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Seed Germination
and Purity
Analysis—2003

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Official samples of 370 vegetable, 11 lawn, and 7 crop seed were collected by inspectors from the Bureau of Regulation and Inspection of the Connecticut Department of Agriculture for testing in 2003. 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. All tests were replicated twice. In addition, seedlings must also 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 370 vegetable seed samples tested, three did not meet their label claims for germination but were not retested because of insufficient numbers of seeds. Seed samples were also examined for prohibited noxious weed seeds. 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. Two of the 11 lawn seed samples tested met label claims for both purity and germination. Nine samples did not meet claims for purity but passed label claims for germination.

Table 5 shows the results of purity and germination tests for crop seed samples. All seven samples met label claims for germination and purity. In addition to germination and purity tests, samples were also examined for prohibited noxious weeds. One sample contained 5 noxious weed seeds and was reported to the Seed Control Official.

Analyses were performed by Mary K. Inman and Dr. Sharon M. Douglas. Samples were collected by Alton A. Blodgett, Seed Control Official and John Schneider. The Seed Law is administered by the Seed Control Official for the Commissioner of the Department of Agriculture.

Sharon M. Douglas

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

Plant	Variety	Seed Company	Standard	Germ Found
Artichoke	Green Globe	Comstock, Ferre and Co.	60	57
Bean	Blue Lake 274	Fredonia Seeds	75	81
Bean	Blue Lake 274 Bush	Walmart Gardens/Ferry Morse Seed Co.	75	93
Bean	Blue Lake Pole	Comstock, Ferre and Co.	75	73+14H
Bean	Brittle Wax Bush	Martha Stewart Living Omnimedia Inc.	75	88
Bean	Cherokee Wax	New England Seed Co.	75	99
Bean	Derby	The Page Seed Co.	75	93
Bean	Green Crop	NK Lawn and Garden Co.	75	82
Bean	Highway	Excel Seeds	75	69
Bean	Italian Bush	Martha Stewart Living Omnimedia Inc.	75	89
Bean	Jade Stringless	New England Seed Co.	75	73
Bean	Kentucky King Bush	W. Atlee Burpee and Co.	75	69
Bean	Kentucky Wonder 125	Agway, Inc.	75	98
Bean	Kentucky Wonder Pole	Seeds of Change (Certified Organic)	75	97
Bean	Kentucky Wonder Pole	Walmart Gardens/Ferry Morse Seed Co.	75	98
Bean	Kinghorn	Charles C. Hart Seed Co.	75	80
Bean	Pencil Pod Black Wax	NK Lawn and Garden Co.	75	97
Bean	Provider	Charles C. Hart Seed Co.	75	92
Bean	Purple Teepee Bush	Botanical Interests, Inc.	75	93
Bean	Roma II	Comstock, Ferre and Co.	75	80
Bean	Romano Bush	The Page Seed Co.	75	96
Bean	Top Crop	American Seed	75	97
Bean, lima	Burpee Improved	Charles C. Hart Seed Co.	70	50*
Bean, lima	Henderson Bush	Agway, Inc.	70	84
Beet	Bull's Blood	Comstock, Ferre and Co.	65	91
Beet	Chioggia	Burpee's Heirlooms/W. Atlee Burpee & Co.	65	85
Beet	Cylindra	The Page Seed Co.	65	88
Beet	Detroit Dark Red	American Seed	65	76
Beet	Detroit Dark Red	Excel Seeds	65	83
Beet	Detroit Dark Red	NK Lawn and Garden Co.	65	83
Beet	Detroit Dark Red, Morse's Strain	Walmart Gardens/Ferry Morse Seed Co.	65	87
Beet	Early Wonder	Agway, Inc.	65	67
Beet	Early Wonder	Charles C. Hart Seed Co.	65	55
Beet	Early Wonder G. T.	New England Seed Co.	65	89
Beet	Little Ball	Martha Stewart Living Omnimedia Inc.	65	87
Beet	Lutz Green Leaf	The Page Seed Co.	65	79

