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Seed Germination
and Purity
Analysis—2002

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Official samples of 370 vegetable, 14 lawn, and 6 crop seed were collected by inspectors from the Bureau of Regulation and Inspection of the Connecticut Department of Agriculture for testing in 2002. 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 15 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, two did not meet their label claims for germination. Four additional samples did not meet their label claims 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. Four of the 14 lawn seed samples tested met label claims for both purity and germination. Eight samples did not meet claims for purity but passed label claims for germination. Two samples failed label claims for both purity and germination.

In addition to germination and purity tests, label claims for the percentages of inert matter, crop seed (other than lawn seed), weed seed, and the presence of noxious weeds were also evaluated. All samples met label claims for these criteria.

Table 5 shows the results of purity and germination tests for crop seed samples. All six samples met label claims for germination and purity.

Analyses were performed by Mary K. Inman and Dr. Sharon M. Douglas. Samples were collected by Alton Van Dyke, 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	Germination	
			Standard	Found
Artichoke	Green Globe	Charles C. Hart Seed Co.	60	78
Asparagus	Mary Washington	Charles C. Hart Seed Co.	70	97
Asparagus	Mary Washington	NK Lawn and Garden Co.	70	89
Basil	Large Leaf	Charles C. Hart Seed Co.	60	98
Basil	Sweet Genovese	Comstock, Ferre and Co.	60	80
Basil	Lettuce Leaf	New England Seed Co.	60	90
Basil	Italian Sweet	NK Lawn and Garden Co.	60	88
Basil	Sweet	Ferry-Morse Seed Co.	60	85
Basil	Lettuce Leaf	Lake Valley Seed	60	89
Basil	Sweet	American Seed	60	91
Basil	Genovese	Ferry-Morse Seed Co./ Source of Nature (organic)	60	90
Basil	Sweet	Freedonia Seeds	60	70
Basil	Sweet Dani	Agway, Inc.	60	86
Basil	Italian, Fino Verde Compatto	Shepherd's Garden Seeds	60	87
Basil	Lemon	Botanical Interests, Inc.	60	85
Bean	Blue Lake Pole	Charles C. Hart Seed Co.	70	81+11H
Bean	Bountiful	Charles C. Hart Seed Co.	70	84
Bean	Gold Crop	Charles C. Hart Seed Co.	70	82
Bean	Kentucky Wonder Green	Comstock, Ferre and Co.	70	84
Bean	Cherokee Wax Bush	Comstock, Ferre and Co.	70	97
Bean	Imperial Golden Wax	New England Seed Co.	70	89
Bean	Commodore Bush	New England Seed Co.	70	88
Bean	Blue Lake Stringless	NK Lawn and Garden Co.	70	71+22H
Bean	Kentucky Wonder	NK Lawn and Garden Co.	70	97
Bean	Bush Romano #14	Ferry-Morse Seed Co.	70	89
Bean	Tendergreen Improved	Lake Valley Seed	70	99
Bean	Tendergreen Improved	American Seed	70	95
Bean	Contender	Ferry-Morse Seed Co./ Source of Nature (organic)	70	85
Bean	Green Crop	Freedonia Seeds	70	79
Bean	Burpee's Stringless Green Pod	W. Atlee Burpee and Co.	70	98
Bean	Romano Italian Pole	W. Atlee Burpee and Co.	70	93
Bean	French Horticultural	Agway, Inc.	70	91
Bean	Golden Butterwax	Agway, Inc.	70	100
Bean	Roc d'Or	Shepherd's Garden Seeds	70	100
Bean	Montpellier Bush	Botanical Interests, Inc.	70	93
Bean	Scarlet Emperor	Botanical Interests, Inc.	70	100
Bean, lima	Fordhook 242	New England Seed Co.	70	89
Bean, lima	Fordhook 242	Ferry-Morse Seed Co.	70	70
Beet	Detroit Dark Red	Charles C. Hart Seed Co.	65	96
Beet	Cylindra	Comstock, Ferre and Co.	65	88
Beet	Early Wonder Green Top	New England Seed Co.	65	92
Beet	Ruby Queen	NK Lawn and Garden Co.	65	90
Beet	Tall Top Early Wonder	Ferry-Morse Seed Co.	65	89

