

Seed Germination and Purity Analysis 2023

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A total of 327 vegetable, crop, and pasture seed samples were collected by inspectors from the Bureau of Regulatory Services of the Connecticut Department of Agriculture for testing in 2023. As the official seed testing laboratory, The Connecticut Agricultural Experiment Station performed germination and purity analyses of the seed samples for compliance with the Connecticut Seed Law Regulations and the Federal Seed Act. Seed tests and analyses were conducted by following the Association of Official Seed Analysts Rules for Testing Seeds.

Among 312 vegetable seed samples, only three hundred and six samples were tested for seed germination rates because the other six samples did not have enough seeds for the test (Table 1). Among the 306 tested vegetable seed samples, two hundred forty-eight samples passed the standard germination test, but the other 58 samples did not meet their label claims and the Federal standard (Table 1). Summarized by seed sources, all samples from La Semiorto Sementi seed company passed the standard germination test, but one or more samples from the other six companies failed the test (Table 2). Among 53 tested vegetable species, all samples in 26 species passed the standard germination test; the other 27 species had one or more samples that failed the test (Table 3). Poor germination rates and heavy mold were found on okra, parsnip, and rhubarb samples (Table 3). Seed samples were examined for prohibited noxious weed seeds and no noxious weed contaminants were found in the tested samples.

A total of 15 crop and pasture mixed/or single-type seed samples were received and tested for purity and germination rates. Among them, only 14 samples were tested because one mixed seed sample failed to include all seed types on the label. Many mixed seed samples were labeled with several varieties within a species or several species within a genus, so that purity and germination rates were tested in the combination of a genus and reported as the sums for the purity test and means for the germination test except two ryegrass species, annual and perennial ryegrasses, were separated using a fluorescence analysis for the purity test. Among nine single-type grass seed samples, seven samples passed both purity and germination tests, but the other two failed the label claim for germination rates or both germination rates and purity tests (Table 4). Among the five mixed seed samples, only one sample passed the purity analysis for all components, the other four samples had one or more components that failed the label claim for purity (Table 4). In the germination test, all five mixed seed samples had one or more components failed the label claims (Table 4).

Official seed samples were collected by Kate Nelson at the Connecticut Department of Agriculture. The Seed Law is administered by the Seed Control Official for the Commissioner of the Department of Agriculture.

Table 1. Results of germination rates of vegetable seed samples in comparison to label claims.

Plant	Cultivar	Seed Company	Germination (%)	
			Claimed	Found ^a
Anise	N/A	The Chas. C. Hart Seed Co.	50	47***
Asparagus	Mary Washington	New England Seed Co.	70	90
Basil	Spicy Globe	The Chas. C. Hart Seed Co.	70	65
Basil	Dark Opal	The Chas. C. Hart Seed Co.	70	35*
Basil	Italian Large Leaf	New England Seed Co.	70	50*
Basil	Opal	Livingston - Green Garden Products	70	82
Basil	Thai	Livingston - Green Garden Products	70	64
Basil	Sweet	Livingston - Green Garden Products	70	66
Basil	Sweet Italian	(Ferry Morse) Green Garden Products	70	79
Basil	Sweet	Burpee Garden Products Co.	70	54*
Basil	Holy-Tulsi	Botanical Interests, INC.	70	76
Basil	Lettuce Leaf	Botanical Interests, INC.	70	86
Basil	Italian Large Leaf	New England Seed Co.	70	59
Basil	Lettuce Leaved	New England Seed Co.	70	77
Bean	Provider (Runner)	The Chas. C. Hart Seed Co.	75	91
Bean	Scarlet (Runner)	The Chas. C. Hart Seed Co.	75	69
Bean	Slenderette (Runner)	The Chas. C. Hart Seed Co.	75	33*
Bean	Bountiful (Runner)	The Chas. C. Hart Seed Co.	75	49*
Bean	Henderson (Lima)	The Chas. C. Hart Seed Co.	70	42*
Bean (organic)	Tendergreen	New England Seed Co.	75	94
Bean	Garden	(Ferry Morse) Green Garden Products	75	48*
Bean	Bush-Provider	Botanical Interests, INC.	75	20*
Bean	Tender Green	New England Seed Co.	75	98
Bean	Cherokee Wax	New England Seed Co.	75	94
Bean	Petite Filet	New England Seed Co.	75	50*
Bean	Bush Blue Lake	New England Seed Co.	75	86
Beet	Red Ace Hybrid	The Chas. C. Hart Seed Co.	65	59***
Beet	Detroit Dark Red	New England Seed Co.	65	66
Beet	Early Wonder Tall Top	New England Seed Co.	65	83
Beet	Cylindra	Livingston - Green Garden Products	65	91
Beet	Ruby Queen	Livingston - Green Garden Products	65	58***
Beet	Detroit Dark Top, Medium Top	Burpee Garden Products Co.	70	92
Beet	Detroit Dark Red	New England Seed Co.	65	35*
Beet	Cylindra	New England Seed Co.	65	90
Broccoli	Spring Raab	The Chas. C. Hart Seed Co.	75	26*
Broccoli	Waltham 29	New England Seed Co.	75	51*
Broccoli	Green Sprouting Calabrese	Livingston - Green Garden Products	75	72***
Broccoli	Waltham	(Ferry Morse) Green Garden Products	75	59*
Broccoli	De Cicco	(Ferry Morse) Green Garden Products	75	74***

