.00
17481	Special Mixture with Potash (4-8-6).....	Woodmont.....	53.00
The Coe-Mortimer Co., New York City			
17339	Celebrated Special Potato Fertilizer Revised.....	Plantsville.....	.....
16697	Columbian Corn and Potato Fertilizer.....	Milford.....	50.00
17341	Connecticut Wrapper Grower.....	Poquonock.....	82.00
17099	Cotton Seed Supplement.....	Glastonbury.....	73.00
16698	Gold Brand Excelsior Guano Revised.....	Milford.....	60.00
17325	New Englander Special.....	Abington.....	45.00
17342	Special Grass Top Dressing.....	Glastonbury.....	73.00
17343	Tobacco Leaf Fertilizer.....	Glastonbury.....	70.00
H. B. Cornwall, Meriden, Conn.			
17615	Potato and General Use.....	Southington.....	64.00
17616	Tobacco Grower.....	Glastonbury.....	70.00
Eastern States Farmers' Exchange, Springfield, Mass.			
17109	2-8-2.....	Bristol.....	52.00
17416	3-8-4.....	Madison.....	44.25
17415	4-8-4.....	Bristol.....	68.50
17417	4-8-7.....	Madison.....	65.00
17420	5-4-5.....	South Manchester.....	57.60
Essex Fertilizer Co., Boston, Mass.			
17081	1-10-1 for Grain and Grass.....	Hartford.....	49.25
17103	2-8-2 for Farm and Garden.....	South Manchester.....	56.00
17330	4-8-4 for Potatoes, Roots and Vegetables.....	Hartford.....	70.00
17340	Special Tobacco 5-5-4.....	Wapping.....	77.50
17464	5-8-6.....	Wapping.....	70.00
17335	Fish Fertilizer, 3-8-3 for All Crops.....	Hartford.....	62.25
17337	Market Garden 3-8-4 for Vegetables and Grass.....	South Manchester.....	66.00
17083	Tobacco Manure 5-7-2.....	Rockville.....	70.00
L. T. Frisbie Co., New Haven, Conn.			
17462	3-8-6.....	New Hartford.....	57.00
17350	5-8-7.....	Putnam.....	.....
17078	Corn and Grain Fertilizer.....	Stamford.....	60.00
17488	Corn and Grain Fertilizer.....	New Haven.....	56.00
17082	Market Garden.....	Hartford.....	.....

WITH POTASH—(Continued).

Nitrogen.				Phosphoric Acid.								Potash.			Station No.	
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.		"So-called "Available."		As muriate.	Total.		Guaranteed.
				Found.	Guaranteed.				Found.	Guaranteed.	Found.	Guaranteed.				
0.20	1.82	0.11	1.45	3.58	3.29	6.91	2.33	1.01	10.25	8.50	9.24	8.00	6.48	6.48	6.00	16868
0.08	2.10	0.14	1.00	3.32	3.29	8.13	2.09	0.77	10.99	10.50	10.22	10.00	4.04	4.04	4.00	17322
0.09	2.13	0.15	1.19	3.56	3.29	5.78	2.96	0.73	9.47	8.50	8.74	8.00	6.01	6.01	6.00	17481
0.38	1.04	0.24	1.52	3.18	3.29	6.18	2.19	0.84	9.21	9.00	8.37	8.00	3.75	3.75	4.00	17339
0.58	0.70	none	0.40	1.68	1.65	2.94	5.39	1.06	9.39	9.00	8.33	8.00	1.20	3.13	3.00	16697
0.83	0.10	0.54	2.70	4.17	4.11	0.81	4.89	0.31	6.01	5.00	5.70	4.00	0.85	4.60	5.00	17341
1.72	0.02	0.07	0.71	2.52	2.47	1.28	7.65	0.45	9.38	9.00	8.93	8.00	0.93	6.28	6.00	17099
0.42	1.04	0.14	0.90	2.50	2.47	4.89	2.99	1.45	9.33	9.00	7.88	8.00	3.95	3.95	4.00	16698
0.29	0.07	0.32	0.14	0.82	0.82	2.98	5.00	0.68	8.66	9.00	7.98	8.00	1.93	1.93	2.00	17325
1.43	2.13	0.64	0.84	5.04	4.94	4.78	2.89	0.45	8.12	7.00	7.67	6.00	3.45	3.45	4.00	17342
1.15	0.11	0.29	2.79	4.34	4.11	1.16	4.44	0.26	5.86	5.00	5.60	4.00	0.66	2.99	3.00	17343
0.91	0.15	0.22	2.14	3.42	3.70	6.37	3.44	1.04	10.85	.....	9.81	9.00	8.26	8.26	7.50	17615
2.75	0.17	0.41	1.91	5.24	5.76	2.59	4.92	1.11	8.62	.....	7.51	5.00	0.89	5.91	5.00	17616
0.20	0.58	0.07	0.85	1.70	1.65	6.64	2.22	0.41	9.27	9.00	8.86	8.00	1.52	2.00	2.00	17109
1.16	0.07	0.61	0.64	2.48	2.46	3.86	4.35	0.63	8.84	9.00	8.21	8.00	4.52	4.52	4.00	17416
1.52	0.23	0.72	0.93	3.40	3.29	6.53	2.33	0.82	9.68	9.00	8.86	8.00	0.51	4.39	4.00	17415
0.27	1.03	1.24	0.50	3.04	3.29	5.54	2.63	0.90	9.07	9.00	8.17	8.00	6.22	6.22	7.00	17417
0.15	1.04	0.16	2.87	4.22	4.11	3.84	1.62	0.26	5.72	5.00	5.46	4.00	0.53	6.70	5.00	17420
none	0.34	0.17	0.41	0.92	0.82	6.75	3.41	1.15	11.31	11.00	10.16	10.00	1.17	1.17	1.00	17081
0.14	0.20	0.60	0.80	1.74	1.64	5.30	2.88	0.99	9.17	9.00	8.18	8.00	1.99	1.99	2.00	17103
0.61	1.00	0.89	0.86	3.36	3.28	6.07	2.57	0.61	9.25	9.00	8.64	8.00	4.57	4.57	4.00	17336
1.58	0.09	0.37	2.34	4.38	4.10	2.04	4.24	0.51	6.79	6.00	6.28	5.00	0.68	4.31	4.00	17340
1.88	0.11	0.53	2.94	5.46	4.11	1.11	5.02	0.54	6.67	9.00	6.13	8.00	0.80	4.22	6.00	17464
0.18	0.89	0.58	0.57	2.22	2.46	5.70	2.23	0.68	8.61	9.00	7.93	8.00	3.04	3.04	3.00	17335
0.02	1.14	0.65	0.71	2.52	2.46	6.49	1.96	0.59	9.04	9.00	8.45	8.00	3.79	3.79	4.00	17337
1.62	0.10	0.06	2.38	4.16	4.10	4.68	3.62	0.50	8.80	8.00	8.30	7.00	0.44	2.10	2.00	17083
1.00	0.07	0.60	1.05	2.72	2.46	1.14	6.91	2.20	10.25	9.00	8.05	8.00	0.69	6.69	6.00	17462
1.60	1.07	0.33	1.22	4.22	4.10	5.56	4.04	0.43	10.03	9.00	9.60	8.00	6.62	6.62	7.00	17350
0.72	0.10	0.09	0.58	1.49	1.64	4.29	4.77	0.96	10.02	9.00	9.06	8.00	2.11	2.11	2.00	17078
0.27	0.57	0.30	0.58	1.72	1.64	5.12	4.07	0.87	10.06	9.00	9.19	8.00	2.33	2.33	2.00	17488
1.36	0.16	0.50	0.75	2.77	3.28	5.11	4.12	0.38	9.61	9.00	9.23	8.00	6.01	6.01	6.00	17082

