

The Connecticut Agricultural Experiment Station.

BULLETIN No. 76.

July 30, 1883.

OBSERVANCE OF THE FERTILIZER LAW.

MANUFACTURERS who, since the last Bulletin was issued, have essentially complied with Sections 2 and 3 of the Act concerning Commercial Fertilizers which went into effect September 1st, 1882.

FIRM.	ARTICLES.
Bradley Fertilizer Co., 27 Kilby St. Boston, Mass.,.....	English 'Lawn' Fertilizer.
Geo. W. Miller, Middlefield, Conn.,....	Raw Bone Phosphate. Ground Bone.
A. Mitchell, Linden, N. J.,.....	Standard Superphosphate.
Rafferty & Williams, New York City, per J. P. Barston, Norwich, Ct.,.....	American Bone Meal.
Edmund Smith, So. Canterbury, Conn.,..	Ground Bone.

FERTILIZER ANALYSES.

The samples whose analyses are given on the following pages were drawn by agents of this Station, with the following exceptions:—

981. Bosworth Bros. Ground Bone; **980.** Bradley's B.D. Sea Fowl Guano; **982.** Clark's Cove Guano Co.'s Great Planet "A" Brand; **985.** Lawrence's Ground Bone; **983** and **984.** Dole Common Sense Fertilizers; **969.** G. H. Harris & Sons' Bone Phosphate; and **970.** Harris' Ground Bone, were sent to the Station by the manufacturers as required by Sect. 2 of the Act concerning Commercial Fertilizers.

986. Rogers & Hubbard Co.'s Damp Bone Sawings was sampled and sent by the manufacturers.

964. Peruvian Guano; sold by the Mapes F. & P. G. Co.; was sampled and sent by C. H. Cables, Thomaston.

1014. Quinipiac Fertilizer Co.'s Dry Ground Fish and **1015,** Quinipiac Fertilizer Co.'s Fish and Potash, crossed fish brand, were sampled and sent by Olin Wheeler, Buckland.

The cost prices when not otherwise stated are those given to the Station Agent by the parties from whom the samples were taken.

Potash is in all cases reckoned as chloride if sufficient chlorine is present in the fertilizer to combine with it. If there is more potash present than will combine with the chlorine, then this excess of potash is reckoned as sulphate.

Since most of the fish fertilizers contain acidulated fish scrap, soluble, reverted and insoluble phosphoric acid have been determined in all of them to make comparison more exact.

The High Grade Superphosphate, **987** is worthy of special notice as furnishing over one-third of its weight of soluble phosphoric acid at a cost of 10 cents per pound.

C ASTOR POMACE.

Stat. No.	Name or Brand.	Manufacturer.	Dealer from whom Sample was taken.
966	H. J. Baker & Bro.'s Castor Pomace	H. J. Baker & Bro., 215 Pearl St., N. Y. City..	A. W. Allen, Jr., Warehouse Point.
1002	IXL Pomace	Robt. B. Brown Oil Co., St. Louis, Mo.	F. Ellsworth, Hartford.

C ASTOR POMACE.—ANALYSES AND VALUATIONS.

Stat. No.	Brand.	Nitrogen.	Phos. Acid.	Potash.	Estimated value per ton.	Cost per ton.
966	H. J. Baker & Bro.'s Castor Pomace	4.58	1.59	1.07	\$19.31	\$20.00
1002	IXL Pomace	5.50	2.10	1.06	23.22	23.00

SUPERPHOSPHATES.

