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Seed Inspection

By F. A. McLaughlin and Margaret E. Noble

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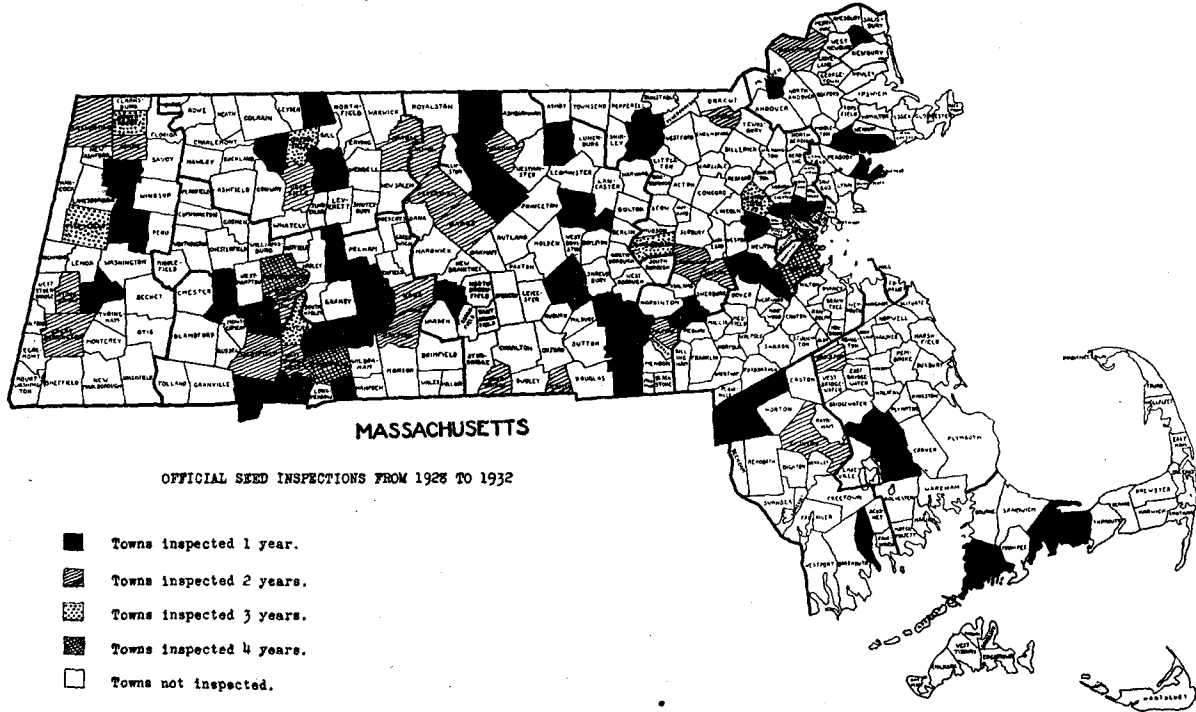
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This Report, ~~the result of~~ ~~seed~~ control service, is a record of work delegated to the Massachusetts Agricultural Experiment Station during 1931 by the Commissioner of Agriculture, who is named in the Act as Administrative Officer (Acts and Resolves of 1927, Chapter 274.)

MASSACHUSETTS STATE COLLEGE
AMHERST, MASS.

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SEED INSPECTION

By F. A. McLaughlin and Margaret E. Nagle

The first annual inspection of Massachusetts seed was conducted by the Commissioner of Agriculture in 1928. Since then inspections have been made each year—a total of four inspections since the Seed Law became effective November 1, 1927.

The accompanying map shows where inspections of dealers' stock have been made over this period of time. It will be noted that inspections have not been made in every town and city of the State, but that every year the larger centers of distribution have been covered and each year new territory has been added to that already worked. Progressively the entire State will be covered in this manner, and when this has been done it may be possible each year to cover larger portions of the State until finally each annual inspection may cover nearly, if not all, the State. In the meantime, the organization of inspection and laboratory facilities for analysis of samples collected may be perfected for handling the very much increased number of samples.

The number of samples of seed received by the Seed Laboratory has increased each year since 1928 when the laboratory was established. From October 1, 1930, to October 1, 1931, a total of 1135 samples of seed was received for analysis, germination, or both. The official samples collected by inspectors numbered 469; those sent in by seedsmen and farmers, 454; and by the Commissioner of Agriculture of Rhode Island, 212. This bulletin records analysis and germination of the official samples only. However, it includes also the results of field tests for trueness to type and variety of Alfalfa, Red Clover, Sweet Clover, Onions, and Peas. Professor Miles Cubbon of the Agronomy Department, Professor Grant B. Snyder of the Vegetable Gardening Department, and Professor O. C. Boyd, Extension Pathologist, cooperated with the Seed Laboratory in conducting these tests.

1931 Official Inspection of Agricultural Seeds

Explanation of Tables

In these tables the seeds are listed in alphabetical order by groups, each group containing only those seeds, the sale of which is regulated by a definite section of the Massachusetts Seed Law. Section 261-A of the Acts and Resolves of 1927, Chapter 274, defines the group from Alfalfa to Vetch, inclusive; Section 261-B, Mixtures; Section 261-C, Special Mixtures; and Section 261-D, Vegetables.

The number preceding each analysis is for identification and reference. The line to the right of the letter "L" gives information copied from the label; that to the right of "F", what was found in the laboratory analysis. Attention is called to certain irregularities by the following:

The asterisk (*) shows violation in labeling.

Boldface type indicates low purity, low germination, excessive weed seed, or excessive inert material, depending upon the column in which it is found.

(1) Date of test indicates that this seed was matured and marketed prior to August 1, 1930.

All lots of seed included in this report were tested according to the Rules for Seed Testing adopted by the Association of Official Seed Analysts.

"Tolerance" is applied to both purity and germination, except in those tables which list seeds falling under sections of the law not requiring purity or germination on the label. For the application of "Purity Tolerance," the sample is considered as made up of two component parts; (1) the component being considered, and (2) the balance of the sample. The tolerance in percentage allowed for each component shall be two-tenths of one per cent (0.2%) plus 20 per cent of the lesser of the two parts. "Germination Tolerance" has been applied between a given germination and the result of the germination test as follows:

<i>Given Germination (%)</i>	<i>Allowable Variation (%)</i>
90 or over.....	6
80 or over, but less than 90.....	7
70 or over, but less than 80.....	8
60 or over, but less than 70.....	9
Less than 60.....	10

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS

Lab. No.	Wholesale Distributor, Brand or Trade Name of Seed, Dealer, and Place Collected	Pure Seed %	Weed Seed %	Inert Matter %	Other Crop Seed %	Germination %	Date of Test
ALFALFA							
THE ALBERT DICKINSON CO., Chicago, Ill.							
A-97	Grimm Alfalfa.....	(L. 99.44	.28	-	-	70-23	*
	Frank Howard, Pittsfield	(F. 99.57	.15	.16	.12	72-9	8/31
A-54	Idaho Grown Grimm Alfalfa No. 27686.....	(L. 99.00	*	-	.006	*	*
	Ryther & Warren, Belchertown	(F. 99.64	.25	.08	.03	86-4	8/31
FITCHBURG HARDWARE CO., Fitchburg, Mass.							
A-12	Grimm Alfalfa.....	(L. *	*	-	-	*	*
	Montgomery Hardware, Ayer	(F. 98.61	.39	.48	.52	77.3	8/31
STANFORD SEED CO., Buffalo, N. Y.							
A-40	Minnesota Alfalfa.....	(L. 99.32	.27	-	-	75-13	12/30
	Waite Hardware Co., Webster	(F. 99.38	.19	.22	.21	64-24	8/31
WHITNEY-ECKSTEIN SEED CO., Buffalo, N. Y.							
A-79	Alfalfa.....	(L. 99.50	.43	-	-	80-10	*
	Treat Hardware Corp., Lawrence	(F. 95.52	.20	4.03	.25	73-6	8/31
WHOLESALE UNKNOWN							
A-55	Idaho Alfalfa.....	(L. 99.00	*	-	.006	*	*
	D. F. Howard & Co., Ware	(F. 99.54	.18	.22	.06	79-4	8/31
BARLEY							
THOMAS W. EMERSON CO., Boston, Mass.							
A-61	Barley—2 Row (1).....	(L. 98.39	.39	-	-	95	1/29
	D. F. Howard & Son, Ware	(F. 99.10	Trace	.28	.62	68	8/31
NARRAGANSETT MILLING CO., E. Providence, R. I.							
A-83	Barley—6 Row (1).....	(L. 98.00	*	-	-	90	1/30
	No. Attleboro Grain Co., No. Attleboro	(F. 99.20	Trace	.37	.43	96	8/31
BENT GRASS							
DOUGHTEN SEED CO., New York, N. Y.							
A-101	Mixed German Bent, "Re-cleaned Seeds" (1).....	(L. 73.03	.52	25.96	.49	73	3/28
	Dooley Hardware Co., Springfield	(F. 74.47	.58	24.82	.13	14	8/31
WHITNEY-ECKSTEIN SEED CO., Buffalo, N. Y.							
A-110	Creeping Bent (2).....	(L. *	*	-	-	*	*
	Carlisle Hardware Co., Springfield (So. German Mixed Bent)	(F. 82.52	.23	16.97	.28	80	9/31
WHOLESALE NOT GIVEN							
A-102	Rhode Island Bent (Colonial).....	(L. *	*	-	-	*	*
	Dooley Hardware Co., Springfield	(F. 93.82	.37	5.81	Trace	57	9/31

BLUE GRASS									
A-122	STANFORD SEED CO., Buffalo, N. Y.								
	Canada Blue Grass	(L.	83.06	.08	-	-	81-5	*	
	W. H. George Hardware Co., Framingham	(F.	89.25	.09	9.46	1.20	95(KNO ₃)	9/31	
A-73	THOMAS W. EMERSON CO., Boston, Mass.								
	Kentucky Blue Grass	(L.	*	*	-	-	*	*	
	Waters & Brown, Salem	(F.	84.19	1.39	14.33	.09	39	9/31	
A-75	Kentucky Blue Grass	(L.	78.00	2.40	-	-	70	3/31	
	C. A. Noyes Co., Brockton	(F.	78.19	1.09	20.68	.04	43	9/31	
A-108	Kentucky Blue Grass	(L.	83.60	1.10	-	-	80	1/31	
	Maschin & Kratovil, Springfield	(F.	84.23	.61	15.12	.04	60	9/31	
A-20	CHAS. C. HART SEED CO., Wethersfield, Conn.								
	Kentucky Blue Grass	(L.	*	*	-	-	*	*	
	C. F. Paige Hardware, Athol	(F.	76.70	.67	22.63	Trace	51	11/31	
A-126	STANFORD SEED CO., Pittsburgh, Pa.								
	Kentucky Blue Grass	(L.	78.00	1.00	-	-	70	*	
	W. H. George Hardware Co., Framingham	(F.	79.97	Trace	19.56	.47	67	9/31	
A-65	WHITNEY-ECKSTEIN SEED CO., Buffalo, N. Y.								
	Kentucky Blue Grass (1)	(L.	80.00	.75	-	-	80	3/30	
	Schofield Hardware Co., No. Attleboro	(F.	71.10	2.37	17.82	8.71	55	9/31	
A-86	Kentucky Blue Grass	(L.	78.00	.51	-	-	75	2/31	
	Villeneuve Hardware, Haverhill	(F.	78.83	.70	20.40	.07	65	9/31	
BUCKWHEAT									
A-44	JOSEPH BRECK & SONS CORP., Boston, Mass.								
	Japanese Buckwheat (1)	(L.	98.00	*	-	-	92	5/30	
	H. S. Chadbourne Co., Milford	(F.	99.29	.06	.43	.22	95	8/31	
A-14	FITCHBURG HARDWARE CO., Fitchburg, Mass.								
	Japanese Buckwheat (1)	(L.	98.00	.05	-	-	95	6/30	
	Montgomery Hardware, Ayer	(F.	99.67	-	.25	.08	94	8/31	
ALSIKE CLOVER									
A-42	THE ALBERT DICKINSON CO., Chicago, Ill.								
	Alsike Clover	(L.	98.15	.35	-	-	85-11	11/30	
	Webster Grain Co., Webster	(F.	97.87	.44	.27	1.42	88-5	8/31	
A-21	JOHN B. VARICK CO., Manchester, N. H.								
	Alsike Clover	(L.	*	*	-	-	94	*	
	A. E. Stewart, Athol	(F.	94.94	1.43	.11	3.52	79.5	8/31	

Note:—The letters "L" and "F" indicate "Labeled" by the distributor and "Found" by the laboratory.

The * shows the violation in labeling.

Boldface type indicates low purity, low germination, excessive weed seed, or excessive inert matter, depending upon the column in which it is found.

(1) Old stock.

