

# COMMERCIAL FERTILIZERS

## REPORT FOR 1945

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Connecticut  
Agricultural Experiment Station  
New Haven

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JOHN M. DOWE,  
*State Comptroller.*

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# Report on Inspection and Analysis of Commercial Fertilizers, 1945

E. M. BAILEY, *Chemist in Charge\**

## CONNECTICUT LAW AND REGULATIONS REGARDING COMMERCIAL FERTILIZERS

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

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

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

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

\*Analyses reported in this bulletin were made by Messrs. O. L. Nolan, Richard Merwin, D. C. Walden and Miss Helen Kocaba; microscopic examinations by Miss Janetha Shepard; inspection and sampling by Mr. George Smith; and compilations by Mr. Nolan and Mrs. M. B. Vosburgh.



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

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

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

### REGISTRATIONS FOR 1945

For 1945, 44 firms and individuals registered 229 brands of fertilizers at this Station for sale in the State. As required by statute, the brands are listed as follows:

- |  |  |
|--|--|
| <b>The Acme Guano Co., Baltimore 2, Md.</b>                                      | Agrico for Potatoes 5-10-10  |
| Acme 4-12-4  | Agrico for Seeding Down 4-12-16  |
| Acme 5-8-7   | Agrico for Tobacco 6-3-6   |
| Acme 5-10-5 Victory Garden   | Agrico for Top Dressing 7-7-7  |
| Acme 5-10-10   | Agrico for Truck 4-12-4 <sup>1</sup>   |
| Acme 7-7-7   | Agrico Phosphate and Potash 0-14-14  |
|  | Bone Meal  |
|  | 18% Normal Superphosphate  |
| <b>Agricultural Supply Co., West Haven, Conn.</b>                                | Sheep Manure <sup>2</sup>  |
| Yale Special Mixture 8-6-2   |  |
| <b>Ted Alkire, Lubbock, Tex.</b>   | <b>American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.</b>           |
| Kireal Cotton Hull Ash   | 20.6 'Aero' Cyanamid Granular  |
| <b>Allied Chemical &amp; Dye Corp., 40 Rec-tor St., New York 6, N. Y.</b>        | <b>American Potash &amp; Chemical Corp., 122 E. 42nd St., New York 17, N. Y.</b> |
| Arcadian, The American Nitrate of Soda   | Trona Muriate of Potash-60% K <sub>2</sub> O                                     |
| Arcadian Sulphate of Ammonia   |  |
| <b>American Agricultural Chemical Co., No. Weymouth, Mass.</b>                   | <b>Apothecaries Hall Co., Waterbury, Conn.</b>                                   |
| AA Quality Fertilizer 5-8-7  | Bone Meal  |
| AA Quality Fertilizer 5-10-10  | Castor Pomace  |
| Agrico for Corn 4-12-8   | Cotton Hull Ashes  |
| Agrico for Gardens (Victory Garden Fertilizer) (For Food Production Only 5-10-5) | Dry Ground Fish  |
| Agrico for Lawns, Trees and Shrubs 6-10-4  | Liberty Fertilizer 0-10-20   |
| Agrico for New England 4-12-8  | Liberty Fertilizer 0-14-14   |
| Agrico for New England 5-8-7   | Liberty Fertilizer 0-20-20   |
|  | Liberty Fertilizer 4-12-4  |
|  | Liberty Fertilizer 5-10-10   |
|  | Liberty Green Gro 6-7-4  |
|  | Liberty High Grade Market Gardeners 5-8-7  |

Liberty Special for Fruit and Grass 7-7-7  
 Liberty Tobacco Mixture 5-3-5  
 Liberty Tobacco Mixture 6-3-6  
 Liberty Tobacco Starter 4-10-0  
 Liberty Tobacco Starter 5-5-15  
 Liberty Victory Garden 5-10-5  
 Muriate of Potash  
 Precipitated Bone  
 Sheep Manure  
 Sulphate Ammonia  
 Sulphate Potash  
 Sulphate Potash and Magnesia  
 Superphosphate 20%

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

Armour's Big Crop Fertilizer 0-14-14  
 Armour's Big Crop Fertilizer 4-12-4  
 Armour's Big Crop Fertilizer 5-8-7  
 Armour's Big Crop Fertilizer 5-10-10  
 Armour's Big Crop Fertilizer 7-7-7  
 Armour's Big Crop Fertilizer 8-16-16  
 Armour's Big Crop Superphosphate 20%  
 Armour's Big Crop Tobacco Special 5-3-5  
 Armour's Big Crop Tobacco Special 6-3-6  
 Armour's Bone Meal Fertilizer  
 Armour's Special Ornamental Fertilizer 6-12-4  
 Armour's Victory Garden Fertilizer 5-10-5

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

Cow-Eta Brand Cottonseed Meal  
 "Nitraprill" Fertilizer Compound Containing Ammonium Nitrate

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

Driconure  
 O K Manure

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

Bartlett Green Tree Food 4-8-6

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

Berkshire Bone Meal  
 Berkshire Fertilizer 0-14-14  
 Berkshire Fertilizer 4-12-4  
 Berkshire Fertilizer 5-8-7  
 Berkshire Fertilizer 5-10-5  
 Berkshire Fertilizer 5-10-10  
 Berkshire Fertilizer 7-7-7  
 Berkshire Fertilizer (Potash from Sulphate 5-10-10)  
 Berkshire Fertilizer Tobacco 6-3-6  
 Berkshire Sheep Manure  
 Berkshire Specialty Fertilizer 6-6-4  
 Berkshire Victory Garden Fertilizer 5-10-5 (For Food Production Only)

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

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

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

Castor Pomace  
 Corenco 0-14-14 Top Dresser  
 Corenco 4-12-4 Complete Manure  
 Corenco 5-8-7 Potato and General Crop  
 Corenco 5-10-5 Victory Garden Fertilizer  
 Corenco 5-10-10 Peerless Potato  
 Corenco 6-3-6 Special Tobacco Grower  
 Corenco 6-8-2 Landscape Fertilizer  
 Corenco 7-7-7 Complete Fruit and Top Dressing  
 Corenco Ground Bone  
 Corenco Sheep Manure  
 Corenco Superphosphate 20%  
 Muriate of Potash  
 Spurz-On

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

Davco Granulated 20% Superphosphate

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

Du Pont "Uramon" Fertilizer Compound

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

Eastern States 0-10-20 W/Borax  
 Eastern States 0-19-19 W/Borax  
 Eastern States 5-5-15 Tobacco  
 Eastern States 5-10-5 V.G.  
 Eastern States 5-10-10  
 Eastern States 5-15-20  
 Eastern States 8-4-8 Tobacco  
 Eastern States 8-16-16  
 Eastern States 8-16-16 LCS  
 Eastern States 8-24-8  
 Eastern States 10-10-10  
 Eastern States Castor Pomace  
 Eastern States Cottonhull Ash  
 Eastern States Muriate of Potash  
 Eastern States Sulphate of Potash  
 Eastern States Super.-Pulverized and Granulated 20%  
 Eastern States Super.-Triple 47%

**Humphreys - Godwin Co., Memphis, Tenn.**

Dixie Brand Prime 41% Protein Cottonseed Meal

**International Minerals & Chemical Corp., Woburn, Mass.**

International 5-10-10

International Caribee 5-10-10-2

**Spencer Kellogg & Sons, Inc., Buffalo 5, N. Y.**

Castor Pomace

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

"Lovit Brand" 41% Protein Cottonseed Meal

**Norwood Brand Fertilizer Co., North Reading, Mass.**

Norwood Brand Sheep Manure

**Old Deerfield Fertilizer Co., Inc., So. Deerfield, Mass.**

Old Deerfield 5-8-7 Onion and Truck Fertilizer

Old Deerfield 5-10-10 Potato Fertilizer

Old Deerfield 5-10-10 and 2 Potato Fertilizer — Potash other than muriate

Old Deerfield 6-3-6 Complete Tobacco Fertilizer

Old Deerfield Castor Pomace

Old Deerfield Cottonhull Ashes 35%

Old Deerfield Double Sulfate of Potash Magnesia

Old Deerfield Dry Ground Fish

Old Deerfield Hoof and Horn Meal

Old Deerfield Steamed Bone

**Olds & Whipple, Inc., Hartford, Conn.**

High Grade Sulphate of Potash

O &amp; W 4-12-4 Market Garden Fertilizer

O &amp; W 5-3-5 Complete Tobacco Fertilizer

O &amp; W 5-3-5 Complete Tobacco Fertilizer Potash derived from Cottonhull Ashes

O &amp; W 5-5-15 High Grade Tobacco Starter and Potash

O &amp; W 5-8-7 Potato and General Purpose Fertilizer

O &amp; W 5-8-7 Potato and General Purpose Fertilizer with Sulphate of Potash

O &amp; W 5-10-5 Victory Garden Fertilizer

O &amp; W 5-10-10 Potato Fertilizer

O &amp; W 5-10-10 Potato Fertilizer with Sulphate of Potash

O &amp; W 6-3-6 Blue Label Tobacco Fertilizer

O &amp; W 6-3-6 Blue Label Tobacco Fertilizer Potash derived from Cottonhull Ashes

O &amp; W 7-7-7 Top Dressing and Grass Fertilizer

O &amp; W Bone Meal

O &amp; W Castor Pomace

O &amp; W Cotton Hull Ash

O &amp; W Menhaden Dry Ground Fish

O &amp; W Superphosphate 20%

O &amp; W Triple Superphosphate 47%

South America Linseed Meal—40% Protein

**Maurice Pincoffs Co., 725 Exchange Bldg., Houston, Tex.**

41% Protein Cottonseed Meal

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

Platt's Special 10-5-5 Lawn Dressing

**The Pulverized Manure Co., 503 Exchange Bldg., Union Stock Yards, Chicago 9, Ill.**

Wizard Brand Cow Manure

Wizard Brand Pulverized Sheep Manure

**Ralston Purina Co., Product Control Dept., St. Louis, Mo.**

Purina Plant Food 5-10-5

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

Castor Pomace

Cotton Hull Ash

Dry Ground Fish

Fine Ground Bone

Gro-Fast Cow Manure

Gro-Fast Plant Food 5-8-5

Gro-Fast Sheep Manure

Gro-Fast Strictly Pure Bone Meal

Hubbard Climax Tobacco Fertilizer 5-3-5

Hubbard High Potash Fertilizer 5-10-10

Hubbard Potato Fertilizer 5-8-7

Hubbard Raw Knuckle Bone Flour

Hubbard Tobacco Grower 6-3-6

Hubbard Tobacco Starter 5-5-15

Muriate of Potash

Red H 0-14-14

Red H 4-12-4

Red H 4-12-8

Red H 5-8-7

Red H 5-10-5

Red H 5-10-10

Red H 7-7-7

Red H 8-16-16

20% Superphosphate

Victory Garden Fertilizer 5-10-5

**Ruhm Phosphate & Chemical Co., Mt. Pleasant 6, Tenn.**

"Red Seal Brand Ruhm's Phosphate Rock 30%"