TABLE XIV. NITROGENOUS SUPERPHOSPHATES

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
L. T. Frisbie Co., New Haven, Conn.—(Continued).			
17260	Market Garden.....	North Haven.....	\$64.00
17155	Special Mixture.....	East Hartford.....	.....
17334	Special.....	New Britain.....	65.00
17333	Special Vegetable and Potato Grower.....	Stamford.....	70.00
17586	Special Vegetable and Potato Grower, 4-8-4....	Wilson.....	45.00
17358	Special 4-10-6.....	Woodmont.....	58.00
17344	Superphosphate.....	Stamford.....	68.00
17353	Tobacco Grower.....	South Windsor.....	.....
17102	Tobacco Manure, 5-8-6.....	Hartford.....	.....
International Agricultural Corporation (Buffalo Fertilizer Works), Boston, Mass.			
17349	Complete.....	East Granby.....	.....
16925	Complete Tobacco.....	East Granby.....	.....
17285	Buffalo Economy.....	West Suffield.....	52.00
17279	Buffalo Farmers' Choice.....	Litchfield.....	48.00
17284	Buffalo General Favorite.....	West Suffield.....	44.00
17282	Buffalo High Grade Manure.....	Glastonbury.....	68.25
17280	Buffalo New Englander Special.....	Litchfield.....	58.00
17354	Buffalo Tobacco Producer.....	Glastonbury.....	78.50
17287	Buffalo Vegetable & Potato.....	Tariffville.....	63.00
Lowell Fertilizer Co., Boston, Mass.			
16924	2-8-3 for Vegetables and Grain.....	Rockville.....	50.00
17375	3-8-3 for Corn, Grain and Vegetables.....	Yantic.....	46.00
16820	4-8-4 for Potatoes, Corn and Vegetables.....	Wethersfield.....	62.75
17100	5-5-4 for Tobacco, Fruits and Vines.....	Rockville.....	83.00
17371	5-8-4 for Vegetables and Grain.....	Warehouse Point.....	77.00
16920	Animal Brand 3-8-4 for All Crops.....	Wallingford.....	60.00
17537	Animal Brand 3-8-4 for All Crops.....	Southington.....	68.00
17369	Bone Fertilizer 2-8-2 for Corn, Grain, Grass and Vegetables.....	New Britain.....	53.00
16813	Empress Brand 1-10-1 for Grain and Vegetables.....	New Britain.....	48.00
16926	Lawn and Garden Dressing 4-7-2.....	Hartford.....	.....
17380	Tobacco 5-7-2.....	Rockville.....	.....
Mapes Formula and Peruvian Guano Co., New York City.			
17377	Connecticut Valley Special.....	South Glastonbury....	90.00
17370	Corn Manure.....	Forestville.....	57.50
17393	Cotton Seed Tobacco Manure.....	Windsor.....	71.00
17079	General Truck Manure.....	Forestville.....	72.00

WITH POTASH—(Continued)

Nitrogen.						Phosphoric Acid.								Potash.			Station No.
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.	Guaranteed.		
				Found.	Guaranteed.				Found.	Guaranteed.	Found.	Guaranteed.					
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%		
0.82	none	0.40	3.72	1.47	1.29	5.22	0.60	7.11	6.51	0.53	6.89	5.88	6.00	17260			
0.43	0.45	0.74	0.70	2.32	2.47	5.02	3.96	0.50	9.48	9.00	8.98	8.00	3.88	3.88	4.00	17334	
0.74	1.02	0.52	0.82	3.10	3.29	4.55	4.12	0.74	9.42	9.00	8.68	8.00	4.01	4.01	4.00	17333	
0.78	0.92	0.50	0.50	3.46	3.28	5.00	0.64	9.77	9.00	9.13	8.00	4.22	4.00	17586			
0.55	1.48	0.36	1.15	3.54	3.28	8.08	3.69	0.46	12.23	11.00	11.77	10.00	6.21	6.21	6.00	17358	
0.64	0.50	0.56	0.66	2.36	2.46	4.41	4.26	0.96	9.63	9.00	8.67	8.00	3.02	3.02	3.00	17344	
0.86	1.06	0.59	1.83	4.34	4.10	1.01	5.56	0.47	7.04	6.00	6.57	5.00	1.58	4.01	4.00	17353	
1.76	0.14	0.93	1.23	4.06	4.10	5.78	4.06	0.46	10.30	9.00	9.84	8.00	1.02	6.31	6.00	17102	
0.48	0.36	0.52	0.64	2.00	1.60	5.07	3.66	1.16	9.89	9.00	8.73	8.00	2.00	2.00	2.00	17349	
0.82	0.46	0.21	1.85	3.34	3.30	1.47	3.34	0.37	5.18	5.00	4.81	4.00	0.64	3.76	4.00	16925	
0.28	0.18	0.52	0.68	1.66	1.60	5.77	4.17	1.09	11.03	9.00	9.94	8.00	2.32	2.32	2.00	17285	
0.11	0.14	0.37	0.34	0.96	0.80	5.77	3.99	1.18	10.94	11.00	9.76	10.00	2.23	2.23	2.00	17279	
0.04	0.18	0.26	0.50	0.98	0.80	5.07	3.38	0.79	9.24	9.00	8.45	8.00	1.22	1.22	1.00	17284	
1.00	0.52	0.37	1.38	3.27	3.30	4.70	3.91	1.29	9.90	9.00	8.61	8.00	5.87	5.87	6.00	17282	
0.39	0.38	0.18	0.91	1.86	1.60	2.03	6.86	2.65	11.54	11.00	8.89	10.00	4.08	4.08	4.00	17280	
0.78	1.26	0.20	2.04	4.28	4.10	0.55	3.68	0.35	4.58	5.00	4.23	4.00	0.62	3.36	4.00	17354	
0.52	0.56	0.32	1.14	2.54	2.50	2.75	6.80	2.56	12.11	9.00	9.55	8.00	3.80	3.80	4.00	17287	
0.04	0.16	0.69	0.79	1.68	1.64	5.51	2.27	1.18	8.96	9.00	7.78	8.00	3.09	3.09	3.00	16924	
0.43	0.57	0.59	0.63	2.22	2.46	5.81	3.36	0.22	9.39	9.00	9.17	8.00	3.04	3.04	3.00	17375	
0.72	1.00	0.81	0.87	3.40	3.29	5.68	2.90	0.63	9.21	9.00	8.58	8.00	4.36	4.36	4.00	16820	
1.24	0.04	0.54	2.22	4.04	4.10	1.61	4.10	0.42	6.13	6.00	5.71	5.00	0.76	4.00	4.00	17100	
0.28	0.16	0.99	1.17	3.60	4.10	5.52	2.62	0.93	9.07	9.00	8.14	8.00	2.14	3.69	4.00	17371	
0.18	0.82	0.50	0.68	2.18	2.46	6.13	2.00	0.68	8.81	9.00	8.13	8.00	3.81	3.81	4.00	16920	
.....	.....	.....	.....	2.02	2.46	.....	.....	0.58	8.64	9.00	8.06	8.00	4.02	4.00	17537	
0.09	0.09	0.60	0.62	1.40	1.64	5.13	2.58	0.84	8.55	9.00	7.71	8.00	1.83	1.83	2.00	17369	
none	0.14	0.30	0.30	0.74	0.82	5.96	3.17	1.71	10.84	11.00	9.13	10.00	0.94	0.94	1.00	16813	
1.96	1.22	none	0.10	3.28	3.28	7.57	0.75	1.34	9.66	8.00	8.32	7.00	1.97	1.97	2.00	16926	
1.16	0.04	0.43	2.27	3.90	4.10	4.48	3.73	0.46	8.67	8.00	8.21	7.00	0.54	2.19	2.00	17380	
2.32	0.06	0.29	2.33	5.00	4.95	0.04	5.21	0.33	5.58	.....	5.25	4.00	1.40	6.25	7.00	17377
1.30	0.06	0.61	0.81	2.78	2.47	1.90	6.87	1.27	10.04	10.00	8.77	8.00	3.86	3.86	3.00	17370	
1.79	0.06	0.07	2.32	4.24	4.12	0.49	3.55	0.51	4.55	.....	4.04	4.00	0.53	1.63	1.00	17393
3.70	0.04	0.26	0.72	4.72	4.12	1.12	5.43	1.57	8.12	8.00	6.55	6.00	2.43	5.39	5.00	17079	

TABLE XIV. NITROGENOUS SUPERPHOSPHATES

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i> Mapes Formula and Peruvian Guano Co., New York City—(Continued).			
17080	General Use Manure.....	Windsor Locks.....	.....
17392	General Tobacco Manure.....	South Windsor.....	.....
17372	Grain Grower.....	Suffield.....	\$49.00
16816	Potato Manure.....	Forestville.....	67.00
16578	Tobacco Ash Constituents.....	Burnside.....	77.50
16837	Tobacco Ash Constituents.....	Warehouse Point.....	74.50
16579	Tobacco Starter Improved.....	Burnside.....	63.00
16815	Top Dresser.....	Forestville.....	87.50
17136	Top Dresser.....	Hartford.....	.....
Miller Fertilizer Co., Baltimore, Md.			
17149	5-8-7.....	Newington.....	57.00
16684	Clermont.....	Ansonia.....	45.00
17577	Clermont.....	Wallingford.....	42.00
16752	No. 1 Potato and Vegetable Grower.....	Wallingford.....	57.00
16685	Standard Phosphate.....	Ansonia.....	54.00
17578	Standard Phosphate.....	Wallingford.....	52.00
National Fertilizer Co., New York City.			
16929	Complete Tobacco Fertilizer.....	South Manchester....	74.00
17262	Complete Tobacco Fertilizer.....	Somerville.....	77.43
16818	Eureka Potato Fertilizer.....	West Cheshire.....	65.00
16817	Market Garden Fertilizer Revised.....	Southington.....	59.00
17065	Potato Phosphate.....	Wallingford.....	.....
17388	Special Tobacco Revised.....	Somerville.....	75.50
17394	Tobacco Foundation.....	Warehouse Point.....	71.75
16812	Universal Phosphate.....	Wallingford.....	.....
17261	XXX Fish and Potash.....	Wallingford.....	.....
New England Fertilizer Co., Boston, Mass.			
17048	2-8-3 for Vegetables and Grain.....	Meriden.....	54.00
17266	3-8-3 for Corn, Grain and Vegetables.....	Meriden.....	58.00
17071	4-8-6 for Potatoes and Vegetables.....	Putnam.....	65.00
17486	5-8-6.....	Glastonbury.....	70.00
17263	5-8-7 for Potatoes and Market Gardens.....	Putnam.....	76.25
16930	Corn Phosphate for Grain and Vegetables.....	Rockville.....	54.00
17536	Potato, Vegetable and Grass, 4-8-4.....	Putnam.....	.....
17045	Superphosphate, 3-8-4, for all Crops.....	Rockville.....	64.00
17272	Tobacco Manure, 5-5-4.....	Ellington.....