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

Plant	Variety	Seed Company	Standard	Germ Found
Broccoli	Calabrese	American Seed	75	80
Broccoli	Calabrese	Charles C. Hart Seed Co.	75	87
Broccoli	Green Goliath	W. Atlee Burpee and Co.	75	88
Broccoli	Premium Crop	New England Seed Co.	75	87
Broccoli	Southern Comet	Agway, Inc.	75	85
Broccoli	Super Blend	Botanical Interests, Inc.	75	94
Broccoli	Waltham	Comstock, Ferre and Co.	75	90
Broccoli	Waltham 29	Excel Seeds	75	68
Broccoli	Waltham 29	NK Lawn and Garden Co.	75	92
Broccoli raab	Early Pugliese	New England Seed Co.	75	88
Broccoli raab	Spring	Martha Stewart Living Omnimedia Inc.	75	95
Brussels sprouts	Catskill	Agway, Inc.	70	88
Brussels sprouts	Catskill	Walmart Gardens/Ferry Morse Seed Co.	70	90
Brussels sprouts	Long Island Improved	Charles C. Hart Seed Co.	70	90
Brussels sprouts	Long Island Improved	Comstock, Ferre and Co.	70	97
Cabbage	All Seasons Hybrid Blend	NK Lawn and Garden Co.	75	73
Cabbage	Copenhagen	Comstock, Ferre and Co.	75	98
Cabbage	Copenhagen Market	The Page Seed Co.	75	88
Cabbage	Dynamo	New England Seed Co.	75	97
Cabbage	Earliana	Martha Stewart Living Omnimedia Inc.	75	98
Cabbage	Early Golden Acre	American Seed	75	92
Cabbage	Premium Flat Dutch	Charles C. Hart Seed Co.	75	86
Cabbage	Royal Savoy	Agway, Inc.	75	87
Cantaloupe	Bush Star	New England Seed Co.	75	100
Cantaloupe	Hale's Best	Charles C. Hart Seed Co.	75	95
Cantaloupe	Hale's Best	Excel Seeds	75	86
Cantaloupe	Iroquois	Comstock, Ferre and Co.	75	90
Cantaloupe	Iroquois	Fredonia Seeds	75	84
Carrot	Chantenay	American Seed	55	84
Carrot	Danvers	Comstock, Ferre and Co.	55	90
Carrot	Danvers 126	Walmart Gardens/Ferry Morse Seed Co.	55	83
Carrot	Danvers Half Long	W. Atlee Burpee and Co.	55	87
Carrot	Imperator	Charles C. Hart Seed Co.	55	95
Carrot	Little Finger	Charles C. Hart Seed Co.	55	82
Carrot	Little Fingers	New England Seed Co.	55	86
Carrot	Red Cored Chantenay	The Page Seed Co.	55	74
Carrot	Scarlet Nantes	NK Lawn and Garden Co.	55	88
Carrot	Short 'N Sweet	Martha Stewart Living Omnimedia Inc.	55	76

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

Plant	Variety	Seed Company	Standard	Germ Found
Carrot	Tendersweet	Excel Seeds	55	71
Carrot	Yellowstone	Agway, Inc.	55	82
Cauliflower	Broccoverde	Comstock, Ferre and Co.	75	97
Cauliflower	Early Snowball	Charles C. Hart Seed Co.	75	95
Cauliflower	Early Snowball	New England Seed Co.	75	85
Cauliflower	Snow Crown	Agway, Inc.	75	97
Cauliflower	Snowball X	American Seed	75	89
Celeriac	Giant Smooth Prague	Comstock, Ferre and Co.	55	59
Celery	Giant Pascal	Charles C. Hart Seed Co.	55	92
Celery	Golden Self Blanching	Comstock, Ferre and Co.	55	85
Celery	Utah	New England Seed Co.	55	92
Chicory	Italian Dandelion	New England Seed Co.	65	83
Chicory	Spadona Verde	Comstock, Ferre and Co.	65	81
Chicory	Witloof	Charles C. Hart Seed Co.	65	72
Chinese cabbage	Bok Choi	Charles C. Hart Seed Co.	75	90
Chinese cabbage	Jade Pagoda	Agway, Inc.	75	97
Chinese cabbage	Joi Choi, Pak Choi	Martha Stewart Living Omnimedia Inc.	75	99
Chinese cabbage	Orient Express	W. Atlee Burpee and Co.	75	91
Chinese cabbage	Rosette Bok Choi	Botanical Interests, Inc.	75	98
Collards	Georgia	Comstock, Ferre and Co.	80	94
Collards	Georgia	New England Seed Co.	80	96
Collards	Georgia	W. Atlee Burpee and Co.	80	92
Collards	Georgia Green	Charles C. Hart Seed Co.	80	88
Collards	Vates	Agway, Inc.	80	93
Collards	Vates	SeedWay	80	93
Corn	Bodacious	Charles C. Hart Seed Co.	75	97
Corn	Butter and Sugar	Agway, Inc.	75	100
Corn	Butter and Sugar	Comstock, Ferre and Co.	75	99
Corn	Butter and Sugar	Fredonia Seeds	75	88
Corn	Country Gentleman	Burpee's Heirlooms/W. Atlee Burpee & Co.	75	98
Corn	Early and Often	W. Atlee Burpee and Co.	75	99
Corn	Early Golden Bantam	American Seed	75	92
Corn	Early Sunglow	Martha Stewart Living Omnimedia Inc.	75	98
Corn	Golden Bantam	Comstock, Ferre and Co.	75	94
Corn	Golden Beauty	Excel Seeds	75	97
Corn	Golden Beauty	The Page Seed Co.	75	99
Corn	Honeybutter	NK Lawn and Garden Co.	75	85
Corn	Kandy Korn	Charles C. Hart Seed Co.	75	98