- O. M. Scott & Sons Co., Marysville, Ohio**  
 Scott's Garden Builder 5-10-5  
 Scott's Turf Builder 8-7-3
- Sears-Roebuck & Co., 925 S. Homan Ave., Chicago 7, Ill.**  
 Garden Master Plant Food 5-8-7  
 Garden Master Plant Food 5-10-5  
 Garden Master Victory Garden Fertilizer 5-10-5
- Sewerage Commission of the City of Milwaukee, Milwaukee, Wis.**  
 Milorganite
- M. L. Shoemaker, Div. Wilson & Co., Inc., Philadelphia 34, Pa.**  
 M. L. Shoemaker's Swift-Sure 4-10-0  
 Fertilizer Tobacco Starter  
 M. L. Shoemaker's Swift-Sure 5-8-7  
 Fertilizer
- Stumpp & Walter Co., 132 Church St., New York 8, N. Y.**  
 Sawco Bone  
 Sawco Emerald Grass 5-10-5  
 Sawco General Garden 5-10-5  
 Sawco Superphosphate  
 Sawco Victory Garden 5-10-5  
 Sawconure
- Summers Fertilizer Co., Inc., Baltimore 2, Md.**  
 "Summers" 5-8-7 Fertilizer  
 "Summers" 5-10-5 Fertilizer  
 "Summers" 5-10-10 Fertilizer  
 "Summers" 7-7-7 Fertilizer  
 "Summers" 8-16-16 Fertilizer  
 "Summers" 20% Superphosphate
- Swift & Co., Plant Food Div., Court Square Bldg., Baltimore, Md.**  
 Swift's Red Steer 5-8-7  
 Swift's Red Steer 5-10-5  
 Swift's Red Steer 5-10-10
- Swift's Red Steer Brand 0-20-0  
 Swift's Sheep Manure  
 Vigoro 4-12-4  
 Vigoro Victory Garden Fertilizer —  
 For Food Production Only 5-10-5
- Tennessee Corp., Lockland, Ohio**  
 5-10-5 Loma "For Flowers, Trees and Shrubs"  
 5-10-5 Loma for Victory Garden Fertilizer for Food Production
- I. P. Thomas & Son Co., 721 Market St., Camden, N. J.**  
 Economy Fertilizer 4-12-4  
 I. P. Thomas 5-8-7  
 I. P. Thomas 5-10-5  
 I. P. Thomas 7-7-7  
 Soil-Rich Victory Garden Fertilizer 5-10-5  
 20% Superphosphate
- Van Horne Chemical Co., Inc., 140 Liberty St., New York 6, N. Y.**  
 Van Horne's Fertilizer 10-6-4
- Walker-Gordon Laboratory Co., Plainsboro, N. J.**  
 Bovung
- F. H. Woodruff & Sons, Inc., Milford, Conn.**  
 Gro-Sod Lawn Food 10-6-4
- Woodruff Fertilizer Works, Inc., North Haven, Conn.**  
 Baker's Castor Pomace  
 Clark's Tip Top Fertilizer 5-8-7  
 Muriate of Potash 60%  
 Woodruff's 0-14-14 Fertilizer  
 Woodruff's 5-8-7 Fertilizer  
 Woodruff's 5-10-5 Fertilizer  
 Woodruff's 5-10-10 Fertilizer  
 Woodruff's 6-3-6 Tobacco Fertilizer  
 Woodruff's 7-7-7 Fertilizer  
 Woodruff's 19% Superphosphate

<sup>1</sup> Later substituted by Agrico Country Club Fertilizer 6-10-4.

<sup>2</sup> Later substituted by "Pulverized Sheep and Goat Manure".

<sup>3</sup> Later revised to Platt's Concentrated 10-5-5 Lawn Fertilizer.

<sup>4</sup> Later revised to Gro-Fast Strictly Bone Meal.



## FERTILIZER INSPECTION FOR 1945

Food Production Order No. 5, revised as of June 30, 1944, designated the fertilizer grades for use in Connecticut for the season 1944-45.

These grades were as follows:

0-10-20, 0-14-14, 4-10-0<sup>1</sup>, 4-12-4, 4-12-8, 4-12-16, 5-3-5<sup>1,3</sup>, 5-5-15<sup>4</sup>,  
5-8-7<sup>2</sup>, 5-10-5<sup>2</sup>, 5-10-10, 6-3-6<sup>2</sup>, 7-7-7.

In addition, a manufacturer was permitted to make one specialty (non-food use) fertilizer of unapproved grade for sale under his own brand name, and one grade of such fertilizer for any other person who might purchase it for resale.

Chemical and base materials approved for all states for the season 1944-45 were as follows:

Nitrate of soda	16-0-0
By-product nitrate of soda	14-0-0
Nitrate of potash	14-0-14
Sulphate of ammonia	20 (or higher)-0-0
Cyanamid	20 (or higher)-0-0
Uramon	42-0-0
Ammoniated superphosphate	4 (or higher)-16 (or higher)-0
Ammonium phosphate	11-48-0
Ammonium phosphate-sulphate	16-20-0
Cal-nitro	20 (or higher)-0-0
A-N-L	20 (or higher)-0-0
Ammonium nitrate	30 (or higher)-0-0
Potassium nitrate	14-0-44 (or higher)
Superphosphate	0-18 (or higher)-0
Muriate of potash	0-0-50 (or higher)
Sulphate of potash	0-0-48 (or higher)
Manure salts	0-0-22 (or higher)
Sulphate of potash-magnesia	0-0-18 (or higher)
Potash lime	0-0-6
Ground phosphate rock	Any Grade
Colloidal phosphate	Any Grade
Cottonhull ash	Any Grade
Wood ash	Any Grade
Straight carriers of organic nitrogen	

During the season the Station agent has collected samples of all of the registered brands that could be found in the State. A classification of these, including samples submitted by purchasers, is given in the following tabulation. The classification includes also tonnage data for the year July 1, 1944 to June 30, 1945. This tonnage includes vegetable meal tonnage bought by tobacco growers for their own use direct from sources outside the State. It does not include fertilizer distributed in the State under the Federal Agricultural Adjustment Program.

<sup>1</sup> No multiples permitted.  
<sup>2</sup> Victory Garden Fertilizer.  
<sup>3</sup> Tobacco only.  
<sup>4</sup> Tobacco plant beds.



**CLASSIFICATION OF FERTILIZER MATERIALS  
AND FERTILIZER TONNAGE**

(Tonnage is for the period July 1, 1944 to June 30, 1945)

	Page	No. of samples	Tonnage	
I. Containing chiefly nitrogen:				
Nitrate of soda .....	16	6	2,090	
Sulphate of ammonia .....	16	1	133	
Castor pomace .....	16	7	5,565	
Cottonseed meal .....	17	43	7,737	
Other materials (cyanamid, urea and ammon. nitrate compounds)	16	6	451	
Soybean meal .....	..	1	75	
Linseed meal .....	..	2	159	
Horn and hoof meal .....	17	2	60	
				16,270
II. Containing chiefly phosphoric acid:				
Superphosphate 20% .....	18	15	4,879	
18 - 19% .....	18	2	526	
47% .....	18	..	73	
Precipitated bone .....	19	1	63	
Other materials .....	..	..	1	
				5,542
III. Containing chiefly potash:				
Muriate of potash .....	20	9	680	
Sulphate of potash .....	20	3	385	
Sulphate of potash-magnesia .....	20	3	79	
Cottonhull ashes .....	20	9	1,375	
				2,519
IV. Containing nitrogen and phosphoric acid:				
Dry ground fish .....	21	8	1,091	
Ground bone .....	21	15	847	
Other materials .....	21	1	388	
				2,326
V. Mixed fertilizers:				
Commercial mixtures .....	22	153	54,080	
Special and home mixtures .....	32	78	158	
				54,238
VI. Miscellaneous:				
Sheep manure, etc. ....	37	15	768	
Other materials .....	38	26	..	
Check meals and fertilizers .....	15	42	..	
				768
Totals .....		451		81,663

### Mixed Fertilizer Tonnage

#### Grades Approved for Connecticut

Grade	Tons	Grade	Tons
0-10-20	212	5- 5-15	477
0-14-14	509	5- 8- 7	13,794
4-10- 0	452	5-10- 5	2,809
4-12- 4	2,773	5-10-10	9,987
4-12- 8	735	6- 3- 6	13,564
4-12-16	51	7- 7- 7	2,905
5- 3- 5	790		
		Total	49,058

#### Specialty and Other Grades

(Over 50 tons)

0-20-20	189	6-10- 4	195
3-12- 6	124	8- 4- 8	908
4- 8- 6	111	8- 6- 2	120
5- 8- 5	134	8- 7- 3	60
5-15-20	106	8-16-16	1,735
6- 7- 4	138	8-24- 8	642
6- 8- 2	98	10-10-10	319
		Total	4,879

(Less than 50 tons)

4- 1- 2	4	8-16- 8	2
4-10- 2	25	10- 5- 5	18
6- 6- 4	32	10- 6- 4	32
6-12- 4	30		
		Total	143
		Grand Total	54,080

### I. Raw Materials Chiefly Valuable for Nitrogen

The principal sources of inorganic nitrogen used in fertilizers are nitrate of soda and sulphate of ammonia. Nitrate of soda is obtained by refining natural "caliche" deposits found in Chile. It is also made by the oxidation of synthetic ammonia and subsequent neutralization with soda ash (sodium carbonate).

A fertilizer compound containing ammonium nitrate was offered in this State during the past season under the trade name "Nitro-prills". It was sold under a guaranty of 33.5 per cent nitrogen.

Other sources of nitrogen in considerable use are cyanamid and urea. For fertilizer purposes these articles are classed as sources of non-protein organic nitrogen which relates them to the organic sources of nitrogen.

The chief sources of organic nitrogen have been cottonseed meal and castor pomace. One sample of horn and hoof meal was analyzed.

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

## **II. Raw Materials Chiefly Valuable for Phosphoric Acid**

Superphosphate formerly contained 16 per cent of available phosphoric acid, but in recent years commercial methods have produced so-called double-superphosphate containing 20 per cent or more of that fertilizer element.

All but two of the official samples analyzed this season were of the 20 per cent grade; two were sold under guaranties of 18 and 19 per cent, respectively. All guaranties were met or exceeded except in one case where a small shortage was found.

One official sample of precipitated bone was analyzed and found to be well above guaranty.

Analyses of official samples are given in Table 2.

## **III. Raw Materials Chiefly Valuable for Potash**

Except for tobacco growing, muriate of potash is the usual source of potash in mixed fertilizer in this State. All of the official samples examined this season were sold under guaranties of 60 per cent potash ( $K_2O$ ), which is equivalent to 95 per cent muriate of potash.

Two samples of sulphate of potash and sulphate of potash-magnesia met their respective guaranties.

Cottonhull ashes, because of their variable quality, are generally sold on a unit basis. Two samples sold on guaranties failed to meet them but adjustments were made with purchasers.

Analyses of official samples are given in Table 3.

## **IV. Raw Materials Supplying Nitrogen and Phosphoric Acid**

Dry ground fish and ground bone are the principal items in this group of fertilizer materials.

Two samples of ground bone, 2848 and 2776, were found grossly adulterated with ammonium sulphate and rock phosphate on analysis and microscopic examination. Sixty per cent or more of the total nitrogen was inorganic, and a considerable part of the total phosphoric acid was from mineral sources. The goods were bought by local firms in good faith and they made adequate adjustments with their customers for the differential in commercial value when the character of the material was discovered.

Analyses of official samples are given in Table 4.