NITROGENOUS SUPERPHOSPHATES

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WITH POTASH—(Continued).

Nitrogen.				Phosphoric Acid.								Potash.			Station No.			
In ammonia.	In nitrates.	Organic, water-soluble.	Organic, water-insoluble.	Total.				Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.		So-called "Available."			As muriate.	Total.	Guaranteed.
				Found.	Guaranteed.	Found.	Guaranteed.				Found.	Guaranteed.						
1.52	0.04	0.27	0.71	2.54	2.47	0.12	6.61	2.06	8.79	8.00	6.73	6.00	0.93	4.02	4.00	17080		
1.69	0.05	0.13	2.13	4.00	4.12	0.12	4.45	0.19	4.76	.....	4.57	4.00	0.39	5.59	5.00	17392	
0.38	0.08	0.72	0.55	1.73	1.65	2.19	6.24	1.50	9.93	10.00	8.43	8.00	2.00	2.00	2.00	17372		
2.58	0.08	0.30	0.64	3.60	3.29	1.76	5.61	2.02	9.39	8.00	7.37	7.00	3.15	4.98	5.00	16816		
0.07	0.06	.....	.....	0.83	0.82	0.50	2.23	3.40	6.13	6.00	2.73	4.00	3.04	12.47	15.00	16578
0.08	0.10	.....	.....	1.02	0.82	0.33	3.16	3.02	6.51	6.00	3.49	4.00	.....	14.34	15.00	16837
2.42	0.30	.....	.....	4.30	4.12	3.21	3.83	1.61	8.65	8.00	7.04	6.00	0.44	1.72	1.00	16579
6.90	0.18	0.78	0.48	8.34	8.22	1.04	3.50	1.20	5.74	6.00	4.54	4.00	0.48	3.75	2.00	16815		
.....	.....	.....	.....	8.46	8.22	.....	.....	0.63	6.20	6.00	5.57	4.00	.....	3.41	2.00	17136
0.98	1.32	0.88	0.64	3.82	4.12	4.36	4.43	0.92	9.71	8.50	8.79	8.00	6.24	6.24	7.00	17149		
0.14	0.14	.....	.....	1.18	0.82	5.30	4.19	1.05	10.54	10.50	9.49	10.00	2.01	2.01	2.00	16684
none	0.08	0.49	0.37	0.94	0.82	.....	.....	0.96	10.52	10.50	9.56	10.00	.....	2.21	2.00	17577
0.80	0.68	0.78	0.70	2.96	3.30	3.18	4.97	1.27	9.42	8.50	8.15	8.00	3.90	3.90	4.00	16752		
0.76	0.62	.....	.....	2.11	2.47	3.98	4.12	0.88	8.98	8.50	8.10	8.00	3.34	3.34	3.00	16685
0.62	0.27	0.93	0.42	2.24	2.47	.....	.....	0.84	9.27	8.50	8.43	8.00	.....	3.07	3.00	17578
1.06	0.16	0.26	2.46	3.94	4.11	1.14	4.72	0.36	6.22	5.00	5.86	4.00	1.04	4.14	5.00	16929		
0.84	0.10	0.09	3.07	4.10	4.11	2.28	2.23	0.26	4.77	5.00	4.51	4.00	0.37	5.55	5.00	17262		
1.32	1.50	none	0.72	3.54	3.29	6.41	2.18	0.93	9.52	9.00	8.59	8.00	4.37	4.37	4.00	16818		
0.88	1.32	0.16	0.40	2.76	2.47	5.68	2.56	0.97	9.21	9.00	8.24	8.00	4.02	4.02	4.00	16817		
0.44	0.48	0.25	0.51	1.68	1.65	4.44	3.68	0.92	9.04	9.00	8.12	8.00	3.01	3.01	3.00	17065		
0.15	1.07	0.58	2.62	4.42	4.11	0.68	4.73	0.40	5.81	5.00	5.41	4.00	0.74	3.59	3.00	17388		
0.09	1.33	0.06	1.36	2.84	2.47	0.63	8.02	0.42	9.07	9.00	8.65	8.00	1.48	5.73	6.00	17394		
0.02	0.24	0.38	0.42	1.06	0.82	3.59	4.62	0.95	9.16	9.00	8.21	8.00	2.39	2.39	2.00	16812		
0.58	0.78	0.10	1.02	2.48	2.47	7.60	3.86	0.82	12.28	11.00	11.46	10.00	3.55	3.55	3.00	17261		
0.02	0.12	0.76	0.72	1.62	1.64	5.43	2.75	0.99	9.17	9.00	8.18	8.00	3.07	3.07	3.00	17048		
0.12	0.90	0.50	0.55	2.07	2.46	5.61	2.46	0.65	8.72	9.00	8.07	8.00	2.89	2.89	3.00	17266		
0.86	0.94	0.45	0.68	2.93	3.28	5.33	2.90	0.70	8.93	9.00	8.23	8.00	6.04	6.04	6.00	17071		
1.57	0.22	1.07	1.24	4.10	4.10	5.89	3.84	0.50	10.23	9.00	9.73	8.00	1.24	6.62	6.00	17486		
1.04	1.14	0.78	1.02	3.98	4.10	5.16	3.49	0.73	9.38	9.00	8.65	8.00	7.63	7.63	7.00	17263		
0.06	0.08	0.60	0.73	1.47	1.64	5.52	2.52	0.90	8.94	9.00	8.04	8.00	1.75	1.75	2.00	16930		
.....	.....	.....	.....	3.21	3.29	.....	.....	0.75	8.80	.....	8.05	8.00	.....	4.70	4.00	17536
0.20	0.92	0.72	0.74	2.56	2.46	6.64	2.14	0.74	9.52	9.00	8.78	8.00	3.73	3.73	4.00	17045		
2.16	0.10	0.01	1.69	3.96	4.10	1.75	4.16	0.29	6.20	6.00	5.91	5.00	0.77	4.35	4.00	17272		

¹ 7.36 as sulphate, 2.07 as carbonate.

TABLE XIV. NITROGENOUS SUPERPHOSPHATES

Station No.	Manufacturer and Brand.		Place of Sampling.	Dealer's cash price per ton.
	City	State		
	<i>Sampled by Station:</i>			
	Nitrate Agencies Co., New York City.			
17074	Naco Brand, 2-8-2 Formula	.....	Bristol	\$50.00
17269	Naco Brand, 3-8-4 Formula	.....	South Manchester	44.25
17073	Naco Brand, 4-8-4 Formula	.....	Bristol	58.50
	Olds & Whipple, Hartford, Conn.			
17236	Complete Corn, Onion and Potato Fertilizer	....	South Windsor	61.00
16921	Complete Tobacco Fertilizer	.....	South Windsor	70.00
17243	High Grade Starter & Potash Compound	.....	Hartford	.....
16931	Special Complete Corn, Onion and Potato Fertilizer	....	Ellington	.....
	Parmenter & Polsey Fertilizer Co., Boston, Mass.			
17072	1-10-1 for Grain and Grass	.....	Plantsville	45.00
17241	2-8-2, for Farm and Garden	.....	Plantsville	50.00
17247	4-8-4, for Potatoes, Corn and Vegetables	.....	Wallingford	65.00
17239	Plymouth Rock, 3-8-4	.....	Rocky Hill	.....
	Piedmont-Mt. Airy Guano Co., Baltimore, Md.			
16939	Brown's 5-8-7 Fertilizer	.....	Putnam	60.00
16938	Brown's Corn and Grain Fertilizer	.....	Putnam	38.00
16801	Brown's Fish, Bone and Potash	.....	Green's Farms	48.35
16967	Brown's Fish, Bone and Potash	.....	Putnam	49.00
16933	Brown's Market Garden Fertilizer	.....	Putnam	52.00
16935	Brown's Top Dresser	.....	Putnam	57.00
16803	Brown's Potato Phosphate	.....	Green's Farms	43.00
17185	Brown's Potato Phosphate	.....	Putnam	44.00
16936	Home Mixture	.....	Putnam	45.12
	Providence Farmers' Exchange, Providence, R. I.			
17229	Exchange Brand, 2-8-2 Fertilizer	.....	Waterbury	.....
17133	Exchange Brand, 3-8-4 Fertilizer	.....	Waterbury	.....
17228	Exchange Brand, 4-8-4 Fertilizer	.....	Waterbury	.....
16942	Exchange Brand, 5-8-5 Fertilizer	.....	Brooklyn	58.00
	Quality Seed and Fertilizer Co., Stamford, Conn.			
17201	All Crop Fertilizer	.....	Stamford	50.00
17200	Bartlett Special Tree Fertilizer	.....	Stamford	60.00
17199	Potato Fertilizer	.....	Stamford	65.00
	Rogers & Hubbard Co., Middletown, Conn.			
17191	Hubbard's Bone Base Fertilizer for Seeding Down	.....	Middletown	.....
17070	Hubbard's Bone Base Oats and Top Dressing	....	Somers	.....

