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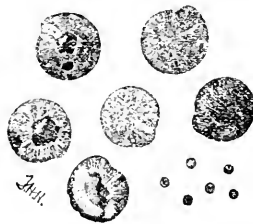


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NEW HAMPSHIRE
AGRICULTURAL EXPERIMENT STATION
DEPARTMENT OF AGRONOMY

Results of Seed Tests
For 1914

MADE FOR THE
STATE DEPARTMENT OF AGRICULTURE



*Seeds of Lamb's Quarters
Enlarged and Natural Size*

BY F. W. TAYLOR

NEW HAMPSHIRE COLLEGE
OF
AGRICULTURE AND THE MECHANIC ARTS
DURHAM, N. H.

NEW HAMPSHIRE COLLEGE OF AGRICULTURE AND
THE MECHANIC ARTS.

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SEED TESTS

MADE SEPTEMBER 1, 1913, TO SEPTEMBER 1, 1914.

The provisions of the Pure Seed Law enacted by the General Court in 1909 require the publication annually of a bulletin by the New Hampshire Experiment Station of the results of all seed tests made officially during the previous year. The administration of this law is in the hands of the State Commissioner of Agriculture, who has appointed the writer, agronomist of the Experiment Station, as his regular agent for making all tests and analyses in this state.

During the year ending September 1, 1914, thirty-five samples of seed were voluntarily sent in for analysis. In addition to these, the collector secured and sent in ninety-one, making a total of 126 samples submitted for analysis during the year.

The samples sent in by the collector were secured from eighteen dealers in as many different towns, representing each of the ten counties of the state. These samples included 3 of alfalfa, 4 of alsike clover, 7 of barley, 13 of corn, 7 of millet, 7 of oats, 12 of red clover, 8 of redtop, 2 of rye, 18 of timothy, and 10 of miscellaneous seeds.

A summary table showing the results of the examination of these 91 samples as regards their guaranteed percentage of purity and germination will be found on pages 13 to 15.

Of the 35 samples sent in voluntarily for examination, the writer has no knowledge that seeds represented by these samples were on the market. Quite frequently individuals ask for a report upon the quality of a given sample and make the purchase of seed for their own use upon the basis of this report. It should not, therefore, be understood that seeds represented by all the samples inspected were offered for sale by the parties for whom the inspection was made.

The writer desires to acknowledge his appreciation of the careful and efficient work of Mr. W. E. Stokes who made the tests and examinations of the samples herewith reported.

SEED EXAMINATION, 1914.

Sample number.	Kind of Seed, Sender, Date of Report, and Kind and Number of Foreign Seeds found in One Pound.	Percent	Percent	Percent	Percent	Percent
		Pure Seed	Weed Seed	Other Grass Seeds	Moisture	Germination.
480	RED CLOVER (<i>Hamilton</i>) Holbrook Grocery Co., Keene, N. H., Oct. 30, 1913. Black Mustard, 270; Broad-leaf Plantain, 260; Crab Grass, 90; Docks, 3,150; Lady's Thumb, 1,080; Lamb's Quarters, 720; Old Witch Grass, 900; Indian Mustard, 90; Ribgrass, 360; Rugel's Plantain, 900; Sorrel, 1,080; Timothy, 4,860.	91.5	5.0	1.4	2.1	...
481	TIMOTHY (<i>Hamilton</i>) Holbrook Grocery Co., Keene, N. H., Oct. 30, 1913. Cinquefoil, 227; Canada Bluegrass, 1,362; Peppergrass, 454; Red Clover, 2,043; Red Top, 2,070; Rugel's Plantain, 227; Yellow Daisy, 454.	99.1	.4	.1	.4	...
482	TIMOTHY Frank W. Mason, Millis, Mass., Nov. 28, 1913. Kentucky Bluegrass, 681; Unknown, 227; Peppergrass, 227; Red Top, 681; Rugel's Plantain, 227; White Clover, 1,135.	99.0	.1	.1	.2	...
483	RED TOP Frank W. Mason, Millis, Mass., Nov. 28, 1913. Old Witchgrass, 5,474; Hard Fescue, 900; Timothy, 9,966.	61.9	.3	.4	37.4	...
484	OATS (<i>B. N. S.</i>) Holbrook Grocery Co., Keene, N. H., Dec. 17, 1913. Crabgrass, 15; Lamb's Quarters, 870; Old Witchgrass, 15; Shepherd's Purse, 15; Sorrel, 90; Timothy, 150; Wild Mustard, 1,050; miscellaneous, 45; Red Top, 75; Quackgrass, 75.	97.2	.5	1.2	1.1	96.5
485	OATS (<i>Hill</i>) Holbrook Grocery Co., Keene, N. H., Jan. 30, 1914. Ball Mustard, 60; Barley, 47; Buckwheat, 285; Wheat, 210; Wild Oats, 120; False Flax, 15.	98.7	2.2	.4	.7	74.0
486	TIMOTHY (<i>14 A</i>) Holbrook Grocery Co., Keene, N. H., Feb. 6, 1914.	...	...	...	...	84.5
487	OATS (<i>Canadian</i>) E. C. & W. L. Hopkins, Greenfield, N. H., Feb. 16, 1914. Barley, 15; Wheat, 15.	99.8	.2	...	...	96.5
488	CANADA FIELD PEAS Holbrook Grocery Co., Keene, N. H., Feb. 23, 1914.	99.2	...	...	.8	95.5
489	SWEET CORN (<i>Golden Bantam</i>) C. L. Jenness, Dover, N. H.	...	...	...	...	88.5
490	CORN (<i>Sanford</i>) Holbrook Grocery Co., Keene, N. H., March 1, 1914.	...	...	...	...	81.0
491	OATS W. F. Pool, Nashua, N. H., March 4, 1914.	...	...	...	...	94.5
492	RED CLOVER M. B. Blaisdell, Wolfeboro, N. H., March 3, 1914. Alsike Clover, 4,530; Green Foxtail, 2,718; Timothy, 6,342.	99.4	trace	.2	.4	...
493	TIMOTHY M. B. Blaisdell, Wolfeboro, N. H., March 3, 1914.	99.8	...	...	.2	...
494	CORN (<i>Fight-race</i>) Andrew Langley, Durham, N. H., March 12, 1914.	...	...	...	...	100.0
495	OATS Stratten & Co., Concord, N. H., March 18, 1914.	...	...	...	...	92.5
496	OATS E. E. Hodgdon, North Conway, N. H., March 27, 1914. Lady's Thumb, 15; Corn, 15; Barley, 60; Timothy, 15; Wild Mustard, 75; Yellow Foxtail, 30; Black Bird Weed, 30; Wheat, 75; Wild Rice, 15.	96.8	.7	1.7	.8	7.5

SEED EXAMINATION, 1914—Continued.