Broccoli	Sun King Hybrid	Burpee Garden Products Co.	75	67***
Broccoli	Waltham 29	Botanical Interests, INC.	75	70***
Broccoli	Waltham 29	New England Seed Co.	75	97
Broccoli Raab	Rapini	Botanical Interests, INC.	75	89
Brussels Sprouts	Long Island Improved	The Chas. C. Hart Seed Co.	70	67***
Brussels Sprouts	Long island Improved	Livingston - Green Garden Products	70	63***
Brussels Sprouts	Catskill	(Ferry Morse) Green Garden Products	70	52*
Brussels Sprouts	Long island Improved	Botanical Interests, INC.	70	97
Brussels Sprouts	Long island Improved	New England Seed Co.	70	97
Cabbage	Copenhagen	The Chas. C. Hart Seed Co.	75	86
Cabbage	Red Acre	The Chas. C. Hart Seed Co.	75	50*
Cabbage	Premium Flat Dutch Late	Livingston - Green Garden Products	75	86
Cabbage	All Season	Burpee Garden Products Co.	75	85
Cabbage	Red Acre	Botanical Interests, INC.	75	93
Cabbage	Danish Ball Head	New England Seed Co.	75	93
Cabbage	Chieftain	New England Seed Co.	75	78
Cabbage	Golden Acre	New England Seed Co.	75	94
Cantaloupe	Delicious 51	New England Seed Co.	75	58*
Cantaloupe	Hale's Best Jumbo	Livingston - Green Garden Products	75	90
Cantaloupe	Delicious 51	The Chas. C. Hart Seed Co.	75	78
Carrot	Little Finger	The Chas. C. Hart Seed Co.	55	83
Carrot	Coreless Nantes	New England Seed Co.	55	90
Carrot	Scarlet Nantes	The Chas. C. Hart Seed Co.	55	89
Carrot	Nantes	Livingston - Green Garden Products	55	82
Carrot	Red Core Chantenay	(Ferry Morse) Green Garden Products	55	61
Carrot	Short 'n Sweet	Burpee Garden Products Co.	55	87
Carrot	Danvers 126	Botanical Interests, INC.	55	82
Carrot	Red Core Chantenay	New England Seed Co.	55	89
Carrot	Imperator 58	New England Seed Co.	55	80
Cauliflower	Self Blanche	New England Seed Co.	75	89
Cauliflower	Early Snowball	The Chas. C. Hart Seed Co.	75	80
Cauliflower	Snowball Early	Livingston - Green Garden Products	75	10*
Cauliflower	Snowball Y	Burpee Garden Products Co.	75	81
Cauliflower	Snowball Y	Botanical Interests, INC.	75	15*
Cauliflower	Early Snowball	New England Seed Co.	75	93
Celery	Tall Utah	Livingston - Green Garden Products	55	60
Celery	Utah	Botanical Interests, INC.	55	81
Celery	Tall Utah	New England Seed Co.	55	80
Chervil	N/A	New England Seed Co.	65	83
Chervil	N/A	The Chas. C. Hart Seed Co.	65	90
Chicory	Di Cicorie e Raddicchi	La Semiorto Sementi	65	81
Chicory	Catalogna	New England Seed Co.	65	86
Chives	N/A	New England Seed Co.	50	73

