

SEED GERMINATION AND PURITY ANALYSIS 2010

SHARON M. DOUGLAS, PH.D. AND MARY K. INMAN
DEPARTMENT OF PLANT PATHOLOGY & ECOLOGY



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Seed Germination and Purity Analysis 2010

Sharon M. Douglas, Ph.D. and Mary K. Inman
Department of Plant Pathology & Ecology

Official samples of 320 vegetable, 8 lawn, and 10 crop seeds were collected by inspectors from the Bureau of Regulation and Inspection of the Connecticut Department of Agriculture for testing in 2010. As the official seed testing laboratory, The Connecticut Agricultural Experiment Station performed germination and purity analyses for compliance with the Connecticut Seed Law Regulations and the Federal Seed Act.

Table 1 shows the results of germination tests for individual vegetable seed samples from 16 companies. Results are presented by plant type, variety, germination found, germination standard, and compliance with the standard. Germination standards are set by the Federal Seed Act. The categories for label compliance are: 1) seeds meet label claims for germination and 2) seeds do not meet label claims for germination within allowable tolerance. Tests were replicated twice. In addition, seedlings must appear “normal”, i.e., they have to be free from decay, have well-developed primary root systems, have well-developed and intact hypocotyls and/or epicotyls, and have healthy cotyledons. Of the 320 vegetable seed samples tested, 21 did not meet their label claims for germination. They were not retested because of insufficient numbers of seeds. Seed samples were examined for prohibited noxious weed seeds and no vegetable samples contained weed contaminants.

The total number of germination claims and the percentage of claims that met or failed label claims are summarized for each vegetable seed company in Table 2. Table 3 summarizes the total number of samples tested and the average germination for each type of vegetable.

Table 4 shows the results of purity and germination tests for individual lawn grass seed samples. These are presented by company, brand name and/or seed type or variety mixture. The categories for both purity and germination are as previously described for vegetable seeds. Lawn seed samples that were labeled with several varieties within a species or with several species within a genus were separated by genus. Purity and germination results are, therefore, reported as the sum for that genus. The label claim is met as

long as this sum equals or exceeds the sum of the individual components for a genus listed on the label. Three of the 8 lawn seed samples tested met label claims for both purity and germination. Four samples passed germination claims but failed purity claims. One sample failed both germination and purity claims. None of the 2010 lawn samples contained noxious-weed seed contaminants.

Table 5 shows the results of purity and germination tests on crop seed samples. Nine samples passed claims for both purity and germination. One sample failed both germination and purity claims.

Mary K. Inman and Dr. Sharon M. Douglas performed the analyses per Connecticut Regulations. Wayne S. Nelson, Seed Control Official, collected the samples. The Seed Law is administered by the Seed Control Official for the Commissioner of the Department of Agriculture. Assistance with germination tests was provided by Emily Arsenault and Danielle Marias, summer research assistants.

Sharon M. Douglas

Seed Germination and Purity Analysis 2010

Table 1. Germination of vegetable seeds. Standards are provided by the rules and regulations of the Federal Seed Act. H= Seeds remained hard at the end of the test period because they did not absorb water due to an impermeable seed coat. * = Does not meet label claim.

Plant	Variety	Seed Company	Standard	Germ. Found	
Asparagus	Mary Washington	Plantation Products Inc.	70	91	
Bean	Blue Lake 156	Ferry-Morse Seed Company	70	95	
Bean	Blue Lake Pole	New England Seed Company	70	73+18 H	
Bean	Borletto	Thompson and Morgan Seedsman Inc.	70	87	
Bean	Brittlewax	W. Atlee Burpee and Company	70	97	
Bean	Burpee Stringless Green	The Page Seed Company	70	95	
Bean	Burro di Rocquencourt	La Semiorto Sementi	70	87	
Bean	Contender	Botanical Interests	70	95	
Bean	French Horticultural	New England Seed Company	70	97	
Bean	Gold Rush	New England Seed Company	70	76	
Bean	Gold Rush Yellow Wax	Livingston Seed Company	70	80	
Bean	Golden Butterwax	Seedway LLC	70	93	
Bean	Gourmet Green	Livingston Seed Company	70	89	
Bean	Harvester	Plantation Products Inc./ American Seed	70	86	
Bean	Kentucky Wonder	Ferry-Morse Seed Company	70	88	
Bean	Kentucky Wonder	The Charles C. Hart Seed Company	70	89	
Bean	Long Tendergreen	Seedway LLC	70	92	
Bean	Romano Pole	The Charles C. Hart Seed Company	70	79	
Bean	Tenderpod	W. Atlee Burpee and Company	70	82	
Bean	Top Crop	Plantation Products Inc.	70	83	
Bean	Triomphe de Farcy	W. Atlee Burpee and Company/ Heirloom	70	98	
Bean, lima	Fordhook	The Charles C. Hart Seed Company	70	74	
Bean, lima	Fordhook 242	Seedway LLC	70	77	
Beet	Bietola Da Orto	La Semiorto Sementi	65	77	
Beet	Boro F1 Hybrid	Thompson and Morgan Seedsman Inc.	75	89	
Beet	Burpee's Golden	W. Atlee Burpee and Company	65	83	
Beet	Chioggia	W. Atlee Burpee and Company/ Heirloom	65	97	
Beet	Cylindra	Livingston Seed Company	65	96	
Beet	Cylindra	New England Seed Company	65	89	
Beet	Detroit Dark Red	Plantation Products Inc./ American Seed	65	91	
Beet	Detroit Dark Red	W. Atlee Burpee and Company/ Organic	65	91	
Beet	Early Wonder	Botanical Interests	65	94	
Beet	Early Wonder Smooth Leaf	Seedway LLC	65	93	
Beet	Red Ace	The Charles C. Hart Seed Company	65	92	
Beet	Ruby Queen	Plantation Products Inc.	65	84	
Beet	Tall Top Early Wonder	Ferry-Morse Seed Company	65	87	
Beet	Tall Top Early Wonder	Ferry-Morse Seed Company/ Organic	65	93	
Broccoli	Baton Hybrid	New England Seed Company	75	96	
Broccoli	Calabrese	Ferry-Morse Seed Company/ Organic	75	89	
Broccoli	Calabrese	Plantation Products Inc./ American Seed	75	59	
Broccoli	Calabrese	The Charles C. Hart Seed Company	75	54	
Broccoli	DeCicco	Ferry-Morse Seed Company/ Smart Start	75	93	
Broccoli	Green Goliath	W. Atlee Burpee and Company	75	63	*
Broccoli	Waltham 29	Plantation Products Inc.	75	77	
Broccoli	Di Cicco	Botanical Interests	75	81	
Broccoliraab	Early Pugliese	New England Seed Company	75	97	

