

# New York Agricultural Experiment Station.

PETER COLLIER, DIRECTOR.

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BULLETIN No. 59—NEW SERIES.

SEPTEMBER, 1893.

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ANALYSES OF COMMERCIAL FERTILIZERS COL-  
LECTED IN THE SPRING OF 1893.

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GENEVA, N. Y.

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The Bulletins published by the Station will be sent free to any farmer applying for them.

\*Connected with Fertilizer Control.

BULLETIN NO 59.—NEW SERIES.

TRADE-VALUES OF FERTILIZING INGREDIENTS  
IN RAW MATERIALS AND CHEMICALS, ADOPTED  
BY EXPERIMENT STATIONS.

	1892 Cts. per pound.	1893 Cts. per pound.
Nitrogen in ammonia salts.....	17½	17
“ “ nitrates.....	15	15½
Organic nitrogen in dry and fine ground fish, meat and blood, and in high grade mixed fertilizers.....	16	17½
Organic nitrogen in cotton-seed meal and cas- tor-pomace.....	15	16½
Organic nitrogen in fine ground bone and tank- age.....	15	15
Organic nitrogen in fine ground medium bone and tankage.....	12	12
Organic nitrogen in medium bone and tankage	9½	9
“ “ “ coarse bone and tankage.	7½	7
“ “ “ hair, horn shavings and coarse fish scraps.....	7	7
Phosphoric acid, soluble in water.....	7½	6½
“ “ “ ammonium citrate..	7½	6
“ “ “ in fine bone and tankage.....	7	6
“ “ “ fine medium bone and tankage.....	5½	5
Phosphoric acid in medium bone and tankage	4½	4
“ “ “ coarse bone and tankage.....	3	3
“ “ “ fine ground fish, cotton-seed meal, castor-pomace and wood ashes.....	5	5
Phosphoric acid in fine ground rock phosphate	2	2
Potash as high-grade sulphate, in forms free from muriates (chlorides) in ashes, etc.....	5½	5½
Potash in kainit.....	4½	4½
“ “ muriate.....	4½	4½
Organic nitrogen in mixed fertilizers.....	17	17½
Insoluble phosphoric acid in mixed fertilizers...	2	2

VALUATION OF FERTILIZING INGREDIENTS IN  
FOODS.

Organic nitrogen .....	—	17½
Phosphoric acid .....	—	5
Potash.....	—	5½

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Acme Fertilizer Co., Maspeth, L. I.	Acme fertilizer No. 1.	Flatbush. Jamaica.	1003 1038
Acme Fertilizer Co., Maspeth, L. I.	Acme fertilizer No. 2.	Flatlands. Jamaica.	1000 1039
Acme Fertilizer Co., Maspeth, L. I.	Lion Acme E brand.	Florida.	1073
Acme Fertilizer Co., Maspeth, L. I.	Superior superphosphate.	Florida.	1072
H. J. Baker & Co., 215 Pearl St., New York City.	Complete cabbage manure.	Parkville.	995
H. J. Baker & Co., 215 Pearl St., New York City.	Complete potato manure.	Gravesend. Jamaica.	998 1041
Baltimore Guano Co., Baltimore, Md.	Baltimore special.	Cato.	1136
Baltimore Guano Co., Baltimore, Md.	B. G. Ammoniated bone.	Cato.	1137
Baltimore Guano Co., Baltimore, Md.	Defiance potato manure.	Cato.	1138
Baltimore Guano Co., Baltimore, Md.	Game guano.	Cato.	1139
Bowker Fertilizer Co., Boston and New York.	Ammoniated dissolved bone.	Warsaw.	1227
Bowker Fertilizer Co., Boston and New York.	Carpenter's special fertilizer for peas and beans.	Jamaica.	1022

## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	3.7 to 4.1 3.03	4.5 to 5 3.68	8 to 9 7.5	— 1.25	— 8.75	9 to 10 7.66
Guaranteed Found	4.95 to 5.35 4.15	6 to 6.5 5.03	8 to 9 8.47	— 1.59	— 10.06	5 to 6 5.35
Guaranteed Found	2.5 to 3.3 2.29	3 to 4 2.78	7 to 8 6.91	— 1.95	— 8.86	3.7 to 4.3 4.41
Guaranteed Found	1.25 to 2.5 1.54	1.5 to 3 1.87	8 to 10 6.9	— 1.96	— 8.86	4 to 5 4.37
Guaranteed Found	4.7 4.52	5.75 5.48	5 6	— 1.71	— 7.71	7 7.79
Guaranteed Found	3.3 3.6	4 4.37	5.75 5.99	— 1.32	— 7.31	10 11.71
Guaranteed Found	0.83 to 1.65 1.03	1 to 2 1.25	9 to 11 8.99	2 1.65	11 to 13 10.64	2 to 3 2.17
Guaranteed Found	1.25 to 2.05 1.37	1.5 to 2.5 1.66	8 to 10 7.83	2 to 3 1.86	10 to 13 9.69	2 to 3 2.59
Guaranteed Found	0.83 to 1.65 1.3	1 to 2 1.58	8 to 10 8.28	2 1.42	10 to 12 9.7	4.3 to 5.4 3.65
Guaranteed Found	2.05 to 2.9 2.29	2.5 to 3.5 2.78	9 to 11 8.73	2 to 3 1.45	11 to 13 10.18	2.5 to 3.5 2.95
Guaranteed Found	1.65 to 2.5 1.78	2 to 3 2.16	8 to 10 8.6	2 1.1	10 to 12 9.7	2 to 3 3.16
Guaranteed Found	2.5 to 3.3 2.56	3 to 4 3.11	10 to 12 9.61	— 2.1	— 11.71	2 to 2.25 6.87

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Bowker Fertilizer Co., Boston and New York.	Hill and drill.	Cato.	1152
Bowker Fertilizer Co., Boston and New York.	Stockbridge manure for potatoes and vegetables.	Jamaica.	1021
Bowker Fertilizer Co., Boston and New York.	Sure crop.	Cato.	1153
Bowker Fertilizer Co., Boston and New York.	Tecumseh bone phos- phate.	Warsaw.	1224
Bradley Fertilizer Co., Boston, Mass.	Ammoniated dissolved bone.	Oneida.	1094
Bradley Fertilizer Co., Boston, Mass.	B. D. Sea fowl guano.	Omro.	1120
Bradley Fertilizer Co., Boston, Mass.	Circle brand—extra fine ground bone with pot- ash.	Attica.	1216
Bradley Fertilizer Co., Boston, Mass.	Complete manure for potatoes and vegetables.	Flatlands. Jamaica.	999 1020
Bradley Fertilizer Co., Boston, Mass.	Fine ground bone.	Attica.	1215
Bradley Fertilizer Co., Boston, Mass.	Farmers' new method.	Chester.	1058
Bradley Fertilizer Co., Boston, Mass.	Justice dissolved bone.	Warsaw.	1233
Bradley Fertilizer Co., Boston, Mass.	Niagara phosphate.	Oneida.	1093

## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis,  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	2 to 3 1.69	2.4 to 3.6 2.05	8 to 10 8.58	2 4.47	10 to 12 13.05	2 to 3 2.09
Guaranteed Found	3.3 to 4.1 3.5	4 to 5 4.24	5 to 7 9.2	2 2.04	7 to 9 11.24	7 to 9 7
Guaranteed Found	0.83 to 1.65 0.75	1 to 2 0.9	8 to 10 9.64	2 2.4	10 to 12 12.04	1 to 2 1.3
Guaranteed Found			7 to 9 13.5	— 1.37	9 to 11 14.87	
Guaranteed Found	1.65 to 2.5 2.17	2 to 3 2.63	7 to 9 9.7	1 1.18	8 to 10 10.88	1 to 2 1.42
Guaranteed Found	2.05 to 2.9 2.45	2.5 to 3.5 2.97	8 to 10 9.96	2 1.22	10 to 12 11.18	1.5 to 2.5 1.44
Guaranteed Found	1.85 to 2.7 1.98	2.25 to 3.25 2.4	— 8.77	— 3.91	8 to 12 12.68	2 to 3 2.35
Guaranteed Found	3.7 to 4.1 3.67	4.5 to 5 4.45	8.5 to 10 8.7	1.5 to 2 0.71	10 to 12 9.41	7 to 8 6.78
Guaranteed Found	2.5 to 3.3 3.73	3 to 4 4.52	— 15.11	— 6.09	21 to 23 21.2	
Guaranteed Found	0.83 to 1.65 1.02	1 to 2 1.24	8 to 10 8.59	2 1.93	10 to 12 10.52	2.1 to 3.25 2.15
Guaranteed Found			12 to 15 13.74	1 to 2 1.97	13 to 16 15.71	
Guaranteed Found	0.83 to 1.65 1.11	1 to 2 1.35	7 to 9 8.4	1 1.51	8 to 10 9.91	1.1 to 1.6 2.42

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Bradley Fertilizer Co., Boston, Mass.	Potato fertilizer.	Chester.	1060
Bradley Fertilizer Co., Boston, Mass.	Patent superphosphate.	Chester.	1059
Brown & Gilman, Philadelphia, Pa.	Special cabbage manure.	Canarsie.	1005
Chemical Co. of Canton, Baltimore, Md.	Gem acid phosphate.	Albion.	1196
Chemical Co. of Canton, Baltimore, Md.	Soluble bone and potash.	Albion.	1197
Clark's Cove Fertilizer Co., New Bedford, Mass.	Bay State fertilizer.	Altamont.	1082
Clark's Cove Fertilizer Co., New Bedford, Mass.	Great Planet "A" ma- nure.	Queens.	1035
Clark's Cove Fertilizer Co., New Bedford, Mass.	King Philip alkaline bone.	Altamont.	1081
Clark's Cove Fertilizer Co., New Bedford, Mass.	Riverhead Club formula.	Riverhead.	1045
Clark's Cove Fertilizer Co., New Bedford, Mass.	Triumph bone and pot- ash.	Altamont.	1080
Coe, E. Frank, New York City.	Gold brand excelsior guano.	Riverhead.	1047
Coe, E. Frank, New York City.	High grade potato fer- tilizer.	Lyons.	1163



## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	2.05 to 2.9 2.09	2.5 to 3.5 2.54	9 to 10 8.91	1 to 2 4.87	11 to 12 13.78	3.25 to 4.3 3.2
Guaranteed Found	2.05 to 2.9 2.32	2.5 to 3.5 2.82	8 to 10 8.86	2 1.95	10 to 12 10.81	1.5 to 2.5 1.57
Guaranteed Found	2.5 to 3.3 2.57	3 to 4 3.12	6 to 8 7.49	— 3.36	— 10.85	4 to 6 4.29
Guaranteed Found			12 to 14 12.57	— 1.2	— 13.77	
Guaranteed Found			10 to 12 9.65	2 1.14	12 to 14 10.79	2 to 3 1.77
Guaranteed Found	2.5 to 3.3 2.71	3 to 4 3.29	8 to 11 9.68	1.5 to 3 1.62	9.5 to 14 11.3	2 to 3 1.93
Guaranteed Found	3.7 to 4.1 3.81	4.5 to 5 4.62	7.5 to 9.5 7.53	1 to 2 2.87	8.5 to 11.5 10.4	7.5 to 10 7.62
Guaranteed Found	1.25 to 1.65 1.5	1.5 to 2 1.82	6 to 9 7.44	1 to 2 3.06	7 to 11 10.5	3 to 4 3.29
Guaranteed Found	4.1 to 4.95 4.82	5 to 6 5.85	8 to 11 8.4	1 to 2 2.32	9 to 13 10.72	10 to 12 9.79
Guaranteed Found			10 to 12 9.38	— 2.87	— 12.25	2 to 3 2.02
Guaranteed Found	2.5 to 3.3 2.4	3 to 4 2.91	8 to 10 9	— 2.26	— 11.26	6 to 8 5.05
Guaranteed Found	2.05 to 2.5 2.03	2.5 to 3 2.46	8 to 10 8.85	2 to 3 1.8	10 to 12 10.65	6 5.34

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Coe, E. Frank, New York City.	Red brand excelsior guano	Riverhead. Florida.	1046 1069
Crocker Fertilizer and Chemical Co., Buffalo, N. Y.	Ammoniated bone super- phosphate.	Moravia.	1116
Crocker Fertilizer and Chemical Co., Buffalo, N. Y.	Ammoniated wheat and corn phosphate.	Jamaica.	1019
Crocker Fertilizer and Chemical Co., Buffalo, N. Y.	Ammoniated practical su- perphosphate.	Moravia. Holley.	1119 1178
Crocker Fertilizer and Chemical Co., Buffalo, N. Y.	Crocker's phosphate	Holley.	1179
Crocker Fertilizer and Chemical Co., Buffalo, N. Y.	Lawn and grass fertilizer.	Jamaica.	1017
Crocker Fertilizer and Chemical Co., Buffalo, N. Y.	New rival ammoniated superphosphate.	Moravia. Chester.	1118 1056
Crocker Fertilizer and Chemical Co., Buffalo, N. Y.	Niagara phosphate.	Warsaw.	1229
Crocker Fertilizer and Chemical Co., Buffalo, N. Y.	Potato, hop and tobacco phosphate.	Jamaica. Chester.	1018 1057
Crocker Fertilizer and Chemical Co., Buffalo, N. Y.	Special potato manure.	Lyons.	1159
Crocker Fertilizer and Chemical Co., Buffalo, N. Y.	Vegetable bone super- phosphate.	Mt. Morris.	1234
Crocker Fertilizer and Chemical Co., Buffalo, N. Y.	Wheat and corn phos- phate.	Moravia.	1117

## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	3.3 to 4.1 3.14	4 to 5 3.81	10 to 12 9.14	1 to 2 0.34	11 to 14 9.48	6 to 7 6.18
Guaranteed Found	2.9 to 3.7 3.04	3.5 to 4.5 3.69	10 to 12 9.59	1 to 2 1.18	11 to 14 10.77	1.1 to 1.6 1.3
Guaranteed Found	2 to 3 2.28	2.45 to 3.65 2.77	10 to 13 9.59	1 to 2 1.11	11 to 15 10.7	1.6 to 2.7 2.06
Guaranteed Found	0.83 to 1.65 1.17	1 to 2 1.42	8 to 10 8.38	1 to 2 1.14	9 to 12 9.52	1.1 to 1.6 1.57
Guaranteed Found	1.25 to 2.5 1.54	1.5 to 3 1.87	10 to 13 9.95	1 to 3 1.12	11 to 15 11.07	1.6 to 2.7 1.97
Guaranteed Found	1.25 to 2.5 1.42	1.5 to 2.5 1.72	10 to 12 10.59	1 to 3 1.5	11 to 15 12.09	1.6 to 3 2.19
Guaranteed Found	1.25 to 2.05 1.41	1.5 to 2.5 1.71	10 to 12 10.66	1 to 2 0.84	11 to 14 11.5	1.6 to 2.7 2.21
Guaranteed Found			11.5 to 13 10.92	1 to 3 2.63	12.5 to 16 13.55	
Guaranteed Found	2 to 3 2.04	2.45 to 3.65 2.48	10 to 12 9.90	1 to 2 0.85	11 to 14 10.75	3.2 to 4.8 4
Guaranteed Found	3.7 to 4.5 3.56	4.5 to 5.5 4.32	8 to 9 7.9	1 to 2 0.46	9 to 11 8.36	5.4 to 6.7 7.41
Guaranteed Found	4.95 to 5.75 5	6 to 7 6.07	6 to 7 6.07	1 to 2 0.47	7 to 9 6.52	6 to 8 7.55
Guaranteed Found	2.05 to 2.9 2.33	2.5 to 3.5 2.83	10 to 13 9.2	1 to 2 1.45	11 to 15 10.65	1.6 to 2.7 2.05

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Cumberland Bone Phosphate Co., Portland, Me.	Cumberland phosphate.	New Hope.	1124
Cumberland Bone Phosphate Co., Portland, Me.	Dissolved bone phosphate	New Hope.	1123
Cumberland Phosphate Co., Portland, Me.	Seeding down.	New Hope.	1122
Darling Fertilizer Co., Pawtucket, R. I.	Animal fertilizer.	Chester.	1079
Ellis, J. J., Darlen Center, N. Y.	Reliance phosphate.	Darlen Center.	1208
Ellsworth, Tuthill & Co., Promised Land, L. I.	No. 2 fertilizer.	Aquebogue.	1055
Ellsworth, Tuthill & Co., Promised Land, L. I.	Special potato fertilizer.	Aquebogue.	1054
Farmers' Fertilizer Co., Syracuse, N. Y.	Farmers' soluble bone.	Attica.	1210
Farmers' Fertilizer Co., Syracuse, N. Y.	Phoenix brand.	Lyons.	1166
Farmers' Fertilizer Co., Syracuse, N. Y.	Reaper brand.	Chester.	1061
Farmers' Fertilizer Co., Syracuse, N. Y.	Standard special formula.	Lyons.	1167
Forest City Wood Ash Co., London, Can.	Canada hard-wood ashes.	Syracuse.	1101

## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	1 to 1.85 1.24	1.25 to 2.25 1.5	8 to 11 8.36	1 to 2 1.19	10 to 12 9.55	2 to 3 2.15
Guaranteed Found			12 to 15 12.97	1 to 2 1.93	13 to 16 14.9	
Guaranteed Found	1.65 to 2.5 1.52	2 to 3 1.85	5 to 6 8.29	5 to 6 1.39	10 to 12 9.68	1 to 2 2.5
Guaranteed Found	3.3 to 4.95 2.75	4 to 6 3.34	7 to 9 5.59	— 5.1	— 10.69	9 to 11 4.82
Guaranteed Found	1.25 to 2.05 1.53	1.5 to 2.5 1.86	8 to 13 10.65	— 1.97	— 12.62	1.6 to 2.7 2.29
Guaranteed Found	4.1 4.54	5 5.51	4 4.16	— 0.8	— 4.96	7 6.87
Guaranteed Found	4.1 4.93	5 5.98	8 7.77	— 0.76	— 8.53	10 11.47
Guaranteed Found			6 to 7.5 6.5	1 to 2 0.35	7.5 to 9 6.85	2.15 to 2.6 1.86
Guaranteed Found	1.25 to 2.05 1.07	1.5 to 2.5 1.3	5 to 7 6.26	1 to 2 0.24	6 to 8 6.5	1.6 to 2.7 2.01
Guaranteed Found	1.65 to 2.5 1.33	2 to 3 1.61	5.5 to 7 6.75	2 0.28	7.5 to 9 7.03	4.3 to 5.4 4.22
Guaranteed Found	0.83 to 1.65 0.72	1 to 2 0.87	8 to 10 7.42	2 0.33	10 to 12 7.75	2.15 to 3.25 1.93
Guaranteed Found			— 1.23	— 0.6	— 1.83	5 to 7 5.95

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZER

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Geo. B. Forrester, New York City.	Complete manure for potatoes.	Gravesend.	996
Great Eastern Fertilizer Co., Rutland, Vt.	Bone and potash.	Holley.	1186
Great Eastern Fertilizer Co., Rutland, Vt.	Grain and grass fertilizer.	Holley.	1184
Great Eastern Fertilizer Co., Rutland, Vt.	Garden special.	Hollis.	1028
Great Eastern Fertilizer Co., Rutland, Vt.	Oats, buckwheat and seed- ing-down phosphate.	Holley.	1182
Great Eastern Fertilizer Co., Rutland, Vt.	Vegetable, vine and to- bacco grower.	Chester.	1064
Great Eastern Fertilizer Co., Rutland, Vt.	Wheat special.	Lyons. Holley.	1162 1185
Griffing & Tuthill, Riverhead, L. I.	G. & T. high grade pota- to manure.	Riverhead.	1048
Hallock & Duryee, Mattituck, L. I.	Cutchogue Club fertilizer.	Mattituck.	1236
Hallock & Duryee, Mattituck, L. I.	Lupton's potato fertilizer.	Mattituck.	1237
Hallock & Duryee, Mattituck, L. I.	Mattituck fertilizer.	Mattituck.	1239
Hallock & Duryee, Mattituck, L. I.	No. 1 fertilizer.	Mattituck.	1238

## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	3.7 4.74	4.5 5.75	5.5 6.27	— —	— 6.27	10 10.95
Guaranteed Found			10 to 12 10.33	— 0.5	— 10.83	2.15 to 3.25 1.78
Guaranteed Found	2.5 to 3.3 2.5	3 to 4 3	8 to 12 8.16	1 to 3 1.04	9 to 15 9.2	2 to 4 2.27
Guaranteed Found	3.3 to 4.1 3	4 to 5 3.64	6 to 8 6.64	— 0.68	— 7.32	8 to 10 8.36
Guaranteed Found	0.83 to 1.65 1.1	1 to 2 1.33	8 to 12 8.15	1 to 3 1.18	9 to 15 9.33	4 to 6 4.08
Guaranteed Found	2.05 to 2.9 2.05	2.5 to 3.5 2.5	8 to 12 8.35	1 to 3 0.53	9 to 15 8.88	3.25 to 4.3 3.47
Guaranteed Found	1.65 to 2.5 1.81	2 to 3 2.2	8 to 12 8.39	1 to 3 0.6	9 to 15 8.99	1.6 to 2.7 2.18
Guaranteed Found	3.3 to 4.1 3.32	4 to 5 4.03	7 to 9 8.68	2 1.27	9 to 11 9.95	7 to 9 7.4
Guaranteed Found	4.1 3.65	5 4.43	8 7.81	— 0.97	— 8.78	10 9.02
Guaranteed Found	3.3 to 4.1 2.53	4 to 5 3.07	7 to 9 6.28	— 0.11	— 6.39	9 to 11 8.95
Guaranteed Found	3.3 to 4.1 2.64	4 to 5 3.2	5 to 7 4.78	— 0.15	— 4.93	7 to 9 6.3
Guaranteed Found	3.3 to 4.1 2.48	4 to 5 3	7 to 9 6.51	— 0.61	— 7.12	9 to 11 9.47