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

Plant	Variety	Seed Company	Standard	Germ Found
Corn	Mini Ear	New England Seed Co.	75	86
Corn	Quickie	New England Seed Co.	75	94
Corn	Rainbow Inca	Seeds of Change (Certified Organic)	75	95
Corn	Seneca Horizon	Agway, Inc.	75	97
Corn	Silver Queen	Charles C. Hart Seed Co.	75	100
Corn	Silver Queen	Walmart Gardens/Ferry Morse Seed Co.	75	97
Corn	Sugar Dots	Walmart Gardens/Ferry Morse Seed Co.	75	98
Cornsalad	Big Seeded	Botanical Interests, Inc.	70	83
Cornsalad		Charles C. Hart Seed Co.	70	93
Cowpea	California No. 5 Black-eyed Pea	Martha Stewart Living Omnimedia Inc.	75	70
Cress, upland		Charles C. Hart Seed Co.	60	79
Cucumber	Burpless	New England Seed Co.	80	94
Cucumber	Cross Country Hybrid	Walmart Gardens/Ferry Morse Seed Co.	80	94
Cucumber	Marketmore 76	Agway, Inc.	80	97
Cucumber	Marketmore 76	Charles C. Hart Seed Co.	80	95
Cucumber	Marketmore 76	The Page Seed Co.	80	95
Cucumber	National Pickling	American Seed	80	81
Cucumber	National Pickling	Fredonia Seeds	80	91
Cucumber	Slicemaster	Comstock, Ferre and Co.	80	97
Cucumber	Slicemaster	New England Seed Co.	80	99
Cucumber	Straight Eight	Botanical Interests, Inc.	80	98
Cucumber	Straight Eight	NK Lawn and Garden Co.	80	95
Cucumber	Straight Eight	W. Atlee Burpee and Co.	80	96
Cucumber	West Indian Gherkin	Comstock, Ferre and Co.	80	96
Cucumber	Wisconsin Pickling	Charles C. Hart Seed Co.	80	99
Cucumber	Wisconsin SMR 58	Agway, Inc.	80	99
Dill	Bouquet	Botanical Interests, Inc.	60	70
Dill	Bouquet	Charles C. Hart Seed Co.	60	82
Dill	Dukat	Agway, Inc.	60	71
Dill	Fern Leaf	Comstock, Ferre and Co.	60	92
Dill	Fern Leaf	Martha Stewart Living Omnimedia Inc.	60	94
Dill	Long Island Mammoth	NK Lawn and Garden Co.	60	74
Dill		Fredonia Seeds	60	69
Eggplant	Black Beauty	American Seed	60	88
Eggplant	Black Beauty	Botanical Interests, Inc.	60	95
Eggplant	Black Beauty	Comstock, Ferre and Co.	60	78

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Plant	Variety	Seed Company	Standard	Germ Found
Eggplant	Black Beauty	The Page Seed Co.	60	85
Eggplant	Black Beauty	Walmart Gardens/Ferry Morse Seed Co.	60	82
Eggplant	Burpee Hybrid	W. Atlee Burpee and Co.	60	93
Eggplant	Ducky	New England Seed Co.	60	93
Eggplant	High Bush Select	Agway, Inc.	60	84
Eggplant	Vittoria	Charles C. Hart Seed Co.	60	78
Endive	Batavian Full Heart	New England Seed Co.	70	88
Endive	Broad Leaf	Charles C. Hart Seed Co.	70	83
Endive	Green Curled	Excel Seeds	70	74
Endive	Green Curled	Martha Stewart Living Omnimedia Inc.	70	97
Endive	Green Ruffle	Agway, Inc.	70	93
Endive	Green Ruffle	SeedWay	70	100
Endive	Salad King	Comstock, Ferre and Co.	70	69
Kale	Blue Scotch	Agway, Inc.	75	98
Kale	Nero Toscana (Black Tuscan)	Botanical Interests, Inc.	75	93
Kale	Red Russian	Comstock, Ferre and Co.	75	98
Kale	Red Russian	Martha Stewart Living Omnimedia Inc.	75	84
Kale	Vates Blue Curled	Charles C. Hart Seed Co.	75	86
Kale	Vates Dwarf Blue Curled	New England Seed Co.	75	97
Kale	Vates Dwarf Blue Curled	W. Atlee Burpee and Co.	75	96
Kohlrabi	Early Purple Vienna	Agway, Inc.	75	80
Kohlrabi	Early White Vienna	Walmart Gardens/Ferry Morse Seed Co.	75	92
Kohlrabi	White	Charles C. Hart Seed Co.	75	93
Kohlrabi	Winner	New England Seed Co.	75	95
Leek	American Broad Flag	New England Seed Co.	60	92
Leek	American Flag	Charles C. Hart Seed Co.	60	93
Leek	American Flag	Walmart Gardens/Ferry Morse Seed Co.	60	93
Leek	Carina	Agway, Inc.	60	95
Lettuce	Black Seeded Simpson	American Seed	80	76
Lettuce	Black Seeded Simpson	Charles C. Hart Seed Co.	80	95
Lettuce	Black Seeded Simpson	Excel Seeds	80	94
Lettuce	Burpee Bibb	W. Atlee Burpee and Co.	80	95
Lettuce	Burpee's Iceberg	W. Atlee Burpee and Co.	80	94
Lettuce	Buttercrunch	The Page Seed Co.	80	93
Lettuce	Butterhead Bibb	Martha Stewart Living Omnimedia Inc.	80	85
Lettuce	Cimmaron Cos	Botanical Interests, Inc.	80	82
Lettuce	Grand Rapids	Fredonia Seeds	80	97

