

State of Connecticut

The Connecticut Agricultural
Experiment Station

NEW HAVEN, CONN.

Bulletin 241

BEING THE

FERTILIZER REPORT FOR 1922

CONNECTICUT AGRICULTURAL EXPERIMENT STATION

Connecticut Agricultural Experiment Station

NEW HAVEN, CONN.

BULLETIN 241

NOVEMBER, 1922

Fertilizer Report for 1922

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

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October, 1922.

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Report on Commercial Fertilizers, 1922

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 requested, will not publish the information.

In 1922, 60 individuals and firms registered for sale in this state 482 brands of commercial fertilizers, classified as follows:

Mixed fertilizers	303
Cotton seed meal and castor pomace	33
Other chemicals and unmixed materials	146
	<hr/>
Total	482

The number of firms is less by 16 and the number of brands less by 62 than last year.

The brands which have been registered at this Station for the year 1922 are here listed as required by Statute.

To the brands registered for 1921 in our last report should be added:

East St. Louis Cotton Oil Co., National Stockyards, Ill.

St. Clair Brand Cotton Seed Meal

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

Bowker's Lawn and Garden Dressing

Castor Pomace

Complete Potato Mixture

Cotton Seed Meal

Double A Tobacco Fertilizer

Dry Ground Fish

Fine Ground Bone

Fish and Potash

5-4-3 Tobacco Fertilizer

Grass and Lawn Top Dressing

Grass and Oats Fertilizer

Ground Tankage

High-Grade Acid Phosphate

Monarch Potato Manure

Muriate of Potash

Nitrate of Soda

Precipitated Bone

Pulverized Sheep Manure

7% Potash Fertilizer

16% Acid Phosphate

Special Ground Bone

Sulphate of Ammonia

Sulphate of Potash

Tobacco Special

Universal Phosphate

Bradley's Complete Manure for Potatoes and Vegetables

Bradley's Complete Manure for Top Dressing Grass and Grain

Bradley's Complete Tobacco Manure
 Bradley's Corn Phosphate
 Bradley's New Method Fertilizer
 Bradley's Northland Potato Grower
 Bradley's Potato Fertilizer
 Bradley's Potato Manure
 Bradley's Valley Tobacco Fertilizer
 Bradley's XL Superphosphate of Lime
 Great Eastern General
 Great Eastern Northern Corn Special
 Great Eastern Potato Manure
 Listers Celebrated Tobacco Fertilizer
 Listers Complete Tobacco Fertilizer without Potash
 Listers Complete Tobacco Manure
 Listers Corn and Potato Fertilizer
 Listers Eastern Pride Fertilizer
 Listers 4-8-4 Fertilizer
 Listers Standard Pure Superphosphate of Lime
 Listers Success Fertilizer
 National Complete Tobacco Fertilizer
 National Eureka Potato Fertilizer
 National 5-4 Tobacco Manure
 National Market Garden Fertilizer
 National Potato Phosphate
 National Special Tobacco
 National Universal Phosphate
 National XXX Fish and Potash
 Packers' Union Animal Corn Fertilizer
 Packers' Union Potato Manure
 Packers' Universal Fertilizer
 Quinnipiac Climax Phosphate
 Quinnipiac Corn Manure
 Quinnipiac Market Garden Manure
 Quinnipiac Phosphate
 Quinnipiac Potato Manure
 Quinnipiac Potato Phosphate
 Quinnipiac Wrapper Leaf Brand Tobacco Manure
 Wheeler's Corn Fertilizer
 Wheeler's Cuban Tobacco Grower
 Wheeler's Potato Manure
 Williams & Clark's Americus Ammoniated Bone Superphosphate
 Williams & Clark's Americus Corn Phosphate
 Williams & Clark's Americus High-Grade Special for Potatoes
 and Vegetables
 Williams & Clark's Americus Potato Manure
 Williams & Clark's Potato Phosphate
 Williams & Clark's Prolific Fertilizer
 Williams & Clark's Seed Leaf Tobacco Manure

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

"Aco" Brand Cotton Seed Meal
 Longhorn Brand Cotton Seed Meal
 Surety Brand Cotton Seed Meal

Apothecaries Hall Co., Waterbury, Conn.

Acid Phosphate
 Bone

Bone Meal
 Bone and Meat Tankage
 Castor Pomace
 Dry Ground Fish
 Liberty Corn, Fruit and All Crops 2-8-2
 Liberty Fish, Bone and Potash.
 Liberty 4-8-6
 Liberty High-Grade Tobacco Manure
 Liberty Market Gardeners' Special
 Liberty Tobacco Special (Cotton Seed Meal Base)
 Liberty Top Dresser for Grass and Grain
 Muriate Potash
 Nitrate Soda
 Precipitated Bone
 Sheep Manure
 Sulphate of Ammonia
 Sulphate Potash
 Tankage

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

Armour's Big Crop Acid Phosphate 16%
 Armour's Big Crop Fertilizer 5-8-5
 Armour's Big Crop 4-8-7
 Armour's Big Crop 4-8-6
 Armour's Big Crop 4-6-10
 Armour's Big Crop 4-10-0
 Armour's Big Crop 3-8-4
 Armour's Big Crop Potato and Onion 4-8-4
 Armour's Big Crop Tobacco Special 5-4-5
 Armour's Corn Grower 2-8-2
 Armour's 5-4-3 for Tobacco 5-4-3
 Armour's General Crop 1-7-1
 Armour's Nitrate of Soda
 Bone Meal 3-50
 Castor Pomace
 Ground Fish
 Ground Tankage 9-15
 Muriate of Potash
 Precipitated Bone
 Sheep Manure
 Sulphate of Potash
 Tankage 6-30

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

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

Atlantic Packing Co., New Haven, Conn.

Atlantic 5-8-7
 Atlantic 4-8-6
 Atlantic Grain Fertilizer
 Atlantic Potash Phosphate
 Atlantic Special Vegetable
 Atlantic 3-8-3
 Atlantic Tobacco Grower
 Atlantic Tobacco Manure 5-8-6

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

Castor Pomace

Barrett Co., 40 Rector St., 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 Spécial

Berkshire Market Garden

Berkshire Potato and Vegetable Phosphate

Berkshire Tobacco Special

Berkshire Tobacco Starter

Castor Pomace

Double Manure Salts

Dry Ground Fish

Fine Ground Bone

Ground Sheep Manure

Muriate of Potash

Nitrate of Soda

Precipitated Bone Phosphate

Sulphate of Potash

Blish, F. T., Hardware Co., South Manchester, Conn.

Complete Tobacco Fertilizer

Corn and Potato Phosphate

Market Garden Fertilizer

Top Dressing for Grass

Boardman, F. E., Middletown, Conn.

Boardman's Fertilizer for Potatoes and General Crops

Boardman's Tobacco Fertilizer

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

Bowker's 16% Acid Phosphate

Bowker's All Round Fertilizer

Bowker's Connecticut Valley Tobacco Fertilizer

Bowker's Corn, Grain and Grass Phosphate

Bowker's Early Potato Manure

Bowker's Fisherman's Brand Fish and Potash

Bowker's Hill and Drill Phosphate

Bowker's Lawn and Garden Dressing

Bowker's Potato and Vegetable Phosphate

Bowker's Square Brand Farm and Garden Phosphate

Bowker's Sure Crop Phosphate

Bowker's Tobacco Grower

Maryland 16% Acid Phosphate

Maryland Corn Phosphate

Maryland High Potash Fertilizer

Maryland Standard Fertilizer

Maryland Truck Garden Fertilizer

Stockbridge Early Crop Manure

Stockbridge Market Garden Manure

Stockbridge Potato and Vegetable Manure
 Stockbridge Tobacco Manure
 Stockbridge Top Dressing and Forcing Manure

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

Corn, Onion and Potato and General Purpose
 Special Tobacco Fertilizer

Buckeye Cotton Oil Co., Cincinnati, Ohio.

"Buckeye" Good Cotton Seed Meal, Good Quality

Cameron-Daniel Co., Atlanta, Ga.

Good Cotton Seed Meal

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

Chittenden's Acid Phosphate 16%
 Chittenden's Castor Pomace
 Chittenden's Complete Grain with 3% Potash
 Chittenden's Complete Tobacco and Onion Grower with 6%
 Potash from Sulfate
 Chittenden's Complete Tobacco and Onion Grower with 4%
 Potash (Sulfate)
 Chittenden's Dry Ground Fish
 Chittenden's Potato Special with 4% Potash
 Chittenden's Potato Special with 6% Potash
 Chittenden's Tobacco Special with 5% Potash from Sulfate

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

Clark's Special Mixture Corn Starter with 2% Potash
 Clark's Special Mixture for General Use with 4% Potash
 Clark's Special Mixture for Potatoes with 6% Potash
 Clark's Special Mixture Tip Top Brand
 Nitrate of Soda
 16% Acid Phosphate

Coe-Mortimer Co., 2 Rector St., New York, N. Y.

E. Frank Coe's Celebrated Special Potato Fertilizer
 E. Frank Coe's Columbian Corn and Potato Fertilizer
 E. Frank Coe's Connecticut Wrapper Grower
 E. Frank Coe's Gold Brand Excelsior Guano
 E. Frank Coe's New Englander Special
 E. Frank Coe's Red Brand Excelsior Guano
 E. Frank Coe's Special Grass Top Dressing
 E. Frank Coe's 16% Superphosphate
 E. Frank Coe's Standard Potato Fertilizer
 E. Frank Coe's Tobacco Leaf Fertilizer

Connecticut Fat Rendering & Fertilizing Corp., West Haven, Conn.
 Tankage

Consolidated Rendering Co., 40 North Market St., Boston, Mass.

Acid Phosphate
 Castor Pomace
 Ground Bone (3-24)
 Ground Bone (2.5-26)

Ground Fish
 Muriate Potash
 Nitrate Soda
 Sulphate Ammonia
 Sulphate Potash
 Tankage 9-20
 Tankage 6-30

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

Dold-Quality Bone Meal

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

16% Acid Phosphate
 Bone 3-50
 Castor Pomace
 Dry Ground Fish 11%
 Ground Bone 10-10
 Ground Tankage 4½-45
 Muriate of Potash
 Nitrate of Soda
 Sulphate of Ammonia
 Sulphate of Potash
 Tankage 7-15
 5-4-0
 5-4-5
 5-8-5
 4-8-4
 4-8-7
 4-10-0
 3-8-4
 2-8-2

East St. Louis Cotton Oil Co., National Stock Yards, Illinois.

St. Clair Brand Cotton Seed Meal

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

Essex Fish Fertilizer 3-8-3 for All Crops
 Essex 5-8-7 for Potatoes and Vegetables
 Essex 4-8-4 for Potatoes, Roots and Vegetables
 Essex Market Garden 3-8-4 for Vegetables and Grass
 Essex 1-10-1 for Grain and Grass
 Essex Tobacco 5-5-5
 Essex Tobacco 5-4-3
 Essex 2-8-2 for Farm and Garden

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

Castor Pomace
 Dry Ground Fish
 Fine Bone Meal
 Ground Bone
 Frisbie's Corn and Grain Fertilizer
 Frisbie's 5-8-7
 Frisbie's Market Garden
 Frisbie's Special
 Frisbie's Special Vegetable and Potato Grower

Frisbie's Superphosphate
Frisbie's Tobacco Grower
Frisbie's Tobacco Manure 5-8-6
Frisbie's Top Dresser 7-5-4

Green-Miller Co., 724 Atlanta Trust Co. Bldg., Atlanta, Ga.
Good Cotton Seed Meal

Humphreys-Godwin Co., Memphis, Tenn.

Bull Brand Cotton Seed Meal
Danish Brand Cotton Seed Meal
Dixie Brand Cotton Seed Meal

**International Agricultural Corporation, Buffalo Fertilizer Works,
126 State St., Boston, Mass.**

Bone Meal
Buffalo Complete Tobacco
Buffalo Crop Grower
Buffalo Economy
Buffalo Farmers' Choice
Buffalo High-Grade Manure
Buffalo New England Special
Buffalo Phosphate and Potash
Buffalo Sixteen Per Cent
Buffalo Tobacco Grower
Buffalo Tobacco Producer
Buffalo Top Dresser and Starter
Buffalo Vegetable and Potato
Dry Ground Fish

Jones, Robin, Phosphate Co., Nashville, Tenn.

Ground Rock Phosphate

Joynt, John, Lucknow, Ontario, Canada

The Joynt Brand Unleached Hardwood Ashes

Levering Fertilizer Co., Inc., 708 Keyser Bldg., Baltimore, Md.

Bone Meal
Levering General Fertilizer
Levering Market Garden
Levering Old Reliable Phosphate
Levering Potato Phosphate
Levering Potato Special
Levering Tobacco Special
Levering 16% Acid Phosphate
Muriate of Potash
Nitrate of Soda

Lovitt, L. B. & Co., Memphis, Tenn.

"Lovitt Brand" Cotton Seed Meal
"Neal's Choice" Cotton Seed Meal
"Thirty Six Brand" Cotton Seed Meal

Lowell Fertilizer Co., 40 North Market St., Boston, Mass.

- Lowell Animal Brand 3-8-4 for All Crops
- Lowell Bone Fertilizer 2-8-2 for Corn, Grain, Grass and Vegetables.
- Lowell Empress Brand 1-10-1 for Grain and Vegetables
- Lowell 5-8-4 for Vegetables and Grass
- Lowell 5-8-7 for Potatoes and Vegetables
- Lowell 4-8-4 for Potatoes, Corn and Vegetables
- Lowell 4-6-10 for Potatoes and Vegetables
- Lowell 3-6-10 for Corn, Potatoes and Vegetables
- Lowell Tobacco 5-5-5
- Lowell Tobacco 5-8-6
- Lowell Tobacco 5-4-3
- Lowell 2-8-3 for Vegetables and Grain
- Lowell 2-8-6 for Grain, Grass and Potatoes

Lyle & Lyle, Huntsville, Ala.

- Alabama Brand Cotton Seed Meal
- Economy Brand Cotton Seed Meal
- Lyle's Best Brand 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 Onion Manure
- Mapes Potato Manure
- Mapes Pure Ground Bone
- Mapes Tobacco Ash Constituents
- Mapes Tobacco Manure Wrapper Brand
- Mapes Tobacco Starter Improved
- Mapes Top Dresser

Mitchell, Walter L., 699 Forest Road, New Haven, Conn.

- Mitchell's 5-8-7
- Mitchell's Ground Raw Rock Phosphate Flour
- Mitchell's 2-8-2
- 16% Acid Phosphate

Natural Guano Co., Aurora, Ill.

- "Sheep's Head" Pulverized Sheep Manure

Nature's Plant Food Co. of Maine, 43 Commercial St., Boston, Mass.

- Nature's Plant Food

New England Fertilizer Co., 40 A North Market St., Boston, Mass.

- New England Corn Phosphate 2-8-2 for Grain and Vegetables
- New England 5-8-7 for Potatoes and Market Gardens
- New England 4-8-6 for Potatoes and Vegetables
- New England Superphosphate 3-8-4 for All Crops
- New England Tobacco 5-5-5

New England Tobacco 5-4-3
 New England Tobacco Manure 5-8-6
 New England 2-8-3 for Vegetables and Grain

Nitrate Agencies Co., 104 Pearl St., New York, N. Y.

Naco Brand High-Grade Acid Phosphate
 Naco Brand Muriate of Potash
 Naco Brand Nitrate of Soda
 Naco Brand Sulphate of Potash
 Naco Brand Tankage

Norwegian Nitrogen Products Co., Inc., 17 State St., New York, N. Y.

Norwegian Nitrate of Lime

Nothern, W. C., Little Rock, Arkansas.

Standard Brand Cottonseed Feed Meal

Olds & Whipple, Inc., 164 State St., Hartford, Conn.

Acid Phosphate
 Double Manure Salts
 High-Grade Muriate of Potash
 High-Grade Sulphate of Potash
 Nitrate of Soda
 Precipitated Bone Phosphate
 Steamed Bone
 Sulphate of Ammonia
 O & W Bone and Potash Compound
 O & W Complete Corn, Onion and Potato Fertilizer
 O & W Complete Tobacco Fertilizer
 O & W Dry Ground Fish
 O & W Grass Fertilizer
 O & W High Grade Potato Fertilizer
 O & W High-Grade Starter and Potash Compound
 O & W High-Grade Tobacco Starter
 O & W Special Corn, Onion and Potato Fertilizer
 O & W Top Dressing for Grass

Parmenter & Polsey Fertilizer Co., 41 North Market St., Boston, Mass.

Parmenter & Polsey 5-8-4 for Potatoes, Corn and Vegetables.
 Parmenter & Polsey 5-8-7 for Potatoes and Market Gardens
 Parmenter & Polsey 5-5-5
 Parmenter & Polsey 5-4-3
 Parmenter & Polsey 4-8-4 for Potatoes, Corn and Vegetables
 Parmenter & Polsey Plymouth Rock Brand 3-8-4 for All Crops
 Parmenter & Polsey 2-8-2 for Farm and Garden

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

Platco Special 4-8-6

Potash-Marl, Inc., 15 East 40th St., New York, N. Y.

Potash-Marl

Poultry Feed Co., 431 South Dearborn St., Chicago, Ill.

Premier Brand Pulverized Poultry Manure

Proto-Feed & Guano Co., 4121 So. LaSalle St., Chicago, Ill.

Master Brand Pulverized Sheep Manure

Pulverized Manure Co., 828 Exchange Ave., Union Stock Yards, Chicago, Ill.

Wizard Brand Manure

Wizard Brand Sheep Manure

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

Hubbard's "Bone Base" Fertilizer for Oats and Top Dressing

Hubbard's "Bone Base" Fertilizer for Seeding Down

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

Rogers & Hubbard's Climax Tobacco Brand

Rogers & Hubbard's Complete Phosphate

Rogers & Hubbard's 4-8-4 Phosphate

Rogers & Hubbard's Potato Phosphate

Rogers & Hubbard's Soluble Tobacco Manure

Rogers & Hubbard's Tobacco Grower, Vegetable Formula

Acid Phosphate

Castor Pomace

Cottonseed Meal

Dry Ground Fish

Nitrate of Soda

Sulphate of Ammonia

Sulphate of Potash

Royster, F. S., Guano Co., 1604 Munsey Bldg., Baltimore, Md.

Nitrate of Soda

Royster's Arrow Head 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 Prime Fish Brand

Royster's Pure Raw Bone Meal

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 Castor Pomace

Sanderson's Complete Tobacco Grower

Sanderson's Corn Superphosphate

Sanderson's Dry Ground Fish

Sanderson's Fine Ground Bone

Sanderson's Ground Tankage

Sanderson's Formula A

Sanderson's Formula B

Sanderson's Ground Tankage
 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 Sulphate of Ammonia
 Sanderson's Sulphate of Potash
 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 Super Phosphate Crop Grower
 Swift-Sure Super Phosphate Potato No. 1
 Swift-Sure Super Phosphate Potato Special
 Swift-Sure Super Phosphate Tobacco and General Use
 Swift-Sure Super Phosphate Tobacco Starter

Springfield Rendering Co., Springfield, Mass.

Springfield Animal Brand, 3-8-4
 Springfield 4-8-6
 Springfield Market Garden Grower and Top Dresser 5-8-7
 Springfield Special Potato, Onion and Vegetable, 4-8-4
 Springfield Tobacco Special 5-5-5

Virginia-Carolina Chemical Co. (of Delaware), Equitable Bldg., 120 Broadway, New York, N. Y.

Bone Meal
 Nitrate of Soda
 Sheep Manure
 V-C Champion Brand
 V-C Cherokee Brand
 V-C Double Owl Brand
 V-C Eureka Brand
 V-C Fish, Phosphate and Potash Brand
 V-C Indian Chief Brand
 V-C Owl Brand
 V-C Perfection Brand
 V-C Plow Brand
 V-C Universal Brand

What Cheer Chemical Co., Inc., 188 Grotto Ave., Pawtucket, R. I.

Ground Bone
 What Cheer Superior Brand

Wilcox Fertilizer Co., Mystic, Conn.

Acid Phosphate
 Eldredge Fish and Potash
 Ground Blood and Meat Tankage
 Muriate of Potash
 Nitrate of Soda
 Pure Ground Bone
 Sulphate of Potash

Wilcox Complete Superphosphate
 Wilcox Corn Special
 Wilcox Dry Ground Fish
 Wilcox 5-8-7 Fertilizer
 Wilcox Fish and Potash
 Wilcox 4-8-4 Fertilizer
 Wilcox Grain Fertilizer
 Wilcox Grass and Truck Fertilizer
 Wilcox Potato Fertilizer
 Wilcox Potato and Vegetable Phosphate
 Wilcox Tobacco Special

Witherbee, Sherman & Co., 2 Rector St., New York, N. Y.

Barium-Phosphate
 Witherbee's Truck Grower

Woodruff, S. D., & Sons, Orange, Conn.

Woodruff's Home Mixed Fertilizer

Worcester Rendering Co., Auburn, Mass.

Prosperity Brand Complete Dressing
 Prosperity Brand Corn and Grain
 Prosperity Brand Market Garden
 Prosperity Brand Potato and Vegetable
 Royal Worcester Ground Steam Bone
 Royal Worcester Ground Tankage

During the year, V. L. Churchill, the sampling agent of the Station, has visited 102 towns and villages in the state and has drawn 558 samples for analysis, including all the registered brands which were found on sale.

CLASSIFICATION OF FERTILIZERS ANALYZED.

	Number of Samples.	See page.
1. <i>Containing nitrogen as the chief active ingredient:</i>		
Nitrate of soda	24	68
Sulphate of ammonia	7	70
Cotton seed meal	168	71
Castor pomace	61	78
2. <i>Containing phosphoric acid as the chief active ingredient:</i>		
Raw rock phosphate	2	82
Precipitated bone phosphate	13	82
Dissolved rock phosphate or acid phosphate.	33	84
3. <i>Containing potash as the chief active ingredient:</i>		
Carbonate of potash	10	87
Muriate of potash	16	87
High-grade sulphate of potash	17	87
Double sulphate of potash and magnesia...	5	87
"Manure salts"	8	88

4. <i>Raw materials containing nitrogen and phosphoric acid:</i>		
Fish manures	26	93
Slaughter-house tankage	13	98
Bone manures	33	99
Mixed bone and tankage	2	102
Garbage tankage	2	102
5. <i>Mixed fertilizers:</i>		
Nitrogenous superphosphates without potash	12	105
Nitrogenous superphosphates containing potash	282	108
Home mixtures, etc.	53	134
6. <i>Miscellaneous fertilizers, amendments and waste products:</i>		
Wood ashes	9	140
Sheep manure, etc.	12	140
Tobacco residues	2	142
Peat or muck	4	142
Miscellaneous wastes	4	142
Soils	18	143
		837

I. RAW MATERIALS CHIEFLY VALUABLE FOR NITROGEN.

NITRATE OF SODA.

Twenty-four samples of this material have been examined and are here reported.

Only one, No. **18802**, failed to meet its guaranty.

No. **18828**, containing only 13.56 per cent of nitrogen, was sent as a factory product which "had been once melted for factory use."

No. **18880** is not Chilian nitrate, but a product of the fixation of atmospheric nitrogen.

Cost: The prices reported range from 18.1 to 24 cents per pound of nitrogen, and the average of all is 19.7 cents per pound.

19217. Sold by Olds & Whipple, Inc., Hartford. Sent by Hatheway & Steane, Hartford.

18933. Sold by The Rogers & Hubbard Co., Portland. Stock of Edward O. Douglass, Suffield.

18827. Sold by the Apothecaries Hall Co., Waterbury. Stock of Connecticut School for Boys.

19142. Sold by Berkshire Fertilizer Co., Bridgeport. Stock of John Dorsey, Farmers' Exchange, Putnam.

19061. Sold by Olds & Whipple, Inc., Hartford. Stock of Fassler & Silberman, Hartford.

18844. Sold by Olds & Whipple, Inc., Hartford. Sent by Hatheway & Steane, Hartford.

19223. Sold by Olds & Whipple, Inc., Hartford. Sent by Hatheway & Steane, Hartford.

18843. Sold by Olds & Whipple, Inc., Hartford. Sent by Hatheway & Steane.

18790. Sold by Everett B. Clark Seed Co., Milford. Sampled at the factory.

18797. Sold by Sanderson Fertilizer & Chemical Co., New Haven. Sampled at the factory.

18869. Sold by Olds & Whipple, Inc., Hartford. Sampled at factory.

19041. Sold by Armour Fertilizer Works, New York. Stock of J. D. Kelsey & Son, Madison.

19285. From Consolidated Rendering Co., Boston, Mass. Sold by L. T. Frisbie Co., New Haven. Sent by J. E. Shepard, South Windsor.

18876. Sold by Berkshire Fertilizer Co., Bridgeport. Sampled at the factory.

19064. Sold by Wilcox Fertilizer Co., Mystic. Stock of Spencer Bros., Inc., Suffield.

19374. Sold by Eastern States Farmers' Exchange, Springfield, Mass. Stock of J. D. Kelsey & Son, Madison.

19346. Sold by Virginia-Carolina Chemical Co., New York. Stock of Silliman Hardware Co., New Canaan.

19439. Sold by F. S. Royster Guano Co., Baltimore, Md. Stock of W. S. Brown, Trumbull.

18802. Sold by Consolidated Rendering Co., Boston, Mass. Stock of L. T. Frisbie Co., New Haven.

18828. Sent by Albert C. Sherwood, Bristol.

18865. Sold by American Agricultural Chemical Co., New York. Stock of H. S. Davis, New Haven.

18880. Made by Norwegian Nitrogen Products Co. Stock of Berkshire Fertilizer Co., Bridgeport.

18914. Sent by Huntington Bros., Windsor.

19026. Sold by Consolidated Rendering Co., Boston, Mass. Sent by A. E. Plant Sons Co., Branford.

TABLE I. ANALYSES OF NITRATE OF SODA.