Sample number.	Kind of Seed, Sender, Date of Report, and Kind and Number of Foreign Seeds found in One Pound.	Percent Pure Seed	Percent Weed Seed	Percent other Grass Seeds	Percent Inert Matter	Percent Germination
497	TIMOTHY (<i>Gold Medal</i>) Rand, Ball & King Co., Claremont, N. H. April 12, 1914.	99.7	trace	...	...	96.0
498	TIMOTHY (<i>Pan American</i>) Rand, Ball & King Co., Claremont, N. H. April 2, 1914.	99.9	...	...	trace	95.5
499	RED CLOVER (<i>Eureka</i>) Rand, Ball & King Co., Claremont, N. H. April 12, 1914. Alsike Clover, 180; Docks, 180; Timothy, 15,840.	96.4	...	1.5	2.1	96.5
500	RED TOP (<i>3 X</i>) Rand, Ball & King Co., Claremont, N. H. April 2, 1914. Timothy, 2,268.	93.5	...	.2	6.3	89.5
501	GRASS MIXTURE Harvey J. Hall, Pittsfield, N. H. April 2, 1914.	...	...	...	...	76.5
502	TIMOTHY (<i>Pine Tree</i>) Hobbrook-Marshall Co., Nashua, N. H. April 2, 1914. Kentucky Bluegrass, 1,130; Peppergrass, 226; Self heal, 226; Sorrel, 226.	99.7	trace	.1	.2	95.0
503	OATS (<i>W. D.</i>) Hobbrook Grocery Co., Keene, N. H. April 3, 1914. Wheat, 378; Black Bind Weed, 313; Ball Mustard, 84; Flax, 63; Large Seeded False Flax, 42; Wild Oats, 21; Barley, 42.	96.6	.6	2.6	.8	98.5
504	CRIMSON CLOVER Harvey J. Hall, Pittsfield, N. H. April 2, 1914.	...	...	...	...	96.5
505	TIMOTHY (<i>Pine Tree</i>) C. L. Jenness, Dover, N. H. April 24, 1914. Rag weed, 2,265.	92.8	.3	6.5	.4	96.5
506	RED TOP (<i>Globe</i>) C. L. Jenness, Dover, N. H. April 24, 1914. Chicory, 906; False Flax, 906.	99.8	trace	.1	.1	76.5
507	RED CLOVER (<i>Ace</i>) C. L. Jenness, Dover, N. H. April 24, 1914. Bracted Plantain, 90; Docks, 90; Yellow Fox-tail, 815.	99.4	.3	...	.2	96.0
508	ALSIKE CLOVER (<i>Pine Tree</i>) C. L. Jenness, Dover, N. H. April 24, 1914. Night Flowering Catchfly, 679; Red Clover, 1,812; Sorrel, 453; Timothy, 9,060; White Clover, 1,359.	97.7	.2	1.7	.4	98.0
509	OATS (<i>Welcome</i>) C. L. Jenness, Dover, N. H. April 24, 1914.	100.0	...	...	...	92.5
510	ALFALFA C. L. Jenness, Dover, N. H. April 24, 1914. Yellow Foxtail, 90; miscellaneous, 90.	99.8	.1	...	.1	97.0
511	RED TOP (<i>Bay State</i>) Hilliard & Kimball, Exeter, N. H. April 24, 1914. English Plantain, 453; Yellow Foxtail, 453.	97.6	.5	...	2.5	58.5
512	RED CLOVER (<i>Pop State</i>) Hilliard & Kimball, Exeter, N. H. April 24, 1914. Night Flowering Catchfly, 90; Timothy, 90; Yellow Foxtail, 906.	99.1	.4	trace	.5	98.0
513	TIMOTHY (<i>White Mountain</i>) Hilliard & Kimball, Exeter, N. H. April 24, 1914. Alsike Clover, 453; Kentucky Bluegrass, 226; Peppergrass, 226.	99.5	...	.1	.4	96.0
514	TIMOTHY (<i>Bay State</i>) Hilliard & Kimball, Exeter, N. H. April 24, 1914.	99.9	...	...	.1	97.0
515	TIMOTHY (<i>Pine Tree</i>) Hilliard & Kimball, Exeter, N. H. April 24, 1914. Alsike Clover, 226.	99.8	...	trace	.2	95.0
516	CORN (<i>Improved Leaning</i>) Hilliard & Kimball, Exeter, N. H. April 24, 1914.	100.0	...	...	...	91.5
517	RED CLOVER (<i>White Mountain</i>) Hilliard & Kimball, Exeter, N. H. April 24, 1914. Yellow Foxtail, 3,624.	99.9	.1	...	...	97.5

SEED EXAMINATION, 1911.—Continued.

Sample number.	Kind of Seed, Sender, Date of Report, and Kind and Number of Foreign Seeds found in One Pound.	Percent Pure Seed	Percent Weed Seed	Percent Other Grass Seeds	Percent Foreign Matter	Percent Germination
518	ALFALFA (<i>White Mountain</i>)..... Hilliard & Kimball, Exeter, N. H. April 24, 1914.	99.9	...	...	.1	92.0
519	ALSIKE CLOVER (<i>White Mountain</i>)..... Hilliard & Kimball, Exeter, N. H. April 24, 1914. Timothy, 8,833.	99.3	...	.5	.2	84.5
520	RED CLOVER..... W. A. Bryer & Co., Peterborough, N. H. May 2, 1914. Alsike Clover, 270; Green Foxtail, 720; Lamb's Quarters, 540; Pigweed, 540; Timothy, 180; Buckhorn, 540.	98.7	.8	trace	.5	96.0
521	RED TOP..... W. A. Bryer & Co., Peterborough, N. H. May 2, 1914. Cinquefoil, 61,608; Red Clover, 453; Selfheal, 1,359; Sorrel, 4,983; Timothy, 81,540; White Clover, 1,812; Tumbling Mustard, 1,812.	74.9	2.2	5.4	17.5	60.5
522	TIMOTHY..... W. A. Bryer & Co., Peterborough, N. H. April 29, 1914. Cinquefoil, 3,616; Kentucky Bluegrass, 1,808; Peppergrass, 226; Red Top, 2,712; Sorrel, 2,260; Vervain, 226; White Clover, 1,356.	98.2	.5	.1	1.2	90.5
523	RED CLOVER (<i>Pan American</i>)..... W. F. Neal, Derry, N. H. May 19, 1914. Ragweed, 180; Buckhorn, 90; Yellow Foxtail, 90.	99.7	.1	...	.2	86.5
524	RED TOP (<i>Choice</i>)..... W. F. Neal, Derry, N. H. June 22, 1914. Alsike Clover, 1,359; Cinquefoil, 4,530; Peppergrass, 6,795; Timothy, 97,848.	91.8	1.2	4.5	2.5	50.0
525	TIMOTHY (<i>Imperator</i>)..... W. F. Neal, Derry, N. H. May 19, 1914. Alsike Clover, 2,260; Cinquefoil, 226; Canada Bluegrass, 678; Rugel's Plantain, 226; Sorrel, 226.	98.7	.5	...	.8	88.0
526	TIMOTHY (<i>Bison</i>)..... R. L. Costello, Portsmouth, N. H. May 21, 1914. Alsike Clover, 2,717; Cinquefoil, 452; Kentucky, 2,717; Peppergrass, 1,130; Red Top, 226; Rugel's Plantain, 678; Sorrel, 226.	98.5	.4	.2	.9	86.0
527	RED TOP (<i>Acc</i>)..... R. L. Costello, Portsmouth, N. H. June 22, 1914. Kentucky Bluegrass, 253; Sorrel, 253; Timothy, 5,436; Yarrow, 2,718.	94.5	.5	1.0	1.0	40.5
528	RED CLOVER (<i>Kaiser</i>)..... R. L. Costello, Portsmouth, N. H. May 21, 1914. Alsike Clover, 990; Docks, 270; Lamb's Quarters, 450; Old Witchgrass, 90; Buckhorn, 1,170; Timothy, 1,350; Yellow Foxtail, 360; Black Seeded Plantain, 90.	98.4	.9	.3	.7	93.0
529	RED CLOVER (<i>Mammoth</i>)..... R. L. Costello, Portsmouth, N. H. May 22, 1914. Alsike Clover, 450; Docks, 90; Lamb's Quarters, 180; Sorrel, 360; Timothy, 270; Yellow Foxtail, 990; English Plantain, 720.	97.6	.5	.3	1.6	90.0
530	TIMOTHY (<i>Pine Tree</i>)..... R. L. Costello, Portsmouth, N. H. May 22, 1914. Kentucky Bluegrass, 252; Red Clover, 452.	99.7	trace	.1	.2	89.5
531	ALSIKE CLOVER (<i>Kaiser</i>)..... R. L. Costello, Portsmouth, N. H. May 22, 1914. Cinquefoil, 226; Docks, 226; Kentucky Bluegrass, 452; Crimson Clover, 452; Red Clover, 409; Sorrel, 8,136; Timothy, 32,770; Treacle Mustard, 226; Catchfly, 904.	91.2	1.4	2.9	1.5	81.0
532	ALFALFA (<i>Pine Tree</i>)..... R. L. Costello, Portsmouth, N. H. May 22, 1914.	99.7	...	...	.3	97.0
533	ORCHARD GRASS (<i>Neck</i>)..... R. L. Costello, Portsmouth, N. H. May 22, 1914. Docks, 676; Kentucky Bluegrass, 2,712; Sorrel, 2,034; Yellow Foxtail, 1,808.	92.4	.4	.2	6.0	27.5