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Plant	Variety	Seed Company	Standard	Germ Found
Lettuce	Great Lakes	Charles C. Hart Seed Co.	80	81
Lettuce	Great Lakes	New England Seed Co.	80	88
Lettuce	Great Lakes 118	Walmart Gardens/Ferry Morse Seed Co.	80	84
Lettuce	Mesclun, Q's Special Medley	Botanical Interests, Inc.	80	85
Lettuce	Oakleaf	New England Seed Co.	80	83
Lettuce	Paris Island Cos	Agway, Inc.	80	91
Lettuce	Parris Island	Comstock, Ferre and Co.	80	97
Lettuce	Prize Head	NK Lawn and Garden Co.	80	86
Lettuce	Red Sails	New England Seed Co.	80	94
Lettuce	Rouge D'Hiver	Seeds of Change (Certified Organic)	80	76
Lettuce	Ruby Red	The Page Seed Co.	80	76
Lettuce	Salad Bowl	Walmart Gardens/Ferry Morse Seed Co.	80	94
Lettuce	Summer Bibb	Comstock, Ferre and Co.	80	98
Lettuce	Summertime	Agway, Inc.	80	94
Mustard	Florida Broad Leaf	Excel Seeds	75	83
Mustard	Green Wave	New England Seed Co.	75	94
Mustard	Mizuna	Seeds of Change (Certified Organic)	75	99
Mustard	Red Giant	Comstock, Ferre and Co.	75	94
Mustard	Southern Giant Curled	Charles C. Hart Seed Co.	75	98
Mustard	Spinach, Tendergreen	The Page Seed Co.	75	98
New Zealand spinach		Agway, Inc.	40	80
New Zealand spinach		Comstock, Ferre and Co.	40	82
Okra	Clemson Spineless	Agway, Inc.	50	94
Okra	Clemson Spineless	Comstock, Ferre and Co.	50	74
Okra	Clemson Spineless	NK Lawn and Garden Co.	50	59+39H
Okra	Perkins Mammoth	Charles C. Hart Seed Co.	50	49+46H
Onion	Candy	Agway, Inc.	70	88
Onion	Dulce Grande Hybrid	American Seed	70	74
Onion	Evergreen White Bunching	Charles C. Hart Seed Co.	70	88
Onion	Evergreen White Bunching	Martha Stewart Living Omnimedia Inc.	70	84
Onion	Evergreen White Bunching	Walmart Gardens/Ferry Morse Seed Co.	70	92
Onion	Florence Red	W. Atlee Burpee and Co.	70	74
Onion	Red Burgemaster	New England Seed Co.	70	88
Onion	Southport White Bunching	The Page Seed Co.	70	76
Onion	Stockton Red	Seeds of Change (Certified Organic)	70	93
Onion	Utah Jumbo Yellow Spanish	Walmart Gardens/Ferry Morse Seed Co.	70	93