Station No.	Per cent of Nitrogen.		Cost per ton.	Nitrogen costs cents per pound
	Guaranteed.	Found.		
19217	15.00	16.00	\$58.00	18.1
18933	15.63	15.64	57.00	18.2
18827	15.00	15.54	57.00	18.3
19142	14.80	15.72	58.00	18.4
19061	15.00	15.48	60.00	18.4
18844	15.00	15.64	58.00	18.5
19228	15.00	15.62	58.00	18.6
18843	15.00	15.60	58.00	18.6
18790	....	15.60	59.00	18.9
18797	15.00	15.60	60.00	19.2
18869	15.00	15.56	60.00	19.3
19041	14.81	15.68	60.50	19.3
19285	15.50	15.74	62.00	19.7
18876	14.80	15.66	65.00	20.7
19064	15.00	15.56	65.00	20.7
19374	14.80	14.72	63.90	21.7
19346	14.80	15.66	75.00	23.9
19439	15.00	15.60	75.00	24.0
18802	15.50	15.28	....	....
18828	....	13.56	....	....
18865	15.00	15.54	....	....
18880	14.80	16.00	....	....
18914	....	15.62	....	....
19026	15.00	15.56	....	....

SULPHATE OF AMMONIA.

The seven samples analyzed were the following:

18866. Sold by Apothecaries Hall Co., Waterbury. Stock of R. W. Hine, Cheshire.

19144. Sold by The Barrett Co., New York City. Stock of John Dorsey, Farmers' Exchange, Putnam.

19467. Sold by Eastern States Farmers' Exchange, Springfield, Mass. Stock of C. K. Andrews, West Woods Farmers' Association, Mt. Carmel.

18874. Sold by Olds & Whipple, Inc., Hartford. Sampled at the factory.

18875. Sold by The Barrett Co., New York City. Stock of Berkshire Fertilizer Co., Bridgeport.

18800. Sold by Consolidated Rendering Co., Boston, Mass. Stock of L. T. Frisbie Co., New Haven.

19540. Sold by Sanderson Fertilizer & Chemical Co., New Haven. Stock of Preston Co-operative Exchange, Norwich.

All of these samples meet their guaranties, and their composition is fairly uniform.

Cost: The cost of nitrogen in sulphate of ammonia has ranged from 14.3 to 16.8 cents per pound, an average of 15.6 cents. During the present season, this has been the cheapest source of available nitrogen in our market.

TABLE II. ANALYSES OF SULPHATE OF AMMONIA.

Station No.	Per cent of Nitrogen.		Cost per ton.	Nitrogen costs cents per pound
	Guaranteed.	Found.		
18866	20.56	20.92	\$60.00	14.3
19144	20.75	20.80	60.84	14.6
19467	20.55	20.54	63.60	15.5
18874	20.58	20.92	69.00	16.5
18875	20.75	20.82	70.00	16.8
18800	20.50	20.64	.....	.....
19540	20.16	20.94	.....	.....

COTTON SEED MEAL.

In Table III are given the analyses of 168 samples. Most of them represent car lots, used as fertilizers for tobacco.

GUARANTIES.

Of the 168 samples, 24, or about 15 per cent, failed to meet their guaranties. In thirteen cases, the failure involved 0.20 per cent or more, as follows:

	Nitrogen deficiency.
19275 Ashcraft-Wilkinson Co.	0.37
18631 Humphreys-Godwin Co.	0.27
18656 Humphreys-Godwin Co.	0.84
18672 Humphreys-Godwin Co.	0.21
18686 Humphreys-Godwin Co.	0.20
18687 Humphreys-Godwin Co.	0.26
18688 Humphreys-Godwin Co.	0.90
18841 Humphreys-Godwin Co.	0.26
18929 Humphreys-Godwin Co.	0.27
19218 Humphreys-Godwin Co.	0.42
19420 Humphreys-Godwin Co.	0.29
19509 Humphreys-Godwin Co.	0.20
19543 L. B. Lovitt & Co.	0.36

COMPOSITION AND COST.

Only three grades of cotton seed meal have been sold to any considerable extent as fertilizers. Their guaranties are as follows:

5.76 per cent Nitrogen equivalent to 7.0% ammonia and 36% protein.
6.56 per cent Nitrogen equivalent to 8.0% ammonia and 41% protein.
6.88 per cent Nitrogen equivalent to 8.3% ammonia and 43% protein.

Of the first or lowest grade, 19 samples (3 below guaranty) had an average content of 5.83 per cent nitrogen, the cost of which averaged 44.6 cents per pound, chiefly in car lots.

Of the medium grade, 107 samples (18 below guaranty) guaranteed 6.56 per cent of nitrogen, had an average of 6.66 per cent nitrogen, the cost of which averaged 37.3 cents per pound, chiefly in car lots.

Of the highest grade meal, 30 samples (4 below guaranty) guaranteed 6.88 per cent nitrogen, averaged 6.95 per cent of nitrogen, the cost of which averaged 37.3 cents per pound.

During this season the medium and highest grades have been the better purchase, their nitrogen costing 7 cents per pound less than the lower grade.

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., Atlanta, Ga.				
17840	Ac.	The Rogers & Hubbard Co., Portland	6.55	6.59	\$42.00
18981	Ac. A.C.L. 46521	Louis Wetstone, Hartford.....	6.64	6.59	48.75
18982	Ac. A.C.L. 43885	Louis Wetstone, Hartford.....	6.62	6.59	48.75
18983	Ac. 5389	Louis Wetstone, Hartford.....	6.58	6.59	48.75
18984	Ac. 46913	Louis Wetstone, Hartford.....	6.78	6.59	48.75
19261	Ac. 38348	American Sumatra Tobacco Co., Bloomfield	7.00	6.59	.....
19262	Ac. 27812	American Sumatra Tobacco Co., Bloomfield	6.63	6.59	.....
19263	Ac. 10839	American Sumatra Tobacco Co., Bloomfield	6.90	6.59	.....
19264	Ac. 32574	American Sumatra Tobacco Co., Bloomfield	6.69	6.59	.....
19265	Ac. 26489	American Sumatra Tobacco Co., Bloomfield	6.40	6.59	.....
19266	Ac. 43855	American Sumatra Tobacco Co., Bloomfield	6.46	6.59	.....
19267	Ac. 27505	American Sumatra Tobacco Co., Bloomfield	6.92	6.59	.....
19268	Ac. 160207	American Sumatra Tobacco Co., Bloomfield	6.71	6.59	.....
19269	Ac. 39775	American Sumatra Tobacco Co., Bloomfield	7.00	6.59	.....
19277	Ac. 36810	American Sumatra Tobacco Co., Bloomfield	6.64	6.59	.....
19312	Ac. 29937	American Sumatra Tobacco Co., Bloomfield	6.78	6.59	.....
19313	Ac. 32332	American Sumatra Tobacco Co., Bloomfield	6.67	6.59	.....
19314	Ac. 36841	American Sumatra Tobacco Co., Bloomfield	6.40	6.59	.....
19315	Ac. 43067	American Sumatra Tobacco Co., Bloomfield	6.96	6.59	.....
19390	Ac. 45457	American Sumatra Tobacco Co., Bloomfield	6.64	6.59	.....
19391	Ac. 80170	American Sumatra Tobacco Co., Bloomfield	6.73	6.59	.....
19392	Ac. 58105	American Sumatra Tobacco Co., Bloomfield	6.55	6.59	.....
19419	Ac. N. C. & St. L. 15724.	American Sumatra Tobacco Co., Bloomfield	6.56	6.59	.....
19103	Longhorn, A.C.L. 43042..	Spencer Bros., Inc., Suffield ...	7.16	6.88	55.50
19102	Longhorn, A.C.L. 33182..	Spencer Bros., Inc., Suffield ...	7.34	6.88	55.50
19079	Surety. So. 15423	Spencer Bros., Inc., Suffield ...	5.97	5.76	51.50
19799	40901	The Coles Co., Middletown ...	5.70	5.76	56.00
19395	24461	American Sumatra Tobacco Co., Bloomfield	6.80	...	.....

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.	
	Ashcraft-Wilkinson Co., Atlanta, Ga.				
19273	Helmet. 31211	American Sumatra Tobacco Co., Bloomfield	6.59	6.59	.....
19274	Helmet. 33609	American Sumatra Tobacco Co., Bloomfield	6.52	6.59	.....
19275	Helmet. 34849	American Sumatra Tobacco Co., Bloomfield	6.22	6.59	.....
19276	Helmet. 35486	American Sumatra Tobacco Co., Bloomfield	6.64	6.59	.....
19278	Helmet. 65506	American Sumatra Tobacco Co., Bloomfield	6.63	6.59	.....
19279	Helmet. 131724	American Sumatra Tobacco Co., Bloomfield	6.60	6.59	.....
19349	Monarch	Station Agent from E. Man- chester & Sons, Winsted ...	6.86	6.88	\$56.00
19387	Monarch. C.P. 120614 ...	Rockville Grain & Coal Co., Rockville	6.95	6.88	55.75
19388	Monarch. So. 402019 ...	Rockville Grain & Coal Co., Rockville	7.02	6.88	55.75
19389	Monarch. 103732	Rockville Grain & Coal Co., Rockville	7.02	6.88	55.75
19393	Monarch. 101879	American Sumatra Tobacco Co., Bloomfield	6.88	6.88	.....
18645	Paramount. So. 355566 ...	The Coles Co., Middletown ...	5.68	5.76	50.00
18973	Paramount. A.C.L. 46180.	Spencer Bros., Inc., Suffield ..	5.63	5.76	46.00
19192	Paramount.	Station Agent from F. C. Morse, Guilford	5.77	5.76	50.00
19319	Paramount. L.N. 48205 ...	Spencer Bros., Inc., Suffield ..	6.00	5.76	54.00
19443	Paramount. P.R.R. 537067	The Coles Co., Middletown ...	5.74	5.76	56.00
19023	Paramount. So. 411242 ...	Spencer Bros., Inc., Suffield ...	5.69	5.76	46.00
	Apothecaries Hall Co., Waterbury.				
18696	14373	Hatheway & Steane, Hartford.	7.23	...	.....
18697	255158	Hatheway & Steane, Hartford.	6.80	...	.....
	Cameron-Daniel Co., Atlanta, Ga.				
18644	137727	The Coles Co., Middletown ...	5.81	5.76	50.00
18924	Good	Station Agent from Goodsell Bros., Bristol	6.22	5.76	49.00
18928	A.C.L. 41281	The Coles Co., Middletown ...	5.78	5.76	54.00
	The Green-Miller Co., Atlanta, Ga.				
19048	A.C.L. 34027	Geo. S. Phelps Co., Thompson- ville	5.58	5.76	49.50

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.				
18631	Bull, 10604	L. B. Haas & Co., Hartford ...	6.60	6.87	\$48.75
18632	Bull, 25052	L. B. Haas & Co., Hartford ...	6.90	6.87	47.50
18633	Bull, 28465	L. B. Haas & Co., Hartford ...	6.98	6.87	47.50
18634	Bull, 29788	L. B. Haas & Co., Hartford ...	7.11	6.87	47.50
18635	Bull, 36078	L. B. Haas & Co., Hartford ...	7.00	6.87	47.50
18636	Bull, 110742	L. B. Haas & Co., Hartford ...	6.68	6.87	47.50
18710	Bull, L. & N. 8461	Huntington Bros., Windsor ...	6.99	6.87	47.50
18711	Bull, So. 122487	Huntington Bros., Windsor ...	6.96	6.87	47.50
18712	Bull, So. 410023	Huntington Bros., Windsor ...	6.96	6.87	47.50
18713	Bull, A.C.L. 36951	Huntington Bros., Windsor ...	7.25	6.87	47.50
19057	Bull	Station Agent from Fassler & Silberman, Hartford	6.81	6.87	49.50
19062	Bull, C. Ga. 25060	Geo. S. Phelps & Co., Thomp- sonville	7.11	6.87	52.50
18656	Bull, Sou. 153070	The Coles Co., Middletown ...	6.03	6.87	48.00
18657	Danish, D.L.W. 44107 ...	The Coles Co., Middletown ...	5.89	5.75	50.00
18511	Dixie, 170939	Griffin Tobacco Co., Bloomfield	6.65	6.56	.....
18512	Dixie, 47890	Griffin Tobacco Co., Bloomfield	6.66	6.56	.....
18513	Dixie, 52141	Griffin Tobacco Co., Bloomfield	6.63	6.56	.....
18514	Dixie, 170181	Griffin Tobacco Co., Bloomfield	6.77	6.56	.....
18534	Dixie, 42592	American Sumatra Tobacco Co., Bloomfield	6.86	6.56	.....
18535	Dixie, 46767	American Sumatra Tobacco Co., Bloomfield	6.66	6.56	.....
18536	Dixie, 27802	American Sumatra Tobacco Co., Bloomfield	6.71	6.56	.....
18537	Dixie, 216380	American Sumatra Tobacco Co., Bloomfield	6.72	6.56	.....
18538	Dixie, 48861	American Sumatra Tobacco Co., Bloomfield	6.78	6.56	.....
18539	Dixie, 37640	American Sumatra Tobacco Co., Bloomfield	6.88	6.56	.....
18622	Dixie, 132913	American Sumatra Tobacco Co., Bloomfield	6.49	6.56	.....
18623	Dixie, 4470	American Sumatra Tobacco Co., Bloomfield	6.42	6.56	.....
18624	Dixie, 7556	American Sumatra Tobacco Co., Bloomfield	6.54	6.56	.....
18625	Dixie, 7868	American Sumatra Tobacco Co., Bloomfield	6.59	6.56	.....
18626	Dixie, 60024	American Sumatra Tobacco Co., Bloomfield	7.02	6.56	.....
18627	Dixie, 251699	American Sumatra Tobacco Co., Bloomfield	6.53	6.56	.....
18648	Dixie, 173931	American Sumatra Tobacco Co., Bloomfield	6.68	6.56	.....

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.				
18649	Dixie, 173901	American Sumatra Tobacco Co., Bloomfield	6.71	6.56	.....
18650	Dixie, 43913	American Sumatra Tobacco Co., Bloomfield	6.74	6.56	.....
18651	Dixie, 61344	American Sumatra Tobacco Co., Bloomfield	6.82	6.56	.....
18652	Dixie, 35024	American Sumatra Tobacco Co., Bloomfield	6.68	6.56	.....
18665	Dixie, 23255	American Sumatra Tobacco Co., Bloomfield	6.71	6.56	.....
18670	Dixie, 103187	American Sumatra Tobacco Co., Bloomfield	6.64	6.56	.....
18671	Dixie, 38128	American Sumatra Tobacco Co., Bloomfield	6.49	6.56	.....
18672	Dixie 137499	American Sumatra Tobacco Co., Bloomfield	6.35	6.56	.....
18673	Dixie, 126758	American Sumatra Tobacco Co., Bloomfield	6.58	6.56	.....
18674	Dixie, 40394	American Sumatra Tobacco Co., Bloomfield	6.80	6.56	.....
18676	Dixie, S.A.L. 24428	Steane, Hartman & Co., Hart- ford	6.59	6.56	.....
18677	Dixie, C.C.C. & St. L. 46095	Steane, Hartman & Co., Hart- ford	6.87	6.56	.....
18678	Dixie, N. C. & St. L. 14245	Steane, Hartman & Co., Hart- ford	6.70	6.56	.....
18679	Dixie, I. C. 48766	Steane, Hartman & Co., Hart- ford	6.55	6.56	.....
18680	Dixie, S. A. L. 19208	Steane, Hartman & Co., Hart- ford	6.94	6.56	.....
18681	Dixie, A. C. L. 26118	Steane, Hartman & Co., Hart- ford	6.83	6.56	.....
18682	Dixie, 7401	Steane, Hartman & Co., Hart- ford	6.58	6.56	.....
18683	Dixie, N. C. St. L. 11990	Steane, Hartman & Co., Hart- ford	6.75	6.56	.....
18684	Dixie, A. C. L. 41430	Steane, Hartman & Co., Hart- ford	6.44	6.56	.....
18685	Dixie I. C. 170018	Steane, Hartman & Co., Hart- ford	6.52	6.56	.....
18686	Dixie, L. & A. 2652	Steane, Hartman & Co., Hart- ford	6.36	6.56	.....
18687	Dixie, 31537	Steane, Hartman & Co., Hart- ford	6.30	6.56	.....
18688	Dixie, 8648	Steane, Hartman & Co., Hart- ford	5.66	6.56	.....
18689	Dixie, C. S. M. & O. 11234	Steane, Hartman & Co., Hart- ford	6.90	6.56	.....

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.				
18690	Dixie, 245801	Hatheway & Steane, Hartford.	6.70	6.56	.....
28691	Dixie, 255944	Hatheway & Steane, Hartford.	6.67	6.56	.....
28692	Dixie, 7841	Hatheway & Steane, Hartford.	6.94	6.56	.....
18693	Dixie, 7227	Hatheway & Steane, Hartford.	6.90	6.56	.....
18694	Dixie, 36302	Hatheway & Steane, Hartford.	6.67	6.56	.....
18695	Dixie, 130931	Hatheway & Steane, Hartford.	6.47	6.56	.....
18729	Dixie (old stock)	American Sumatra Tobacco Co., Bloomfield	7.26	6.56	.....
18743	Dixie, 136020	Hatheway & Steane, Hartford.	6.98	6.56	\$48.65
18744	Dixie, 172739	Hatheway & Steane, Hartford.	6.42	6.56	48.65
18745	Dixie, 37332	Hatheway & Steane, Hartford.	6.78	6.56	48.65
18746	Dixie, 7774	Hatheway & Steane, Hartford.	6.96	6.56	48.65
18747	Dixie, 6715	Hatheway & Steane, Hartford.	6.53	6.56	48.65
18841	Dixie, 7448	Hatheway & Steane, Hartford.	6.30	6.56	48.65
18842	Dixie, 90276	Hatheway & Steane, Hartford.	6.90	6.56	48.65
18860	Dixie, 26655	Steane, Hartman Co., Hartford	6.62	6.56	.....
18861	Dixie, 4564	Steane, Hartman Co., Hartford	6.75	6.56	.....
18862	Dixie, 22450	Steane, Hartman Co., Hartford	6.67	6.56	.....
18929	Dixie, 15676	John B. Parker, Poquonock ...	6.29	6.56	49.15
18987	Dixie, 609197	American Sumatra Tobacco Co., Bloomfield	7.00	6.56	.....
18988	Dixie, 17729	American Sumatra Tobacco Co., Bloomfield	6.88	6.56	.....
19218	Dixie, 25905	Hatheway & Steane, Hartford	6.14	6.56	48.65
19223	Dixie, 31203	Hatheway & Steane, Hartford	6.41	6.56	48.65
19226	Dixie, 15676	Hatheway & Steane, Hartford	6.47	6.56	48.65
19229	Dixie, 20138	Hatheway & Steane, Hartford	6.92	6.56	48.65
19394	Dixie, 120757	American Sumatra Tobacco Co., Bloomfield	6.84	6.56	.....
19396	Dixie, 130842	American Sumatra Tobacco Co., Bloomfield	6.94	6.56	.....
19397	Dixie, 265455	American Sumatra Tobacco Co., Bloomfield	6.89	6.56	.....
19420	Dixie, L. & N. 101808	American Sumatra Tobacco Co., Bloomfield	6.27	6.56	.....
19509	Dixie	Station Agent from E. Man- chester & Sons, Winsted	6.36	6.56	54.00
18515	90458	Griffin Tobacco Co., North Bloomfield.	6.54	...	.....
18516	501660	Griffin Tobacco Co., North Bloomfield	6.74	...	.....
18517	5179	Griffin Tobacco Co., North Bloomfield	6.92	...	.....

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.					
—Continued.					
18518	7833	Griffin Tobacco Co., North Bloomfield	7.05	...	.....
18519	34437	Griffin Tobacco Co., North Bloomfield	7.14	...	.....
18593	3825	American Sumatra Tobacco Co., Bloomfield	6.22	...	.....
18594	171148	American Sumatra Tobacco Bloomfield	6.86	...	.....
L. B. Lovitt & Co., Memphis, Tenn.					
18970	Lovit, N.Y.C. & St. L. N.K.P. 28292	Spencer Bros., Inc., Suffield... Spencer Bros., Inc., Suffield...	6.60	6.58	.....
18971	Lovit, A. C. L. 43853	Spencer Bros., Inc., Suffield...	6.63	6.58	\$53.50
18972	Lovit, G. S. & F. 4684	Station Agent from G. E. Ack- ley, New Milford	6.71	6.58	.....
19355	Lovit	Spencer Bros., Inc., Suffield...	6.77	6.58	56.00
18830	Neal's Choice, Wabash 79333	Spencer Bros., Inc., Suffield... Spencer Bros., Inc., Suffield...	7.18	6.88	55.50
19024	Neal's Choice, C. Ga. 3471	Spencer Bros., Inc., Suffield...	6.96	6.88	55.50
19078	Neal's Choice, B. & O. 168940	Spencer Bros., Inc., Suffield... Station Agent from J. H. Dodd, New Milford	7.00	6.88	55.50
19512	Neal's Choice	American Sumatra Tobacco Co., Bloomfield	7.02	6.88	56.00
19542	Neal's Choice, 42142	American Sumatra Tobacco Co., Bloomfield	7.02	6.88	.....
19543	Neal's Choice, 64913	American Sumatra Tobacco Co., Bloomfield	6.52	6.88	.....
19544	Neal's Choice, 35934	American Sumatra Tobacco Co., Bloomfield	7.00	6.88	.....
19545	Neal's Choice, 174594	American Sumatra Tobacco Co., Bloomfield	6.99	6.88	.....
19239	Thirty Six	Station Agent from A. D. Bridge's Sons, Hazardville..	5.82	5.75	52.00
18831	R. I. 156833	Spencer Bros., Inc., Suffield...	7.17	6.88	55.50
18832	A. C. L. 42141	Spencer Bros., Inc., Suffield...	6.97	6.88	55.50
Lyle & Lyle, Huntsville, Ala.					
19510	Economy	Station Agent from E. Man- chester & Sons, Winsted	5.74	5.76	40.00
19756	Economy N. Y. C. 28927.	The Coles Co., Middletown ...	5.58	5.76	56.00
W. C. Nothern, Little Rock, Ark.					
19027	Standard	A. E. Plant Sons Co., Branford	5.74	5.76	.....

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.	
	Olds & Whipple, Hartford.				
18989	1	Clark Bros., Poquonock	6.72	6.56	\$48.65
18990	2	Clark Bros., Poquonock	6.64	6.56	48.65
18991	3	Clark Bros., Poquonock	6.58	6.56	48.65
18992	4	Clark Bros., Poquonock	6.60	6.56	48.65
	The Rogers & Hubbard Co., Portland.				
19147	N. C. & St. L. 15680	Station Agent from A. N. Shep- ard & Son, Hartford	6.40	5.75	.....
19149	C. & W. C. 1150	Station Agent from A. N. Shep- ard & Son, Hartford	5.96	5.75	.....
17959	Lot 1	L. J. Prior, East Hartford.....	6.93	...	.....
17960	Lot 2	L. J. Prior, East Hartford.....	7.04	...	.....

CASTOR POMACE.

GUARANTIES.

Of the 61 samples examined, 50 had a guaranty of 4.50 per cent nitrogen, and most of them far exceeded their guaranty, the average nitrogen in them being 5.30 per cent. Nine had a guaranty of 5 per cent nitrogen; their average content was 5.25 per cent, and one fell below the guaranty. Two were guaranteed 5.75 or higher, and one of these, No. **19454**, stated to be sold by the Eastern States Exchange, was below guaranty by 1.32 per cent, while the price quoted was far above the average price.

COST.

The average cost per ton, chiefly in car lots, has been about \$31.46, and the average cost of nitrogen per pound 29.9 cents per pound.

TABLE IV. ANALYSES OF CASTOR POMACE.