## V. Mixed Fertilizers

### COMMERCIAL MIXTURES

Analyses of 141 official samples of mixed fertilizer are given in Table 5. The results are summarized as follows:

Total number of samples .....	141	
Samples deficient in:		
one item .....	27	
two items .....	3	
three items .....	1	30
Percentage of samples meeting guaranties .....		79
Total guaranties made .....		412 <sup>1</sup>
Guaranties not met:		
nitrogen .....	17	
phosphoric acid .....	7	
potash .....	12	36
Percentage met .....		91

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

### SPECIAL AND HOME MIXTURES

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

In connection with a study of a case of tobacco leaf injury, a detailed analysis of special mixture 3269 (Table 6) was made at the request of the Tobacco Station. In addition to the major and minor elements shown in the chemical analysis, spectrographic analysis showed copper and boron very low (order of .01 per cent), manganese very low (chemical determination .02 to .03 per cent), iron, aluminum and sodium present, and silica high. The mixture was composed of cottonhull ashes, triple superphosphate, double manure salts and urea.

### STATE PURCHASES OF FERTILIZER

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

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

Materials	No. of samples	Reference
Supplying nitrogen .....	7	Table 1
Supplying phosphoric acid .....	6	Table 2
Supplying potash .....	3	Table 3
Supplying nitrogen and phosphoric acid.	2	Table 4
Mixed fertilizers .....	28	Table 5
	<hr/>	
Total.....	46	

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



## VI. Miscellaneous

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

*Other miscellaneous materials.* Analyses of the 26 samples of other miscellaneous materials were made. Analyses of some of these are given for reference purposes in Table 8.

*Check meals and fertilizers.* The laboratory continues its collaboration with the check analysis programs sponsored by the American Oil Chemists' Society and by the F. S. Royster Guano Company, State, commercial and industrial chemists take part in these programs, the purpose of which is to promote uniformity and accuracy in the analysis of cottonseed meal and fertilizer materials.

### MAINTENANCE OF GUARANTIES

The maintenance of guaranties as compiled from analyses of official samples of ingredient materials and mixed goods, Tables 1-6, is shown in the following tabulation. Deficiencies of 0.1 per cent or less in nitrogen and of 0.2 per cent or less in phosphoric acid and potash are not considered. The proportion of guaranties substantially met is the same as shown by a similar compilation last year, viz., 91 per cent. Under the difficult circumstances of labor and other war conditions prevailing in the industry in the last two years, this can be regarded as a very satisfactory record:

	No. of sample	No. of guaranties	Deficiencies
Nitrate of soda .....	3	3	0
Cyanamid .....	2	2	0
Uramon fertilizer compound .....	1	1	0
Ammonium nitrate compound .....	3	3	0
Sulphate of ammonia .....	1	1	0
Castor pomace .....	4	4	0
Cottonseed meal .....	2	2	0
Superphosphate .....	17	17	1
Precipitated bone .....	1	1	0
Muriate of potash .....	9	0	2
Sulphate of potash .....	1	1	0
Sulphate of potash-magnesia .....	1	1	0
Cottonhull ashes .....	4	3	2
Dry ground fish .....	4	8	0
Ground bone .....	9	18	4 <sup>1</sup>
Milorganite .....	1	2	1
Mixed fertilizer .....	141	412	36
Sheep manure .....	14	42	4
Totals .....	218	530	50
Percentage guaranties met .....			91

<sup>1</sup> By reason of adulteration.



TABLE 1. ANALYSES OF MATERIALS SUPPLYING CHIEFLY NITROGEN

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent nitrogen	
			Found	Guaranteed
<b>Nitrate of Soda</b>				
3195	Arcadian, The American. Allied Chemical & Dye Corp., New York 6, N. Y. ....	Hartford: Olds & Whipple, Inc. ....	16.16	16.00
2777 <sup>1</sup>	Chilean, Champion Brand. Chilean Nitrate Sales Corp., New York 5, N. Y. ....	Middletown: Conn. State Hospital .....	16.12	16.00
2910 <sup>1</sup>	Chilean, Champion Brand. Chilean Nitrate Sales Corp., New York 5, N. Y. ....	Newtown: Fairfield State Hospital .....	16.14	16.00
<b>Cyanamid</b>				
2775 <sup>1</sup>	20.6%, 'Aero' Granular. American Cyanamid Co., New York 20, N. Y. ....	Middletown: Conn. State Hospital .....	20.80	20.60
2788 <sup>1</sup>	20.6%, 'Aero' Granular. American Cyanamid Co., New York 20, N. Y. ....	Cheshire: Conn. Reformatory	20.66	20.60
<b>Uramon Fertilizer Compound</b>				
2935	E. I. du Pont de Nemours Co., (Inc.), Wilmington 98, Del. ....	East Windsor: Apothecaries Hall Co. ....	42.50	42.00
<b>Fertilizer Compound Containing Ammonium Nitrate</b>				
2877	"Nitroprills". Ashcraft-Wilkinson Co., Atlanta, Ga. ...	Portland: The Rogers & Hubbard Co. ....	33.40	33.50
2909 <sup>1</sup>	"Nitroprills". Ashcraft-Wilkinson Co., Atlanta, Ga. ...	Southbury: Southbury Training School .....	33.60	33.50
2914 <sup>1</sup>	"Nitroprills". Ashcraft-Wilkinson Co., Atlanta, Ga. ...	Newtown: Fairfield State Hospital .....	33.76	33.50
<b>Sulphate of Ammonia</b>				
2778 <sup>1</sup>	Apothecaries Hall Co., Waterbury, Conn. ....	Middletown: Conn. State Hospital .....	20.50	20.50
<b>Castor Pomace</b>				
2927	Apothecaries Hall Co., Waterbury, Conn. ....	East Windsor: Apothecaries Hall Co. ....	6.41	4.50
2844	Spencer Kellogg & Sons, Inc., Buffalo, N. Y. ....	West Suffield: H. L. Oppenheimer & Sons .....	6.10	4.52
2888	O & W. Olds & Whipple, Inc., Hartford, Conn. ....	Hartford: Olds & Whipple, Inc., .....	5.82	4.50
2875	The Rogers & Hubbard Co., Portland, Conn. ....	Portland: The Rogers & Hubbard Co. ....	6.10	4.50

<sup>1</sup>State purchase.

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent nitrogen	
			Found	Guaranteed
<b>Cottonseed Meal</b>				
2845	Dixie Brand Prime 41% Humphreys - Godwin Co., Memphis, Tenn. ....	West Suffield: H. L. Oppen- heimer & Sons .....	6.66	6.56
2936	"Lovit Brand" 41%. L. B. Lovitt & Co., Memphis, Tenn. ....	East Windsor: Apothecaries Hall Co. ....	6.61	6.56
<b>Horn and Hoof Meal</b>				
2834	Old Deerfield, Old Deerfield Fertilizer Co., Inc., South Deerfield, Mass. ....	Hazardville: L. B. Haas & Co.	14.70	14.00

<sup>1</sup>State purchase.

TABLE 2. ANALYSES OF SUPERPHOSPHATE, ETC.

Station No.	Manufacturer or wholesale dealer	Dealer or purchaser	Per cent phosphoric acid			
			Citrate-insoluble	Total	"Available"	
					Found	Guaranteed
<b>Superphosphate</b>						
2859	18% Normal. The American Agricultural Chemical Co., No. Weymouth, Mass. ....	West Haven: The American Agricultural Chemical Co. ....	0.69	18.97	18.28	18.00
2922	20%. Apothecaries Hall Co., Waterbury, Conn. ....	East Windsor: Apothecaries Hall Co. ....	0.70	22.11	21.41	20.00
2830	Armour's Big Crop 20%. Armour Fertilizer Works, New York 5, N. Y. ....	East Windsor Hill: Ahearn Bros. ....	1.61	21.81	20.20	20.00
2851 <sup>1</sup>	Corenco 20%. Consolidated Rendering Co., Boston 10, Mass. ....	Meriden: Conn. School for Boys ....	0.26	21.62	21.36	20.00
2908 <sup>1</sup>	Corenco 20%. Consolidated Rendering Co., Boston 10, Mass. ....	Southbury: Southbury Training School..	0.35	22.58	22.23	20.00
2798	Davco Granulated 20%. The Davison Chemical Co., Baltimore, Md. ....	Bridgeport: The Bridgeport Chemical Co.	0.76	22.22	21.46	20.00
2735	Eastern States Pulv. and Granulated 20%. Eastern States Farmers' Exchange, West Springfield, Mass. ....	East Hartford: Eastern States Farmers' Exchange .....	0.62	22.03	21.41	20.00
2994	O & W. Olds & Whipple, Inc., Hartford, Conn.	Hartford: Olds & Whipple, Inc. ....	0.71	22.79	22.08	20.00
2865	20%. The Rogers & Hubbard Co., Portland, Conn. ....	Portland: The Rogers & Hubbard Co....	0.15	20.68	20.53	20.00
2893 <sup>1</sup>	20%. The Rogers & Hubbard Co., Portland, Conn. ....	Norwich: Norwich State Hospital .....	0.10	20.70	20.60	20.00
2906 <sup>1</sup>	20%. The Rogers & Hubbard Co., Portland, Conn. ....	Niantic: Conn. State Farm for Women...	0.27	21.30	21.03	20.00
2986	Sawco 20%. Stumpp & Walter Co., New York 8, N. Y. ....	Stamford: Stumpp & Walter Co. ....	0.45	21.03	20.58	20.00
2911 <sup>1</sup>	"Summers" 20%. Summers Fertilizer Co., Inc., Baltimore 2, Md. ....	Newtown: Fairfield State Hospital .....	0.40	21.24	20.84	20.00

3000 <sup>1</sup>	"Summers" 20%. Summers Fertilizer Co., Inc., Baltimore 2, Md. ....	Somers: Osborn Prison Farm .....	0.40	21.80	21.40	20.00
3084	Swift's Red Steer Brand 20%. Swift & Co., Baltimore, Md. ....	Putnam: Checkerboard Feed Store .....	0.15	21.31	21.16	20.00
2864	20%. I. P. Thomas & Son Co., Camden, N. J.	Mt. Carmel: Hamden Grain Co. ....	0.87	22.22	21.35	20.00
3086	Woodruff's 19%. Woodruff Fertilizer Works, Inc., No. Haven, Conn. ....	No. Haven: Woodruff Fertilizer Works, Inc. ....	1.25	19.70	18.45	19.00
<b>Precipitated Bone</b>						
2931	Apothecaries Hall Co., Waterbury, Conn. ....	East Windsor: Apothecaries Hall Co. ....	0.10	41.00	40.90	38.00

<sup>1</sup>State purchase.



TABLE 3. ANALYSES OF POTASH SALTS, ETC.