WITH POTASH—(Continued).

Nitrogen.						Phosphoric Acid.						Potash.			Station No.	
In nitrates.	In ammonia.	Organic water-soluble.	Organic water-insoluble.	Total.		Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.		Guaranteed.
				Found.	Guaranteed.				Found.	Guaranteed.	Found.	Guaranteed.				
0.10	0.54	0.27	0.81	1.72	1.64	6.87	2.33	0.45	9.65	9.00	9.20	8.00	1.63	2.04	2.00	17074
0.36	0.88	0.22	2.12	3.58	2.46	5.95	2.44	0.64	9.03	9.00	8.39	8.00	0.44	3.28	4.00	17269
0.98	1.14	0.25	0.89	3.26	3.20	6.60	2.39	0.81	9.80	9.00	8.99	8.00	0.49	4.29	4.00	17073
1.52	0.10	none	1.68	3.30	3.30	5.67	3.50	0.27	9.44	8.00	9.17	8.00	4.81	4.81	4.00	17236
0.82	0.08	0.47	2.95	4.32	4.11	0.96	4.05	0.17	5.18	4.00	5.01	4.00	0.94	4.42	4.00	16921
1.50	0.08	0.44	2.16	4.18	4.11	0.03	5.42	0.04	5.49	4.00	5.45	4.00	1.37	15.81	15.00	17243
1.66	0.14	none	1.02	2.82	2.45	5.33	3.56	0.63	9.52	8.00	8.89	8.00	2.42	2.42	2.00	16931
0.08	0.04	0.45	0.41	0.98	0.82	6.44	3.36	1.15	10.95	11.00	9.80	10.00	1.35	1.35	1.00	17072
0.14	0.06	0.67	0.79	1.66	1.64	5.38	3.00	0.97	9.35	9.00	8.38	8.00	2.12	2.12	2.00	17241
0.62	1.02	0.76	0.83	3.23	3.28	5.68	2.93	0.65	9.26	9.00	8.61	8.00	4.02	4.02	4.00	17247
0.28	0.80	0.57	0.63	2.28	2.46	6.71	2.56	0.61	9.88	9.00	9.27	8.00	3.82	3.82	4.00	17239
1.08	1.02	0.14	0.50	2.74	4.11	6.74	3.20	0.77	10.71	9.00	9.94	8.00	4.08	4.08	7.00	16930
0.20	0.52	0.09	0.63	1.44	1.65	5.11	3.26	0.88	9.25	.....	8.37	8.00	2.05	2.05	2.00	16938
0.10	1.36	.....	.....	3.30	3.29	6.84	1.76	0.79	9.39	.....	8.60	8.00	3.83	3.83	4.00	16801
.....	.....	.....	.....	2.86	3.29	.....	.....	0.74	9.01	.....	8.27	8.00	.....	3.62	4.00	16967
1.42	0.62	0.16	0.54	2.74	2.88	3.33	4.36	0.77	8.46	.....	7.69	8.00	5.01	5.01	6.00	16933
1.50	0.86	0.32	0.54	3.22	4.94	5.84	4.32	0.91	11.07	.....	10.16	8.00	2.55	2.55	3.00	16935
0.16	0.70	0.25	0.67	1.78	2.47	5.07	3.36	0.82	9.25	.....	8.43	8.00	3.69	3.69	3.00	16803
1.04	0.20	0.15	0.44	1.83	2.47	3.92	4.24	0.73	8.89	.....	8.16	8.00	2.86	2.86	3.00	17185
1.80	0.54	0.30	0.98	3.62	4.12	6.24	3.70	0.95	10.89	.....	9.94	10.00	3.69	3.69	4.00	16936
0.28	1.08	none	0.59	1.95	1.65	5.27	2.40	0.63	8.30	8.50	7.67	8.00	2.48	2.48	2.00	17229
none	1.68	0.27	0.65	2.60	2.47	6.72	1.78	0.54	9.04	8.50	8.50	8.00	3.71	3.71	4.00	17133
0.10	2.08	0.28	0.75	3.21	3.29	6.63	2.07	0.69	9.39	8.50	8.70	8.00	3.52	3.52	4.00	17228
0.60	2.12	0.27	1.27	4.26	4.11	6.99	1.73	0.64	9.36	8.50	8.72	8.00	4.80	4.80	5.00	16942
0.82	0.06	none	1.12	2.00	1.65	2.34	7.29	1.04	10.67	8.50	9.63	8.00	2.68	2.68	2.00	17201
2.32	0.06	1.26	0.62	4.26	4.00	4.49	3.44	0.91	8.84	8.50	7.93	8.00	4.74	4.74	4.00	17200
2.76	0.08	0.12	0.75	3.71	3.29	3.01	5.81	1.02	9.84	8.50	8.82	8.00	2.47	4.29	4.00	17199
0.40	0.26	0.21	2.07	2.94	2.46	0.03	12.20	3.39	15.62	15.00	12.23	6.00	3.96	3.96	4.00	17191
6.64	0.06	0.50	1.02	8.22	8.22	none	5.99	2.43	8.42	8.00	5.99	3.00	3.27	4.00	4.00	17070

TABLE XIV. NITROGENOUS SUPERPHOSPHATES

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
	<i>Sampled by Station:</i>		
	Rogers & Hubbard Co., Middletown, Conn.—(Con.)		
16927	Hubbard's Bone Base Soluble Corn and General Crops Manure.....	Glastonbury.....	\$56.00
17067	Hubbard's Bone Base Soluble Potato Manure....	Milldale.....	81.00
17138	R. and H. 3-8-6 Brand.....	South Manchester....	74.00
17184	R. and H. All Soils-All Crops Phosphate.....	Milldale.....	62.25
17189	R. and H. Climax Tobacco Brand.....	Glastonbury.....	71.25
17066	R. and H. Complete Phosphate.....	Middletown.....	45.50
17182	R. and H. Potato Phosphate.....	Glastonbury.....	50.00
17105	R. and H. Soluble Tobacco Manure.....	Somers.....	82.50
17140	Special Tobacco Mixture.....	South Manchester....	67.00
17068	R. and H. Tobacco Grower Vegetable Formula..	Glastonbury.....	82.00
	F. S. Royster Guano Co., Baltimore, Md.		
17203	Arrow Head Tobacco Formula.....	Glastonbury.....	60.00
16811	Bully Guano.....	Waterbury.....	57.00
17489	Bully Guano.....	Waterbury.....	57.00
17222	Fish, Flesh and Fowl.....	Thompsonville.....	54.00
16748	Fish and Potash.....	Thompsonville.....	51.00
17197	Trucker's Delight.....	New Canaan.....	70.00
17087	Quality Trucker.....	Watertown.....	80.00
17385	Valley Tobacco Formula.....	Glastonbury.....	70.00
	Sanderson Fertilizer and Chemical Co., New Haven, Conn.		
17223	Atlantic Coast Bone, Fish and Potash.....	Guilford.....	53.00
17069	Complete Tobacco Grower.....	Glastonbury.....	76.00
17225	Corn Superphosphate.....	West Cheshire.....	53.00
16819	Formula A.....	Guilford.....	63.00
17076	Formula B.....	Highwood.....	68.00
16832	Potato Manure.....	Stratford.....	59.25
17389	Top Dressing for Grass and Grain.....	New Haven.....	.....
17075	Kelsey's Bone, Fish and Potash.....	Highwood.....	.....
	M. L. Shoemaker and Co., Philadelphia, Pa.		
16751	Swift-Sure Superphosphate Tobacco and General Use.....	Hazardville.....	63.00
	Springfield Rendering Co., Springfield, Mass.		
17204	2-8-2 Fertilizer.....	Granby.....	40.00
17077	Animal Brand.....	Thompsonville.....	58.00

WITH POTASH—(Continued)