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent Nitrogen.		Cost per ton.	Nitrogen costs cents per pound.
			Guaranteed	Found.		
The American Agricultural Chemical Co., New York City.						
19447	.....	A. B. & R. W. Hitchcock, Warehouse Point	4.53	5.50	.....	...
19448	.....	A. B. & R. W. Hitchcock, Warehouse Point	4.53	5.24	.....	...
19385	.....	Station Agent from Joseph Rostek, Melrose	4.53	5.57	\$34.00	30.5
19080	Erie 74592	Spencer Bros., Inc., Suffield.	4.53	5.12	34.00	33.2
19287	.....	Station Agent from F. O. Williams, Silver Lane	4.53	5.06	32.00	31.6
Apothecaries Hall Co., Waterbury.						
18993	.....	Clark Bros., Poquonock	4.52	5.22	29.50	28.3
19213	195354	Hatheway & Steane, Hart- ford	4.52	5.04	28.50	28.3
19214	62465	Hatheway & Steane, Hart- ford	4.52	5.01	28.50	28.4
19222	.....	Hatheway & Steane, Hart- ford	4.52	4.66	28.50	30.6
19233	189210	Hatheway & Steane, Hart- ford	4.52	5.93	28.50	24.0
18778	C. C. & St. L. 52366	Spencer Bros., Inc., Suffield.	4.52	5.53	32.00	28.9
18779	N. Y. C. 246234	Spencer Bros., Inc., Suffield.	4.52	6.24	32.00	25.6
18780	N. Y. C. 244479	Spencer Bros., Inc., Suffield.	4.52	6.00	32.00	26.7
18969	.....	Station Agent from Spencer Bros., Inc., Suffield	4.52	5.78	30.00	25.9
19104	N. Y. C. 115313	Spencer Bros., Inc., Suffield.	4.52	4.94	.....	...
19236	N. Y. C. 217334	Spencer Bros., Inc., Suffield.	4.52	4.84	32.00	33.0
19237	N. Y. C. 218674	Spencer Bros., Inc., Suffield.	4.52	5.08	34.00	33.5
19320	N. Y. C. 255508	Spencer Bros., Inc., Suffield.	4.52	4.76	32.00	33.6
19321	N. Y. C. 212684	Spencer Bros., Inc., Suffield.	4.52	4.92	32.00	32.5
Armour Fertilizer Works, New York City.						
19459	.....	Station Agent from J. H. Mc- Allister, Middletown Grain Assoc., Cromwell	5.75	5.78	33.00	28.6
Baker Castor Oil Co., New York City.						
18540	89166	American Sumatra Tobacco Co., Bloomfield	4.50	6.04	.....	...
18541	35716	American Sumatra Tobacco Co., Bloomfield	4.50	5.61	.....	...
18653	27149	American Sumatra Tobacco Co., Bloomfield	4.50	5.80	.....	...
18662	97750	American Sumatra Tobacco Co., Bloomfield	4.50	4.89	.....	...

TABLE IV. ANALYSES OF CASTOR POMACE—Continued.

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent Nitrogen.		Cost per ton.	Nitrogen costs cents per pound.
			Guarantee	Found.		
	Baker Castor Oil Co. —Continued.					
18663	560620	American Sumatra Tobacco Co., Bloomfield	4.50	5.20	.....	.....
18664	16379	American Sumatra Tobacco Co., Bloomfield	4.50	6.25	.....	.....
18762	4726	American Sumatra Tobacco Co., Bloomfield	4.50	5.38	.....	.....
18763	94558	American Sumatra Tobacco Co., Bloomfield	4.50	5.43	.....	.....
18764	67326	American Sumatra Tobacco Co., Bloomfield	4.50	4.81	.....	.....
18818	76091	American Sumatra Tobacco Co., Bloomfield	4.50	5.11	.....	.....
18819	560566	American Sumatra Tobacco Co., Bloomfield	4.50	4.70	.....	.....
18820	42976	American Sumatra Tobacco Co., Bloomfield	4.50	5.08	.....	.....
18821	N. Y. C. 221066	American Sumatra Tobacco Co., Bloomfield	4.50	4.90	.....	.....
18949	94485	American Sumatra Tobacco Co., Bloomfield	4.50	5.32	.....	.....
19204	47750	American Sumatra Tobacco Co., Bloomfield	4.50	5.62	.....	.....
19205	16761	American Sumatra Tobacco Co., Bloomfield	4.50	5.36	.....	.....
19206	32505	American Sumatra Tobacco Co., Bloomfield	4.50	4.68	.....	.....
19207	32134	American Sumatra Tobacco Co., Bloomfield	4.50	5.44	.....	.....
19208	19105	American Sumatra Tobacco Co., Bloomfield	4.50	5.44	.....	.....
19209	94343	American Sumatra Tobacco Co., Bloomfield	4.50	5.45	.....	.....
19210	40691	American Sumatra Tobacco Co., Bloomfield	4.50	4.99	.....	.....
19060	.....	Station Agent from Fassler & Silberman, Hartford....	4.50	5.48	\$32.00	20.2
18520	562628	Griffin Tobacco Co., North Bloomfield	4.50	5.20	.....	.....
18521	26204	Griffin Tobacco Co., North Bloomfield	4.50	6.03	.....	.....
19212	206709	Hatheway & Steane, Hart- ford	4.50	5.15	28.50	27.7
18715	.....	Huntington Bros., Windsor.	4.94	5.43	31.00	28.5
18959	.....	Station Agent from Olds & Whipple, Inc., Hartford....	4.50	5.03	31.00	30.8
19271	.....	H. E. Wells, East Windsor Hill	4.50	5.64	32.00	28.4

TABLE IV. ANALYSES OF CASTOR POMACE—*Concluded.*

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent Nitrogen.		Cost per ton.	Nitrogen costs cents per pound.
			Guaranteed.	Found.		
19045	Berkshire Fertilizer Co., Bridgeport.	Station Agent from factory.	5.00	5.77	.....	...
19422		80989	J. E. Shepard, South Windsor	5.00	4.65	\$28.00	30.1
19653	E. D. Chittenden Co., Bridgeport.	Station Agent from F. J. Meskill, Broad Brook	4.93	5.04	.....	...
19454		Eastern States Farmers' Exchange, Springfield, Mass.	Station Agent from C. M. Beeman, Granby Co-operative Assoc., Granby	6.18	4.86	39.50	40.6
18965	L. T. Frisbie Co., New Haven, Conn.	Station Agent from factory.	4.51	5.80	.....	...
19105		J. E. Shepard, South Windsor	4.51	4.70	28.00	29.8
19294		Station Agent from J. E. Shepard, South Windsor..	4.51	4.96	28.00	28.2
18979	Olds & Whipple, Inc., Hartford.	P. & R. 5828	4.94	5.20	31.00	20.8
18980		P. & R. 74867	L. Wetstone, Hartford	4.94	5.44	31.00	28.5
18932	The Rogers & Hubbard Co., Portland.	Edward D. Douglas, Suffield	5.35	5.44	32.30	29.7
19435		Station Agent from A. R. Fairbanks, Windsor	5.00	5.18	35.00	33.8
19612		A. R. Fairbanks, Windsor...	5.00	5.11	35.00	34.2
18905	Sanderson Fertilizer & Chemical Co., New Haven.	Station Agent from the factory	4.53	5.18	32.00	30.9

II. RAW MATERIALS CHIEFLY VALUABLE FOR PHOSPHORIC ACID.

RAW ROCK PHOSPHATE.

Two samples were analyzed as follows:

19735. Ground Rock Phosphate. Sold by Robin Jones Phosphate Co., Nashville, Tenn. Stock of T. H. Eldredge, Norwich.

19005. Ground Raw Rock Phosphate Flour. Sold by W. L. Mitchell, New Haven. Sent by W. A. Simpson, Wallingford.

TABLE V. ANALYSES OF RAW ROCK PHOSPHATE.

Station No.	19735	19005
Total phosphoric acid:		
Found	28.00	30.50
Guaranteed	28.00	30.00
Cost per ton	\$18.00	\$19.50
Phosphoric acid costs cents per pound	3.2	3.2

PRECIPITATED BONE PHOSPHATE.

In Table VI are analyses of 13 samples.

PRECIPITATED BONE PHOSPHATE.

TABLE VI. ANALYSES OF PRECIPITATED BONE PHOSPHATE.

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.	Phosphoric Acid.				Citrate-insoluble.	Cost per ton of Phosphoric Acid.
			Total	Found.	Guaranteed.	%		
19605	<i>Sampled by Station:</i> Apothecaries Hall Co., Waterbury Armour Fertilizer Works, New York	Sampled at factory	%	%	%	.....	.....
19620		Middletown Grain Assoc., J. H. Mc- Allister, Cromwell	1.65	39.55	37.90	35.00		
19059	Olds & Whipple, Hartford	Fassler & Silberman, Hartford	0.15	37.65	37.50	\$60.40		
18595		American Sumatra Tobacco Co., Bloomfield	0.92	39.36	38.44	40.00	1.15	
18654	<i>Sampled by Purchaser:</i> American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., Bloomfield	0.38	39.70	39.32	.....	.....
18655		American Glue Co., Boston, Mass.	0.18	39.86	39.68	.....	.....
18675	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., Bloomfield	0.95	38.12	37.17	.....	.....
18727		American Glue Co., Boston, Mass.	0.63	37.22	36.59	.....	.....
18765	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., Bloomfield	none	38.76	38.76	.....	.....
18777		American Glue Co., Boston, Mass.	none	38.84	38.84	.....	.....
18950	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., Bloomfield	none	38.68	38.68	.....	.....
18951		American Glue Co., Boston, Mass.	none	38.65	38.65	.....	.....
18913	.....	American Sumatra Tobacco Co., Bloomfield	0.05	37.20	37.15	.....	.....
		Huntington Bros., Windsor	0.55	40.15	39.60	.....	.....

The complete analysis of one sample, No. **18913**, shows the average percentage composition of this material:

Lime	33.24
Magnesia	0.32
Phosphoric acid	40.15
Sulphuric acid	1.19
Chlorine	0.70
Water (free and combined)	24.40
	100.00

This consists largely of the dicalcic phosphate not readily soluble in water, but very easily soluble in ammonium citrate as used for determining "reverted" phosphoric acid.

All of the samples examined have been of good quality, and the average cost of available phosphoric acid has been about 8.5 cents per pound.

DISSOLVED ROCK PHOSPHATE OR ACID PHOSPHATE.

Thirty-three analyses are given in Table VII.

GUARANTIES OF AVAILABLE PHOSPHORIC ACID.

With one exception, all of the samples had a guaranty of 16 per cent available.

Only three of the number failed to meet their guaranty.

No. **19334**, sold by the Coe-Mortimer Co., was deficient by 1.02 per cent. No. **19530**, sold by the Levering Fertilizer Co., by 0.48 per cent. No. **19699**, sold by the American Agricultural Chemical Co., by 0.28 per cent.

COMPOSITION AND COST.

The average content of phosphoric acid was 17.3 per cent, of which 16.6 per cent was available.

Cost. The reported costs show wide differences, ranging from \$38.25 to \$18.00. Early in the year the wholesale prices fell considerably and "forced sales" and "resales" resulted in much lower prices than had previously prevailed.

The average cost of available phosphoric acid in all the samples was about 6.9 cents per pound, but leaving out the three highest prices, the average price per ton was \$21.59, which would make the cost of available phosphoric acid about 6.5 cents.

TABLE VII. ANALYSES OF ACID PHOSPHATE.

ACID PHOSPHATE.

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Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.	Phosphoric Acid.				Cost per ton.	"Available" phosphoric acid cents per pound.	Station No.
			Citrate-insoluble.	"Available"		Guaranteed.			
				Total.	Found.				
19297	<i>Sampled by Station:</i> American Agricultural Chemical Co., New York	F. W. Martin, Clark's Corner	1.63	17.56	15.93	16	\$ 25.00	7.8	19297
19067	American Agricultural Chemical Co., New York	Spencer Bros., Suffield	0.86	17.08	16.22	16	21.00	6.5	19067
18867	Apothecaries Hall Co., Waterbury	R. W. Hine, Cheshire	0.45	16.48	16.03	16	....	..	18867
19037	Armour Fertilizer Works, New York	J. D. Kelsey & Son, Madison	0.64	16.73	16.09	16	22.00	6.8	19037
18879	Berkshire Fertilizer Co., Bridgeport	Sampled at factory	0.15	18.14	17.99	16	19.00	5.3	18879
19143	Berkshire Fertilizer Co., Bridgeport	John Dorsey, Farmers' Exchange, Putnam	0.13	17.05	16.92	16	18.41	5.4	19143
19163	Bowker Fertilizer Co., New York	P. Schwartz, New London	1.40	17.60	16.20	16	23.00	7.1	19163
19112	Bowker Fertilizer Co., New York	Goodsell Bros., Bristol	0.90	17.58	16.68	16	23.00	6.9	19112
18789	Everett B. Clark Seed Co., Milford	Sampled at factory	0.22	17.01	16.79	16	24.00	7.1	18789
19466	E. D. Chittenden Co., Bridgeport.	E. J. Bantle, Glastonbury	0.15	17.05	16.90	16	23.75	7.0	19466
19334	The Coe-Mortimer Co., New York	J. B. McArdle, Greenwich	0.85	15.83	14.98	16	30.00	10.0	19334
19015	Consolidated Rendering Co., Boston, Mass.	Fred Farwell, Vegetable Growers' Assoc., Danbury	0.50	16.98	16.48	16	18.00	5.5	19015
18801	Consolidated Rendering Co., Boston, Mass.	L. T. Frisbie Co., New Haven	0.56	17.42	16.86	16	....	..	18801
19043	Eastern States Farmers' Exchange, Springfield, Mass.	J. D. Kelsey & Son, Madison	0.58	17.18	16.60	16	21.40	6.4	19043
19485	International Agricultural Corp., Boston, Mass.	Harvey Beaumont, Wallingford	0.53	16.94	16.41	16	26.00	7.9	19485
19530	Levering Fertilizer Co., Baltimore, Md.	F. O. Brown, Colchester	1.16	16.68	15.52	16	20.00	6.4	19530

TABLE VII. ANALYSES OF ACID PHOSPHATE—Concluded.

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.	Phosphoric Acid.				Cost per ton.	"Available" phos- phoric acid costs cents per pound.	Station No.
			Citrate-insoluble.	Total.	"Available"				
					Found.	Guaranteed.			
19496	W. L. Mitchell, New Haven	Ansonia Flour & Grain Co.	1.88	17.05	15.17	*	25.00	19496	
18870	Olds & Whipple, Inc., Hartford..	Sampled at factory	0.46	16.94	16.48	16	22.50	18870	
19246	The Rogers & Hubbard Co., Port- land	Willimantic Grain Co., Willimantic..	0.06	16.39	16.33	16	24.00	19246	
19502	F. S. Royster Guano Co., Balti- more, Md.	Rockville Coal & Grain Co., Rock- ville	1.73	18.00	16.27	16	25.00	19502	
18795	Sanderson Fertilizer & Chemical Co., New Haven	Sampled at factory	0.96	17.77	16.81	16	....	18795
19629	Virginia-Carolina Chemical Co., New York	F. A. Waters, Middlebury	0.40	17.45	17.05	16	33.00	19629	
19506	Wilcox Fertilizer Co., Mystic	Sampled at factory	0.15	17.65	17.50	16	....	19506
<i>Sampled by Purchaser:</i>									
19699	American Agricultural Chemical Co., New York	E. N. Austin, Suffield	0.86	16.58	15.72	16	24.00	19699	
18750	Apothecaries Hall Co., Waterbury	Hatheway & Steane, Hartford	0.28	16.45	16.17	16	38.25	18750	
18855	Apothecaries Hall Co., Waterbury	Hatheway & Steane, Hartford	none	17.13	17.13	16	19.00	18855	
18856	Apothecaries Hall Co., Waterbury	Hatheway & Steane, Hartford	none	16.58	16.58	16	19.00	18856	
18857	Apothecaries Hall Co., Waterbury	Hatheway & Steane, Hartford	0.64	17.04	16.40	16	19.00	18857	
19221	Apothecaries Hall Co., Waterbury	Hatheway & Steane, Hartford	0.25	18.83	18.58	16	19.00	19221	
19231	Apothecaries Hall Co., Waterbury	Hatheway & Steane, Hartford	0.75	17.60	16.85	16	19.00	19231	
19025	Consolidated Rendering Co., Bos- ton, Mass.	A. E. Plant Sons Co., Branford	0.63	18.05	17.42	16	....	19025
18628	Olds & Whipple, Inc., Hartford..	American Sumatra Tobacco Co., Bloomfield	0.14	18.73	18.59	16	....	18628
19538	Sanderson Fertilizer Co., New Ha- ven	H. F. Johnson, Norwich, Conn.	0.65	18.50	17.85	16	18.25	19538	

* Guaranteed 16% total Phosphoric Acid.

III. RAW MATERIALS CONTAINING POTASH AS THE CHIEF ACTIVE INGREDIENT.

Here are given analyses of 56 samples. Forty-nine of them are in Table VIII.

CARBONATE OF POTASH.

Two or three of the samples are of rather lower grade than the others.

The potash in the two samples whose prices are quoted cost 8 cents per pound.

MURIATE OF POTASH.

GUARANTIES.

All of the 16 samples contain as much or more potash than is guaranteed, except one, No. 19744, which has 0.6 per cent less.

COST.

The average content of potash has been 50.80 per cent. The prices have ranged all the way from \$60.50 to \$45.00. The average of those here given is \$51.60, which would make the cost of potash about 5.1 cents per pound.

HIGH-GRADE SULPHATE OF POTASH.

Seventeen samples have been analyzed, seven of which were drawn by the Station agent.

Four of these do not meet their guaranties.

No. 19411 contained some phosphates and a large amount of matter insoluble in water. The seller took steps to pay a rebate of \$1.24 per unit of potash.

The average per cent of potash in these samples is 48.69 and the average cost per pound of potash is 5.7 cents, ranging from 7.9 to 4.9 cents.

DOUBLE SULPHATE OF POTASH AND MAGNESIA, SOMETIMES CALLED "DOUBLE MANURE SALTS."

Five samples have been analyzed, two of them carrying less than the guaranteed potash. The analyses appear in the table, but more complete analyses of some of them are as follows:

ANALYSES OF DOUBLE SULPHATE OF POTASH AND MAGNESIA.

	18873	18795	18839	19698	18915
Potash	26.38	27.44	27.32	25.53	27.36
Lime	2.39	....	1.18	....	6.47
Magnesia	8.34	11.25	10.89	9.03	6.04
Chlorine	2.34	4.18	2.24	2.65	2.38
Sulphuric acid	36.98	46.67	41.50	....	46.60

MANURE SALTS.

This is a material very different from the double sulphate of potash and magnesia or "double manure salts" mentioned above. Seven analyses were made, as follows: **18659**, stock of Apothecaries Hall Co., Waterbury. Samples **19280** to **19284** represent five different car lots sent by J. E. Shepard, South Windsor, and bought through the L. T. Frisbie Co., New Haven. **19697** sampled and sent by E. N. Austin, Suffield.

The analyses are as follows:

ANALYSES OF CRUDE POTASH SALTS.

	18659	19280	19281	19282	19283	19284	19697
Potash	20.34	25.44	24.13	27.09	26.60	26.10	22.20
Lime	3.16	....	....	....	....	....	....
Magnesia	0.46	....	....	....	....	....	1.03
Chlorine	48.81	47.58	49.60	48.84	48.24	49.70	37.14
Sulphuric acid	1.86	....	....	....	....	....	....
Insoluble in acid	2.08	....	....	....	....	....	....

The average per cent of potash is 24.70, and the cost \$25 per ton, making the cost of potash 5.1 cents per pound.

It will be seen that in the double sulphate of potash and magnesia the potash is nearly all in form of sulphate, the amount of magnesia is considerable and that of chlorine is small.

But in the "Potash Salts" almost all the potash is in form of muriate. The amount of magnesia is small and that of chlorine very large.

This salt is quite unfit for a tobacco fertilizer, though the quantity of potash is not much smaller than in the double sulphate, which is an excellent source of potash for tobacco.

TABLE VIII. ANALYSES OF POTASH SALTS.

POTASH SALTS.

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Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.	Potash.		Cost per ton.	Potash costs cents per pound.	Station No.
			Found.	Guaranteed.			
CARBONATE OF POTASH.							
<i>Sampled by Purchaser:</i>							
18542	A. Klipstein, New York	American Sumatra Tobacco Co., Bloomfield	%	%	\$	....	18542
18725	A. Klipstein, New York	American Sumatra Tobacco Co., Bloomfield	60.84	....	....	....	18725
18726	A. Klipstein, New York	American Sumatra Tobacco Co., Bloomfield	63.00	....	....	....	18726
18759	A. Klipstein, New York	American Sumatra Tobacco Co., Bloomfield	60.04	....	....	....	18759
18760	A. Klipstein, New York	American Sumatra Tobacco Co., Bloomfield	60.12	....	....	....	18760
18761	A. Klipstein, New York	American Sumatra Tobacco Co., Bloomfield	60.24	....	....	....	18761
18822	A. Klipstein, New York	American Sumatra Tobacco Co., Bloomfield	62.00	....	....	....	18822
18948	A. Klipstein, New York	American Sumatra Tobacco Co., Bloomfield	62.68	....	....	....	18948
18851	Olds & Whipple, Inc., Hartford	Hatheway & Steane, Hartford	58.50	....	85.00	....	18851
18852	Olds & Whipple, Inc., Hartford	Hatheway & Steane, Hartford	52.80	....	85.00	8.0	18852
MURIATE OF POTASH.							
<i>Sampled by Station:</i>							
19181	American Agricultural Chemical Co., New York	P. Schwartz & Co., New London	50.67	48.00	....	....	19181
18868	Apothecaries Hall Co., Waterbury	J. R. Reinhard, West Cheshire	51.06	50.00	....	....	18868
19289	Armour Fertilizer Works, New York	J. O. Fox & Co., Putnam	50.06	48.00	55.00	5.5	19289
18877	Berkshire Fertilizer Co., Bridgeport	Sampled at factory	50.28	50.00	45.00	4.5	18877

TABLE VIII. ANALYSES OF POTASH SALTS—Continued.

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.	Potash.		Cost per ton.	Potash costs cents per pound.	Station No.
			Found.	Guaranteed.			
19145	Berkshire Fertilizer Co., Bridgeport	John Dorsey, Farmers' Exchange, Putnam	% 52.02	% 50.00	\$ 46.00	4.4	19145
19016	Consolidated Rendering Co., Boston	Fred Farwell, Vegetable Growers' Assoc., Danbury	50.40	50.00	55.00	5.5	19016
18803	Consolidated Rendering Co., Boston	L. T. Frisbie Co., New Haven	50.98	50.00	.....	.....	18803
19744	Consolidated Rendering Co., Boston	Knowles-Lombard Co., Guilford	49.40	50.00	48.00	4.9	19744
19450	Eastern States Farmers' Exchange, Springfield, Mass.	C. K. Andrews, West Woods Farmers' Co-op. Assoc., Mt. Carmel	50.20	50.00	49.60	4.0	19450
19531	Levering Fertilizer Co., Baltimore, Md.	F. O. Brown, Colchester	52.56	50.00	50.00	4.8	19531
18872	Olds & Whipple, Inc., Hartford	Sampled at factory	52.56	50.40	53.00	5.0	18872
19065	Wilcox Fertilizer Co., Mystic	Spencer Bros., Suffield	50.70	50.00	50.00	4.9	19065
19028	Consolidated Rendering Co., Boston	A. E. Plant Sons Co., Branford	50.16	50.00	48.00	4.8	19028
19444	National Fertilizer Co., New York	A. B. & R. W. Hitchcock, Warehouse Point	50.60	48.00	60.50	6.0	19444
19445	National Fertilizer Co., New York	A. B. & R. W. Hitchcock, Warehouse Point	50.02	48.00	60.50	6.0	19445
19345	Worcester Rendering Co., Auburn, Mass.	E. C. Rogers, Putnam	51.10	50.00	50.00	4.9	19345

Sampled by Purchaser:

TABLE VIII. ANALYSES OF POTASH SALTS—Continued.

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.	Potash.		Cost per ton.	Potash costs cents per pound.	Station No.
			Found.	Guaranteed.			
	HIGH-GRADE SULPHATE OF POTASH. <i>Sampled by Station:</i>						
19301	American Agricultural Chemical Co., New York	C. F. Allen, Warehouse Point	%	%	\$ 58.50	5.8	19301
19449	Apothecaries Hall Co., Waterbury	Sampled at factory	49.28	48.00	....	....	19449
19527	Armour Fertilizer Works, New York	J. H. McAllister, Middletown Grain Assoc., Cromwell	48.32	48.00	58.50	6.1	19527
18378	Berkshire Fertilizer Co., Bridgeport	Sampled at factory	50.20	48.00	55.00	5.5	18378
18799	Consolidated Rendering Co., Boston	L. T. Frisbie Co., New Haven	49.08	48.00	....	....	18799
19411	Eastern States Farmers' Exchange, Springfield, Mass.	C. M. Beeman, Granby Co-op. Assoc., Granby	39.12	48.00	61.45	7.9	19411
18871	Olds & Whipple, Inc., Hartford	Sampled at factory	49.08	48.60	61.00	6.2	18871
	<i>Sampled by Purchaser:</i>						
19424	L. T. Frisbie Co., New Haven	J. E. Shepard, South Windsor	49.32	48.00	48.50	4.9	19424
18716	Olds & Whipple, Inc., Hartford	Huntington Bros., Windsor	49.88	48.60	50.27	5.0	18716
18848	Olds & Whipple, Inc., Hartford	Hatheway & Steane, Hartford	59.94	48.60	52.87	5.2	18848
18849	Olds & Whipple, Inc., Hartford	Hatheway & Steane, Hartford	50.94	48.60	51.87	5.1	18849
18850	Olds & Whipple, Inc., Hartford	Hatheway & Steane, Hartford	50.44	48.60	51.87	5.1	18850
19219	Olds & Whipple, Inc., Hartford	Hatheway & Steane, Hartford	48.14	48.60	51.20	5.3	19219
19230	Olds & Whipple, Inc., Hartford	Hatheway & Steane, Hartford	50.36	48.60	51.20	5.1	19230
19611	The Rogers & Hubbard Co., Portland	A. R. Fairbanks, Windsor	49.53	46.00	60.00	6.1	19611
18934	The Rogers & Hubbard Co., Portland	Edward O. Douglass, Suffield	46.10	48.00	57.50	6.2	18934

TABLE VIII. ANALYSES OF POTASH SALTS—Concluded.