Station No.	Manufacturer or jobber	Sampled from stock of	Per cent Potash	
			Found	Guaranteed
<b>Muriate of Potash</b>				
2797	Trona 60%. American Potash & Chemical Corp., New York 17, N. Y.....	Bridgeport: The Berkshire Chemical Co. ....	60.18	60.00
2984 <sup>1</sup>	Trona 60%. American Potash & Chemical Corp., New York 17, N. Y.....	Somers: Osborn Prison Farm	60.18	60.00
3007 <sup>1</sup>	Trona 60%. American Potash & Chemical Corp., New York 17, N. Y.....	Newtown: Fairfield State Hospital .....	60.04	60.00
2923	Apothecaries Hall Co., Waterbury, Conn. ....	East Windsor: Apothecaries Hall Co. ....	60.34	60.00
2812	Consolidated Rendering Co., Boston 10, Mass. ....	West Haven: L. T. Frisbie Co. ....	60.40	60.00
2731	Eastern States. Eastern States Farmers' Exchange, West Springfield, Mass. ....	Torrington: Eastern States Farmers' Exchange .....	60.30	60.00
2787 <sup>1</sup>	The Rogers & Hubbard Co., Portland, Conn. ....	Cheshire: Connecticut Reformatory .....	59.20	60.00
3083	The Rogers & Hubbard Co., Portland, Conn. ....	Portland: The Rogers & Hubbard Co. ....	61.42	60.00
2823	60%. Woodruff Fertilizer Works, Inc., No. Haven, Conn. ....	No. Haven: J. P. Beach....	59.10	60.00
<b>Sulphate of Potash</b>				
2930	Apothecaries Hall Co., Waterbury, Conn. ....	East Windsor: Apothecaries Hall Co. ....	49.86	48.00
<b>Sulphate of Potash and Magnesia</b>				
2932	Apothecaries Hall Co., Waterbury, Conn. ....	East Windsor: Apothecaries Hall Co. ....	22.02	20.00
<b>Cottonhull Ashes</b>				
2928	Apothecaries Hall Co., Waterbury, Conn. ....	East Windsor: Apothecaries Hall Co. ....	27.88	..... <sup>2</sup>
2841	Old Deerfield. Old Deerfield Fertilizer Co., Inc., So. Deerfield, Mass. ....	West Suffield: H. L. Oppenheimer & Sons .....	32.98	35.00
2835	O & W. Olds & Whipple, Inc., Hartford, Conn. ....	Hazardville: L. B. Haas & Co. ....	33.38	30.00
3092	The Rogers & Hubbard Co., Portland, Conn. ....	Portland: The Rogers & Hubbard Co. ....	26.83	30.00

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



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

Station No.	Manufacturer and brand	Sampled from stock of	Per cent nitrogen		Per cent phosphoric acid		Mechanical analysis (in percentage)	
			Total found	Total guaranteed	Total found	Total guaranteed	Finer than 1/50 inch	Coarser than 1/50 inch
			<b>Dry Ground Fish</b>					
2929 <sup>1</sup>	Apothecaries Hall Co., Waterbury, Conn. ....	East Windsor: Apothecaries Hall Co. ....	10.22	9.00	6.80	5.00	....	....
2838 <sup>2</sup>	Old Deerfield: Old Deerfield Fertilizer Co., Inc., So. Deerfield, Mass. ....	West Suffield: H. L. Oppenheimer & Sons .....	10.00	9.46	7.21	5.00	....	....
2836 <sup>3</sup>	O & W Menhaden. Olds & Whipple, Inc., Hartford, Conn. ....	Hazardville: L. B. Haas & Co. ....	10.06	9.00	7.07	5.00	....	....
2876 <sup>4</sup>	The Rogers & Hubbard Co., Portland, Conn. ....	Portland: The Rogers & Hubbard Co. ....	10.16	9.56	7.18	5.00	....	....
<b>Ground Bone</b>								
2857	The American Agricultural Chemical Co., No. Weymouth, Mass. ....	West Haven: The American Agricultural Co. ....	2.92	2.50	23.91	20.00	50.4	49.6
2848 <sup>5</sup>	Apothecaries Hall Co., Waterbury, Conn. ....	Meriden: Undercliff Sanitarium. ....	2.96	2.25	26.70	22.00	46.4	53.6
2831	Armour's. Armour Fertilizer Works, New York 5, N. Y. ....	East Windsor Hill: Ahearn Bros. ....	2.84	2.47	24.32	23.00	52.6	47.4
2796	Berkshire: The Berkshire Chemical Co., Bridgeport, Conn. ....	Bridgeport: The Berkshire Chemical Co. ....	2.34	0.80	28.92	25.00	54.0	46.0
2811	Corenco. Consolidated Rendering Co., Boston 10, Mass. ....	West Haven: L. T. Frisbie Co. ....	3.43	2.47	23.90	23.00	31.7	68.3
2887	O & W. Olds & Whipple, Inc., Hartford, Conn. ....	Hartford: Olds & Whipple, Inc. ....	2.68	2.47	27.66	22.00	49.0	51.0
2847	Hubbard Raw Knuckle Bone Flour. The Rogers & Hubbard Co., Portland, Conn. ....	Meriden: Church & Morse, Inc. ....	4.54	4.00	23.80	23.00	58.5	41.5
2776 <sup>5</sup>	Fine. The Rogers & Hubbard Co., Portland, Conn. ....	Middletown: Conn. State Hospital .....	2.13	2.00	26.19	23.00	52.6	47.4
3124	Sawco. Stumpp & Walter Co., New York 8, N. Y. ....	Stamford: Stumpp & Walter Co. ....	3.50	2.47	22.82	24.00	62.0	38.0
<b>Milorganite</b>								
3153	Sewerage Commission of the City of Milwaukee, Milwaukee, Wis. ....	Litchfield: F. L. Wadhams & Sons, Inc. ....	5.63	6.00	3.02 <sup>6</sup>	....	....	....

<sup>1</sup> Chlorine 0.36%.<sup>2</sup> Chlorine 0.23%.<sup>3</sup> Chlorine 0.24%.<sup>4</sup> Chlorine 0.32%.<sup>5</sup> State purchase.<sup>6</sup> Guaranteed "available" phosphoric acid 2.00%, found 2.56%.

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
	<b>The Acme Guano Co., Baltimore, Md.</b>	
2990	Acme 4-12-4 .....	Suffield .....
3353	Acme 4-12-4 .....	Suffield .....
2991	Acme 5-8-7 .....	Suffield .....
2989	Acme 5-10-10 .....	Suffield .....
2988	Acme 5-10-5 Victory Garden .....	Suffield .....
2837	Acme 7-7-7 .....	Suffield .....
	<b>Agricultural Supply Co., West Haven, Conn.</b>	
2824	Yale Special Mixture 8-6-2 .....	New Haven .....
	<b>The American Agricultural Chemical Co., No. Weymouth, Mass.</b>	
2858	AA Quality Fertilizer 5-8-7 .....	West Haven .....
3138	AA Quality Fertilizer 5-8-7 .....	West Haven .....
2774	AA Quality Fertilizer 5-10-10 .....	East Hartford .....
2773	Agrico for Corn 4-12-8 .....	East Hartford .....
2855	Agrico Country Club Fertilizer 6-10-4 .....	West Haven .....
2860	Agrico for Gardens (Victory Garden Fertilizer) (For Food Production Only) 5-10-5 .....	West Haven .....
2861	Agrico for Lawns, Trees and Shrubs 6-10-4 .....	West Haven .....
2739	Agrico for New England 4-12-8 .....	East Hartford .....
2737	Agrico for New England 5-8-7 .....	East Hartford .....
2736	Agrico for Potatoes 5-10-10 .....	East Hartford .....
2738	Agrico for Seeding Down 4-12-16 .....	East Hartford .....
3132	Agrico for Tobacco 6-3-6 .....	East Hartford .....
3221	Agrico for Tobacco 6-3-6 .....	East Hartford .....
2856	Agrico Phosphate and Potash 0-14-14 .....	West Haven .....
	<b>Apothecaries Hall Co., Waterbury, Conn.</b>	
2983 <sup>1</sup>	Liberty Fertilizer 0-10-20 .....	Somers .....
3351	Liberty 0-14-14 .....	East Windsor .....
2907 <sup>1</sup>	Liberty 0-20-20 .....	Southbury .....
2924	Liberty 4-12-4 .....	East Windsor .....
2919	Liberty Fertilizer 5-10-10 .....	East Windsor .....
2920	Liberty Green Gro 6-7-4 .....	East Windsor .....
2780	Liberty High Grade Market Gardeners 5-8-7 .....	Cheshire .....
2921	Liberty Special for Fruit and Grass 7-7-7 .....	East Windsor .....
3095	Liberty Tobacco Mixture 5-3-5 .....	East Windsor .....
2934	Liberty Tobacco Mixture 6-3-6 .....	East Windsor .....
2933	Liberty Tobacco Starter 4-10-0 .....	East Windsor .....
3096	Liberty Tobacco Starter 5-5-15 .....	East Windsor .....
2890	Liberty Victory Garden 5-10-5 .....	New London .....
	<b>Armour Fertilizer Works, New York 5, N. Y.</b>	
2832	Armour's Big Crop Fertilizer 5-8-7 .....	East Windsor Hill .....
2833	Armour's Big Crop Fertilizer 5-10-10 .....	East Windsor Hill .....

<sup>1</sup> State purchase.

CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH

Per cent nitrogen					Per cent Phosphoric acid			Per cent Potash		Station No.
In nitrates	In ammonia	Organic water-soluble	Organic water insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
0.16	3.44	0.20	0.22	4.02	0.61	10.89	10.28	4.59	4.59	2990
0.00	3.37	0.05	0.65	4.07	0.24	11.72	11.48	4.69	4.69	3353
0.18	3.96	0.40	0.28	4.82	0.61	9.65	9.04	1.02	7.71	2991
0.34	4.64	0.20	0.14	5.32	0.70	10.96	10.26	8.78	9.30	2989
0.29	4.32	0.16	0.25	5.02	0.69	11.50	10.81	4.23	4.23	2988
0.00	7.24	0.20	0.19	7.63	0.38	7.24	6.86	0.92	7.16	2837
0.00	4.28	3.07	0.85	8.20	0.39	7.12	6.73	2.46	2.46	2824
0.48	4.30	0.22	0.10	5.10	0.81	10.05	9.24	6.30	6.30	2858
0.84	3.66	0.21	0.11	4.82	0.78	9.26	8.48	6.76	6.76	3138
0.58	3.84	0.16	0.30	4.88	1.15	11.78	10.63	10.02	10.02	2774
0.24	3.10	0.48	0.18	4.00	0.90	12.60	11.70	7.87	7.87	2773
0.75	4.76	0.16	0.22	5.89	1.12	13.03	11.91	4.26	4.26	2855
0.61	4.17	0.11	0.27	5.16	2.03	12.33	10.30	5.13	5.13	2860
0.53	5.10	0.18	0.17	5.98	0.99	12.27	11.28	4.01	4.01	2861
0.45	2.74	0.68	0.22	4.09	1.02	13.01	11.99	8.29	8.29	2739
0.33	3.94	0.44	0.29	5.00	0.83	9.51	8.68	7.29	7.29	2737
0.82	3.82	0.08	0.13	4.85	0.93	11.33	10.40	9.73	9.73	2736
0.52	3.52	0.04	0.16	4.24	0.77	13.16	12.39	15.55	15.55	2738
1.07	0.74	0.84	3.00	5.65	0.35	4.05	3.70	0.57	6.32	3132
1.46	0.72	0.46	3.16	5.80	0.36	3.96	3.60	0.59	6.26	3221
....	....	....	....	....	1.59	15.77	14.18	14.18	14.18	2856
....	....	....	....	....	0.40	10.70	10.30	19.31	20.20	2983
....	....	....	....	....	0.44	14.89	14.45	14.52	14.52	3351
....	....	....	....	....	0.24	19.98	19.74	19.94	21.30	2907
0.00	3.76	0.37	0.29	4.42	0.51	13.25	12.74	4.52	4.52	2924
0.61	4.36	0.16	0.25	5.38	0.51	11.53	11.02	9.12	10.61	2919
0.00	4.76	0.54	1.50	6.80	0.60	8.49	7.89	4.33	4.91	2920
0.00	4.02	0.60	0.80	5.42	0.68	8.74	8.06	7.31	7.31	2780
0.00	6.80	0.34	0.36	7.50	0.45	8.11	7.66	7.75	7.75	2921
0.67	0.22	1.38	2.87	5.14	0.16	4.34	4.18	5.33	5.33	3095
0.84	0.12	2.68	2.86	6.50	0.26	5.65	5.39	0.82	6.53	2934
0.00	2.60	0.37	1.35	4.32	1.02	11.55	10.53	....	....	2933
0.82	0.16	2.10	2.16	5.24	0.22	6.70	6.48	7.59	16.50	3096
0.64	3.80	0.18	0.56	5.18	0.67	11.47	10.80	5.57	5.57	2890
0.55	3.70	0.46	0.27	4.98	0.55	9.09	8.54	7.05	7.05	2832
0.51	4.14	0.14	0.45	5.24	1.13	11.16	10.03	10.66	10.66	2833