(2) An old trade name for South German Mixed Bent; a term no longer correct.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

Lab. No.	Wholesale Distributor, Brand or Trade Name of Seed, Dealer, and Place Collected	Pure Seed %	Weed Seed %	Inert Matter %	Other Crop Seed %	Germination %	Date of Test
ALSIKE CLOVER—Continued							
A-85	WHITNEY-ECKSTEIN SEED CO., Buffalo, N. Y. Alsike Clover (1)..... Villeneuve Hardware, Haverhill	(L. 98.00 (F. 99.28)	.36 .09	— .12	— .51	90 84-2	1/30 8/31
A-51	Pan-American Alsike..... Barre Grain Co., Barre	(L. 97.00 (F. 98.44)	* .09	— .16	— 1.31	90 73-1	* 8/31
RED CLOVER							
A-26	JOSEPH BRECK & SONS CORP., Boston, Mass. Red Clover (1)..... Joseph Breck & Sons, Lexington	(L. 99.00 (F. 99.71)	* .06	— .07	— .16	88 78-5	1/30 8/31
A-13	FITCHBURG HARDWARE CO., Fitchburg, Mass. Red Clover, #241110, Central States Grown (1,3)..... Montgomery Hardware, Ayer	(L. 98.76 (F. 97.91)	.46 1.67	— .08	— .34	90 84-8	12/26 8/31
A-22	STANFORD SEED CO., Buffalo, N. Y. Red Clover, Ident. #5328 (1)..... Orange Hardware Co., Orange	(L. 99.13 (F. 98.64)	.51 .86	— .20	— .30	88-4 74-10	3/30 8/31
A-92	Red Clover..... J. A. Sullivan Co., Northampton	(L. 99.13 (F. 99.76)	.51 .21	— .01	— .02	88-4 74-9	* 8/31
A-99	Red Clover..... Newcomb Hardware Co., Greenfield	(L. * (F. 98.99)	* .57	— .10	— .34	* 76-14	* 8/31
A-7	WHITNEY-ECKSTEIN SEED CO., Buffalo, N. Y. P. A. French Red Clover..... The Fiske Corporation, Natick	(L. 98.00 (F. 98.91)	.50 .71	.01 .11	.50 .27	90 69-7	* 8/31
A-112	Red Clover..... Carlisle Hardware Co., Springfield	(L. * (F. 98.77)	* .25	— .32	— .66	* 81-9	* 8/31
A-104	WHOLESALE NOT GIVEN Clover, (Red, Imported)..... Dooley Hardware Co., Springfield	(L. * (F. 98.82)	* .19	— .98	— .01	* 24-3	* 8/31
SWEET CLOVER							
A-62	THOMAS W. EMERSON CO., Boston, Mass. Sweet Clover (1)..... D. F. Howard & Son, Ware	(L. 98.54 (F. 98.90)	.28 .10	— .16	— .84	85 63	1/30 8/31

WHITE CLOVER

A-27	JOSEPH BRECK & SONS CORP., Boston, Mass. White Clover (1)..... Joseph Breck & Sons Corp., Lexington.....	(L. 98.00 (F. 97.94)	* .20	- .83	- 1.03	90 89-13	5/30 8/31
A-72	White Clover..... B. F. Hill Hardware Co., Salem.....	(L. 98.00 (F. 98.39)	* .98	- .48	- .15	85 71-23	7/30 8/31
A-82	White Clover..... Pentucket Hardware Co., Haverhill.....	(L. 97.00 (F. 99.08)	* .52	- .23	- .17	90 62-11	* 8/31
A-120	White Clover..... Sawyer Hardware Co., Framingham.....	(L. * (F. 97.86)	* .62	- .44	- 1.08	* 74-10	* 8/31
A-94	THE ALBERT DICKINSON CO., Chicago, Ill. White Clover..... Frank Howard, Pittsfield.....	(L. 97.40 (F. 97.12)	.30 .24	- .15	- 2.49	82-10 58-35	* 8/31
A-37	THOMAS W. EMERSON CO., Boston, Mass. White Clover..... LaPalme Hardware Co., Webster.....	(L. 96.45 (F. 97.86)	* .94	- .25	- .95	91 63-3	*/30 8/31
A-123	STANFORD SEED CO., Buffalo, N. Y. White Clover..... W. H. George Hardware Co., Framingham.....	(L. 97.57 (F. 98.29)	.59 .32	- .29	- 1.10	82-8 74-7	* 8/31
A-6	WHITNEY-ECKSTEIN SEED CO., Buffalo, N. Y. White Clover..... Hyannis Hardware Co., Hyannis.....	(L. * (F. 98.36)	* .40	- .91	- .33	* 68-24	* 8/31
A-8	White Clover..... The Piske Corporation, Natick.....	(L. 96.00 (F. 97.28)	* 1.19	2.00 .32	2.00 1.21	* 68-9	* 8/31
A-80	White Clover..... Treat Hardware Corp., Lawrence.....	(L. 98.00 (F. 97.59)	.40 .74	- .72	- .95	90 69-5	10/30 8/31
A-88	White Clover..... Foster-Farrar Co., Northampton.....	(L. 96.50 (F. 95.93)	1.00 .24	- .79	- 3.04	84 85-2	1/31 8/31
A-106	White Clover..... Maschin & Kratovil, Springfield.....	(L. 98.00 (F. 98.79)	.40 .51	- .34	- .36	90 63-12	10/30 8/31
A-111	White Clover..... Carlisle Hardware Co., Springfield.....	(L. 97.12 (F. 98.43)	.72 .43	- .12	- 1.02	80-7 70-9	1/31 8/31

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(1) Old Stock.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

Lab. No.	Wholesale Distributor, Brand or Trade Name of Seed, Dealer, and Place Collected	Pure Seed %	Weed Seed %	Inert Matter %	Other Crop Seed %	Germination %	Date of Test
CORN—(FIELD)							
A-23	PAGE SEED CO., Greene, N. Y. West Branch Seed Corn, Lot #5166 (1)..... Lee Hardware Co., Athol	(L. 99.00 (F. 99.90)	.00 .00	— .10	— .00	91 85	4/30 8/31
A-24	WHITNEY-ECKSTEIN SEED CO., Buffalo, N. Y. Early Canada Flint Corn..... H. Newell & Co., Shelburne Falls	(L. 98.00 (F. 99.85)	— .00	— .05	— .10	96 88	3/31 8/31
A-129	Excelsior Ensilage..... Wm. M. Lee Hardware Co., Clinton	(L. * (F. 99.42)	— .00	— .58	— .00	* 90	* 6/31
A-45	Improved Leaming Corn..... Webster Grain Co., Webster	(L. 98.00 (F. 99.40)	— .00	— .50	— .10	90 92	* 8/31
A-52	F. H. WOODRUFF & SONS, Milford, Conn. Improved Leaming Field Corn..... H. R. Durant, Belchertown	(L. * (F. 100.00)	— .00	— .00	— .00	* 95	* 8/31
A-9	WHOLESALE NOT GIVEN Corn, Leaming Field, Bag #72624..... J. Cushing Co., Middleboro	(L. * (F. 99.78)	— .00	— .22	— .00	* 89	* 8/31
FESCUES							
A-128	STANFORD SEED CO., Pittsburgh, Pa. Chewings Fescue..... W. H. George Hardware Co., Framingham	(L. 92.74 (F. 92.68)	.34 .14	— 6.75	— .43	80 17	* 9/31
A-4	WHITNEY-ECKSTEIN SEED CO., Buffalo, N. Y. Red Fescue..... H. V. Lawrence, Falmouth	(L. 87.05 (F. 87.87)	.30 .16	— 11.44	— .53	80 73	1/31 8/31
A-84	Sheep's Fescue..... Villeneuve Hardware Co., Haverhill	(L. 90.00 (F. 90.74)	.90 .61	— 8.65	— Trace	85 42	2/31 9/31
MANGELS							
A-2	THOMAS W. EMERSON CO., Boston, Mass. Mammoth Long Red Wurzel Mangels..... Chas. T. Eastman, Falmouth	(L. * (F. 99.59)	* .00	— .36	— .05	* 75	* 8/31
A-11	JEROME B. RICE SEED CO., Cambridge, N. Y. Mammoth Prize Long Red Mangel Wurzel..... I. G. Dwinell, Ayer	(L. * (F. 96.40)	* .21	— 1.60	— 1.79	* 55	* 8/31

A-29	S. D. WOODRUFF & SONS, Orange, Conn. Long Red Mangel..... Holyoke Farm Machinery Co., Holyoke	(L. * (F. 99.90	* .00	- .10	- .00	100 81	1/31 8/31
GERMAN-MILLET							
A-59	N. WERTHEIMER & SONS, Buffalo, N. Y. German Millet, Kansas 1929 (1)..... Ware Grain & Coal Co., Ware	(L. 99.56 (F. 99.60	* .26	- .14	- Trace	84 81	3/30 8/31
GOLDEN-MILLET							
A-115	THOMAS W. EMERSON CO., Boston, Mass. Golden Millet..... Wm. M. Lee Hardware Co., Clinton	(L. 96.00 (F. 97.10	.25 .14	- .33	- 2.43	90 82	* 8/31
A-48	ROSS BROS. CO., Worcester, Mass. Golden Millet..... Barre Grain Co., Barre	(L. 98.22 (F. 98.62	* .13	- .59	- .66	91 74	* 8/31
HUNGARIAN MILLET							
A-60	THE CUTLER CO., No. Wilbraham, Mass. Hungarian Millet (1)..... Ware Grain & Coal Co., Ware	(L. 99.40 (F. 96.60	.18 .34	.42 3.02	- .04	90 89	3/30 8/31
A-19	THOMAS W. EMERSON CO., Boston, Mass. Hungarian Millet, Ident. #47-54 (1)..... Lee Hardware Co., Athol	(L. 99.00 (F. 99.80	.15 .12	- .04	- .04	90 81	3/29 8/31
A-34	ROSS BROS. CO., Worcester, Mass. Hungarian Millet..... Brown Bros., Northbridge	(L. * (F. 98.49	* 1.09	- .37	- .05	* 2	* 8/31
A-47	Hungarian Millet..... Barre Grain Co., Barre	(L. 98.00 (F. 98.18	* 1.10	- .72	- Trace	90 57	* 8/31
A-70	WHITNEY-ECKSTEIN SEED CO., Buffalo, N. Y. Hungarian Millet..... W. F. Flynn & Son, Attleboro	(L. 98.50 (F. 98.09	1.10 1.08	- .82	- .01	94 85	1/31 8/31
JAPANESE MILLET							
A-118	THOMAS W. EMERSON CO., Boston, Mass. Japanese Millet..... VanDuzer Hardware Co., Framingham	(L. 96.00 (F. 96.35	3.32 2.72	- .42	- .51	85 73	* 8/31
A-119	Japanese Millet..... VanDuzer Hardware Co., Framingham	(L. 97.52 (F. 96.87	2.04 2.89	- .24	- Trace	85 89	* 8/31

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Lab. No.	Wholesale Distributor, Brand or Trade Name of Seed, Dealer, and Place Collected	Pure Seed %	Weed Seed %	Inert Matter %	Other Crop Seed %	Germination %	Date of Test
JAPANESE MILLET—Continued							
A-96	PAGE SEED CO., Greene, N. Y. Japanese Millet..... Frank Howard, Pittsfield	(L. 98.90 (F. 97.73)	.72 1.92	.38 .35	Trace Trace	90 80	* 8/31
A-41	Japanese Millet (1)..... Waite Hardware Co., Webster	(L. 97.81 (F. 97.46)	2.04 2.40	.15 .14	Trace Trace	87 84	10/28 8/31
A-113	Page's Japanese Millet..... Wm. M. Lee Hardware Co., Clinton	(L. 98.90 (F. 97.17)	.72 2.52	.38 .13	— .18	90 78	* 8/31
A-64	ROSS BROS. CO., Worcester, Mass. Japanese Millet..... E. T. Hall, West Upton	(L. * (F. 96.86)	* 1.99	— 1.13	— .02	* 87	* 8/31
A-1	WHITNEY-ECKSTEIN SEED CO., Buffalo, N. Y. Japanese Millet..... G. E. Doane, Middleboro	(L. * (F. 97.39)	* 2.46	— .15	— Trace	* 88	* 8/31
A-67	F. H. WOODRUFF & SONS, Milford, Conn. Japanese Millet..... Martin's Hardware, North Attleboro	(L. 99.50 (F. 98.45)	.20 .84	— .71	— Trace	90 85	3/31 8/31
OATS							
A-50	CHAS. M. COX CO., St. Albans, Vt. Northern Grown Oats..... Barre Grain Co., Barre	(L. 99.00 (F. 99.61)	* .01	— .28	— .10	97 90	* 8/31
A-58	Northern Grown Oats..... Ware Grain & Coal Co., Ware	(L. 99.00 (F. 98.67)	* .04	— .36	— .93	97 92	* 8/31
A-116	THOMAS W. EMERSON CO., Boston, Mass. Seed Oats..... VanDuzer Hardware Co., Framingham	(L. 97.00 (F. 98.74)	* .12	— .10	— 1.04	95 92	* 8/31
PEAS							
A-43	JEROME B. RICE SEED CO., Cambridge, N. Y. Canada Peas..... H. S. Chadbourne, Milford	(L. * (F. 99.50)	* .90	— .50	— .00	* 93	* 8/31

RAPE

A-93	F. H. WOODRUFF & SONS, Milford, Conn. Rape Platt & Goslee, Gt. Barrington	(L. (F.	* 99.43	* .16	- .24	- .17	* 64	* 8/31
RED TOP								
A-28	JOSEPH BRECK & SONS CORP., Boston, Mass. Red Top Recleaned (1) Joseph Breck & Sons Corp., Lexington	(L. (F.	98.00 95.16	* .20	- 4.10	- .54	92 90	1/30 8/31
A-53	THE ALBERT DICKINSON CO., Chicago, Ill. Red Top, 30498 Ryther & Warren, Belchertown	(L. (F.	92.30 94.99	.40 .19	- 4.78	- .04	90 92	8/30 8/31
A-95	Fancy Red Top. Frank Howard, Pittsfield	(L. (F.	92.60 94.47	.90 .55	- 4.83	- .15	90 93	* 8/31
A-35	THOMAS W. EMERSON CO., Boston, Mass. Red Top Uxbridge Hardware Co., Uxbridge	(L. (F.	90.00 90.10	.20 .36	- 9.24	- .30	90 85	1/31 8/31
A-117	Red Top VanDuzer Hardware Co., Framingham	(L. (F.	90.00 91.74	.82 .62	- 7.55	- .09	90 93	* 8/31
A-15	FITCHBURG HARDWARE CO., Fitchburg, Mass. Red Top, Ident. # 30925 (1) Montgomery Hardware Co., Ayer	(L. (F.	91.00 86.78	.60 1.41	- 11.60	- .21	90 92	2/28 8/31
A-36	ROSS BROS. CO., Worcester, Mass. Red Top Brown Bros., Northbridge	(L. (F.	90.10 91.87	1.00 .72	- 7.29	- .12	90 93	3/31 8/31
A-38	Red Top LaPalme Hardware Co., Webster	(L. (F.	* 91.28	* .64	- 7.98	- .10	* 89	* 8/31
A-125	STANFORD SEED CO., Pittsburgh, Pa. Red Top W. H. George Hardware Co., Framingham	(L. (F.	90.00 90.51	1.00 .44	- 8.76	- .29	* 85	* 8/31
A-17	Red Top, Ident. # 3531 (1) Lee Hardware Co., Athol	(L. (F.	91.64 88.30	.88 .11	- 11.59	- -	90 77	1/29 8/31
A-114	Red Top Lee Hardware Co., Clinton	(L. (F.	90.70 85.23	.90 2.67	- 8.28	- 3.82	90 81	* 8/31
A-30	Red Top Osborne Hardware Co., Holyoke	(L. (F.	90.70 90.14	.90 .62	- 9.15	- .09	90 82	* 8/31

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1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