Station No.	Name or Brand.	Manufacturer.	Dealer from whom the Sample was taken.
957	High Grade Superphosphate	Mapes' Formula & Ferns Guano Co., N. Y.	Mapes' F. & F. G. Co., Ch. Branch, Hartford.
956	Long Islander Am. Superphosph., with Potash.	Atlantic & Va. Fertilizer Co., Orford, L. I.	S. J. Hall, Meriden.
955	Orient Complete Manure	" "	W. C. Reynolds, F. Hadlam.
957	Pollan Bone Fertilizer	H. J. Baker & Bro., N. Y.	S. J. Hall, Meriden.
971	Bowen's Bone Superphosphate of Lime	Bowen's Bros., Putnam, Ct.	J. A. Paine, Danversville.
997	Bowker's Dissolved Bone	Bowker Fertilizer Co., Boston, Mass.	Coburn & Gale, Hartford.
977	Bowker's Hill and Drill Phosphate	" "	Manufacturer's sample.
989	B. V. Sea Fowl Guano	Bendley Fertilizer Co., Boston, Mass.	T. F. Fenton & Sons Co., Windsor Locks.
961	Buy State Fertilizer	Clark's Cove Guano Co., N. Bedford, Mass.	F. Ellsworth, Hartford.
982	Great Planet Brand "A"	" "	Manufacturers.
1011	Darling's Animal Fertilizer	L. B. Darling & Co., Pawtucket, R. I.	T. F. Fenton & Sons Co., Windsor Locks.
954	Dole's Common Sense Fertilizer, No. 2	Dole Common Sense Fertilizer Co., 42 Congress St., Boston.	Manufacturer's sample.
952	" " " " " " " " " " " "	" "	Manufacturer's sample.
969	Pure Bone Phosphate	G. H. Harris & Son, Esbjerg, Ch.	R. B. Brodley & Co., New Haven.
954	Ammoniated Dissolved Bone Phosphate	Linear Bros., Newark, N. J.	A. C. Sternberg, Hartford.
969	Cook's Blood Guano	Manhattan Chemical Co., 275 Pearl St., N. Y.	" "
918	Mapes' Compl. Manure ("A" Brand)	Mapes' Formula & Peruvian Guano Co., 156 Front St., N. Y.	" "
974	" " " " " " " " " " " "	" "	" "
1005	G. W. Miller's LXL Am. Bone Superphosphate	Geo. W. Miller, Milford, Ct.	Mapes' Branch, Hartford.
1008	Raw Bone Phosphate	" "	S. J. Hall, Meriden.
994	Mitchell's Standard Superphosphate	G. W. Miller, Middlefield, Ct.	U. E. Chapman, Westbrook.
922	Ammoniated Bone Superphosphate	Mitchell's Standard Phosphate Works, Linden, N. J.	John A. Paine, Danversville.
927	Farmer's Friend Fertilizer	Freston Fertilizer Co., Grouponit, L. I.	J. B. Merrow & Sons, Merrow.
991	World Good Ammoniated Bone Superphosphate	Seed & Co., 34 Beaver St., N. Y.	A. C. Sternberg, Hartford.
953	American Brand Am. Bone Superphosphate	Thompson & Edwards, Chicago, Ill.	John S. Wells, Hebron.
		Williams, Clark & Co., New York	F. Ellsworth, Hartford.

SUPERPHOSPHATES, ANALYSES AND VALUATIONS.