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	Germination	
			Standard	Found
Beet	Detroit Dark Red	Lake Valley Seed	65	92
Beet	Detroit Dark Red	Freedonia Seeds	65	87
Beet	Early Wonder Smooth Leaf	Agway, Inc.	65	63
Beet	Golden Beet	Shepherd's Garden Seeds	65	58
Beet	Detroit Dark Red	Botanical Interests, Inc.	65	91
Broccoli	Waltham	Charles C. Hart Seed Co.	75	94
Broccoli	Premium Crop Hybrid	New England Seed Co.	75	94
Broccoli	DeCicco	Ferry-Morse Seed Co.	75	96
Broccoli	Small Miracle	Lake Valley Seed	75	98
Broccoli	Calabrese	American Seed	75	79
Broccoli	Improved Green Sprouting	Freedonia Seeds	75	84
Broccoli	Green Goliath	W. Atlee Burpee and Co.	75	91
Broccoli	Southern Comet	Agway, Inc.	75	88
Brocoliraab	Spring	Comstock, Ferre and Co.	75	98
Brocoliraab	Spring	W. Atlee Burpee and Co./ Burpee's Heirlooms	75	96
Brussels sprouts	Long Island Improved	Charles C. Hart Seed Co.	70	94
Brussels sprouts	Long Island Improved	Comstock, Ferre and Co.	70	98
Brussels sprouts	Jade Cross Hybrid	New England Seed Co.	70	84
Brussels sprouts	Catskill	Ferry-Morse Seed Co.	70	93
Brussels sprouts	Long Island Improved	Lake Valley Seed	70	93
Brussels sprouts	Long Island Improved	W. Atlee Burpee and Co.	70	87
Brussels sprouts	Catskill	Agway, Inc.	70	84
Cabbage	Early Jersey Wakefield	Charles C. Hart Seed Co.	75	91
Cabbage	Savoy Chieftain	Comstock, Ferre and Co.	75	97
Cabbage	Danish Ballhead	New England Seed Co.	75	97
Cabbage	Ferry's Round Dutch	Ferry-Morse Seed Co.	75	96
Cabbage	Copenhagen Market	Lake Valley Seed	75	96
Cabbage	Early Golden Acre	American Seed	75	96
Cabbage	Ireland Hybrid	W. Atlee Burpee and Co.	75	89
Cabbage	Red Acre	Agway, Inc.	75	67
Cabbage	Discovery	Botanical Interests, Inc.	75	76
Cantaloupe	Iroquois	Comstock, Ferre and Co.	75	83
Cantaloupe	Delicious 51	New England Seed Co.	75	80
Cantaloupe	Hales Best Jumbo	NK Lawn and Garden Co.	75	89
Cantaloupe	Sierra Gold	Ferry-Morse Seed Co.	75	90
Carrot	Danvers Half Long	Charles C. Hart Seed Co.	55	83
Carrot	Danvers 126	Comstock, Ferre and Co.	55	80
Carrot	Chantenay Red Core	New England Seed Co.	55	89
Carrot	Tendersweet	NK Lawn and Garden Co.	55	90
Carrot	Long Imperator	Ferry-Morse Seed Co.	55	82
Carrot	Royal Chantenay	Lake Valley Seed	55	85
Carrot	Nantes Coreless	American Seed	55	63
Carrot	Nantes Scarlet	Freedonia Seeds	55	85