Lab. No.	Wholesale Distributor, Brand or Trade Name of Seed, Dealer, and Place Collected	Pure Seed %	Weed Seed %	Inert Matter %	Other Crop Seed %	Germination %	Date of Test
RED TOP—Continued							
A-32	WHITNEY-ECKSTEIN SEED CO., Buffalo, N. Y.						
	Red Top.....	(L. 90.00	.30	—	—	90	1/31
	H. S. Chadbourne Co., Milford	(F. 90.01	.50	9.43	.06	82	8/31
A-68	Red Top, Pan-American.....	(L. 92.00	.77	—	—	90	9/30
	W. F. Flynn & Son, Attleboro	(F. 90.36	.50	9.12	.02	80	8/31
A-90	Red Top, Pan-American.....	(L. 92.00	.77	—	—	90	1/31
	Foster-Farrar Co., Northampton	(F. 92.02	.51	7.21	.26	90	8/31
A-78	Red Top.....	(L. 92.00	.77	—	—	90	1/31
	Wilson Hardware Co., Newburyport	(F. 91.93	.55	7.46	.06	94	8/31
A-76	Red Top (1).....	(L. 92.00	.40	—	—	90	4/29
	Winer Bros. Hardware, Beverly	(F. 90.73	.30	8.63	.34	89	8/31
A-105	WHOLESALE NOT GIVEN						
	Red Top.....	(L. *	*	—	—	*	*
	Dooley Hardware Co., Springfield	(F. 89.19	.67	10.14	Trace	63	8/31
RYE							
A-56	N. WERTHEIMER & SONS, Buffalo, N. Y.						
	Spring Rye, No. Dakota 1930.....	(L. 96.62	*	3.30	.08	95	2/31
	Ware Grain & Coal Co., Ware	(F. 97.47	.03	2.18	.32	86	8/31
A-57	Winter Rye, No. Dakota 1930.....	(L. 95.65	*	4.07	.28	95	2/31
	Ware Grain & Coal Co., Ware	(F. 97.73	.01	2.08	.18	89	8/31
ROUGH STALKED MEADOW GRASS							
A-127	STANFORD SEED CO., Buffalo, N. Y.						
	Rough Stalked Meadow Grass.....	(L. 89.13	.10	—	—	88	*
	W. H. George Hardware Co., Framingham	(F. 89.65	.16	9.95	.24	34	9/31
RYE GRASS							
A-124	THOMAS W. EMERSON CO., Boston, Mass.						
	Domestic Rye Grass.....	(L. 99.40	*	—	—	97	*
	W. H. George Hardware Co., Framingham	(F. 99.37	.15	.27	.21	93	8/31
A-5	JOSEPH BRECK & SONS CORP., Boston, Mass.						
	Perennial Rye Grass (1).....	(L. 98.00	*	—	—	80	3/30
	H. V. Lawrence, Falmouth	(F. 97.69	.55	1.29	.47	41	8/31

SUNFLOWER

JEROME B. RICE SEED CO., Cambridge, N. Y.								
A-100	Mammoth Russian Sunflower	(L.	*	*	-	-	91	*
	S. Allen's Sons, Greenfield	(F.	98.94	.01	.38	.67	89	8/31
TIMOTHY								
JOSEPH BRECK & SONS CORP., Boston, Mass.								
A-25	Timothy	(L.	99.60	*	-	-	90-93	*
	Joseph Breck & Sons Corp., Lexington	(F.	99.78	.02	.12	.08	80	8/31
A-71	Timothy	(L.	*	*	-	-	*	*
	B. F. Hill Hardware Co., Salem	(F.	98.64	.26	.69	.41	92	8/31
THE ALBERT DICKINSON CO., Chicago, Ill.								
A-98	Timothy	(L.	99.65	.05	-	-	95	*
	Frank Howard, Pittsfield	(F.	99.89	Trace	.09	.02	89	8/31
THOMAS W. EMERSON CO., Boston, Mass.								
A-87	Timothy	(L.	98.00	*	-	-	90	3/31
	Villeneuve Hardware Co., Haverhill	(F.	99.64	.01	.10	.25	94	8/31
ROSS BROS CO., Worcester, Mass.								
A-33	Timothy	(L.	99.65	.05	-	-	95	1/31
	Brown Bros., Northbridge	(F.	99.87	Trace	.11	.02	89	8/31
A-46	Timothy	(L.	*	*	-	-	*	*
	H. I. Goodsell, Petersham	(F.	99.74	.01	.09	.16	81	8/31
A-63	Timothy (3)	(L.	-	-	-	-	-	-
	E. T. Hall, West Upton	(F.	99.46	.10	.31	.13	3	8/31
STANFORD SEED CO., Buffalo, N. Y.								
A-18	Timothy, Liberty—Ident. # 2720 (1)	(L.	99.60	.05	-	-	90	3/30
	Lee Hardware Co., Athol	(F.	99.62	.04	.28	.06	79	8/31
A-31	Timothy	(L.	99.00	.05	-	-	90	*
	Osborne Hardware Co., Holyoke	(F.	99.65	Trace	.04	.31	83	8/31
A-39	Timothy	(L.	99.60	.05	-	-	90	3/31
	Waite Hardware Co., Webster	(F.	99.31	.06	.41	.22	82	8/31

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1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

Lab. No.	Wholesale Distributor, Brand or Trade Name of Seed, Dealer, and Place Collected	Pure Seed %	Weed Seed %	Inert Matter %	Other Crop Seed %	Germination %	Date of Test
TIMOTHY—Continued							
A-109	WHITNEY-ECKSTEIN SEED CO., Buffalo, N. Y. Timothy (1)..... Carlisle Hardware Co., Springfield	(L. 99.60	.10	.20	—	92	1/28
		(F. 99.65	.10	.21	.04	53	8/31
A-91	Timothy..... Hampshire Hardware Co., Northampton	(L. *	*	—	—	*	*
		(F. 99.79	.01	.07	.13	76	8/31
A-81	Timothy..... Treat Hardware Corp., Lawrence	(L. 99.60	.05	—	—	90	*
		(F. 99.47	Trace	.41	.12	95	8/31
A-77	Timothy..... Winer Bros. Hardware Co., Beverly	(L. 99.60	.10	—	—	97	*
		(F. 99.58	.01	.40	.01	66	8/31
A-49	Herald Timothy..... Barre Grain Co., Barre	(L. 98.88	.12	—	—	90	*
		(F. 99.42	.05	.39	.14	80	8/31
A-69	Pan-American Timothy..... W. F. Flynn & Son, Attleboro	(L. 99.60	.05	—	—	90	1/31
		(F. 99.44	.11	.29	.16	78	8/31
A-89	Pan-American Timothy..... Foster-Farrar Co., Northampton	(L. 99.60	.05	—	—	90	1/31
		(F. 99.83	.01	.09	.07	83	8/31
A-107	Pan-American Timothy..... Maschin & Kratovil, Springfield	(L. 99.60	.05	—	—	90	1/31
		(F. 99.38	.01	.16	.45	88	8/31
A-66	Pan-American Timothy..... Schofield Hardware Co., North Attleboro	(L. 99.60	.05	—	—	90	1/31
		(F. 99.42	.11	.46	.01	94	8/31
A-3	F. H. WOODRUFF & SONS, Milford, Conn. Timothy..... Falmouth Plumbing & Hardware, Falmouth	(L. *	*	—	—	*	*
		(F. 99.79	.02	.08	.11	42	8/31
A-103	WHOLESALE NOT GIVEN Timothy..... Dooley Hardware Co., Springfield	(L. *	*	—	—	*	*
		(F. 99.02	.12	.44	.42	92	8/31

MIXTURES

A-121	JOSEPH BRECK & SONS CORP., Boston, Mass.							
	Timothy*	(L.	97.00	*	-	-	92	*
	Sawyer Hardware Co., Framingham							
	Timothy and Red Top	(F. Timothy (F. Red Top	63.01 33.42				87 94	8/31 8/31
			96.43	.38	2.46	.73		
A-10	THOMAS W. EMERSON CO., Boston, Mass.							
	White Clover*	(L.	*	*	-	-	*	*
	Harvey A. Woods, Groton							
	White Clover and Alsike	(F. White (F. Alsike	93.31 5.30				74-9 58-6	8/31 8/31
			98.61	.38	.59	.42		
A-16	White Clover* (1)	(L.	98.60	.82	-	-	96	11/29
	Lee Hardware Co., Athol							
	White Clover and Alsike	(F. White (F. Alsike	91.87 5.20				49-18 33-11	8/31 8/31
				97.07	.73	.83	1.37	
A-74	Chewings Fescue* (3)	(L.	-	-	-	-	-	-
	C. A. Noyes Co., Brockton							
	Timothy and Red Clover	(F. Timothy (F. R. C.	72.91 21.45				81 74-3	9/31 9/31
				94.35	.42	1.50	3.72	

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1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

Lab. No.	Wholesale Distributor, Brand or Trade Name of Mixture, Dealer, Place Collected, Name and Percentage of Ingredients in each Mixture	Pure Seed %	Weed Seed %	Inert Matter %	Other Crop Seed %
SPECIAL SEED MIXTURES					
C-16	JOSEPH BRECK & SONS CORP., Boston, Mass.				
	Bank and Terrace Mixture.....(L)	-	*	*	-
	(Ingredients not named)				
	Joseph Breck & Sons Corp., Lexington.....(F)	84.77	.54	14.18	.51
	English Perennial Ryegrass.....	20.73			
	Kentucky Bluegrass.....	17.40			
	Red Top.....	14.75			
C-14	Boston Park Lawn Mixture.....(L)	88.00	1.00	11.00	-
	Kentucky Bluegrass, Red Top, Meadow Fescue, White Clover				
	Joseph Breck & Sons Corp., Lexington.....(F)	91.49	.32	7.55	.64
	Red Top.....	36.96			
	Kentucky Bluegrass.....	35.20			
	Meadow Fescue.....	13.91			
	White Clover.....	5.42			
C-51	Boston Park Lawn Grass Mixture.....(L)	91.37	1.14	7.49	-
	(Ingredients not named)				
	Henry L. Sawyer Co., Framingham.....(F)	90.61	.48	8.19	.72
	Red Top.....	50.15			
	Kentucky Bluegrass.....	31.64			
C-35	Breck's Special, Setab Brand Mixture.....(L)	90.00	.40	9.60	-
	Clean Red Top, Timothy, Kentucky Bluegrass, White Clover				
	D. Cashman Hardware Co., Newburyport.....(F)	88.62	.66	7.04	3.68
	Red Top.....	65.14			
	Timothy.....	10.02			
C-37	Setab Brand Mixture.....(L)	90.00	.40	9.60	-
	Clean Red Top, Kentucky Bluegrass, Timothy, White Clover*				
	White Clover.....	6.38			

	Pentucket Hardware, Haverhill.....	(F)	91.17	.60	7.93	.30
	Red Top.....		67.60			
	Timothy.....		14.32			
	Kentucky Bluegrass.....		5.98			
	White Clover.....		3.27			
C-38	Setab Brand Mixture.....	(L)	90.00	.40	9.60	-
	Clean Red Top, Timothy, Kentucky Bluegrass, White Clover					
	L. D. Winer Hardware, Salem.....	(F)	93.83	.51	5.66	Trace
	Red Top.....		57.33			
	Timothy.....		17.27			
	White Clover.....		14.23			
	Kentucky Bluegrass.....		5.00			
C-52	Setab Brand, Breck's Special Mixture.....	(L)	90.00	.40	9.60	-
	Red Top, Kentucky Bluegrass*, Timothy, White Clover					
	Henry L. Sawyer Co., Framingham.....	(F)	91.75	.47	7.55	.23
	Red Top.....		60.23			
	Timothy.....		19.06			
	White Clover.....		8.07			
	Kentucky Bluegrass.....		4.39			
C-54	Setab Brand, Lawn Grass.....	(L)	90.00	.40	9.60	-
	(Ingredients not named)					
	White Hardware Co., Framingham.....	(F)	91.93	.27	7.63	.17
	Red Top.....		61.47			
	Timothy.....		17.34			
	White Clover.....		6.90			
	Kentucky Bluegrass.....		6.22			
C-15	Shady Spot Lawn Mixture.....	(L)	73.40	1.15	24.45	-
	Red Top, Kentucky Bluegrass, Rough Stalked Meadow, and Fescue*					
	Joseph Breck & Sons Corp., Lexington.....	(F)	83.61	.53	14.37	1.49
	Red Top.....		27.54			
	Kentucky Bluegrass.....		14.75			
	Rough Stalked Meadow Grass.....		36.84			
	Fine Leaved Fescue.....		4.48			
C-53	Breck's Shady Spot.....	(L)	73.40	1.15	25.45	-
	Red Top, Kentucky Bluegrass, Rough Stalked Meadow Grass, Fescue*					
	Henry L. Sawyer Co., Framingham.....	(F)	87.39	.23	11.46	.92
	Rough Stalked Meadow Grass.....		54.06			
	Kentucky Bluegrass.....		19.25			
	Red Top.....		13.42			
	Fine Leaved Fescue.....		.66			

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1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

Lab. No.	Wholesale Distributor, Brand or Trade Name of Mixture, Dealer, Place Collected, Name and Percentage of Ingredients in each Mixture	Pure Seed %	Weed Seed %	Inert Matter %	Other Crop Seed %
SPECIAL SEED MIXTURES—Continued					
C-5	JOSEPH BRECK & SONS CORP., Continued				
	Lawn Grass Mixture (Ingredients not named).....(L.	-	*	*	-
	Peboco Hardware Co., Wellesley.....(F.	91.69	.52	7.64	.15
	Red Top.....	70.17			
	Kentucky Bluegrass.....	4.09			
	Timothy.....	13.01			
	White Clover.....	4.42			
C-42	COMSTOCK, FERRE & CO., Wethersfield, Conn.				
	Lawn Grass.....(L.	-	.76	15.20	-
	Red Top, Kentucky Blue, Red Fescue, Rye Grass*.....(F.	79.03	.71	15.89	4.37
	Foster-Farrar Co., Northampton.....				
	Red Top.....	34.74			
	Kentucky Bluegrass.....	19.11			
	Domestic Ryegrass.....	18.71			
	Red Fescue.....	6.47			
C-43	Shady Place Lawn Grass.....(L.	-	.49	13.15	-
	Red Top, Kentucky Blue, Red Fescue, Ryegrass,* P. E. I. Bent, R. S. Meadow.....(F.	89.16	.78	8.95	1.11
	Foster-Farrar Co., Northampton.....				
	Domestic Ryegrass.....	31.45			
	Red Fescue.....	15.53			
	Kentucky Bluegrass.....	10.01			
	Rough Stalked Meadow Grass.....	10.33			
	Red Top.....	16.38			
	Prince Edward Island Bent.....	5.46			
C-20	THE ALBERT DICKINSON CO., Chicago, Ill.				
	Club Green Mixture.....(L.	-	1.00	15.10	2.00
	Red Top 26%, Red Fescue 19.2%, Kentucky Blue 22%, Ryegrass *14.7%.....(F.	82.64	1.95	14.78	.63
	Sears, Roebuck & Co., Cambridge.....				
	Red Top.....	31.29			
	Kentucky Bluegrass.....	23.50			
	Domestic Ryegrass.....	13.70			
	Red Fescue.....	14.15			