Table 1 (continued). Germination of vegetable seeds. Standards are provided by the rules and regulations of the Federal Seed Act. H= Seeds remained hard at the end of the test period because they did not absorb water due to an impermeable seed coat. * = Does not meet label claim.

Plant	Variety	Seed Company	Standard	Germ. Found	
Broccoliraab	Rapini	Botanical Interests	70	99	*
Broccoliraab	Spring	W. Atlee Burpee and Company/ Heirloom	75	78	*
Brussels sprouts	Catskill	Ferry-Morse Seed Company/ Smart Start	70	80	
Brussels sprouts	Long Island Improved	Livingston Seed Company	70	72	
Brussels sprouts	Long Island Improved	New England Seed Company	70	87	
Brussels sprouts	Long Island Improved	The Charles C. Hart Seed Company	70	58	
Cabbage	Copenhagen	The Charles C. Hart Seed Company	75	82	
Cabbage	Danish Ball Head	New England Seed Company	75	27	
Cabbage	Early Golden Acre	Plantation Products Inc.	75	71	*
Cabbage	Early Golden Acre	Plantation Products Inc./ American Seed	75	78	
Cabbage	Ferry's Round Dutch	Ferry-Morse Seed Company/ Smart Start	75	81	
Cabbage	Precocissimo di Napoli	La Semiorto Sementi	75	79	
Cantaloupe	Delicious	The Charles C. Hart Seed Company	75	88	
Cantaloupe	Delicious 51	New England Seed Company	75	92	
Cantaloupe	Hale's Best	Plantation Products Inc./ American Seed	75	94	*
Cantaloupe	Hale's Best Jumbo	Ferry-Morse Seed Company	75	93	
Cantaloupe	Hearts of Gold	W. Atlee Burpee and Company	75	95	
Cantaloupe	Honey Rock	Livingston Seed Company	75	98	
Cantaloupe	Iroquois	Plantation Products Inc.	75	77	
Carrot	Little Finger	The Charles C. Hart Seed Company	55	82	
Carrot	Nantes Coreless	The Page Seed Company	55	88	
Carrot	Nutri-Red	Ferry-Morse Seed Company	55	70	
Carrot	Petite 'n Sweet	W. Atlee Burpee and Company	55	62	
Carrot	Red Core Chantenay	New England Seed Company	55	62	
Carrot	Scarlet Nantes	Botanical Interests	55	81	
Carrot	Tendersnax F1 Hybrid	Thompson and Morgan Seedsman Inc.	55	82	
Cauliflower	Brocoverde	Ferry-Morse Seed Company	75	63	
Cauliflower	Di Sicilia Violetto	La Semiorto Sementi	75	58	
Cauliflower	Early Snowball	The Charles C. Hart Seed Company	75	49	
Cauliflower	Early Snowball A	Ferry-Morse Seed Company/ Smart Start	75	85	
Cauliflower	Snowball X	Plantation Products Inc.	75	54	
Cauliflower	Snowball X	Plantation Products Inc./ American Seed	75	52	
Celery	Giant Pascal	The Charles C. Hart Seed Company	55	94	
Celery	Tall Utah	New England Seed Company	55	87	
Celery	Tall Utah #5270 R	Ferry-Morse Seed Company/ Smart Start	55	89	
Chicory	Italian Dandelion	The Charles C. Hart Seed Company	65	78	
Chicory	Verona Red Radicchio	New England Seed Company	65	92	*
Chinese cabbage	Bok Choi	The Charles C. Hart Seed Company	75	93	*
Chinese cabbage	Michili	New England Seed Company	75	97	
Collards	Georgia	New England Seed Company	80	94	
Collards	Georgia Green	The Charles C. Hart Seed Company	80	95	*
Collards	Georgia Southern Creole	Ferry-Morse Seed Company	80	92	*

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Table 1 (continued). Germination of vegetable seeds. Standards are provided by the rules and regulations of the Federal Seed Act. H= Seeds remained hard at the end of the test period because they did not absorb water due to an impermeable seed coat. * = Does not meet label claim.