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

Plant	Variety	Seed Company	Standard	Germ Found
Onion	Walla Walla	Comstock, Ferre and Co.	70	86
Onion	Wethersfield Red	Comstock, Ferre and Co.	70	55*
Onion	White Lisbon Bunching	NK Lawn and Garden Co.	70	95
Onion	Yellow Spanish	Charles C. Hart Seed Co.	70	76
Parsley	Extra Curled Dwarf	Martha Stewart Living Omnimedia Inc.	60	61
Parsley	Extra Triple Curled	Walmart Gardens/Ferry Morse Seed Co.	60	67
Parsley	Forest Green	Agway, Inc.	60	77
Parsley	Hamburg Rooted	Comstock, Ferre and Co.	60	28*
Parsley	Italian Flat Leaf	American Seed	60	60
Parsley	Italian Flat Leaf	NK Lawn and Garden Co.	60	76
Parsley	Moss Curled	Comstock, Ferre and Co.	60	69
Parsley	Moss Curled	New England Seed Co.	60	73
Parsley	Plain Leaf	Charles C. Hart Seed Co.	60	62
Parsnip	All American	Agway, Inc.	60	78
Parsnip	All American	New England Seed Co.	60	82
Parsnip	Hollow Crown	Charles C. Hart Seed Co.	60	81
Parsnip	Hollow Crown	The Page Seed Co.	60	72
Pea	Alaska	Walmart Gardens/Ferry Morse Seed Co.	80	99
Pea	Cascadia	Botanical Interests, Inc.	80	80
Pea	Dakota	New England Seed Co.	80	91
Pea	Dwarf Gray Sugar	Charles C. Hart Seed Co.	80	99
Pea	Dwarf White Sugar	Agway, Inc.	80	96
Pea	Early Perfection	Excel Seeds	80	88
Pea	Green Arrow	Fredonia Seeds	80	87
Pea	Lincoln	Charles C. Hart Seed Co.	80	96
Pea	Little Marvel	American Seed	80	95+2H
Pea	Little Marvel	The Page Seed Co.	80	91+1H
Pea	Mammoth Melting Sugar	Comstock, Ferre and Co.	80	86
Pea	Melting Sugar	Walmart Gardens/Ferry Morse Seed Co.	80	94
Pea	Mr. Big	Agway, Inc.	80	97
Pea	Oregon Sugar Pod II	NK Lawn and Garden Co.	80	92+1H
Pea	Pioneer	Seeds of Change (Certified Organic)	80	90
Pea	Sugar Snap	Martha Stewart Living Omnimedia Inc.	80	91+2H
Pea	Sugar Snap	New England Seed Co.	80	88
Pea	Wando	Comstock, Ferre and Co.	80	86+9H
Pea	Wando	W. Atlee Burpee and Co.	80	95+1H
Pepper	Anaheim	Comstock, Ferre and Co.	55	73

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

Plant	Variety	Seed Company	Standard	Germ Found
Pepper	California Wonder	Charles C. Hart Seed Co.	55	67
Pepper	California Wonder	Excel Seeds	55	60
Pepper	California Wonder	Martha Stewart Living Omnimedia Inc.	55	74
Pepper	California Wonder	NK Lawn and Garden Co.	55	95
Pepper	Cayenne Large Red Thick	Martha Stewart Living Omnimedia Inc.	55	60
Pepper	Chinese Giant	Burpee's Heirlooms/W. Atlee Burpee & Co.	55	85
Pepper	Cubanelle	New England Seed Co.	55	73
Pepper	Early Calwonder	The Page Seed Co.	55	68
Pepper	Habanero	Comstock, Ferre and Co.	55	70
Pepper	Habanero	W. Atlee Burpee and Co.	55	79
Pepper	Jalapeno Chile	NK Lawn and Garden Co.	55	93
Pepper	Long Thin Cayenne	Walmart Gardens/Ferry Morse Seed Co.	55	77
Pepper	Marconi Rosso	Charles C. Hart Seed Co.	55	66
Pepper	Mulato	Comstock, Ferre and Co.	55	76
Pepper	Red Beauty	New England Seed Co.	55	64
Pepper	Red Cherry Hot	Charles C. Hart Seed Co.	55	89
Pepper	Red Cherry Hot	New England Seed Co.	55	81
Pepper	Red Ruffled Pimiento	Seeds of Change (Certified Organic)	55	74
Pepper	Serrano Tampiqueno	Botanical Interests, Inc.	55	80
Pepper	Staddon's Select	SeedWay	55	94
Pepper	Sweet Banana	Agway, Inc.	55	77
Pepper	Sweet Banana	W. Atlee Burpee and Co.	55	86
Pumpkin	Big Max	Agway, Inc.	75	89
Pumpkin	Big Max	Comstock, Ferre and Co.	75	81
Pumpkin	Connecticut Field	Charles C. Hart Seed Co.	75	97
Pumpkin	Howden	New England Seed Co.	75	97
Pumpkin	Jack Be Little	New England Seed Co.	75	95
Pumpkin	Jack O'Lantern	American Seed	75	86
Radish	All Seasons White	Martha Stewart Living Omnimedia Inc.	75	92
Radish	Champion	Agway, Inc.	75	100
Radish	Cherry Belle	Charles C. Hart Seed Co.	75	99
Radish	Cherry Belle	NK Lawn and Garden Co.	75	98
Radish	China Rose	Comstock, Ferre and Co.	75	96
Radish	Round Black Spanish	Seeds of Change (Certified Organic)	75	96
Radish	Salad Rose	W. Atlee Burpee and Co.	75	95
Radish	Sparkler	Walmart Gardens/Ferry Morse Seed Co.	75	100
Radish	White Icicle	American Seed	75	81