Table I (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	Germination	
			Standard	Found
Carrot	Short'n Sweet	W. Atlee Burpee and Co.	55	72
Carrot	Nandrin	Agway, Inc.	55	62
Carrot	Parmex Baby Round	Shepherd's Garden Seeds	55	86
Carrot	Healthmaster	Botanical Interests, Inc.	55	83
Cauliflower	Early Snowball	Charles C. Hart Seed Co.	75	96
Cauliflower	Snowball Improved	Comstock, Ferre and Co.	75	96
Cauliflower	Early Snowball	New England Seed Co.	75	90
Cauliflower	Early Snowball A	Ferry-Morse Seed Co.	75	97
Cauliflower	Early Snowball	Lake Valley Seed	75	90
Cauliflower	Snowball X	American Seed	75	77
Cauliflower	Early Dawn	Shepherd's Garden Seeds	75	92
Celeriac	Giant Smooth Prague	Comstock, Ferre and Co.	55	61
Celery	Giant Pascal	Charles C. Hart Seed Co.	55	69
Celery	Golden Self Blanching	Comstock, Ferre and Co.	55	78
Celery	Utah	New England Seed Co.	55	60
Chicory	Witloof	Charles C. Hart Seed Co.	65	77
Chicory	Verona Red Radicchio	Comstock, Ferre and Co.	65	85
Chicory	Verona Red Radicchio	New England Seed Co.	65	86
Chinese cabbage	Michili	New England Seed Co.	75	86
Chinese cabbage	Jade Pagoda	Agway, Inc.	75	95
Chinese cabbage	Bok choy, White Stem	Botanical Interests, Inc.	75	80
Collards	Georgia	Charles C. Hart Seed Co.	80	95
Collards	Georgia	New England Seed Co.	80	96
Collards	Georgia	Ferry-Morse Seed Co.	80	97
Collards	Vates	Agway, Inc.	80	90
Corn	Classic Touch	Charles C. Hart Seed Co.	75	87
Corn	Golden Bantam, 8-Row	Charles C. Hart Seed Co.	75	97
Corn	Butter and Sugar	Comstock, Ferre and Co.	75	100
Corn	Golden Bantam	Comstock, Ferre and Co.	75	96
Corn	Peaches and Cream	New England Seed Co.	75	88
Corn	Alpine	New England Seed Co.	75	86
Corn	NK 199 Hybrid	NK Lawn and Garden Co.	75	99
Corn	Silver Queen Hybrid	Ferry-Morse Seed Co.	75	99
Corn	Early Sunglow	Lake Valley Seed	75	95
Corn	Early Golden Bantam	American Seed	75	99
Corn	Butter and Sugar	Freedonia Seeds	75	98
Corn	Breeder's Choice	W. Atlee Burpee and Co.	75	94
Corn	Early Sunglow	W. Atlee Burpee and Co.	75	95
Corn	Country Gentleman	W. Atlee Burpee and Co./ Burpee's Heirlooms	75	93
Corn	Butter and Sugar	Agway, Inc.	75	99
Corn	Silver Queen	Agway, Inc.	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	Germination	
			Standard	Found
Cornsalad		Charles C. Hart Seed Co.	70	86
Cornsalad	Large Dutch	Ferry-Morse Seed Co.	70	87
Cornsalad	Mache	Botanical Interests, Inc.	70	71
Cowpea	Pinkeye Purple Hull	Ferry-Morse Seed Co.	75	78
Cucumber	Bush Crop	Charles C. Hart Seed Co.	80	98
Cucumber	Marketmore 76	Charles C. Hart Seed Co.	80	100
Cucumber	Boston Pickling	Comstock, Ferre and Co.	80	96
Cucumber	Spacemaster	Comstock, Ferre and Co.	80	97
Cucumber	Early Surecrop Hybrid	New England Seed Co.	80	93
Cucumber	Boston Pickling	New England Seed Co.	80	96
Cucumber	Poinsett 76	NK Lawn and Garden Co.	80	91
Cucumber	Marketmore 76	Ferry-Morse Seed Co.	80	94
Cucumber	Straight Eight	Lake Valley Seed	80	99
Cucumber	National Pickling	American Seed	80	86
Cucumber	Straight Eight	Freedonia Seeds	80	98
Cucumber	Straight Eight	W. Atlee Burpee and Co.	80	99
Cucumber	Marketmore 76	Agway, Inc.	80	96
Cucumber	Homemade Pickles	Botanical Interests, Inc.	80	96
Dill		Charles C. Hart Seed Co.	60	57
Eggplant	Black Beauty	Charles C. Hart Seed Co.	60	59
Eggplant	Black Beauty	Comstock, Ferre and Co.	60	90
Eggplant	Black Beauty	New England Seed Co.	60	69
Eggplant	Black Beauty	Ferry-Morse Seed Co.	60	0*
Eggplant	Long Purple	Lake Valley Seed	60	59
Eggplant	High Bush Select	Agway, Inc.	60	81
Eggplant	Rosa Bianca	Shepherd's Garden Seeds	60	70
Endive	Green Curled	Charles C. Hart Seed Co.	70	82
Endive	Salad King	Comstock, Ferre and Co.	70	79
Endive	Batavian Full Heart	New England Seed Co.	70	86
Endive	Crispy Green	Ferry-Morse Seed Co.	70	87
Endive	Full Heart Batavian	Plantation Products Inc.	70	69
Endive	Green Ruffle	Agway, Inc.	70	89
Endive	Tres Fine Maraichere	Botanical Interests, Inc.	70	94
Kale	Blue Vates	Charles C. Hart Seed Co.	75	94
Kale	Vates, Dwarf Blue Curled	Comstock, Ferre and Co.	75	96
Kale	Vates Dwarf Blue Curled	Ferry-Morse Seed Co.	75	92
Kale	Blue Scotch	Agway, Inc.	75	97
Kale	Red Russian	Shepherd's Garden Seeds	75	96
Kohlrabi	White	Charles C. Hart Seed Co.	75	91
Kohlrabi	Early Purple Vienna	Comstock, Ferre and Co.	75	92
Kohlrabi	Early White Vienna	NK Lawn and Garden Co.	75	84
Kohlrabi	Early Purple Vienna	Agway, Inc.	75	94