Station No.	Brand.	Nitrogen of Nitrates.	Nitrogen of Ammonia.	Nitrogen of Organic Matter.	Soluble Phos. Acid.	Reverted Phos. Acid.	Insoluble Phos. Acid.	Potash.	Chlo-rine.	Estimated value per ton.	Cost per ton.
987	Mapes' High Grade Superphosphate				34.94	1.43	1.56		4.65	\$81.03	\$70.00
986	Long Islander Superphosphate			.99	6.98	1.78	2.57	5.31	3.57	30.35	37.00
958	Orient Complete Manure			.93	7.34	1.73	2.97	1.51	4.10	28.04	38.00
957	Polican Bone Fertilizer		1.08	1.10	7.09	1.25	.56	2.65	2.02	31.21	35.00
971	Bosworth's Superphosphate		.09	1.74	4.84	3.67	7.90	2.23	3.93	36.37	40.00
997	Bowker's Dissolved Bone		.14	1.53	7.44	.85	2.10	2.73	2.93	30.34	38.00
977	Bowker's Hill and Drill Phosphate		.19	1.62	5.40	1.77	3.58	1.59	2.93	28.80	40.00
980	B.D. Sea Fowl Guano		.76	1.89	7.31	1.44	2.48	3.35	3.39	36.85	*
962	Original Coe's Superphosphate	.50	.20	2.11	8.61	1.37	3.06	.31	2.4	37.81	40.00
961	Bay State Fertilizer	.96	.76	1.13	8.99	.95	1.11	3.08	3.09	38.24	35.00
982	Great Plauet Brand "A"	.09	1.46	1.53	6.75	.31	1.81	8.90	4.89	41.40	48.00
1011	Darling's Animal Fertilizer		.47	3.44	1.19	5.26	8.71	4.68	3.50	43.73	45.00
984	Dole's Fertilizer, No. 2		.70	.65	.55	3.51	2.16	2.69	2.61	18.3	35.00
983	" " No. 3		.43	2.21	0.97	4.26	1.26	4.93	4.43	27.06	40.00
969	Harris' Bone Phosphate			2.92	5.54	3.19	5.73			37.60	38.00
954	Lister Bros' Bone Phosphate			1.69	9.76	.98	.94	1.89	2.02	33.55	35.00
960	Cooke's Blood Guano	.66	1.05	.74	5.84	1.56	.91	1.48	1.72	26.56	40.00
918	Mapes' Complete ("A" Brand)	1.42	.72	1.30	7.58	2.91	3.22	2.89	1.98	40.16	42.00
974	" " (for light soil)		2.63	1.24	6.01	1.83	1.12	6.61	4.1	51.51	54.00
1005	Miles' IXL Superphosphate		.37	1.67	7.23	1.09	3.29	1.93	1.26	32.84	37.00
1008	Miller's Raw Bone Phosphate			2.88	2.80	3.29	4.08	5.86	5.53	34.55	50.00
994	Mitchell's Standard Superphosphate		.10	.86	5.97	.90	1.35	2.85	7.87	23.07	40.00
952	Preston's Bone Superphosphate		.45	1.50	6.46	1.19	3.31	1.08	2.18	30.24	36.00
927	Farmer's Friend Fertilizer	1.14		1.03	7.07	.94	1.93	1.48	3.18	29.93	38.00
991	World Good Superphosphate			1.90	8.59	1.74	3.62			34.76	37.00
955	American Brand Bone Superphosphate			2.27	7.03	1.06	4.98	2.38	2.28	35.60	40.00

* Not known.

SPECIAL MANURES.

Stat. No.	Name or Brand.	Manufacturers.	Dealer from whom the Sample was taken.
992	Baker's Special Grass Manure	H. J. Baker & Bro., New York, N. Y.	Olds & Whipple, Hartford.
965	Complete Tobacco Manure	" " " "	" " " "
976	Forage Crop Manure	Bowker Fertilizer Co., Boston, Mass.	J. A. Paine, Danielsonville.
979	Grain Manure	" " " "	E. A. Watrous, Meriden.
1000	Bowker's Lawn Dressing	" " " "	" " " "
1003	Seeding Down Manure	Wm. L. Bradley, Boston, Mass.	J. A. Paine, Danielsonville.
989	English Lawn Fertilizer	Lister Bros., Newark, N. J.	J. L. Butler, Torrington.
959	Potato Fertilizer	Mapes' F. & P. G. Co., N. Y.	R. B. Bradley & Co., New Haven.
973	Mapes' Grass and Grain Spring Top Dressing	" " " "	" " " "
975	Mapes' Potato Manure	" " " "	" " " "
972	Tobacco Manure (for use with stems)	Read & Co., 34 Beaver St., New York City.	Mapes' Branch, Hartford.
926	Matchless Tobacco Manure	" " " "	A. C. Sternberg, Hartford.

SPECIAL MANURES.—ANALYSES AND VALUATIONS.

Station No.	Brand.	Nitrogen of Nitrates.	Nitrogen of Ammonia.	Nitrogen of Organic Matter.	Soluble Phos. Acid.	Reverted Phos. Acid.	Insoluble Phos. Acid.	Potash.	Chlo- rine.	Estimated value per ton.	Cost per ton.
992	Baker's Grass Manure	.10	4.30	.57	4.33	.96	1.22	8.19	8.04	\$44.47	\$47.50
965	Baker's Tobacco Manure	.21	4.15	.60	3.41	1.52	.39	9.03	.77	47.22	50.00
976	Bowker's Forage Crop Manure	.48	.17	2.91	6.48	.77	3.61	4.06	2.08	39.11	50.00
979	Bowker's Grain Manure	1.65	.13	2.78	6.43	.99	3.39	5.31	5.10	39.70	*
1000	Bowker's Lawn Dressing	.36	.21	2.06	6.10	.53	4.18	4.11	3.50	39.95	*
1003	Bowker's Seeding Down Manure	4.30		3.01	6.45	1.01	3.46	5.88	4.83	40.25	45.00
989	English Lawn Fertilizer		.79	.11	5.78	1.14	0.97	3.42	3.30	36.32	*
959	Lister's Potato Fertilizer	1.47		3.00	7.30	.83	.74	8.43	7.82	43.36	50.00
973	Mapes' Spring Top Dressing	.45	1.58	2.52	4.32	2.77	2.67	5.98	4.97	40.83	52.00
975	Mapes' Potato Manure	1.20	2.90	1.21	7.52	2.08	1.31	4.35	1.02	52.24	54.00
972	Mapes' Tobacco Manure (for use with stems)	2.96	1.86	.32	5.66	1.17	1.24	4.18	1.75	43.36	50.00
926	Matchless Tobacco Manure										