SEED EXAMINATION, 1914.—Continued.

Sample number.	Kind of Seed, Sender, Date of Report, and Kind and Number of Foreign Seeds found in One Pound.	Percent Pure Seed	Percent Weed Seed	Percent Other Grass Seeds	Percent Inert Matter	Percent Germination.
534	MILLET (<i>Hungarian</i>)..... R. L. Costello, Portsmouth, N. H. May 22, 1914 Lamb's Quarters, 90; Smartweed, 720.	99.9	.1	...	trace	92.0
535	MILLET (<i>Japanese</i>)..... R. L. Costello, Portsmouth, N. H. May 22, 1914. Ragweed, 1,260; Yellow Foxtail, 2,430.	96.5	1.9	1.5	.1	93.0
536	MILLET (<i>German</i>)..... R. L. Costello, Portsmouth, N. H. May 22, 1914. Crabgrass, 270; Lamb's Quarters, 180; Japanese Millet, 180; Ragweed, 90; Smartweed, 360; Yellow Foxtail, 990; Hungarian Millet, 2,520.	98.1	.2	1.6	.1	95.0
537	CREeping BENT..... R. L. Costello, Portsmouth, N. H. June 2, 1914.	...	...	...	...	19.0
538	RED FESCUE (52369)..... R. L. Costello, Portsmouth, N. H. June 22, 1914.	...	...	...	...	57.5
539	MEADOW FESCUE (<i>G. B. 94554</i>)..... R. L. Costello, Portsmouth, N. H. June 22, 1914. Docks, 151; Flax, 151; Field Bromegrass, 2,269.	98.2	.1	.7	1.0	95.0
540	CREsted DOGSTAIL..... R. L. Costello, Portsmouth, N. H. June 2, 1914. Fireweed, 1,808.	99.8	.2	...	...	27.5
541	KENTUCKY BLUEGRASS..... R. L. Costello, Portsmouth, N. H. June 3, 1914. Alsike Clover, 1,359; Docks, 453; Millet, 453; Peppergrass, 452; Red Clover, 1,812; Red Top, 1,359.	97.0	1.2	...	1.2	...
542	OATS (<i>Montana</i>)..... R. L. Costello, Portsmouth, N. H. June 2, 1914. Wild Oats, 75; Wheat, 30; Barley, 15; Wild Rose, 15.	99.1	.1	.8	trace	99.5
543	LAWN GRASS..... R. L. Costello, Portsmouth, N. H. June 15, 1914.	...	...	...	...	5.0
544	BARLEY (<i>Beardless</i>)..... R. L. Costello, Portsmouth, N. H. June 2, 1914. Wheat, 15.	99.7	...	.1	.2	98.0
545	BARLEY (<i>Sir-rav</i>)..... R. L. Costello, Portsmouth, N. H. June 2, 1914. Wheat, 30; Oats, 90.	99.4	...	.5	.1	98.5
546	RHODE ISLAND BENT GRASS..... R. L. Costello, Portsmouth, N. H. July 7, 1914.	...	...	...	...	25.5
547	CORN (<i>Field</i>)..... R. L. Costello, Portsmouth, N. H. June 2, 1914.	100.0	...	...	...	88.5
548	CORN (<i>Improved Learning</i>)..... R. L. Costello, Portsmouth, N. H. June 2, 1914.	100.0	...	...	...	83.5
549	CORN (<i>Mondamin</i>)..... R. L. Costello, Portsmouth, N. H. June 2, 1914.	100.0	...	...	...	99.5
550	BUCKWHEAT (<i>Japanese</i>)..... R. L. Costello, Portsmouth, N. H. June 2, 1914. Oats, 15; Ragweed, 15.	99.4	trace	.1	.5	96.0
551	RAPE (<i>Dwarf Essex</i>)..... R. L. Costello, Portsmouth, N. H. June 5, 1914.	99.6	...	...	.4	95.5
552	RYE (<i>Spring</i>)..... R. L. Costello, Portsmouth, N. H. June 2, 1914. Wheat, 150; Wild Oats, 30.	97.8	...	.9	1.3	92.5
553	TIMOTHY (<i>Gold Medal</i>)..... H. Evans & Co., Rochester, N. H. June 2, 1914. Kentucky Bluegrass, 452; Red Clover, 452; English Plantain, 452.	99.5	.2	trace	.3	93.0
554	RED TOP (<i>Fancy</i>)..... H. Evans & Co., Rochester, N. H. June 22, 1914. Alsike Clover, 906; Yarrow, 3,624.	91.7	.3	...	8.0	45.5
555	ALSIKE CLOVER (642)..... H. Evans & Co., Rochester, N. H. June 2, 1914. Pigweed, 226; Red Clover, 2,034; Red Top, 226; Selfheal, 226; Timothy, 2,938.	98.4	.5	.5	.6	84.0