Table I (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	Germination	
			Standard	Found
Leek	American Flag	Charles C. Hart Seed Co.	60	93
Leek	American Broad Flag	New England Seed Co.	60	93
Leek	Otina	Shepherd's Garden Seeds	60	81
Lettuce	Bibb	Charles C. Hart Seed Co.	80	91
Lettuce	Iceberg	Charles C. Hart Seed Co.	80	85
Lettuce	Mesclun Mixture	Charles C. Hart Seed Co.	80	90
Lettuce	Buttercrunch	Comstock, Ferre and Co.	80	95
Lettuce	Black Seeded Simpson	Comstock, Ferre and Co.	80	89
Lettuce	Big Boston	New England Seed Co.	80	88
Lettuce	Romaine, Paris Island Cos	New England Seed Co.	80	95
Lettuce	Oakleaf	NK Lawn and Garden Co.	80	94
Lettuce	Bibb	Ferry-Morse Seed Co.	80	99
Lettuce	Great Lakes 118 Iceberg	Lake Valley Seed	80	91
Lettuce	Iceberg	American Seed	80	90
Lettuce	Grand Rapids	American Seed	80	93
Lettuce	Marvel of Four Seasons	Ferry-Morse Seed Co./ Source of Nature (organic)	80	88
Lettuce	Grand Rapids	Freedonia Seeds	80	92
Lettuce	Little Caesar Romaine	W. Atlee Burpee and Co.	80	93
Lettuce	Mesclun Salad Mix	W. Atlee Burpee and Co.	80	98
Lettuce	Marvel of Four Seasons	W. Atlee Burpee and Co./ Burpee's Heirlooms	80	88
Lettuce	Tom Thumb Butterhead	W. Atlee Burpee and Co./ Burpee's Heirlooms	80	98
Lettuce	Buttercrunch	Agway, Inc.	80	93
Lettuce	Summertime	Agway, Inc.	80	95
Lettuce	Cocarde Looseleaf	Shepherd's Garden Seeds	80	95
Lettuce	Little Gem Romaine	Shepherd's Garden Seeds	80	74
Lettuce	Red Sails	Botanical Interests, Inc.	80	84
Mustard	Florida Broadleaf	Charles C. Hart Seed Co.	75	96
Mustard	Mizuna	Comstock, Ferre and Co.	75	96
Mustard	Green Wave	New England Seed Co.	75	12*
Mustard	Spinach, Tendergreen	NK Lawn and Garden Co.	75	75
Mustard	Mizuna	Botanical Interests, Inc.	75	98
New Zealand spinach		Comstock, Ferre and Co.	40	70
New Zealand spinach		Agway, Inc.	40	76
New Zealand spinach		Botanical Interests, Inc.	40	90
Okra	Long Green	Charles C. Hart Seed Co.	50	41+48H
Okra	Clemson Spineless	Comstock, Ferre and Co.	50	63
Okra	Clemson Spineless	New England Seed Co.	50	72
Okra	Clemson Spineless	W. Atlee Burpee and Co.	50	82
Okra	Clemson Spineless	Agway, Inc.	50	72
Onion	Yellow Sweet Spanish	Charles C. Hart Seed Co.	70	76
Onion	White Portugal	Charles C. Hart Seed Co.	70	78
Onion	Candy	Comstock, Ferre and Co.	70	85

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	Germination	
			Standard	Found
Onion	Wethersfield Red	Comstock, Ferre and Co.	70	69
Onion	Utah Yellow Spanish	New England Seed Co.	70	47*
Onion	Hardy White Bunching	New England Seed Co.	70	92
Onion	White Lisbon	NK Lawn and Garden Co.	70	99
Onion	Evergreen Bunching	Ferry-Morse Seed Co.	70	94
Onion	White Lisbon Bunching	American Seed	70	63
Onion	White Lisbon Bunching	Freedonia Seeds	70	97
Onion	Florence Red	W. Atlee Burpee and Co.	70	89
Onion	Candy	Agway, Inc.	70	95
Onion	Rossa Lunga di Firenze	Botanical Interests, Inc.	70	93
Onion	Walla Walla	Botanical Interests, Inc.	70	44*
Oregano	Vulgari	Comstock, Ferre and Co.	60	81
Oregano		New England Seed Co.	60	89
Oregano		NK Lawn and Garden Co.	60	73
Oregano		Ferry-Morse Seed Co.	60	83
Oregano	True Greek	Lake Valley Seed	60	84
Oregano		W. Atlee Burpee and Co.	60	81
Oregano		Agway, Inc.	60	97
Oregano	True Greek Greek	Shepherd's Garden Seeds	60	75
Oregano		Botanical Interests, Inc.	60	80
Parsley	Moss Curled	Charles C. Hart Seed Co.	60	85
Parsley	Hamburg Rooted	Comstock, Ferre and Co.	60	68
Parsley	Moss Curled	American Seed	60	84
Parsley	Moss Curled	Ferry-Morse Seed Co./ Source of Nature (organic)	60	61
Parsley	Italian Plain Leaf	Agway, Inc.	60	84
Parsley	Italian Dark Green Flat	Botanical Interests, Inc.	60	6*
Parsnip	Hollow Crown	Charles C. Hart Seed Co.	60	93
Parsnip	All American	New England Seed Co.	60	89
Parsnip	Harris Model	Ferry-Morse Seed Co.	60	87
Parsnip	Hollow Crown	W. Atlee Burpee and Co.	60	85
Parsnip	All American	Agway, Inc.	60	87
Pea	Freezonia	Charles C. Hart Seed Co.	80	94
Pea	Oregon Sugar Pod	Charles C. Hart Seed Co.	80	91
Pea	Mammoth Melting Sugar	Comstock, Ferre and Co.	80	92
Pea	Wando	Comstock, Ferre and Co.	80	88
Pea	Sugar Snap	New England Seed Co.	80	91
Pea	Laxton's Progress 20 Inch	New England Seed Co.	80	97
Pea	Little Marvel	NK Lawn and Garden Co.	80	91
Pea	Oregon Sugar Pod II	NK Lawn and Garden Co.	80	88
Pea	Little Marvel	Ferry-Morse Seed Co.	80	92
Pea	Sugar Snap	Ferry-Morse Seed Co.	80	86
Pea	Dwarf Gray Sugar	Lake Valley Seed	80	97
Pea	Alaska	American Seed	80	91
Pea	Sugar Snap	Freedonia Seeds	80	67*
Pea	Garden Sweet	W. Atlee Burpee and Co.	80	82