Cilantro	Coriander	New England Seed Co.	70	50*
Cilantro	Coriander - Slow Bolting	New England Seed Co.	70	59*
Cilantro	Coriander	Livingston - Green Garden Products	70	83
Cilantro	Coriander	(Ferry Morse) Green Garden Products	70	78
Cilantro	N/A	Burpee Garden Products Co.	70	77
Cilantro	Moroccan	Botanical Interests, INC.	70	67***
Cilantro	Coriander	New England Seed Co.	70	92
Collards	Vates	The Chas. C. Hart Seed Co.	80	43*
Collards	Georgia Southern	Livingston - Green Garden Products	80	88
Collards	Georgia Southern Creole	(Ferry Morse) Green Garden Products	80	93
Collards	Georgia	Burpee Garden Products Co.	80	95
Collards	Georgia	New England Seed Co.	80	97
Corn	Red Strawberry	New England Seed Co.	75	94
Corn	Golden Bantam	The Chas. C. Hart Seed Co.	75	90
Corn	Sunglow Early Hybrid Yel	The Chas. C. Hart Seed Co.	75	97
Corn	Early Sunglow	New England Seed Co.	75	97
Corn	Silver Queen	New England Seed Co.	75	95
Cress	True Watercress	New England Seed Co.	40	81
Cress	Upland	Livingston - Green Garden Products	60	53***
Cucumber	Marketmore 76	New England Seed Co.	80	98
Cucumber	Spacemaster Bush	Livingston - Green Garden Products	80	75***
Cucumber	Boston Pickling	The Chas. C. Hart Seed Co.	80	91
Cucumber	Green Dragon	The Chas. C. Hart Seed Co.	80	97
Cucumber	Marketmore 76	The Chas. C. Hart Seed Co.	80	95
Cucumber	Early Spring Burpless	The Chas. C. Hart Seed Co.	80	61*
Cucumber	Marketmore 76	New England Seed Co.	80	91
Cucumber	Boston Pickling	New England Seed Co.	80	100
Cucumber	Straight Eight	New England Seed Co.	80	97
Dill	Dill Bouquet	New England Seed Co.	60	20*
Dill	Mammoth	Livingston - Green Garden Products	60	78
Dill	Bouquet	Livingston - Green Garden Products	60	73
Dill	Bouquet	(Ferry Morse) Green Garden Products	60	83
Dill	Fernleaf	(Ferry Morse) Green Garden Products	60	N/A**
Dill	Mammoth	(Ferry Morse) Green Garden Products	60	83
Dill	Bouquet	(Ferry Morse) Green Garden Products	60	83
Dill	Mammoth	Burpee Garden Products Co.	60	80
Dill	Tetra	Botanical Interests, INC.	60	64
Eggplant	Black Beauty	New England Seed Co.	60	83
Eggplant	Long Purple	New England Seed Co.	60	77
Eggplant	Napoli	La Semiorto Sementi	60	83
Eggplant	Black Beauty	The Chas. C. Hart Seed Co.	60	72
Endive	Batavian Full Heart	New England Seed Co.	70	84
Endive	Escarole Broadleaf	The Chas. C. Hart Seed Co.	70	79