Code	Distributor	Seed Type	Labeling	Column 1	Column 2	Column 3	Column 4	
C-49	THOMAS W. EMERSON CO., Boston, Mass.	Emerson's Gem Lawn Seed.....	(L)	-	.40	8.50	-	
		Chewings Red Fescue, Red Top, Kentucky Blue, Timothy, German Bent, White Clover*						
		Maschin & Kratovil, Springfield.	(F)	91.19	.66	7.88	.27	
		Agrostis spp. (Red Top and German Bent).....				37.54		
		Timothy.....				26.49		
		Chewings Fescue.....				9.09		
C-33	Lawn Seed.....	Red Top, Kentucky Blue, Timothy, Chewings Red Fescue, White Clover						
		C. E. Bragdon, Danvers.....	(F)	90.15	.54	8.72	.59	
		Red Top.....				25.23		
		Timothy.....				27.04		
		Domestic Ryegrass.....				14.54		
		Kentucky Bluegrass.....				8.58		
C-3	Emerson's Special Mixed Lawn Seed.....	Red Top, Kentucky Blue, Chewings Fescue, White Clover, German Bent						
		Chas. T. Eastman, Falmouth.....	(F)	91.49	.36	7.90	.25	
		Agrostis spp. (Red Top and German Bent).....				68.25		
		Kentucky Bluegrass.....				12.01		
		Chewings Fescue.....				5.40		
		White Clover.....				5.83		
C-6	Special Mixed Lawn Seed.....	Red Top, Kentucky Bluegrass, Chewings Fescue, White Clover*, German Bent						
		Harvey A. Woods, Groton.....	(F)	91.17	.74	7.93	.16	
		Agrostis spp. (Red Top and German Bent).....				59.36		
		Kentucky Bluegrass.....				20.66		
		Chewings Fescue.....				7.07		
		White Clover.....				4.08		
C-25	Special Mixed Lawn Seed.....	Red Top, Kentucky Bluegrass, Chewings Red Fescue, White Clover, German Bent						
		G. C. Winter Co., Southbridge.....	(F)	87.22	.76	11.83	.19	
		Agrostis spp. (Red Top and German Bent).....				63.15		
		Kentucky Bluegrass.....				12.90		
		White Clover.....				6.04		
		Chewings Fescue.....				5.13		

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1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

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Lab. No.	Wholesale Distributor, Brand or Trade Name of Mixture, Dealer, Place Collected, Name and Percentage of Ingredients in each Mixture	Pure Seed %	Weed Seed %	Inert Matter %	Other Crop Seed %
SPECIAL SEED MIXTURES—Continued					
C-46	GARFIELD WILLIAMSON CO., New York, N. Y. Lawn Grass Mixture.....(L)	—	1.00	19.00	—
	Red Top, Kentucky Bluegrass, Timothy, Domestic Ryegrass				
	F. H. Turner & Co., Gt. Barrington.....(F)	80.55	.74	17.61	1.10
	Timothy.....36.09				
	Domestic Ryegrass.....23.29				
	Red Top.....15.46				
	Kentucky Bluegrass.....5.71				
C-48	J. OLIVER JOHNSON CO., Chicago, Ill. Mixed Lawn Grass Seed.....(L)	—	1.00	29.00	—
	Red Top 5%, Perennial Ryegrass 30%, Timothy 34%, White Clover 1%				
	Auburn Hardware Co., Springfield.....(F)	73.96	.95	24.09	1.00
	Domestic Ryegrass.....38.83				
	Timothy.....28.03				
	Red Top.....6.46				
	White Clover......64				
C-22	Grass Mixture.....(L)	—	1.00	29.00	—
	Red Top, Timothy, Perennial Ryegrass, White Clover*				
	George Hurwitz Hardware Co., Medford.....(F)	74.20	.78	24.00	1.02
	Red Top.....16.22				
	Timothy.....21.39				
	Domestic Ryegrass.....35.20				
	White Clover.....1.39				
C-10	Winner Brand Lawn Mixture.....(L)	—	*	*	—
	(Ingredients not named)				
	Consolidated Nurseries & Seed Co., Boston.....(F)	73.82	2.76	22.95	.47
	Timothy.....31.31				
	Domestic Ryegrass.....26.50				
	Red Top.....13.66				
	White Clover.....2.35				
C-24	D. LANDRETH SEED CO., Bristol, Pa. Fairmount Park Lawn Seed.....(L)	—	*	*	—
	(No information available)				

CONTROL SERIES No. 62

	O. M. Kindler, Webster.....	(F.)	76.22	.77	22.14	.87
	Red Top.....				33.52	
	Timothy.....				16.16	
	Kentucky Bluegrass.....				11.33	
	Domestic Ryegrass.....				11.14	
	White Clover.....				4.07	
	NORTHRUP, KING & CO., Minneapolis, Minn.					
C-18	Velvet Green Lawn Grass.....	(L.)	-	1.00	27.80	-
	Domestic Ryegrass 27.20%, Red Top 15.50%, Timothy 17.35%, Kentucky Blue 9.60%, White Clover 1.55%					
	F. W. Woolworth Co., Boston.....	(F.)	72.00	.86	26.90	.24
	Timothy.....				24.67	
	Domestic Ryegrass.....				21.65	
	Kentucky Bluegrass.....				9.71	
	Red Top.....				13.94	
	White Clover.....				2.03	
	PAGE SEED CO., Greene, N. Y.					
C-7	Page's Special Lawn Grass, Lot No. L14430.....	(L.)	76.99	2.38	19.75	.46
	Red Top, Timothy, English Perennial Ryegrass, Canada Bluegrass, White Clover 2.75%					
	H. P. Chamberlain Hardware Co., Orange.....	(F.)	71.61	3.07	24.80	.52
	Timothy.....				26.30	
	Red Top.....				19.13	
	English Ryegrass.....				15.12	
	Canada Bluegrass.....				8.56	
	White Clover.....				2.50	
	ROSS BROS. CO., Worcester, Mass.					
C-23	Worcester Mixture Lawn Seed.....	(L.)	-	*	*	-
	(No information)					
	Brown Bros., Northbridge.....	(F.)	85.75	1.02	13.23	Trace
	Agrostis spp. (Red Top and German Bent).....				30.06	
	Domestic Ryegrass.....				20.35	
	Kentucky Bluegrass.....				17.64	
	Timothy.....				10.61	
	Red Pescape.....				5.09	
	White Clover.....				2.00	

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Lab. No.	Wholesale Distributor, Brand or Trade Name of Mixture, Dealer, Place Collected, Name and Percentage of Ingredients in each Mixture	Pure Seed %	Weed Seed %	Inert Matter %	Other Crop Seed %
SPECIAL SEED MIXTURES—Continued					
ROSS BROS. CO., Continued					
C-26	Worcester Lawn Seed (L.	88.60	.20	9.40	-
	(Ingredients not named)				
	H. I. Goodsell, Petersham (F.	86.86	.68	12.46	Trace
	Domestic Ryegrass	29.73			
	Agrostis spp. (Red Top and German Bent)	23.81			
	Kentucky Bluegrass	20.20			
	Timothy	6.53			
	Red Fescue	5.59			
	White Clover	1.00			
SEED-TOWN PRODUCTS, INC., Chicago, Ill.					
C-12	Lawn Grass Mixture (L.	-	.29	4.78	.11
	Kentucky Blue 60%, Rye Grass* 9.56%, Red Top 20.89%, White Clover 4.37%				
	Houghton & Dutton Co., Boston (F.	82.66	1.24	15.54	.56
	Kentucky Bluegrass	46.86			
	Red Top	21.61			
	Domestic Ryegrass	9.80			
	White Clover	4.39			
C-17	Seedtown Lawn Grass Mixture (L.	-	.29	4.78	.11
	Kentucky Blue 66.9% (4), Rye Grass* 9.56%, Red Top 20.89%, White Clover 4.37%				
	Jordan Marsh Co., Boston (F.	83.91	.87	14.81	.41
	Kentucky Bluegrass	46.84			
	Red Top	21.60			
	Domestic Ryegrass	10.26			
	White Clover	5.21			
STANFORD SEED CO., Buffalo, N. Y.					
C-11	City Lawn Seed Mixture (L.	-	1.00	10.00	-
	White Clover, Fancy Red Top, Fancy Kentucky Bluegrass, Timothy				
	Osborne Hardware Co., Holyoke (F.	80.05	2.02	14.09	3.84
	Red Top	31.82			
	Timothy	26.54			
	Kentucky Bluegrass	14.11			
	White Clover	7.58			

STUMPP & WALTER CO., New York, N. Y.						
C-21	Greenwood Formula Mixture.....	(L.	-	.49	18.50	-
	Kentucky Bluegrass, Canada Bluegrass, Fancy Red Top, Domestic Ryegrass					
	Faneuil Hall Nursery Co., Boston.....	(F.	76.57	.60	22.30	.53
	Domestic Ryegrass.....				29.28	
	Canada Bluegrass.....				13.06	
	Kentucky Bluegrass.....				7.59	
	Red Top.....				24.23	
	Timothy.....				2.41	
SUPPLE BIDDLE HARDWARE CO., Philadelphia, Pa.						
C-27	Valley Green Lawn Seed.....	(L.	-	*	*	-
	(No information available)					
	J. F. Robinson Co., Ware.....	(F.	86.91	.81	11.92	.36
	Red Top.....				32.83	
	Timothy.....				26.71	
	Kentucky Bluegrass.....				11.45	
	Domestic Ryegrass.....				8.51	
	White Clover.....				7.41	
WHITNEY-ECKSTEIN SEED CO., Buffalo, N. Y.						
C-8	City Park Special Mixture.....	(L.	-	1.5	17.5	3.00
	Red Top, Canada Bluegrass, Domestic Ryegrass, Timothy, White Clover 3%					
	Wilson Hardware Co., Holyoke.....	(F.	71.01	1.55	26.30	1.14
	Red Top.....				20.95	
	Timothy.....				22.59	
	Domestic Ryegrass.....				13.04	
	Canada Bluegrass.....				10.38	
	White Clover.....				4.05	
C-9	Excelsior Special Mixture.....	(L.	-	1.00	12.00	2.00
	Red Top, Kentucky Bluegrass, Canada Bluegrass, Timothy, White Clover, Chewings Fescue					
	Wilson Hardware Co., Holyoke.....	(F.	82.99	.94	15.44	.63
	Red Top.....				42.01	
	Kentucky Bluegrass.....				10.03	
	Canada Bluegrass.....				8.70	
	Timothy.....				9.71	
	White Clover.....				7.47	
	Chewings Fescue.....				5.07	

Note:—The letters "L" and "F" indicate "Labeled" by the distributor and "Found" by the laboratory.
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Boldface type indicates excessive weed seed or excessive inert matter, depending upon the column in which it is found.
(4) Label incorrect; total percentages exceed 100.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

Lab. No.	Wholesale Distributor, Brand or Trade Name of Mixture, Dealer, Place Collected, Name and Percentage of Ingredients in each Mixture	Pure Seed %	Weed Seed %	Inert Matter %	Other Crop Seed %
SPECIAL SEED MIXTURES—Continued					
WHITNEY-ECKSTEIN SEED CO., Continued					
C-4	Lawn Grass Mixture.....(L)	-	1.00	12.00	2.00
	Red Top, Kentucky Bluegrass, Canada Bluegrass, Timothy, White Clover, Chewings Fescue*.....				
	The Fiske Corporation, Natick.....(F)	80.92	.65	18.05	.38
	Red Top.....	41.51			
	Timothy.....	13.38			
	Kentucky Bluegrass.....	8.13			
	Canada Bluegrass.....	8.03			
	White Clover.....	7.65			
	Chewings Fescue.....	2.22			
C-1	Pan-American Lawn Seed.....(L)	-	1.00	16.00	2.00
	Red Top, Kentucky Blue, Canada Blue, Domestic Ryegrass, Timothy, White Clover				
	Franklin D. Williams, Taunton.....(F)	77.72	2.89	19.01	.38
	Red Top.....	26.18			
	Timothy.....	16.32			
	Domestic Ryegrass.....	15.78			
	White Clover.....	5.51			
	Kentucky Bluegrass.....	8.80			
	Canada Bluegrass.....	5.13			
C-2	Sylvan Shady Spot.....(L)	-	1.00	12.00	2.00
	Kentucky Bluegrass, Canada Bluegrass*, Fancy Red Top, English Ryegrass, Hard Fescue, Timothy, R. S. Meadow, Crested Dog's-tail				
	Pierce Hardware Co., Taunton.....(F)	86.28	.96	10.20	2.56
	Domestic Ryegrass.....	24.55			
	Red Top.....	15.63			
	Timothy.....	14.22			
	Rough Stalked Meadow Grass.....	7.70			
	Kentucky Bluegrass.....	6.60			
	Canada Bluegrass.....	4.75			
	Hard Fescue.....	7.00			
	Crested Dog's-tail.....	5.83			
C-36	F. H. WOODRUFF & SONS, Milford, Conn. Lawn Seed.....(L)	83.10	.89	15.71	-
	Kentucky Blue, Red Top, White Clover, Meadow Fescue, Timothy, Dom. Ryegrass				