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.	Potash.		Cost per ton.	Potash costs cents per pound.	Station No.
			Found.	Guaranteed.			
19541	Sanderson Fertilizer Co., New Haven	Preston Co-operative Exchange, Preston	% 46.64	% 48.00	\$ ....	....	19541
18873 18796	DOUBLE MANURE SALTS, Sampled by Station: Olds & Whipple, Inc., Hartford.. Sanderson Fertilizer & Chemical Co., New Haven	Sampled at factory	26.38	25.90	....	....	18873 18796
18839	Sampled by Purchaser: American Agricultural Chemical Co., New York	Ernest N. Austin, Suffield	27.32	20.00	23.00	4.2	18839
19698 18915	American Agricultural Chemical Co., New York	Ernest N. Austin, Suffield	25.53	26.00	40.00	7.8	19698 18915
19716	UNNAMED POTASH MATERIAL, Sampled by Purchaser: L. T. Frisbie Co., New Haven	Huntington Bros., Windsor	27.36	28.00	....	....	19716
		Knowles-Lombard Co., Guilford	48.33	51.29	....	....

IV. MATERIALS CONTAINING NITROGEN AND PHOSPHORIC ACID.

FISH MANURES.

Twenty-six analyses are given in Table IX. All of the samples but one meet their guaranties. The average per cent of nitrogen in them was 8.74, the phosphoric acid 7.23, and average cost \$54.99.

Allowing 8 cents per pound for available phosphoric acid, nitrogen has cost about 24.8 cents per pound in fish manures.

It will be noticed that "herring meal" contains half as much phosphoric acid and somewhat less nitrogen than "fish scrap," which is made from menhaden or white fish.

TABLE IX. ANALYSES OF

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.
	<i>Sampled by Station:</i>	
19179	American Agricultural Chemical Co., New York	F. O. Williams, Silver Lane
19008	Apothecaries Hall Co., Waterbury.	Sampled at factory
19528	Armour Fertilizer Works, New York	J. H. McAllister, Middletown Grain Assoc., Cromwell
19044	Berkshire Fertilizer Co., Bridgeport	Sampled at factory
19652	E. D. Chittenden Co., Bridgeport..	F. J. Meskill, Broad Brook
19764	Consolidated Rendering Co., Boston	T. J. Coleman, Warehouse Point....
19476	Eastern States Farmers' Exchange, Springfield	C. M. Beeman, Granby Co-operative Assoc., Granby
18966	L. T. Frisbie Co., New Haven	Sampled at factory
19058	Olds & Whipple, Inc., Hartford...	Fassler & Silberman, Hartford
19688	Sanderson Fertilizer & Chemical Co., New Haven	C. S. Smith, East Haven
19238	Wilcox Fertilizer Co., Mystic	Spencer Bros., Suffield
	<i>Sampled by Purchaser:</i>	
18840	American Agricultural Chemical Co., New York	Ernest Austin, Suffield
19006*	American Agricultural Chemical Co., New York	Ernest Austin, Suffield
19701*	American Agricultural Chemical Co., New York	Ernest Austin, Suffield
19083	Berkshire Fertilizer Co., Bridgeport	J. E. Shepard, South Windsor
19029	L. T. Frisbie Co., New Haven	A. E. Plant Sons Co., Branford
18543	Olds & Whipple, Inc., Hartford....	American Sumatra Tobacco Co., Bloomfield
18596	Olds & Whipple, Inc., Hartford....	American Sumatra Tobacco Co., Bloomfield
18728	Olds & Whipple, Inc., Hartford....	American Sumatra Tobacco Co., Bloomfield
18845	Olds & Whipple, Inc., Hartford....	Hatheway & Steane, Hartford
18846	Olds & Whipple, Inc., Hartford....	Hatheway & Steane, Hartford
18847	Olds & Whipple, Inc., Hartford....	Hatheway & Steane, Hartford
19224	Olds & Whipple, Inc., Hartford....	Hatheway & Steane, Hartford
18714	Olds & Whipple, Inc., Hartford....	Huntington Bros., Windsor
18930	Rogers & Hubbard Co., Portland..	Edward O. Douglass, Suffield
17961	.....	L. J. Prior, East Hartford

* "Herring meal."

FISH MANURE.

Nitrogen.				Phosphoric Acid.			Cost per ton.	Nitrogen costs cents per pound.†	Station No.
As ammonia.	As organic.	Total found.	Total guaranteed.	Citrate-insoluble.	Total found.	Total guaranteed.			
%	%	%	%	%	%	%	\$	
0.10	8.35	8.45	8.23	....	6.80	6.00	\$60.00	....	19179
0.37	8.80	9.17	8.20	1.17	7.03	5.50	60.00	27.6	19008
1.06	9.36	10.42	9.87	0.15	5.98	....	50.00	19.5	19528
0.88	7.71	8.59	8.23	0.75	7.55	6.00	....	....	19044
1.35	7.19	8.54	8.00	0.70	7.28	6.00	....	....	19652
0.11	8.30	8.41	8.20	....	7.30	6.66	....	....	19764
1.24	8.72	9.96	9.04	....	6.43	....	57.45	....	19476
0.20	8.31	8.51	8.20	1.63	7.25	6.66	....	....	18966
0.18	8.24	8.42	8.23	1.48	7.20	5.00	51.50	23.8	19058
0.09	8.94	9.03	8.23	1.80	7.68	6.00	....	....	19688
0.16	9.62	9.78	9.04	1.58	7.08	6.00	59.00	24.6	19238
0.14	8.26	8.40	8.23	1.33	6.81	6.00	56.00	26.8	18840
0.10	8.54	8.64	8.23	0.30	3.25	6.00	60.00	32.0	19006
....	....	8.19	8.23	0.25	3.50	....	55.00	30.4	19701
0.66	7.56	8.22	....	1.03	9.33	....	....	....	19083
0.20	8.22	8.42	8.20	....	7.23	6.66	....	....	19029
0.14	8.54	8.68	8.23	1.11	7.42	5.00	....	....	18543
0.14	8.69	8.83	8.23	0.95	7.89	5.00	....	....	18596
0.26	8.49	8.75	8.23	1.83	8.14	5.00	....	....	18728
0.24	8.40	8.64	8.23	1.65	8.06	5.00	51.50	23.9	18845
0.18	8.49	8.67	8.23	1.78	7.70	5.00	51.50	24.2	18846
0.24	8.32	8.56	8.23	1.91	7.85	5.00	51.50	24.2	18847
0.14	8.40	8.54	8.23	1.45	7.65	5.00	51.50	24.3	19224
0.16	8.57	8.73	8.23	1.57	7.58	5.00	....	....	18714
0.30	7.90	8.20	8.23	4.45	13.80	12.00	55.00	24.4	18930
0.10	8.38	8.48	....	0.20	4.19	....	....	....	17961

† Allowing 8 cents per pound for available phosphoric acid.

TABLE X. ANALYSES OF

Station No.	Manufacturer.	Dealer or Purchaser.
	<i>Sampled by Station Agent:</i>	
18911	Apothecaries Hall Co., Waterbury.	E. W. Smith, Mt. Carmel
19515	Armour Fertilizer Works, New York	J. H. McAllister, Middletown Grain Assoc., Cromwell
19659	Armour Fertilizer Works, New York	J. H. McAllister, Middletown Grain Assoc., Cromwell
18804	Conn. Fat Rendering & Fertilizing Corp., West Haven, Conn.	Sampled at factory
19244	Consolidated Rendering Co., Boston	M. E. Cooke, Wallingford
18798	Consolidated Rendering Co., Boston	L. T. Frisbie Co., New Haven
19412	Eastern States Farmers' Exchange, Springfield, Mass.	H. H. McKnight, Ellington
19505	Wilcox Fertilizer Co., Mystic	Sampled at factory
19523	Worcester Rendering Co., Auburn, Mass.	Meech & Stoddard, Middletown
	<i>Sampled by Purchaser:</i>	
18769	Consolidated Rendering Co., Boston	Chas. A. Lyman, Middlefield
18180	Middlesex Fertilizer Corp., Middletown	H. B. Cornwall, Meriden
19539	Sanderson Fertilizer Co., New Haven	H. F. Johnson, Norwich
19344	Worcester Rendering Co., Auburn, Mass.	E. C. Rogers, Putnam

SLAUGHTER HOUSE TANKAGE.

Nitrogen.				Phosphoric Acid.		Mechanical Analysis.		Cost per ton.	Station No.
As ammonia.	As organic.	Total found.	Total guaranteed.	Found.	Guaranteed.	Finer than 1-50 inch.	Coarser than 1-50 inch.		
0.16	7.53	7.69	7.41	8.33	7.00	62	38	\$50.00	18911
0.15	4.59	4.74	4.93	14.00	13.73	68	32	41.50	19515
0.05	7.24	7.29	7.40	8.65	6.87	34	66	41.50	19659
0.06	3.94	4.00	3.25	21.26	20.00	53	47	35.00	18804
0.21	5.10	5.31	4.92	16.40	14.00	46	54	40.00	19244
0.18	7.04	7.22	7.41	12.10	10.00	36	64	....	18798
0.28	5.91	6.19	5.75	9.98	6.85	28	72	....	19412
0.12	8.12	8.24	6.50	5.85	(*)	56	44	....	19505
0.19	7.93	8.12	5.74	10.88	25.00	43	57	62.00	19523
0.20	5.48	5.68	4.92	12.91	14.00	26	74	....	18769
0.14	6.04	6.18	....	11.12	....	36	64	....	18180
0.27	8.09	8.36	4.94	11.08	13.70	31	69	....	19539
0.17	7.69	7.86	5.74	11.70	25.00	32	68	35.00	19344

* Guaranteed 4% available.

SLAUGHTER HOUSE TANKAGE.

Of the 13 samples analyzed three did not meet their guaranty. Two, **19515** and **19659**, were from the Armour Fertilizer Works, New York, and one, **18798**, from the Consolidated Rendering Co., Boston.

As will be seen from Table X, tankage, as well as bone, ranges widely in composition, depending on the relative amount of bone, meat, etc., which goes into it.

Here the nitrogen in these samples ranges from 8.36 to 4.00 and the phosphoric acid from 21.26 to 5.85. The agricultural value of tankage depends on its fineness as well as on its composition.

When only a quarter or a third of the weight of the tankage is finer than one fiftieth inch it will not be nearly as quick in its action in the soil as tankage, two-thirds of which is finer than one-fiftieth inch.

BONE MANURES.

In Table XI are analyses of 33 brands. The nitrogen in the various samples ranges from 5.13 to 1.68; phosphoric acid from 30.47 to 18.80.

Seventy-eight per cent of fine material is found in one sample, in another only 37 per cent.

Sample **18605** is a factory waste not on the market.

Thirteen samples have a guaranty of 2.47 per cent nitrogen, but the percentage in them range from 3.76 to 1.68.

Ten others have a guaranty of 3.29 per cent, but the samples range from 4.73 to 3.31 per cent. An average of such figures is of very limited value. The average figures of the 23 samples drawn by the Station are:

Nitrogen	3.13 per cent
Phosphoric acid	24.64 per cent
Cost per ton	\$47.90

The following samples failed to meet their guaranty:

In respect of nitrogen:

19618	Consolidated Rendering Co.	0.78%
19619	Wilcox Fertilizer Co. ....	.17

In respect of phosphoric acid:

19603	Berkshire Fertilizer Co.	1.20
19598	Rogers & Hubbard Co.	0.50

TABLE XI. ANALYSES OF

Station No.	Manufacturer.	Dealer or Purchaser.
	<i>Sampled by Station:</i>	
19596	American Agricultural Chemical Co., New York	W. C. Mansfield, North Haven...
19601	Apothecaries Hall Co., Waterbury	Cheshire Reformatory, Cheshire.
19600	Apothecaries Hall Co., Waterbury	C. F. Curtiss, Milldale
19621	Armour Fertilizer Works, New York....	J. H. McAllister, Middletown Grain Assoc., Cromwell
19603	Berkshire Fertilizer Co., Bridgeport	Sampled at factory
19613	Consolidated Rendering Co., Boston	August Grulich Estate, Meriden..
19618	Consolidated Rendering Co., Boston	Rockville Milling Co., Rockville..
19615	Eastern States Farmers' Exchange, Springfield, Mass.	C. K. Andrews, West Woods Farmers' Assoc., Mt. Carmel...
19595	L. T. Frisbie Co., New Haven	Lightbourn & Pond, New Haven.
19007	L. T. Frisbie Co., New Haven	Sampled at factory
19606	International Agricultural Corp., Boston.	Wm. Myers, Tariffville
19622	Levering Fertilizer Co., Baltimore, Md..	F. O. Brown, Colchester
19599	Mapes Fertilizer & Peruvian Guano Co., New York City	J. F. Ravens Hardware Co., Meri- den
19597	Olds & Whipple, Inc., Hartford	Sampled at factory
19598	The Rogers & Hubbard Co., Portland....	Cadwell & Jones, Hartford
19604	The Rogers & Hubbard Co., Portland....	R. H. Hall Estate, East Hampton
19602	F. S. Royster Guano Co., Baltimore, Md..	Plumb Bros., Waterbury
19614	Sanderson Fertilizer & Chemical Co., New Haven	Fred C. Morse Guilford
19354	M. L. Shoemaker & Co., Philadelphia, Pa.	G. T. Soule, New Milford
19616	Virginia-Carolina Chem. Co., New York.	Silliman Hardware Co., New Can- aan
19689	What Cheer Chemical Co., Pawtucket, R. I.	Lyon & Ewald, New London
19619	Wilcox Fertilizer Co., Mystic	M. E. Thompson, Ellington
19617	Worcester Rendering Co., Auburn, Mass.	J. O. Fox & Co., Putnam
	<i>Sampled by Purchaser:</i>	
18748	Apothecaries Hall Co., Waterbury	Hatheway & Steane, Hartford...
18749	Apothecaries Hall Co., Waterbury	Hatheway & Steane, Hartford...
18853	Apothecaries Hall Co., Waterbury	Hatheway & Steane, Hartford...
18854	Apothecaries Hall Co., Waterbury	Hatheway & Steane, Hartford...
19220	Apothecaries Hall Co., Waterbury	Hatheway & Steane, Hartford...
19232	Apothecaries Hall Co., Waterbury	Hatheway & Steane, Hartford...
19423	Berkshire Fertilizer Co., Bridgeport	J. E. Shepard, South Windsor....
19326	Berkshire Fertilizer Co., Bridgeport	J. E. Shepard, South Windsor....
18931	The Rogers & Hubbard Co., Portland....	Edward O. Douglass, Suffield ...
18605	Winchester Repeating Arms Co., New Haven	Joseph A. Smith, New Haven ...

BONE MANURES.

Nitrogen.		Phosphoric Acid.		Mechanical Analysis.		Cost per ton.	Station No.
Found.	Guaranteed.	Found.	Guaranteed.	Finer than 1.50 inch.	Coarser than 1.50 inch.		
2.84	2.47	24.05	22.88	58	42	\$45.00	19596
2.65	2.26	25.80	22.88	78	22	47.00	19601
3.46	3.29	20.00	20.00	52	48	....	19600
2.84	2.47	25.55	22.00	70	30	38.50	19621
4.34	3.29	18.80	20.00	54	46	....	19603
2.28	2.05	27.50	26.00	63	37	56.00	19613
1.68	2.46	29.65	24.00	68	32	52.00	19618
2.56	2.46	23.75	23.00	61	39	40.70	19615
2.60	2.46	26.70	24.00	57	43	50.00	19595
4.10	3.28	22.63	22.00	37	63	....	19007
2.54	2.50	26.65	22.00	62	38	44.00	19606
2.44	2.47	27.35	22.90	56	44	45.00	19622
4.00	3.71	24.60	20.00	55	45	55.00	19599
2.81	2.47	23.60	22.00	60	40	....	19597
3.89	3.82	24.20	24.70	69	31	60.00	19598
3.31	3.29	23.30	20.50	71	29	55.00	19604
3.14	2.47	25.65	22.90	50	50	52.50	19602
3.38	2.47	23.40	22.88	71	29	40.00	19614
5.13	4.53	23.55	20.00	56	44	55.00	19354
3.76	2.47	22.25	22.00	50	50	42.50	19616
3.65	1.80	24.30	20.00	50	50	50.00	19689
1.88	2.05	28.40	25.17	65	35	40.00	19619
2.65	2.46	25.05	25.00	65	35	42.00	19617
3.77	3.29	24.50	20.00	49	51	38.25	18748
3.75	3.29	22.08	20.00	46	54	38.25	18749
3.74	3.29	24.46	20.00	54	46	38.25	18853
3.77	3.29	24.36	20.00	52	48	38.25	18854
4.73	3.29	20.15	20.00	48	52	38.25	19220
3.36	3.29	25.18	20.00	54	46	38.25	19232
2.96	2.50	26.05	25.00	54	46	....	19423
1.83	3.29	30.47	20.00	76	24	36.00	19326
4.97	4.11	20.12	23.00	74	26	36.00	18931
4.00	...	25.59	....	29	71	....	18605

MIXED BONE AND MEAT TANKAGE.

19176. Made by Apothecaries Hall Co., Waterbury. Sampled at factory.

18791. Sent by Frank Hofmann, Cromwell. Very coarse material.

ANALYSES OF MIXED BONE AND TANKAGE.

Station No.	19176	18791
Nitrogen:		
In ammonia	0.06	0.31
Total found	4.12	7.47
Total guaranteed	3.29	....
Phosphoric acid:		
Found	22.10	11.64
Guaranteed	20.00	....

GARBAGE TANKAGE.

18999. Sent by Frank Strasburger, Stratford. From the Bridgeport garbage reduction plant.

19137. Sent by S. D. Woodruff & Sons, Orange.

ANALYSES OF GARBAGE TANKAGE.

Station No.	18999	19137
Nitrogen:		
In ammonia	2.43	0.06
Total	2.43	2.92
Phosphoric acid:		
Total	3.58	4.38

A REVIEW OF THE ANALYSES OF RAW MATERIALS

used as fertilizers indicates the following facts:

The average cost of plant food in raw materials has been lower this year than last, with the exception of nitrogen in cotton seed meal.

The average figures calculated from the analyses made here are:

	Cents per pound.
Cost of nitrogen in sulphate of ammonia	15.6
Cost of nitrogen in nitrate of soda	19.7
Cost of nitrogen in cotton seed meal 36% protein ...	44.6†
Cost of nitrogen in cotton seed meal 41% protein ...	37.3†
Cost of nitrogen in cotton seed meal 43% protein ...	37.3†
Cost of nitrogen in castor pomace	29.9
Cost of nitrogen in fish*	24.8
Insoluble phosphoric acid in phosphate rock	3.2
Available phosphoric acid in precipitated bone	8.5
Available phosphoric acid in acid phosphate	6.5-6.9
Potash in form of H. G. Sulphate	5.7
Potash in form of muriate	5.1
Potash in form of crude salts	5.1

† Mostly in car lots. If allowance is made for the phosphoric acid and potash the price will be reduced by four or five cents.

* Allowing 8c. per lb. for available phosphoric acid.

These figures show that sulphate of ammonia and nitrate of soda have been the cheapest forms of available nitrogen; that cotton seed with 41 per cent protein has been a much cheaper source of nitrogen than the 36 per cent meal.

The reason is plain. A thirty-ton car lot of 36 per cent meal carries the same freight charge as a car of 41 per cent meal, but carries 500 pounds less of *nitrogen*.

The market for fertilizer chemicals has been very fluctuating during the fertilizer season, and extravagantly high and unusually low prices have been paid in individual instances, but the average prices of fertilizer chemicals have been considerably lower than in 1921.

A following table gives complete average analyses of the commonly used raw fertilizer materials which have been referred to on previous pages. Our routine analyses usually show only the three most important elements, nitrogen, phosphoric acid and potash, but we are frequently asked what makes up the rest of the material. For example, cotton seed meal contains 6.8 per cent of nitrogen, and usually that is all that the sender desires to know. But a complete analysis shows that it contains, as an average:

	Per cent.
Water and very small amounts of undetermined matter	10.5
Vegetable matter, exclusive of nitrogen	76.9
Nitrogen	6.8
Phosphoric acid	2.9
Potash	1.9
Lime	0.3
Magnesia	0.7
	100.0

TABLE XII. AVERAGE COMPOSITION OF VARIOUS FERTILIZER MATERIALS.

Materials.	Water and Undetermined	Organic Matter.	Nitrogen.	Phosphoric Acid.	Potash.	Lime.	Magnesia.	Oxide Iron.	Sulphuric Acid.	Soda.	Chlorine.	Sand.
Nitrate of Soda	50.0a	.....	15.4	.....	.....	.....	.....	.....	.....	34.1	0.5	.....
Nitrate of Potash	44.1b	.....	12.5	.....	43.4	.....	.....	.....	.....	.....	.....	.....
Sulphate of Ammonia	24.1c	.....	20.5	.....	.....	.....	.....	.....	55.4	.....	.....	.....
Calcium Cyanamide	16.9	.....	16.8	.....	.....	63.2	.....	2.1	.....	.....	.....	1.0
Cottonseed Meal	10.5	83.7*	6.8	2.9	1.9	0.3	0.7	.....	.....	.....	.....	.....
Castor Pomace	11.6	82.9*	5.4	2.2	1.5	0.9	0.8	.....	.....	.....	0.1	.....
Dry Fish Scrap	1.9	73.7*	8.7	7.6	1.1	8.7	0.4	.....	5.2	.....	0.1	1.3
Acid Phosphate	.....	.....	.....	17.2	.....	.....	.....	.....	.....	.....	.....	.....
Precipitated Bone	24.4†	.....	.....	40.15	.....	33.24	0.32	.....	.....	.....	0.7	.....
German H. G. Sulph. Pot.	2.4	.....	.....	.....	49.9	0.2	1.3	.....	43.6	0.7	1.6	0.3
French H. G. Sulph. Pot.	8.7	.....	.....	.....	49.9	.....	.....	.....	39.0	.....	2.4	.....
Double Sulph. Pot. and Mag.	8.5	.....	.....	.....	27.4	.....	.....	.....	40.7	1.3	4.2	0.6
Double Carb. Pot. and Mag.	57.5d	.....	.....	.....	18.1	1.2	19.3	2.2	.....	1.5	0.2	.....
Carbonate of Potash	39.0e	.....	.....	.....	61.0	.....	.....	.....	.....	.....	.....	.....
Kainit#	9.4	.....	.....	.....	12.8	.....	7.4	.....	20.4	18.3	30.3	0.8
Manure Salts#	23.2f	.....	.....	.....	20.3	3.2	0.5	.....	1.9	.....	48.8	2.1
Vegetable Ash	31.3	.....	.....	0.6	25.1	21.7	10.1	.....	5.3	.....	2.6	3.3
Cotton Hull Ash	32.5g	.....	.....	0.8	27.9	5.2	11.2	.....	2.4	1.3	0.2	9.5
Wood Ashes	29.1h	.....	.....	2.1	6.6	36.6	5.7	2.4	1.2	1.0	0.5	14.8
N. Y. Horse Manure	66.0	31.9*	0.7	0.4	0.6	0.5	0.2	0.2	0.1	.....	0.1	.....
Cow Manure	71.8	18.2*	0.4	0.3	0.5	0.2	0.1	0.8	0.1	.....	0.1	7.9
Sheep Manure	10.2	71.3*	2.1	1.8	2.4	.....	.....	.....	.....	.....	.....	.....
Tobacco Stems	20.8	63.9*	2.1	0.6	7.5	3.8	0.5	0.1	0.5	0.2	0.5	1.6

NOT USED FOR TOBACCO. (a) Of this 44 per cent is oxygen, (b) of this 37.4 per cent is oxygen, (c) of this 11.7 per cent is chiefly oxygen, (d) of this 32.6 per cent is carbonic acid, (e) mostly carbonic acid, (f) mostly soda, (g) mostly water and carbonic acid, (h) of this 23.2 per cent is carbonic acid. * The nitrogen given in next column is included here, it being principally in organic form. † Free and combined. ‡ A partial analysis.

V. MIXED FERTILIZERS.

MIXED FERTILIZER CONTAINING PHOSPHORIC ACID
AND POTASH.

19526. Olds & Whipple's Potash Compound. Sampled by Station agent at the factory.

ANALYSIS.

Available phosphoric acid	5.40
Insoluble phosphoric acid	0.18
Total phosphoric acid	5.58
Potash calculated as muriate	3.81
Potash calculated as sulphate	11.58
Total potash	15.39
Chlorine	2.87
Cost per ton	\$43.88

NITROGENOUS SUPERPHOSPHATES WITHOUT POTASH.

In Table XIII are given the analyses of 12 samples which contain no potash.

Sample **19377** shows 1.72 per cent of nitrogen as ammonia. We are advised by the manufacturer that ammonia salts are not used in this brand. While the analysis corresponds well with the guaranty, it appears likely that there has been a mistake in the brand name. It has not been possible to get another sample.

Two brands failed to meet their guaranty: Royster's Landmark, **19433**, and Sanderson's Tobacco Grower, **19437**.