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Hallock & Duryee, Mattituck, L. I.	No. 2 cabbage fertilizer.	Mattituck.	1240
Hendrickson, Isaac C., Jamaica, L. I.	High grade potato fertilizer.	Jamaica.	1011
Hendrickson, Isaac C., Jamaica, L. I.	L. I. cabbage fertilizer.	Jamaica.	1012
Hess, S. M. & Bro., Philadelphia, Pa.	Ammoniated bone superphosphate.	Mattituck.	1049
Hess, S. M. & Bro., Philadelphia, Pa.	Bone meal.	Mattituck.	1053
Hess, S. M. & Bro., Philadelphia, Pa.	Keystone dissolved bone phosphate.	Mattituck.	1052
Hess, S. M. & Bro., Philadelphia, Pa.	Potato and truck manure.	Mattituck.	1050
Imperial Guano Co., Nortonk, Va.	Imperial guano.	Jamaica.	1044
Imperial Guano Co., Norfolk, Va	Imperial 8 per cent. guano for potatoes.	Jamaica.	1043
Lackawanna Fertilizer and Chemical Co., Moosic, Pa.	Bone superphosphate for corn, wheat and rye.	Gasport.	1199
Lackawanna Fertilizer and Chemical Co., Moosic, Pa.	Moosic phosphate.	Gasport.	1198
Lackawanna Fertilizer and Chemical Co., Moosic, Pa	Pure ground bone.	Gasport.	1200



## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	4.1 to 4.95 4.02	5 to 6 4.88	6 to 8 6.97	— 0.1	— 7.07	6 to 8 6.43
Guaranteed Found	4.1 to 4.95 3.12	5 to 6 3.79	4 to 7 9.44	1 to 2 0.45	5 to 9 9.89	9 to 10 7.48
Guaranteed Found	2.5 to 3.3 1.84	3 to 4 2.23	6 to 8 9.16	— 0.28	— 9.44	6 to 8 5.82
Guaranteed Found	1.65 to 2.9 1.78	2 to 3.5 2.16	8 to 11 8.61	— 2.23	— 10.84	2 to 3.5 2.01
Guaranteed Found	2.5 to 4.1 2.75	3 to 5 3.34	— 15.34	— 8.74	15 to 20 24.08	
Guaranteed Found	0.83 to 1.65 1.06	1 to 2 1.29	11 to 15 10.5	1 to 2 2.5	12 to 17 13	1 to 2 1.14
Guaranteed Found	2.5 to 3.3 2.75	3 to 4 3.34	8 to 10 8.7	— 0.71	— 9.41	6 to 8 6.14
Guaranteed Found	8 to 9 7.77	9.7 to 10.9 9.43	6 to 7 8.19	2 to 3 0.56	8 to 10 8.75	3.5 to 4.5 5.46
Guaranteed Found	6.6 to 7.4 6.43	8 to 9 7.81	7 to 8 7.22	2 to 3 0.79	9 to 12 8.01	7 to 8 8.94
Guaranteed Found	1.65 to 2.5 1.5	2 to 3 1.82	10 to 12 6.25	1 to 2 1.98	11 to 14 8.23	2 to 3 3.10
Guaranteed Found	1.25 to 1.65 1.02	1.5 to 2 1.24	6 to 8 4	1 to 2 2.23	7 to 10 6.23	1.5 to 2 2.14
Guaranteed Found	3.3 to 3.7 4	4 to 4.5 4.85	— 19.25	— 2.59	21 to 22 21.84	

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Lackawanna Fertilizer and Chemical Co., Moosic, Pa.	Special manure for potatoes, tobacco and hops.	Gasport.	1201
Liebig Manufacturing Co., Carteret, N. J.	Ammoniated dissolved bone.	Moravia.	994
Liebig Manufacturing Co., Carteret, N. J.	Ammoniated superphosphate for potatoes and corn.	Moravia.	992
Liebig Manufacturing Co., Carteret, N. J.	Dissolved bone.	Moravia.	991
Liebig Manufacturing Co., Carteret, N. J.	Dissolved bone and potash.	Moravia.	990
Liebig Manufacturing Co., Carteret, N. J.	Standard phosphate.	Moravia.	993
Lister Agricultural and Chemical Works, Newark, N. J.	Ammoniated dissolved bone phosphate.	Moravia.	1103
Lister Agricultural and Chemical Works, Newark, N. J.	Cauliflower and cabbage manure.	Gravesend. Jamaica.	1002 1010
Lister Agricultural and Chemical Works, Newark, N. J.	Celebrated ground bone.	Altamont.	1088
Lister Agricultural and Chemical Works, Newark, N. J.	Potato fertilizer No. 2.	Altamont.	1087
Lister Agricultural and Chemical Works, Newark, N. J.	Potato manure.	Gravesend. Jamaica.	1001 1009
Lister Agricultural and Chemical Works, Newark, N. J.	Success.	Altamont.	1086

## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	2.5 to 3.3 2.43	3 to 4 2.95	10 to 12 8.34	1 to 2 2.76	11 to 14 11.1	6 to 7 6.85
Guaranteed Found	2.05 to 2.9 2.08	2.5 to 3.5 2.53	10 to 12 10.28	— 0.7	— 10.98	2.5 to 3.5 2.74
Guaranteed Found	2.9 to 3.3 3.09	3.5 to 4 3.75	6 to 8 8.33	— 0.49	— 8.82	7 to 8 7.55
Guaranteed Found			14 to 15.5 14.01	— 0.42	— 14.43	
Guaranteed Found			13 to 15 13.33	— 0.37	— 13.7	3 to 4 3.03
Guaranteed Found	1.25 to 2.05 1.3	1.5 to 2.5 1.58	10 to 12 10.68	— 0.8	— 11.48	2.5 to 3.5 2.46
Guaranteed Found	1.8 to 2.05 1.95	2.2 to 2.5 2.37	9 to 10 9.04	2 to 3 3.05	11 to 13 12.09	1.5 to 2 1.99
Guaranteed Found	3.7 to 4.1 3.82	4.5 to 5 4.63	7.5 to 9 8.06	— 0.87	— 8.93	7 to 8 7.37
Guaranteed Found	2.7 to 2.9 3.83	3.25 to 3.5 4.64	— 8.32	— 4.72	12 to 14 13.04	
Guaranteed Found	1.8 to 2.5 2.35	2.2 to 3 2.85	9.25 to 11 9.5	— 2.13	— 11.63	4 to 5 3.28
Guaranteed Found	3.7 to 4.1 3.64	4.5 to 5 4.41	7.5 to 9 8.11	— 0.76	— 8.87	7 to 8 7.16
Guaranteed Found	1.25 to 1.65 1.49	1.5 to 2 1.81	9.5 to 11 9.32	— 2.26	— 11.58	1.5 to 2 1.85