Plant	Variety	Seed Company	Standard	Germ. Found	
Collards	Vates Non Heading	Plantation Products Inc./ American Seed	80	45	
Corn	Butter and Sugar	New England Seed Company	75	97	
Corn	Early Choice	Seedway LLC	75	98	
Corn	Early Golden Bantam	Plantation Products Inc.	75	78	
Corn	Early Golden Bantam	Plantation Products Inc./ American Seed	75	77	
Corn	Fantastic	Seedway LLC	75	83	
Corn	Golden Bantam	W. Atlee Burpee and Company/ Heirloom	75	88	
Corn	Golden Beauty	The Charles C. Hart Seed Company	75	81	
Corn	Incredible	Seedway LLC	75	97	
Corn	Jackpot Hybrid	Ferry-Morse Seed Company	75	98	
Corn	Luscious Hybrid	Ferry-Morse Seed Company/ Organic	75	88	
Corn	Peaches and Cream	The Charles C. Hart Seed Company	75	90	
Corn	Silver 'n Gold 65	Livingston Seed Company	75	96	
Corn	Silver Queen	New England Seed Company	75	95	
Corn	Sugar and Gold	The Charles C. Hart Seed Company	75	95	*
Corn, popcorn	Robust Hulless	New England Seed Company	75	95	
Cornsalad	Big Seeded	Botanical Interests	75	88	
Cowpea	California Blackeye	Ferry-Morse Seed Company	75	84	
Cucumber	Boston Pickling	Livingston Seed Company	80	96	
Cucumber	Boston Pickling	New England Seed Company	80	94	
Cucumber	Lemon	W. Atlee Burpee and Company	80	74	
Cucumber	Marketmore 76	Plantation Products Inc.	80	96	
Cucumber	Marketmore 76	Seedway LLC	80	97	
Cucumber	Marketmore 76	The Charles C. Hart Seed Company	80	93	
Cucumber	Pioneer Hybrid	New England Seed Company	80	93	
Cucumber	Poinsett 76	Plantation Products Inc./ American Seed	80	93	
Cucumber	Straight 8	Botanical Interests	80	97	
Cucumber	Straight 8	Ferry-Morse Seed Company/ Organic	80	93	
Cucumber	Straight 8	Livingston Seed Company	80	94	
Cucumber	Straight 8	The Charles C. Hart Seed Company	80	94	
Cucumber	Straight 8	W. Atlee Burpee and Company/ Organic	80	89	
Cucumber	Sumter	Ferry-Morse Seed Company	80	79	
Cucumber	Tendergreen	Ferry-Morse Seed Company	80	95	
Cucumber	Wisconsin SMR 58	Seedway LLC	80	96	
Cucumber	Wisconsin SMR Pickling	The Charles C. Hart Seed Company	80	94	
Dill	Bouquet	Botanical Interests	60	66	
Dill	Bouquet	The Charles C. Hart Seed Company	60	73	
Dill	Fernleaf	Ferry-Morse Seed Company/ Smart Start	60	81	
Dill	Fernleaf	W. Atlee Burpee and Company	60	79	
Dill	Long Island Mammoth	Plantation Products Inc.	60	70	
Dill	Long Island Mammoth	Plantation Products Inc./ American Seed	60	53	
Dill	Mammoth Long Island	The Page Seed Company	60	66	
Eggplant	Black Beauty	Ferry-Morse Seed Company/ Smart Start	60	68	
Eggplant	Black Beauty	New England Seed Company	60	79	

Table 1 (continued). Germination of vegetable seeds. Standards are provided by the rules and regulations of the Federal Seed Act. H= Seeds remained hard at the end of the test period because they did not absorb water due to an impermeable seed coat. * = Does not meet label claim.