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:</i>				
	American Agricultural Chemical Co., New York City.				
19504	National 5-4 Tobacco Manure	Somers	\$54.00	0.10	0.94
	Berkshire Fertilizer Co., Bridgeport.				
19335	Tobacco Starter	New Milford	52.40	1.71	1.21
	F. T. Blish Hardware Co., South Manchester.				
19522	Top Dressing for Grass.....	South Manchester	44.00	2.44	0.08
	Bowker Fertilizer Co., New York City.				
19377	Tobacco Grower	Avon	50.75	0.10	1.72
	Olds & Whipple, Inc., Hartford.				
19092	High Grade Tobacco Starter	Silver Lane	62.00	3.25	0.23
19493	Top Dressing for Grass	Factory	44.00	2.31	0.13
	F. S. Royster Guano Co., Baltimore, Md.				
19433	Landmark	Waterbury	52.00	0.16	1.06
19122	Prime Fish Brand	Ansonia	37.00	0.08	1.00
	Sanderson Fertilizer & Chemical Co., New Haven.				
19499	High Grade Ammoniated Phosphate	Factory .....	....	0.98	0.30
19508	Phosphate without Potash	Seymour	45.00	0.69	0.03
19437	Tobacco Grower	New Milford ....	....	0.16	0.08
	M. L. Shoemaker & Co., Philadelphia, Pa.				
18960	Swift-Sure Superphosphate Tobacco Starter	Hartford	45.00	0.90	0.08

WITHOUT POTASH.

Nitrogen.				Phosphoric Acid.					Station No.
Organic water-soluble.	Organic water-insoluble.	Total.		Citrate-insoluble.	Total.		So-called "Available."		
		Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.	
0.36	2.82	4.22	4.11	0.23	5.08	5.00	4.85	4.00	19504
0.05	1.95	4.92	5.00	0.13	5.18	5.00	5.05	4.00	19335
0.71	2.59	5.82	5.76	0.90	6.45	4.00	5.55	4.00	19522
0.38	3.00	5.20	4.11	0.28	4.98	5.00	4.70	4.00	19377
0.27	4.61	8.36	8.23	0.58	4.75	3.00	4.17	3.00	19092
0.19	3.19	5.82	5.76	0.60	6.25	4.00	5.65	4.00	19493
0.16	1.09	3.37	3.29	0.80	10.50	10.50	9.70	10.00	19433
0.08	0.53	1.69	1.65	1.15	10.75	8.50	9.60	8.00	19122
0.76	1.18	3.22	3.29	1.20	11.70	11.00	10.50	10.00	19499
0.03	0.95	1.70	1.65	0.70	11.48	11.00	10.78	10.00	19508
0.42	2.83	3.49	4.11	0.28	4.60	5.00	4.32	4.00	19437
0.5	1.84	3.32	3.30	3.28	13.63	12.00	10.35	10.00	18960

NITROGENOUS SUPERPHOSPHATES CONTAINING
POTASH.

In Table XIV are analyses of 279 samples drawn by the Station agent and 4 samples drawn by other individuals.

GUARANTIES.

Of the samples examined 97, or about 34 per cent, did not meet their guaranties in all respects. Forty-four were deficient in potash, 40 in nitrogen. Seventy nine were lacking in one ingredient, 16 in two, and two samples in all three ingredients.

In all but twenty cases, however, the deficiency in one ingredient was fully made up in money value by an overrun in the other two.

The following did not make up the deficiency, if nitrogen is reckoned at 40 cents, available phosphoric acid at 8 cents and potash at 5½ cents per pound.

Number.	Name.	Deficiency.
19291	A. A. C. Co.'s Wheeler's Potato Manure	\$1.20
19010	Armour's Big Crop, 3-8-4	1.42
19375	Bowker's Stockbridge Top Dressing and Forcing Manure	3.21
19381	Chittenden's Complete Tobacco and Onion Grower, 4% Potash	1.59
19194	Coe-Mortimer's Red Brand Excelsior Guano	1.12
19488	International Agric. Corp'n Buffalo Crop Grower..	6.52
19529	Levering Fertz'r Co.'s General Fertilizer.....	3.42
19151	Levering Fertz'r Co.'s Market Garden	1.37
19483	Lowell Fertz'r Co.'s 5-8-7 for Potatoes and Vege- tables	2.14
19358	Mitchell's 5-8-7	6.52
19196	New England Fertz'r Co. 5-8-7 for Potatoes and Market Gardens	1.37
19625	Parmenter & Polsey's 5-8-7 for Potatoes and Mar- ket Gardens	1.61
19248	Rogers & Hubbard Co. Hubbard's Bone Base Fer- tilizer for Seeding Down	3.87
19623	Rogers & Hubbard Co. Hubbard's Bone Base Fer- tilizer for Seeding Down	2.63
19356	Royster Guano Co. Arrow Head Tobacco Formula.	1.36
19642	Royster Guano Co. Quality Trucker	1.65
19507	Sanderson Fertilizer & Chemical Co. Top Dressing for Grass and Grain	1.92
19664	What Cheer Chemical Co. Superior Brand	1.41
19663	Worcester Rendering Co. Prosperity Brand Com- plete Dressing	2.34

COMPOSITION.

Of the 283 samples analyzed:

17	have a guaranty of	0.82	per cent nitrogen
54	have a guaranty of	1.65	per cent nitrogen
54	have a guaranty of	2.47	per cent nitrogen
73	have a guaranty of	3.29	per cent nitrogen
65	have a guaranty of	4.11	per cent nitrogen
11	have a guaranty of	4.94	per cent nitrogen
9	not included above		

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There has been an increase in the percentage of high nitrogen brands this year, as the following statement shows:

	1921.	1922.
Guaranty of .82 nitrogen	10.0	6.0
Guaranty of 1.65 nitrogen	20.4	19.1
Guaranty of 2.47 nitrogen	23.2	19.1
Guaranty of 3.29 nitrogen	20.4	25.9
Guaranty of 4.11 nitrogen	21.4	23.0
Guaranty of 4.94 nitrogen ..	4.6	6.9
	<hr/>	<hr/>
	100.0	100.0

As will be noted in the following paragraphs, nitrogen, the most expensive element in fertilizers, costs very much more in the lower than in the higher nitrogen brands.

COST OF NITROGEN.

As nitrogen costs four or five times as much per pound as either phosphoric acid or potash, its cost in the different grades of mixed goods is of special importance.

In the following statement are given the guaranteed composition of the brands sold in the state, their number, average cost per ton as quoted by the dealers and the average cost of nitrogen per pound in the different brands. Available phosphoric acid is valued at 8 cents per pound and potash at $5\frac{1}{2}$ cents. The sum of these values is subtracted from the cost price. This remainder, divided by the number of pounds of nitrogen, gives the cost per pound of nitrogen.

For example, the formula .82-8-2 carries in one ton 16.4 pounds of nitrogen, 160 of available phosphoric acid and 40 of potash. The calculation is:

160 lbs. phosphoric acid at 8c.	\$12.80
40 lb. potash at $5\frac{1}{2}$ c.	2.20
	<hr/>
Valuation of both	\$15.00

The average cost of this fertilizer per ton is \$36.19.
 $36.19 - 15.00 = \$21.19$, which is what the 16.4 lbs of nitrogen cost.
 $\frac{21.19}{16.4} = \$1.29$, which is the cost of a pound of nitrogen in this class of goods.

Formulas.	No. of brands.	Average cost per ton.	Nitrogen cost per lb.	Average
.82-8-2	9	\$36.19	\$1.29	
1.65-8-2	22	40.10	.76	.81
1.65-8-3	16	44.88	.87	
2.47-8-3	7	44.87	.58	.52
2.47-8-4	19	44.86	.49	
3.29-8-4	29	44.65	.35	
3.29-8-6	11	44.45	.53	.41
3.29-8-7	9	48.87	.43	
4.11-8-7	12	51.35	.37	.46
4.11-8-6	3	50.50	.38	
4.11-4-3	6	54.66	.55	
4.11-4-5	15	54.29	.52	

To the last column of this statement special attention is invited. In the lowest grade—and lowest priced—goods the nitrogen costs two to three times as much per pound as in higher grade—and higher priced—brands.

Manufacturers are endeavoring to drop the sale of the lowest grades, and buyers waste their money when they buy them.

ANALYSES REQUIRING SPECIAL NOTICE.

Bradley's Complete Potato and Vegetable, **19073**, was below guaranty in nitrogen. A second sample, **19646**, met the nitrogen guaranty but was below in potash.

Packer's Union Potato Manure was below guarantee in potash. A second sample, **19688**, met its guaranty.

National XXX Fish and Potash, **18918**, was below its available phosphoric acid guaranty, but a second sample, **19184**, fully met the guaranty.

Apothecaries Hall Co.'s Liberty Top Dressing, **18910**, was slightly below guaranty of nitrogen. A second sample, **19054**, fully met the guaranty.

Armour's Big Crop, 4-8-7, **18903**, was below guaranty in potash. A second sample, **19183**, fully met this guaranty.

19358, Mitchell's 5-8-7. Below guaranty in all particulars.

Mr. Mitchell states that only a little more than one carload was sold in the state. The parties who made this brand for him have given him a rebate as agreed in their contract, which has been paid to buyers.

Royster's Quality Trucker, **19124**, was below guaranty in potash. A second sample, **19642**, showed similar deficiency.

AVAILABILITY OF THE ORGANIC NITROGEN.

Nine samples showed that less than 50 per cent of their insoluble organic nitrogen was soluble by the alkaline permanganate test and less than 80 per cent by the neutral permanganate test.

These two tests confirm the presence of inferior forms of nitrogen. In one case the percentage of insolubility is so near the limits named that the difference may be disregarded.

In six cases the excess of total nitrogen over guaranty is enough to compensate for the inactive nitrogen.

Mapes Corn Manure, 19157, and Virginia-Carolina Champion Brand, 18920, were somewhat below guaranty in nitrogen, and in these two brands there was no such compensation as in the other six cases.

POTASH DETERMINATIONS.

In a considerable number of cases the manufacturer repeated this Station's determination of potash, on the samples which the Station had analyzed and had forwarded to them. They were the following:

From the American Agricultural Chemical Co.:

No.		Per cent of potash found by	
		Station.	Manufacturers.
19071	Packer's Union	2.84	2.98
19180	Quinnipiac	6.84	6.98
19308	Bradley	1.85	2.02
19291	Wheeler	2.71	2.60
19245	National	3.75	3.84
19307	Williams & Clark	3.58	3.76
19295	Williams & Clark	6.64	6.76
19093	Williams & Clark	2.85	2.97
19165	Bowker	9.64	9.78
19111	Stockbridge	3.76	3.77
19375	Stockbridge	3.67	3.54
19158	Coe-Mortimer	3.76	4.00
19194	Coe-Mortimer	6.78	7.00
19127	Sanderson	3.73	3.92
	Average	4.46	4.57

From the Consolidated Rendering Co.:

19187	Lowell	3.88	3.08
19195	New England	5.87	5.89
19198	Essex	3.86	4.81
	Average	4.54	4.63

While most of the differences are inconsiderable, it is sufficient to bring the percentage of potash in some of them in agreement with the guarantee if the higher figure is taken, while the lower figure does not meet the guarantee.

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
American Agricultural Chemical Co., New York.			
19068	Double A Tobacco Fertilizer 4.1-4-5	Manchester .....	.....
18907	Fish and Potash 2.5-10-3	North Haven	\$45.00
19113	Grass and Lawn Top Dressing..... 4.9-6-4	Manchester .....	.....
18908	Monarch Potato Manure 3.3-8-4	North Haven	48.00
18906	7% Potash Fertilizer 3.3-8-7	New Haven .....	.....
19290	7% Potash Fertilizer 3.3-8-7	Riverton	50.50
19072	Universal Phosphate 0.8-8-2	New London	42.00
19418	Bradley's Complete Manure for Top Dressing Grass and Grain..... 4.9-6-4	Stafford Springs...	57.00
19073*	Bradley's Complete Manure for Topatoes and Vegetables 3.3-8-7	Groton	54.00
19646*	Bradley's Complete Manure for Potatoes and Vegetables 3.3-8-7	Granby	50.00
19304	Bradley's Complete Tobacco Manure 4.1-4-5	Glastonbury .....	.....
18925	Bradley's Corn Phosphate 1.7-8-2	Bristol	43.00
19013	Bradley's New Method Fertilizer.. 0.8-8-2	Norwalk	42.00
19070	Bradley's Potato Fertilizer 1.7-8-3	East River	43.00
18958	Bradley's Potato Manure 2.5-8-4	Bristol	46.00
19309	Bradley's Valley Tobacco Fertilizer 4.1-4-3	Simsbury	62.00
18927	Bradley's XL Superphosphate of Lime 2.5-9-2	Bristol	44.00
19308†	Bradley's XL Superphosphate of Lime 2.5-9-2	Unionville	50.00
19630	Great Eastern General 0.8-8-2	Thomaston	44.75
19667	Great Eastern Northern Corn Special 1.7-8-2	Woodbury	43.00
19651	Lister's Celebrated Tobacco Fertilizer 4.1-4-3	West Suffield	50.00
19303	Lister's Complete Tobacco Manure 4.1-4-5	Warehouse Point ..	52.00
19080	Lister's Corn and Potato Fertilizer 1.7-8-3	Yalesville	45.00
19286	Lister's Eastern Pride Fertilizer... 2.5-8-4	Yalesville	55.00
19110	Lister's Standard Pure Superphosphate of Lime 2.5-9-2	Yalesville	44.00
19088	Lister's Success Fertilizer 1.7-8-2	Yalesville	40.00
19382	Packer's Union Animal Corn Fertilizer 2.5-9-2	North Haven	42.50
19071*	Packer's Union Potato Manure 1.7-8-3	Waterford	43.00
19668*	Packer's Union Potato Manure 1.7-8-3	Portland .....	.....
19471	Packers' Union Universal Fertilizer 0.8-8-2	Riverton	34.00
18909	Quinnipiac Climax Phosphate 0.8-8-2	North Haven	35.00
19000	Quinnipiac Corn Manure 1.7-8-2	Manchester .....	.....
19180	Quinnipiac Market Garden Manure 3.3-8-7	Manchester .....	.....
19085	Quinnipiac Potato Manure 2.5-8-4	North Haven	45.00
19106	Quinnipiac Potato Phosphate 1.7-8-3	North Haven	42.00

* See note, page 110.

† See note, page 111.

NITROGENOUS SUPERPHOSPHATES WITH POTASH.

Nitrogen.						Phosphoric Acid.				Potash.			Station No.	
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.		
				Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.		Found.		Guaranteed.
0.97	none	0.07	3.16	4.20	4.11	0.28	4.77	5.00	4.49	4.00	0.25	5.01	5.00	19068
trace	0.79	0.49	0.99	2.27	2.47	1.20	12.03	11.00	10.83	10.00	3.01	3.01	3.00	18907
1.94	1.26	0.82	0.92	4.94	4.94	1.06	7.13	7.00	6.07	6.00	4.17	4.17	4.00	19113
0.80	1.50	0.09	0.88	3.27	3.29	0.85	9.08	9.00	8.23	8.00	3.88	3.88	4.00	18908
0.58	1.62	0.22	0.81	3.23	3.29	0.58	8.61	9.00	8.03	8.00	7.04	7.04	7.00	18906
0.65	1.46	0.41	0.72	3.24	3.29	0.78	8.71	9.00	7.93	8.00	7.06	7.06	7.00	19290
0.31	0.06	0.41	0.19	0.97	0.82	1.20	9.40	9.00	8.20	8.00	1.98	1.98	2.00	19072
2.90	1.24	0.27	0.53	4.94	4.94	0.80	7.68	7.00	6.88	6.00	3.87	3.87	4.00	19418
0.94	0.92	0.42	0.88	3.16	3.29	0.83	9.03	9.00	8.20	8.00	6.96	6.96	7.00	19073
0.43	1.91	0.26	0.67	3.27	3.29	0.49	8.62	9.00	8.13	8.00	6.69	6.69	7.00	19646
0.94	0.08	0.35	3.11	4.48	4.11	0.30	4.85	5.00	4.55	4.00	0.32	5.19	5.00	19304
0.08	0.83	0.20	0.61	1.72	1.65	0.70	8.95	9.00	8.25	8.00	2.01	2.01	2.00	18925
0.02	0.26	0.28	0.49	1.05	0.82	0.68	9.23	9.00	8.55	8.00	2.32	2.32	2.00	19013
0.40	0.44	0.10	0.97	1.91	1.65	1.23	9.73	9.00	8.50	8.00	3.00	3.00	3.00	19070
0.45	1.27	0.03	0.94	2.69	2.47	0.88	9.28	9.00	8.40	8.00	3.94	3.94	4.00	18958
1.06	0.04	0.42	2.94	4.46	4.11	0.40	5.00	5.00	4.60	4.00	0.32	3.41	3.00	19309
0.40	1.23	0.21	0.88	2.72	2.47	1.98	10.73	10.00	8.75	9.00	2.42	2.42	2.00	18927
0.37	0.81	0.37	1.01	2.56	2.47	0.85	10.10	10.00	9.25	9.00	1.85	1.85	2.00	19308
0.06	0.21	0.22	0.50	0.99	0.82	0.68	9.00	9.00	8.32	8.00	2.12	2.12	2.00	19630
0.11	0.43	0.28	0.83	1.65	1.65	0.65	9.00	9.00	8.35	8.00	2.18	2.18	2.00	19667
0.04	0.73	0.40	2.73	3.90	4.11	0.15	4.75	5.00	4.60	4.00	0.11	3.34	3.00	19651
0.05	1.00	0.27	2.97	4.29	4.11	0.33	4.93	5.00	4.60	4.00	0.36	5.17	5.00	19303
0.44	0.45	0.12	0.93	1.94	1.65	1.25	9.60	9.00	8.35	8.00	3.46	3.46	3.00	19089
0.47	0.76	0.29	0.95	2.47	2.47	0.68	9.05	9.00	8.37	8.00	3.90	3.90	4.00	19286
0.36	0.64	0.36	0.94	2.30	2.47	0.84	10.82	10.00	9.98	9.00	2.32	2.32	2.00	19110
0.10	0.46	0.41	0.84	1.81	1.65	0.65	9.19	9.00	8.54	8.00	2.27	2.27	2.00	19088
0.32	0.50	0.28	1.20	2.30	2.47	0.75	10.90	10.00	10.15	9.00	2.06	2.06	2.00	19382
0.53	0.74	0.17	0.38	1.82	1.65	0.55	8.88	9.00	8.33	8.00	2.84	2.84	3.00	19071
0.39	0.48	0.02	0.88	1.77	1.65	1.20	9.43	9.00	8.23	8.00	3.08	3.08	3.00	19668
0.01	0.15	0.21	0.49	0.86	0.82	0.78	8.89	9.00	8.11	8.00	1.82	1.82	2.00	19471
0.04	0.11	0.29	0.47	0.91	0.82	0.63	9.20	9.00	8.57	8.00	2.06	2.06	2.00	18909
0.08	0.43	0.34	0.85	1.70	1.65	0.70	9.10	9.00	8.40	8.00	2.06	2.06	2.00	19090
0.58	1.78	0.21	0.80	3.37	3.29	0.65	9.02	9.00	8.37	8.00	6.84	6.84	7.00	19180
0.68	1.64	0.02	0.86	3.20	2.47	0.75	9.03	9.00	8.28	8.00	4.47	4.47	4.00	19085
0.52	1.26	none	0.87	2.65	1.65	0.85	9.18	9.00	8.33	8.00	3.90	3.90	3.00	19106

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.	
<i>Sampled by Station:</i>				
American Agricultural Chemical Co., New York (Continued).				
19376	Wheeler's Corn Fertilizer	1.7-8-2	Riverton	\$40.00
19291*	Wheeler's Potato Manure	1.7-8-3	Riverton	40.00
19296	Williams & Clark's Americus Ammoniated Bone Superphosphate..	2.5-9-2	Clark's Corner	44.00
19691	Williams & Clark's Americus Ammoniated Bone Superphosphate..	2.5-9-2	South Manchester.	46.00
19094	Williams & Clark's Corn Phosphate	1.7-8-2	New London	46.00
19295*	Williams & Clark's Americus High Grade Special for Potatoes and Vegetables	3.3-8-7	Clark's Corner	50.00
19093*	Williams & Clark's Americus Potato Manure	1.7-8-3	New London	46.00
19307*	Williams & Clark's Potato Phosphate	2.5-8-4	New Britain	48.00
19302	Williams & Clark's Prolific Fertilizer	0.8-8-2	Milford	36.50
19690	Williams & Clark's Seed Leaf Tobacco Manure	4.1-4-3	Burnside	56.00
19056	National Complete Tobacco Fertilizer	4.1-4-5	Silver Lane	62.00
18919	National Eureka Potato Fertilizer.	3.3-8-4	West Cheshire	48.00
19245	National Market Garden Fertilizer.	2.5-8-4	Silver Lane	50.00
19055	National Potato Phosphate.....	1.7-8-3	Silver Lane	45.00
19660	National Special Tobacco Fertilizer	4.1-4-3	East Windsor Hill .....	.....
19199	National Universal Phosphate	0.8-8-2	Wallingford	32.00
18918†	National XXX Fish and Potash...	2.5-10-3	West Cheshire	42.00
19184†	National XXX Fish and Potash...	2.5-10-3	Wallingford	42.00
Apothecaries Hall Co., Waterbury.				
19178	Liberty Corn, Fruit and All Crops..	1.6-8-2	Bristol	40.00
18826	Liberty Fish, Bone and Potash...	2.5-8-3	Meriden	32.75
18916	Liberty Fish, Bone and Potash...	2.5-8-3	Cheshire	45.00
18917	Liberty Market Gardeners' Special	3.3-8-4	West Cheshire	47.00
19338	Liberty Tobacco Special	4.1-4-5	Factory	55.60
18910†	Liberty Top Dresser for Grass, and Grain	5.7-8-3	Mt. Carmel	50.00
19054†	Liberty Top Dresser for Grass and Grain	5.7-8-3	Bristol	60.00

* See note, pages 108 and 111.

† See note, page 110.

NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

Nitrogen.						Phosphoric Acid.						Potash.			Station No.
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.			
				Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.		Found.	Guaranteed.		
														Found.		Guaranteed.
0.20	0.83	0.14	0.55	1.72	1.65	0.98	9.53	9.00	8.55	8.00	2.00	2.00	2.00	19376	
0.02	0.76	0.21	0.52	1.51	1.65	0.85	9.00	9.00	8.15	8.00	2.71	2.71	3.00	19291	
0.44	0.58	0.65	0.81	2.48	2.47	0.95	9.12	10.00	8.17	9.00	3.98	3.98	2.00	19296	
0.26	0.74	0.71	1.24	2.95	2.47	1.35	10.78	10.00	9.43	9.00	2.38	2.38	2.00	19601	
0.60	0.64	0.10	0.47	1.81	1.65	0.65	8.85	9.00	8.20	8.00	1.98	1.98	2.00	19094	
0.81	1.45	0.38	0.80	3.44	3.29	1.00	9.45	9.00	8.45	8.00	6.64	6.64	7.00	19295	
0.44	0.40	0.54	0.38	1.76	1.65	1.20	9.23	9.00	8.03	8.00	2.85	2.85	3.00	19093	
0.48	0.68	0.31	0.89	2.36	2.47	0.65	9.25	9.00	8.60	8.00	3.58	3.58	4.00	19307	
0.34	0.09	0.11	0.37	0.91	0.82	1.08	9.43	9.00	8.35	8.00	2.04	2.04	2.00	19302	
1.00	0.04	0.06	3.34	4.44	4.11	0.25	4.66	5.00	4.41	4.00	0.19	3.11	3.00	19690	
1.11	0.03	0.13	2.83	4.10	4.11	0.43	5.25	5.00	4.82	4.00	0.23	5.30	5.00	19056	
0.58	1.70	0.46	0.70	3.44	3.29	1.00	9.10	9.00	8.10	8.00	4.14	4.14	4.00	18919	
0.45	0.76	0.30	0.90	2.41	2.47	0.70	8.95	9.00	8.25	8.00	3.75	3.75	4.00	19245	
0.42	0.48	0.11	0.79	1.80	1.65	1.28	9.35	9.00	8.07	8.00	3.24	3.24	3.00	19055	
0.10	0.86	0.09	3.27	4.32	4.11	0.23	4.40	5.00	4.17	4.00	0.33	3.69	3.00	19660	
0.03	0.12	0.26	0.58	0.99	0.82	1.60	10.25	9.00	8.65	8.00	2.01	2.01	2.00	19199	
0.56	0.71	0.37	0.88	2.52	2.47	1.05	10.84	11.00	9.79	10.00	3.32	3.32	3.00	18918	
0.07	0.80	0.45	1.08	2.40	2.47	1.15	11.33	11.00	10.18	10.00	3.00	3.00	3.00	19184	
0.01	1.20	0.09	1.18	2.48	1.64	0.90	9.23	9.00	8.33	8.00	2.01	2.01	2.00	19178	
none	1.82	1.20		3.02	2.47	0.79	9.52	9.00	8.73	8.00	3.17	3.17	3.00	18826	
none	1.74	0.04	1.12	2.90	2.47	0.68	8.88	9.00	8.20	8.00	2.91	2.91	3.00	18916	
0.97	1.68	0.08	0.97	3.70	3.29	0.55	8.94	9.00	8.39	8.00	4.25	4.25	4.00	18917	
0.20	1.08	0.34	3.24	4.86	4.11	0.45	6.35	5.00	5.90	4.00	0.88	6.16	5.00	19338	
none	4.91	0.03	0.70	5.64	5.76	0.50	9.25	9.00	8.75	8.00	3.13	3.13	3.00	18910	
none	5.23	none	0.67	5.90	5.76	0.65	9.32	9.00	8.68	8.00	3.18	3.18	3.00	19054	

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.	
<i>Sampled by Station:</i>				
Armour Fertilizer Works, New York.				
19039	Corn Grower, 2-8-2	1.7-8-2	Madison	\$36.00
19010†	Big Crop, 3-8-4	2.5-8-4	Madison	41.00
19182	Big Crop Fertilizer, 4-6-10	3.3-6-10	New London	48.00
19009	Big Crop Potato and Onion, 4-8-4 ..	3.3-8-4	Guilford	48.00
18903*	Big Crop Fertilizer, 4-8-7	3.3-8-7	New Haven	52.00
19183*	Big Crop Fertilizer, 4-8-7	3.3-8-7	Putnam	46.50
19040	Big Crop, 5-8-5	4.1-8-5	Madison	48.00
19293	Big Crop Tobacco Special	4.1-4-5	Thompsonville ..	55.00
19108	General Crop, 1-7-1	0.8-7-1	New Canaan	25.00
Atlantic Packing Co., New Haven.				
19379	3-8-3	2.5-8-3	Waterbury	49.00
19299	5-8-7	4.1-8-7	New Britain	52.43
19115	Grain Fertilizer, 2-8-2	1.7-8-2	New Britain	36.35
19114	Potato Phosphate, 3-8-4	2.5-8-4	New Britain	41.35
19288	Special Vegetable, 4-8-4	3.3-8-4	New Britain	46.80
19456	Tobacco Manure, 5-8-6	4.1-8-6	Glastonbury	45.00
Berkshire Fertilizer Co., Bridgeport.				
19300	Ammoniated Bone Phosphate	0.8-10-2	Waterbury	52.00
19329	Complete Fertilizer	2.5-8-3	Waterbury	63.00
19384	Complete Tobacco	4.1-4-4	Hazardville	53.50
19107	Grass Special	5.8-4-4	Factory	49.00
19201	Market Garden Fertilizer	3.3-8-4	Milldale	44.00
19474	Potato and Vegetable Phosphate ..	1.7-8-2	New Milford	38.00
19457	Tobacco Special	5.8-5-5	Rockville	60.00
F. T. Blish Hardware Co., South Manchester.				
19350	Complete Tobacco Fertilizer	4.1-4-5	Factory	55.50
19524	Corn and Potato Phosphate	1.7-8-2	Factory	36.25
19347	Market Garden Fertilizer	3.3-8-4	Factory	42.25

* See note, page 110.