Nitrogen.						Phosphoric Acid.						Potash.			Station No.	
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.		Guaranteed.
				Found.	Guaranteed.				Found.	Guaranteed.	Found.	Guaranteed.				
0.98	0.74	0.05	0.75	2.52	2.46	1.36	7.43	0.59	9.38	10.00	8.79	8.00	4.08	4.08	4.00	16927
2.10	0.68	0.51	0.81	4.10	4.11	0.21	8.39	0.74	9.34	10.00	8.60	8.00	1.20	5.89	6.00	17067
1.28	0.50	0.08	0.43	2.29	2.46	none	8.50	1.13	9.63	9.50	8.50	8.00	0.90	5.72	6.00	17138
2.36	0.12	0.52	0.30	3.30	3.29	3.13	4.90	1.91	9.94	9.00	8.03	8.00	3.86	3.86	4.00	17184
1.08	0.22	0.39	2.61	4.30	4.11	0.09	6.43	1.37	7.89	5.00	6.52	4.00	0.53	3.04	3.00	17189
0.16	0.16	0.36	0.28	0.96	0.82	3.89	4.31	2.02	10.22	9.00	8.20	8.00	1.95	1.95	2.00	17066
0.92	0.18	0.25	0.37	1.72	1.64	4.47	4.88	1.74	11.09	9.00	9.35	8.00	3.60	3.60	4.00	17182
2.16	1.36	0.46	0.64	4.62	4.93	1.77	7.28	0.70	9.75	10.00	9.05	8.00	0.66	3.60	4.00	17105
.....	.....	.....	.....	4.13	.....	.....	.....	1.19	7.73	.....	6.54	.....	0.51	3.18	.....	17140
1.12	0.14	0.39	3.07	4.72	4.93	0.33	5.01	0.49	5.83	5.00	5.34	4.00	1.09	4.05	4.00	17068
0.48	0.82	none	2.74	4.04	4.11	2.73	1.74	0.14	4.61	4.50	4.47	4.00	0.15	2.79	3.00	17203
0.08	0.98	0.02	0.54	1.62	1.65	2.73	5.76	1.34	9.83	8.50	8.49	8.00	4.64	4.64	5.00	16811
0.13	1.00	none	0.53	1.66	1.65	2.41	5.77	1.52	9.70	8.50	8.18	8.00	4.64	4.64	5.00	17489
0.14	0.84	none	0.62	1.60	1.65	3.73	4.41	1.01	9.15	8.50	8.14	8.00	3.12	3.12	3.00	17222
0.16	0.92	none	0.57	1.65	1.65	5.62	2.71	0.69	9.02	8.50	8.33	8.00	1.11	1.11	1.00	16748
0.10	1.68	none	1.26	3.04	3.29	5.58	2.76	0.47	8.81	8.50	8.34	8.00	3.95	3.95	4.00	17197
0.10	1.68	none	1.16	2.94	3.29	5.83	2.15	0.40	8.38	8.50	7.98	8.00	7.04	7.04	7.00	17087
0.53	0.82	0.05	2.63	4.03	4.11	2.48	1.73	0.14	4.35	4.50	4.21	4.00	0.31	5.08	5.00	17385
0.12	0.52	0.28	0.88	1.80	1.65	3.75	5.59	1.25	10.59	9.00	9.34	8.00	3.54	3.54	3.00	17223
0.82	0.08	none	2.94	3.84	4.11	1.10	4.73	0.20	6.03	5.00	5.83	4.00	1.40	5.06	5.00	17060
0.56	0.20	0.41	0.67	1.84	1.65	3.56	5.71	0.99	10.26	9.00	9.27	8.00	1.16	2.35	2.00	17225
0.86	1.04	0.32	1.16	3.38	3.29	6.34	2.38	0.73	9.45	9.00	8.72	8.00	3.92	3.92	4.00	16819
0.82	1.62	0.26	0.84	3.54	3.29	0.73	8.23	2.16	11.12	9.00	8.96	8.00	1.79	5.60	6.00	17076
0.62	1.28	0.17	0.43	2.50	2.47	5.50	3.13	0.88	9.51	9.00	8.63	8.00	3.92	3.92	4.00	16832
2.72	0.86	0.66	0.88	5.12	4.94	4.37	2.92	0.45	7.74	7.00	7.29	6.00	3.91	3.91	4.00	17389
0.16	0.96	0.44	0.79	2.35	2.47	6.83	4.30	1.01	12.14	11.00	11.13	10.00	3.07	3.07	3.00	17075
1.40	0.10	0.50	1.64	3.64	2.46	6.37	4.12	1.78	12.27	12.00	10.49	10.00	0.48	1.88	3.00	16751
0.44	0.10	0.51	0.57	1.62	1.64	4.97	3.71	0.33	9.01	9.00	8.65	8.00	2.06	2.06	2.00	17204
0.48	0.58	0.74	0.70	2.50	2.46	4.96	4.55	0.49	10.00	9.00	9.51	8.00	4.22	4.22	4.00	17077

TABLE XIV. NITROGENOUS SUPERPHOSPHATES

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash, price per ton.
	<i>Sampled by Station:</i>		
	Springfield Rendering Co., Springfield, Mass. (Cont.)		
17195	Special Potato, Onion and Vegetable.....	Suffield.....	\$63.00
17600	Special Potato, Onion and Vegetable.....	Somers.....	.....
	Talfa Co., Boston, Mass.		
17418	Nature's Plant Food.....	New London.....	.....
	Virginia-Carolina Chemical Co., New York City.		
17150	Beaver Brand.....	Torrington.....	44.00
16745	Challenge Brand.....	Hartford.....	56.00
17580	Challenge Brand.....	Torrington.....	48.50
16830	Champion Brand.....	Hartford.....	68.00
16839	Cherokee Brand.....	Glastonbury.....	65.00
16831	Fish Phosphate and Potash Brand.....	South Manchester.....	.....
17106	Indian Chief Brand.....	Hazardville.....	73.00
17144	Plow Brand.....	South Manchester.....	42.00
17151	Marvel Brand.....	New Canaan.....	48.00
17384	Owl Brand.....	North Haven.....	50.00
16834	Perfection Brand.....	North Haven.....	61.50
17205	Plant Bed Brand.....	Granby.....	45.50
	What Cheer Chemical Co., Pawtucket, R. I.		
17153	Special Brand, 3-8-3.....	New London.....	42.00
17129	Shay's Potato Fertilizer.....	Middlefield.....	60.00
17130	Shay's Corn Fertilizer.....	Middlefield.....	52.00
17106	Shay's Special Fertilizer, 3-8-3.....	Middletown.....	48.00
	Wilcox Fertilizer Co., Mystic, Conn.		
17104	Corn Special.....	Ellington.....	53.00
17188	Fish and Potash.....	Mystic.....	46.00
16835	Grass Fertilizer.....	Branford.....	70.00
17224	Potato Fertilizer.....	Branford.....	51.50
17183	Potato and Vegetable Phosphate.....	Ellington.....	58.50
17187	Tobacco Special.....	Mystic.....	.....
	S. D. Woodruff & Sons, Orange.		
16833	Home Mixture.....	Orange.....	55.00
	Worcester Rendering Co., Auburn, Mass.		
17148	Corn and Grain Fertilizer.....	Putnam.....	50.00
17107	Royal Worcester Potato and Vegetable, 4-8-4...	Putnam.....	55.00

WITH POTASH—(Continued).

Nitrogen.						Phosphoric Acid.						Potash.			Station No.	
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.		Guaranteed.
				Found.	Guaranteed.				Found.	Guaranteed.	Found.	Guaranteed.				
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
0.74	0.38	1.16	0.76	3.04	3.28	4.38	4.78	0.43	9.59	9.00	9.16	8.00	3.98	3.98	4.00	17195
0.60	0.58	.....	.....	3.47	3.28	.....	.....	0.63	9.61	9.00	8.98	8.00	.....	3.95	4.00	17600
0.73	0.02	0.54	0.07	1.36	1.00	0.01	1.15	4.25	5.41	3.00	1.16	.....	5.80	5.80	2.00	17418
0.16	0.10	0.26	0.36	0.88	0.82	2.65	5.78	0.99	9.42	9.00	8.43	8.00	2.43	2.43	2.00	17150
0.06	0.38	0.11	0.29	0.84	0.82	6.15	3.26	0.79	10.20	10.00	9.41	9.00	2.72	2.72	3.00	16745
.....	.....	.....	.....	1.03	0.82	.....	.....	1.16	10.23	10.00	9.07	9.00	.....	3.46	3.00	17580
0.22	2.08	0.22	0.94	3.46	3.29	6.50	1.90	0.58	8.98	9.00	8.40	8.00	4.90	4.90	4.00	16830
0.52	0.46	none	2.97	3.95	4.11	1.68	2.87	0.35	4.90	5.00	4.55	4.00	0.64	3.11	3.00	16839
0.10	0.60	0.15	0.93	1.78	1.65	3.23	5.33	1.51	10.07	.....	8.56	8.00	1.95	1.95	2.00	16831
0.48	0.62	0.10	2.82	4.02	4.11	1.50	2.88	0.37	4.75	.....	4.38	4.00	0.72	5.22	5.00	17196
0.04	0.06	0.26	0.60	0.96	0.82	3.45	4.71	0.56	8.72	.....	8.16	8.00	1.04	1.04	1.00	17144
0.06	0.20	0.17	0.54	0.97	0.82	3.56	4.92	0.87	9.35	.....	8.48	8.00	3.99	3.99	4.00	17151
0.18	0.65	0.25	0.96	2.04	1.65	6.12	2.00	0.41	8.53	.....	8.12	8.00	3.03	3.03	3.00	17384
0.09	1.58	0.11	0.80	2.58	2.47	7.88	1.12	0.45	9.45	.....	9.00	9.00	5.62	5.62	5.00	16834
0.70	0.88	0.25	1.40	3.23	2.47	6.36	2.36	0.67	9.39	10.00	8.72	9.00	0.23	3.44	1.00	17205
0.40	0.10	0.91	1.29	2.70	2.47	3.21	4.75	0.37	8.33	9.00	7.96	8.00	2.67	2.67	3.00	17153
0.76	0.06	0.55	1.78	3.15	3.28	2.61	5.27	0.63	8.51	9.00	7.88	8.00	4.29	4.29	4.00	17129
0.56	0.24	0.12	0.76	1.68	1.64	5.26	2.94	0.29	8.49	9.00	8.20	8.00	2.45	2.45	2.00	17130
0.54	0.08	0.37	1.29	2.28	2.47	2.67	4.60	0.33	7.60	9.00	7.27	8.00	3.20	3.20	3.00	17106
1.24	0.22	0.15	0.93	2.54	2.46	7.05	2.06	0.13	9.24	9.00	9.11	8.00	3.52	3.52	4.00	17104
0.70	0.24	0.06	1.72	2.72	2.46	4.31	2.39	1.37	8.07	7.00	6.70	6.00	3.00	3.00	3.00	17188
1.58	0.28	0.68	1.76	4.30	4.12	4.73	2.40	1.75	8.88	7.00	7.13	6.00	5.04	5.04	4.00	16835
0.12	0.36	0.40	1.26	2.14	1.65	5.53	3.98	2.90	12.41	9.00	9.51	8.00	0.29	2.10	2.00	17224
0.90	1.10	0.03	1.09	3.12	3.29	6.52	1.84	0.26	8.62	9.00	8.36	8.00	4.16	4.16	4.00	17183
1.28	0.04	0.04	3.28	4.64	4.11	0.54	4.78	2.62	7.94	5.00	5.32	4.00	1.36	4.97	5.00	17187
1.70	none	0.46	2.18	4.34	3.29	2.53	2.93	0.82	6.28	9.00	5.46	.....	5.64	5.64	3.00	16833
0.62	0.02	0.40	0.44	1.48	1.64	4.65	2.97	0.26	7.88	9.00	7.62	8.00	2.00	2.00	2.00	17148
1.38	0.14	0.14	0.90	3.16	3.28	4.39	3.60	0.33	8.32	9.00	7.99	8.00	4.33	4.33	4.00	17107