Plant	Variety	Seed Company	Standard	Germ. Found
Eggplant	Black Beauty	The Charles C. Hart Seed Company	60	89
Eggplant	Black Beauty	W. Atlee Burpee and Company/ Heirloom	60	83
Eggplant	Early Long Purple	Ferry-Morse Seed Company/ Organic	60	90
Eggplant	Japanese Long Purple	Plantation Products Inc.	60	58
Eggplant	Rotonda Bianca Stumpta Di Rosa	La Semiorio Sementi	60	94
Endive	Batavian Full Heart	New England Seed Company	70	61
Endive	Green Curled	Plantation Products Inc.	70	77
Endive	Green Curled	The Charles C. Hart Seed Company	70	96
Kale	Dwarf Blue Curled Vates	Ferry-Morse Seed Company	75	93
Kale	Dwarf Blue Curled Vates	New England Seed Company	75	87
Kale	Dwarf Blue Curled Vates	W. Atlee Burpee and Company	75	70
Kale	Red Winter	Botanical Interests	75	87
Kohlrabi	Early White Vienna	Ferry-Morse Seed Company/ Smart Start	75	94
Kohlrabi	Early White Vienna	Plantation Products Inc./ American Seed	75	73
Kohlrabi	Early White Vienna	W. Atlee Burpee and Company	75	94
Kohlrabi	White	The Charles C. Hart Seed Company	75	84
Kohlrabi	White Vienna	New England Seed Company	75	87
Leek	American Broad Flag	New England Seed Company	60	84
Leek	American Flag	Ferry-Morse Seed Company	60	85
Leek	American Flag	Livingston Seed Company	60	82
Leek	American Flag	The Charles C. Hart Seed Company	60	72
Leek		Botanical Interests	60	77
Lettuce	Black Seeded Simpson	Ferry-Morse Seed Company	80	88
Lettuce	Black Seeded Simpson	Plantation Products Inc./ American Seed	80	61
Lettuce	Black Seeded Simpson	The Charles C. Hart Seed Company	80	98
Lettuce	Black Seeded Simpson	The Page Seed Company	80	88
Lettuce	Black Seeded Simpson	W. Atlee Burpee and Company/ Organic	80	84
Lettuce	Burpee Bibb	W. Atlee Burpee and Company	80	93
Lettuce	Buttercrunch	Botanical Interests	80	77
Lettuce	Buttercrunch	Livingston Seed Company	80	97
Lettuce	Buttercrunch	The Charles C. Hart Seed Company	80	96
Lettuce	Grand Rapids	Plantation Products Inc.	80	96
Lettuce	Great Lakes	New England Seed Company	80	86
Lettuce	Great Lakes #118	Ferry-Morse Seed Company	80	83
Lettuce	Iceberg A	W. Atlee Burpee and Company	80	79
Lettuce	Iceberg	The Charles C. Hart Seed Company	80	89
Lettuce	Little Caesar	W. Atlee Burpee and Company	80	0
Lettuce	Parris Island Cos	Ferry-Morse Seed Company/ Organic	80	81
Lettuce	Parris Island Cos	The Page Seed Company	80	86
Lettuce	Red Sails	New England Seed Company	80	95
Lettuce	Red Velvet	Botanical Interests	80	94
Lettuce	Romaine-Cos	The Charles C. Hart Seed Company	80	96
Lettuce	Simpson Elite	New England Seed Company	80	85
Lettuce	Tintin	Thompson and Morgan Seedsman Inc.	80	92
Lettuce	Tom Thumb	W. Atlee Burpee and Company/ Heirloom	80	88

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Table 1 (continued). Germination of vegetable seeds. Standards are provided by the rules and regulations of the Federal Seed Act. H= Seeds remained hard at the end of the test period because they did not absorb water due to an impermeable seed coat. * = Does not meet label claim.

Plant	Variety	Seed Company	Standard	Germ. Found	
Melon	Rugoso Di Cosenza Giallo	La Semiorto Sementi	75	94	
Mustard	Florida Broadleaf	The Charles C. Hart Seed Company	75	58	
Mustard	Green Wave	New England Seed Company	75	75	
Mustard	Mizuna	Botanical Interests	75	96	
Mustard	Tendergreen	Plantation Products Inc./ American Seed	75	98	
New Zealand Spinach		New England Seed Company	40	86	
New Zealand Spinach		Plantation Products Inc.	40	78	
Okra	Clemson Spineless	New England Seed Company	50	89	
Okra	Clemson Spineless	Plantation Products Inc./ American Seed	50	61	
Okra	Clemson Spineless	The Charles C. Hart Seed Company	50	74	
Okra	Clemson Spineless	W. Atlee Burpee and Company	50	90	
Onion	Early Bunch	W. Atlee Burpee and Company	70	76	
Onion	Evergreen Bunching	The Charles C. Hart Seed Company	70	82	
Onion	Evergreen Long White Bunching	W. Atlee Burpee and Company/ Organic	70	83	
Onion	Flat of Italy	Botanical Interests	70	89	*
Onion	Granex Hybrid	W. Atlee Burpee and Company	70	90	
Onion	Ishikuro	Thompson and Morgan Seedsman Inc.	70	95	
Onion	Lisbon White Bunching	Plantation Products Inc./ American Seed	70	60	
Onion	Sweet Spanish	New England Seed Company	70	85	
Onion	Sweet Spanish Utah Strain	Plantation Products Inc.	70	66	
Onion	Tropeana Lunga	La Semiorto Sementi	70	65	
Onion	Walla Walla	Ferry-Morse Seed Company/ Smart Start	70	79	
Parsley	Dark Green Italian	The Page Seed Company	60	76	
Parsley	Dark Moss Curled	Plantation Products Inc.	60	50	
Parsley	Giant of Italy	Thompson and Morgan Seedsman Inc.	60	80	
Parsley	Italian	Plantation Products Inc./ American Seed	60	56	*
Parsley	Moss Curled	Botanical Interests	60	80	
Parsley	Single Italian Plain Leaf	Ferry-Morse Seed Company/ Smart Start	60	78	
Parsley	Single Italian Plain Leaf	W. Atlee Burpee and Company	60	90	
Parsley	Single Italian Plain Leaf	W. Atlee Burpee and Company/ Organic	60	65	*
Parsnip	All American	New England Seed Company	60	71	
Pea	Cascadia Sugar Snap	Ferry-Morse Seed Company	80	94	
Pea	Dwarf Grey Sugar	Plantation Products Inc.	80	96	
Pea	Dwarf White Sugar	Seedway LLC	80	68	
Pea	Little Marvel	The Charles C. Hart Seed Company	80	92	
Pea	Mammoth Melting Sugar	W. Atlee Burpee and Company/ Heirloom	80	92	
Pea	Mr. Big	Seedway LLC	80	95	
Pea	Oregon Sugar Pod	The Charles C. Hart Seed Company	80	87	
Pea	Oregon Sugar Pod	W. Atlee Burpee and Company/ Organic	80	77	
Pea	Snowbird	W. Atlee Burpee and Company	80	89	
Pea	Sugar Daddy	New England Seed Company	80	81	
Pea	Tall Telephone	New England Seed Company	80	67	
Pepper	Anaheim Chili	Ferry-Morse Seed Company/ Smart Start	55	75	