† See note, page 108.

NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

Nitrogen.				Phosphoric Acid.						Potash.			Station No.	
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.		
				Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.		Found.		Guaranteed.
0.16	0.93	0.05	0.49	1.63	1.65	0.35	8.63	8.50	8.28	8.00	1.78	1.78	2.00	19039
0.04	1.69	0.06	0.53	2.32	2.47	0.28	7.98	8.50	7.70	8.00	4.24	4.24	4.00	19010
1.13	1.04	0.34	0.81	3.32	3.29	0.28	6.80	6.50	6.52	6.00	9.86	9.86	10.00	19182
0.04	2.42	0.14	0.68	3.28	3.29	0.18	8.18	8.50	8.00	8.00	3.90	3.90	4.00	19009
0.09	2.45	0.02	0.67	3.23	3.29	0.10	8.66	8.50	8.56	8.00	6.70	6.70	7.00	18903
0.05	2.10	0.42	0.67	3.24	3.29	0.33	8.60	8.50	8.27	8.00	6.98	6.98	7.00	19183
0.06	2.92	0.13	0.81	3.92	4.11	0.12	8.03	8.50	7.91	8.00	5.04	5.04	5.00	19040
0.59	0.05	0.01	3.35	4.00	4.11	0.68	4.85	4.50	4.17	4.00	5.54	5.01	5.00	19293
0.09	0.27	none	0.56	0.92	0.82	0.42	7.37	7.50	6.95	7.00	1.16	1.16	1.00	19108
0.65	0.81	0.52	0.63	2.61	2.46	0.55	9.18	9.00	8.63	8.00	3.08	3.08	3.00	19379
0.82	1.06	1.08	1.04	4.00	4.10	1.03	10.28	9.00	9.25	8.00	7.05	7.05	7.00	19299
0.51	0.09	0.62	0.54	1.76	1.64	0.78	8.90	9.00	8.12	8.00	2.22	2.22	2.00	19115
0.66	0.66	0.57	0.65	2.54	2.46	1.15	9.55	9.00	8.40	8.00	3.99	3.99	4.00	19114
1.34	0.43	0.81	0.78	3.36	3.28	1.20	9.55	9.00	8.35	8.00	4.15	4.15	4.00	19288
1.42	0.04	0.67	1.93	4.06	4.10	0.45	9.55	9.00	9.10	8.00	0.96	6.26	6.00	19456
0.52	0.04	0.20	0.24	1.00	0.80	0.30	11.68	11.00	11.38	10.00	1.99	1.99	2.00	19300
0.08	1.40	0.36	0.61	2.45	2.50	0.23	9.03	9.00	8.80	8.00	3.48	3.48	3.00	19329
1.51	0.18	0.44	2.31	4.44	4.11	0.13	5.15	4.00	5.02	4.00	1.13	5.44	4.00	19384
5.19	0.03	0.36	0.94	6.52	5.75	1.95	5.90	5.00	3.95	4.00	4.02	4.02	4.00	19107
0.28	2.08	0.45	0.61	3.42	3.30	0.65	9.13	9.00	8.48	8.00	4.42	4.42	4.00	19201
0.05	0.96	0.04	1.15	2.20	1.70	0.40	8.88	9.00	8.48	8.00	2.71	2.71	2.00	19474
1.79	0.32	0.56	3.21	5.88	5.75	0.30	6.38	5.00	6.08	5.00	1.24	6.09	5.00	19457
0.87	0.06	0.57	2.98	4.48	4.11	0.55	5.70	4.00	5.15	4.00	0.56	5.10	5.00	19350
0.72	0.02	0.10	0.94	1.78	1.65	2.30	11.03	8.00	8.73	8.00	2.27	2.27	2.00	19524
1.65	0.03	0.07	1.67	3.42	3.30	1.60	10.05	8.00	8.45	8.00	4.53	4.53	4.00	19347

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
F. E. Boardman, Middletown.			
19336	Fertilizer for Potatoes and General Crops 3.3-7.4	Factory	\$40.00
19475	Tobacco Fertilizer 3.3-7.4	Portland	41.00
Bowker Fertilizer Co., New York.			
19116	All-Round Fertilizer 2.5-8.4	Yalesville	53.75
19643	Connecticut Valley Tobacco Fertilizer 4.1-4.3	Talcottville	53.00
19451	Corn, Grain and Grass Phosphate.. 1.7-8.2	Willimantic	38.50
19202	Early Potato Manure 3.3-8.7	Milddale .....	.....
18923	Fisherman's Brand Fish and Potash 2.5-10.3	Plainville	47.00
19469	Hill and Drill Phosphate 2.5-9.2	Willimantic	43.00
19383	Lawn and Garden Dressing Revised 2.5-9.2	Hartford	‡
19330	Potato and Vegetable Phosphate... 1.7-8.3	Thomaston	46.50
19162	Square Brand Farm and Garden Phosphate 1.7-8.2	Yalesville	47.20
19197	Sure Crop Phosphate 0.8-8.2	Willimantic	35.00
19164	Maryland Corn Phosphate 1.7-8.2	New London	30.00
19165	Maryland High Potash Fertilizer.. 3.3-6-10	New London	50.00
19117	Maryland Truck Garden Fertilizer. 3.3-8.4	New London	40.00
19111	Stockbridge Early Crop Manure... 4.1-8.7	North Haven	53.25
18922	Stockbridge Market Garden Manure 3.3-8.4	Plainville	54.00
19161	Stockbridge Potato and Vegetable Manure 3.3-6-10	Bristol	49.00
19332	Stockbridge Tobacco Manure.... 4.1-4.5	Avon	56.00
19375*	Stockbridge Top Dressing and Forcing Manure 4.9-6.4	Thomaston	60.00
Amos D. Bridge's Sons, Inc., Hazardville.			
19333	Corn, Onion and General Purpose Fertilizer 3.3-8.4	Factory	48.50
19525	Tobacco Fertilizer Special 4.1-4.5	Factory	60.00
E. D. Chittenden Co., Bridgeport.			
19468	Complete Grain Fertilizer with 3% Potash 1.6-8-3	Abington	41.00
19381†	Complete Tobacco and Onion Grower, 4% Potash 3.3-8-4	Simsbury	47.50
19645	Complete Tobacco and Onion Grower, 6% Potash 3.3-8-6	Glastonbury	49.50
19470	Potato Special with 4% Potash ... 3.3-8-4	Torrington	53.00
19465	Potato Special with 6% Potash ... 3.3-8-6	Glastonbury	49.50
19472	Tobacco Special with 5% Potash... 4.1-4-5	Poquonock	51.00

* See note, pages 108 and 111.

† See note, page 108.

‡ Ninety-eight cents for 10-pound package.

NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

Nitrogen.						Phosphoric Acid.						Potash.		Station No.
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.		
				Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.		Found.	Guaranteed.	
1.12	1.08	0.28	0.84	3.32	3.29	0.20	7.80	....	7.60	7.00	3.95	3.95	4.00	19336
1.14	0.91	0.41	1.36	3.82	3.29	0.38	7.33	....	6.95	7.00	0.48	6.00	4.00	19475
0.30	0.90	0.19	1.15	2.54	2.47	1.20	9.16	9.00	7.96	8.00	1.93	3.72	4.00	19116
0.83	0.04	0.26	3.05	4.18	4.11	0.18	4.58	5.00	4.40	4.00	0.33	3.56	3.00	19643
0.58	0.16	0.48	0.40	1.62	1.65	1.05	9.15	9.00	8.10	8.00	1.99	1.99	2.00	19451
0.44	1.92	0.36	0.68	3.40	3.29	0.72	8.50	9.00	7.78	8.00	7.00	7.00	7.00	19202
0.13	0.80	0.30	1.09	2.32	2.47	1.08	11.93	11.00	10.85	10.00	2.90	2.90	3.00	18923
0.50	1.32	0.10	0.60	2.52	2.47	1.00	9.98	10.00	8.98	9.00	2.13	2.13	2.00	19469
0.86	0.17	0.19	1.56	2.78	2.47	3.03	12.40	10.00	9.37	9.00	2.28	2.28	2.00	19383
0.10	0.77	0.24	0.60	1.71	1.65	0.65	9.10	9.00	8.45	8.00	2.94	2.94	3.00	19330
0.15	0.78	0.13	0.66	1.72	1.65	1.38	9.45	9.00	8.07	8.00	1.97	1.97	2.00	19162
0.27	0.06	0.42	0.19	0.94	0.82	1.38	9.58	9.00	8.20	8.00	2.10	2.10	2.00	19197
0.60	0.40	0.34	0.42	1.76	1.65	0.90	9.00	9.00	8.10	8.00	1.92	1.92	2.00	19164
0.95	1.75	0.25	0.59	3.54	3.29	0.75	7.00	7.00	6.25	6.00	9.64	9.64	10.00	19165
0.89	1.15	0.49	0.83	3.36	3.29	0.85	8.88	9.00	8.03	8.00	3.93	3.93	4.00	19117
2.24	0.64	0.38	0.50	3.76	4.11	0.80	9.03	9.00	8.23	8.00	8.15	8.15	7.00	19111
0.77	1.59	0.11	0.93	3.40	3.29	0.90	9.15	9.00	8.25	8.00	3.96	3.96	4.00	18922
0.67	1.48	0.45	0.98	3.58	3.29	0.53	6.93	7.00	6.40	6.00	10.02	10.02	10.00	19161
0.11	1.08	none	3.49	4.68	4.11	0.23	5.00	5.00	4.77	4.00	0.32	4.86	5.00	19332
1.41	2.34	0.18	0.66	4.59	4.94	0.35	6.32	7.00	5.97	6.00	3.67	3.67	4.00	19375
1.01	0.07	0.72	1.81	3.61	3.30	1.40	9.88	8.00	8.48	8.00	4.48	4.48	4.00	19333
0.93	0.05	0.52	2.96	4.46	4.11	0.68	5.58	4.00	4.90	4.00	1.57	5.09	5.00	19525
0.15	0.80	0.34	0.58	1.87	1.64	1.28	8.76	9.00	7.48	8.00	3.38	3.38	3.00	19468
1.78	0.12	0.50	0.76	3.16	3.29	1.98	9.63	9.00	7.65	8.00	0.94	4.01	4.00	19381
0.80	1.30	0.26	0.95	3.31	3.29	1.00	9.50	9.00	8.50	8.00	6.78	6.78	6.00	19645
0.14	2.46	0.06	0.44	3.10	3.29	0.40	9.23	9.00	8.83	8.00	4.82	4.82	4.00	19470
0.06	1.61	0.60	0.98	3.25	3.29	1.90	10.75	9.00	8.85	8.00	5.48	5.48	6.00	19465
0.03	2.21	0.39	1.65	4.28	4.11	0.35	5.90	5.00	5.55	4.00	0.57	5.65	5.00	19472

TABLE XIV. ANALYSES OF

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.			
19327	Special Mixture Corn Starter with 2% Potash	2.5-8-2	Factory
19046	Special Mixture for General Use, 4% Potash	3.3-10-4	Southport
18963	Special Mixture with 6% Potash...	3.3-8-6	Factory
19328	Special Mixture Tip Top Brand....	4.1-8-5	Southport
Coe-Mortimer Co., New York.			
19159	Celebrated Special Potato Fertilizer	3.3-8-4	New Canaan
19473	Columbian Corn and Potato Fertilizer	1.7-8-3	Greenwich
19337	Connecticut Wrapper Grower	4.1-4-5	Simsbury
19158*	Gold Brand Excelsior Guano	2.5-8-4	New Canaan
19109	New Englander Special	0.8-8-2	New Canaan
19194†	Red Brand Excelsior Guano	3.3-8-7	Abington
19378	Special Grass Top Dressing	4.9-6-4	Milford
Eastern States Farmers' Exchange, Springfield, Mass.			
19331	2-8-2	1.7-8-2	Litchfield
19038	3-8-4	3.3-8-4	Madison
19130	4-8-4	3.3-8-4	Branford
19310	4-8-4	3.3-8-4	Granby
19042	4-8-7	3.3-8-7	Madison
19410	5-8-5	4.1-8-5	Granby
19409	Tobacco Special	4.1-4-5	Granby
Essex Fertilizer Co., Boston, Mass.			
19408	1-10-1 for Grain and Grass	0.8-10-1	Wallingford
19415	2-8-2 for Farm and Garden	1.6-8-2	Cromwell
19198*	4-8-4 for Potatoes, Roots and Vegetables	3.3-8-4	Hartford
19126	Fish Fertilizer, 3-8-3, for All Crops.	2.5-8-3	Wallingford
19479	Market Garden, 3-8-4, for Vegetables and Grass	2.5-8-4	Wallingford
19650	Essex Special Tobacco Grower, 5-5-5	4.1-5-5	East Granby
19649	Tobacco, 5-4-3	4.1-4-3	West Suffield

* See note, page 111.

† See note, pages 108 and 111.

NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

In nitrates.	Nitrogen.				Phosphoric Acid.						Potash.			Station No.
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.		
				Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.		Found.	Guaranteed.	
1.46	0.72	0.13	0.69	3.00	2.46	1.33	9.60	8.25	8.27	8.00	2.86	2.86	2.00	19327
0.99	1.32	0.25	0.88	3.44	3.28	1.20	12.10	10.25	10.90	10.00	3.18	4.12	4.00	19046
0.61	1.50	0.25	0.98	3.34	3.28	0.93	9.85	8.25	8.92	8.00	6.58	6.58	6.00	18963
0.13	2.70	0.33	1.14	4.30	4.10	0.90	10.03	8.25	9.13	8.00	5.27	5.27	5.00	19328
0.57	1.22	0.36	1.22	3.37	3.29	1.28	9.28	9.00	8.00	8.00	2.21	3.66	4.00	19159
0.10	0.84	0.09	0.62	1.65	1.65	0.63	8.87	9.00	8.24	8.00	2.96	2.96	3.00	19473
0.99	0.03	0.37	3.00	4.39	4.11	0.28	4.89	5.00	4.01	4.00	0.35	5.07	5.00	19337
0.49	1.11	0.16	0.82	2.58	2.47	1.05	9.78	9.00	8.73	8.00	3.76	3.76	4.00	19158
0.05	0.16	0.32	0.47	1.00	0.82	1.40	9.44	9.00	8.04	8.00	0.78	1.90	2.00	19109
0.86	0.90	0.49	0.90	3.15	3.29	0.90	9.05	9.00	8.15	8.00	6.78	6.78	7.00	19194
1.97	1.24	0.75	0.87	4.83	4.94	1.03	7.25	7.00	6.22	6.00	4.28	4.28	4.00	19378
0.09	0.78	0.16	0.45	1.48	1.65	1.60	10.80	....	9.20	8.00	2.36	2.36	2.00	19331
0.66	1.50	1.04	0.10	3.30	2.46	1.90	10.10	....	8.20	8.00	3.94	3.94	4.00	19038
0.36	1.30	0.91	0.59	3.16	3.29	1.28	9.78	....	8.50	8.00	3.63	3.63	4.00	19130
0.07	1.93	0.26	0.78	3.04	3.29	1.70	10.40	....	8.70	8.00	4.30	4.30	4.00	19310
0.84	1.35	0.58	0.78	3.55	3.29	1.94	9.80	....	7.86	8.00	7.02	7.02	7.00	19042
0.34	2.50	0.61	0.96	4.41	4.11	0.80	9.48	....	8.68	8.00	4.88	4.88	5.00	19410
0.71	1.38	0.14	1.83	4.06	4.11	0.18	5.48	....	5.30	4.00	0.37	4.24	5.00	19409
0.04	0.06	0.43	0.43	0.96	0.82	0.98	11.43	11.00	10.45	10.00	0.97	0.97	1.00	19408
0.13	0.30	0.55	0.70	1.68	1.64	0.55	8.55	9.00	8.00	8.00	2.04	2.04	2.00	19415
0.50	1.23	0.78	0.91	3.42	3.29	1.05	9.48	9.00	8.43	8.00	3.86	3.86	4.00	19198
0.50	0.94	0.53	0.69	2.66	2.46	0.65	9.15	9.00	8.50	8.00	3.18	3.18	3.00	19126
0.56	0.91	0.49	0.65	2.61	2.46	1.10	9.40	9.00	8.30	8.00	4.33	4.33	4.00	19479
1.50	0.14	0.48	1.98	4.10	4.10	0.88	7.23	6.00	6.35	5.00	0.96	5.09	5.00	19650
1.67	0.05	0.83	1.73	4.28	4.11	1.33	6.23	5.00	4.90	4.00	0.62	3.22	3.00	19649

TABLE XIV. ANALYSES OF

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.			
19011	5-8-7	4.1-8-7 Highwood	\$44.00
19018	Corn and Grain Fertilizer	1.6-8-2 Danbury	34.00
19012	Market Garden, 4-8-6	3.3-8-6 Southport	37.50
19480	Special	2.5-8-4 North Haven .....	.....
19014	Superphosphate, 3-8-3	2.5-8-3 Danbury	33.25
19364	Tobacco Grower, 5-5-5	4.1-5-5 East Hartford	54.39
19455	Tobacco Manure, 5-8-6	4.1-8-6 Glastonbury	52.50
19624	Top Dresser, 7-5-4, for Grass and Market Gardens	5.8-5-4 Wethersfield	53.00
19017	Vegetable and Potato Grower.....	3.3-8-4 Danbury	42.00
A. W. Higgins, Inc., South Deerfield, Mass.			
19724	Old Deerfield Fertilizer, 5-8-7.....	4.1-8-7 Suffield .....	.....
19725	Tobacco Fertilizer	Suffield .....	.....
International Agricultural Corp., Boston, Mass.			
19369	Buffalo Complete Tobacco	3.3-4-4 West Suffield .....	.....
19488*	Buffalo Crop Grower	4.1-8-7 Pomfret Center ..	53.50
19484	Buffalo Economy	1.6-8-2 West Suffield .....	.....
19191	Buffalo Farmers' Choice	0.8-8-4 Ansonia	40.00
19036	Buffalo High-Grade Manure	3.3-6-10 East Haven .....	.....
19452	Buffalo New England Special	1.6-10-4 Litchfield	46.00
19486	Buffalo Tobacco Producer	4.5-5-5.5 Buckland	60.00
19458	Buffalo Top Dresser and Starter..	5.8-6-5 West Suffield .....	.....
19035	Buffalo Vegetable and Potato	2.5-8-6 Ansonia	49.00
19413	Buffalo Vegetable and Potato	2.5-8-6 West Suffield .....	.....
Levering Fertilizer Co., Baltimore, Md.			
19529*	General Fertilizer	3.3-8-4 Colchester	40.00
19151*	Market Garden	4.1-8-7 Middletown	50.00
19150	Potato Phosphate	2.5-8-4 Middletown	40.00
19167	Potato Special	3.3-8-6 Middletown	45.00
19166	Tobacco Special	4.1-5-5 Middletown	52.00

* See note, page 108.

NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

Nitrogen.				Phosphoric Acid.						Potash.			Station No.	
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Citrate-insoluble.	Total.		"So-called Available."		As muriate.	Total.		
				Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.		Found.		Guaranteed.
0.82	1.08	1.06	1.07	4.03	4.10	1.05	10.05	9.00	9.00	8.00	7.18	7.18	7.00	19011
0.35	0.07	0.73	0.54	1.69	1.64	0.63	8.70	9.00	8.07	8.00	2.19	2.19	2.00	19018
0.83	1.07	0.63	0.79	3.32	3.28	1.08	9.35	9.00	8.27	8.00	5.99	5.99	6.00	19012
0.65	0.69	0.43	0.63	2.40	2.46	1.15	9.35	9.00	8.20	8.00	3.80	3.80	4.00	19480
0.47	0.82	0.59	0.64	2.52	2.46	0.95	9.40	9.00	8.45	8.00	3.26	3.26	3.00	19014
1.38	0.07	0.78	1.95	4.18	4.10	0.95	6.08	6.00	5.13	5.00	0.97	5.09	5.00	19364
1.99	0.07	1.10	1.32	4.48	4.10	0.75	9.10	9.00	8.35	8.00	1.08	6.12	6.00	19455
2.39	2.21	0.50	0.62	5.72	5.75	0.65	6.63	6.00	5.98	5.00	3.90	3.90	4.00	19624
1.25	0.67	0.66	0.76	3.34	3.28	1.28	9.50	9.00	8.22	8.00	4.32	4.32	4.00	19017
0.74	1.36	0.79	1.24	4.13	4.11	0.96	10.07	....	9.11	8.00	0.62	7.44	7.00	19724
0.16	1.04	0.69	3.93	5.82	...	0.26	6.41	....	6.15	....	0.85	5.91	....	19725
0.24	0.72	0.32	1.99	3.27	3.30	0.25	4.78	5.00	4.53	4.00	0.29	4.50	4.00	19369
1.43	0.34	0.55	0.75	3.07	4.10	0.47	7.20	9.00	6.73	8.00	8.96	8.96	7.00	19488
0.31	0.22	0.39	0.68	1.60	1.60	2.58	10.70	9.00	8.12	8.00	2.03	2.03	2.00	19484
0.04	0.44	0.15	0.34	0.97	0.80	1.15	9.73	9.00	8.58	8.00	3.87	3.87	4.00	19191
0.05	1.38	0.72	1.01	3.16	3.30	0.50	6.58	7.00	6.08	6.00	11.30	11.30	10.00	19036
0.56	0.22	0.17	0.68	1.63	1.60	0.85	11.25	11.00	10.40	10.00	3.78	3.78	4.00	19452
0.09	2.46	0.07	2.08	4.70	4.50	0.13	6.63	6.00	6.50	5.00	0.43	5.03	5.50	19486
0.88	2.64	0.41	1.77	5.70	5.80	0.10	6.38	7.00	6.28	6.00	0.77	5.00	5.00	19458
0.03	1.00	0.70	0.82	2.55	2.50	0.98	9.70	9.00	8.72	8.00	5.75	5.75	6.00	19035
0.26	0.83	0.75	0.79	2.63	2.50	0.68	8.90	9.00	8.22	8.00	6.47	6.47	6.00	19413
0.44	1.33	0.34	0.75	2.86	3.29	0.50	8.75	....	8.25	8.00	3.65	3.65	4.00	19529
0.34	2.54	0.35	0.66	3.89	4.12	1.08	9.28	....	8.20	8.00	7.14	7.14	7.00	19151
0.38	1.32	0.16	0.54	2.40	2.47	0.43	9.07	....	8.64	8.00	3.85	3.85	4.00	19150
0.41	1.77	0.27	0.66	3.11	3.29	0.48	9.20	....	8.72	8.00	5.41	5.41	6.00	19167
0.14	2.70	0.32	1.02	4.18	4.12	0.78	8.93	....	8.15	5.00	5.39	5.39	5.00	19166

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
Lowell Fertilizer Co., Boston, Mass.			
19186	2-8-3 for Vegetables and Grain.... 1.6-8-3	Cheshire	\$33.60
19633	2-8-6 for Grain, Grass and Potatoes 1.6-8-6	Southford	44.00
19365	3-6-10 for Corn, Potatoes and Vegetables 2.5-6-10	Rockville	50.00
19185	4-6-10 for Potatoes and Vegetables 3.3-6-10	Cheshire	50.50
19187†	4-8-4 for Corn, Potatoes and Vegetables 3.3-8-4	Cheshire	47.00
18921	5-8-4 for Vegetables and Grass 4.1-8-4	Southington	57.00
19483*	5-8-7 for Potatoes and Vegetables. 4.1-8-7	South Manchester.	50.00
19053	Animal Brand 3-8-4 for All Crops.. 2.5-8-4	Wallingford	45.00
19477	Bone Fertilizer, 2-8-2, for Corn, Grain, Grass and Vegetables.... 1.6-8-2	Southington	43.00
19050	Empress Brand, 1-10-1 0.8-10-1	Southington	40.00
19644	Tobacco, 5-5-5 4.1-5-5	South Manchester.	53.00
Mapes Fertilizer and Peruvian Guano Co., New York.			
19414	Connecticut Valley Special 4.9-4-7	East Granby	60.00
19157	Corn Manure 2.5-8-3	Windsor Locks ...	46.00
19487	Cotton Seed Tobacco Manure 4.1-4-1	Melrose	49.00
19453	General Tobacco Manure 4.1-4-5	Hartford	56.00
19482	General Truck Manure 4.1-6-5	Hartford	51.00
19434	General Use Manure 2.5-6-4	Hartford	43.00
19359	Onion Manure 3.3-6-4	Hartford	47.00
19052	Potato Manure 3.3-7-5	Windsor Locks ...	49.00
19478	Tobacco Ash Constituents 0.8-4-15	Suffield	52.00
19367	Tobacco Manure Wrapper Brand.. 6.2-2-10.5	South Windsor	73.00
19693	Tobacco Manure Wrapper Brand.. 6.2-2-10.5	Burnside .....	.....
19156	Tobacco Starter Improved 4.1-6-1	Windsor Locks....	50.00
18967	Top Dresser 8.2-4-2	Windsor Locks....	66.00
W. L. Mitchell, New Haven.			
19481	2-8-2 1.6-8-2	Ansonia	38.00
19358‡	5-8-7 4.1-8-7	Ansonia	51.00
19694	5-8-7 4.1-8-7	Somers	49.00

* See note, page 108.