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Plant	Variety	Seed Company	Germination	
			Standard	Found
Pea	Sugar Snap	W. Atlee Burpee and Co.	80	91
Pea	Thomas Laxton	W. Atlee Burpee and Co./ Burpee's Heirlooms	80	95
Pea	Freezonia	Agway, Inc.	80	97
Pea	Sugar Daddy	Agway, Inc.	80	92
Pea	Precovelle Petit Pois	Shepherd's Garden Seeds	80	98
Pea	Cascadia	Botanical Interests, Inc.	80	81
Pepper	Sweet Hungarian Wax	Charles C. Hart Seed Co.	55	65
Pepper	Cayenne	Charles C. Hart Seed Co.	55	58
Pepper	Scotch Bonnet	Charles C. Hart Seed Co.	55	60
Pepper	Early Jalapeno	Comstock, Ferre and Co.	55	83
Pepper	Pretty Purple	Comstock, Ferre and Co.	55	65
Pepper	Large Hot Red Cherry	Comstock, Ferre and Co.	55	77
Pepper	Golden Calwonder	Comstock, Ferre and Co.	55	64
Pepper	Early Jalapeno	New England Seed Co.	55	62
Pepper	Red Beauty	New England Seed Co.	55	88
Pepper	Sweet Banana	New England Seed Co.	55	61
Pepper	Thai Dragon	New England Seed Co.	55	76
Pepper	Red Beauty	NK Lawn and Garden Co.	55	52
Pepper	Jalapeno	NK Lawn and Garden Co.	55	77
Pepper	Anaheim	Ferry-Morse Seed Co.	55	54
Pepper	Jalapeno	Lake Valley Seed	55	87
Pepper	California Wonder	American Seed	55	65
Pepper	Cayenne Slim	Ferry-Morse Seed Co./ Source of Nature (organic)	55	65
Pepper	California Wonder	Freedonia Seeds	55	64
Pepper	Serrano	Plantation Products Inc.	55	55
Pepper	Sweet Banana	W. Atlee Burpee and Co.	55	63
Pepper	Jalapeno	W. Atlee Burpee and Co.	55	65
Pepper	Sweet Banana	Agway, Inc.	55	83
Pepper	San Luis Pablano	Shepherd's Garden Seeds	55	55
Pepper	Early Jalapeno	Botanical Interests, Inc.	55	77
Pumpkin	Small Sugar	Charles C. Hart Seed Co.	75	88
Pumpkin	Jack Be Little	Charles C. Hart Seed Co.	75	95
Pumpkin	Connecticut Field	Comstock, Ferre and Co.	75	70
Pumpkin	Big Max	New England Seed Co.	75	94
Pumpkin	Jack O'Lantern	New England Seed Co.	75	100
Pumpkin	Jack O'Lantern	American Seed	75	77
Pumpkin	Baby Pam	Agway, Inc.	75	89
Pumpkin	The Great Pumpkin	Shepherd's Garden Seeds	75	66
Radish	Champion	Charles C. Hart Seed Co.	75	92
Radish	Champion	Comstock, Ferre and Co.	75	81
Radish	French Breakfast	New England Seed Co.	75	88
Radish	White Icicle	NK Lawn and Garden Co.	75	97
Radish	Early Scarlet Globe	American Seed	75	94
Radish	Chinese White Winter	Agway, Inc.	75	92
Radish	French Breakfast	Botanical Interests, Inc.	75	82