Table 1 (continued). Germination of vegetable seeds. Standards are provided by the rules and regulations of the Federal Seed Act. H= Seeds remained hard at the end of the test period because they did not absorb water due to an impermeable seed coat. * = Does not meet label claim.

Plant	Variety	Seed Company	Standard	Germ. Found	
Pepper	California Wonder	Livingston Seed Company	55	78	
Pepper	California Wonder	W. Atlee Burpee and Company	55	60	
Pepper	California Wonder	W. Atlee Burpee and Company/ Organic	55	48	
Pepper	Chinese Giant	W. Atlee Burpee and Company/ Heirloom	55	84	
Pepper	Cubanelle	The Charles C. Hart Seed Company	55	45	
Pepper	Doux D'Espagne Giapponese	La Semiorto Sementi	55	78	
Pepper	Hungarian Yellow Wax	Plantation Products Inc.	55	88	
Pepper	Jalapeno	Plantation Products Inc./ American Seed	55	95	
Pepper	Jalapeno Chili	Plantation Products Inc.	55	92	
Pepper	Jalapeno M	W. Atlee Burpee and Company	55	86	
Pepper	Long Thin Cayenne	Ferry-Morse Seed Company/ Smart Start	55	92	
Pepper	Red Cherry Hot	New England Seed Company	55	85	
Pepper	Sweet Banana	New England Seed Company	55	49	
Pepper	Sweet Banana	Plantation Products Inc./ American Seed	55	19	
Pumpkin	Baby Bear	The Charles C. Hart Seed Company	75	76	
Pumpkin	Big Max	Seedway LLC	75	88	
Pumpkin	Connecticut Field	The Charles C. Hart Seed Company	75	75	
Pumpkin	Howden	New England Seed Company	75	66	
Pumpkin	Jack Be Little	New England Seed Company	75	87	
Pumpkin	Small Sugar	The Charles C. Hart Seed Company	75	83	
Radish	Champion	Seedway LLC	75	98	
Radish	Cherry Belle	Plantation Products Inc.	75	99	
Radish	Cherry Belle	W. Atlee Burpee and Company/ Organic	75	99	
Radish	Crimson Giant	Plantation Products Inc./ American Seed	75	95	
Radish	Crimson Giant	W. Atlee Burpee and Company	75	96	
Radish	French Breakfast	Botanical Interests	75	90	*
Radish	French Breakfast	W. Atlee Burpee and Company/ Heirloom	75	84	*
Radish	Icicle Short Top	Ferry-Morse Seed Company	75	99	
Radish	Pink Slipper	Thompson and Morgan Seedsman Inc.	75	88	
Radish	Sparkler White Tip	Livingston Seed Company	75	99	
Radish	Watermelon	New England Seed Company	75	97	
Radish	White Tipped Scarlet	The Charles C. Hart Seed Company	75	99	
Rutabaga	American Purple Top	Plantation Products Inc.	75	85	
Rutabaga	American Purple Top	The Charles C. Hart Seed Company	75	80	
Rutabaga	Laurentian	New England Seed Company	75	92	*
Sage	Broadleaf	Ferry-Morse Seed Company/ Smart Start	60	70	*
Sage	Common	W. Atlee Burpee and Company	60	85	
Soybean	Edamame	Livingston Seed Company	75	79	
Soybean	Envy Edamame	Botanical Interests	75	90	
Spinach	7-Green	New England Seed Company	60	84	
Spinach	Bloomsdale	Botanical Interests	60	78	
Spinach	Bloomsdale	The Charles C. Hart Seed Company	60	94	
Spinach	Bloomsdale Long-standing	Livingston Seed Company	60	90	
Spinach	Bloomsdale Long-standing	The Page Seed Company	60	72	
Spinach	Correnta Hybrid	Plantation Products Inc.	60	79	