Fennel	Florence	New England Seed Co.	60	82
Fennel	Bronze	The Chas. C. Hart Seed Co.	50	67
Fennel	Finocchio	Botanical Interests, INC.	60	73
Kale	Lacinato	New England Seed Co.	75	92
Kale	Blue Scotch Curled	Livingston - Green Garden Products	75	84
Kale	Siberian Improved	Livingston - Green Garden Products	75	93
Kale	Blue Curled Vates	(Ferry Morse) Green Garden Products	75	21*
Kale	Red Russian	(Ferry Morse) Green Garden Products	75	84
Kale	Red Russian	(Ferry Morse) Green Garden Products	75	74***
Kale	Premier	Burpee Garden Products Co.	75	89
Kale	Lacinato	The Chas. C. Hart Seed Co.	75	69***
Kale	Red Russian	Botanical Interests, INC.	75	98
Kale	Dazzling Blue	Botanical Interests, INC.	75	92
Kale	Red Russian	New England Seed Co.	75	50*
Kohlrabi	White Vienna	New England Seed Co.	75	79
Kohlrabi	Early White Vienna	Livingston - Green Garden Products	75	79
Kohlrabi	Purple Vienna	Burpee Garden Products Co.	75	92
Kohlrabi	Purple Vienna	Botanical Interests, INC.	75	74***
Kohlrabi	White Vienna	The Chas. C. Hart Seed Co.	75	75
Leeks	American Broad Flag	New England Seed Co.	60	97
Leeks	Broad London	New England Seed Co.	60	95
Leeks	American Flag	Livingston - Green Garden Products	60	74
Leeks	American Flag	The Chas. C. Hart Seed Co.	60	93
Lettuce	Big Boston	New England Seed Co.	80	90
Lettuce	Buttercrunch	New England Seed Co.	80	98
Lettuce	Great Lakes	New England Seed Co.	80	69*
Lettuce	Paris Island Cos	New England Seed Co.	80	90
Lettuce	Black Seeded Simpson	New England Seed Co.	80	96
Lettuce	Parris Island Cos	New England Seed Co.	80	96
Lettuce	Buttercrunch	New England Seed Co.	80	8*
Lettuce	Saras	La Semiorto Sementi	80	79***
Lettuce	Iceberg	Livingston - Green Garden Products	80	95
Lettuce	Buttercrunch	Livingston - Green Garden Products	80	81
Lettuce	Red Romaine	Livingston - Green Garden Products	80	73***
Lettuce	Iceberg Heirloom	(Ferry Morse) Green Garden Products	80	92
Lettuce	Black Seeded Simpson	(Ferry Morse) Green Garden Products	80	93
Lettuce	Parris Island Cos	(Ferry Morse) Green Garden Products	80	96
Lettuce	Burpee Bibb	Burpee Garden Products Co.	80	50*
Lettuce	Igloo	Burpee Garden Products Co.	80	93
Lettuce	Silvia	Burpee Garden Products Co.	80	69*
Lettuce	Buttercrunch	Botanical Interests, INC.	80	89
Lettuce	Butterhead	Botanical Interests, INC.	80	85
Lettuce	Red Sails	Botanical Interests, INC.	80	96