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Plant	Variety	Seed Company	Germination	
			Standard	Found
Rutabaga	American Purple Top Yellow	Charles C. Hart Seed Co.	75	94
Rutabaga	American Purple Top	Agway, Inc.	75	98
Sage	Broadleaf	Comstock, Ferre and Co.	60	62
Sage	Broadleaf	New England Seed Co.	60	91
Sage	Broadleaf	NK Lawn and Garden Co.	60	69
Sage	Broadleaf	Ferry-Morse Seed Co.	60	94
Sage		W. Atlee Burpee and Co.	60	89
Sage	Broadleaf	Agway, Inc.	60	93
Sage		Shepherd's Garden Seeds	60	86
Sage	Broadleaf	Botanical Interests, Inc.	60	83
Salsify	Mammoth Sandwich Island	Comstock, Ferre and Co.	75	75
Spinach	Bloomsdale	Charles C. Hart Seed Co.	60	83
Spinach	Melody	Comstock, Ferre and Co.	60	90
Spinach	Bloomsdale Savoy	New England Seed Co.	60	86
Spinach	Indian Summer Hybrid	NK Lawn and Garden Co.	60	77
Spinach	Giant Noble	American Seed	60	71
Spinach	Bloomsdale Longstanding	Freedonia Seeds	60	81
Spinach	Teton Hybrid	W. Atlee Burpee and Co.	60	95
Spinach	Nordic IV	Shepherd's Garden Seeds	60	86
Squash	Early Crookneck	Charles C. Hart Seed Co.	75	90
Squash	Buttercup Burgess	Charles C. Hart Seed Co.	75	98
Squash	Crookneck Bush	Comstock, Ferre and Co.	75	96
Squash	Acorn, Cream of the Crop	Comstock, Ferre and Co.	75	88
Squash	Butternut, Early	Comstock, Ferre and Co.	75	98
Squash	Early Prolific Straightneck	New England Seed Co.	75	96
Squash	Table Queen	New England Seed Co.	75	91
Squash	Spaghetti	New England Seed Co.	75	90
Squash	Buttercup	NK Lawn and Garden Co.	75	98
Squash	Early Prolific Straightneck	NK Lawn and Garden Co.	75	90
Squash	Early White Bush Scallop	Ferry-Morse Seed Co.	75	95
Squash	Acorn, Table Queen	Lake Valley Seed	75	98
Squash	Zucchini, Black Beauty	Freedonia Seeds	75	81
Squash	Spaghetti	Plantation Products Inc.	75	88
Squash	Early Prolific Straightneck	Agway, Inc.	75	97
Squash	Butternut, Puritan	Agway, Inc.	75	94
Squash	Delicata	Shepherd's Garden Seeds	75	93
Squash	Early Yellow Crookneck	Botanical Interests, Inc.	75	95
Swiss chard	Fordhook Giant	Comstock, Ferre and Co.	65	83
Swiss chard	Lucullus	New England Seed Co.	65	80
Swiss chard	Bright Lights	NK Lawn and Garden Co.	65	84
Swiss chard	Ruby Red	Agway, Inc.	65	89
Swiss chard	Bright Lights	Botanical Interests, Inc.	65	80
Tomatillo	Toma Verde	Comstock, Ferre and Co.	50	98
Tomatillo		Lake Valley Seed	50	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	Germination	
			Standard	Found
Tomato	Jet Star	Charles C. Hart Seed Co.	75	89
Tomato	Marglobe	Charles C. Hart Seed Co.	75	65
Tomato	Big Boy	Comstock, Ferre and Co.	75	85
Tomato	Rutgers	Comstock, Ferre and Co.	75	83
Tomato	Patio Hybrid	New England Seed Co.	75	75
Tomato	Roma VF	New England Seed Co.	75	88
Tomato	Lemon Boy	New England Seed Co.	75	79
Tomato	Celebrity Hybrid	NK Lawn and Garden Co.	75	74
Tomato	Roma VF	Ferry-Morse Seed Co.	75	91
Tomato	Super Beefsteak	W. Atlee Burpee and Co.	75	84
Tomato	Roma	W. Atlee Burpee and Co.	75	87
Tomato	1370	Shepherd's Garden Seeds	75	90
Tomato	Brandywine	Shepherd's Garden Seeds	75	83
Tomato	Amish Paste	Botanical Interests, Inc.	75	91
Turnip	White Egg	Comstock, Ferre and Co.	80	92
Turnip	Seven Top	New England Seed Co.	80	97
Turnip	Seven Top	American Seed	80	99
Turnip	Purple Top White Globe	Botanical Interests, Inc.	80	93
Watercress	Truewater	Ferry-Morse Seed Co.	40	93
Watercress		Shepherd's Garden Seeds	40	89
Watermelon	Sugar Baby	Charles C. Hart Seed Co.	70	99
Watermelon	Crimson Sweet	Comstock, Ferre and Co.	70	93
Watermelon	Sugar Baby	New England Seed Co.	70	96
Watermelon	Sugar Baby	NK Lawn and Garden Co.	70	88
Watermelon	Sugar Baby	Agway, Inc.	70	98