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

Plant	Variety	Seed Company	Standard	Germ Found
Rocket		New England Seed Co.	75	91
Rutabaga	Improved Purple Top	Comstock, Ferre and Co.	75	98
Rutabaga	Improved Purple Top Yellow	New England Seed Co.	75	92
Sage	Broad Leaf	Agway, Inc.	60	87
Sage	Broad Leaf	Botanical Interests, Inc.	60	97
Sage	Broad Leaf	Comstock, Ferre and Co.	60	88
Sage	Broad Leaf	New England Seed Co.	60	97
Sage	Broad Leaf	Walmart Gardens/Ferry Morse Seed Co.	60	90
Sage	Clary	Seeds of Change (Certified Organic)	60	79
Sage	Common	W. Atlee Burpee and Co.	60	82
Spinach	Bloomsdale	Comstock, Ferre and Co.	60	94
Spinach	Bloomsdale Longstanding	Excel Seeds	60	80
Spinach	Bloomsdale Longstanding	Martha Stewart Living Omnimedia Inc.	60	88
Spinach	Bloomsdale Longstanding	NK Lawn and Garden Co.	60	90
Spinach	Bloomsdale Longstanding	The Page Seed Co.	60	93
Spinach	Correnta	American Seed	60	97
Spinach	Correnta	Botanical Interests, Inc.	60	97
Spinach	Melody	Agway, Inc.	60	96
Spinach	Melody	New England Seed Co.	60	94
Spinach	Melody	W. Atlee Burpee and Co.	60	93
Spinach	Teton	Walmart Gardens/Ferry Morse Seed Co.	60	93
Squash	Black Beauty	NK Lawn and Garden Co.	75	93
Squash	Blue Hubbard	SeedWay	75	93
Squash	Burpee's Fordhook Zucchini	W. Atlee Burpee and Co.	75	92
Squash	Buttercup	NK Lawn and Garden Co.	75	71
Squash	Butternut	The Page Seed Co.	75	98
Squash	Cocozelle	New England Seed Co.	75	88
Squash	Crookneck Bush	Comstock, Ferre and Co.	75	93
Squash	Early Crookneck	Charles C. Hart Seed Co.	75	86
Squash	Early Prolific Straightneck	Agway, Inc.	75	92
Squash	Early Prolific Straightneck	Fredonia Seeds	75	82
Squash	Early Yellow Crookneck	Botanical Interests, Inc.	75	95
Squash	Hasta la Pasta	W. Atlee Burpee and Co.	75	100
Squash	Patty Pan	New England Seed Co.	75	98
Squash	Puritan Butternut	Agway, Inc.	75	97
Squash	Spaghetti	New England Seed Co.	75	99
Squash	Table Ace Acorn	Agway, Inc.	75	96
Squash	Table Queen	Comstock, Ferre and Co.	75	92
Squash	Turk's Turban	Charles C. Hart Seed Co.	75	92

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

Plant	Variety	Seed Company	Standard	Germ Found
Squash	Yellow Crookneck	Walmart Gardens/Ferry Morse Seed Co.	75	91
Swiss chard	Bright Lights	Agway, Inc.	65	91
Swiss chard	Fordhook Giant	Comstock, Ferre and Co.	65	84
Swiss chard	Fordhook Giant	New England Seed Co.	65	79
Swiss chard	Fordhook Giant	NK Lawn and Garden Co.	65	84
Swiss chard	Large Ribbed Dark Green	Walmart Gardens/Ferry Morse Seed Co.	75	77
Swiss chard	Lucullus	Charles C. Hart Seed Co.	65	84
Swiss chard	Rhubarb	The Page Seed Co.	65	82
Tomatillo	Toma Verde	Comstock, Ferre and Co.	50	93
Tomatillo	Toma Verde	Martha Stewart Living Omnimedia Inc.	50	98
Tomato	Beefsteak	The Page Seed Co.	75	76
Tomato	Big Boy	New England Seed Co.	75	92
Tomato	Delicious	The Page Seed Co.	75	76
Tomato	Husky Gold	Comstock, Ferre and Co.	75	75
Tomato	Jet Star	Charles C. Hart Seed Co.	75	89
Tomato	Large Red Cherry	Charles C. Hart Seed Co.	75	96
Tomato	Oregon Spring	Comstock, Ferre and Co.	75	81
Tomato	Roma VF	American Seed	75	92
Tomato	Roma VF	Fredonia Seeds	75	74
Tomato	Rutgers	Walmart Gardens/Ferry Morse Seed Co.	75	87
Tomato	Super Beefsteak	W. Atlee Burpee and Co.	75	94
Tomato	Super Sweet 100	NK Lawn and Garden Co.	75	95
Tomato	Tiny Tim	New England Seed Co.	75	86
Tomato	Yellow Pear	Martha Stewart Living Omnimedia Inc.	75	92
Turnip	Purple Top White Globe	American Seed	80	95
Turnip	Purple Top White Globe	New England Seed Co.	80	99
Turnip	Purple Top White Globe	W. Atlee Burpee and Co.	80	97
Turnip	Seven Top	New England Seed Co.	80	97
Turnip	Seven Top Greens	Excel Seeds	80	100
Watermelon	Crimson Sweet	W. Atlee Burpee and Co.	70	98
Watermelon	Kleckley's Sweet	Comstock, Ferre and Co.	70	95
Watermelon	Sugar Baby	Agway, Inc.	70	95
Watermelon	Sugar Baby	Charles C. Hart Seed Co.	70	94
Watermelon	Sugar Baby	Fredonia Seeds	70	97
Watermelon	Sugar Baby	New England Seed Co.	70	96
Watermelon	Sugar Baby	Walmart Gardens/Ferry Morse Seed Co.	70	94