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
2829	Armour's Big Crop Fertilizer 7-7-7 .....	East Windsor Hill .....
3133	Armour's Big Crop Tobacco Special 5-3-5 .....	Enfield .....
3352	Armour's Big Crop Tobacco Special 5-3-5 .....	Enfield .....
3140	Armour's Big Crop Tobacco Special 6-3-6 .....	East Windsor Hill .....
<b>The F. A. Bartlett Tree Expert Co., Stamford, Conn.</b>		
2917	Bartlett Green Tree Food 4-8-6 .....	Stamford .....
<b>The Berkshire Chemical Co., Bridgeport, Conn.</b>		
3012	Berkshire Fertilizer 0-14-14 .....	Bridgeport .....
2794	Berkshire Fertilizer 4-12-4 .....	Bridgeport .....
2790	Berkshire Fertilizer 5-8-7 .....	Bridgeport .....
2792	Berkshire Fertilizer 5-10-5 .....	Bridgeport .....
2795	Berkshire Fertilizer 5-10-10 .....	Bridgeport .....
3013	Berkshire Fertilizer (Potash from Sulphate) 5-10-10 .....	Bridgeport .....
3088	Berkshire Fertilizer Tobacco 6-3-6 .....	Bridgeport .....
2791	Berkshire Fertilizer 7-7-7 .....	Bridgeport .....
3089	Berkshire Specialty Fertilizer 6-6-4 .....	Bridgeport .....
2793	Berkshire Victory Garden Fertilizer 5-10-5 (For Food Production Only) .....	Bridgeport .....
<b>Consolidated Rendering Co., Boston 10, Mass.</b>		
2809	Corenco 0-14-14 Top Dresser .....	West Haven .....
2806	Corenco 4-12-4 Complete Manure .....	West Haven .....
2982 <sup>1</sup>	Corenco 4-12-4 Complete Manure .....	Somers .....
2805	Corenco 5-8-7 Potato and General Crop .....	West Haven .....
2807	Corenco 5-10-5 Victory Garden Fertilizer .....	West Haven .....
3004 <sup>1</sup>	Corenco 5-10-5 Victory Garden Fertilizer .....	Southbury .....
2803	Corenco 5-10-10 Peerless Potato .....	West Haven .....
2850 <sup>1</sup>	Corenco 5-10-10 Peerless Potato .....	Meriden .....
3010	Corenco 6-3-6 Special Tobacco Grower .....	West Haven .....
2810	Corenco 6-8-2 Landscape Fertilizer .....	West Haven .....
2808	Corenco 7-7-7 Complete Fruit and Top Dressing .....	West Haven .....
2849 <sup>1</sup>	Corenco 7-7-7 Complete Fruit and Top Dressing .....	Meriden .....
2913 <sup>1</sup>	Corenco 7-7-7 Complete Fruit and Top Dressing .....	Newtown .....
2980	Spurz-On .....	Thompsonville .....
<b>Eastern States Farmers' Exchange West Springfield, Mass.</b>		
2734	Eastern States 5-10-5 V. G. .....	East Hartford .....
2730	Eastern States 5-10-10 .....	Torrington .....
2733	Eastern States 5-15-20 .....	East Hartford .....
3082	Eastern States 8-4-8 Tobacco .....	So. Windsor .....
3222	Eastern States 8-4-8 Tobacco .....	East Hartford .....
2729	Eastern States 8-16-16 .....	Torrington .....
2728	Eastern States 8-24-8 .....	Torrington .....
2732	Eastern States 10-10-10 .....	East Hartford .....

<sup>1</sup> State purchase.



## CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH—(Continued)

In nitrates	Per cent nitrogen				Per cent Phosphoric acid			Per cent Potash		Station No.
	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
0.78	5.52	0.48	0.28	7.06	0.65	7.58	6.93	7.38	7.38	2829
0.27	0.86	1.20	2.40	4.73	0.39	4.52	4.13	2.42	6.20	3133
0.32	0.76	1.12	2.32	4.52	0.08	4.19	4.11	2.27	6.34	3352
0.23	1.64	1.04	3.28	6.19	0.31	4.30	3.99	1.44	6.71	3140
0.39	2.96	0.24	0.65	4.24	3.65	11.65	8.00	5.52	6.16	2917
.....	.....	.....	.....	.....	0.95	14.95	14.00	15.03	15.03	3012
0.53	3.40	0.12	0.19	4.24	0.72	12.97	12.25	4.26	4.26	2794
0.35	4.26	0.26	0.13	5.00	0.42	8.63	8.21	5.97	7.05	2790
0.30	4.66	0.14	0.14	5.24	0.39	10.45	10.06	5.12	5.12	2792
0.23	4.40	0.16	0.25	5.04	0.57	10.89	10.32	9.79	9.79	2795
0.65	4.44	0.00	0.12	5.21	0.35	10.62	10.27	1.38	10.29	3013
0.81	0.16	2.48	2.63	6.08	0.12	3.55	3.43	4.21	6.36	3088
0.43	6.10	0.13	0.11	6.77	0.21	7.30	7.09	8.97	8.97	2791
0.00	3.36	2.83	0.61	6.80	0.31	8.10	7.79	5.37	5.37	3089
0.27	4.60	0.00	0.18	5.05	0.36	10.13	9.77	5.00	5.00	2793
.....	.....	.....	.....	.....	0.31	14.65	14.34	14.86	14.86	2809
0.00	3.74	0.56	0.00	4.30	0.76	13.17	12.41	4.17	4.17	2806
0.00	3.64	0.60	0.05	4.29	0.95	13.46	12.51	3.61	4.03	2982
0.14	4.46	0.54	0.09	5.23	0.31	8.36	8.05	6.86	7.40	2805
0.00	4.06	0.85	0.21	5.12	0.52	10.58	10.06	5.21	5.21	2807
0.18	3.66	1.10	0.37	5.31	0.50	11.36	10.86	5.36	5.36	3004
0.56	4.54	0.06	0.11	5.27	0.45	10.35	9.90	10.35	10.35	2803
0.74	4.00	0.26	0.14	5.14	0.30	10.80	10.50	9.36	10.22	2850
0.30	0.28	2.32	3.16	6.06	0.25	4.55	4.30	0.66	7.09	3010
0.00	3.22	2.45	0.50	6.17	0.40	8.75	8.35	2.33	2.33	2310
0.30	6.46	0.10	0.16	7.02	0.32	7.45	7.13	7.05	7.05	2808
0.16	6.56	0.10	0.18	7.00	0.36	7.70	7.34	7.26	7.26	2849
0.24	6.36	0.13	0.15	6.88	0.50	7.80	7.30	6.94	6.94	2913
0.00	0.56	1.36	2.19	4.11	.....	4.15	.....	.....	1.91	2980
0.96	4.26	0.11	0.17	5.50	0.42	10.51	10.09	4.78	6.76	2734
0.77	4.24	0.28	0.18	5.47	0.81	10.90	10.09	11.30	11.30	2730
0.96	4.04	0.04	0.18	5.22	0.47	16.63	16.16	20.18	20.18	2733
0.38	0.50	3.94	2.86	7.68	0.10	5.20	5.10	0.94	8.13	3082
0.11	0.24	4.56	2.81	7.72	0.24	4.82	4.58	0.61	8.99	3222
1.55	6.22	0.08	0.22	8.07	0.21	16.38	16.17	16.21	16.21	2729
1.56	6.14	0.10	0.30	8.10	0.30	25.17	24.87	8.76	8.76	2728
1.96	7.02	0.12	0.28	9.38	0.36	11.58	11.22	10.54	10.54	2732



TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
	<b>Old Deerfield Fertilizer Co., Inc., South Deerfield, Mass.</b>	
2842	Old Deerfield 6-3-6 Complete Tobacco Fertilizer	West Suffield
	<b>Olds &amp; Whipple, Inc., Hartford, Conn.</b>	
2879	O & W 4-12-4 Market Gardeners Fertilizer	Hartford
2993	O & W 5-3-5 Complete Tobacco Fertilizer	Hartford
3094	O & W 5-3-5 Complete Tobacco Fertilizer with Potash derived from Cottonhull Ashes	Hartford
2885	O & W 5-8-7 Potato and General Purpose Fertilizer	Hartford
3014	O & W 5-8-7 Potato and General Purpose Fertilizer with Potash from Sulphate	Hartford
3093	O & W 5-5-15 High Grade Tobacco Starter and Potash	Hartford
2889	O & W 5-10-5 Victory Garden Fertilizer	Hartford
2881	O & W 5-10-10 Potato Fertilizer	Hartford
2884	O & W 5-10-10 Potato Fertilizer with Sulphate of Potash	Hartford
2886	O & W 6-3-6 Blue Label Tobacco Fertilizer	Hartford
2992	O & W 6-3-6 Blue Label Tobacco Fertilizer-Potash derived from Cottonhull Ashes	Hartford
2880	O & W 7-7-7 Top Dressing and Grass Fertilizer	Hartford
	<b>The Frank S. Platt Co., New Haven, Conn.</b>	
2813	Platt's Concentrated 10-5-5 Lawn Fertilizer	West Haven
	<b>The Rogers &amp; Hubbard Co., Portland, Conn.</b>	
2826	Gro-Fast Plant Food 5-8-5	New Haven
3091	Hubbard Climax Tobacco Fertilizer 5-3-5	Portland
2871	Hubbard's High Potash Fertilizer 5-10-10	Portland
2870	Hubbard's Potato Fertilizer 5-8-7	Portland
2872	Hubbard's Tobacco Grower 6-3-6	Portland
3090	Hubbard's Tobacco Starter 5-5-15	Portland
2784 <sup>1</sup>	Red H 0-14-14	Cheshire
2781 <sup>1</sup>	Red H 4-12-4	Cheshire
2905 <sup>1</sup>	Red H 4-12-4	Niantic
2996 <sup>1</sup>	Red H 4-12-4	Mansfield
2873	Red H 4-12-8	Portland
2779 <sup>1</sup>	Red H 5-8-7	Middletown
2997 <sup>1</sup>	Red H 5-8-7	Newington
2789 <sup>1</sup>	Red H 5-10-5	Cheshire
2904 <sup>1</sup>	Red H 5-10-5	Niantic
2782 <sup>1</sup>	Red H 5-10-10	Cheshire
2894 <sup>1</sup>	Red H 5-10-10	Norwich
2903 <sup>1</sup>	Red H 5-10-10	Niantic
2783 <sup>1</sup>	Red H 7-7-7	Cheshire

<sup>1</sup> State purchase.

## CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH—(Continued)

In nitrates	Per cent nitrogen				Per cent Phosphoric acid			Per cent Potash		Station No.
	In ammonia	Organic water-soluble	Organic water insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
0.96	0.28	1.44	3.46	6.14	0.16	3.30	3.14	0.57	6.67	2842
0.00	3.44	0.47	0.69	4.60	0.46	13.65	13.19	6.09	6.09	2879
0.27	0.80	1.46	2.89	5.42	0.18	3.95	3.77	0.61	5.60	2993
0.57	0.16	1.60	2.88	5.21	0.19	4.38	4.19	5.76	5.76	3094
0.68	3.88	0.14	0.50	5.20	0.51	9.31	8.80	6.80	7.53	2885
0.14	2.76	2.08	0.80	5.78	0.45	9.24	8.79	1.94	6.85	3014
2.58	0.06	0.40	2.40	5.44	0.55	6.40	5.85	6.33	15.18	3093
0.21	3.32	1.52	0.61	5.66	0.50	11.21	10.71	5.88	5.88	2889
0.81	4.24	0.06	0.51	5.62	0.54	11.34	10.80	10.07	11.02	2881
0.00	2.84	1.46	1.06	5.36	0.45	10.70	10.25	1.90	10.40	2884
0.46	0.58	2.36	3.22	6.62	0.25	4.01	3.76	0.93	7.39	2886
0.42	0.60	2.26	2.76	6.04	0.37	4.41	4.04	1.02	6.53	2992
1.01	3.54	1.70	1.00	7.25	0.36	8.09	7.73	7.86	7.86	2880
0.00	5.12	3.72	1.26	10.10	0.29	6.00	5.71	5.35	5.35	2813
0.43	2.94	0.94	1.19	5.50	0.32	8.94	8.62	5.91	5.91	2826
0.42	0.30	2.24	2.20	5.16	0.15	3.95	3.80	6.09	6.09	3091
1.42	2.20	0.80	1.03	5.45	0.21	11.27	11.05	10.09	10.09	2871
0.59	2.80	0.64	1.41	5.44	0.24	9.00	8.76	7.75	7.75	2870
0.59	0.20	2.56	3.05	6.40	0.25	4.21	3.96	0.88	6.84	2872
0.89	0.36	2.04	1.67	4.96	0.35	5.65	5.30	6.84	15.72	3090
.....	.....	.....	.....	.....	0.27	14.35	14.08	14.61	14.61	2784
0.46	3.30	0.24	0.50	4.50	0.64	13.17	12.53	4.92	4.92	2781
0.31	3.28	0.45	0.49	4.53	0.61	13.38	12.77	3.61	4.65	2905
0.28	3.38	0.42	0.50	4.58	0.50	13.15	12.65	4.59	4.59	2996
0.45	3.36	0.44	0.46	4.71	0.53	12.53	12.00	8.72	8.72	2873
0.59	4.16	0.22	0.43	5.40	0.36	8.90	8.54	7.17	7.17	2779
1.06	4.00	0.00	0.52	5.58	0.50	9.26	8.76	7.19	7.19	2997
0.40	3.70	0.40	0.61	5.11	0.69	10.85	10.16	7.34	7.34	2789
0.38	4.12	0.28	0.58	5.36	1.03	11.03	10.00	4.45	5.47	2904
0.35	3.96	0.54	0.44	5.29	0.55	11.05	10.50	10.19	10.19	2782
0.29	3.88	0.60	0.57	5.34	0.45	10.80	10.35	10.19	10.19	2894
0.51	4.28	0.36	0.49	5.64	1.12	11.30	10.18	9.94	10.41	2903
0.77	6.00	0.02	0.41	7.20	0.06	7.74	7.68	7.27	7.27	2783

TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
2902 <sup>1</sup>	Red H 7-7-7 .....	Niantic .....
2874	Red H 8-16-16 .....	Portland .....
2825	Victory Garden Fertilizer 5-10-5 .....	New Haven .....
<b>O. M. Scott &amp; Sons Co., Marysville, Ohio</b>		
2846	Scott's Turf Builder 8-7-3 .....	Meriden .....
<b>M. L. Shoemaker Co., Division of Wilson &amp; Co., Philadelphia, Pa.</b>		
2878	M. L. Shoemaker's Swift Sure 4-10-0 Fertilizer Tobacco Starter .....	Portland .....
3134	M. L. Shoemaker's Swift Sure 5-8-7 Fertilizer.	Thompsonville .....
<b>Stump &amp; Walter Co., New York 8, N. Y.</b>		
3123	Sawco Emerald Grass 5-10-5 .....	Stamford .....
3122	Sawco General Garden 5-10-5 .....	Stamford .....
2987	Sawco Victory Garden 5-10-5 .....	Stamford .....
<b>Summers Fertilizer Works, Baltimore 2, Md.</b>		
2998 <sup>1</sup>	"Summers" 5-8-7 .....	Somers .....
3005 <sup>1</sup>	"Summers" 5-8-7 .....	Newtown .....
3006 <sup>1</sup>	"Summers" 5-10-5 .....	Newtown .....
2995 <sup>1</sup>	"Summers" 5-10-10 .....	Mansfield .....
3003 <sup>1</sup>	"Summers" 5-10-10 .....	Southbury .....
2892 <sup>1</sup>	"Summers" 7-7-7 .....	Norwich .....
2999 <sup>1</sup>	"Summers" 8-16-16 .....	Somers .....
3141 <sup>1</sup>	"Summers" 8-16-16 .....	Somers .....
<b>Swift &amp; Co., Plant Food Division, Baltimore, Md.</b>		
3085	Swift's Red Steer Brand 5-10-10 .....	Putnam .....
2827	Vigoro 4-12-4 .....	New Haven .....
2900	Vigoro Victory Garden Fertilizer-For Food Pro- duction Only 5-10-5 .....	Groton .....
<b>Tennessee Corp., Lockland, Ohio</b>		
3081	5-10-5 Loma "For Flowers, Trees and Shrubs" ..	Greenwich .....
3115	5-10-5 Loma Victory Garden Fertilizer for Food Production .....	Greenwich .....
<b>I. P. Thomas &amp; Son Co., Camden, N. J.</b>		
2821	I. P. Thomas 5-8-7 .....	North Haven .....
2822	I. P. Thomas 5-10-5 .....	North Haven .....
2820	I. P. Thomas 7-7-7 .....	North Haven .....

<sup>1</sup> State purchase.

## CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH—(Continued)

In nitrates	Per cent nitrogen				Per cent Phosphoric acid			Per cent Potash		Station No.
	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As murriate	Total	
0.39	5.76	0.48	0.41	7.04	0.16	8.16	8.00	6.67	7.25	2902
1.46	6.22	0.06	0.42	8.16	0.17	17.11	16.94	15.90	15.90	2874
0.77	3.16	0.56	0.71	5.20	0.16	10.49	10.33	5.79	5.79	2825
1.17	5.68	0.32	0.86	8.03	0.19	10.45	10.26	3.47	3.47	2846
0.73	2.28	0.10	0.93	4.04	1.95	13.85	11.90	....	....	2878
0.36	3.82	0.18	1.02	5.38	0.41	8.44	8.03	7.83	7.83	3134
0.00	4.00	0.11	0.91	5.02	2.12	12.45	10.33	4.88	4.88	3123
0.00	3.54	0.30	0.98	4.82	1.85	12.59	10.74	5.64	5.64	3122
0.50	4.04	0.08	0.42	5.04	0.66	10.85	10.19	4.13	5.21	2987
0.51	3.96	0.24	0.43	5.14	1.18	9.55	8.37	7.03	7.03	2998
0.74	3.94	0.10	0.41	5.19	1.54	9.72	8.18	6.86	6.86	3005
0.49	4.00	0.32	0.35	5.16	4.60	14.63	10.03	5.40	5.40	3006
0.64	3.92	0.28	0.23	5.07	2.70	12.76	10.06	10.39	10.39	2995
0.68	3.90	0.16	0.28	5.02	2.17	12.30	10.13	10.19	6.98	3003
0.69	5.72	0.50	0.16	7.07	2.74	10.39	7.65	4.35	10.19	2892
0.59	6.82	0.16	0.25	7.82	0.49	13.87	13.38	12.58	13.74	2999
0.53	7.24	0.00	0.29	8.06	0.45	14.89	14.44	13.74	12.58	3141
0.36	4.40	0.16	0.28	5.20	0.31	10.50	10.19	10.35	10.35	3085
0.28	3.42	0.06	0.25	4.01	0.49	12.79	12.30	4.40	4.40	2827
0.38	4.22	0.10	0.26	4.96	0.97	10.97	10.00	4.98	4.98	2900
0.17	4.10	0.50	0.21	4.98	0.30	10.81	10.51	4.88	4.88	3081
0.35	3.72	0.74	0.25	5.06	0.30	10.62	10.32	4.94	4.94	3115
0.60	4.04	0.16	0.42	5.22	0.51	9.16	8.65	6.94	6.94	2821
0.85	4.04	0.06	0.23	5.18	0.61	11.50	10.89	5.27	5.27	2822
0.51	6.66	0.18	0.15	7.50	0.48	7.88	7.40	7.21	7.21	2820



TABLE 5. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and brand	Place of sampling
2862	<b>Van Horne Chemical Co., Inc., New York 6, N. Y.</b> Van Horne's 10-6-4 .....	Westville .....
2814	<b>F. H. Woodruff &amp; Sons, Inc., Milford, Conn.</b> Gro-Sod Lawn Food 10-6-4 .....	West Haven .....
3011	<b>Woodruff Fertilizer Works, Inc., No. Haven, Conn.</b> Clark's Tip-Top Fertilizer 5-8-7 .....	Milford .....
2819	Woodruff's 0-14-14 .....	North Haven .....
3097	Woodruff's 0-14-14 .....	North Haven .....
2817	Woodruff's 5-8-7 Fertilizer .....	North Haven .....
2818	Woodruff's 5-10-5 Fertilizer .....	North Haven .....
2816	Woodruff's 5-10-10 Fertilizer .....	North Haven .....
3087	Woodruff's 6-3-6 Tobacco Fertilizer .....	North Haven .....
2815	Woodruff's 7-7-7 Fertilizer .....	North Haven .....

<sup>1</sup> State purchase.