SEED EXAMINATION, 1914—Continued

Sample number	Kind of Seed, Sender, Date of Report, and Kind and Number of Foreign Seeds found in One Pound	Percent Pure Seed	Percent Wood Seed	Percent Old Grass Seeds	Percent Inert Matter	Percent Germination
556	CORN (<i>Leaming</i>) H. Evans & Co., Rochester, N. H. June 2, 1914.	98.1	...	...	1.0	90.0
557	BARLEY (<i>Canadian Cluster</i>) H. Evans & Co., Rochester, N. H. June 2, 1914. Oats, 15; Wheat, 15; Wild Buckwheat, 15.	97.7	1	2	2.0	92.0
558	TIMOTHY (<i>Pan American</i>) H. Evans & Co., Rochester, N. H. June 2, 1914. Alsike Clover, 452; Old Witchgrass, 226; Peppergrass, 678; Rugel's Plantain, 226.	99.6	2	...	2	86.5
559	MILLET (<i>Hungarian</i>) H. Evans & Co., Rochester, N. H. June 2, 1914. Old Witchgrass, 90; Smartweed, 90; Timothy, 900; Yellow Foxtail, 90.	99.5	...	1	4	19.5
560	RED CLOVER L. P. Varney, Alton Bay, N. H. June 2, 1914. Alsike Clover, 5,040; Catnip, 90; Crabgrass, 450; Docks, 270; Old Witchgrass, 90; English Plantain, 450; Pigweed, 450; Rugel's Plantain, 7,740; Timothy, 32,040; Yellow Foxtail, 1,080.	92	2.0	3.5	2.2	87.5
561	RED CLOVER (<i>23020</i>) L. P. Varney, Alton Bay, N. H. June 2, 1914. Alsike Clover, 9,630; Crabgrass, 630; Docks, 720; Green Foxtail, 2,340; Lamb's Quarters, 630; English Plantain, 450; Bracted Plantain, 90; Rugel's Plantain, 1,890; Smartweed, 450; Sorrel, 1,260; Timothy, 36,720; Wild Mustard, 180; Evening Primrose, 90.	99.7	2.8	4.1	2.1	82.0
562	RED TOP (XX) L. P. Varney, Alton Bay, N. H. June 23, 1914. Cinquefoil, 14,496; Peppergrass, 433; Timothy, 67,950; Yarrow, 2,718.	88.4	4	3.2	8.0	30.0
563	CORN (<i>Sanford White</i>) F. H. Moore, Laconia, N. H. June 5, 1914.	100.0	...	...	...	96.0
564	TIMOTHY (XXX) F. H. Moore, Laconia, N. H. June 5, 1914. Alsike Clover, 1,582; Peppergrass, 673; Rugel's Plantain, 226; Sorrel, 452.	99.3	3	...	4	76.5
565	BARLEY (<i>Six-row White Mountain</i>) F. H. Moore, Laconia, N. H. June 5, 1914. Oats, 463; Black Bindweed, 30.	99.7	1.6	...	1.7	99.0
566	OATS (<i>White Mountain</i>) F. H. Moore, Laconia, N. H. June 5, 1914. Wheat, 18; Barley, 18.	98.9	...	3	8	99.5
567	CORN (<i>Cuban Giant</i>) Batchelder Bros., Tilton, N. H. June 5, 1914.	100.0	...	...	...	94.0
568	CORN (<i>Mustadom</i>) Batchelder Bros., Tilton, N. H. June 5, 1914.	100.0	...	...	...	92.0
569	CORN (<i>Leaming</i>) Batchelder Bros., Tilton, N. H. June 5, 1914.	100.0	...	...	...	96.0
570	PETUNIA (<i>Mixed</i>) Joseph Breck & Sons, Boston, Mass. May 26, 1914.	...	...	...	...	28.0
571	NASTURTIUM (<i>Tall Mixed</i>) Joseph Breck & Sons, Boston, Mass. May 19, 1914.	...	...	...	...	64.0
572	NASTURTIUM (<i>Dwarf Mixed</i>) Joseph Breck & Sons, Boston, Mass. May 19, 1914.	...	...	...	...	59.0
573	KALE (<i>Tall Green Curled</i>) Joseph Breck & Sons, Boston, Mass. May 16, 1914.	...	...	...	...	91.5
574	TURNIP (<i>Early Purple Top</i>) Joseph Breck & Sons, Boston, Mass. May 19, 1914.	...	...	...	...	94.0
575	KALE (<i>Tall Green Curled No. 1</i>) Joseph Breck & Sons, Boston, Mass. May 16, 1914.	...	...	...	...	85.5
576	KALE (<i>Dwarf Green Curled No. 3</i>) Joseph Breck & Sons, Boston, Mass. May 16, 1914.	...	...	...	...	85.0
577	BARLEY (<i>Six-row Monadnock</i>) Holbrook Grocery Co., Keene, N. H. June 5, 1914. Oats, 225.	98.6	...	7	7	93.0

SEED EXAMINATION, 1914—Continued

Sample number.	Kind of Seed, Sender, Date of Report, and Kind and Number of Foreign Seeds found in One Pound	Percent Pure Seed	Percent Weed Seed	Percent Other Grass Seed	Percent Inert Matter	Percent Germination
578	TIMOTHY (<i>White Mountain</i>) Holbrook Grocery Co., Keene, N. H., June 5, 1914. Alsike Clover, 676; Kentucky Bluegrass, 226; Sorrel, 226.	99.0	.2	...	.2	96.0
579	RED CLOVER (<i>Queen</i>) Holbrook Grocery Co., Keene, N. H., June 5, 1914. Alsike Clover, 1,350; Burdock, 90; Dock, 540; Green Foxtail, 450; Lamb's Quarters, 90; Old Witchgrass, 90; Night Flowering Catchfly, 90; Rugel's Plantain, 90; Smartweed, 90; Sorrel, 360; Timothy, 4,050; Bracted Plantain, 90; English Plantain, 1,890.	97.5	1.7	.7	.7	89.5
530	RED CLOVER (<i>White Mountain</i>) Holbrook Grocery Co., Keene, N. H., June 5, 1914. Smartweed, 90; Timothy, 180; Bracted Plantain, 90.	99.7	.1	.1	.1	98.0
531	RED TOP (<i>White Mountain</i>) Holbrook Grocery Co., Keene, N. H., June 15, 1914. Ox-eye Daisy, 1,359; Yarrow, 3,171.	92.7	.9	...	7.0	45.0
532	TIMOTHY (<i>Monadnock</i>) Holbrook Grocery Co., Keene, N. H., June 5, 1914. Red Clover, 452.	99.6	...	...	...	87.0
533	OATS (<i>White Mountain</i>) Holbrook Grocery Co., Keene, N. H., June 5, 1914.	100.0	...	...	...	98.5
534	TIMOTHY (<i>Pine Tree</i>) Holbrook Grocery Co., Keene, N. H., June 5, 1914. Kentucky Bluegrass, 11,752.	99.3	...	.5	.2	94.0
535	RYE (<i>White Mountain</i>) Holbrook Grocery Co., Keene, N. H., June 5, 1914. Chess or Cheat, 37; Common Millet, 74.	96.0	...	.1	3.9	97.0
536	OATS (<i>Elwood</i>) R. M. Gordon, Goffstown, N. H., June 5, 1914. Green Foxtail, 45; Corn, 15; Red Clover, 15; Timothy, 15; Yellow Foxtail, 15.	97.5	...	1.0	1.5	95.0
537	TIMOTHY (<i>Pan American</i>) Frank Smith & Co., Lancaster, N. H., June 5, 1914. Alsike Clover, 1,130; Sorrel, 226.	99.3	.2	...	.5	89.5
538	RED CLOVER George C. Craig, Rumney Depot, N. H., June 3, 1914. Chickory, 90; Crabgrass, 270; Dock, 360; Old Witchgrass, 180; English Plantain, 540; Night-flowering Catchfly, 90; Pigweed, 90; Rugel's Plantain, 270; Smartweed, 180; Sorrel, 630; Timothy, 2,160; Wild Mustard, 90; Yellow Foxtail, 1,530.	97.7	.8	.6	.9	98.0
539	TIMOTHY (<i>Strictly Prime</i>) Moulton & Clarke, Lisbon, N. H., June 5, 1914. Kentucky Bluegrass, 4,972; Peppergrass, 678; Red Clover, 226; Red Top, 29,962; Selfheal, 452; Sorrel, 1,130; English Plantain, 226; unknown, 1.	97.0	.6	1.1	1.6	91.0
590	MILLET (<i>Hungarian</i>) Moulton & Clarke, Lisbon, N. H., June 15, 1914. Green Foxtail, 180; Mayweed, 90; Old Witchgrass, 90; Ragweed, 180; Smartweed, 180; Timothy, 90; Yellow Foxtail, 45; Lamb's Quarters, 90.	99.0	.2	.2	.6	71.0
591	CORN (<i>Pride of the North</i>) Frank Smith, Plymouth, N. H., June 15, 1914.	91.0	...	...	8.1	95.0
592	OATS (<i>Fancy Reclaimed</i>) Moulton & Clarke, Lisbon, N. H., June 5, 1914. Black Mustard, 30; Wheat, 135; Barley, 45; Wild Oats, 15; Vetch, 15; Black Bindweed, 60.	97.0	.2	1.0	.9	91.0
593	BARLEY (<i>Six Row 109307</i>) A. H. Hill, Lebanon, N. H., June 15, 1914.	99.7	...	...	...	94.5
594	TIMOTHY (65468) C. H. Dodge, New Boston, N. H., June 15, 1914. Sorrel, 226.	99.8	...	...	.2	93.5