† See note, page 111.

‡ See note, page 110.

NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

Nitrogen.				Phosphoric Acid.						Potash.			Station No.	
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.		
				Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.		Found.		Guaranteed.
0.02	0.82	0.36	0.59	1.79	1.64	0.65	8.76	9.00	8.11	8.00	2.83	2.83	3.00	19186
0.09	0.04	0.73	0.95	1.81	1.64	0.55	9.11	9.00	8.56	8.00	6.88	6.88	6.00	19633
0.89	0.03	0.68	0.90	2.50	2.46	0.40	6.53	7.00	6.13	6.00	10.46	10.46	10.00	19365
1.24	0.84	0.63	0.69	3.40	3.28	0.73	7.10	7.00	6.37	6.00	10.18	10.18	10.00	19185
0.56	1.21	0.75	0.91	3.43	3.28	1.03	9.45	9.00	8.42	8.00	3.88	3.88	4.00	19187
1.76	0.08	1.17	1.30	4.31	4.10	0.60	9.43	9.00	8.83	8.00	4.09	4.20	4.00	18921
1.38	0.54	0.72	1.17	3.81	4.10	0.68	8.80	9.00	8.12	8.00	6.99	6.99	7.00	19483
0.62	0.84	0.48	0.58	2.52	2.46	1.00	9.05	9.00	8.05	8.00	3.98	3.98	4.00	19053
0.07	0.60	0.46	0.60	1.73	1.64	0.53	9.30	9.00	8.77	8.00	1.93	1.93	2.00	19477
0.02	0.08	0.50	0.32	0.92	0.82	0.70	10.78	11.00	10.08	10.00	1.00	1.00	1.00	19050
1.60	0.12	0.63	1.95	4.30	4.10	0.83	6.65	6.00	5.82	5.00	5.01	5.01	5.00	19044
2.74	0.08	0.50	1.93	5.25	4.94	1.38	5.88	....	4.50	4.00	1.52	6.94	7.00	19414
0.87	0.80	0.15	0.45	2.27	2.47	2.35	10.27	10.00	7.92	8.00	3.95	3.95	3.00	19157
1.60	0.08	0.25	2.08	4.10	4.12	1.93	6.35	....	4.42	4.00	0.61	2.92	1.00	19487
2.28	0.05	0.12	1.97	4.42	4.12	1.50	5.65	....	4.15	4.00	1.05	5.24	5.00	19453
2.77	0.95	0.07	0.55	4.34	4.12	2.58	9.38	8.00	6.80	6.00	4.49	5.16	5.00	19482
1.77	0.55	0.04	0.40	2.76	2.47	2.65	8.95	8.00	6.30	6.00	2.95	4.17	4.00	19434
3.29	0.04	0.15	0.44	3.92	3.29	2.55	8.55	8.00	6.00	6.00	0.35	3.05	4.00	19359
1.59	1.49	0.04	0.38	3.50	3.29	1.93	9.05	8.00	7.12	7.00	5.01	5.01	5.00	19052
0.12	0.04	0.11	0.96	1.23	0.82	2.69	6.38	6.00	3.69	4.00	1.71	15.05	†15.00	19478
4.19	0.03	0.68	1.69	6.59	6.18	1.05	5.10	4.50	4.05	2.00	1.14	9.01	10.50	19367
3.37	....	0.69	2.04	6.10	6.18	1.53	5.93	4.50	4.40	2.00	1.70	11.26	10.50	19693
3.71	0.09	0.24	0.78	4.82	4.12	1.70	8.08	8.00	6.38	6.00	0.70	1.44	1.00	19156
2.86	4.82	0.10	0.46	8.24	8.22	1.48	6.50	6.00	5.02	4.00	2.02	2.55	2.00	18967
0.08	0.72	0.40	0.48	1.68	1.64	1.45	9.60	9.00	8.15	8.00	2.14	2.14	2.00	19481
1.16	1.16	0.30	0.80	3.42	4.10	1.24	8.92	9.00	7.68	8.00	6.48	6.48	7.00	19358
0.09	2.94	0.29	0.47	3.79	4.10	1.33	9.65	9.00	8.32	8.00	6.71	6.71	7.00	19694

† 6.53 as sulphate; 6.81 as carbonate.

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
New England Fertilizer Co., Boston, Mass.			
19120	2-8-3 for Vegetables and Grain.... 1.6-8-3	Meriden	\$40.00
19692	2-8-3 for Vegetables and Grain.... 1.6-8-3	East Woodstock ..	42.00
19125	3-8-4 Superphosphate for All Crops 2.5-8-4	East Wallingford..	45.00
19195†	4-8-6 for Potatoes and Vegetables.. 3.3-8-6	Putnam	38.00
19196*	5-8-7 for Potatoes and Market Gardens	Putnam	43.00
19366	Corn Phosphate, 2-8-2, for Grain and Vegetables	Rockville	44.00
19666	Special Tobacco Grower, 5-4-3.... 4.1-4-3	Warehouse Point..	.....
19363	Tobacco, 5-5-5	Unionville	57.00
19634	Tobacco Manure, 5-8-6	Warehouse Point..	54.00
Olds & Whipple, Inc., Hartford.			
19091	Complete Corn, Onion and Potato Fertilizer	Silver Lane	45.00
19498	Complete Tobacco Fertilizer..... 4.1-4-5	South Windsor ...	51.30
19051	Grass Fertilizer	Factory	48.83
19416	High-Grade Potato Fertilizer..... 4.1-8-7	Wethersfield	56.00
19500	High-Grade Starter and Potash Compound	Factory	60.98
19501	Special Corn, Onion and Potato Fertilizer	Factory	36.23
Parmeter & Polsey Fertilizer Co., Boston, Mass.			
19417	2-8-2 for Farm and Garden..... 1.6-8-2	South Manchester.	40.00
19200	4-8-4 for Potatoes, Corn and Vegetables	Wallingford	50.00
19631	Tobacco, 5-4-3	Gaylordsville	50.00
19632	5-5-5	Gaylordsville	54.00
19626	5-8-4 for Potatoes, Corn and Vegetables	Stafford Springs ..	.....
19525*	5-8-7 for Potatoes and Market Gardens	Stafford Springs ..	57.00
19362	Plymouth Rock Brand, 3-8-4, for All Crops	Plainville	43.00
Frank S. Platt Co., New Haven.			
18901	Platco Special	Factory	47.00

* See note, page 108.

† See note, page 111.

NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

Nitrogen.				Phosphoric Acid.						Potash.		Station No.		
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Citrate-insoluble.	Total.		"So-called Available."		As muriate.		Total.	
				Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.
0.14	0.70	0.43	0.49	1.76	1.64	0.60	8.66	9.00	8.06	8.00	2.44	2.44	3.00	19120
0.10	0.63	0.30	0.65	1.68	1.64	0.68	9.08	9.00	8.40	8.00	2.98	2.98	3.00	19692
0.60	0.91	0.48	0.61	2.60	2.46	1.08	9.13	9.00	8.05	8.00	4.17	4.17	4.00	19125
0.68	1.14	0.58	0.94	3.34	3.28	0.98	9.33	9.00	8.35	8.00	5.87	5.87	6.00	19195
1.35	0.59	0.79	1.07	3.80	4.10	0.75	9.30	9.00	8.55	8.00	7.14	7.14	7.00	19196
0.12	0.62	0.39	0.51	1.64	1.64	0.56	8.35	9.00	7.79	8.00	1.76	1.76	2.00	19366
1.53	0.05	0.75	1.96	4.29	4.10	0.80	5.60	5.00	4.80	4.00	0.45	3.48	3.00	19666
0.68	0.82	0.91	1.73	4.14	4.10	0.75	6.85	6.00	6.10	5.00	0.86	5.57	5.00	19363
1.50	0.06	1.05	1.39	4.00	4.10	0.75	9.45	9.00	8.70	8.00	0.89	6.39	6.00	19634
1.47	0.04	0.16	1.70	3.37	3.30	1.63	9.78	8.00	8.15	8.00	4.58	4.58	4.00	19091
0.82	0.06	0.46	3.02	4.36	4.11	0.80	5.85	4.00	5.05	4.00	0.64	5.10	5.00	19498
2.47	0.04	0.70	2.09	5.30	4.95	1.74	9.91	8.00	8.17	8.00	6.70	6.70	6.00	19051
1.61	0.04	none	2.77	4.42	4.11	2.10	10.45	8.00	8.35	8.00	4.90	7.50	7.00	19416
1.50	0.04	0.29	2.48	4.31	4.11	0.45	5.13	4.00	4.68	4.00	1.90	16.07	15.00	19500
1.16	0.02	0.24	1.25	2.67	2.45	1.35	9.95	8.00	8.60	8.00	2.50	2.50	2.00	19501
0.14	0.59	0.34	0.56	1.63	1.64	0.55	8.48	9.00	7.93	8.00	2.09	2.09	2.00	19417
0.49	1.10	0.75	0.91	3.34	3.28	1.05	9.45	9.00	8.40	8.00	4.02	4.02	4.00	19200
1.26	0.08	0.79	1.77	3.90	4.10	1.03	5.95	5.00	4.92	4.00	0.82	3.68	3.00	19631
1.38	0.07	0.85	1.80	4.10	4.10	0.80	6.85	6.00	6.05	5.00	0.82	5.61	5.00	19632
1.57	0.06	1.11	1.32	4.06	4.10	0.70	9.78	9.00	9.08	8.00	4.31	4.31	4.00	19626
1.28	0.56	0.88	1.08	3.80	4.10	0.75	9.18	9.00	8.43	8.00	7.09	7.09	7.00	19625
0.56	0.88	0.50	0.59	2.53	2.46	0.95	9.05	9.00	8.10	8.00	3.90	3.90	4.00	19362
1.90	0.05	0.75	0.77	3.47	3.29	0.55	9.25	9.00	8.70	8.00	5.72	5.72	6.00	18901

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
The Rogers & Hubbard Co., Portland.			
19248*	Hubbard's Bone Base Fertilizer for Seeding Down 2.5-6-4	North Haven	\$52.00
19623*	Hubbard's Bone Base Fertilizer for Seeding Down 2.5-6-4	Seymour	50.00
19095	Hubbard's Bone Base Fertilizer for Oats and Top Dressing 8.2-3-8	Norwich	68.00
19096	Hubbard's Bone Base Soluble Corn and General Crops Manure..... 2.5-8-6	Norwich	52.00
19380	Hubbard's Bone Base Soluble Potato Manure 5-8-5	East Hampton	73.50
18962	R. & H. 4-8-4 Phosphate 3.3-8-4	Hartford	54.00
19361	R. & H. Climax Tobacco Brand... 4.1-4-4	Glastonbury .....	.....
19494	R. & H. Complete Phosphate 0.8-10-3	Norwich	40.00
19495	R. & H. Potato Phosphate 1.6-8-4	Norwich	43.00
19368	R. & H. Soluble Tobacco Manure.. 5-8-10	Thompsonville ...	66.50
19360	R. & H. Tobacco Grower, Vegetable Formula 5-4-4	Glastonbury .....	.....
18961	Garden Phosphate‡ 1.6-8-4	Hartford	47.00
F. S. Royster Guano Co., Baltimore, Md.			
19356*	Arrow Head Tobacco Formula.... 4.1-4-3	Granby	57.00
19240	Bully Guano	Ansonia	44.00
19503	Fish, Flesh and Fowl	Trumbull	40.00
19128	Fish and Potash	Plantsville	35.00
19124†	Quality Trucker	Guilford	42.00
19642†	Quality Trucker	Rockville .....	.....
18788	Trucker's Delight	Milford	47.00
19353	Valley Tobacco Formula 4.1-4-5	Glastonbury	52.00
Sanderson Fertilizer & Chemical Co., New Haven.			
19123	Atlantic Coast Bone, Fish and Potash 1.6-8-3	Guilford	40.00
19306	Atlantic Coast Bone, Fish and Potash 1.6-8-3	West Cheshire	42.00
19497	Complete Tobacco Grower 4.1-4-5	Windsor Locks ...	.....
19348	Corn Superphosphate 1.6-8-2	Seymour	45.00
19086	Formula A 3.3-8-4	East Haven .....	.....
19087	Formula B 3.3-8-6	Highwood .....	.....
19127§	Potato Manure 2.5-8-4	West Cheshire	46.50
19305	Potato Manure 2.5-8-4	Hamden	48.00
19507*	Top Dressing for Grass and Grain 5-6-4	Seymour	57.00
19436	Kelsey's Bone, Fish and Potash.... 2.5-10-3	Factory	42.25

* See note, page 108.

† See note, pages 108 and 110.

‡ Potato Phosphate Formula.

§ See note, page 111.

NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

In nitrates.	Nitrogen.				Phosphoric Acid.						Potash.			Station No.
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.		
				Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.		Found.	Guaranteed.	
none	0.75	0.41	0.89	2.05	2.46	9.13	14.57	15.00	5.44	6.00	4.27	4.27	4.00	19248
0.10	0.91	0.34	0.89	2.24	2.46	8.64	14.20	15.00	5.56	6.00	3.85	3.85	4.00	19623
5.01	2.99	0.06	0.31	8.37	8.22	1.75	7.70	8.00	5.95	3.00	7.87	7.87	8.00	19095
0.03	1.41	0.68	0.62	2.74	2.46	0.95	10.00	10.00	9.05	8.00	5.87	5.87	6.00	19096
0.91	2.19	1.11	0.99	5.20	5.00	1.20	9.28	10.00	8.08	8.00	1.06	5.22	5.00	19380
0.01	2.69	0.29	0.73	3.72	3.29	0.93	9.33	9.00	8.40	8.00	4.10	4.10	4.00	18962
0.17	1.06	0.37	2.80	4.40	4.11	0.20	5.30	5.00	5.10	4.00	0.85	4.40	4.00	19361
0.24	0.06	0.13	0.57	1.00	0.82	2.00	12.15	11.00	10.15	10.00	3.11	3.11	3.00	19494
0.05	0.87	0.33	0.57	1.82	1.64	1.70	10.05	9.00	8.35	8.00	4.26	4.26	4.00	19495
1.69	1.38	1.03	1.10	5.20	5.00	0.98	9.78	10.00	8.80	8.00	1.78	10.32	10.00	19368
1.30	0.11	0.74	3.05	5.20	4.93	1.03	5.58	5.00	4.55	4.00	0.58	4.20	4.00	19360
0.06	0.58	0.31	0.76	1.71	1.64	0.98	9.48	9.00	8.50	8.00	4.00	4.00	4.00	18961
0.24	0.76	0.30	2.44	3.74	4.11	0.38	5.20	4.50	4.82	4.00	0.29	3.26	3.00	19356
0.09	0.91	0.05	0.50	1.55	1.65	0.85	9.38	8.50	8.53	8.00	4.31	4.31	5.00	19240
0.05	1.00	0.10	0.44	1.59	1.65	0.78	8.75	8.50	7.97	8.00	3.12	3.12	3.00	19503
0.04	1.04	0.14	0.49	1.71	1.65	0.60	9.30	8.50	8.70	8.00	1.03	1.03	1.00	19128
0.11	2.04	0.22	0.92	3.29	3.29	1.23	8.96	8.50	7.73	8.00	6.66	6.66	7.00	19124
0.50	1.50	0.30	0.80	3.10	3.29	0.65	8.85	8.50	8.20	8.00	6.59	6.59	7.00	19642
none	2.12	1.17		3.29	3.29	0.93	8.99	8.50	8.06	8.00	4.12	4.12	4.00	18788
0.32	0.94	0.37	2.62	4.25	4.11	0.48	4.68	4.50	4.20	4.00	0.45	4.97	5.00	19353
0.45	0.28	0.21	0.90	1.84	1.65	1.08	9.48	9.00	8.40	8.00	2.99	2.99	3.00	19123
0.46	0.42	0.10	0.98	1.96	1.65	1.20	9.78	9.00	8.58	8.00	3.06	3.06	3.00	19306
1.01	0.07	0.40	2.68	4.16	4.11	0.28	4.55	5.00	4.27	4.00	0.52	5.06	5.00	19497
0.06	0.52	0.39	0.84	1.81	1.65	0.75	9.33	9.00	8.58	8.00	2.15	2.15	2.00	19348
0.70	1.58	0.49	0.73	3.50	3.29	1.02	9.36	9.00	8.34	8.00	3.89	4.07	4.00	19086
0.84	1.16	0.40	1.14	3.54	3.29	1.80	10.30	9.00	8.50	8.00	0.77	6.22	6.00	19087
0.31	0.80	0.48	0.96	2.55	2.47	0.63	9.03	9.00	8.40	8.00	3.73	3.73	4.00	19127
0.31	0.62	0.08	1.46	2.47	2.47	0.65	9.03	9.00	8.38	8.00	4.86	4.86	4.00	19305
1.88	1.06	0.87	0.86	4.67	4.94	0.90	7.20	7.00	6.30	6.00	3.78	3.78	4.00	19507
0.38	0.82	0.39	0.90	2.40	2.47	1.08	11.28	11.00	10.20	10.00	3.10	3.10	3.00	19436

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.	
<i>Sampled by Station:</i>				
M. L. Shoemaker & Co., Philadelphia, Pa.				
19516	Swift-Sure Superphosphate Crop Grower	3.3-8-4	Hartford	\$44.65
19648	Swift-Sure Superphosphate Potato No. 1	3.3-8-5	Granby	47.75
19129	Swift-Sure Superphosphate, Tobacco and General Use	2.5-10-3	Glastonbury .....	.....
Springfield Rendering Co., Springfield, Mass.				
19441	4-8-6	3.3-8-6	Thompsonville	48.75
19511	Animal Brand, 3-8-4	2.5-8-4	Thompsonville	42.00
19351	Market Garden Grower and Top Dresser, 5-8-7	4.1-8-7	Hazardville	57.00
19628	Special Potato, Onion and Vegetable, 4-8-4	3.3-8-4	Suffield	44.00
19460	Tobacco Special, 5-5-5	4.1-5-5	Thompsonville	57.00
Virginia-Carolina Chemical Co., New York.				
18920	Champion Brand	3.3-8-4	Plantsville	38.00
19241	Double Owl Brand	3.3-8-6	Guilford	40.50
19432	Eureka Brand	1.6-8-10	North Haven	44.65
19247	Fish, Phosphate and Potash Brand.	1.6-8-2	North Haven	38.00
19352	Indian Chief Brand	4.1-4-5	Hazardville	54.50
19131	Owl Brand	1.6-8-3	Groton .....	.....
19357	Perfection Brand	2.5-9-5	Broad Brook	41.00
19647	Perfection Brand	2.5-9-5	Granby ..	33.95
19121	Plow Brand	0.8-8-1	Plantsville	30.00
What Cheer Chemical Co., Pawtucket, R. I.				
19664*	Superior Brand	3.3-8-4	New London	50.00
Wilcox Fertilizer Co., Mystic.				
19069	4-8-4 Fertilizer	3.3-8-4	Branford	40.00
19627	4-8-4 Fertilizer	3.3-8-4	Ellington	43.00
19074	5-8-7 Fertilizer	4.1-8-7	Factory .....	.....
19513	Corn Special	2.5-8-4	Northford	37.50
19066	Fish and Potash	2.5-6-3	Suffield	39.00
19665	Fish and Potash	2.5-6-3	Branford	35.00
19249	Grain Fertilizer	1.6-8-2	Northford .....	.....
19075	Grass and Truck Fertilizer	4.1-8-4	Factory .....	.....
19431	Potato Fertilizer	1.6-8-3	Suffield	38.00
19438	Potato and Vegetable Phosphate..	3.3-8-6	Ellington	44.00
19514	Tobacco Special	4.1-4-5	Ellington	49.00

* See note, page 108.

NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

In nitrates.	Nitrogen.				Phosphoric Acid.						Potash.			Station No.
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.		
				Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.		Found.	Guaranteed.	
1.71	0.08	0.38	1.17	3.34	3.30	2.43	11.63	10.00	9.20	8.00	4.07	4.07	4.00	19516
1.35	0.08	0.29	1.35	3.07	3.30	2.28	11.10	11.00	8.82	8.00	5.41	5.41	5.00	19648
0.68	0.04	0.46	1.12	2.30	2.46	3.13	13.23	11.00	10.10	10.00	1.34	3.06	3.00	19129
0.66	0.84	1.02	0.70	3.22	3.28	0.50	9.03	9.00	8.53	8.00	6.12	6.12	6.00	19441
0.38	0.56	0.83	0.56	2.33	2.46	0.48	8.83	9.00	8.35	8.00	4.03	4.03	4.00	19511
1.18	1.00	1.03	0.79	4.00	4.10	0.68	9.08	9.00	8.40	8.00	7.14	7.14	7.00	19351
0.71	0.71	0.90	0.79	3.11	3.29	0.53	8.90	9.00	8.37	8.00	4.10	4.10	4.00	19628
0.95	0.43	0.88	1.88	4.14	4.10	0.83	6.90	6.00	6.07	5.00	0.98	5.14	5.00	19460
0.06	2.40	0.14	0.58	3.18	3.29	0.68	9.75	9.00	9.07	8.00	3.98	3.98	4.00	18920
none	3.02	0.15	0.42	3.59	3.29	0.83	9.25	9.00	8.42	8.00	5.96	5.96	6.00	19241
0.03	1.10	0.08	0.34	1.55	1.65	0.55	9.53	9.00	8.98	8.00	8.57	9.77	10.00	19432
0.06	0.84	0.20	0.77	1.87	1.65	1.10	9.78	9.00	8.68	8.00	1.96	1.96	2.00	19247
0.56	0.60	0.30	3.04	4.50	4.11	0.43	5.03	5.00	4.60	4.00	0.92	5.06	5.00	19352
0.08	1.10	0.15	0.39	1.72	1.65	0.73	9.63	9.00	8.90	8.00	2.70	2.70	3.00	19131
0.16	2.00	0.05	0.46	2.67	2.47	0.55	9.70	10.00	9.24	9.00	4.91	4.91	5.00	19357
0.16	1.88	none	0.65	2.69	2.47	0.43	9.88	10.00	9.45	9.00	5.67	5.67	5.00	19647
0.04	0.54	0.09	0.29	0.96	0.82	1.05	10.30	9.00	9.25	8.00	1.00	1.00	1.00	19121
0.98	0.26	0.53	1.41	3.18	3.28	1.00	8.62	9.00	7.62	8.00	3.99	3.99	4.00	19664
0.18	1.38	0.74	1.23	3.53	3.29	1.15	10.18	9.00	9.03	8.00	3.81	3.81	4.00	19069
0.58	1.36	0.60	1.06	3.60	3.29	1.16	9.30	9.00	8.14	8.00	3.69	3.69	4.00	19627
1.20	1.48	0.49	1.15	4.32	4.12	0.83	9.03	9.00	8.20	8.00	5.74	6.96	7.00	19074
0.56	0.78	0.19	0.97	2.50	2.46	0.90	9.19	9.00	8.29	8.00	3.85	3.85	4.00	19513
0.62	0.17	2.02	2.81	2.46	0.45	7.28	7.00	6.83	6.00	2.82	2.82	3.00	19066	
0.45	0.26	0.56	1.30	2.57	2.46	0.75	7.28	7.00	6.53	6.00	3.22	3.22	3.00	19665
0.25	0.92	0.46	0.42	2.05	1.65	0.38	8.69	9.00	8.31	8.00	3.99	3.99	2.00	19249
0.71	1.85	0.69	1.05	4.30	4.12	1.38	9.48	9.00	8.10	8.00	3.80	3.80	4.00	19075
0.35	0.12	0.39	1.19	2.05	1.65	2.60	10.80	9.00	8.20	8.00	1.99	3.75	3.00	19431
0.58	1.20	1.00	0.94	3.72	3.29	0.75	8.47	9.00	7.72	8.00	5.75	5.75	6.00	19438
0.89	0.13	0.62	2.87	4.51	4.12	2.50	7.10	5.00	4.60	4.00	0.12	5.34	5.00	19514

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
	<i>Sampled by Station:</i>		
	Witherbee, Sherman Co., New York.		
19440	Truck Grower 3-3-8-6	Higganum	\$44.15
	S. D. Woodruff & Sons, Orange.		
19521	Home Mixed Fertilizer 3-3-8-4	Factory	46.00
	Worcester Rendering Co., Auburn, Mass.		
19663*	Prosperity Brand Complete Dressing 4-9-6-3	Norwich	42.00
19661	Prosperity Brand Corn and Grain, 2-8-2	Willimantic	38.00
19662	Prosperity Brand Market Garden, 4-6-8	Willimantic	46.00
19442	Prosperity Brand Potato and Vegetable, 4-8-4	Norwich	38.00
	<i>Sampled by Purchaser:</i>		
19446	American Agr. Chem. Co. National Complete Tobacco Fertilizer 4-1-4-5	Warehouse Point..	56.00
19325	Atlantic, 4-8-6	Southbury	39.50
19491	Chittenden's Tobacco Special 4-1-4-5	Rockville	46.40
19270	Olds & Whipple's High-Grade Starter and Potash Compound .. 4-1-4-15	East Windsor Hill.	59.25

* See note, page 108.