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.	36	100	0
American Seed	18	100	0
Botanical Interests, Inc.	25	92	8
Charles C. Hart Seed Co.	50	100	0
Comstock, Ferre & Co.	50	100	0
Ferry-Morse Seed Co.	29	97	3
Ferry-Morse Seed Co./ Source of Nature (organic)	5	100	0
Freedonia Seeds	13	92	8
Lake Valley Seed	17	100	0
New England Seed Co.	50	96	4
NK Lawn and Garden Co.	26	100	0
Plantation Products	3	100	0
Shepherd's Garden Seeds	20	100	0
W. Atlee Burpee and Co.	23	100	0
W. Atlee Burpee and Co./ Burpee's Heirlooms	5	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	Germination	
		Standard	Average
Artichoke	1	60	78
Asparagus	2	70	93
Basil	12	60	87
Bean	19	70	92
Bean, lima	2	70	80
Beet	10	65	85
Broccoli	8	75	91
Broccoliraab	2	75	97
Brussels sprouts	7	70	90
Cabbage	9	75	89
Cantaloupe	4	75	86
Carrot	12	55	80
Cauliflower	7	75	91
Celeriac	1	55	61
Celery	3	55	69
Chicory	3	65	83
Chinese cabbage	3	75	87
Collards	4	80	95
Corn	16	75	95
Cornsalad	3	70	81
Cowpea	1	75	78
Cucumber	14	80	96
Dill	1	60	57
Eggplant	7	60	61
Endive	7	70	84
Kale	5	75	95
Kohlrabi	4	75	90
Leek	3	60	89
Lettuce	23	80	91
Mustard	5	75	75
New Zealand spinach	3	40	79
Okra	4	50	76
Onion	14	70	80
Oregano	9	60	83
Parsley	6	60	65
Parsnip	5	60	88
Pea	20	80	90
Pepper	24	55	68
Pumpkin	8	75	85
Radish	7	75	89
Rutabaga	2	75	96
Sage	8	60	83
Salsify	1	75	75
Spinach	8	60	84
Squash	18	75	93
Swiss chard	5	65	83
Tomatillo	2	50	90
Tomato	14	75	83
Turnip	4	80	95
Watercress	2	40	91
Watermelon	5	70	95

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 Claimed; Germination Claimed; Germination Found. * = Does not meet label claim.

Seed Company/Seed Mixture	Purity		Variance	Tolerance	Germination	
	Claim	Found			Claim	Found
<i>Blue Seals Feeds Blue Seal Play Area Lawn Mixture</i>						
Kentucky Bluegrass	9.94	13.10	3.16	1.47*	85	90
Top Hat Perennial Ryegrass	9.73	12.40	2.67	2.77	90	94
Creeping Red Fescue	24.71	23.59	-1.12	3.04	85	89
Veranda Tall Fescue	34.76				85	89
Tall Fescue	19.90				85	89
total Tall Fescue	54.66	50.04	-4.62	3.83*		
<i>AMS 679 Westerly Agway Landscapers Mixture</i>						
Kentucky Bluegrass	12.75	17.61	4.86	1.86*	85	85
Perennial Ryegrass	69.30	65.39	-3.91	3.34*	90	96
Creeping Red Fescue	14.55	12.92	1.63	2.36	90	64*
<i>New England Seed Co. Turf Club Mix</i>						
Kentucky Bluegrass	9.89	12.12	2.23	1.50*	85	84
Perennial Ryegrass	14.44				90	94
Annual Ryegrass	39.69				90	94
total Ryegrass	54.13	54.00	-0.13	3.83		
Creeping Red Fescue	34.47	30.84	-3.63	3.29*	85	80
<i>New England Seed Co. New England Pasture Perfect/Show Horse</i>						
Sidekick Kentucky Bluegrass	4.94	9.75	4.81	1.20*	85	87
Tonga Tetraploid Perennial Ryegrass	29.82				85	96
Abundant Tetraploid Annual Ryegrass	9.98				85	96
total Ryegrass	39.18	34.48	-5.32	4.32*		
Bronson Tall Fescue	19.81	17.95	-1.86	3.94	85	74*
Takena Orchardgrass	28.00	27.76	-0.24	3.12	85	90
Timothy	4.98	7.04	2.06	1.10*	85	93
<i>New England Seed Co. New England Shade</i>						
Racer Perennial Ryegrass	29.66	27.94	-1.72	3.72	90	91
Creeping Red Fescue	39.50				85	89
Chewings Fescue	29.58				85	89
total Fine Fescue	69.08	69.01	-0.07	3.78		
<i>The Scotts Company Scotts Sun and Shade</i>						
Clearwater Kentucky Bluegrass	19.34	21.21	1.87		85	89
Pearl Perennial Ryegrass	61.89	63.46	1.57		90	90
Boreal Creeping Red Fescue	14.29	14.11	-0.18		85	92
<i>Lesco Inc. Lesco Team Mates Plus Mixture</i>						
Shamrock Kentucky Bluegrass	9.90	12.00	2.10	1.45	90	92
Assure Perennial Ryegrass	19.81	19.90	-0.09	3.35	90	90
Stetson Tall Fescue	29.85				90	90
Laramie Tall Fescue	29.28				85	90
Lancer-E Tall Fescue	9.97				90	90
total Tall Fescue	69.10	66.42	-2.68	3.34		