	M. W. Dugan Co., Newburyport	(F.)	83.98	1.26	14.44	.32
	Red Top		28.35			
	Kentucky Bluegrass		16.44			
	Timothy		13.16			
	Meadow Fescue		9.56			
	Domestic Ryegrass		9.39			
	White Clover		7.08			
	S. D. WOODRUFF & SONS, Orange, Conn.					
C-13	Velvet Green Lawn Grass Mixture	(L.)	-	3.00	20.00	-
	Dom. Ryegrass, Red Top, Kentucky Blue*, Timothy					
	A. G. Patch, Boston	(F.)	66.90	1.72	24.66	6.72
	Domestic Ryegrass		30.85			
	Timothy		19.97			
	Red Top		11.28			
	Kentucky Bluegrass		4.80			
	WHOLESALE NOT GIVEN					
C-19	Green Cover Grass Seed Mixture	(L.)	-	1.50	23.50	-
	Red Top 14%, Rye Grass* 32%, and Timothy 29%					
	Sears, Roebuck & Co., Cambridge	(F.)	76.43	1.20	21.57	.80
	Timothy		46.70			
	Domestic Ryegrass		21.26			
	Red Top		8.47			
C-39	City Park Lawn Seed	(L.)	-	1.50	17.50	3.00
	Redtop, Canada Bluegrass, Timothy, White Clover 3%					
	Wilson's Hardware Co., Newburyport	(F.)	72.03	2.01	24.10	1.86
	Domestic Ryegrass		27.06			
	Timothy		18.61			
	Red Top		15.81			
	Canada Bluegrass		7.53			
	White Clover		3.02			
C-32	Lawn Grass	(L.)	-	1.00	14.00	-
	Domestic Ryegrass, Timothy, Red Top 2%, White Clover					
	New England Sales Co., Mansfield	(F.)	80.87	1.54	17.01	.58
	Domestic Ryegrass		44.09			
	Timothy		35.27			
	Red Top		1.51			

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1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES

Lab. No.	Wholesale Distributor, Kind of Seed and Variety, Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
ASPARAGUS			
D-241	D. LANDRETH SEED CO., Bristol, Pa. Mary Washington Asparagus Hampshire Hardware Co., Northampton	60	June
BEANS			
D-31	JOSEPH BRECK & SONS CORP., Boston, Mass. Improved Golden Wax Bush Beans Williams Bros., Osterville	85	June
D-227	THOMAS W. EMERSON CO., Boston, Mass. Dwarf Horticultural Beans L. Richmond & Co., Brockton	88	June
D-75	Golden Wax Beans C. K. Wanamaker, Arlington	78	June
D-218	Improved Golden Wax Beans W. F. Flynn & Son, Attleboro	81	June
D-98	Pole Horticultural Beans G. C. Winter Co., Southbridge	87	June
D-29	Pole Lima Beans (Burpee's) T. W. Pierce, Middleboro	84	June
D-134	D. M. FERRY & CO., Detroit, Mich. Kentucky Wonder Pole Beans J. J. Tebo, Grafton	92	June
D-220	J. J. H. GREGORY & SON, Marblehead, Mass. Kentucky Wonder Pole Beans B. F. Hill Hardware, Salem	93	June
D-264	CHAS. C. HART SEED CO., Wethersfield, Conn. Improved Golden Wax Beans F. H. Turner Co., Gt. Barrington	88	June
D-230	Kentucky Wonder Beans J. Rubinstein, Beverly	95	June
D-302	D. LANDRETH SEED CO., Bristol, Pa. Horticultural Pole Beans W. E. Aubuchon Co., Clinton	98	June
D-50	LEONARD SEED CO., Chicago, Ill. Burpee's Improved Kidney Wax Beans A. E. Stewart, Athol	89	June
D-233	Burpee's Stringless Green Pod Beans Wilson's Hardware, Newburyport	89	June
D-28	Burpee's Stringless Green Pod Dwarf Early Beans Franklin D. Williams, Taunton	81	June
D-248	JEROME B. RICE SEED CO., Cambridge, N. Y. Improved Rustless Golden Wax Beans Frank Howard, Pittsfield	72	June
D-49	Kentucky Wonder Pole Beans I. G. Dwinell, Ayer	93	June
D-73	Pencil Pod Black Wax Beans Wells Hardware Co., Holyoke	96	June
D-60	Rice's Carmine Podded Horticultural Dwarf Beans Wells Hardware Co., Holyoke	90	June
D-132	ROSS BROS. CO., Worcester, Mass. Black Wax Beans C. F. Wheeler, West Brookfield	88	June
D-293	Dwarf Horticultural Beans Hamilton Hardware Co., Clinton	98	June

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES—Continued

Lab. No.	Wholesale Distributor, Kind of Seed and Variety, Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
BEANS—Continued			
D-93	ROSS BROS. CO., Continued Golden Wax Beans Casey Auto Supply Co., Milford	86	June
D-115	Horticultural Pole Beans* S. J. Simenson Co., Barre	78	June
D-116	Kentucky Wonder Wax Beans S. J. Simenson Co., Barre	73	June
D-294	Kentucky Wonder Yellow Pod Beans Hamilton Hardware Co., Clinton	96	June
D-219	F. H. WOODRUFF & SONS, Milford, Conn. Yellow, Six Weeks Beans Martin Hardware Co., No. Attleboro	91	June
D-298	S. D. WOODRUFF & SONS, Orange, Conn. French Horticultural Beans White Hardware Co., Framingham	96	June
D-58	Imperial Golden Wax Beans Holyoke Farm Machinery Co., Holyoke	82	June
D-54	Wax Beans (Variety illegible) E. M. Gould, Shelburne Falls	87	June
D-79	WHOLESALE NOT GIVEN Kentucky Wonder Wax Beans Clebnik Bros., Malden	98	June
D-107	WHOLESALE UNKNOWN Golden Wax Beans Waite Hardware, Southbridge	60	June
BEETS			
D-213	JOSEPH BRECK & SONS CORP., Boston, Mass. Dewings Early Blood Beet Pentucket Hardware, Haverhill	83	June
D-140	THOMAS W. EMERSON CO., Boston, Mass. Detroit Dark Red Beet E. T. Hall, West Upton	65	June
D-186	Detroit Dark Red Beet C. E. Bragdon, Danvers	70	June
D-306	Dewing's Improved Beet VanDuzer Hardware Co., Framingham	76	June
D-152	Eclipse Beet W. F. Flynn & Son, Attleboro	62	June
D-128	Edmand's Early Blood Beet Ryther & Warren, Belchertown	72	June
D-110	D. M. FERRY & CO., Detroit, Mich. Crosby's Egyptian Beet H. I. Goodsell, Petersham	62	May
D-105	CHAS. C. HART SEED CO., Wethersfield, Conn. Crosby's Egyptian Beet Waite Hardware, Southbridge	73	May
D-208	LEONARD SEED CO., Chicago, Ill. Crimson Globe Beet Wilson's Hardware, Newburyport	60	June
D-215	Crosby's Egyptian Beet Schofield Hardware Co., No. Attleboro	65	June
D-36	Detroit Dark Red Beet A. E. Stewart, Athol	63	May
D-177	Detroit Dark Red Turnip Beet A. I. Task, Brockton	66	June

*1929 seed.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES—Continued

Lab. No.	Wholesale Distributor, Kind of Seed and Variety, Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
BEETS—Continued			
D-114	NORTHRUP, KING & CO., Minneapolis, Minn. Detroit Dark Red Beet..... Fred B. Holland, Barre Plains	72	Dec.
D-252	JEROME B. RICE SEED CO., Cambridge, N. Y. Boston Crosby Beet..... Frank Howard, Pittsfield	66	July
D-20	Crosby's Dark Red Egyptian Turnip Beet..... The Fiske Corporation, Natick	65	June
D-268	Detroit Dark Red Beet..... S. Allen's Sons, Greenfield	60	June
D-290	Detroit Dark Red Beet..... W. E. Aubuchon Co., Clinton	65	June
D-253	Detroit Dark Red Turnip Beet..... Frank Howard, Pittsfield	71	June
D-90	ROSS BROS. CO., Worcester, Mass. Detroit Dark Red Beet..... O. M. Kindler, Webster	65	May
D-295	Detroit Dark Red Beet..... Hamilton Hardware Co., Clinton	63	July
D-118	Early Blood Turnip Beet..... S. J. Simenson Co., Barre	67	June
D-262	F. H. WOODRUFF & SONS, Milford, Conn. Crosby's Egyptian Beet..... Platt & Goslee, Gt. Barrington	84	July
D-6	Early Eclipse Beet..... Waldron Hardware Co., Taunton	58	June
D-63	S. D. WOODRUFF & SONS, Orange, Conn. Early Wonder Beet***..... Holyoke Farm Machinery Co., Holyoke	60	June
BROCCOLI			
D-222	CHAS. C. HART SEED CO., Wethersfield, Conn. It. Early Green Calabrese Broccoli**..... L. D. Winer Hardware, Salem	65	July
BRUSSELS SPROUTS			
D-167	JEROME B. RICE SEED CO., Cambridge, N. Y. Brussels Sprouts**..... C. A. Noyes Co., Brockton	33	July
CABBAGE			
D-161	JOSEPH BRECK & SONS CORP., Boston, Mass. Drumhead Savoy Cabbage..... B. F. Hill Hardware, Salem	92	June
D-203	THOMAS W. EMERSON CO., Boston, Mass. Danish Ballhead Cabbage..... D. Cashman Hardware, Newburyport	66	June
D-197	Stone Mason Cabbage..... Whitcomb-Carter Co., Beverly	87	June
D-11	FREDONIA SEED CO., Fredonia, N. Y. Danish Ball Head Cabbage**..... Marsden Bros., Middleboro	72	Dec.
D-87	Early Savoy Cabbage**..... A. DeCelles, Webster	63	July

** Retested.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES—Continued

Lab. No.	Wholesale Distributor, Kind of Seed and Variety, Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
CABBAGE—Continued			
D-143	BUDD D. HAWKINS, Reading, Vt. Hollander Cabbage..... Arthur Anderson, Sterling	93	June
D-43	D. LANDRETH SEED CO., Bristol, Pa. Danish Round Head Cabbage..... H. Newell & Co., Shelburne Falls	84	June
D-242	Early Jersey Wakefield Cabbage..... Hampshire Hardware Co., Northampton	87	June
D-146	LEONARD SEED CO., Chicago, Ill. Drumhead Savoy Cabbage..... Schofield Hardware, No. Attleboro	64	June
D-4	JEROME B. RICE SEED CO., Cambridge, N. Y. Drumhead Savoy Cabbage..... Pierce Hardware Co., Taunton	92	June
D-280	Genuine Surehead Cabbage**..... Arthur C. Lamson, Marlboro	60	July
D-257	Premium Flat Dutch Cabbage**..... Pierson Hardware Co., Pittsfield	45	July
D-238	F. H. WOODRUFF & SONS, Milford, Conn. Jersey Wakefield Cabbage..... Spanias Hardware, Haverhill	67	June
D-182	S. D. WOODRUFF & SONS, Orange, Conn. All Season Cabbage**..... Danvers Hardware Co., Danvers	38	July
CANTALOUPE			
D-275	F. H. WOODRUFF & SONS, Milford, Conn. Emerald Green Cantaloupe..... F. I. Webster Co., Greenfield	65	June
CARROT			
D-57	EVERETT B. CLARK SEED CO., Milford, Conn. (1) Danvers Half Long Carrot**..... Consolidated Nurseries & Seed Co., Boston	48	May
D-102	THOMAS W. EMERSON CO., Boston, Mass. Danvers Half Long Carrot..... G. C. Winter Co., Southbridge	65	May
D-162	Danvers Half Long Carrot..... Waters & Brown Hardware, Salem	57	June
D-193	Danvers Half Long Carrot..... Whitcomb-Carter Co., Beverly	57	June
D-305	Danvers Half Long Carrot..... VanDuzer Hardware Co., Framingham	82	June
D-174	Long Orange Carrot**..... L. Richmond Co., Brockton	50	June
D-14	LAKB SHORE SEED CO., Dunkirk, N. Y. Danvers Half Long Carrot**..... H. G. Cox, Barnstable	38	May
D-45	D. LANDRETH SEED CO., Bristol, Pa. Danvers Long Carrot**..... H. Newell & Co., Shelburne Falls	54	June
D-207	LEONARD SEED CO., Chicago, Ill. Danvers Carrot..... Wilson's Hardware, Newburyport	61	June
D-37	Ox Heart Carrot**..... H. P. Chamberlain Hardware, Orange	15	May

**Retested. (1) Concern out of existence.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES—Continued

Lab. No.	Wholesale Distributor, Kind of Seed and Variety, Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
CARROT—Continued			
D-250	JEROME B. RICE SEED CO., Cambridge, N. Y. Coreless Carrot..... Frank Howard, Pittsfield	48	July
D-273	Danvers Half Long Carrot**..... Newcomb Hardware Co., Greenfield	54	July
D-123	Improved Long Orange Carrot..... H. R. Durant, Belchertown	58	June
D-121	ROSS BROS. CO., Worcester, Mass. Danvers Half Long Carrot**..... S. J. Simenson Co., Barre	57	June
D-91	True Danvers Half Long Carrot**..... Brown Bros., Northbridge	52	June
D-5	F. H. WOODRUFF & SONS, Milford, Conn. Danvers Half Long Carrot**..... Waldron Hardware Co., Taunton	43	June
D-147	Danvers Half Long Carrot..... W. M. Hall Co., No. Attleboro	57	June
D-234	Improved Long Orange Carrot..... Spanias Hardware, Haverhill	71	June
D-69	S. D. WOODRUFF & SONS, Orange, Conn. Danvers Half Long Carrot**..... Holyoke Farm Machinery Co., Holyoke	61	June
D-181	Hutchinson Carrot..... Danvers Hardware Co., Danvers	73	June
D-21	WHOLESALER UNKNOWN Danvers Half Long Carrot..... Peboco Hardware, Wellesley	62	May
CAULIFLOWER			
D-156	THOMAS W. EMERSON CO., Boston, Mass. Snowball Cauliflower**..... W. C. Fuller Co., Mansfield	66	July
D-173	FERRY-MORSE CO., Detroit, Mich. Early Snowball Cauliflower..... A. C. Stone Hardware, Brockton	66	June
D-81	PAGE SEED CO., Greene, N. Y. Early Favorite Cauliflower..... J. P. Connolly Co., Milford	72	June
CELERY			
D-163	THOMAS W. EMERSON CO., Boston, Mass. Self Blanching Golden Celery**..... Waters & Brown, Salem	0	June
D-188	D. M. FERRY & CO., Detroit, Mich. Savoy Celery..... C. E. Bragdon, Danvers..	42	June
D-127	LEONARD SEED CO., Chicago, Ill. Boston Market Celery**..... J. B. Sibley & Son, Ware	42	June
D-169	JEROME B. RICE SEED CO., Cambridge, N. Y. White Plume Celery..... C. A. Noyes Co., Brockton	60	June
D-206	F. H. WOODRUFF & SONS, Milford, Conn. Boston Market Celery**..... M. W. Dugan Co., Newburyport	37	June