TABLE XIV. NITROGENOUS SUPERPHOSPHATES

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
Worcester Rendering Co., Auburn, Mass.—(Cont.)			
16986	Frisbie's 2-8-2	Rockville.....	\$37.50
16985	Frisbie's 4-8-4	Rockville.....	50.00
17213	International Products Co., 4-8-4.....	New Haven.....	60.00
17006	Olds & Whipple's High Grade Starter and Potash Compound.....	Broad Brook.....	93.00
16981	Piedmont-Mt. Airy Guano Co., Brown's Top Dresser.....	Rockville.....	66.00
16983	Piedmont-Mt. Airy Guano Co., 4-8-4.....	Rockville.....	54.00
16334	Quality Seed Store's Bartlett Spec. Tree Fertz....	Stamford.....	60.00
16808	Royster's 5-4-5.....	Suffield.....	89.00
17250	Rogers & Hubbard's Oats and Top Dressing	Suffield.....	.....
17240	Rogers & Hubbard's Potato Manure	Suffield.....	81.00
16483	Royster's 5-4-5.....	Suffield.....	.....
16885	Rogers & Hubbard's All Soils-1 All Crops.....	Middlefield.....	.....
17665	Virginia-Carolina Chem. Co.'s Indian Chief Brand	Suffield.....	81.50
17538	Virginia-Carolina Chem. Co.'s Indian Chief Brand	Suffield.....	81.50
17517	Virginia-Carolina Chem. Co.'s 5-4-5.....	Suffield.....	66.50
17118	H. B. Tobacco Special (Hackett Bros.).....	Buckland.....	.....
17206	Woodruff's Home Mixture	Whitneyville.....	45.00
16982	Piedmont Special for Tobacco.....	Rockville.....	63.00
<i>Sampled by Purchaser:</i>			
17235	Cornwall's Potato and General Use.....	Yalesville.....	60.00
17207	Eastern States Farmers' Exch., 5-4-5.....	Glastonbury.....	57.60

¹ 1920 stock.

17040. Sampled and sent by W. N. Peck, Mt. Carmel.
 16987. Special mixture made by L. T. Frisbie Co. Sampled and sent by L. C. Skinner, Rockville.
 16859. Sent by Prof. W. L. Slate, Jr., Storrs.
 16404. Sampled and sent by C. E. Thresher, Buckland.
 16862. Special mixture made by L. T. Frisbie Co. Sampled and sent by S. B. Wakeman, Fairfield.

VII. MISCELLANEOUS FERTILIZERS, AMENDMENTS AND WASTE PRODUCTS.

TOBACCO STEMS.

16235. Canadian Stems. Sold by J. J. Cahill; sampled and sent by Gordon Scholes; both of Warehouse Point. Cost per ton in car lot, \$24.00, delivered.

WITH POTASH—(Concluded).

Nitrogen.				Phosphoric Acid.						Potash.			Station No.			
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.			Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.	Guaranteed.
				Found.	Guaranteed.	Found.				Guaranteed.						
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
.....	1.48	1.64	.....	.....	0.91	9.34	9.00	8.43	8.00	.....	2.06	2.00	16985
1.18	1.02	.....	.....	3.06	3.28	.....	.....	0.82	9.22	9.00	8.40	8.00	.....	3.89	4.00	16958
.....	2.08	4.00	2.01	6.52	0.68	9.21	.....	8.53	8.00	.....	4.05	4.00	17213
.....	4.22	4.11	.....	.....	0.26	5.03	4.00	4.77	4.00	.....	16.02	15.00	17006
.....	3.54	4.94	.....	.....	0.93	9.44	.....	8.51	8.00	.....	3.33	3.00	16981
.....	3.02	3.28	.....	.....	0.69	9.12	.....	8.43	8.00	.....	3.52	4.00	16983
.....	2.76	4.00	0.30	4.40	0.75	5.45	8.51	4.70	8.00	2.50	2.88	4.00	16334
.....	5.30	4.11	1.92	.....	0.32	4.22	4.50	3.90	4.00	.....	5.42	5.00	16808
.....	7.60	8.22	.....	.....	.....	8.48	8.00	.....	.....	.....	3.50	4.00	17250
.....	4.01	4.11	.....	.....	.....	9.16	10.00	.....	.....	.....	5.82	6.00	17249
.....	2.78	4.11	4.20	1.21	0.47	5.88	.....	5.41	4.00	.....	3.74	5.00	16483
.....	2.48	3.29	.....	.....	.....	9.54	9.00	.....	.....	.....	5.67	6.00	16885
.....	4.18	4.11	.....	.....	.....	4.75	.....	.....	.....	.....	5.02	5.00	17665
.....	4.24	4.11	.....	.....	0.41	5.01	.....	4.60	4.00	.....	5.22	5.00	17538
.....	4.44	4.11	.....	.....	.....	4.64	.....	.....	.....	.....	4.60	5.00	17517
.....	7.06	.....	0.29	5.84	0.88	7.01	.....	6.13	.....	.....	1.19	.....	17118
.....	3.06	3.29	.....	.....	.....	7.84	.....	9.00	.....	.....	2.83	3.00	17206
.....	3.80	4.12	.....	.....	.....	4.75	.....	4.05	4.00	.....	6.38	5.00	16982
.....	3.28	4.50	7.46	3.11	1.11	11.68	9.00	10.57	.....	.....	6.79	7.50	17235
.....	4.00	4.11	.....	.....	.....	5.81	5.00	.....	.....	.....	5.90	5.00	17207

15885. Broken Tobacco Stems. Sold by Morgan & Dickinson, Windsor. Sampled and sent by B. A. Krick, East Granby.

ANALYSES OF TOBACCO STEMS.

Station No.	16235	15885
Percent of		
Nitrogen	1.04	1.48
Phosphoric acid	0.73	0.72
Potash	4.56	5.18

TOBACCO ASHES.

16977. Sent by Spencer Bros., Suffield, and stated to represent the residue from burned cased tobacco. They contain 2.30 per cent. of phosphoric acid and 20.16 per cent. of water-soluble potash.

TABLE XV. ANALYSES OF

Station No.	Maker or Sender.	Formula.						
		Nitrate of soda.	Cotton seed meal.	Acid phosphate.	Muriate of potash.	High grade tankage.	Low grade tankage.	Bone. Fish.
16515	Conn. Sumatra Tobacco Co., Buckland.....	800						1200
16517	Conn. Sumatra Tobacco Co., Buckland.....	1200						
16519	Conn. Sumatra Tobacco Co., Buckland.....	1200						
16522	Conn. Sumatra Tobacco Co., Buckland.....	400					800	800
16841	Conn. School for Boys, Meriden.....	100	750	200	750			
16663	Fassler & Silberman, Hartford.....	100	900				400	300
16664	Fassler & Silberman, Hartford.....	100	900				400	300
17289	H. C. Vibert, So. Windsor.....						1400	400
16507	C. L. Hevenor, Wapping.....	250	900				600	
17041	W. N. Peck, Mt. Carmel.....		666	1334				
17042	W. N. Peck, Mt. Carmel.....		666	1334				
16910	A. E. Plant's Sons, Branford.....	200		1000	200	300	300	
16911	A. E. Plant's Sons, Branford.....	100		1000	200	700		
16821	Emil W. Woike, Little River.....	300	200	1000	160	340		
16249	J. P. Graham, Suffield ¹		800	480				275

¹ Sold as a 5-4-5 formula made by Royster Guano Co., also contains 80 lbs. sulphate of ammonia.