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
Agway, Inc.	39	100	0
American Seed	18	94	6
Botanical Interests, Inc.	15	100	0
Burpee's Heirlooms/W. Atlee Burpee & Co.	3	100	0
Charles C. Hart Seed Co.	49	98	2
Comstock, Ferre & Co.	48	96	4
Excel Seeds	13	100	1
Freedonia Seeds	10	100	0
Martha Stewart Living Omnimedia Inc.	22	100	0
New England Seed Co.	48	100	0
NK Lawn and Garden Co.	22	100	0
Seeds of Change (Certified Organic)	9	100	0
Seedway	4	100	0
The Page Seed Co.	21	100	0
W. Atlee Burpee and Co.	23	100	0
Walmart Gardens/Ferry Morse Seed Co.	26	100	0

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 Germination	Average Germination
Artichoke	1	60	57
Bean	21	70	88
Bean, lima	2	70	67
Beet	12	65	81
Broccoli	9	75	86
Broccoli raab	2	75	92
Brussels sprouts	4	70	91
Cabbage	8	75	90
Cantaloupe	5	75	91
Carrot	12	55	83
Cauliflower	5	75	93
Celeriac	1	55	59
Celery	3	55	90
Chicory	3	65	79
Chinese cabbage	5	75	95
Collards	6	80	93
Corn	20	75	96
Cornsalad	2	70	88
Cowpea	1	75	70
Cress, upland	1	60	79
Cucumber	15	80	95
Dill	7	60	79
Eggplant	9	60	86
Endive	7	70	86
Kale	7	75	93
Kohlrabi	4	75	90
Leek	4	60	93
Lettuce	23	80	89
Mustard	6	75	94
New Zealand spinach	2	40	81
Okra	4	50	90
Onion	14	70	83
Parsley	9	60	64
Parsnip	4	60	78
Pea	19	80	93
Pepper	23	55	77
Pumpkin	6	75	91
Radish	9	75	95
Rocket	1	75	91
Rutabaga	2	75	95
Sage	7	60	89
Spinach	11	60	92
Squash	19	75	92
Swiss chard	7	65	83
Tomatillo	2	50	96
Tomato	14	75	86
Turnip	5	80	98
Watermelon	7	70	96

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 is calculated according to the rules for seed testing published by the Association of Official Seed Analysts (AOSA). Variance is calculated as Purity Found minus Purity Claim. * = Does not meet label claim.