SEED EXAMINATION, 1914.—Continued.

Sample number.	Kind of Seed, Sender, Date of Report, and Kind and Number of Foreign Seeds found in One Pound.	Percent Seed	Percent Weed Seed	Percent Other Grass Seeds	Percent Inert Matter	Percent Germination
595	CORN (<i>Red Cob Ensilage</i>)..... Magowen Bros., Claremont, N. H.	100.0	...	...	...	98.0
596	CORN (<i>Early Eight-rowed Canada</i>)..... A. H. Hill, Lebanon, N. H. June 15, 1914.	100.0	...	...	...	98.0
597	MILLET (<i>Hungarian</i>)..... Magowen Bros., Claremont, N. H. June 15, 1914. Canada Thistle, 90; Green Foxtail, 540; Lamb's Quarters, 720; Old Witchgrass, 180; German Millet, 180; Smartweed, 180; Yellow Foxtail, 190.	99.2	.2	.2	.4	65.5
598	CORN (<i>Longfellow</i>)..... A. H. Hill, Lebanon, N. H. June 15, 1914.	100.0	...	...	...	98.0
599	BARLEY (<i>Two-row</i>)..... A. H. Hill, Lebanon, N. H. June 15, 1914. Oats, 56; Wheat, 56.	92.7	...	.5	6.8	84.0
600	TIMOTHY (<i>Bay State 64481</i>)..... Magowen Bros., Claremont, N. H. June 23, 1914. Alsike Clover, 904; Cinquefoil, 452; Kentucky Bluegrass, 678; Lamb's Quarters, 226; Rugel's Plantain, 226.	99.2	.2	.1	.7	91.0
601	OATS (<i>Welcome</i>)..... Magowen Bros., Claremont, N. H. June 15, 1914. Barley, 45; Wheat, 30; Wild Rose, 15.	99.0	.1	.4	.5	91.0
602	TIMOTHY (<i>65337</i>)..... O. L. & C. A. White, Mountainview, N. H. June 23, 1914. Cinquefoil, 452; Kentucky Bluegrass, 2,938; Lamb's Quarters, 226; Peppergrass, 678; Red Clover, 452; Red Top, 1,808; Rugel's Plantain, 226; Sorrel, 452; Yarrow, 452.	98.1	.3	.2	1.4	79.0
603	RED TOP (X)..... O. L. & C. A. White, Mountainview, N. H. June 26, 1914. Sorrel, 453; Timothy, 906; Yarrow, 3,171.	90.5	.3	trace	9.4	47.0
604	RED CLOVER (<i>Ace</i>)..... O. L. & C. A. White, Mountainview, N. H. June 23, 1914. Alsike Clover, 90; Lamb's Quarters, 90; Rugel's Plantain, 90; Yellow Foxtail, 270; English Plantain, 180.	99.2	.1	.1	.6	96.5
605	MILLET (<i>Hungarian 80154</i>)..... O. L. & C. A. White, Mountainview, N. H. June 23, 1914. Timothy, 90; Yellow Foxtail, 90.	99.2	...	.1	.7	87.0

SUMMARY TABLE, SHOWING THE KINDS OF FOREIGN SEEDS FOUND IN SAMPLES EXAMINED IN 1914 AND THE NUMBER OF SAMPLES IN WHICH THEY WERE FOUND.

Names of Foreign Seed	Names of Samples Examined												Timothy	
	Alfalfa	Alsike Clover	Barley	Buckwheat	Kentucky Blue Grass	Meadow Fescue	Millet	Oats	Orchard Grass	Red Clover	Red Fescue	Red Top		Rye
Number of Samples Examined	3	4	7	1	1	1	7	14	1	16	1	11	2	26
Alsike Clover					1					8		2		9
Black Seeded Plantain										1				
Barley								8						
Black Bindweed			2					3						
Braeted Plantain										5				
Bromegrass							1							
Buckwheat								1						
Burdock										1				
Canada Thistle							1							
Canada Bluegrass														2
Catchfly		2								3				
Catnip										1				
Chicory										1		1		
Cinquefoil		1										3		6
Corn								2						
Crabgrass							1	1		5				
Crimson Clover		1												
Docks		1			1	1			1	9				
Fireweed										1				
Flax						1		1		1				
Falseflax								2				1		
Green Foxtail							2	1		4				
Hard Fescue											1			1
Kentucky Bluegrass		1							1		1			12
Lady's Thumb								1		1				
Lamb's Quarters							4	1		7				2
Millet					1								1	
Moth Mullen							1							
Mustards		1						5		4		1		
Oats			5	1										
Old Witchgrass							3	1		5	1			1
Oxeye Daisy												1		
Peppergrass												2		9
Pigweed		1								3				
Quackgrass								1						
Ragweed				1			3			1				1
Red Clover		3						1				1		5
Red Top		1						1						6
Ribgrass										9		1		2
Rugel's Plantain										6				8
Selfheal		1										1		2
Shepherd's Purse								1						
Smartweed							5			4				
Sorrel		2						1	1	5		3		10
Timothy		4					3	3		12	1	6		
Unknown	1							1						1
Vervain														1
Vetch								1						
Wheat			4					8					1	
White Clover		1										1		2
Wild Oats								4				1		
Wild Rose								3						
Yarrow												5		1
Yellow Daisy														1
Yellow Foxtail	1						5	2	1	9		1		