NITROGENOUS SUPERPHOSPHATES WITH POTASH—*Concluded.*

In nitrates.	Nitrogen.				Phosphoric Acid.						Potash.			Station No.
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Citrate-insoluble.	Total.		So-called "Available."		As muriate.	Total.		
				Found.	Guaranteed.		Found	Guaranteed.	Found.	Guaranteed.		Found.	Guaranteed.	
0.65	1.43	0.40	0.88	3.36	3.29	0.53	8.35	....	7.82	8.00	5.98	5.98	6.00	19440
1.31	0.06	0.05	3.20	4.62	3.29	0.59	7.22	....	6.63	8.00	4.69	4.69	4.00	19521
2.41	0.03	0.98	1.10	4.52	4.90	0.70	7.00	7.00	6.30	6.00	3.20	3.20	3.00	19663
0.81	0.04	0.32	0.48	1.65	1.64	0.20	8.28	9.00	8.08	8.00	2.13	2.13	2.00	19661
0.91	0.17	1.46	1.32	3.86	3.29	0.45	7.00	7.00	6.55	6.00	6.44	6.44	8.00	19662
1.66	0.08	0.83	0.92	3.49	3.28	0.35	8.35	9.00	8.00	8.00	4.07	4.07	4.00	19442
....	....	....	....	4.25	4.11	0.30	4.70	5.00	4.40	4.00	0.27	4.82	5.00	19446
....	....	....	....	3.46	3.28	0.75	9.80	9.00	9.05	8.00	6.11	6.11	6.00	19325
....	....	....	....	3.79	4.11	0.20	6.20	5.00	6.00	4.00	4.82	4.82	5.00	19491
....	....	....	....	4.38	4.11	0.45	5.10	4.00	4.65	4.00	2.02	15.34	15.00	19270

HOME MIXTURES AND SPECIAL MIXTURES.

The 53 samples whose analyses are given in Table XVI represent mixtures made by corporations or individuals for their own use from chemicals bought by them for the purpose. There are also included analyses of special mixtures, made by fertilizer manufacturers according to the formula ordered by the customer.

The formulas used in mixing were given in 17 cases, and appear in Table XV.

The actual cost of the materials used was given in only six cases, and is included in the table.

TABLE XV. FORMULAS OF SOME OF THE HOME MIXTURES IN TABLE XVI.

	Cotton Seed Meal.	Castor Pomace.	Fish.	Tankage.	Nitrate of Soda.	Sulphate of Ammonia.	Bone.	H. G. Sulphate of Potash.	Muriate of Potash.	Acid Phosphate.	Cost of Materials.
19669 and 19670	700	300	300	...	200	...	300	200	...	...
18735	1200	...	...	750	...	...	500	300	...	...
19177	...	...	...	...	100	...	...	200	...	750	
19141	...	...	400	...	200	...	...	...	200	1200	
19490	500	500	300	...	...	...	400	300	...	...
19532	1050	400	...	...	100	...	150	200	...	100	
19250	800	200	300	...	...	...	400	300	...	...
19251*	500	500	300	...	200	...	...	300	...	...
19252*	...	1000	400	...	100	...	...	300	...	...
19253	...	...	300	300	150	200	...	350	...	700	\$55.67
19211†	950	300	300	...	50	...	200	...	...	...
18770	1200	...	...	...	...	...	500	300	...	...
19030	...	...	650	...	100	...	...	...	250	1000	35.33
19031	...	...	1000	...	200	...	...	...	...	800	39.72
19032	...	...	1000	...	100	...	...	...	...	900	37.81
19033	300	...	500	...	200	...	...	...	200	800	38.27

* Also precipitated bone 200 lbs.

† Also carbonate of potash 200 lbs.

TABLE XVI. ANALYSES OF

Station No.	Manufacturer.	Purchased, Sampled or Sent by.	Dealer's cash price per ton.
		<i>Station Agent from</i>	
19669	American Agricultural Chemical Co., New York	Arthur Manning, So. Man- chester	\$66.50
19670	American Agricultural Chemical Co., New York	Arthur Manning, So. Man- chester	70.00
18735	Apothecaries Hall Co., Waterbury ...	F. R. & R. M. Goodrich, Portland	55.00
19177	Apothecaries Hall Co., Waterbury ...	Conn. School for Boys, Meriden	42.75
19140	Berkshire Fertilizer Co., Bridgeport	Farmers' Exchange, Put- nam .....	....
19141	Berkshire Fertilizer Co., Bridgeport	Farmers' Exchange, Put- nam .....	....
19490	L. T. Frisbie Co., New Haven	Levi Hickey, East Hart- ford	45.00
19461	Mapes Formula & Peruvian Guano Co., New York	W. C. Sanders, New Haven	....
19462	Mapes Formula & Peruvian Guano, Co. New York	W. C. Sanders, New Haven	....
19532	Olds & Whipple, Inc., Hartford	F. N. Buckland, Glaston- bury	52.50
19292	Olds & Whipple, Inc., Hartford	L. W. Newbury, South Windsor	52.00
19101	Olds & Whipple, Inc., Hartford	H. Whitaker, Hazardville	63.50
19146	The Rogers & Hubbard Co., Portland	A. N. Shepard & Son, Rockville .....	....
19148	The Rogers & Hubbard Co., Portland	A. N. Shepard & Son, Rockville .....	....
19534	Sanderson Fertilizer Co., New Haven	Preston Co-op. Exchange, Norwich	34.25
19535	Sanderson Fertilizer Co., New Haven	Preston Co-op. Exchange, Norwich	41.25
19536	Sanderson Fertilizer Co., New Haven	Preston Co-op. Exchange, Norwich	26.75
19537	Sanderson Fertilizer Co., New Haven	Preston Co-op. Exchange, Norwich	36.25
19076	.....	Allied Tobacco Co., Hart- ford .....	....
19077	.....	Allied Tobacco Co., Hart- ford .....	....
18597	.....	American Sumatra Tobac- co Co., Bloomfield .....	....
18660	.....	American Sumatra Tobac- co Co., Bloomfield .....	....
18661	.....	American Sumatra Tobac- co Co., Bloomfield .....	....
18730	.....	American Sumatra Tobac- co Co., Bloomfield .....	....

SPECIAL MIXTURES AND HOME MIXTURES.

In nitrates.	Nitrogen.				Phosphoric Acid.				Potash.			Station No.		
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Citrate-insoluble.	Total.		"So-called Available."		As muriate.		Total.	
				Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.
....	....	....	....	5.83	....	0.70	5.05	....	4.35	....	....	6.81	....	19669
1.42	0.08	0.67	3.26	5.43	....	0.75	5.90	....	5.15	....	1.77	5.82	....	19670
....	0.12	....	....	5.06	....	1.65	7.04	....	5.39	....	0.22	8.20	....	18735
0.79	0.09	2.95	....	3.83	....	1.85	9.38	....	7.53	....	8.57	10.07	....	19177
1.42	0.34	2.24	....	4.00	....	1.65	12.00	....	10.35	....	5.70	5.70	....	19140
1.74	0.26	1.36	....	3.36	....	0.20	11.93	....	11.73	....	5.59	5.59	....	19141
....	....	....	....	4.60	....	1.78	7.80	....	6.02	....	....	8.75	....	19490
....	....	....	....	2.34	1.65	3.35	9.40	....	6.05	5.00	1.28	8.63	10.00	19461
....	....	....	....	1.98	1.65	1.80	7.15	....	5.35	5.00	0.47	5.98	5.00	19462
0.82	0.06	0.30	3.90	5.08	....	0.20	5.75	....	5.55	....	0.65	5.84	....	19532
1.70	none	4.05	....	5.75	....	0.30	6.40	....	6.10	....	0.64	8.28	....	19292
....	....	....	....	5.93	5.75	0.20	5.00	4.00	4.80	4.00	0.44	5.50	5.00	19101
0.20	1.40	3.42	....	5.02	....	0.10	6.24	....	6.14	....	1.42	11.94	....	19146
0.14	1.91	3.38	....	5.43	....	0.10	7.92	....	7.82	....	1.21	12.02	....	19148
....	....	....	....	3.34	3.29	1.65	9.83	9.00	8.18	8.00	....	4.31	4.00	19534
....	....	....	....	3.96	4.11	0.40	9.08	9.00	8.68	8.00	....	7.45	7.00	19535
....	....	....	....	1.70	1.65	0.68	9.45	9.00	8.77	8.00	....	2.31	2.00	19536
....	....	....	....	3.50	3.29	2.35	10.93	9.00	8.58	8.00	....	5.88	6.00	19537
0.75	0.08	4.72	....	5.55	....	0.73	5.70	....	4.97	....	0.58	6.14	....	19076
1.10	0.07	4.77	....	5.94	....	0.60	5.83	....	5.23	....	0.47	5.33	....	19077
none	0.04	4.52	....	4.56	....	0.15	8.35	....	8.20	....	0.62	8.94	....	18597
....	0.05	5.43	....	5.48	....	0.15	5.46	....	5.31	....	0.27	7.04	....	18660
....	0.05	3.65	....	3.70	....	0.23	10.77	....	10.54	....	0.35	8.66	....	18661
....	....	....	....	4.64	....	0.12	8.25	....	8.13	....	0.44	8.51	....	18730

TABLE XVI. ANALYSES OF

Station No.	Manufacturer.	Purchased, Sampled or Sent by.	Dealer's cash price per ton.
18731	American Sumatra Tobacco Co., Bloomfield .....	.....
18732	American Sumatra Tobacco Co., Bloomfield .....	.....
18766	American Sumatra Tobacco Co., Bloomfield .....	.....
18767	American Sumatra Tobacco Co., Bloomfield .....	.....
18768	American Sumatra Tobacco Co., Bloomfield .....	.....
18771	American Sumatra Tobacco Co., Bloomfield .....	.....
18772	American Sumatra Tobacco Co., Bloomfield .....	.....
18773	American Sumatra Tobacco Co., Bloomfield .....	.....
18774	American Sumatra Tobacco Co., Bloomfield .....	.....
18775	American Sumatra Tobacco Co., Bloomfield .....	.....
18776	American Sumatra Tobacco Co., Bloomfield .....	.....
18823	American Sumatra Tobacco Co., Bloomfield .....	.....
18824	American Sumatra Tobacco Co., Bloomfield .....	.....
18825	American Sumatra Tobacco Co., Bloomfield .....	.....
18952	American Sumatra Tobacco Co., Bloomfield .....	.....
18953	American Sumatra Tobacco Co., Bloomfield .....	.....
18954	American Sumatra Tobacco Co., Bloomfield .....	.....
19250	Archie Evans, Hockanum .....	.....
19251	Archie Evans, Hockanum .....	.....
19252	Archie Evans, Hockanum .....	.....
19253	Archie Evans, Hockanum .....	.....
19254	Archie Evans, Hockanum .....	.....
19211	Fassler & Silberman, Hartford .....	.....
18770	John H. Fay, Middletown .....	.....
19030	A. E. Plant Sons Co., Branford .....	.....
19031	A. E. Plant Sons Co., Branford .....	.....
19032	A. E. Plant Sons Co., Branford .....	.....
19033	A. E. Plant Sons Co., Branford .....	.....
18724	S. D. Woodruff & Sons, Orange .....	.....

SPECIAL MIXTURES AND HOME MIXTURES—*Concluded.*

In nitrates.	Nitrogen.				Phosphoric Acid.						Potash.		Station No.	
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Citrate-insoluble.	Total.		"So-called "Available."		As muriate.	Total.		
				Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.		Found.		Guaranteed.
....	....	....	....	5.63	....	0.10	5.10	....	5.00	....	0.18	6.90	....	18731
....	....	....	....	5.59	....	0.13	5.09	....	4.96	....	0.22	6.79	....	18732
....	0.10	5.06	....	5.16	....	0.23	6.35	....	6.12	....	0.24	7.75	....	18766
....	0.10	4.96	....	5.06	....	0.18	6.22	....	6.04	....	0.23	7.84	....	18767
....	0.12	4.96	....	5.08	....	0.26	6.52	....	6.26	....	0.19	8.03	....	18768
....	0.06	5.21	....	5.27	....	0.13	4.96	....	4.83	....	0.13	7.09	....	18771
....	0.08	5.34	....	5.42	....	0.08	5.19	....	5.11	....	0.20	7.00	....	18772
....	0.04	5.34	....	5.38	....	0.12	5.30	....	5.18	....	0.23	6.60	....	18773
....	0.05	5.28	....	5.33	....	0.14	5.26	....	5.12	....	0.27	6.74	....	18774
....	0.07	5.24	....	5.31	....	0.13	5.31	....	5.18	....	0.23	6.54	....	18775
....	0.06	5.25	....	5.31	....	0.12	5.13	....	5.01	....	0.20	6.45	....	18776
....	....	....	....	5.07	....	....	6.18	....	....	....	....	7.24	....	18823
....	....	....	....	4.78	....	....	6.14	....	....	....	....	7.04	....	18824
....	....	....	....	4.78	....	....	6.00	....	....	....	....	7.48	....	18825
....	....	....	....	5.44	....	....	5.05	....	....	....	....	5.32	....	18952
....	....	....	....	5.42	....	....	5.03	....	....	....	....	5.44	....	18953
....	....	....	....	5.40	....	....	5.43	....	....	....	....	5.42	....	18954
....	....	....	....	4.80	....	....	7.28	....	....	....	....	8.78	....	19250
....	....	....	....	5.78	....	....	6.45	....	....	....	....	8.57	....	19251
....	....	....	....	5.14	....	....	6.53	....	....	....	....	8.72	....	19252
....	....	....	....	5.55	....	....	8.28	....	....	....	....	9.20	....	19253
....	....	....	....	4.40	....	....	5.90	....	....	....	....	6.57	....	19254
0.44	0.12	5.32	....	5.88	....	0.25	7.13	....	6.88	....	0.58	5.90	....	19211
....	0.13	4.95	....	5.08	....	1.97	7.13	....	5.16	....	0.08	7.17	....	18770
0.84	0.06	2.65	....	3.55	....	1.18	11.18	....	10.00	....	6.37	6.37	....	19030
1.64	0.10	3.94	....	5.68	....	1.40	10.68	....	9.28	....	....	....	....	19031
0.86	0.10	4.18	....	5.14	....	1.58	11.58	....	10.00	....	....	....	....	19032
1.81	0.06	2.77	....	4.64	....	0.73	8.73	....	8.00	....	5.63	5.63	....	19033
....	....	....	....	3.92	....	0.03	1.68	....	1.65	....	0.40	1.32	....	18724

VI. MISCELLANEOUS FERTILIZERS, AMENDMENTS
AND WASTE PRODUCTS.

WOOD ASHES.

The following samples were submitted by Hatheway & Steane, Hartford; purchased from John Joynt, Lucknow, Canada:

18501, car No. 117922; **18502**, car No. 534106; **19215**, car No. 247466; **19216**, car No. 213388; **19227**, car No. 206079; **19635**, car No. 90928.

Other samples were:

19234. Sent by A. N. Farnham, Westville.

19589. Sent by H. V. Worth, East Berlin. This is the ashes from a brick kiln. As our previous analyses of this material have shown, this is of very small value as a commercial fertilizer. Where it can be used with only a short haul and in large amount, it has given excellent results on grass growing on a light, sandy soil.

19421. Sent by S. R. McDonald, Wallingford. Bought of George Stevens, Peterborough, Canada.

The ashes had evidently been wet.

TABLE XVII. ANALYSES OF WOOD ASHES.

Station Number	18501	18502	19215	19216	19227	19635	19234	19589	19421
	%	%	%	%	%	%	%	%	%
Phosphoric acid	2.43	2.52	2.28	2.53	2.15	1.93	1.83	1.00	1.83
Water-soluble Potash	6.56	6.75	7.09	7.54	7.28	4.59	6.78	0.64	2.37
Insoluble material	8.91	9.56	10.37	14.26	9.77	9.82	7.46	60.46	9.15
Cost per ton	\$36.08	\$37.12	....	....	....	....	....	....	....

SHEEP MANURE, ETC.

Analyses of eleven samples of sheep manure, etc., are given in Table XVIII. All were sampled by the Station agent except 19695, which was submitted by the manufacturer.

18926. Sold by American Agricultural Chemical Co. Sampled from stock of Bristol Grain & Supply Co., Bristol.

18912. Sold by Apothecaries Hall Co., Waterbury. Sampled from stock of R. W. Hine, Cheshire.

18968. Sold by Armour Fertilizer Works, N. Y. Sampled from stock of Spencer Bros., Suffield.

18964. Sold by Berkshire Fertilizer Co., Bridgeport. Sampled at the factory.

19160. Sheepshead Pulverized Sheep Manure. Sold by Natural Guano Co., Aurora, Ill. Sampled from stock of F. C. Benjamin, Danbury.

18902. Master Brand. Sold by Proto-Feed & Guano Co., Chicago, Ill. Sampled from the stock of Lightbourn & Pond Co., New Haven.

19193. Wizard Brand. Sold by Pulverized Manure Co., Chicago, Ill. Sampled from stock of G. R. Stannard, Branford.

18904. South American Sheep and Goat Manure. Sold by Sanderson Fertilizer Co., New Haven. Sampled at the factory.

19242. Sold by Virginia-Carolina Chemical Co., New York. Sampled from the stock of Silliman Hardware Co., New Canaan.

19695. Wizard Brand. Sold by Pulverized Manure Co., Chicago, Ill. Manufacturer's sample.

There is included a single analysis of poultry manure.

19243. Premier Brand Pulverized Poultry Manure, sold by Poultry Feed Co., Chicago, Ill. Sampled from stock of Quality Seed & Fertilizer Co., Stamford.

TABLE XVIII. ANALYSES OF

Station Number	18926	18912	18968
	%	%	%
Nitrogen as nitrates .....	....	....	....
" as ammonia	0.20	0.16	0.12
" organic	2.38	1.24	1.38
" total found	2.58	1.40	1.50
" guaranteed	2.06	1.84	1.23
Phosphoric acid, citrate-insoluble	0.20	0.10	0.43
" " total found	1.45	0.95	1.70
" " guaranteed	1.25	1.25	1.00
Potash, water-soluble, found	2.08	3.24	3.21
" guaranteed	1.00	3.00	2.50
Cost per ton	\$48.00	....	\$45.00

Sample **18912** falls below the guaranty in both nitrogen and phosphoric acid. The Apothecaries Hall Co. states that the guarantee is the one given by the party from whom the manure was bought.

On receiving our analysis, the guaranty on the packages was changed to conform to the analysis.

The ten samples vary greatly in their composition. The average of the ten is:

Nitrogen	1.93%
Phosphoric acid	1.54%
Water-soluble potash	2.80%
Cost per ton	\$45.96

18522, sent by E. Barnwater, Stratford, was stated to have been bought for sheep manure. It contained:

Nitrogen	2.80%
Phosphoric acid	0.73%
Potash	1.50%
Insoluble matter	11.00%
Water	12.61%

TOBACCO STEMS.

No. **18900**, sent by J. E. Luddy, Windsor, was a sample offered by the Imperial Tobacco Co., Montreal. It contained 1.17 per cent of nitrogen and 2.57 per cent of potash. It is therefore of very inferior quality.

REFUSE GLUE.

18751, from J. H. Stannard, Ivoryton, contained 12.04 per cent nitrogen and 0.15 phosphoric acid.

SHEEP MANURE, ETC.

18964	19160	18902	19193	18904	19242	19695	19243
%	%	%	%	%	%	%	%
0.08	0.04	....	....	....	....	....	....
0.38	0.24	0.12	....	0.12	....	0.04	0.62
1.80	2.21	1.86	....	1.45	....	1.60	3.61
2.26	2.49	1.98	1.96	1.57	1.91	1.64	4.23
1.70	2.25	2.05	2.00	1.23	1.72	1.80	4.10
0.13	0.18	0.10	0.13	0.13	0.25	0.10	0.15
1.05	1.73	1.60	1.55	1.63	2.45	1.30	2.75
1.00	1.25	1.00	....	1.00	....	1.00	2.70
2.91	2.15	3.71	3.07	3.25	1.56	2.85	1.28
1.00	1.50	2.50	2.00	3.00	1.50	1.00	1.30
\$40.00	\$50.00	\$49.00	\$49.00	\$42.00	\$44.70	....	\$45.00

TOBACCO FERTILIZER.

19489 was a tobacco fertilizer salvaged from a burned tobacco barn. Sent by Foran Bros., East Hartford.

It contained 3.73 per cent nitrogen, 8.05 of available phosphoric acid and 5.96 of potash and was not very seriously damaged.

PEAT OR MUCK.

Four samples have been examined:

17876 from C. L. Bill, 1184 Main St., Bridgeport.

18290 from M. H. Nolan, Stratford.

18881 from D. J. Smith, Southington.

19406 from Richard Starr, Darien.

These analyses are here given on a water-free basis:

Per cent of	Organic Matter.	Mineral Matter.	Nitrogen.
17876	28.66	71.34	0.95
18290	25.87	74.13	1.14
18881	78.73	21.27	4.00
19406	69.91	20.09	1.30

The first two in the table are of very moderate value because sand and earth make nearly three-quarters of their weight. The others in their dry or partially dry state would be excellent absorbents of liquid manure or would be suitable for composing with stable manure.

The amount of nitrogen in **18881** is exceptionally large.

LIME AND LIMESTONE.

A number of samples of these materials have been analyzed and will be printed in another bulletin including analyses not yet completed.

SOILS.

The tests of acidity made in samples of soil are of no general value and are therefore not reported here.

POTASH-MARL.

This material is sold by Potash-Marl, Inc., 15 East 40th St., New York City, and is a prepared green sand marl which occurs in New Jersey, and has been used locally as a fertilizer where it could be obtained abundantly and cheaply.

It contains considerable potash, sometimes 6 per cent or more, which is not, however, water-soluble. The Company only guarantees the amount of phosphoric acid.

Four samples have been examined as follows:

No. **19407**, from stock of Silliman Hardware Co., New Canaan, Conn.

No. **19726**, stock of Lightbourn & Pond, New Haven, Conn.

Both the above were sent by the Station agent.

No. 1 and No. 2 were sent by the Potash-Marl Co.

ANALYSES.

	19407	19726	No. 1	No. 2
Available phosphoric acid found.....	0.33	0.24	....	....
Available phosphoric acid guaranteed.	1.75	1.75	....	....
Insoluble phosphoric acid	0.55	0.64	....	....
Total phosphoric acid found	0.88	0.88	0.99	1.24
Total phosphoric acid guaranteed....	2.14	2.14	....	....
Price per ton	\$45.00	\$45.00	....	....

The samples Nos. 1 and 2 were noticeably finer than the others.

CORRECTIONS.

The following corrections should be made in Bulletin 238 (being the Report of this Station on Commercial Feeding Stuffs for 1921), page 337, Table II:

Item under *Wheat Feed (Mixed Feed)* should read: 15722 Wirthmore, St. Albans Grain Co., St. Albans, Vt.0.30

Item under *Poultry Feeds* should read: 18008 Chick-Chuck, Russia Cement Co., Gloucester, Mass. 5.75 0.38