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Plant	Variety	Seed Company	Standard	Germ. Found
Spinach	Giant Noble	Plantation Products Inc./ American Seed	80	92
Spinach	Harmony Hybrid	W. Atlee Burpee and Company	60	90
Spinach	Medania	Thompson and Morgan Seedsman Inc.	60	76
Spinach	Teton Hybrid	Ferry-Morse Seed Company	60	97
Spinach	Winter Bloomsdale	Seedway LLC	60	73
Squash	Black Beauty	Seedway LLC	75	98
Squash	Blue Hubbard	The Charles C. Hart Seed Company	75	92
Squash	Buttercup	Plantation Products Inc.	75	55
Squash	Buttercup Burgess	The Charles C. Hart Seed Company	75	97
Squash	Cocozella Zucchini	New England Seed Company	75	80
Squash	Crookneck Early	New England Seed Company	75	93
Squash	Dark Green Zucchini	Plantation Products Inc.	75	88
Squash	Early Prolific Straightneck	Livingston Seed Company	75	94
Squash	Early Prolific Straightneck	Seedway LLC	75	99
Squash	Long Island Cheese	New England Seed Company	75	91
Squash	Nano Verde Di Milano	La Semiorto Sementi	75	77
Squash	Piena Lunga Di Napoli	La Semiorto Sementi	75	80
Squash	Puritan Butternut	Seedway LLC	75	97
Squash	Straightneck	The Charles C. Hart Seed Company	75	97
Squash	Table Princess	New England Seed Company	75	24
Squash	Table Queen	Ferry-Morse Seed Company	75	84
Squash	Vegetable Spaghetti	W. Atlee Burpee and Company	75	96
Squash	Waltham Butternut	The Charles C. Hart Seed Company	75	98
Swiss chard	Five Color Silverbeet	Botanical Interests	65	75
Swiss chard	Fordhook Giant	Livingston Seed Company	65	82
Swiss chard	Fordhook Giant	New England Seed Company	65	88
Swiss chard	Lucullus	The Charles C. Hart Seed Company	65	88
Swiss chard	Mixed Colors	Plantation Products Inc.	65	65
Swiss chard	Ruby	Ferry-Morse Seed Company/ Organic	65	89
Tomatillo	Toma Verde	Botanical Interests	50	87
Tomatillo	Verde	New England Seed Company	50	56
Tomato	Arkansas Traveler	New England Seed Company	75	94
Tomato	Beefsteak	Plantation Products Inc./ American Seed	75	80
Tomato	Big Beef	New England Seed Company	75	96
Tomato	Big Boy	New England Seed Company	75	97
Tomato	Brandywine	W. Atlee Burpee and Company/ Heirloom	75	92
Tomato	Jet Star	The Charles C. Hart Seed Company	75	94
Tomato	Jubilee	Ferry-Morse Seed Company/ Smart Start	75	96
Tomato	Large Red Cherry	Plantation Products Inc./ American Seed	75	96
Tomato	Marglobe	The Charles C. Hart Seed Company	75	92
Tomato	Roma	W. Atlee Burpee and Company/ Organic	75	97
Tomato	Super Beefsteak	W. Atlee Burpee and Company	75	92
Turnip	Purple Top White Globe	Botanical Interests	80	96
Turnip	Purple Top White Globe	Ferry-Morse Seed Company/ Organic	80	98
Turnip	Purple Top White Globe	Plantation Products Inc.	80	92
Turnip	Purple Top White Globe	W. Atlee Burpee and Company	80	96

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Plant	Variety	Seed Company	Standard	Germ. Found
Turnip	Seven Top	Plantation Products Inc./ American Seed	80	87
Turnip	Seven Top	The Page Seed Company	80	97
Turnip	Yellow Globe	The Charles C. Hart Seed Company	80	93
Watercress		Botanical Interests	40	81
Watermelon	Black Diamond	Livingston Seed Company	70	80
Watermelon	Charleston Gray	The Charles C. Hart Seed Company	70	84
Watermelon	Florida Giant	New England Seed Company	70	96
Watermelon	Sugar Baby	The Charles C. Hart Seed Company	70	90 *

Table 2. Summary for each seed company of total number of germination claims and the percentage that met or failed label claims.

Seed Company	Total Number of Claims	% Meeting Claims	% Not Meeting Claims
Botanical Interests, Inc.	22	100	0
Ferry-Morse Seed Company	19	100	0
Ferry-Morse Seed Company/Organic	8	100	0
Ferry-Morse Seed Company/ Smart Start	14	100	0
La Semiorto Sementi	10	90	10
Livingston Seed Company	17	100	0
New England Seed Company	52	92	8
Plantation Products Inc.	26	92	8
Plantation Products Inc./ American Seed	23	78	22
Seedway LLC	17	100	0
The Charles C. Hart Seed Company	51	90	10
The Page Seed Company	8	100	0
Thompson and Morgan Seedsman Inc.	8	100	0
W. Atlee Burpee and Company	26	89	11
W. Atlee Burpee and Company/ Heirloom	10	100	0
W. Atlee Burpee and Company/ Organic	9	100	0

Seed Germination and Purity Analysis 2010

Table 3. Summary by vegetable type of number of samples tested, average percent germination found, and germination standards. Standards are provided for by the rules and regulations of the Federal Seed Act.