**Retested.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES—Continued

Lab. No.	Wholesale Distributor, Kind of Seed and Variety, Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
SWEET CORN			
D-229	JOSEPH BRECK & SONS CORP., Boston, Mass. Golden Orange Corn..... Morse Hardware Co., Danvers	84	June
D-76	THOMAS W. EMERSON CO., Boston, Mass. Golden Bantam Corn..... C. K. Wanamaker, Arlington	86	May
D-97	Golden Bantam Corn..... Uxbridge Hardware Co., Uxbridge	78	May
D-47	Golden Bantam Sweet Corn..... Harvey A. Woods Hardware Co., Groton	85	May
D-239	Golden Orange Corn..... Villeneuve Hardware, Haverhill	90	June
D-124	Sweet Early Golden Sunrise Corn..... Ryther & Warren, Belchertown	79	June
D-138	D. M. FERRY & CO., Detroit, Mich. Golden Bantam Corn..... J. J. Tebo, Grafton	80	June
D-224	CHAS. C. HART SEED CO., Wethersfield, Conn. Golden Bantam Corn..... J. Rubenstein, Beverly	94	June
D-106	Stowell's Evergreen Corn..... Waite Hardware, Southbridge	75	May
D-216	LEONARD SEED CO., Chicago, Ill. Black Mexican Sweet Corn**..... W. M. Hall Co., No. Attleboro	54	June
D-26	Golden Bantam, Golden Grain, Early Sweet Corn..... Franklin D. Williams Hardware, Taunton	94	May
D-228	Golden Sunshine Sweet Corn..... A. I. Trask, Brockton	79	June
D-53	White Cob Corn..... Burnap Bros., Shelburne Falls	93	May
D-142	PAGE SEED CO., Greene, N. Y. Golden Bantam Corn..... Harlow Bros., Sterling	88	June
D-245	JEROME B. RICE SEED CO., Cambridge, N. Y. Golden Bantam Corn..... Frank Howard, Pittsfield	86	June
D-32	Potter's Excelsior Sweet Corn..... G. E. Doane, Middleboro	92	May
D-117	ROSS BROS. CO., Worcester, Mass. Golden Giant Sweet Corn..... S. J. Simenson Co., Barre	95	June
D-112	F. H. WOODRUFF & SONS, Milford, Conn. Golden Bantam Corn..... Fred B. Holland, Barre Plains	83	June
D-263	Golden Bantam Sweet Corn..... Platt & Goslee, Gt. Barrington	75	June
D-72	S. D. WOODRUFF & SONS, Orange, Conn. Golden Bantam Corn..... Holyoke Farm Machinery Co., Holyoke	94	May
D-74	Whipple's Early Corn..... Holyoke Farm Machinery Co., Holyoke	95	May
D-299	Whipple's Yellow Corn..... White Hardware Co., Framingham	98	July

** Retested

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES—Continued

Lab. No.	Wholesale Distributor, Kind of Seed and Variety, Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
SWEET CORN—Continued			
D-77	PILL BROS. (1) Corn (Unnamed)..... Coggan & Sherman, Malden	72	May
D-55	A. COPE, Shelburne Falls, Mass. (Local Farmer) Corn (Variety not named)..... E. M. Gould, Shelburne Falls	95	May
D-113	WHOLESALE UNKNOWN *Crosby's Early Sweet Corn**..... Fred B. Holland, Barre Plains	36	June
CRESS			
D-171	JEROME B. RICE SEED CO., Cambridge, N. Y. Curled Cress**..... C. A. Noyes Co., Brockton	25	June
CUCUMBER			
D-22	JOSEPH BRECK & SONS CORP., Boston, Mass. Improved Long Green Cucumber..... Peboco Hardware, Wellesley	90	June
D-191	Improved Long Green Cucumber..... Morse Hardware, Danvers	89	June
D-175	THOMAS W. EMERSON CO., Boston, Mass. Arlington White Spine Cucumber..... L. Richmond Co., Brockton	82	June
D-1	Early White Spine Cucumber..... Cobb, Bates & Yerxa Co., Taunton	82	June
D-160	Japanese Climbing Cucumber..... Murphy Hardware, Salem	50	June
D-101	White Spine Cucumber..... G. C. Winter Co., Southbridge	84	June
D-122	D. M. FERRY & CO., Detroit, Mich. Improved Long Green Cucumber..... H. R. Durant, Belchertown	72	June
D-136	CHAS. C. HART SEED CO., Wethersfield, Conn. Improved White Spine Cucumber..... J. J. Tebo, Grafton	97	June
D-89	D. LANDRETH SEED CO., Bristol, Pa. Improved Long Green Cucumber..... O. M. Kindler, Webster	95	June
D-244	Improved Long Green Cucumber..... Hampshire Hardware Co., Northampton	93	June
D-144	LEONARD SEED CO., Chicago, Ill. Early Cluster Cucumber..... Schofield Hardware, No. Attleboro	92	June
D-38	Early White Spine Cucumber..... H. P. Chamberlain Hardware, Orange	87	June
D-210	JEROME B. RICE SEED CO., Cambridge, N. Y. Improved Long Green Cucumber..... Treat Hardware Corp., Lawrence	79	June
D-258	White Spine Cucumber..... Pierson Hardware Co., Pittsfield	75	June
D-292	White Spine Cucumber..... W. E. Aubuchon Co., Clinton	90	June
D-205	F. H. WOODRUFF & SONS, Milford, Conn. Hybrid Cucumber..... M. W. Dugan Co., Newburyport	93	June

*1929 seed. **Retested. (1) Concern out of existence.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES—Continued

Lab. No.	Wholesale Distributor, Kind of Seed and Variety; Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
CUCUMBER—Continued			
D-235	F. H. WOODRUFF & SONS, Continued White Spine Cucumber..... Spanias Hardware, Haverhill	82	June
D-66	S. D. WOODRUFF & SONS, Orange, Conn. Boston Pickling Cucumber..... Holyoke Farm Machinery Co., Holyoke	95	June
D-67	Long Green Cucumber..... Holyoke Farm Machinery Co., Holyoke	90	June
D-300	White Spine Cucumber..... White Hardware Co., Framingham	87	June
DILL			
D-65	S. D. WOODRUFF & SONS, Orange, Conn. Dill (Variety not named)**..... Holyoke Farm Machinery Co., Holyoke	41	June
ENDIVE			
D-289	BUDD D. HAWKINS, Reading, Vt. Green Curled or Giant Fringed Oyster Endive..... Arthur C. Lamson, Marlboro	76	June
D-277	F. H. WOODRUFF & SONS, Milford, Conn. Broad Leaf Batavia Endive..... F. I. Webster Co., Greenfield	67	June
KALE			
D-168	JEROME B. RICE SEED CO., Cambridge, N. Y. Dwarf Scotch Green Curled Kale**..... C. A. Noyes, Brockton	48	July
KOHL RABI			
D-185	NORTHRUP, KING & CO., Minneapolis, Minn. Early White Kohl Rabi**..... Danvers Hardware Co., Danvers	67	June
LETTUCE			
D-56	EVERETT B. CLARK SEED CO., Milford, Conn. (1) Iceberg Lettuce (Stock # J, 953, 1928)**..... Consolidated Nurseries & Seed Co., Boston	0	June
D-158	THOMAS W. EMERSON CO., Boston, Mass. Black Seed Tennis Ball Lettuce..... Murphy Hardware Co., Salem	95	June
D-176	Iceberg Lettuce..... L. Richmond Co., Brockton	91	June
D-202	Iceberg Lettuce**..... D. Cashman Hardware, Newburyport	52	June
D-303	Iceberg Lettuce..... VanDuzer Hardware Co., Framingham	89	June
D-195	White Cos Lettuce**..... Whitcomb-Carter Co., Beverly	0	June
D-104	D. M. FERRY & CO., Detroit, Mich. Big Boston Lettuce..... Yankee Shop, Southbridge	71	June
D-23	CHAS. C. HART SEED CO., Wethersfield, Conn. Big Boston Head Lettuce..... Peboco Hardware Co., Wellesley	60	June
D-34	Hanson Lettuce..... C. F. Paige Hardware Co., Athol	96	June

**Retested. (1) Concern out of existenc.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES—Continued

Lab. No.	Wholesale Distributor, Kind of Seed and Variety, Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
LETTUCE—Continued			
D-287	BUDD D. HAWKINS, Reading, Vt. Improved Hanson Lettuce..... Arthur C. Lamson, Marlboro	82	June
D-42	D. LANDRETH SEED CO., Bristol, Pa. Iceberg Lettuce..... H. Newell & Co., Shelburne Falls	93	June
D-125	LEONARD SEED CO., Chicago, Ill. Big Boston Lettuce..... J. B. Sibley & Son, Ware	80	June
D-145	Iceberg Lettuce**..... Schofield Hardware Co., No. Attleboro	1	June
D-266	JEROME B. RICE SEED CO., Cambridge, N. Y. Big Boston Lettuce..... Frank Howard, Pittsfield	70	June
D-291	Big Boston Lettuce..... W. E. Aubuchon Co., Clinton	48	June
D-3	Boston Curled Lettuce..... Pierce Hardware Co., Taunton	74	June
D-211	Black Seed Tennis Ball Lettuce..... Treat Hardware Corp., Lawrence	82	June
D-274	Tennis Ball Lettuce**..... Newcomb Hardware Co., Greenfield	1	June
D-278	F. H. WOODRUFF & SONS, Milford, Conn. California Cream Butter Lettuce..... F. I. Webster Co., Greenfield	62	June
D-236	Romaine Lettuce..... Spanias Hardware Co., Haverhill	87	June
MUSKMELON			
D-150	THOMAS W. EMERSON CO., Boston, Mass. Miller Cream Muskmelon..... W. F. Flynn & Son, Attleboro	75	June
D-286	BUDD D. HAWKINS, Reading, Vt. Famous Rocky Ford Muskmelon..... Arthur C. Lamson, Marlboro	50	June
D-190	LAKE SHORE SEED CO., Dunkirk, N. Y. Netted Gem Muskmelon..... Morse Hardware Co., Danvers	44	June
D-7	JEROME B. RICE SEED CO., Cambridge, N. Y. Extra Early Hackensack Muskmelon..... G. E. Doane, Middleboro	89	June
ONION			
D-240	COMSTOCK, FERRE & CO., Wethersfield, Conn. Southport Yellow Globe Onion**..... Foster-Farrar Co., Northampton	78	June
D-304	THOMAS W. EMERSON CO., Boston, Mass. Yellow Globe Danvers Onion..... VanDuzer Hardware Co., Framingham	53	July
D-282	JEROME B. RICE SEED CO., Cambridge, N. Y. Yellow Globe Danvers Onion**..... Arthur C. Lamson, Marlboro	48	June
D-254	Yellow Globe Onion..... Pierson Hardware Co., Pittsfield	84	June

** Retested.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES—Continued

Lab. No.	Wholesale Distributor, Kind of Seed and Variety, Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
PARSLEY			
D-157	THOMAS W. EMERSON CO., Boston, Mass. Double Curled Parsley** Murphy Hardware Co., Salem	6	June
D-153	Moss Curled Parsley W. C. Fuller Co., Mansfield	73	June
D-172	FERRY-MORSE CO., Detroit, Mich. Plain Parsley A. C. Stone Hardware Co., Brockton	72	June
D-187	CHAS. C. HART SEED CO., Wethersfield, Conn. Italian Parsley C. E. Bragdon, Danvers	75	June
D-24	Italian or Plain Leaf Parsley Peboco Hardware, Wellesley	78	June
D-284	Moss Curled Parsley Arthur C. Lamson, Marlboro	74	June
D-80	PAGE SEED CO., Greene, N. Y. Moss Curled Parsley** J. P. Connolly Co., Milford	55	June
D-212	JEROME B. RICE SEED CO., Cambridge, N. Y. Champion Moss Curled Parsley Treat Hardware Corp., Lawrence	70	June
D-64	S. D. WOODRUFF & SONS, Orange, Conn. Hamburg Parsley** Holyoke Farm Machinery Co., Holyoke	65	June
D-255	JEROME B. RICE SEED CO., Cambridge, N. Y. Moss Curled Parsley Pierson Hardware Co., Pittsfield	74	July
PARSNIP			
D-12	THOMAS W. EMERSON CO., Boston, Mass. Hollow Crown Parsnip Chas. T. Eastman, Falmouth	77	June
D-41	Hollow Crown Parsnip Orange Hardware Co., Orange	74	May
D-129	Hollow Crown Parsnip Ryther & Warren, Belchertown	53	May
D-199	Hollow Crown Parsnip D. Cashman Hardware Co., Newburyport	42	June
D-192	Long Smooth Parsnip Whitcomb-Carter Co., Beverly	74	June
D-25	CHAS. C. HART SEED CO., Wethersfield, Conn. Hollow Crown Parsnip Peboco Hardware Co., Wellesley	60	May
D-283	Hollow Crown Parsnip Arthur C. Lamson, Marlboro	68	June
D-209	JEROME B. RICE SEED CO., Cambridge, N. Y. Hollow Crown Parsnip Treat Hardware Co., Lawrence	47	June
D-256	Hollow Crown Parsnip Pierson Hardware Co., Pittsfield	47	June
D-271	Hollow Crown Parsnip Newcomb Hardware Co., Greenfield	60	June
D-108	WHOLESALE UNKNOWN Hollow Crown Parsnip** Waite Hardware Co., Southbridge	51	June

**Retested.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES—Continued

Lab. No.	Wholesale Distributor, Kind of Seed and Variety, Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
PEAS			
D-30	W. E. BARRETT CO., Providence, R. I. Dwarf Telephone Peas..... Falmouth Plumbing & Hardware Co., Falmouth	61	May
D-95	THOMAS W. EMERSON CO., Boston, Mass. Laxtonia Peas..... Uxbridge Hardware Co., Uxbridge	91	May
D-48	Nott's Excelsior Peas..... Harvey A. Woods Hardware, Groton	89	May
D-165	Sutton's Excelsior Peas..... Salem Hardware Co., Salem	76	June
D-221	Sutton's Excelsior Peas..... Salem Hardware Co., Salem	69	June
D-139	Telephone Peas..... E. T. Hall, West Upton	45	June
D-135	D. M. FERRY & CO., Detroit, Mich. Thomas Laxton Peas..... J. J. Tebo, Grafton	87	May
D-133	FERRY-MORSE CO., Detroit, Mich. Alderman Peas**..... C. F. Wheeler, West Brookfield	70	June
D-265	CHAS. C. HART SEED CO., Wethersfield, Conn. Dwarf Champion Peas..... F. H. Turner & Co., Gt. Barrington	84	June
D-301	D. LANDRETH SEED CO., Bristol, Pa. Gradus Peas..... W. E. Aubuchon Co., Clinton	89	June
D-27	LEONARD SEED CO., Chicago, Ill. Nott's Excelsior Peas..... Franklin D. Williams, Taunton	97	May
D-52	Telephone Peas..... Burnap Bros., Shelburne Falls	76	May
D-141	PAGE SEED CO., Greene, N. Y. Sutton's Excelsior Peas..... Harlow Bros., Sterling	96	May
D-78	PILL BROS. (1) Nott's Excelsior Peas*..... Coggan & Sherman, Malden	89	May
D-247	JEROME B. RICE SEED CO., Cambridge, N. Y. Gradus Peas..... Frank Howard, Pittsfield	97	June
D-70	Sutton's Excelsior Large Podded Dwarf Peas..... Wells Hardware Co., Holyoke	75	May
D-120	ROSS BROS. CO., Worcester, Mass. Blue Bantam Peas..... S. J. Simenson, Barre	89	June
D-109	Gradus Peas..... H. I. Goodsell, Petersham	93	May
D-232	F. H. WOODRUFF & SONS, Milford, Conn. Laxtonia Peas..... M. W. Dugan Co., Newburyport	72	June
D-231	S. D. WOODRUFF & SONS, Orange, Conn. Tall Telephone Peas..... Winer Bros. Hardware, Beverly	74	June