DRIED AND PULVERIZED SHEEP MANURE.

Analyses of thirteen samples of this material are given in table XVII.

16749. Sold by American Agricultural Chemical Co. Sampled from stock of G. S. Phelps & Co., Thompsonville.

16866. Sold by the Apothecaries Hall Co., Waterbury. Sampled from stock of Stanley-Svea Coal Co., New Britain.

17018. Sold by Armour Fertilizer Works, New York, N. Y. Sampled from stock of Rockville Grain and Coal Co.

16699. Sold by Berkshire Fertilizer Co., Bridgeport.

16746. Sold by Natural Guano Co., Aurora, Ill. Sampled from stock of Cadwell & Jones, Hartford.

16581. Sold by Pacific Manure and Fertilizer Co., San Francisco, Cal. Sampled from stock of Cadwell & Jones, Hartford.

15883. A small sample received from the Proto-Feed and Guano Co., Chicago, Ill., by the F. T. Blish Hardware Co., South Manchester.

HOME MIXTURES.

Formula.			Percentage Composition.											Station No.
Precipitated bone.	Castor pomace.	Sulphate of potash.	Nitrogen.				Phosphoric Acid.				Potash.			
			In nitrates.	In ammonia.	Organic.	Total.	Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total.	As sulphate.	As muriate.	Total.	
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
300	300	200	0.22	7.84	8.06	0.36	5.72	0.61	16.69	5.65	0.36	6.01	1.25	16515
300	300	200			4.88	0.24	5.80	1.05	7.09	5.65	0.36	6.01	1.25	16517
					5.10	0.39	6.47	0.14	7.00	5.55	0.23	5.78		16519
		2.50	0.17	5.18	7.85	0.29	7.78	4.20	12.27					16522
		200	0.50	0.26	1.67	2.70	5.28	4.41	1.80	11.49	5.66	5.13	10.79	16841
		300	0.82	0.10	4.74	5.66	1.01	7.14	0.37	8.52	7.09	1.04	8.13	16663
		300	0.80	0.10	4.65	5.55	0.98	6.84	0.29	8.11	7.73	0.86	8.59	16664
		200	0.09	0.12	2.50	3.92	0.33	15.06	2.96	18.35	5.23	1.04	6.27	17289
		250	1.96	0.04	3.82	5.82	0.12	8.81	0.09	9.02	6.68	0.39	7.07	16507
						2.00	11.26		1.06	12.32				17041
						2.78	10.77		1.04	11.81				17042
						3.46	11.55		1.32	12.87			5.04	16910
						2.85	11.45		1.65	13.10			5.67	16911
						3.98	7.97	1.98	0.26	10.21			5.67	16821
		365		1.00	2.22	3.22	2.96	3.07	0.52	6.55	4.22	0.90	5.12	16249

16693. Sold by Proto-Feed and Guano Co. Sampled from stock of the F. T. Blish Hardware Co., South Manchester.

17152. Master Brand Sheep Manure. Sold by the Proto-Feed and Guano Co. Sampled from stock of Quality Seed and Fertilizer Co., Stamford.

16739. Sold by the Proto-Feed and Guano Co. Sampled and sent by the Elm City Nursery Co., New Haven.

17483. Wizard Brand. Sold by the Pulverized Manure Co., Chicago. Sampled from stock of D. K. Allen, Greenwich.

17202. "Sheep Manure Tankage." Sampled from stock of Quality Seed and Fertilizer Co., Stamford.

16691. South American Sheep and Goat Manure. Sampled from stock of Sanderson Fertilizer and Chemical Co., New Haven.

As the analyses show and as is inevitable with any kind of manure, the composition is very variable. Five out of the thirteen fail in one respect or another to meet their guaranties.

On the average these samples contain 1.82 per cent. of nitrogen,

TABLE XVI. ANALYSES OF HOME-MIXED NITROGENOUS SUPERPHOSPHATES.

Station No.	Nitrogen.				Phosphoric Acid.					Potash.	
	In nitrates.	In ammonia.	Organic.	Total found.	Water-soluble.	Citrate-soluble.	Citrate-insoluble.	Total found.	So-called "Available" found.	As muriate.	Total found.
	%	%	%	%	%	%	%	%	%	%	%
16441	0.61	0.15	5.18	5.94	0.55	5.60	0.17	6.32	6.15	0.41	6.54
16440	0.10	0.12	5.74	5.96	0.53	5.20	0.14	5.87	5.73	0.50	6.08
16442	0.73	0.15	5.42	6.30	0.59	5.55	0.15	6.29	6.14	0.44	4.10
16402	....	0.13	6.53	6.66	0.60	6.36	0.22	7.18	6.96	0.54	5.79
16840	....	....	....	2.03	5.51	5.02	0.31	10.84	10.53	0.31	1.11
16863	....	....	....	3.34	6.86	4.54	0.59	11.99	11.40	....	6.33
16084	....	....	....	2.50	....	....	1.75	10.30	8.55	....	6.64
16861	....	....	....	4.80	5.94	3.68	1.32	10.94	9.62	0.62	0.62
16601	1.22	0.60	0.97	2.79	0.09	7.79	1.84	9.72	7.88	1.63	8.13
16563	0.58	0.10	5.58	6.26	0.68	5.01	0.23	5.92	5.69	0.54	6.29
16607	0.90	0.14	3.19	4.23	0.93	3.95	0.33	5.21	4.88	0.74	4.13
17040	....	....	....	2.38	....	....	0.82	10.26	9.44	....	7.59
16087	....	....	....	6.24	....	....	0.31	5.28	4.97	....	3.42
16859	....	....	....	8.66	....	....	....	9.90	....	....	0.72
16404	....	....	....	5.84	0.13	7.33	1.84	9.30	7.46	0.43	7.20
16862	....	....	....	3.40	7.64	3.20	0.38	11.22	10.84	....	6.39

1.11 of phosphoric acid and 2.65 of potash soluble in water. The average cost is \$51.25. The composition of horse manure and of sheep manure is about as follows:

TABLE XVII. ANALYSES OF

Station Numbers	16749	16866	17018
<i>Percentage Amount of</i>			
Nitrogen as nitrates	0.14	....	....
" as ammonia	0.32	....	....
" organic	1.08	....	....
" Total	1.54	1.55	1.40
Phosphoric acid, water-soluble	0.12	....	0.12
" citrate-soluble	0.72	....	0.61
" citrate-insoluble	0.18	....	0.17
" Total	1.02	0.92	0.90
Potash, water-soluble	3.21	3.18	3.24
Cost per ton	\$57.00	\$49.00	\$50.00

	Sheep Manure.	Horse Manure.
Water	10.2	73.4
Organic and volatile matter	71.3	18.3
Mineral matter	18.5	8.3
	100.0	100.0
Nitrogen	1.82	0.60
Phosphoric acid	1.11	0.67
Potash	2.65	0.63

Sheep manure carries, per ton, less than twice as much phosphoric acid, three times as much nitrogen and four times as much potash and organic matter as horse manure contains.

When the price of sheep manure is more than four times that of horse manure there can be no advantage in using it as far as fertilizing value alone is concerned. Its dryness, fine mechanical condition, less offensive smell and ease of handling are items which must be considered in determining the economy of its use in individual cases.

WOOD ASHES.

Analyses of 15 samples are given in the following table. The origin of the samples, as far as known, is as follows:

From American Wood Rim Co., Onaway, Mich.:

15445. Sampled and sent by P. M. Barrows, Stamford.

From John Joynt, Lucknow, Canada:

16530. Car M. C. 99709. Sampled and sent by The Shaker Farms, Somers.

16567. Car S. B. 26490. Sampled and sent by The Shaker Farms. Bought of G. S. Phelps & Co., Thompsonville.

16597. Car G. T. 23355. Sampled and sent by G. S. Phelps & Co., Thompsonville.

SHEEP MANURE.