Plant	Samples Tested	Standard	Average Germination
Asparagus	1	70	91
Bean	20	70	89
Bean, lima	2	70	76
Beet	14	65	90
Broccoli	8	75	77
Broccoliraab	3	75	91
Brussels sprouts	4	70	74
Cabbage	6	75	70
Cantaloupe	7	75	91
Carrot	7	55	75
Cauliflower	6	75	60
Celery	3	55	90
Chicory	2	65	85
Chinese cabbage	2	75	95
Collards	4	80	82
Corn	14	75	90
Corn, popcorn	1	75	95
Cornsalad	1	75	88
Cowpea	1	75	84
Cucumber	17	80	92
Dill	7	60	70
Eggplant	7	60	80
Endive	3	70	78
Kale	4	75	84
Kohlrabi	5	75	86
Leek	5	60	80
Lettuce	23	80	84
Melon	1	75	94
Mustard	4	75	82
New Zealand Spinach	2	40	82
Okra	4	50	79
Onion	11	70	79
Parsley	8	60	72
Parsnip	1	60	71
Pea	11	80	85
Pepper	15	55	72
Pumpkin	6	75	79
Radish	12	75	95
Rutabaga	3	75	86
Sage	2	60	78
Soybean	2	75	85
Spinach	11	60	84
Squash	18	75	86
Swiss chard	6	65	81
Tomatillo	2	50	72
Tomato	11	75	93
Turnip	7	80	94
Watercress	1	40	81
Watermelon	4	70	88

Table 4. Germination and purity of lawn seed. Results for purity and germination are for seeds separated by genus and not by species or variety are reported for that genus. Tolerance (Tol) is calculated according to the rules for seed testing published by the Association of Official Seed Analysts (AOSA). Variance (Var) is calculated as Purity Found (Pur F) minus Purity Claimed (Pur C). Germination Claimed (Germ C); Germination Found (Germ F). * = Does not meet label claim.

Seed Company	Seed Mixture	Pur C	Pur F	Var	Tol	Germ C	Germ F
New England Seed Company	<i>Contractors Lawn Mix</i>						
	Perennial Ryegrass, variety not stated	24.07				90	
	Annual Ryegrass, variety not stated	74.90				90	
	total Ryegrass	98.97	99.63	0.66	0.61		94
	Crop	0.26	0.00	-0.26	0.28		
	Weed	0.00	0.00	0.00	0.14		
	Inert Matter	0.78	0.37	-0.41	0.56		
	Pure Seed	98.97	99.63	0.66	0.61		
New England Seed Company	<i>Athletic Lawn Mix</i>						
	Kentucky Bluegrass, variety not stated	9.81	12.22	2.31	1.47 *	85	75
	Nexus Perennial Ryegrass	29.32	28.05	-1.27	3.72	90	92
	Creeping Red Fescue, variety not stated	9.85	12.21	2.36	2.20 *	85	70 *
	Genesis Tall Fescue	29.94				85	
	Rendition Tall Fescue	19.94				85	
	total Tall Fescue	49.88	45.96	-3.92	4.17		92
	Crop	0.17	0.00	-0.17	0.23		
	Weed	0.03	0.00	-0.03	0.14		
	Inert Matter	0.85	1.56	0.71	0.65 *		
Pure Seed	98.96	98.44	0.52	0.93			
New England Seed Company	<i>Tri-Rye Lawn Seed</i>						
	Nexus Perennial Ryegrass	49.05					
	Kokomo Perennial Ryegrass	24.53					
	Nobility Perennial Ryegrass	24.70					
	total Ryegrass	98.28	58.55	-39.73	2.87 *	90	88
	Crop	0.33	39.91	39.58	3.41		
	Kentucky Bluegrass		6.32				
	Fine Fescue		7.77				
	Tall Fescue		25.81				
	Weed	0.19	0.00	-0.19	0.23		
	Inert Matter	1.20	1.54	0.34	0.86		
Pure Seed	98.28	58.55	-39.73	2.87			
Jonathan Green, Inc.	<i>Full Sun Grass Seed Mixture</i>						
	Deep Blue Kentucky Bluegrass	19.70	23.33	3.63	2.44 *	88	80
	Frontier Perennial Ryegrass	19.70				92	
	Darkstar Perennial Ryegrass	19.65				92	
	total Perennial Ryegrass	39.35	40.25	0.90	4.86		93
	Hood Chewings Fescue	19.60				90	
	Eugene Creeping Red Fescue	9.82				90	
	Carman Chewings Fescue	9.80				90	
	total Fine Fescue	39.22	35.25	-3.97	3.81 *		83
	Crop	0.04	0.00	-0.04	0.14		
	Weed	0.02	0.00	-0.02	0.14		
	Inert Matter	1.67	1.17	-0.50	0.86		
	Pure Seed	98.27	98.83	-0.56	0.86		

Seed Germination and Purity Analysis 2010

Table 4 (continued). Germination and purity of lawn seed. Results for purity and germination are for seeds separated by genus and not by species or variety are reported for that genus. Tolerance (Tol) is calculated according to the rules for seed testing published by the Association of Official Seed Analysts (AOSA). Variance (Var) is calculated as Purity Found (Pur F) minus Purity Claimed (Pur C). Germination Claimed (Germ C); Germination Found (Germ F). * = Does not meet label claim.