## CONTAINING NITROGEN, PHOSPHORIC ACID AND POTASH—(Concluded)

In nitrates	Per cent nitrogen				Per cent Phosphoric acid			Per cent potash		Station No.
	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "available"	As muriate	Total	
1.29	6.52	0.16	0.45	8.42	0.43	7.86	7.43	4.29	4.29	2862
0.11	5.44	3.52	1.30	10.37	0.17	6.60	6.43	4.30	4.30	2814
0.00	4.42	0.26	0.70	5.38	0.45	9.79	9.34	7.02	7.02	3011
.....	.....	.....	.....	.....	0.72	15.17	14.45	13.78	13.78	2819
.....	.....	.....	.....	.....	0.74	14.88	14.14	15.84	15.84	3097
0.58	3.30	0.54	0.64	5.06	0.42	8.90	8.48	7.23	7.23	2817
0.00	4.00	0.45	0.58	5.03	0.70	11.13	10.43	5.58	5.58	2818
0.00	2.94	1.57	0.75	5.26	0.54	10.47	9.93	10.15	10.15	2816
1.40	0.04	1.76	3.00	6.20	0.18	3.72	3.54	4.65	6.64	3087
0.21	2.18	4.18	0.79	7.36	0.41	7.55	7.14	7.21	7.21	2815

TABLE 6. ANALYSES OF SPECIAL AND HOME MIXTURES

Station No.	Name of mixture	Sampled or submitted by	Total nitrogen percentage	Per cent phosphoric acid			Per cent potash			Station No.
				Citrate-insoluble	Total	So-called "available"	As muriate	Total	Chlorine	
2557	H. M. Fertilizer—Formula A 45 Hu .....	Hartford: Consolidated Cigar Corp.	5.74	0.41	3.67	3.26	0.78	7.99	0.59	2557
2558	H. M. Fertilizer—Formula A 45 P	Hartford: Consolidated Cigar Corp.	5.68	0.45	4.00	3.55	0.74	7.60	0.56	2558
2559	H. M. Fertilizer—Formula B 45 Hu .....	Hartford: Consolidated Cigar Corp.	5.88	0.26	4.09	3.83	0.54	5.73	0.41	2559
2560	H. M. Fertilizer—Formula C 45 Hu .....	Hartford: Consolidated Cigar Corp.	11.85	0.26	3.51	3.25	....	1.62	none	2560
2561	H. M. Fertilizer—Formula C 45 M	Hartford: Consolidated Cigar Corp.	9.88	0.21	3.80	3.59	....	1.79	none	2561
2544	Home Mixed Fertilizer—Formula 4-2-45 .....	Simsbury: Cullman Bros., Inc. ....	5.08	0.59	5.40	4.81	....	4.07	trace	2544
2545	Home Mixed Fertilizer—Formula 4-3-45 .....	Simsbury: Cullman Bros., Inc. ....	5.08	0.29	3.51	3.22	....	4.26	none	2545
2546	Home Mixed Fertilizer—Formula 4-4-45 .....	Simsbury: Cullman Bros., Inc. ....	5.23	0.41	4.35	3.94	....	5.47	trace	2546
2547	Home Mixed Fertilizer—Formula 4-5-45 .....	Simsbury: Cullman Bros., Inc. ....	4.98	0.16	4.85	4.69	....	4.01	trace	2547
2548	Home Mixed Fertilizer—Formula 4-6-45 .....	Simsbury: Cullman Bros., Inc. ....	4.69	0.18	6.41	6.23	....	4.68	trace	2548
2549	Home Mixed Fertilizer—Formula 4-7-45 .....	Simsbury: Cullman Bros., Inc. ....	4.89	0.46	4.39	3.93	....	4.27	none	2549
2550	Home Mixed Fertilizer—Formula 4-8-45 .....	Simsbury: Cullman Bros., Inc. ....	4.46	0.55	4.99	4.44	....	6.33	trace	2550
2566	Home Mixed Fertilizer—Formula 5-1-45 .....	Simsbury: Cullman Bros., Inc. ....	4.47	0.21	5.68	5.47	0.44	4.97	0.33	2566
2567	Home Mixed Fertilizer—Formula 5-2-45 .....	Simsbury: Cullman Bros., Inc. ....	4.82	0.13	4.91	4.78	0.51	5.68	0.38	2567
2568	Home Mixed Fertilizer—Formula 5-3-45 .....	Simsbury: Cullman Bros., Inc. ....	4.80	0.42	5.15	4.73	0.44	5.57	0.33	2568

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

Station No.	Name of mixture	Sampled or submitted by	Total nitrogen percentage	Per cent phosphoric acid			Per cent potash			Station No.
				Citrate-insoluble	Total	So-called "available"	As muriate	Total	Chlorine	
2569	Home Mixed Fertilizer—Formula 5-4-45 .....	Simsbury: Cullman Bros., Inc. ....	5.00	0.16	5.24	5.08	0.39	5.81	0.29	2569
2570	Home Mixed Fertilizer—Formula 5-5-45 .....	Simsbury: Cullman Bros., Inc. ....	4.63	0.18	7.27	7.09	0.47	5.36	0.35	2570
2571	Home Mixed Fertilizer—Formula 5-6-45 .....	Simsbury: Cullman Bros., Inc. ....	4.51	0.11	6.86	6.75	0.49	5.33	0.37	2571
2572	Home Mixed Fertilizer—Formula 5-7-45 .....	Simsbury: Cullman Bros., Inc. ....	4.65	0.15	5.05	4.90	0.41	5.11	0.31	2572
2573	Home Mixed Fertilizer—Formula 5-8-45 .....	Simsbury: Cullman Bros., Inc. ....	4.88	0.10	6.10	6.00	0.57	5.65	0.43	2573
2603	Home Mixed Fertilizer—Formula 2-H-1-45 .....	Simsbury: Cullman Bros., Inc. ....	4.90	0.15	7.16	7.01	0.44	5.74	0.33	2603
2604	Home Mixed Fertilizer—Formula 2-C-H-45 .....	Simsbury: Cullman Bros., Inc. ....	4.79	0.10	6.02	5.92	0.62	7.28	0.47	2604
2605	Home Mixed Fertilizer—Formula 2-H-2-45 .....	Simsbury: Cullman Bros., Inc. ....	4.71	0.15	6.50	6.35	0.40	5.43	0.30	2605
2606	Home Mixed Fertilizer—Formula 2-Ha-1-45 .....	Simsbury: Cullman Bros., Inc. ....	4.54	0.06	5.69	5.63	0.70	7.21	0.53	2606
2607	Home Mixed Fertilizer—Formula 2-Ha-2-45 .....	Simsbury: Cullman Bros., Inc. ....	4.32	0.15	6.65	6.50	0.51	6.75	0.38	2607
2608	Home Mixed Fertilizer—Formula 2-K-1-45 .....	Simsbury: Cullman Bros., Inc. ....	4.71	0.15	5.35	5.20	0.40	5.54	0.30	2608
2609	Home Mixed Fertilizer—Formula 2-K-2-45 .....	Simsbury: Cullman Bros., Inc. ....	4.91	0.20	6.07	5.87	0.25	5.50	0.19	2609
2610	Home Mixed Fertilizer—Formula 2-K-5-45 .....	Simsbury: Cullman Bros., Inc. ....	5.03	0.16	6.54	6.38	0.40	4.16	0.30	2610
2611	Home Mixed Fertilizer—Formula 2-K-6-45 .....	Simsbury: Cullman Bros., Inc. ....	4.98	0.24	5.27	5.03	0.36	4.92	0.27	2611

Analyses



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

Station No.	Name of mixture	Sampled or submitted by	Total nitrogen percentage	Per cent phosphoric acid			Per cent potash			Station No.
				Citrate-insoluble	Total	So-called "available"	As muriate	Total	Chlorine	
2612	Home Mixed Fertilizer—Formula 2-L&B-45 .....	Simsbury: Cullman Bros., Inc. ....	4.65	0.06	5.87	5.81	0.49	4.77	0.37	2612
2613	Home Mixed Fertilizer—Formula 2-N-2 & St.J-45 .....	Simsbury: Cullman Bros., Inc. ....	5.00	0.10	4.36	4.26	0.60	5.09	0.45	2613
2614	Home Mixed Fertilizer—Formula 2-N-3-45 .....	Simsbury: Cullman Bros., Inc. ....	4.37	0.06	5.50	5.44	0.77	7.17	0.58	2614
2740	Home Mixed Fertilizer—Formula 1-A-1-45 .....	Simsbury: Cullman Bros., Inc. ....	5.43	0.23	5.25	5.02	0.77	5.29	0.58	2740
2741	Home Mixed Fertilizer—Formula 1-A-2-45 .....	Simsbury: Cullman Bros., Inc. ....	5.40	0.15	5.19	5.04	0.84	5.76	0.63	2741
2742	Home Mixed Fertilizer—Formula 1-A-3-45 .....	Simsbury: Cullman Bros., Inc. ....	4.95	0.24	5.31	5.07	0.78	6.63	0.59	2742
2743	Home Mixed Fertilizer—Formula 1-A-4-45 .....	Simsbury: Cullman Bros., Inc. ....	5.30	0.27	4.12	3.85	0.82	5.47	0.62	2743
2744	Home Mixed Fertilizer—Formula 1-B-1-45 .....	Simsbury: Cullman Bros., Inc. ....	5.04	0.24	5.42	5.18	0.54	6.61	0.41	2744
2745	Home Mixed Fertilizer—Formula 1-Ma-2-45 .....	Simsbury: Cullman Bros., Inc. ....	4.60	0.21	7.30	7.09	0.58	6.49	0.44	2745
2746	Home Mixed Fertilizer—Formula 1-McC-1-45 .....	Simsbury: Cullman Bros., Inc. ....	5.36	0.29	5.00	4.71	0.66	5.72	0.50	2746
2747	Home Mixed Fertilizer—Formula 1-Mos-1-45 .....	Simsbury: Cullman Bros., Inc. ....	4.88	0.16	6.06	5.90	0.56	6.78	0.42	2747
2748	Home Mixed Fertilizer—Formula 1-Mos-2-45 .....	Simsbury: Cullman Bros., Inc. ....	5.40	0.16	4.95	4.79	0.54	5.45	0.41	2748
2749	Home Mixed Fertilizer—Formula 1-P-1-45 .....	Simsbury: Cullman Bros., Inc. ....	4.62	0.15	6.38	6.23	0.58	5.10	0.44	2749
2750	Home Mixed Fertilizer—Formula 1-St.J-1-45 .....	Simsbury: Cullman Bros., Inc. ....	5.24	0.15	4.95	4.80	0.60	5.81	0.45	2750

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

Station No.	Name of mixture	Sampled or submitted by	Total nitrogen percentage	Per cent phosphoric acid			Per cent potash			Station No.
				Citrate-insoluble	Total	So-called "available"	As muriate	Total	Chlorine	
2946	Home Mixed Fertilizer—Formula 3-B-L-45	Simsbury: Cullman Bros., Inc.	5.19	0.25	5.37	5.12	0.53	5.10	0.40	2946
2947	Home Mixed Fertilizer—Formula 3-C-#13-45	Simsbury: Cullman Bros., Inc.	4.50	0.20	5.59	5.39	0.58	6.43	0.44	2947
2948	Home Mixed Fertilizer—Formula 3-H-1-45	Simsbury: Cullman Bros., Inc.	4.68	0.37	4.86	4.49	0.43	4.84	0.32	2948
2949	Home Mixed Fertilizer—Formula 3-H-2-45	Simsbury: Cullman Bros., Inc.	4.50	0.26	5.19	4.92	0.43	5.85	0.32	2949
2950	Home Mixed Fertilizer—Formula 3-H-3-45	Simsbury: Cullman Bros., Inc.	4.58	0.20	5.56	5.36	0.58	6.40	0.44	2950
2951	Home Mixed Fertilizer—Formula 3-L-11-45	Simsbury: Cullman Bros., Inc.	5.03	0.17	4.01	3.84	0.48	5.31	0.36	2951
2952	Home Mixed Fertilizer—Formula 3-S-1&2-45	Simsbury: Cullman Bros., Inc.	5.00	0.23	4.65	4.42	0.54	5.71	0.41	2952
2953	Home Mixed Fertilizer—Formula 3-S-3-45	Simsbury: Cullman Bros., Inc.	5.05	0.23	3.94	3.71	0.43	5.55	0.32	2953
2954	Home Mixed Fertilizer—Formula 3-T-14-45	Simsbury: Cullman Bros., Inc.	4.42	0.13	6.82	6.69	0.82	6.56	0.62	2954
2955	Home Mixed Fertilizer—Formula 3-V-2-45	Simsbury: Cullman Bros., Inc.	5.22	0.25	4.92	4.67	0.48	5.50	0.36	2955
2956	Home Mixed Fertilizer—Formula 3-Z-L-45	Simsbury: Cullman Bros., Inc.	4.69	0.10	5.22	5.12	0.73	5.71	0.55	2956
2971	Home Mixed Fertilizer—Formula 6-L-#1-45	Simsbury: Cullman Bros., Inc.	4.55	0.32	7.28	6.96	0.44	4.32	0.33	2971
2972	Home Mixed Fertilizer—Formula 6-L-#2-45	Simsbury: Cullman Bros., Inc.	4.92	0.36	7.98	7.62	0.53	4.67	0.40	2972
2973	Home Mixed Fertilizer—Formula 6-L-#3-45	Simsbury: Cullman Bros., Inc.	4.94	0.42	7.92	7.50	0.73	4.73	0.55	2973