Lettuce	Romaine Red	The Chas. C. Hart Seed Co.	80	61*
Lettuce	Black Seeded Simpson	The Chas. C. Hart Seed Co.	80	97
Marjoram	N/A	Livingston - Green Garden Products	50	61
Mustard	Florida Broad Leaf	New England Seed Co.	75	86
Mustard	Florida Broad Leaf	Livingston - Green Garden Products	75	64*
Mustard	Southern Grant Curled	The Chas. C. Hart Seed Co.	75	98
Mustard	Parsley Moss Curled	The Chas. C. Hart Seed Co.	75	98
Mustard Spinach	Tendergreens	Botanical Interests, INC.	75	99
Okra	Clemson Spineless	New England Seed Co.	50	37*
Okra	Red Burgundy	New England Seed Co.	50	33*
Okra	Long Green	The Chas. C. Hart Seed Co.	50	29*
Okra	Emerald	The Chas. C. Hart Seed Co.	50	39*
Onion	White Bunching	New England Seed Co.	70	95
Onion	Sweet Spanish	New England Seed Co.	70	64***
Onion	Evergreen Bunching	Livingston - Green Garden Products	70	84
Onion	Granex Yellow PRR Hybrid	(Ferry Morse) Green Garden Products	70	61***
Onion	Red Burgundy	(Ferry Morse) Green Garden Products	70	75
Onion	Evergreen Bunching	(Ferry Morse) Green Garden Products	70	1*
Onion	Yellow Sweet Spanish	The Chas. C. Hart Seed Co.	70	3*
Onion Bunching	White Lisbon	Botanical Interests, INC.	70	92
Pak Choi	Pechay	Burpee Garden Products Co.	75	93
Pak Choi	Chinese Cabbage	The Chas. C. Hart Seed Co.	75	93
Parsley	Moss Curled	The Chas. C. Hart Seed Co.	60	66
Parsley	Italian Plain Leaf	New England Seed Co.	60	77
Parsley	Moss Curled	New England Seed Co.	60	72
Parsley	Italian Plain Leaf	New England Seed Co.	60	53***
Parsley	Triple / Curled	Livingston - Green Garden Products	60	86
Parsley	Italian / Single	Livingston - Green Garden Products	60	21*
Parsley	Extra Triple Curled	(Ferry Morse) Green Garden Products	60	89
Parsley	Plain or Single	(Ferry Morse) Green Garden Products	60	55***
Parsley	Green Dream	Burpee Garden Products Co.	60	72
Parsley	Moss Curled	Botanical Interests, INC.	60	77
Parsley	Flat Leaf	Botanical Interests, INC.	60	82
Parsnip	All American	New England Seed Co.	60	37*
Parsnip	All American	Botanical Interests, INC.	60	39*
Parsnip	Hollow Crown	The Chas. C. Hart Seed Co.	60	15*
Parsnip	Hollow Crown	Livingston - Green Garden Products	60	19*
Peas	Sugar Ann	New England Seed Co.	80	94
Peas	Shell Peas - Tall Telephone	New England Seed Co.	80	72***
Peas	Pod Peas - Dwarf Grey Sugar	New England Seed Co.	80	93
Peas	Snap - Sugar Daddy	Botanical Interests, INC.	80	65*
Peas	Dwarf Grey Sugar	The Chas. C. Hart Seed Co.	80	97
Peas	Sugar Daddy	New England Seed Co.	80	53*

Pepper	Calwonder	New England Seed Co.	55	69
Pepper	Cubanelle Sweet Fryer	New England Seed Co.	55	45***
Pepper	Sweet Banana	New England Seed Co.	55	58
Pepper	Early Jalapeno	New England Seed Co.	55	32*
Pepper	Large Red Cayenne	New England Seed Co.	55	36*
Pepper	California Wonder	New England Seed Co.	55	30*
Pepper	Early Jalapeno	New England Seed Co.	55	61
Pepper	Sweet Yellow Habanero	New England Seed Co.	55	40*
Pepper	Sweet Pimento	New England Seed Co.	55	25*
Pepper	California Wonder	Livingston - Green Garden Products	55	75
Pepper	California Wonder	The Chas. C. Hart Seed Co.	55	64
Pepper	Pepperoncini	The Chas. C. Hart Seed Co.	55	46***
Pepper	Red Cherry Hot	The Chas. C. Hart Seed Co.	55	11*
Pepper	Cubanelle	The Chas. C. Hart Seed Co.	55	72
Pumpkin	Long Island Cheese	New England Seed Co.	75	85
Pumpkin	Pink Hyb Porcelain Doll	New England Seed Co.	75	69***
Pumpkin	Howden	New England Seed Co.	75	82
Pumpkin	Big Max	The Chas. C. Hart Seed Co.	75	86
Pumpkin	Connecticut Field	The Chas. C. Hart Seed Co.	75	96
Pumpkin	Small Sugar	The Chas. C. Hart Seed Co.	75	98
Radish	French Breakfast	New England Seed Co.	75	82
Radish	Cherry Belle	New England Seed Co.	75	90
Radish	Cherry Belle	New England Seed Co.	75	93
Radish	Watermelon	Livingston - Green Garden Products	75	74***
Radish	Sparkler White Tip	Livingston - Green Garden Products	75	99
Radish	Crimson Giant	(Ferry Morse) Green Garden Products	75	99
Radish	Cherry Belle	(Ferry Morse) Green Garden Products	75	94
Radish	Cherry Belle	Burpee Garden Products Co.	75	97
Radish	Cherry Belle	Botanical Interests, INC.	75	99
Radish	Crimson Giant	Botanical Interests, INC.	75	99
Radish	Early Scarlet Globe	The Chas. C. Hart Seed Co.	75	77
Radish	White Tipped Scarlet	The Chas. C. Hart Seed Co.	75	95
Radish	Watermelon	The Chas. C. Hart Seed Co.	75	39*
Rhubarb	Glaskins Perpetual	New England Seed Co.	60	26*
Rutabaga	Improved Purple Top Yellow	New England Seed Co.	75	92
Rutabaga	American Purple Top	Livingston - Green Garden Products	75	91
Rutabaga	American Purple Top	(Ferry Morse) Green Garden Products	75	94
Rutabaga	American Purple Top	The Chas. C. Hart Seed Co.	75	90
Savory	N/A	Livingston - Green Garden Products	55	42***
Spinach	Bloomsdale Savoy	New England Seed Co.	60	96
Spinach	7-Green	New England Seed Co.	60	96
Spinach	Bloomsdale	New England Seed Co.	60	97
Spinach	Bloomsdale Long Standing	Livingston - Green Garden Products	60	97