Seed Company	Seed Mixture	Pur C	Pur F	Var	Tol	Germ C	Germ F
Southern States Co-Op. Inc.	<i>Tri-Rye Mixture</i>						
	ASP6005 Perennial Ryegrass	39.61				90	
	ASP6003 Perennial Ryegrass	36.60				90	
	ASP6001 Perennial Ryegrass	21.10				90	
	total Ryegrass	97.31	99.05	1.74	1.00		85
	Crop	0.45	0.00	-0.45	0.37		
	Weed	0.04	0.00	-0.04	0.14		
	Inert Matter	2.20	0.95	-1.25	0.93		
	Pure Seed	97.31	99.05	1.74	1.00		
Lebanon Seaboard Corp.	<i>Greenview Fairway Formula Sun and Shade Mixture</i>						
	Champagne Kentucky Bluegrass	19.82	25.76	5.94	2.69 *	85	84
	Charismatic Perennial Ryegrass	29.54				90	
	Exacta Perennial Ryegrass	24.64				90	
	total Ryegrass	54.18	58.35	4.17	4.19		92
	Vista Creeping Red Fescue	24.83	14.66	-10.17	2.76 *	85	83
	Crop	0.00	0.00	0.00	0.14		
	Weed	0.00	0.00	0.00	0.14		
	Inert Matter	1.17	1.23	0.06	0.78		
	Pure Seed	98.77	98.83	0.06	0.78		
Blue Seal Feeds Inc.	<i>Blue Seal Athletic Field Mix</i>						
	Rugby II Kentucky Bluegrass	24.30				80	
	Blue Chip Kentucky Bluegrass	24.80				80	
	Nu Blue Kentucky Bluegrass	24.51				80	
	total Kentucky Bluegrass	73.61	75.92	2.31	6.46		70
	Gator 3 Perennial Ryegrass	24.64	21.19	-3.45	5.77	90	93
	Crop	0.70	0.00	-0.70	0.47		
	Weed	0.10	0.00	-0.10	0.28		
	Inert Matter	1.67	2.89	1.22	1.10 *		
Pure Seed	98.25	97.11	-1.14	1.10 *			
Blue Seal Feeds Inc.	<i>Blue Seal Tri-Luxe</i>						
	All Star 3 Perennial Ryegrass	39.39				90	
	Gator 3 Perennial Ryegrass	34.27				90	
	Accent Perennial Ryegrass	24.14				90	
	total Ryegrass	97.80	98.29	0.49	1.00		89
	Crop	0.41	0.00	-0.41	0.37		
	Weed	0.00	0.00	0.00	0.14		
	Inert Matter	1.79	1.71	-0.08	1.00		
	Pure Seed	97.80	98.29	0.49	1.00		

Table 5. Germination and purity of crop seed. * = Does not meet label claim.

Seed Company	Seed	Purity Claim	Purity Found	Germ Claim	Germ Found		
Michigan Agricultural Commodities	Rye	97.00	99.13	89	83		
	Crop	1.82	0.00				
	Weed	0.13	0.00				
	Inert	1.05	0.87				
Michigan Agricultural Commodities	Wheat	97.00	99.68	85	97		
	Crop	1.82	0.00				
	Weed	0.03	0.00				
	Inert	1.15	0.32				
Preferred Seed Company	Rye	99.00	99.03	85	96		
	Crop	0.10	0.00				
	Weed	0.10	0.00				
	Inert	0.80	0.07				
Michigan Agricultural Commodities	Rye	97.00	99.00	85	85		
	Crop	1.82	0.26				
	Weed	0.03	0.01				
	Inert	1.15	0.73				
Michigan Agricultural Commodities	Wheat	97.00	99.15	85	93		
	Crop	1.82	0.01				
	Weed	0.03	0.00				
	Inert	1.15	0.84				
Fieldworks Connecticut LLC	Rye	99.17	97.05	*	85	0	*
	Crop	0.28	1.38	*			
	Weed	0.01	0.01				
	Inert	0.54	1.56	*			
Fieldworks Connecticut LLC	Wheat	99.59	99.61	91	90		
	Crop	0.00	0.00				
	Weed	0.08	0.00				
	Inert	0.33	0.39				
Fieldworks Connecticut LLC	Wheat	99.16	98.83	93	86		
	Crop	0.00	0.06				
	Weed	0.00	0.11				
	Inert	0.84	1.00				
Michigan Agricultural Commodities	Wheat	97.00	99.54	no claim	91		
	Crop	1.82	0.02				
	Weed	0.03	0.00				
	Inert	1.15	0.44				
Logue Farms	Rye	no claim	82.07	no claim	62		
	Crop		0.01				
	Weed		17.37				
	Inert		0.55				

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