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 Claimed. Germination Claimed; Germination Found. * = Does not meet label claim.

Seed Company/Seed Mixture	Purity		Variance	Tolerance	Germination	
	Claim	Found			Claim	Found
<i>Lesco Inc. Lesco Double Eagle Blend</i>						
Allsport Perennial Ryegrass	36.74				90	90
Linedrive Perennial Ryegrass	30.93				90	90
Wilmington Perennial Ryegrass	30.40				90	90
total Perennial Ryegrass	98.07	98.55	0.48	0.89		
<i>The Charles C. Hart Seed Co. Holdridge Custom All Purpose Mixture</i>						
Kentucky Bluegrass	14.27	16.13	1.86	1.87	85	93
Elf Perennial Ryegrass	34.58				90	96
Express Perennial Ryegrass	29.34				90	96
total Perennial Ryegrass	63.92	60.17	-3.75	3.70*		
Creeping Red Fescue	19.51	18.16	-1.35	2.76	85	93
<i>The Charles C. Hart Seed Co. Holdridge Contractors Lawn Seed Mixture</i>						
Kentucky Bluegrass	8.86	10.74	1.88	1.30*	80	82
Perennial Ryegrass	9.81				90	93
Annual Ryegrass	78.56				90	93
total Ryegrass	88.37	87.01	-1.36	1.66		
<i>The Scotts Company Scotts Turf Builder Sun and Shade Mix</i>						
Famous Kentucky Bluegrass	19.34	24.59	5.25	2.49*	85	86
Affinity Perennial Ryegrass	61.89	62.73	0.84	3.94	90	94
Boreal Creeping Red Fescue	14.29	11.36	-2.93	2.36*	85	95
<i>Lesco Inc. Lesco Premium Sun and Shade Mixture</i>						
Shamrock Kentucky Bluegrass	19.48	18.70	-0.78	2.25	90	91
Linedrive Perennial Ryegrass	29.21	23.03	-6.18	4.25*	90	89
Brittany Chewings Fescue	24.76				90	85
Creeping Red Fescue	24.27				90	85
total Fine Fescue	49.03	55.45	6.42	3.79*		
<i>Blue Seal Feeds Inc. Blue Seal Early Green Lawn Mixture</i>						
Kentucky Bluegrass	14.72	18.89	4.17	2.07*	86	88
Perennial Ryegrass	48.88				90	96
Annual Ryegrass	9.85				90	96
total Ryegrass	58.73	59.91	1.18	4.19		
Creeping Red Fescue	24.46	19.80	-4.66	2.96*	85	82
<i>Southern States Coop. Inc. Agway Professional Green Grass Seed Mixture</i>						
Famous Kentucky Bluegrass	29.64				85	87
Marquis Kentucky Bluegrass	19.70				85	87
total Kentucky Bluegrass	49.34	56.17	6.83	5.11*		
Enchanted Perennial Ryegrass	29.25	25.36	-3.89	5.42	90	96
Chewings Fine Fescue	19.69	15.87	-3.82	3.83	85	93

Table 5. Germination and purity of crop seed.

Seed Mixture	Seed Company	Claim	Purity		Germination	
			Found	Claim	Found	
Common Rye	Agway, Inc.	96.0	98.1	93	90	
White Winter Wheat	Agway, Inc.	94.0	97.3	92	89	
Oats	Agway, Inc.	98.9	99.0	88	91	
Rye, New Crop Small Berry	Crop Production Services, Inc.	98.7	98.4	82	95	
Winter Rye	Ventura Grain Co. Inc.	95.0	99.5	85	97	
Rye, New Crop Small Berry	Crop Production Services Inc.	98.7	98.0	82	92	

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