Seed Company	Seed Mixture	Purity Claim	Purity Found	Variance	Tolerance	Germination Claim	Germination Found
Blue Seal Feeds, Inc	<i>Blue Seal Early Green Lawn Mixture</i>						
	Kentucky Bluegrass	14.80	15.64	0.84	1.87	85	93
	Perennial Ryegrass	48.86				90	91
	Annual Ryegrass	9.82				85	91
	total Ryegrass	58.68	59.76	1.08	4.19		
	Creeping Red Fescue	24.44	22.92	-1.52	2.96	85	88
Blue Seal Feeds, Inc.	<i>Blue Seal Classic Lawn Seed Mixture</i>						
	Kentucky Bluegrass	34.48	40.93	6.45	3.94*	85	93
	Accent Perennial Ryegrass	19.74				85	96
	Allstar Perennial Ryegrass	19.49				90	96
	total Perennial Ryegrass	39.23	36.94	-2.29	5.38		
	Creeping Red Fescue	24.63	19.82	-4.81	3.54*	85	86
The Scotts Company	<i>Scotts Pure Premium Sun and Shade Grass Seed Mixture</i>						
	Abbey Kentucky Bluegrass	29.71	32.92	3.21	3.51	87	96
	Divine Perennial Ryegrass	28.55				90	91
	Enchanted Perennial Ryegrass	9.65				90	91
	total Perennial Ryegrass	38.20	37.75	-0.45	4.86		
	Fenway Creeping Red Fescue	29.63	28.71	-0.92	3.72	87	91
The Scotts Company	<i>Scotts Turf Builder Fall Seeding Mixture</i>						
	Kenblue Kentucky Bluegrass	9.75	11.55	1.80	1.47*	85	89
	Pearl Perennial Ryegrass	78.68	80.03	1.35	2.41	90	96
	Boreal Creeping Red Fescue	9.62	7.09	-2.53	1.96*	85	83
Lesco, Inc.	<i>Lesco Premium Sun and Shade Mixture</i>						
	Shamrock Kentucky Bluegrass	29.62	34.42	4.80	3.51*	90	94
	Laredo Perennial Ryegrass	37.89	38.39	0.50	4.86	90	93
	Shademark Red Fescue	14.85				90	97
	Shadow II Chewings Fescue	14.78				90	97
	total Fine Fescue	29.63	25.48	-4.15	3.67*		
The Charles C. Hart Seed Co.	<i>Holdridge Custom All Purpose Lawn Seed Mixture</i>						
	Kentucky Bluegrass	14.27	15.26	0.99	1.86	85	84
	Prizm Perennial Ryegrass	34.58				90	94
	Express Perennial Ryegrass	29.34				90	94
	total Perennial Ryegrass	63.92	62.01	-1.91	3.70	85	92
	Creeping Red Fescue	19.51	16.69	-2.82	2.76*		

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 is calculated according to the rules for seed testing published by the Association of Official Seed Analysts (AOSA). Variance is calculated as Purity Found minus Purity Claim. * = Does not meet label claim.

Seed Company	Seed Mixture	Purity Claim	Purity Found	Variance	Tolerance	Germination Claim	Germination Found
The Charles C. Hart Seed Co.	<i>Holdridge Contractors' Lawn Seed Mixture</i>						
	Kentucky Bluegrass	8.86	12.34	3.48	1.50*	80	77
	Perennial Ryegrass	9.81				90	94
	Annual Ryegrass	78.56				90	94
	total Ryegrass	88.37	85.21	-3.16	1.68*		
Salem Country Gardens	<i>Salem Country Gardens Contractors' Mix</i>						
	Perennial Ryegrass	39.75				96	92
	Annual Ryegrass	49.75				95	92
	total Ryegrass	89.50	91.24	1.74	1.70*		
	Creeping Red Fescue	9.92	8.08	-1.84	1.70*	92	85
New England Seed Co.	<i>Putnam Co-Op Landscape Mix</i>						
	Kentucky Bluegrass	18.34	22.12	3.78	2.44*	80	88
	Racer Perennial Ryegrass	24.00				90	90
	Annual Ryegrass	14.98				90	90
	total Ryegrass	38.98	35.50	-3.48	4.86		
	Creeping Red Fescue	19.70				85	87
	Chewings Fescue	19.68				85	87
	total Fine Fescue	39.38	38.41	-0.97	3.81		
Lebanon Seaboard Corp.	<i>Mackey's Athletic Mixture</i>						
	Baron Kentucky Bluegrass	9.87	13.03	3.16	1.45*	85	84
	Affirmed Perennial Ryegrass	9.81	11.26	1.45	2.19	90	94
	Titan Tall Fescue	39.89				85	89
	Masterpiece Tall Fescue	39.61				85	89
	total Tall Fescue	79.50	74.09	-5.41	2.62*		
Lebanon Seaboard Corp.	<i>Mackey's Premium Finest Mixture</i>						
	Raven Kentucky Bluegrass	24.79	30.53	5.74	3.12*	85	88
	Buccaneer Perennial Ryegrass	29.56				90	92
	Rodeo Perennial Ryegrass	29.28				90	92
	total Perennial Ryegrass	58.84	55.52	-3.32	4.53		
	Creeping Red Fescue	14.84	12.62	-2.22	2.95	85	91

Table 5. Germination and purity of crop seed.

Seed Mixture	Seed Company	Purity Claim	Purity Found	Germination Claim	Germination Found
Oats*	ASP Ag Products	98.9	95.3	88.0	94.0
White Wheat	ASP Ag Products	96.0	98.3	93.0	88.0
Hairy Vetch	Southern States Co-op.	99.9	99.7	91.0	91.0
Rye, Common	ASP Ag Products	96.0	97.8	93.0	88.0
Rye	Ventura Grain Products, Inc.	95.0	98.8	85.0	91.0
Rye	Southern States Co-op	98.0	99.9	85.0	90.0
Orchardgrass	Blue Seal Feeds, Inc.	95.4	97.4	85.0	89.0

*Sample passed purity but contained 5 noxious weed seeds.

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