SUMMARY TABLE, SHOWING RESULTS OF EXAMINATION OF SAMPLES OF SEED OBTAINED BY THE COLLECTOR FOR THE YEAR 1914

No.	Kind of Seed, Brand, Name and Address of Seller	Percent Purity		Percent Germination	
		Found	Guaranteed	Found	Guaranteed
510	ALFALFA C. L. Jenness, Dover, N. H.	99.8	99.5	97.0	96.0
518	ALFALFA (<i>White Mountain</i>) Hilliard & Kimball, Exeter, N. H.	99.8	99.5	92.0	92.0
532	ALFALFA (<i>Pine Tree</i>) R. L. Costello, Portsmouth, N. H.	99.7	99.5	97.9	94.0
508	ALSIKE CLOVER (<i>Pine Tree</i>) C. L. Jenness, Dover, N. H.	97.7	93.7	98.0	92.0
519	ALSIKE CLOVER (<i>White Mountain</i>) Hilliard & Kimball, Exeter, N. H.	99.3	97.9	84.5	92.0
531	ALSIKE CLOVER (<i>Kaiser</i>) R. L. Costello, Portsmouth, N. H.	94.2	91.0	84.9	92.0
555	ALSIKE CLOVER (<i>642</i>) H. Evans & Co., Rochester, N. H.	98.4	97.0	84.9	90.0
544	BARLEY (<i>Beardless</i>) R. L. Costello, Portsmouth, N. H.	99.7	99.0	93.0	98.0
545	BARLEY (<i>Six-row</i>) R. L. Costello, Portsmouth, N. H.	99.4	99.0	98.5	98.0
557	BARLEY (<i>Canadian Cluster</i>) H. Evans & Co., Rochester, N. H.	97.7	98.0	92.0	90.0
565	BARLEY (<i>White Mountain</i>) F. H. Moore, Laconia, N. H.	99.7	97.0	99.0	90.0
577	BARLEY (<i>Monadnock</i>) Hollbrook Grocery Co., Keene, N. H.	98.5	.....	98.0	.....
593	BARLEY (<i>109307</i>) A. H. Hill, Lebanon, N. H.	99.7	99.0	98.5	.....
599	BARLEY (<i>Two-row</i>) A. H. Hill, Lebanon, N. H.	92.7	99.5	84.0	.....
550	BUCKWHEAT (<i>Japanese</i>) R. L. Costello, Portsmouth, N. H.	99.4	98.9	96.0	92.0
516	CORN (<i>Improved Leaming</i>) Hilliard & Kimball, Exeter, N. H.	100.0	.....	93.5	.....
547	CORN (<i>Field</i>) R. L. Costello, Portsmouth, N. H.	100.0	.....	88.5	.....
548	CORN (<i>Improved Leaming</i>) R. L. Costello, Portsmouth, N. H.	100.0	.....	83.5	.....
549	CORN (<i>Mandanin</i>) R. L. Costello, Portsmouth, N. H.	100.0	.....	99.5	.....
556	CORN (<i>Leaming</i>) H. Evans & Co., Rochester, N. H.	98.1	98.0	99.0	93.0
563	CORN (<i>Sanford White</i>) F. H. Moore, Laconia, N. H.	100.0	.....	96.0	.....
567	CORN (<i>Cuban Giant</i>) Batchelder Bros., Tilton, N. H.	100.0	.....	94.0	.....
568	CORN (<i>Mastodon</i>) Batchelder Bros., Tilton, N. H.	100.0	.....	92.0	.....
569	CORN (<i>Leaming</i>) Batchelder Bros., Tilton, N. H.	100.0	.....	96.0	.....
591	CORN (<i>Pride of the North</i>) Frank Smith, Plymouth, N. H.	91.6	.....	95.0	.....
595	CORN (<i>Red Cob Enslage</i>) Magowen Bros., Claremont, N. H.	100.0	.....	98.0	.....
596	CORN (<i>Early Eight-rowed Canada</i>) A. H. Hill, Lebanon, N. H.	100.0	.....	98.0	.....
598	CORN (<i>Longfellow</i>) A. H. Hill, Lebanon, N. H.	100.0	.....	98.0	.....
597	CREEPING BENT R. L. Costello, Portsmouth, N. H.	.....	74.0	10.0	96.0
540	CRISTED DOGSTALL R. L. Costello, Portsmouth, N. H.	99.8	99.0	27.5	89.0
541	KENTUCKY BLUEGRASS R. L. Costello, Portsmouth, N. H.	97.5	99.0	.....	91.0
543	LAWN GRASS R. L. Costello, Portsmouth, N. H.	.....	85.0	5.0	75.0
530	MEADOW FESCUE (<i>G. B. 94554</i>) R. L. Costello, Portsmouth, N. H.	98.2	97.0	97.0	92.0

SEED EXAMINATION, 1914.—Continued.