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Lister Agricultural and Chemical Works, Newark, N. J.	Standard pure bone superphosphate of lime	Jamaica.	1008
Lorentz and Rittler, Baltimore, Md.	Farmers' alkaline bone.	Albion.	1194
Ludlam, Fred'k New York City.	A. B. F. brand.	Moravia.	1133
Ludlam, Fred'k New York City.	Cereal brand.	Moravia.	1134
Ludlam, Fred'k New York City.	Dragon's tooth brand.	Moravia.	1132
Ludlam, Fred'k New York City.	Sickle brand.	Moravia.	1135
Mapes Formula and Peruvian Guano Co., New York City.	Cabbage and cauliflower manure.	Jamaica.	1025
Mapes Formula and Peruvian Guano Co., New York City.	Complete manure "A" brand.	Moravia.	1111
Mapes Formula and Peruvian Guano Co., New York City.	Complete manure for light soils.	Chester.	1063
Mapes Formula and Peruvian Guano Co., New York City.	Complete vegetable manure.	Jamaica.	1023
Mapes Formula and Peruvian Guano Co., New York City.	Potato manure.	Moravia.	1110
Mapes Formula and Peruvian Guano Co., New York City.	Potato manure—L. I. special.	Jamaica.	1024

## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	2.35 to 2.70 2.45	2.85 to 3.25 2.97	10 to 12 10.23	2 to 3 1.63	— 11.86	1.5 to 2 1.77
Guaranteed Found			10 to 12 10.36	2 to 3 1.26	12 to 15 11.62	1.5 to 2 1.81
Guaranteed Found	1.65 to 2.5 1.92	2 to 3 2.33	8 to 10 7.92	2 2.66	10 to 12 10.58	2 to 3 2.39
Guaranteed Found	0.83 to 1.65 0.8	1 to 2 0.97	8 to 10 10	2 2.21	10 to 12 12.21	1 to 2 1.05
Guaranteed Found	3.3 to 4.1 2.63	4 to 5 3.19	7 to 9 8.77	— 2.54	— 11.31	7 to 9 7.51
Guaranteed Found			10 to 12 12.47	2 0.86	12 to 14 13.33	1 to 2 1.16
Guaranteed Found	4.1 to 4.95 4.13	5 to 6 5.01	6 7.81	— 0.24	6 to 8 8.05	6 to 8 6.57
Guaranteed Found	2.5 to 3.3 2.87	3 to 4 3.48	10 to 12 11.74	2 to 4 0.41	12 to 16 12.15	2.5 to 3.5 3.59
Guaranteed Found	4.95 to 6.6 4.82	6 to 8 5.85	6 to 8 7.98	2 1.02	8 to 10 9	6 to 8 6.86
Guaranteed Found	4.95 to 6.6 5.13	6 to 8 6.22	6 to 8 8.54	— 0.85	8 to 10 9.39	6 to 8 6.6
Guaranteed Found	3.7 to 4.1 3.7	4.5 to 5 4.5	8 8.92	— 0.13	8 9.05	6 to 8 7.19
Guaranteed Found	3.3 to 4.1 3.43	4 to 5 4.16	6 to 8 8.31	— 0.42	— 8.73	7 to 9 7.6

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Mapes Formula and Peruvian Guano Co., New York City.	XXV phosphate.	Moravia.	1112
Maryland Fertilizer and Manufacturing Co., Baltimore, Md.	Alkaline bone.	Venice. Holley.	1126 1173
Maryland Fertilizer and Manufacturing Co., Baltimore, Md.	A. E. fertilizer.	Venice.	1127
Maryland Fertilizer and Manufacturing Co., Baltimore, Md.	Barley fertilizer.	Venice.	1128
Maryland Fertilizer and Manufacturing Co., Baltimore, Md.	Globe complete manure.	Venice.	1125
Maryland Fertilizer and Manufacturing Co., Baltimore, Md.	Seneca chief ammoniated dissolved bone.	Lyons.	1157
Michigan Carbon Works, Detroit, Mich.	Homestead bone black.	Wolcott. Holley.	1143 1181
Michigan Carbon Works, Detroit, Mich.	Jarves drill phosphate.	Holley.	1180
Milsom Rendering and Fertilizer Co., E. Buffalo, N. Y.	Buffalo fertilizer.	Sodus. Lyons.	1148 1170
Milsom Rendering and Fertilizer Co., E. Buffalo, N. Y.	Buffalo fertilizer.	Attica.	1221
Milsom Rendering and Fertilizer Co., E. Buffalo, N. Y.	Buffalo guano.	Sodus.	1150
Milsom Rendering and Fertilizer Co., E. Buffalo, N. Y.	Erie King.	Sodus.	1149

## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	2.05 2.05	2.5 2.5	7 9.61	1 0.1	8 9.71	1 1.23
Guaranteed Found			11 to 15 11.36	1 to 2 0.92	12 to 17 12.28	3 to 4 4.42
Guaranteed Found			9 to 10 11.03	2 to 3 1.6	11 to 13 12.63	2.15 to 2.7 2.19
Guaranteed Found			11 to 14 12.82	— 1.03	— 13.85	4.5 to 5.5 4.81
Guaranteed Found	1.5 to 2.05 1.82	1.75 to 2.5 2.21	9 to 12 9.42	1 to 2 2.35	10 to 14 11.77	1.5 to 2.25 1.81
Guaranteed Found	1.65 to 2.5 1.89	2 to 3 2.29	9 to 12 9.15	— 2.49	— 11.64	1.5 to 2 1.98
Guaranteed Found	1.85 to 2.6 2.11	2.25 to 3.15 2.56	8 to 11 9.43	— 1.15	— 10.58	1.5 to 1.9 1.76
Guaranteed Found	1 to 1.65 1.26	1.25 to 2 1.53	8 to 9 7.89	2 to 3 0.72	10 to 12 8.61	0.3 to 0.5 0.23
Guaranteed Found	2.5 to 3.8 1.98	3 to 4.65 2.4	8 to 12.3 8.53	2 to 3 1.99	10 to 15.3 10.52	1.5 to 2.5 1.27
Guaranteed Found	2.5 to 3.8 1.8	3 to 4.65 2.19	8 to 12.3 7.43	2 to 3 2.4	10 to 15.3 9.83	1.5 to 2.5 1.02
Guaranteed Found	0.83 to 1.65 0.94	1 to 2 1.14	10 to 12 7.40	1 to 3 1.19	11 to 15 8.59	1 to 2 1.31
Guaranteed Found	0.83 to 1.65 0.69	1 to 2 0.84	8.45 to 10.45 8.3	4 to 5 2.1	12.45 to 15.45 10.4	1.9 to 2.1 2.12

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Milsom Rendering and Fertilizer Co., E. Buffalo, N. Y.	Hop and tobacco phosphate.	Attica.	1219
Milsom Rendering and Fertilizer Co., E. Buffalo, N. Y.	Vegetable bone fertilizer.	Lyons.	1171
Milsom Rendering and Fertilizer Co., E. Buffalo, N. Y.	Vegetable bone fertilizer.	Attica.	1218
Milsom Rendering and Fertilizer Co., E. Buffalo, N. Y.	Wheat, oats and barley phosphate.	Sodus.	1151
Milsom Rendering and Fertilizer Co., E. Buffalo, N. Y.	Wheat, oats and barley phosphate.	Attica.	1220
Mitchell Fertilizer Co., Tremley, N. J.	Standard superphosphate.	Holley.	1172
Moller & Co. Bone Works, Maspeth, L. I.	Champion No. 1 pure bone fertilizer.	Jamaica. Canarsie.	1015 1006
Moller & Co. Bone Works, Maspeth, L. I.	Champion No. 2 pure bone fertilizer.	Jamaica. Canarsie.	1016 1007
National Fertilizer Co., Bridgeport, Conn.	Chittenden's complete fertilizer.	Queens.	1034
Newark Chemical Works, Newark, N. J.	Ammoniated dissolved bone superphosphate.	Moravia.	1108
Newark Chemical Works, Newark, N. J.	Harmony phosphate.	Moravia. Lyons.	1109 1169
Newark Chemical Works, Newark, N. J.	Harvest Queen.	Lyons.	1168



## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	2.5 to 3.3 1.89	3 to 4 2.29	8 to 11 8.26	1 to 2 2.11	9 to 13 10.37	5 to 6 2.92
Guaranteed Found	4.1 to 4.95 2.69	5 to 6 3.27	8 to 10 9.42	3 to 4 1.82	11 to 14 11.24	5 to 6 3.37
Guaranteed Found	4.1 to 4.95 2.92	5 to 6 3.54	8 to 10 7.85	3 to 4 1.6	11 to 14 9.45	5 to 6 3.37
Guaranteed Found	1.65 to 3.3 1.1	2 to 4 1.33	8 to 10 5.83	2 to 3 2.7	10 to 13 8.53	2 to 3 1.04
Guaranteed Found	1.65 to 3.3 1.38	2 to 4 1.67	8 to 10 6.81	2 to 3 2.78	10 to 13 9.59	2 to 3 1.28
Guaranteed Found	1.65 to 2.5 1.33	2 to 3 1.61	9 to 10 12.48	— 1.33	— 13.81	2 to 3 1.85
Guaranteed Found	4.1 to 4.5 3.38	5 to 5.5 4.1	— 7.45	— 1.61	10 to 11 9.06	8 to 9 6.48
Guaranteed Found	4.95 to 5.35 3.6	6 to 6.5 4.37	— 7.08	— 2.44	10 to 11 9.52	6.5 to 7 4.92
Guaranteed Found	3.3 to 4.1 3.36	4 to 5 4.08	8 to 10 9	2 1.5	10 to 12 10.5	6 to 8 6.66
Guaranteed Found	1.8 to 2.5 1.74	2.25 to 3 2.11	9 to 11 8.44	1.5 to 2.5 1.94	10.5 to 13.5 10.38	2.5 to 3 2.47
Guaranteed Found	0.83 to 1.65 1.34	1 to 2 1.63	9 to 11 10.15	1 to 2 1.73	10 to 13 11.88	2.5 to 3 2.46
Guaranteed Found	1 to 1.65 1.33	1.25 to 2 1.61	10 to 12 9.66	1.5 to 2 1.71	11.5 to 14 11.37	2.5 to 3 2.39

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Newark Chemical Works, Newark, N. J.	Standard superphosphate of lime.	Moravia.	1107
Northwestern Fertilizer Co., Chicago, Ill.	Horse shoe brand prairie phosphate.	Lyons.	1161
Oakfield Fertilizer Co., Oakfield, N. Y.	Domestic fertilizer.	Holley.	1176
Oakfield Fertilizer Co., Oakfield, N. Y.	Great value fertilizer.	Holley.	1177
Oakfield Fertilizer Co., Oakfield, N. Y.	Potato and tobacco fertil- izer.	Holley.	1174
Oakfield Fertilizer Co., Oakfield, N. Y.	Standard fertilizer	Holley.	1175
Pacific Guano Co., Boston, Mass.	Nobsque guano.	Warsaw.	1228
Phelps, J. E. Jamaica, L. I.	Challenge vegetable fer- tilizer No. 1.	Jamaica.	1013
Phelps, J. E. Jamaica, L. I.	Challenge vegetable fer- tilizer No. 2.	Jamaica.	1014
Phillips, Moro, Chemical Co., Philadelphia, Pa.	C and G complete fertil- izer.	Moravia.	1105
Phillips, Moro, Chemical Co., Philadelphia, Pa.	Dissolved S. C. phos- phate.	Moravia.	1106
Phillips, Moro, Chemical Co., Philadelphia, Pa.	Special potato fertilizer No. 2.	Cato.	1154

## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	2.35 to 2.7 2.39	2.85 to 3.25 2.9	10 to 12 9.01	1.5 to 2.5 2.47	11.5 to 14.5 11.48	2.5 to 3 2.52
Guaranteed Found	1.65 to 2.05 1.89	2 to 2.5 2.29	6 to 8 6.84	3 to 4 1.96	9 to 12 8.8	
Guaranteed Found	1.65 to 2.5 1.96	2 to 3 2.38	8 to 10 9.31	1 to 2 0.59	9 to 12 9.9	1.1 to 1.6 1.67
Guaranteed Found	0.83 to 1.65 1.15	1 to 2 1.4	6 to 8 7.2	1 to 2 0.46	7 to 8 7.66	1.1 to 1.6 1.5
Guaranteed Found	2.5 to 3.3 2.75	3 to 4 3.34	6 to 8 6.57	1 to 2 0.73	7 to 10 7.3	4.3 to 5.4 4.79
Guaranteed Found	2.5 to 3.3 2.64	3 to 4 3.2	10 to 12 10.96	1 to 2 0.67	11 to 14 11.63	1.6 to 2.15 2.14
Guaranteed Found	1.25 to 1.65 1.18	1.5 to 2 1.43	8 to 12 7.85	1 to 2 1.63	9 to 14 9.48	2 to 3 2
Guaranteed Found	4.1 to 4.95 3.15	5 to 6 3.82	4 to 7 6.02	1 to 2 0.47	5 to 9 6.49	9 to 10 8.35
Guaranteed Found	3.3 to 4.1 3	4 to 5 3.64	5 to 7 8.01	1 to 2 0.39	6 to 9 8.4	10 to 11 7.77
Guaranteed Found	1 to 1.65 0.86	1.25 to 2 1.04	8 to 10 8.7	1 to 2 0.94	9 to 12 9.64	1.25 to 2 1.73
Guaranteed Found			12 to 14 11.23	— 0.73	— 11.96	
Guaranteed Found	1.85 to 2.7 1.5	2.25 to 3.25 1.82	9 to 10 9.41	— 0.71	— 10.12	4.75 to 5.75 4.77

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Phipps, Wm. W. Albion, N. Y.	Eagle brand ammoniated dissolved bone with potash.	Albion.	1188
Phipps, Wm. W. Albion, N. Y.	Eagle brand dissolved bone.	Albion.	1190
Phipps, Wm. W. Albion, N. Y.	Eagle brand fertilizer for potatoes, corn, fruit and vines.	Albion.	1187
Phipps, Wm. W. Albion, N. Y.	Eagle brand superphosphate with potash.	Albion.	1189
Pottstown Iron Co., Pottstown, Pa.	Odorless phosphate.	Darien Center.	1206
Preston Fertilizer Co., Green Point, L. I.	Ammoniated bone superphosphate.	Queens.	1030
Preston Fertilizer Co., Greenpoint, L. I.	Onion fertilizer.	Florida.	1076
Preston Fertilizer Co., Greenpoint, L. I.	Potato fertilizer.	Queens.	1029
Preston Fertilizer Co., Greenpoint, L. I.	Superphosphate No. 2.	Chester.	1062
Quinnipiac Fertilizer Co., New London, Conn.	Ammoniated dissolved bone.	Wolcott.	1142
Quinnipiac Fertilizer Co., New London, Conn.	Climax phosphate.	Florida.	1078
Quinnipiac Fertilizer Co., New London, Conn.	Dissolved bone and potash.	Wolcott.	1141

## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Polash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	0.83 to 1.65 0.75	1 to 2 0.9	9 to 11 12.76	2 0.66	11 to 13 13.42	2 to 4 1.77
Guaranteed Found			14.67 14.89	0.83 0.65	15.5 15.44	
Guaranteed Found	2.05 to 2.9 1.6	2.5 to 3.5 1.94	8 to 10 9.76	1 0.54	9 to 11 10.3	7 to 9 6.96
Guaranteed Found			11 to 13 14.38	2 0.63	13 to 15 15.01	2 to 4 1.81
Guaranteed Found			10.3 12.21	9.38 6.74	19.68 18.95	
Guaranteed Found	2.5 to 3.3 3.11	3 to 4 3.78	9 to 11 9.29	— 1.9	— 11 19	2 to 3 4.26
Guaranteed Found	3.5 to 4.1 3.75	4.25 to 5 4.55	7 to 9 9.54	— 0.55	— 10.09	6 to 8 5.7
Guaranteed Found	3.3 to 4.1 2.84	4 to 5 3.45	8 to 9 8.93	— 0.46	— 9.39	7 to 9 6.83
Guaranteed Found	1.25 to 1.65 1.78	1.5 to 2 2.16	8 to 10 9.89	— 0.45	— 10.34	2 to 3 1.83
Guaranteed Found	1.65 to 2.5 1.74	2 to 3 2.11	9 to 12 9.62	1 to 2 4.01	10 to 14 13.63	2 to 3 2.02
Guaranteed Found	1 to 1.65 1.31	1.25 to 2 1.59	8 to 10 8.27	1 to 2 1.95	9 to 12 10.22	2 to 3 1.94
Guaranteed Found			10 to 12 10.09	1 to 2 2.35	11 to 14 12.44	2 to 3 1.92

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Quinnipiac Fertilizer Co., New London, Conn.	Fish bone and potash.	Attica.	1217
Quinnipiac Fertilizer Co., New London, Conn.	Market garden manure.	Florida.	1077
Ralston, John, New York City.	Knickerbocker phosphate	Lyons.	1164
Read Fertilizer Co., New York City.	Farmers' friend.	Moravia.	1114
Read Fertilizer Co., New York City.	Leader guano.	Warsaw.	1231
Read Fertilizer Co., New York City.	N. Y. State brand.	Moravia.	1115
Read Fertilizer Co., New York City.	Standard phosphate.	Warsaw.	1232
Read Fertilizer Co., New York City.	Standard superphosphate.	Moravia.	1113
Reese, John S. & Co., Baltimore, Md.	Challenge crop grower.	Knowlesville.	1191
Reese, John S. & Co., Baltimore, Md.	Pilgrim.	Knowlesville.	1192
Reese, John S. & Co., Baltimore, Md.	Potato special.	Knowlesville.	1193
Sanderson, Lucien New Haven, Conn.	Formula A.	Jamaica.	1037

## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	1.65 to 2.5 1.82	2 to 3 2.21	9 to 12 10.43	1 to 2 2.1	10 to 14 12.53	1 to 1.5 1.32
Guaranteed Found	3.3 to 4.1 3.58	4 to 5 4.34	8 to 11 8.14	1 to 2 0.94	9 to 13 9.08	7 to 8 7.62
Guaranteed Found	1.65 to 2.05 1.82	2 to 2.5 2.21	8 to 10 10.13	— 1.75	— 11.88	1.1 to 1.6 1.44
Guaranteed Found	2.05 to 2.9 2.2	2.5 to 3.5 2.67	9 to 11 9.64	2 to 4 0.96	11 to 14 10.6	2 to 4 2.2
Guaranteed Found	0.83 to 1.65 1.1	1 to 2 1.33	7 to 9 6.97	1 to 2 0.8	8 to 10 7.77	2 to 4 2.22
Guaranteed Found	1.25 to 2.05 1.53	1.5 to 2.5 1.86	9 to 11 9.57	2 to 4 0.59	11 to 13 10.16	2 to 4 1.88
Guaranteed Found	0.83 to 1.65 1.06	1 to 2 1.29	8 to 10 7.92	2 to 4 0.74	10 to 12 8.66	4 to 6 3.98
Guaranteed Found	0.83 to 1.65 1.09	1 to 2 1.32	8 to 10 8.21	2 to 4 0.54	10 to 12 8.75	4 to 6 4
Guaranteed Found	0.83 to 1.65 1.25	1 to 2 1.52	8 to 10 8.55	— 1.39	— 9.94	2 to 3 1.93
Guaranteed Found	1.25 to 1.65 1.5	1.5 to 2 1.82	6.5 to 8 8.03	— 1.13	— 9.16	3 to 4 3.71
Guaranteed Found	2.9 to 3.7 3.15	3.5 to 4.5 3.82	6 to 8 7.28	— 0.8	— 8.08	7.5 to 9.5 7.58
Guaranteed Found	3.3 to 4.1 2.98	4 to 5 3.62	6 to 8 8.08	2 to 4 1.87	10 to 12 9.95	6 to 8 7.47

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Sanderson, Lucien New Haven, Conn.	Mixed formula top dressing.	Jamaica.	1036
Standard Fertilizer Co., Boston, Mass.	"A" brand.	Oneida.	1098
Standard Fertilizer Co., Boston, Mass.	Bone and Potash.	Oneida. Chester.	1096 1067
Standard Fertilizer Co., Boston, Mass.	Dissolved bone.	Moravia.	1131
Standard Fertilizer Co., Boston, Mass.	Empire State special.	Chester. Oneida.	1065 1100
Standard Fertilizer Co., Boston, Mass.	Guano.	Oneida. Chester.	1097 1068
Standard Fertilizer Co., Boston, Mass.	Hop special.	Oneida.	1099
Standard Fertilizer Co., Boston, Mass.	Potato and tobacco fertilizer.	Oneida.	1095
Sturtevant, F. E. Hartford, Conn.	Tobacco and sulphur lawn fertilizer.	Florida.	1071
Swift & Co., Chicago, Ill.	Pure ground steamed bone.	Ovid.	1203 1207
Swift & Co., Chicago, Ill.	Pure raw bone.	Ovid.	1202
Thomas, I. P. & Son, Philadelphia, Pa.	Improved superphosphate.	Queens. Florida.	1032 1074



## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	4.1 to 4.95 3.21	5 to 6 3.9	7 to 9 7.93	— 1.52	— 9.45	7 to 9 5.89
Guaranteed Found	1.25 to 2.05 1.49	1.5 to 2.5 1.81	6.5 to 8.5 9.16	1.5 to 2.5 1.12	8 to 11 10.28	1.1 to 1.6 1.06
Guaranteed Found			8 to 12 10.21	4 to 5 1.76	12 to 17 11.97	2.5 to 3.25 3.04
Guaranteed Found			12 to 15 12.16	1 to 2 1.83	13 to 16 13.99	
Guaranteed Found	0.83 to 1.65 1.17	1 to 2 1.42	4 to 6 8.59	6 1.08	10 to 12 9.67	8 to 10 7.95
Guaranteed Found	1 to 2.5 1.24	1.25 to 3 1.5	8 to 12 8.21	2 to 3 1.49	10 to 15 9.7	2 to 3 2.32
Guaranteed Found	1.65 to 2.5 2.47	2 to 3 3	8 to 10 7.6	— 1.57	— 9.17	4.3 to 5.4 6.89
Guaranteed Found	2.05 to 2.9 2.08	2.5 to 3.5 2.53	8 to 11 9.76	1 to 2 1.83	9 to 13 11.59	3 to 4 2.53
Guaranteed Found	1.96 2.09	2.35 2.54	— 0.75	— 0.01	0.75 0.76	7.66 8
Guaranteed Found	3.3 to 4.1 3.13	4 to 5 3.8	— 16.92	— 8.96	20 to 24 25.88	
Guaranteed Found	3.7 to 4.5 3.97	4.5 to 5.5 4.81	— 16.38	— 9.51	20 to 25 25.89	
Guaranteed Found	0.33 to 0.54 0.45	0.4 to 0.65 0.55	12 to 15 13.51	2 to 3 1.22	14 to 18 14.73	

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Thomas, I. P. & Son, Philadelphia, Pa.	Normal bone phosphate,	Florida.	1075
Thomas, I. P. & Son, Philadelphia, Pa.	Potato manure.	Queens.	1031
Thomas, I. P. & Son, Philadelphia, Pa.	Tip top raw bone super-phosphate.	Queens.	1033
Tygert, J. E., Co., Philadelphia, Pa.	Soluble bone and potash.	Fuller's Station.	1091
Tygert, J. E., Co., Philadelphia, Pa.	Star bone phosphate.	Fuller's Station.	1092
Tygert-Allen Fertilizer Co., Philadelphia, Pa.	Cabbage manure.	Hollis.	1027
Tygert-Allen Fertilizer Co., Philadelphia, Pa.	Potato manure.	Flatlands. Hollis. Mattituck.	1004 1026 1051
Tygert-Allen Fertilizer Co., Philadelphia, Pa.	Special brand potato manure.	Fuller's Station.	1090
Tygert-Allen Fertilizer Co., Philadelphia, Pa.	Star bone phosphate.	Fuller's Station.	1089
Walker Fertilizer Co., Clifton Springs, N. Y.	Ammoniated phosphate.	Sodus.	1147
Walker Fertilizer Co., Clifton Springs, N. Y.	Clifton.	Sodus.	1144
Walker Fertilizer Co., Clifton Springs, N. Y.	Hop and tobacco grower.	Sodus.	1146

## IN NEW YORK STATE FOR THE SPRING OF 1893.

Composition of fertilizers as guaranteed by manufacturers, and as found by chemical analysis.  
Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	1 to 2.05 1.17	1.25 to 2.5 1.42	8.5 to 10 11.8	2 to 3 1.08	10.5 to 13 12.88	1.5 to 3 1.74
Guaranteed Found	2.5 to 3.3 2.51	3 to 4 3.05	9 to 11 9.3	1 to 2 1.07	10 to 13 10.37	6 to 8 5.86
Guaranteed Found	2.5 to 4.1 2.5	3 to 5 3.04	10 to 12 10.51	2 to 3 1	12 to 15 11.51	2.75 to 4 4.68
Guaranteed Found			11 to 14 11.65	— 0.65	— 12.3	2 to 3 1.85
Guaranteed Found	1.85 to 2.9 1.26	2.25 to 3.5 1.53	9 to 11 9.5	2 to 3 1.46	11 to 14 10.96	2.5 to 3.5 2.55
Guaranteed Found	3.7 to 4.5 3.39	4.5 to 5.5 4.12	7 to 8 8.17	1 to 2 1.13	9 to 10 9.3	5 to 6 5.18
Guaranteed Found	3.3 to 4.1 3.2	4 to 5 3.88	6 to 7 7.28	3 1.48	9 to 10 8.76	9 to 10 9.08
Guaranteed Found	2.05 to 2.9 2.11	2.5 to 3.5 2.56	6 to 8 7.02	— 1.78	— 8.8	6 to 8 5.92
Guaranteed Found	1.85 to 2.5 1.95	2.25 to 3 2.37	8.5 to 11 8.99	2 to 3 2.45	10.5 to 14 11.44	2.25 to 3.25 2.54
Guaranteed Found	1.65 to 2.5 1.66	2 to 3 2.01	7 to 9 6.39	2 to 5 2.56	9 to 14 8.95	1 to 2 0.45
Guaranteed Found	2.5 to 3.3 2.94	3 to 4 3.57	10 to 12 9.59	2 to 3 0.39	12 to 15 9.98	2.5 to 3.5 2.87
Guaranteed Found	3.3 to 4.1 3.58	4 to 5 4.34	6 to 8 5.24	1 to 2 2.88	7 to 10 8.12	5 to 6 4.03

## RESULTS OF ANALYSES OF COMMERCIAL FERTILIZERS

MANUFACTURER.	Trade name or brand.	Locality where sample was taken.	Station No.
Walker Fertilizer Co., Clifton Springs, N. Y.	Potato and vegetable grower.	Sodus.	1145
Walker Fertilizer Co., Clifton Springs, N. Y.	Victoria bone.	Albion.	1195
Williams & Clark Fertilizer Co., New York City.	Acorn acid phosphate.	Township.	1084
Williams & Clark Fertilizer Co., New York City.	Americus high grade special for potatoes and vegetables.	Chester.	1066
Williams & Clark Fertilizer Co., New York City.	Carteret bone meal.	Township.	1083
Williams & Clark Fertilizer Co., New York City.	Prolific crop producer.	Sempronius.	1129
Williams & Clark Fertilizer Co., New York City.	Potato phosphate.	Jamaica.	1040
Williams & Clark Fertilizer Co., New York City.	Royal bone phosphate.	Township.	1085

## IN NEW YORK STATE FOR THE SPRING OF 1893.

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Expressed in parts per hundred.

	Nitrogen.		Phosphoric acid.			Potash soluble in water.
	Determined as nitrogen.	Equivalent to ammonia.	Available.	Insoluble.	Total.	Determined as potash.
Guaranteed Found	2.5 to 3.3 2.45	3 to 4 2.97	6 to 8 6.07	1 to 2 0.42	7 to 10 6.49	7 to 8 6.29
Guaranteed Found	0.83 to 1.65 1.09	1 to 2 1.32	8 to 10 7.05	— 2.8	— 9.85	1.6 to 2.7 1.15
Guaranteed Found			12 to 15 11.9	1 to 2 1.81	13 to 17 13.71	
Guaranteed Found	2.7 to 4.1 3.54	4.5 to 5 4.29	7 to 9 7.86	1 to 2 0.88	8 to 11 8.74	7 to 9 7.03
Guaranteed Found	1.65 to 2.5 2.04	2 to 3 2.48	— 2.11	— 11.18	14 to 18 13.29	
Guaranteed Found	0.83 to 1.65 1.09	1 to 2 1.32	6 to 9 7.56	1 to 2 1.35	7 to 11 8.91	1 to 2 1.44
Guaranteed Found	2.5 to 3.3 2.7	3 to 4 3.28	7 to 8 7.38	1 1.05	8 to 9 8.43	6 to 8 4.93
Guaranteed Found	1 to 1.65 1.28	1.25 to 2 1.55	7 to 9 7.72	1 to 2 2.06	8 to 11 9.78	2 to 3 2.2