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

Station No.	Name of mixture	Sampled or submitted by	Total nitrogen percentage	Per cent phosphoric acid			Per cent potash			Station No.
				Citrate-insoluble	Total	So-called "available"	As muriate	Total	Chlorine	
3069	Home Mixed Fertilizer—Formula 5-N of S and CSM-45.....	Simsbury: Cullman Bros., Inc. ....	10.07	0.15	1.67	1.52	0.11	1.60	0.08	3069
3070	Home Mixed Fertilizer—Formula 4-N of S and CSM-45.....	Simsbury: Cullman Bros., Inc. ....	10.84	0.18	1.40	1.22	0.19	1.28	0.14	3070
3071	Home Mixed Fertilizer—Formula 3-N of S and CSM-45.....	Simsbury: Cullman Bros., Inc. ....	9.79	0.16	1.58	1.42	0.17	1.36	0.13	3071
3072	Home Mixed Fertilizer—Formula 4-A P A and CSM-45.....	Simsbury: Cullman Bros., Inc. ....	8.72	0.31	10.23	9.92	0.23	1.38	0.17	3072
3073	Home Mixed Fertilizer—Formula 1-N of S and CSM-45.....	Simsbury: Cullman Bros., Inc. ....	10.23	0.15	1.70	1.55	0.24	1.53	0.18	3073
3074	Home Mixed Fertilizer—Formula 1-A P A and CSM-45.....	Simsbury: Cullman Bros., Inc. ....	8.87	0.46	11.16	10.70	0.36	1.47	0.27	3074
2974	Ammo. Phos. A. and Cotton Seed Meal.....	Simsbury: Cullman Bros., Inc. ....	8.88	0.13	12.78	12.65	.....	.....	.....	2974
3064	Fertilizer Mixture #1.....	West Hartford: General Cigar Co..	4.62	0.71	4.36	3.65	0.59	7.12	0.44	3064
3065	Fertilizer Mixture #2.....	West Hartford: General Cigar Co..	4.53	0.71	4.09	3.38	0.77	9.97	0.58	3065
3066	Fertilizer Mixture #3.....	West Hartford: General Cigar Co..	4.00	1.28	3.52	2.24	0.35	7.11	0.26	3066
3067	Fertilizer Mixture #4.....	West Hartford: General Cigar Co..	4.08	1.26	4.01	2.75	0.52	6.22	0.39	3067
3068	Fertilizer Mixture #5.....	West Hartford: General Cigar Co..	5.78	0.41	4.52	4.11	0.86	12.14	0.65	3068
2599	Home Mixture—Formula 45 A...	Hartford: L. B. Haas & Co. ....	5.46	0.64	6.15	5.51	2.11	8.12	1.59	2599
2600	Home Mixture—Formula 45 B...	Hartford: L. B. Haas & Co. ....	6.15	0.85	7.77	6.92	1.06	8.46	0.80	2600
2601	Home Mixture—Formula 45 C...	Hartford: L. B. Haas & Co. ....	5.53	0.61	7.45	6.84	1.29	9.03	0.97	2601
2684	Home Mixture—Formula 44 E, #16.....	Hartford: L. B. Haas & Co. ....	6.00	0.46	4.85	4.39	0.73	6.48	0.55	2684
2685	Home Mixture—Formula 44 E, #17.....	Hartford: L. B. Haas & Co. ....	6.04	0.50	4.99	4.49	0.78	6.60	0.59	2685
3269 <sup>1</sup>	Special Mixture Tobacco Fertilizer.....	Ellington: Harry Liebman.....	8.61	0.11	7.54	7.43	1.20	16.05	0.91	3269
2962	Fertilizer—Sample A.....	Hartford: Everett J. Pyle.....	6.57	0.26	5.50	5.24	1.50	2.08	1.13	2962

<sup>1</sup>N in nitrates 1.05%; N in ammonia 0.36%; N in urea 6.94%; insol. organic N 0.26%; CaO 7.75%; MgO 7.77%; Mn. 0.02-0.03%. See comment p. 14.

TABLE 7. ANALYSES OF SHEEP MANURE, ETC.

Station No.	Name of Mixture	Sampled or submitted by	Per cent nitrogen		Per cent total phosphoric acid		Per cent potash		Station No.
			Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	
3152	Pulverized Sheep and Goat Manure. The American Agricultural Chemical Co., No. Weymouth, Mass. ....	Winsted: Hawley's Feed Mill .....	1.41	1.25	1.87	1.00	3.51	2.00	3152
2937	Sheep Manure. The American Agricultural Chemical Co., No. Weymouth, Mass. ....	Hartford: The American Agricultural Chemical Co. ....	1.33	1.25	1.55	1.00	3.53	3.00	2937
2891	Liberty Sheep Manure. Apothecaries Hall Co., Waterbury, Conn. ....	New London: The Eaton & Wilson Hardware Co. ....	1.39	1.00	1.31	0.50	3.31	1.00	2891
2863	Driconure. Atkins & Durbrow, Inc., New York 7, N. Y. ....	Westville: Jackson-Marvin Co. ....	3.62	2.00	3.75	... <sup>1</sup>	1.05	1.00	2863
3199	O. K. Manure. Atkins & Durbrow, Inc., New York 7, N. Y. ....	Hartford: The Hoffman Wall Paper Co. ....	1.68	2.00	1.76	1.00	1.09	1.00	3199
2915	O. K. Manure. Atkins & Durbrow, Inc., New York 7, N. Y. ....	New Haven: Sherwin-Williams Co..	1.81	2.00	1.45	1.00	1.03	1.00	2915
2804	Corenco Sheep Manure. Consolidated Rendering Co., Boston 10, Mass. ....	West Haven: L. T. Frisbie Co. ....	1.47	1.25	1.69	1.00	3.24	2.00	2804
2979	Norwood Brand Sheep Manure. Norwood Brand Fertilizer Co., No. Reading, Mass. ....	Thompsonville: Geo. S. Phelps Co..	2.07	1.83	0.64	... <sup>2</sup>	4.46	1.03	2979
2916	Wizard Brand Pulverized Cow Manure. The Pulverized Manure Co., Chicago 9, Ill. ....	Stamford: Stumpp & Walter Co..	1.79	2.00	1.25	... <sup>3</sup>	1.05	1.00	2916
2981	Wizard Brand Pulverized Sheep Manure. The Pulverized Manure Co., Chicago, 9, Ill. ....	Thompsonville: Brainard Nurseries & Seed Co. ....	2.73	2.00	2.36	... <sup>4</sup>	2.52	2.00	2981
2866	Gro-Fast Cow Manure. The Rogers & Hubbard Co., Portland, Conn. ....	Portland: The Rogers & Hubbard Co.	1.86	1.50	1.16	1.00	1.71	2.00	2866
2985	Sawconure. Stumpp & Walter Co., New York 8, N. Y. ....	Stamford: Stumpp & Walter Co....	3.85	2.00	3.24	... <sup>5</sup>	2.03	1.00	2985
2901	Swift's Sheep Manure. Swift & Co., Plant Food Div., Baltimore, Md. ....	New London: Aben Hardware Co..	1.69	1.50	1.63	... <sup>6</sup>	3.57	2.50	2901
2895	Bovung. Walker-Gordon Laboratory Co., Plainsboro, N. J. ....	Groton: The C. W. Campbell Co..	2.23	2.00	1.90	... <sup>7</sup>	2.17	1.00	2895

<sup>1</sup> Guaranteed "available" phosphoric acid, 1.00 per cent; found 3.50 per cent.<sup>2</sup> Guaranteed "available" phosphoric acid, 0.89 per cent; found 0.44 per cent.<sup>3</sup> Guaranteed "available" phosphoric acid, 1.00 per cent; found 1.05 per cent.<sup>4</sup> Guaranteed "available" phosphoric acid, 1.00 per cent; found 2.06 per cent.<sup>5</sup> Guaranteed "available" phosphoric acid, 1.00 per cent; found 2.88 per cent.<sup>6</sup> Guaranteed "available" phosphoric acid, 1.00 per cent; found 1.49 per cent.<sup>7</sup> Guaranteed "available" phosphoric acid, 1.00 per cent; found 1.60 per cent.



TABLE 8. ANALYSES OF MISCELLANEOUS MATERIALS.

Station No.	Material	Moisture per cent	Ash per cent	Organic and volatile per cent	Nitrogen per cent	Phosphoric acid per cent	Potash per cent	Other analytical items Per cent
3336	Ivory Plaskon (plastic waste).....	....	....	....	19.00	....	....	Water sol. organic N 6.00; insol. organic N 13.00; active insol. alk. permanganate method 50.8.
3344	Oyster shells (burned) .....	....	....	....	....	....	....	CaO 54.01; MgO trace.
2353	Pecan shells, with some fragments of meats .....	....	....	....	0.39	0.10	0.30	.....
2394	Tobacco stems .....	14.35	....	....	1.00	0.65	4.91	CaO 3.69; MgO 0.75.
2970	Tobacco stems .....	14.50	....	....	2.48	0.86	7.80	Cl 1.26; CaO 4.65; MgO 1.00; SO <sub>3</sub> 0.67.
3357	Rabbit manure .....	4.91	....	....	2.60	3.09	1.90	.....
1365	"Cow manure" .....	3.69	72.75	23.56	0.88	....	....	Some cow manure, much loam or soil. Probably not more than 1/3 manure.
3077	Manure .....	53.30	22.29	24.41	0.73	0.65	0.71	.....
2602	Soot, accumulated under factory boiler where soft coal was used .....	14.36	....	....	none	0.14	none	.....
2406	Corn meal .....	(air-dry)	....	....	2.44	0.72	1.62	Cl 0.04.
2187	Horn dust .....	....	....	....	13.50	....	....	.....
2185	Horn shavings .....	....	....	....	10.00	....	....	.....
3143	Dolomite (D. U. Smith & Bro., Ashley Falls, Mass.) .....	....	....	....	....	....	....	CaO 30.21; MgO 21.68.
2373	Land plaster .....	....	....	....	....	....	....	CaO 33.66; MgO 0.46.

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