No.	Kind of Seed, Brand, Name and Address of Seller.	Percent Purity		Percent Germination	
		Found	Guaranteed	Found	Guaranteed
534	MILLET (<i>Hungarian</i>) R. L. Costello, Portsmouth, N. H.	99.9	99.0	92.0	92.0
559	MILLET (<i>Hungarian</i>) H. Evans & Co., Rochester, N. H.	99.5	99.0	19.5	90.0
590	MILLET (<i>Hungarian</i>) Moulton & Clarke, Lisbon, N. H.	99.0	98.0	71.0	90.0
597	MILLET (<i>Hungarian</i>) Magowen Bros., Claremont, N. H.	99.2	98.0	65.5	92.0
605	MILLET (<i>Hungarian</i>) O. L. & C. A. White, Mountainview, N. H.	99.2	99.0	87.0	....
535	MILLET (<i>Japanese</i>) R. L. Costello, Portsmouth, N. H.	96.5	98.0	93.0	96.0
536	MILLET (<i>German</i>) R. L. Costello, Portsmouth, N. H.	98.1	98.0	95.0	94.0
509	OATS (<i>Welcome</i>) C. L. Jenness, Dover, N. H.	100.0	....	92.5	....
542	OATS (<i>Montana</i>) R. L. Costello, Portsmouth, N. H.	99.1	98.0	99.5	99.0
566	OATS (<i>White Mountain</i>) F. H. Moore, Laconia, N. H.	98.9	99.0	99.5	97.0
583	OATS (<i>White Mountain</i>) Hollbrook Grocery Co., Keene, N. H.	100.0	99.0	98.5	97.0
586	OATS (<i>Elwood</i>) L. M. Gordon, Goffstown, N. H.	97.5	99.0	95.0	97.0
592	OATS (<i>Fancy Recleaned</i>) Moulton & Clarke, Lisbon, N. H.	97.9	....	91.0	....
601	OATS (<i>Welcome</i>) Magowen Bros., Claremont, N. H.	99.0	....	91.5	....
533	ORCHARD GRASS (<i>Neck</i>) R. L. Costello, Portsmouth, N. H.	93.3	82.0	27.5	90.0
551	RAPE (<i>Dwarf Essex</i>) R. L. Costello, Portsmouth, N. H.	99.6	99.0	95.5	92.0
507	RED CLOVER (<i>Ace</i>) C. L. Jenness, Dover, N. H.	99.4	98.0	96.0	93.0
512	RED CLOVER (<i>Bay State</i>) Hilliard & Kimball, Exeter, N. H.	99.1	99.0	98.0	94.0
517	RED CLOVER (<i>White Mountain</i>) Hilliard & Kimball, Exeter, N. H.	99.9	....	97.5	....
523	RED CLOVER (<i>Pan American</i>) W. F. Neal, Derry, N. H.	99.7	98.5	86.5	....
528	RED CLOVER (<i>Kaiser</i>) R. L. Costello, Portsmouth, N. H.	98.4	....	93.0	....
529	RED CLOVER (<i>Monmouth</i>) R. L. Costello, Portsmouth, N. H.	97.6	97.0	90.0	94.7
560	RED CLOVER L. P. Varney, Alton Bay, N. H.	92.3	....	87.5	....
561	RED CLOVER (<i>23030</i>) L. P. Varney, Alton Bay, N. H.	90.7	87.0	82.0	82.0
579	RED CLOVER (<i>Queen</i>) Hollbrook Grocery Co., Keene, N. H.	97.3	95.0	89.5	94.0
580	RED CLOVER (<i>White Mountain</i>) Hollbrook Grocery Co., Keene, N. H.	99.7	99.5	98.0	95.0
588	RED CLOVER George C. Craig, Rumney Depot, N. H.	97.7	....	98.0	....
604	RED CLOVER (<i>Ace</i>) O. L. & C. A. White, Mountainview, N. H.	99.2	98.0	96.5	....
538	RED FESCUE (<i>52369</i>) (<i>Lawn Grass</i>) R. L. Costello, Portsmouth, N. H.	....	85.0	57.5	72.0
506	RED TOP (<i>Globe</i>) C. L. Jenness, Dover, N. H.	99.8	97.0	76.5	92.0
511	RED TOP (<i>Bay State</i>) Hilliard & Kimball, Exeter, N. H.	97.0	91.0	58.5	93.0
524	RED TOP (<i>Choice</i>) W. F. Neal, Derry, N. H.	91.8	85.0	50.0	....
527	RED TOP (<i>Ace</i>) R. L. Costello, Portsmouth, N. H.	94.5	90.0	40.5	90.0

SEED EXAMINATION, 1914.—Continued.

No.	Kind of Seed, Brand, Name and Address of Seller.	Percent Purity		Percent Germination	
		Found	Guaranteed	Found	Guaranteed
554	RED TOP (<i>Fancy</i>) H. Evans & Co., Rochester, N. H.	91.7	90.0	45.5	35.0
562	RED TOP (<i>XX</i>) L. P. Varney, Alton Bay, N. H.	83.1	73.0	30.0	90.0
581	RED TOP (<i>White Mountain</i>) Hollbrook Grocery Co., Keene, N. H.	92.7	95.0	45.0	93.0
603	RED TOP (<i>X</i>) O. L. & C. A. White Co., Mountainview, N. H.	90.3	95.2	47.0	92.0
546	RHODE ISLAND BENT R. L. Costello, Portsmouth, N. H.	.....	77.0	25.5	94.0
532	RYE (<i>Spring</i>) R. L. Costello, Portsmouth, N. H.	97.3	98.0	92.5	90.0
585	RYE (<i>White Mountain</i>) Hollbrook Grocery Co., Keene, N. H.	96.0	99.0	97.0*	96.0
505	TIMOTHY (<i>Pine Tree</i>) C. L. Jenness, Dover, N. H.	92.8	99.0	96.5	93.0
513	TIMOTHY (<i>White Mountain</i>) Hilliard & Kimball, Exeter, N. H.	99.5	99.6	96.0	97.0
514	TIMOTHY (<i>Bay State</i>) Hilliard & Kimball, Exeter, N. H.	99.9	99.5	97.0	.....
515	TIMOTHY (<i>Pine Tree</i>) Hilliard & Kimball, Exeter, N. H.	99.8	99.0	95.0	93.0
525	TIMOTHY (<i>Unjicator</i>) W. F. Neal, Derry, N. H.	98.7	98.5	83.0	.....
526	TIMOTHY (<i>Bison</i>) R. L. Costello, Portsmouth, N. H.	98.5	98.0	86.0	95.0
530	TIMOTHY (<i>Pine Tree</i>) R. L. Costello, Portsmouth, N. H.	99.7	99.5	89.5	96.0
553	TIMOTHY (<i>Gold Medal</i>) H. Evans & Co., Rochester, N. H.	99.5	99.7	93.0	98.0
558	TIMOTHY (<i>Pan American</i>) H. Evans & Co., Rochester, N. H.	99.6	99.5	86.5	95.0
564	TIMOTHY (<i>XXX</i>) F. H. Moore, Laconia, N. H.	99.3	98.5	76.5	94.0
578	TIMOTHY (<i>White Mountain</i>) Hollbrook Grocery Co., Keene, N. H.	99.7	99.6	96.0	97.0
582	TIMOTHY (<i>Monadnock</i>) Hollbrook Grocery Co., Keene, N. H.	99.6	99.5	87.0	96.0
584	TIMOTHY (<i>Pine Tree</i>) Hollbrook Grocery Co., Keene, N. H.	99.3	99.0	94.0	97.0
587	TIMOTHY (<i>Pan American</i>) Frank Smith & Co., Lancaster, N. H.	99.3	99.5	80.5	95.0
589	TIMOTHY (<i>Strictly Prime</i>) Moulton & Clarke, Lisbon, N. H.	97.0	97.0	91.0	90.0
594	TIMOTHY (<i>65468</i>) C. H. Dodge, New Boston, N. H.	99.8	99.5	93.5	97.0
600	TIMOTHY (<i>Bay State 64481</i>) Magowen Bros., Claremont, N. H.	99.2	98.5	91.0	.....
602	TIMOTHY (<i>65337</i>) O. L. & C. A. White, Mountainview, N. H.	98.1	97.0	79.0	.....

It will be noted from the three pages just preceding that 71 of the 91 samples collected were guaranteed for purity and 61 for germination. In other words, about 80 per cent. of the seed represented by the samples was sold according to the law as regards purity and about 67 per cent. as regards germination. This is a decided improvement over last year when only about 50 per cent. of the seed represented by the samples inspected was guaranteed as to either purity or germination.

Of the total 71 samples which were guaranteed for purity, 58 of them or 82 per cent. were found to be up to the guarantee. The remaining 13 samples were from .1 per cent. to 6.8 per cent. below the guarantee. Of the 61 samples guaranteed for germination, 26 or 43 per cent. were found to be up to or above the guarantee. The remaining 35 samples ranged from 1 to 70 per cent. below the guarantee.

As regards the purity of the seeds tested this year, the alfalfa, alsike clover and timothy were on the average above the standard per cent., while the barley, oats, millet, red clover and redbud were on the average slightly below the standard per cent.

As regards the per cent. of germination of this year's samples the alfalfa, alsike clover, barley, corn, red clover and timothy were on the average above the standard, while millet, oats and redbud were on the average below the standard.