* Unknown.

GUANOS.

Stat. No.	Name or Brand.	Manufacturer or Importer.	Dealer from whom the Sample was taken.
998	Alkalized Guano	Hobson, Hurtado & Co., 63 Pine St., N. Y.	Southmayd & Gardiner, Middletown.
988	No. 1 Peruvian Guano Standard	"	"
999	" " Lobos	"	"
964	Peruvian Guano	Mapes' Formula & Peruvian Guano Co., N. Y.	Mapes' F. & P. G. Co., New York.

GUANOS.—ANALYSES AND VALUATIONS.

Station No.	Brand.	Nitrogen of Nitrates.	Nitrogen of Ammonia.	Nitrogen of Organic Matter.	Soluble Phos. Acid.	Reverted Phos. Acid.	Insoluble Phos. Acid.	Potash.	Chlorine.	Estimated value per ton.	Cost per ton.
998	Alkalized Guano	.14	6.53	.15	.61	5.33	8.20	5.28	1.24	\$61.40	60.00
988	No. 1 Peruvian Guano Standard	.11	7.36	.74	5.14	2.68	4.81	.90	1.26	64.24	73.00
999	" " Lobos		3.63	.74	.99	6.82	9.28	1.88	.86	48.52	63.00
964	Peruvian Guano	.15	3.18	1.57	5.73	6.38	10.00	5.37	2.40	64.95	49.00

FISH FERTILIZERS.

Stat. No.	Name or Brand.	Manufacturer.	Dealer from whom the Sample was taken.
978	Bowker's Dry Ground Fish	Bowker Fertilizer Co., N. Y. and Boston	Coburn & Gale, Hartford.
1006	Geo. W. Miles' Dry Fish Guano	G. W. Miles Co., Milford, Ct.	F. Ellsworth, Hartford.
1001	" " Fish Fertilizer and Potash	" "	S. J. Hall, Meriden.
1010	Chittenden's Fish and Potash	National Fertilizer Co., Bridgeport, Ct.	Southmayd & Gardiner, Middletown.
963	Preston & Sons' Dried & Ground Fish Guano	Preston & Sons, Greenpoint, L. I.	Wilson & Burr, Middletown.
1014	Dry Ground Fish	Quinnipiac Fertilizer Co., New London, Ct.	Olds & Whipple, Hartford.
968	" "	" "	R. B. Bradley & Co., New Haven.
1015	Quinnipiac Fish & Potash (Cross'd Fish Brand)	" "	Olds & Whipple, Hartford.
967	Fish and Potash (Plain Brand)	" "	A. W. Allen, Jr., Thompsonville.

FISH FERTILIZERS.—ANALYSES AND VALUATIONS.