16699	16746	16581	15883	16693	17152	16739	17483	17202	16691
none	....	....	....	0.08	....	....	....	....	0.06
0.52	0.22	0.06	0.09	0.08	0.04	....	0.12	0.04	0.40
1.86	2.13	1.35	1.93	1.80	1.91	....	1.90	1.74	1.08
2.38	2.35	1.41	2.02	1.96	1.95	1.80	2.02	1.78	1.54
0.09	0.70	0.23	0.51	0.11	0.13	....	0.34	....	0.24
0.48	0.55	0.57	1.30	0.46	0.72	....	0.83	....	1.55
0.12	0.17	0.17	0.20	0.22	0.10	....	0.12	....	0.19
0.69	1.42	0.97	2.01	0.79	0.95	0.77	1.29	0.72	1.98
1.84	1.84	3.16	3.09	1.90	2.91	2.28	2.19	2.35	3.30
\$45.00	\$57.00	\$57.00	....	\$45.00	\$60.00	\$50.00	\$60.00	\$40.00	\$45.00

16608. Car G. T. 12676. Sampled and sent by American Sumatra Co., East Hartford.

16668. Sampled and sent by American Sumatra Tobacco Co., from Southwick Plantation.

16677. Sampled and sent by J. B. Rose, West Suffield.

16846. Sampled by Station from American Sumatra Tobacco Co., Hazelwood Plantation.

16964. Sampled by Station from stock of A. N. Shepard & Son, Hartford.

17176. Sampled and sent by A. N. Shepard & Son, Hartford.

From Sperry & Barnes, New Haven:

16915. Sampled and sent by George Augur, Northford.

From other sources

16300. Sent by A. N. Farnham, Westville.

17113. Sent by Hackett Bros., Buckland.

17477, 17509. Sent by F. E. Hitchcock, Woodbury.

Sample **15445** contained over 35 per cent. of moisture, which explains the low potash content.

Mr. Joynt states that there must be some mistake regarding sample **16008** as other lots from the same warehouse contained over 7 per cent. of potash. This sample contained over 37 per cent. of insoluble matters, which explains its low potash content. Another sample, supposed to be from the same lot as the other, **16846**, drawn by the Station agent, contained much less insoluble matter, but only half a per cent. more potash than the other sample.

It will be noted that Canada Ashes are very variable in composition and should be bought, as most of them apparently were this year, on the "unit" basis; that is, a price for each per cent of potash found on analysis.

The cost of water-soluble potash in ashes this year has ranged from 27½ to 32½ cents per pound.

TABLE XVIII. ANALYSES OF

Station Nos.	15445	16530	16567	16597	16608
<i>Percentage Amount of</i>					
Phosphoric acid.....	1.11	1.91	2.24	1.46	1.42
Water-soluble potash.....	0.80	4.82	5.28	4.69	2.00
Insoluble matters.....	8.39	11.41	15.25	10.77	37.47
Cost per ton.....	.....	\$28.92 ¹	\$28.14 ¹	\$28.13 ¹	.....

¹ \$6 per unit.

LIME.

Only four samples of this material have been sent for examination.

17212. English Cliffstone Whiting. Sent by Apothecaries Hall Co., Waterbury, from a manufacturing plant which found it unsuitable for its use. It was a very fine material, containing 55.29 per cent. of lime and 1.32 per cent. of insoluble matter—a very pure carbonate of lime.

16720. Ground limestone. Sold by the Grangers' Lime Co., Hartford, and sampled and sent by C. R. Treat, Orange, contained 37.19 per cent. of lime and 10.79 per cent. of insoluble matter.

15944. Refuse lime from a chemical plant. Sent by J. H. Fay, County Agent, Middletown; contained 36.80 per cent. of lime and 1.67 per cent. of insoluble matter.

16430. Sent by R. E. Eaton, Kent; contained 30.30 per cent. of lime and 2.30 per cent. of insoluble matter. It also contained considerable magnesia.

MUCK OR PEAT.

17539. Sent by E. S. Kepler, Wethersfield.

17291. Sent by William Deubel, Danbury. Stated to be from a large deposit of decayed leaves.

17157. Dried "humus" offered for sale as fertilizer. Sent by G. A. Drew, Greenwich.

17162, 17163. Sent by V. W. Bates, New Haven.

17396. Swamp muck. Sent by Wilfrid Scott, Niantic.

WOOD ASHES.

16668	16677	16846	16964	17176	16915	16300	17113	17477	17509
2.09	1.62	1.96	.....	2.03	1.60	1.89	2.49	2.06	1.25
6.22	4.19	2.53	6.39	6.06	4.78	7.93	5.83	3.44	1.78
10.90	10.68	11.16	10.22	8.82	20.26	4.08	14.57	16.58	18.02
.....	\$27.24 ²	.....	\$35.15 ³	\$33.33 ³	\$25.00	.....	.....	.....	.....

¹ \$6.50 per unit. ² \$5.50 per unit.

TABLE XIX. ANALYSES OF MUCK OR PEAT.

Station No.	<i>As Received.</i>					
	17539	17291	17157	17162	17163	17396
<i>Percentage amount of</i>						
Water	80.77	27.22	20.36	41.85	53.92	2.48
Organic and volatile ... matter	12.93	20.92	68.86	42.76	40.34	11.52
Mineral matter	6.30	51.86	10.78	15.39	5.74	86.00
	100.00	100.00	100.00	100.00	100.00	100.00
Nitrogen	0.30	0.64	2.80	1.18	1.64	0.56
<i>Calculated Water-free.</i>						
Organic and volatile ... matters	67.30	28.66	86.44	73.54	87.53	11.80
Mineral matters	32.70	71.34	13.56	26.46	12.47	88.20
Nitrogen	1.56	0.88	3.50	2.03	3.55	0.57

The relative value of these peats can only be determined from their dry matter, excluding the very variable amounts of water in them.

The value lies chiefly in the organic or humus-forming material. The amounts of phosphates and potash are quite insignificant in such material. The nitrogen, of which 17157 and 17163 contain as much as most mixed commercial fertilizers, is only very slowly available. It is the residual nitrogen which has resisted decay and solution. Four of these samples have enough organic matter in them to be of value as absorbents and to mix with stable manure if they can be at least half dried economically.

DRIED SLUDGE

Four samples were analyzed for J. F. Jackson of the State Department of Health.

17364. A, Floated Sludge, dried on the ground for three weeks, about one inch deep.

17365. B, Floated Sludge, dried on the ground for three weeks, four inches deep.

17366. C, Floated Sludge, dried on the ground for three weeks, two inches deep.

17367. D, Floated Sludge, dried by heating in bucket over boiler.

TABLE XX. ANALYSES OF DRIED SLUDGE.

Station No.	17364	17365	17366	17367
<i>Percentage of</i>				
Nitrogen as ammonia	0.34	0.35	0.22	0.12
organic	4.76	4.03	3.80	4.98
total	5.10	4.38	4.02	5.10
Water-soluble phosphoric acid ...	0.09	0.03	none	0.02
Citrate-soluble phosphoric acid ...	2.47	2.41	2.42	2.93
Citrate-insoluble phosphoric acid ..	0.54	0.52	0.42	0.54
Total phosphoric acid	3.10	2.96	2.84	3.49
Total potash	0.31	0.27	0.13	0.15

The four samples are quite similar in composition and value. Both the nitrogen and the phosphoric acid are in readily available form and the dried sludge would no doubt be an excellent fertilizer.

MISCELLANEOUS.

A sample of factory waste, **16730**, sent by A. N. Farnham, Westville, contained 1.34 per cent. of nitrogen. A sample of by-product from a factory, **17292**, sent by C. E. Pease, Thompsonville, contained 4.02 per cent. of nitrogen. Of five samples of waste products from a silver-plating company, sent by N. G. Wheeler, Winsted, only one, **16726**, had any considerable fertilizer value. It was a brown powder containing 41.40 per cent. potash as carbonate, muriate and sulphate in about equal proportions. A sample of clay, **17516**, sent by Miss A. B. Platt, Shelton, thought to be of value as a filler in fertilizers, had no fertilizing value. 95.3 per cent. of it was sand and soil.

A sample of clinkers, **16466**, sent by A. N. Pierson, Inc., Cromwell, to determine whether they had any fuel value, contained moisture 0.15 per cent., organic and volatile matter 1.75 per cent., mineral matter 98.10 per cent.

In seven samples of soil the lime requirement was determined by the Jones method, the amount of actual lime needed ranging from 1620 to 4500 pounds per acre.

VARIOUS FUNGICIDES AND INSECTICIDES.

17319 and **17320** are samples of Reynolds' Paris Green and Leggett's Paris Green. The quantities of arsenious acid found in them were 56.50 and 56 per cent. respectively, and of copper oxide 26.60 and 26.80. Both were of normal composition.

A sample of Lead Arsenate, **17119**, sent by John Gotta, Portland, contained 28.53 per cent. of arsenic as arsenic acid, which is about the normal amount.

A sample of anhydrous copper sulphate, **16364**, sent by E. M. Ives, Meriden, was found to be 90.15 per cent. pure. 97.1 per cent. was finer than a 200 mesh.

A sample of formaldehyde solution, **16946**, submitted by Dr. Clinton of this Station, contained 33.65 per cent. by weight of formaldehyde.

A sample of "Sulco-V. B.," **16420**, submitted by Dr. Garman of this Station, contained 3.97 per cent. of pure phenol.

A sample of Niagara Contact Special Dusting Mixture, **16740**, was found to contain 1.62 per cent. of nicotine, equivalent to 2.10 per cent. of nicotine sulphate, calculated as the monacid salt.

A sample of tobacco dust, **16741**, sent by E. M. Ives, Meriden, contained 0.71 per cent. nicotine.

Four nicotine mixtures, submitted by Dr. Britton of this Station, contained respectively 0.29, 0.30, 0.84 and 0.71 per cent. of nicotine.