One sample of oats sent in by a farmer was found to germinate only 3.5 per cent. This was a heavy-weight, light-colored, clipped oats which had been weathered and afterwards sulphured. This is only another example of the danger of using ordinary feeding oats for seed purposes without first making a germination test.

Only one very dirty or foul sample of seed was analyzed. This was one of redbud which contained 37.4 per cent. of dirt and chaff.

LABELING

The law does not apply to the common five and ten-cent packages of garden and flower seeds. Only seeds sold in bulk or in packages of one pound or more are subject to the provisions of the law and are required to be accompanied by a guarantee stating their percentage of purity and vitality.

The guarantee or label may be of any form desired by the seller of the seeds, as a tag, sticker, or direct brand upon the container. It must, however, be plainly written or printed, and placed distinctly visible to the purchaser. Each dealer will provide his own labels.

TAKING OF SAMPLES

To secure a fair average sample of a lot or bulk, take small quantities from all of the bags or from different parts of any particular bulk. Mix thoroughly and take out the sample to be inspected. When the seeds are in bags or large bins, the use of a grain sampler is most convenient, since this will insure getting seeds from the top, middle, and bottom alike. Since the report of the analysis is based upon the nature of the sample inspected, it is important that the sample be carefully taken.

SIZE AND AMOUNTS OF SAMPLES

The size and amount of the samples necessary for a test will depend upon the size and weight of the seeds. About one half ounce, or a tablespoonful of the smaller grass and vegetable seeds, like alsike and white clover, redtop, lettuce, onions, radish, turnip, etc.; about one ounce or two tablespoonfuls of the larger seeds, like timothy, millet, red clover, alfalfa, rape, etc.; and about four ounces or a small cupful of the cereal grains or vegetable seeds, like oats, barley, corn, peas, beans, etc., should be sent.

TESTS AND EXAMINATIONS

Section two of the law states the provisions under which the tests and analyses shall be made. The Commissioner of Agriculture has appointed F. W. Taylor, agronomist of the experiment station, as the regular agent for making all tests and analyses in this state. The sellers or dealers who desire to base their guarantees upon tests made by themselves or their agents must first secure the approval of the Commissioner of Agriculture of the methods to be used in making the tests, and of the person who is to conduct them.

Although the law makes no provision for the expenses of the seed tests, the Department of Agriculture has arranged with the Experiment Station to have the tests made **free of charge** to all dealers and farmers resident in the state.

SENDING OF SAMPLES

Samples sent to the experiment station for testing should be enclosed in a strong paper envelope and securely fastened. They should not be sent in bottles or glass jars owing to the danger of breakage. When a number of samples are to be

sent they should be put up securely in a single package and forwarded either by parcel post or by express. Each sample sent in should be marked as follows:

Name and address of sender.

Date of sending.

Kind of seed.

Brand name (if any), and number of package.

Purity or germination test desired (one or both).

Write a letter stating the number and kind of samples sent so that their receipt may be promptly acknowledged.

Address all samples and communications regarding the same to F. W. Taylor, Experiment Station, Durham, N. H.

STANDARDS

The law does not attempt to fix any standards as to purity and vitality, but for the information of those who may desire to know what may be considered as "equitable standards" the following table, offered by the U. S. Department of Agriculture, and based upon investigations made by that department, is given.

STANDARDS OF PURITY AND GERMINATION OF AGRICULTURAL SEEDS.

Seed.	Purity %	Germination %	Seed.	Purity %	Germination %
Alfalfa,	98	85—90	Kafir corn,	98	85—90
Asparagus,	99	80—85	Melon,	99	85—90
Barley,	99	90—95	Millets,	99	85—90
Beans,	99	90—95	Mustard,	99	90—95
Beets,	99	*150	Oats,	99	90—95
Blue grass, Canadian,	90	45—50	Okra,	99	80—85
Blue grass, Kentucky,	90	45—50	Onion,	99	80—85
Brome, awnless,	90	75—80	Parsley,	99	70—75
Buckwheat,	99	90—95	Parsnip	95	70—75
Cabbage,	99	90—95	Peas,	99	93—98
Carrot,	95	80—85	Pumpkins,	99	85—90
Cauliflower,	99	80—85	Radish,	99	90—95
Celery,	98	60—65	Rape,	99	90—95
Clover, alsike,	95	75—80	Redtop,	95	75—80
Clover, crimson,	98	85—90	Rye,	99	90—95
Clover, red,	98	85—90	Salsify,	98	75—80
Clover, white,	95	75—80	Sorghum,	98	85—90
Collard,	99	90—95	Spinach,	99	80—95
Corn, field or ensilage,	99	90—95	Spurry,	99	85—90
Corn, sweet,	99	85—90	Squash,	99	85—90
Cowpea,	99	85—90	Timothy,	98	85—90
Cucumber,	99	85—90	Tomato,	98	85—90
Eggplant,	99	75—80	Turnip,	99	90—95
Fescue, meadow,	95	85—90	Tobacco,	98	75—80
Lettuce,	99	85—90	Wheat,	99	90—95

* Each beet fruit or "ball" is likely to contain from 2 to 7 seeds. One hundred balls should yield at least 150 sprouts.

AVERAGE NUMBER OF SEEDS IN ONE POUND OF PURE SEED.

Kentucky Bluegrass.....	2,400,000
Orchard Grass.....	579,000
Redtop	6,030,000
Timothy	1,170,000
Alsike Clover.....	707,000
Red Clover.....	279,000
Crimson Clover.....	130,000
White Clover	740,000
Sweet Clover.....	235,000
Alfalfa	209,000

NOTE.—The number of seeds per pound may vary 20 per cent. either way, depending on the proportion of small and large seeds.

OTHER INFORMATION

Other publications on the subject of seed testing are as follows:

Circulars Nos. 34 and 35, U. S. Department of Agriculture, Washington, D. C.

Bulletin No. S-I, Canadian Department of Agriculture, Ottawa, Can.

Bulletin No. 146, Vermont Experiment Station, Burlington, Vt.

Bulletin No. 270, Michigan Experiment Station, East Lansing, Mich.

Circular No. 4, Wisconsin Experiment Station, Madison, Wis.

Bulletin No. 115, Iowa Experiment Station, Ames, Iowa.

Bulletin No. 110, Nebraska Experiment Station, Lincoln, Neb.

Seed Bulletin No. 1, North Dakota Experiment Station, Fargo, N. D.

Bulletin No. 83, Bureau of Plant Industry, Washington, D. C.

Bulletin No. 270, Michigan Experiment Station, East Lansing, Mich.

Bulletin No. 362, New York Experiment Station, Geneva, N. Y.

Bulletin No. 148, Kentucky Experiment Station, Lexington, Ky.

Bulletin No. 111, Bureau of Plant Industry, Washington, D. C.

Farmers' Bulletin No. 260, Division of Publications, Washington, D. C.

Bulletin No. 170, Maryland Experiment Station, College Park, Md.

Bulletin No. 127, Minnesota Experiment Station, St. Paul, Minn.

Bulletin No. 312, Cornell University, Ithaca, N. Y.

Extension Bulletin Nos. 24 and 39, University of Minnesota, St. Paul, Minn.

Official Inspection No. 46, Maine Experiment Station, Orono, Me.