Station No.	Brand.	Nitrogen of Ammonia	Nitrogen of Organic Matter.	Soluble Phos. Acid.	Reverted Phos. Acid.	Insoluble Phos. Acid.	Potash.	Chlorine.	Estimated value per ton.	Cost per ton.
978	Bowker's Dry Ground Fish	.40	5.23	1.03	4.65	2.65			\$39.03	\$45.00
1006	Miles' Dry Fish Guano		7.75	1.27	3.02	2.54			46.32	46.00
1001	Miles' Fish and Potash	.25	2.49	3.88	1.63	1.94	3.84	3.47	29.49	33.00
1010	Chittenden's Fish and Potash		2.48	.37	2.60	3.46	4.91	3.38	24.94	36.00
963	Preston & Sons' Fish Guano	1.04	1.90	2.96	1.72	.84			24.42	35.00
1014	Quinnipiac Dry Ground Fish		7.66	.87	2.95	3.25			45.77	46.00
968	Quinnipiac Dry Ground Fish		8.50	1.33	3.43	2.22			50.17	48.00
1015	Quinnipiac Fish & Potash (Crossed Fish Brand)	1.48	2.60	.60	4.78	3.02	4.72	7.91	36.26	40.00
967	Quinnipiac Fish and Potash (Plain Brand)	.44	2.14	.70	4.44	4.05	5.35		30.18	35.00

BONE MANURES.

Stat. No.	Name or Brand.	Manufacturer.	Dealer from whom the Sample was taken.
981	Bosworth Bros'. Ground Bone	Bosworth Bros., Putnam, Ct.	Manufacturer's Sample.
995	Bowker's Fine Ground Bone	Bowker Fertilizer Co., Boston and N. Y.	E. A. Watrous, Meriden.
1012	Darling's Fine Ground Bone	L. B. Darling & Co., Pawtucket, R. I.	J. P. Barstow & Co., Norwich.
970	Harris & Sons' Ground Bone	G. H. Harris & Son, Eagleville, Ct.	Manufacturer's Sample.
985	W. P. Lawrence's Ground Bone	W. P. Lawrence, Mill Brook, Ct.	"
996	Lister Bros'. Crescent Bone	Lister Bros., Newark, N. J.	J. P. Barstow & Co., Norwich.
1007	G. W. Miller's Ground Bone	G. W. Miller, Middlefield, Ct.	C. E. Chapman, Westbrook.
953	Peck Bros'. Pure Ground Bone	Peck Bros', Northfield, Ct.	G. H. Alford & Co., Winsted.
951	Preston's Ground Bone	Preston Fertilizer Co., Greenpoint, L. I.	J. B. Merrow & Sons, Merrow.
1004	Rogers & Hubbard Co.'s Pure Raw Knuckle Bone, Grade Meal	Rogers & Hubbard Co., Middletown, Ct.	Southmayd & Gardiner, Middletown.
1009	Rogers & Hubbard Co.'s Bone, Grade Ex. Fine.	"	"
986	Rogers & Hubbard Co.'s Damp Bone Sawings	"	Rogers & Hubbard Co., Middletown.
990	Thompson & Edwards' Pure Ground Bone	Thompson & Edwards, Chicago, Ill.	J. S. Wells, Hebron

BONE MANURES.—ANALYSES AND VALUATIONS.

Station No.	Brand.	Nitrogen Organic Matter.	Phos. Acid.	Finer Than			Coarser than $\frac{1}{16}$ inch.	Estimated value per ton.	Cost per ton.
				$\frac{1}{32}$ inch.	$\frac{1}{16}$ inch.	$\frac{1}{8}$ inch.			
981	Bosworth Bros'. Bone	3.68	22.17	32	38	25	1	\$35.54	36.00
995	Bowker's Bone	3.27	22.82	49	19	21	0	35.40	\$42.00
1012	Darling's Bone	3.28	23.77	72	21	7	0	38.43	42.00
970	Harris & Son's Bone	3.82	19.17	0	2	17	39	26.30	33.00
985	W. P. Lawrence's Bone	3.95	22.55	0	1	3	6	27.28	
996	Lister Bros'. Crescent Bone	1.76	11.57	50	15	15	5	18.01	32.00
1007	Miller's Bone	3.95	24.41	15	21	49	15	36.80	42.00
953	Peck Bros'. Bone	3.60	20.22	9	18	31	28	29.69	40.00
951	Preston's Bone	3.56	10.65	38	17	16	13	21.68	35.00
1004	Rogers & Hubbard Co.'s Knuckle Bone, Meal.	3.97	23.80	35	33	32	0	38.48	40.00
1009	" " Bone A, Extra Fine	2.00	24.48	19	16	52	0	36.69	37.50
986	" " Damp Bone Sawings	2.00	15.89	95	5	0	0	25.73	35.00
990	Thompson & Edwards' Bone	1.25	22.40	66	20	10	0	29.76	38.00