Spinach	Bloomsdale Long Standing	(Ferry Morse) Green Garden Products	60	92
Spinach (Organic)	Bloomsdale Long Standing	(Ferry Morse) Green Garden Products	60	92
Spinach	Space Hybrid	Burpee Garden Products Co.	60	92
Spinach	Bloomsdale	Botanical Interests, INC.	60	94
Spinach	Oceanside	Botanical Interests, INC.	60	84
Spinach	Bloomsdale Long Standing	The Chas. C. Hart Seed Co.	60	93
Spinach	New Zealand	New England Seed Co.	40	65
Spinach	New Zealand	The Chas. C. Hart Seed Co.	40	63
Squash	Black Beauty	New England Seed Co.	75	86
Squash	Early Summer Crookneck	New England Seed Co.	75	94
Squash	Table Queen Acorn	New England Seed Co.	75	83
Squash	Winter - Vegetable Spaghetti	New England Seed Co.	75	55*
Squash	Winter - Guatemalan Blue	New England Seed Co.	75	N/A**
Squash	Cucuzzi Caravazzi	The Chas. C. Hart Seed Co.	75	33*
Squash	Round Zucchini	The Chas. C. Hart Seed Co.	75	84
Squash	Delicata	The Chas. C. Hart Seed Co.	75	38*
Squash	Blue Hubbard	The Chas. C. Hart Seed Co.	75	N/A**
Squash	Table King Acorn	The Chas. C. Hart Seed Co.	75	95
Squash	Vegetable Spaghetti	The Chas. C. Hart Seed Co.	75	93
Squash	Buttercup Burgess	The Chas. C. Hart Seed Co.	75	86
Squash	Waltham Butternut	The Chas. C. Hart Seed Co.	75	87
Swiss Chard	Oriole / Orange	The Chas. C. Hart Seed Co.	65	70
Swiss Chard	Fordhook Giant	Livingston - Green Garden Products	65	35*
Swiss Chard	Perpetual Spinach	(Ferry Morse) Green Garden Products	65	61***
Swiss Chard	Fordhook Giant	Burpee Garden Products Co.	65	75
Swiss Chard	Fordhook Giant	New England Seed Co.	65	66
Swiss Chard	Rhubarb	New England Seed Co.	65	N/A**
Thyme	N/A	Livingston - Green Garden Products	50	26*
Thyme	N/A	(Ferry Morse) Green Garden Products	50	61
Tomatillo	Grande Rio Verde	New England Seed Co.	50	71
Tomatillo	Really Purple	New England Seed Co.	50	82
Tomatillo	Purple	Botanical Interests, INC.	50	64
Tomato	Brandy Wine	New England Seed Co.	75	90
Tomato	Roma VF	New England Seed Co.	75	91
Tomato	Brandywine Red	New England Seed Co.	75	92
Tomato	Black Truffle	New England Seed Co.	75	72***
Tomato	Crovarese	La Semiorto Sementi	75	91
Tomato	Marmande	La Semiorto Sementi	75	93
Tomato	Red Cherry Large	Livingston - Green Garden Products	75	N/A**
Tomato	Beefsteak	(Ferry Morse) Green Garden Products	75	76
Tomato	Roma VF	Burpee Garden Products Co.	75	90
Tomato	Roma	Burpee Garden Products Co.	75	83
Tomato	Jetstar Hybrid	The Chas. C. Hart Seed Co.	75	89