* 1929 seed. ** Retested. (1) Concern out of existence.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES—Continued

Lab. No.	Wholesale Distributor, Kind of Seed and Variety, Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
PEPPER			
D-166	JEROME B. RICE SEED CO., Cambridge, N. Y. Neapolitan Pepper** C. A. Noyes Co., Brockton	25	July
D-149	F. H. WOODRUFF & SONS, Milford, Conn. Bull Nose Pepper Martin's Hardware Co., No. Attleboro	82	June
D-59	S. D. WOODRUFF & SONS, Orange, Conn. Sweet Mountain Pepper** Holyoke Farm Machinery Co., Holyoke	34	July
PUMPKIN			
D-217	THOMAS W. EMERSON CO., Boston, Mass. Pumpkin W. F. Flynn & Son, Attleboro	88	June
D-10	Sugar Pumpkin T. W. Pierce, Middleboro	70	June
RADISH			
D-84	THOMAS W. EMERSON CO., Boston, Mass. French Breakfast Radish** Uxbridge Hardware, Uxbridge	70	July
D-164	Long Scarlet Radish** Waters & Brown, Salem	17	June
D-151	Scarlet Globe Radish** W. F. Flynn & Son, Attleboro	34	June
D-201	Scarlet Globe Radish D. Cashman Hardware, Newburyport	60	June
D-2	Scarlet Turnip Radish Cobb, Bates & Yerxa, Taunton	70	June
D-137	D. M. PERRY & CO., Detroit, Mich. Long Scarlet Radish J. J. Tebo, Grafton	73	June
D-103	CHAS. C. HART SEED CO., Wethersfield, Conn. Early Scarlet Globe Radish** Yankee Shop, Southbridge	65	July
D-15	LAKE SHORE SEED CO., Dunkirk, N. Y. Early Red Turnip Radish** H. G. Cox, Barnstable	60	July
D-189	French Breakfast Radish** Morse Hardware, Danvers	47	June
D-39	LEONARD SEED CO., Chicago, Ill. Early Turnip White Tipped Radish H. P. Chamberlain Hardware, Orange	63	June
D-130	White Icicle Radish** J. B. Sibley & Son, Ware	55	June
D-178	White Tipped Scarlet Turnip Radish** A. I. Task, Brockton	52	July
D-83	PAGE SEED CO., Greene, N. Y. Early Scarlet Turnip Radish Casey Auto Supply Co., Milford	82	June
D-270	JEROME B. RICE SEED CO., Cambridge, N. Y. Early Scarlet Radish Newcomb Hardware Co., Greenfield	76	June
D-267	Early Scarlet Turnip Radish S. Allen's Sons, Greenfield	84	June

** Retested.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES—Continued

Lab. No.	Wholesale Distributor, Kind of Seed and Variety, Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
RADISH—Continued			
D-249	JEROME B. RICE SEED CO.,—Continued French Breakfast Radish..... Frank Howard, Pittsfield	88	June
D-61	S. D. WOODRUFF & SONS, Orange, Conn. Scarlet Globe Radish**..... Holyoke Farm Machinery Co., Holyoke	61	July
SALSIFY			
D-44	D. LANDRETH SEED CO., Bristol, Pa. Salsify, Sandwich Island..... H. Newell & Co., Shelburne Falls	62	June
D-279	F. H. WOODRUFF & SONS, Milford, Conn. Mammoth Sandwich Island Salsify..... F. I. Webster Co., Greenfield	61	June
SPINACH			
D-40	THOMAS W. EMERSON CO., Boston, Mass. Round Thick Leaf Spinach..... Orange Hardware Co., Orange	88	June
D-194	Round Thick Leaf Spinach..... Whitcomb-Carter Co., Beverly	77	June
D-200	Victoria Spinach..... D. Cashman Hardware, Newburyport	79	June
D-119	CHAS. C. HART SEED CO., Wethersfield, Conn. Giant Thick Leaf Spinach..... S. J. Simenson Co., Barre	84	June
D-285	BUDD D. HAWKINS, Reading, Vt. American Savoy or Long Standing Spinach..... Arthur C. Lamson, Marlboro	70	June
D-179	LEONARD SEED CO., Chicago, Ill. Savoy Leafed Bloomsdale Spinach**..... A. I. Task, Brockton	20	June
D-251	JEROME B. RICE SEED CO., Cambridge, N. Y. King of Denmark Spinach..... Frank Howard, Pittsfield	77	June
D-8	Round Thick Leaved Spinach..... G. E. Doane, Middleboro	69	June
D-82	ROSS BROS. CO., Worcester, Mass. Early Giant Thick Leaf Spinach..... Casey Auto Supply Co., Milford	86	June
D-261	F. H. WOODRUFF & SONS, Milford, Conn. Long Standing Spinach..... Platt & Goslee, Gt. Barrington	75	June
D-184	S. D. WOODRUFF & SONS, Orange, Conn. Round Thick Leaf Spinach..... Danvers Hardware Co., Danvers	87	June
D-68	Long Standing Savoy Spinach..... Holyoke Farm Machinery Co., Holyoke	76	June
SQUASH			
D-9	THOMAS W. EMERSON CO., Boston, Mass. Blue Hubbard Squash..... T. W. Pierce Hardware Co., Middleboro	96	June
D-196	Early White Bush Scallop Squash..... Whitcomb-Carter Co., Beverly	39	June

** Retested.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES—Continued

Lab: No.	Wholesale Distributor, Kind of Seed and Variety, Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
SQUASH—Continued			
D-96	THOMAS W. EMERSON CO.,—Continued Golden Hubbard Squash..... Uxbridge Hardware, Uxbridge	91	June
D-100	Summer Crookneck Squash..... G. C. Winter Co., Southbridge	83	June
D-223	Warren Squash..... Whitcomb-Carter Co., Beverly	92	June
D-71	CHAS. C. HART SEED CO., Wethersfield, Conn. Table Queen Squash*..... Holyoke Farm Machinery Co., Holyoke	39	June
D-131	LEONARD SEED CO., Chicago, Ill. Warty Hubbard Squash..... J. B. Sibley & Son, Ware	84	June
D-154	JEROME B. RICE SEED CO., Cambridge, N. Y. Giant Early Summer Crookneck Squash..... New England Sales Co., Mansfield	95	June
D-225	Golden Summer Crookneck Squash..... C. A. Noyes Co., Brockton	75	June
D-246	Improved Hubbard Squash..... Frank Howard, Pittsfield	100	June
D-94	ROSS BROS. CO., Worcester, Mass. Early Crookneck Summer Squash..... Casey Auto Supply Co., Milford	86	June
D-297	S. D. WOODRUFF & SONS, Orange, Conn. Summer Crookneck Squash..... White Hardware Co., Framingham	97	June
SWISS CHARD			
D-35	CHAS. C. HART SEED CO., Wethersfield, Conn. Swiss Chard..... C. F. Paige Hardware Co., Athol	90	June
D-269	JEROME B. RICE SEED CO., Cambridge, N. Y. Swiss Chard..... Newcomb Hardware Co., Greenfield	77	June
TOMATO			
D-13	JOSEPH BRECK & SONS CORP., Boston, Mass. Stone Tomato..... H. V. Lawrence, Falmouth	91	May
D-155	THOMAS W. EMERSON CO., Boston, Mass. Acme Tomato..... W. C. Fuller Co., Mansfield	59	June
D-86	Beefsteak Tomato..... Uxbridge Hardware, Uxbridge	70	May
D-159	New Stone Tomato..... Murphy Hardware, Salem	85	June
D-92	FERRY-MORSE SEED CO., Detroit, Mich. Earliana Tomato..... Brown Bros., Northbridge	68	May
D-288	BUDD D. HAWKINS, Reading, Vt. Budd's Selected Sparks Earliana Tomato..... Arthur C. Lamson, Marlboro	75	June

* 1929 seed. ** Retested.

1931 OFFICIAL INSPECTION OF AGRICULTURAL SEEDS—Continued

VEGETABLES—Concluded

Lab. No.	Wholesale Distributor, Kind of Seed and Variety, Dealer when other than Wholesale Distributor, and Place Collected	% Germination Found	1931 Month of Test
TOMATO—Continued			
D-126	LEONARD SEED CO., Chicago, Ill. Bonny Best Tomato..... J. B. Sibley & Son, Ware	78	June
D-180	John Baer Tomato..... A. I. Task, Brockton	65	June
D-19	JEROME B. RICE SEED CO., Cambridge, N. Y. John Baer Tomato..... The Fiske Corp., Natick	58	May
D-237	F. H. WOODRUFF & SONS, Milford, Conn. Bonny Best Tomato..... Spanias Hardware, Haverhill	84	June
D-148	New Stone Tomato..... Martin Hardware Co., No. Attleboro	85	June
TURNIP			
D-214	JOSEPH BRECK & SONS CORP., Boston, Mass. Red Strap Leaf Turnip**..... Pentucket Hardware, Haverhill	36	July
D-198	THOMAS W. EMERSON CO., Boston, Mass. White Egg Turnip..... Whitcomb-Carter Co., Beverly	67	June
D-85	White Rock Turnip**..... Uxbridge Hardware, Uxbridge	41	July
D-16	LAKE SHORE SEED CO., Dunkirk, N. Y. Early Purple Top Strap Leaved Turnip..... H. G. Cox, Barnstable	92	June
D-88	D. LANDRETH SEED CO., Bristol, Pa. Ruta Baga Turnip**..... O. M. Kindler, Webster	54	July
D-259	JEROME B. RICE SEED CO., Cambridge, N. Y. Improved American Purple Top Turnip**..... Pierson Hardware Co., Pittsfield	50	July
D-18	Ruta Baga Turnip**..... The Fiske Corporation, Natick	46	June
D-17	Improved American Purple Top, Ruta Baga Turnip..... G. E. Doane, Middleboro	83	June
D-111	Ruta Baga, or Swede Turnip..... H. I. Goodsell, Petersham	80	June
D-260	F. H. WOODRUFF & SONS, Milford, Conn. Early Purple Top Strap Leaf Turnip..... Platt & Goslee, Gt. Barrington	63	June
D-204	Sweet Germain Turnip**..... M. W. Dugan Co., Newburyport	24	June
D-183	S. D. WOODRUFF & SONS, Orange, Conn. Long Island Ruta Baga Turnip..... Danvers Hardware Co., Danvers	76	June
D-62	White Egg Turnip..... Holyoke Farm Machinery Co., Holyoke	88	June
D-46	WHOLESALE UNKNOWN Yellow Rutabaga Turnip**..... Burnap Bros., Shelburne Falls	7	July
WATERMELON			
D-276	F. H. WOODRUFF & SONS, Milford, Conn. Coles Early Watermelon..... F. I. Webster Co., Greenfield	97	June

** Retested.

Type and Variety Studies of Garden Peas, 1931

Conducted in Conjunction with the Department of Vegetable Gardening, M. S. C.

The field trials of garden peas included 32 varieties from 118 sources. The seed in all cases was purchased from the seed firm or grower. In conducting the trials every effort was made to maintain uniform cultural conditions. Comparisons of varieties and of strains of a given variety were fairly made.

In general the sorts included were fairly true in type for the variety designated by the seedsman. A few lots showed some variation in plant characteristics and in pod shape and size. For the most part, however, this was due not to seed mixture but rather to variation within the individual sort.

The tabular summary includes only the varieties and strains of which detailed records were taken. It was impossible to get such records in some cases because of heavy rains which flooded one portion of the test plot during the early part of the growing season.

Explanation of the Table

Stock Number. This is the seedsman's stock label or number.

Type Name. A large number of names are used in the seed trade which represent varieties that differ from one another in only a few minor characteristics. The type name used represents the most standard variety closely related to the sort tested.

Maturity Season indicates the approximate length of time required for the pods to develop to a marketable size.

1st Early.....	less than 52 days
Early.....	52 to 60 days
Main.....	60 to 70 days

Type of Plant and Pod includes all those factors usually considered as designating the characteristics of a given sort: plant height, growth habit, leaf, stem, flower, and pod.

Quality. Under this heading the color and taste of the peas were considered as well as the length of time they remained in an edible condition.

Very good—good color and taste, remained in edible condition a reasonable length of time.

Good—good color and taste, variable as to time factor.

Fair—good color, flat taste, hardened rapidly.

Poor—faded color, flat taste, hardened rapidly.

Rating. Each lot grown was evaluated from the standpoint of trueness to type and general performance. Uniformity of plant and pod maturity, filling out of pod, quality of pea, yield, disease, and type were especially considered.