Tomato	San Marzano Plum	The Chas. C. Hart Seed Co.	75	84
Tomato	Amish Paste	The Chas. C. Hart Seed Co.	75	N/A**
Tomato	Yellow Pear	The Chas. C. Hart Seed Co.	75	97
Tomato	Grape Sugar plum	The Chas. C. Hart Seed Co.	75	91
Tomato	Riesentraube Grape	The Chas. C. Hart Seed Co.	75	94
Tomato	Celebration F-1 Hybrid	The Chas. C. Hart Seed Co.	75	95
Turnip	Purple Top White Globe	New England Seed Co.	80	99
Turnip	Purple Top White Globe	New England Seed Co.	80	97
Turnip	Purple White Globe	Livingston - Green Garden Products	80	96
Turnip	Purple Top White Globe	(Ferry Morse) Green Garden Products	80	86
Turnip	Purple Top White Globe	Botanical Interests, INC.	80	98
Watercress	Nasturtium	Botanical Interests, INC.	40	89
Watermelon	Hyb WD-04-61	New England Seed Co.	70	80
Watermelon	Moon and Stars	The Chas. C. Hart Seed Co.	70	7*
Watermelon	Charleston Gray	The Chas. C. Hart Seed Co.	70	93

^a *: Did not meet the label claim and germination standards

** : Did not have enough seed for the germination test

*** : Did not meet the claim, but passed the test within the acceptable tolerance

Table 2. Results of percent vegetable seed samples that met label claims of germination rates by seed source.

Company	Number of Tested Samples	Meeting Label Claims (%)
(Ferry Morse) Green Garden Products	31	85
Botanical Interests, INC.	32	88
Burpee Garden Products Co.	21	86
La Semiorto Sementi	5	100
Livingston - Green Garden Products	40	85
New England Seed Co.	106	79
The Chas. C. Hart Seed Co.	71	75

Table 3. Results of average seed germination rates by tested vegetable crops and percentages of samples that met the claims.

Plant	Number of Tested Samples	Germination (%)		Samples Meeting the Label Claim (%)
		Label Claim	Average Found	
Anise	1	50	47	100
Asparagus	1	70	90	100
Basil	12	70	66	75
Bean	12	75	64	50
Beet	8	65	72	88
Broccoli	9	75	67	67
Brussels Sprouts	5	70	75	80
Cabbage	8	75	83	88
Cantaloupe	3	75	75	67
Carrot	9	55	82	100
Cauliflower	6	75	61	67
Celery	3	55	74	100
Chervil	2	65	86	100
Chicory	2	65	84	100
Chives	1	50	73	100
Cilantro	7	70	72	71
Collards	5	80	83	80
Corn	5	75	94	100
Cress	1	60	53	100
Cucumber	9	80	89	89
Dill	8	60	71	88
Eggplant	4	60	79	100
Endive	2	70	82	100
Fennel	3	50-60	74	100
Kale	11	75	77	82
Kohlrabi	5	75	80	100
Leeks	4	60	90	100
Lettuce	22	80	82	77
Marjoram	1	50	61	100
Mustard	4	75	87	75
Mustard Spinach	1	75	99	100
Okra	4	50	34	0
Onion	8	70	59	75
Pak Choi	2	75	93	100
Parsley	11	60	68	91
Parsnip	4	60	27	0

Peas	6	80	79	67
Pepper	14	55	47	57
Pumpkin	6	75	86	100
Radish	13	75	87	92
Rhubarb	1	60	26	0
Rutabaga	4	75	92	100
Savory	1	55	42	100
Spinach	10	60	93	100
Spinach, New Zealand	2	40	64	100
Squash	11	75	76	73
Swiss Chard	5	65	61	80
Thyme	2	50	43	50
Tomatillo	3	50	72	100
Tomato	15	75	88	100
Turnip	5	80	95	100
Watercress	2	40	85	100

Table 4. Results of purity and germination rates of crop and pasture mixture samples in comparison to the label claims.