TYPE AND VARIETY STUDIES OF GARDEN PEAS, 1931

Variety and Source	Stock Number	Type Name	Maturity Season	Laboratory Germination	Type of Plant and Pod	Quality	Rating
Extra Early		Prolific Early Market	1st Early				
Burpee.....	737			84	Good	Fair	Fair to good
Gregory.....				66	Very uniform	Good	Very good
Laxton's Superb		Early Bird	Early				
Woodruff, F. H.....	253			71	Fair, 10% variation	Good	Fair to good
Stokes.....				82	Fair, 10% variation	Poor	Very poor
Blue Bantam		Laxtonian	Main				
Livingston.....	083			74	Good, uniform	Fair	Fair to good
Forbes.....				82	Good, uniform	Very good	Excellent
Grey.....	LOU-1			62	Fair, 10% variation	Poor	Poor
Perry.....				66	Good, uniform	Fair	Fair to good
Burpee.....	754			63	Good, uniform	Good	Very good
Hundredfold		Laxtonian	Main				
Perry.....	53699			77	Good, uniform	Good	Very good
Harris.....				84	Good, uniform	Very good	Excellent
Forbes.....				80	Good, uniform	Good	Very good
Grey.....	A-29			72	Fair, 5% variation	Fair	Poor
Breck.....				77	Good, uniform	Good	Fair to good
Laxtonian		Laxtonian	Main				
Hart & Vick.....				82	Good, uniform	Poor	Poor
Perry.....	42072			62	Good, pods variable in size	Good	Fair to good
Woodruff, F. H.....	1295			75	Good, uniform	Fair	Fair to good
Livingston.....	880			70	Very uniform plant and pod	Good	Very good
Forbes.....				85	Good, uniform	Fair	Fair to good
Perry.....				70	Good, uniform	Good	Very good
Laxton's Progress		Laxtonian	1st Early				
Burpee.....	796			63	Very uniform	Very good	Excellent
Gregory.....	1025			81	Good, uniform	Fair	Poor
Hart & Vick.....				48	Good, uniform	Fair	Poor
Woodruff, F. H.....	1297			90	Very good, uniform	Very good	Excellent
Livingston.....	080			68	Good, uniform	Good	Very good
Harris.....				74	Good, uniform	Good	Very good
Forbes.....				82	Fair, 10% variation	Fair	Poor
Grey.....	R-N.P.			69	Good, uniform	Fair	Fair to good
Perry.....				84	Good, uniform	Good	Very good
Breck.....				82	Fair, 15% variation	Poor	Very poor
Stokes.....				85	Good, pods poorly filled	Good	Fair to good

Pioneer		Laxtonian	Early				
Gregory.....				77	Good, uniform	Good	Fair to good
Livingston.....	711			71	Good, uniform	Good	Very good
Breck.....				89	Good, uniform	Good	Very good
Acquitation		Early Bird	Early				
Livingston.....	880			85	Fair, 10% variation	Fair	Poor
Premium Gem		Premium Gem	Early				
Woodruff, F. H.....	240			73	Good, slight variation	Good	Fair to good
American Wonder		American Wonder	Early				
Perry.....				82	Good, uniform	Good	Very good
Little Marvel		Little Marvel	Early				
Burpee.....	753			90	Good, uniform	Good	Very good
Gregory.....	1026			67	Good, uniform	Good	Very good
Hart & Vick.....				65	Good, pods variable in size	Good	Fair to good
Perry.....	41947			82	Very uniform	Good	Excellent
Harris.....				73	Good, pods variable	Good	Fair to good
Forbes.....				84	Good, uniform	Good	Very good
Grey.....	A.O.E.			77	Good, pods variable	Good	Fair to good
Perry.....				82	Very uniform	Very good	Excellent
Breck.....				77	Good, uniform	Good	Very good
Stokes.....				85	Good, uniform	Good	Very good
Nott's Excelsior		Gem (Little Marvel)	Early				
Gregory.....	1028			88	Good, uniform	Fair	Fair to good
Perry.....				87	Good, uniform	Fair	Fair to good
Sutton's Excelsior		Sutton's Excelsior	Early				
Grey.....	A.O.E.-6			68	Good, uniform	Fair	Fair to good
Perry.....				82	Good, uniform	Good	Very good
Alaska		Alaska	1st Early				
Gregory.....				53	Very uniform	Fair	Very good
Hart & Vick.....				85	Very variable plant and pod	Fair	Poor
Perry.....	32874			76	Good, uniform	Fair	Very good
Woodruff, F. H.....	208			94	Good, uniform	Fair	Very good
Harris.....				89	Variable plant and pod	Fair	Poor
Forbes.....				91	Good, uniform	Poor	Fair to good
Perry.....				87	Good, uniform	Fair	Very good

TYPE AND VARIETY STUDIES OF GARDEN PEAS, 1931—Concluded

Variety and Source	Stock Number	Type Name	Maturity Season	Laboratory Germination	Type of Plant and Pod	Quality	Rating
Thomas Laxton		Thomas Laxton	Early				
Burpee.....	746			68	Uniform	Good	Excellent
Hart & Vick.....				82	Uniform	Good	Very good
Perry.....	51002			90	Uniform	Poor	Fair to good
Woodruff, F. H.....	32-227			86	Good, uniform	Poor	Fair to good
Harris.....				69	15% variation in plant size	Good	Poor
Forbes.....				76	Good, uniform	Good	Very good
Perry.....				82	Plants variable in size	Good	Fair to good
Stokes.....				86	Uniform	Fair	Fair to good
World Record		World Record	Early				
Harris.....				81	Uniform, pods short	Fair	Fair to good
Grey.....	A.O.E.-3			80	Good, uniform	Good	Very good
Forbes.....				91	Pods long, poorly filled, uniform	Fair	Poor
Perry.....				71	Good, uniform	Fair	Fair to good
Lincoln		Lincoln	Main				
Harris.....				63	Uniform	Good	Fair to good
Gradus		Gradus	Main				
Burpee.....	745			81	Good, uniform	Fair	Fair to good
Hart & Vick.....				57	Plants and pods variable	Good	Fair to good
Perry.....	15604			63	Very uniform	Very good	Excellent
Woodruff, F. H.....	32-237			87	Good, uniform	Good	Very good
Livingston.....	880			91	Pods variable in size	Good	Fair to good
Harris.....				79	Good, uniform	Fair	Fair to good
Forbes.....				87	Good, uniform	Good	Very good
Grey.....				75	Good, uniform	Good	Very good
Perry.....				72	Good, uniform	Good	Very good
Sutton's Ideal			Early				
Harris.....				78	Plants and pods variable	Poor	Poor
Pilot		Pilot	Main				
Forbes.....				86	Good, pods variable in size	Fair	Poor
Grey.....	A.N.P.			81	Good, uniform	Fair	Fair to good
Burnee.....	742			65	Good, uniform	Fair	Fair to good
Breck.....				61	Good, uniform	Fair	Fair to good
Stokes.....				82	Pods variable	Fair	Poor

Presence of Seed-Borne Diseases

Germination of the seed used for variety studies of garden peas was recorded from laboratory tests and also from duplicate lots planted in the field. Record of the laboratory germination appears in the preceding table, but no field tests are shown. Because of abnormally late planting, made necessary by the poor physical condition of the soil in the test plot, no fair comparison of results can be made. However, the field planting for germination and the permanent planting for variety tests, as well as the germination tests in the laboratory, gave opportunity to observe the presence and effect of seed-borne diseases upon field performance. Professor O. C. Boyd, Extension Pathologist, gives the following summary of his observations.

Laboratory Germination Test

1. Number of seed lots, 112; 200 seeds each.
2. Number of lots which showed the following conditions:
 - a. 8-25% of the seeds discolored, 15; 26-50%, 52; 51-75%, 33; 76-100%, 12.
 - b. Deep cotyledonary lesions: 26.
 - c. Soft rot of seeds: Light 16; medium 16; heavy 6.
 - d. Mold contaminations: Light 51; medium 29; heavy 22.
 - e. Blotch: Light 32; medium 18; heavy 12.
3. Organisms isolated from shallow cotyledon stains and lesions: Slow growing yellow and white bacteria; *Cladosporium* sp.; *Penicillium* sp.
4. Organisms isolated from deeper cotyledon lesions: *Fusarium* sp.; slow growing white and yellow bacteria; *Ascochyta pisi* (leaf and pod spotting fungus).

Field Germination Test

1. Number of seed lots which showed the following diseases when the plants were from four to six inches high:
 - a. Root rots (*Fusarium*, *Aphanomyces*), 47; pronounced, 5.
 - b. Wilts (*Fusarium*, et al.), 50; pronounced, 9.
 - c. Mosaic, 8.
2. Number of lots showing good stand, 38; medium, 25, poor, 46.
3. Kinds of organisms isolated from diseased plants: *Fusarium* sp.; *Aphanomyces* sp.; *Ascochyta pisi*; *Penicillium* sp.; *Pythium* sp.; slow growing yellow and white bacteria.

Field Permanent Planting

1. Number of lots that showed the following diseases:
 - a. Root rots (*Fusarium*, *Aphanomyces*), 26; pronounced, 8.
 - b. Wilt, (*Fusarium*, et al.) 16; pronounced, 5.
 - c. Undetermined blight, 9.
 - d. Mosaic, 12.
 - e. Leaf and pod flecking, 16; *Ascochyta* spot, 15.
 - f. Bacterial leaf and pod spot and stem blight, 2. (3 & 3A)

Relation Between Low Germination in Laboratory and Field Stand

There was not a consistent or direct relation between field stand and laboratory germination; yet, 80% of the lots that showed a germination of 70% or less in the laboratory also showed a correspondingly low stand in the field tests. The reverse, however, was not consistently true.

Occurrence of Seed-Borne Diseases¹

Lots from which were isolated the *Ascochyta* spot, *Fusarium* root-rot, and bacterial pod and leaf spot organisms, also showed prominent symptoms of those diseases in the field plantings.

It is believed that the "Undetermined Blight" disease which was prevalent in several lots of the permanent planting, may have been associated with one type of seed-coat stain and cotyledon lesion. It does not correspond to any of the known diseases of peas.

The symptoms of the bacterial leaf and pod spot disease which were present in two lots of the permanent planting were quite different from those of the well-known bacterial blight caused by *Bacterium pisi* (Sackett) EFS. It is believed to be a seed-borne disease that has not been described in this country.

The very characteristic "Blotch" spot on seed coats and cotyledons in the laboratory germination test appeared to have some relation to the occurrence of

¹ Isolations were made from only a few of each kind of disease observed in the laboratory and field tests.

root diseases in the field plantings. There is a possibility that it may be caused by *Cladosporium vignae*, the cause of a leaf and pod spot of cowpea.

Type and Variety Tests of Legumes

Conducted in Conjunction with the Department of Agronomy, M. S. C.

Plantings of red clovers, sweet clovers, and alfalfas were made July 2, 1930, in rod row areas. Growth was good in all cases except two, where weak germination was the main difficulty. Readings taken twice during the 1931 season showed the following:

ALFALFA		
Number	Name	Type Found
010 -G10	Grimm	Variegated (Grimm)
0129-G124	Grimm	Variegated
0131-G126	Grimm	Variegated
0140-G135	Common	Purple flowered (Common)
0143-G138	Grimm	Variegated
025 -G25	Grimm	Variegated
0280-G269	Northwestern	Variegated
0346-G328	Grimm	Variegated
060 -G59	Grimm	Variegated
RED CLOVER		
0101-G99	Medium Red	Medium Red
011 -G11	Pan-American Red	Medium Red
0113-G110	Matrix, Medium Red	Mammoth Red
0152-G147	Red	Mammoth Red
0174-G168	Matrix Red	Medium Red
026 -G26	Medium Red	Medium Red
0282-G271	Red	Mammoth Red
0347-G329	Red	Medium Red
053 -G52	Red	Medium Red
063 -G62	Red	Medium Red
07 -G7	Medium Red	Medium Red
082 -G80	Red	Medium Red
SWEET CLOVER		
0118-G114	White Blossom	White Blossom, Biennial
0154-G149	White Blossom	White Blossom, Biennial

Type and Variety Studies of Onions, 1931

Conducted in Conjunction with the Department of Vegetable Gardening, M. S. C.

The field trials of onions included 40 different named sorts from 29 sources, or 124 varieties and strains of varieties. The 1931 trials were conducted in a similar manner to those of 1930 which were reported in Control Bulletin 56, December 1930. The results of the trials, because of their similarity to the results of 1930, are not presented in detailed tabular form, but rather in a few brief summarized statements.

1. In general the lots were quite true in type and performance for the variety designated by the seedsman on his package.
2. The 1931 trials did not show as high a percentage of type mixtures as those of 1930, especially in whites and reds mixed with the yellows.
3. On a field performance basis, the yellow varieties of the Danvers and Southport Yellow Globe types are better adapted for Connecticut Valley culture than are the so-called mild varieties of the Spanish or Bermuda types.
4. Varieties of the Spanish and Bermuda types can be successfully grown in the Connecticut Valley. The onions, however, are not so mild as those grown in regions having a longer, cooler growing period. In the Connecticut Valley they can be grown for the local fall market, but they are not adapted for winter shipping, nor do they keep well in storage.
5. Much confusion exists in onion nomenclature because of the large number of synonymous sorts having distinct or different names.

Comparative Laboratory and Field Germinations of Onion Seed Used for Type and Variety Studies

In order to determine what germination may be expected of onion seeds sowed in the field, compared with laboratory germination of samples of the same seed, samples of each of the 124 varieties and strains of onions used for type and variety studies were germinated in the laboratory and in the field, 200 seeds being used for each test.

In the laboratory two methods were employed: between blotters for 10 days at 68° F.; in soil chambers containing sterilized soil for 14 days at 68° F.

For the field tests a typical onion soil was prepared in conformance with good crop practice, and the seeds were sown by hand in drills and covered with $\frac{1}{4}$ inch of soil. The seed had germinated sufficiently for final count at the end of 14 days. For the 21 days elapsing between the first sowing and the final counting of the last sample sown, the mean soil temperature was 70.4° F. and the mean atmospheric temperature was 64° F.

Only those seedlings were counted which might be expected to produce a crop of onions in the field.

The average of all germinations was:

	<i>Per cent</i>
Laboratory tests	
In blotters	70.66
In soil chambers	69.02
Field tests	62.47

It will be noted that there was only 1.64 per cent less germination in laboratory soil chambers than in blotters. This may be accounted for because of the added resistance of the soil. In the field the difference was more pronounced, being 8.19 per cent less than in blotters and 6.55 per cent less than in soil chambers. The difference between field germination in soil and laboratory germination in soil chambers cannot be accounted for merely through a difference in soil resistance. Some of the factors noted which were responsible for this difference were erosion of the soil by rain washing out of an occasional seed, throwing out of seed by worms, cutting off of seedlings by insects and fungi, burial of a seed beneath lumps of hard soil or small stones, etc. Factors such as those mentioned vary greatly in different seasons and even in different fields the same season. Consequently no figures are obtainable which will accurately represent expected field germination under all conditions. Assuming, however, that all factors taken into consideration during this field experiment represent the average for typical onion soils in this locality for the spring of 1931, field germination was approximately 8 per cent less than laboratory blotter germination.