Seed Company	Seed Mixture	Purity (%)		Germination (%)	
		Claim	Found ²	Claim	Found ²
King's AgriSeeds	Lowland Hay Mixture				
	Comtal Timothy	19.90	14.81*	85	61*
	Kora Tall Fescue	32.39		90	
	BarElite Tall Fescue	9.30		90	
	BE9301A Tall Fescue	9.01		90	
	Bariane Tall Fescue	8.91		90	
	Tall Fescue (Total)	59.61	62.89	90	76*
	Redskin Red Clover (coated)	12.85	14.38	65.25	92
DLF Pickseed	Inavale Orchardgrass				
	Orchardgrass	47.11	47.12	90	90
	Kentucky 31 Tall Fescue				
DLF Pickseed	Kentucky 31 Tall Fescue (Lot: Y9-23-TF1802)	98.92	99.83	80	99
	Kentucky 31 Tall Fescue (coated)				
DLF Pickseed	Kentucky 31 Tall Fescue (Lot: L68-23-5191)	42.57	45.72	80	90
	Crown Royale Orchardgrass				
Preferred Seed	Orchardgrass	90.01	91.75	90	86**
	Forage Extra Livestock Grass Mixture				
	Payday Tetraploid Perennial Ryegrass	14.61	21.87	90	91
	Preval Meadow Fescue	29.88	24.74*	90	95
	Orchardgrass	18.27	22.73	90	82*
	Hostyn Festulolium	14.94	12.13*	90	94
	PS 2000 Timothy	9.99	5.22*	90	95
Pleasant View Farms Inc.	Forage Extra PS 2000 Brand Timothy				
	PS 2000 Timothy	99.61	99.89	90	96
Pleasant View Farms Inc.	VNS Cereal Rye				
	VNS Cereal Rye	99.56	97.82*	98	86*
Mosher's	Rye				
	Annual Rye	99.6	99.05**	80	88
Semican International	Fall Rye Seed VNS				
	Fall Rye (Lot: 23-1001)	99	99.56	85	72*
	Fall Rye Seed VNS				
Semican International	Fall Rye (Lot: 23-1000)	99	99.60	85	79**
Barenbrug	HLR Orchardgrass Blend				
	Intensiv Orchardgrass	36.42		85	
	Baraula Orchardgrass	28.08		85	
	Barlegro Orchardgrass	26.25		85	
	Orchardgrass (Total)	90.75	91.40	85	73*
	Groundwork Equine Pasture Forage North Mixture (Lot: 94532-N)				

	Barrari Kentucky Bluegrass	4.80	6.29	85	77**	
	VNS Tall Fescue	2.64	4.80	85	90	
	Barmazing Perennial Ryegrass	8.79	8.19**	90		
	Maximus Annual Ryegrass	30.2	31.22	90		
	Ryegrasses (Total)			90	95	
	Barlegro Orchardgrass	9.98	11.47	85	73*	
	Kootenai Timothy	8.25	9.49	85	76*	
	VNS White Clover	2.91	1.29*	90	90	
	Trefoil	0.73	0.79	88	65*	
Barenbrug	Groundwork Equine Pasture Forage					
	North Mixture (Lot: 94422-N)					
		Barrari Kentucky Bluegrass	4.97	4.49**	85	76*
		VNS Tall Fescue	2.85	8.11	85	68*
		VNS Perennial Ryegrass	14.98	6.58*	90	
		Maximus Annual Ryegrass	15.78		90	
		Ribeye Annual Ryegrass	14.80	39.60	90	
		Ryegrasses (Total)			90	85**
		Barlegro Orchardgrass	11.75	8.52*	85	81**
		Kootenai Timothy	8.39	8.59	85	61*
		VNS White Clover	3.43	1.67*	85	94

^Z *: did not meet the label claim and purity or germination standards.

** : did not meet the claim but passed the standard test within the acceptable tolerance.

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