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Seed Germination
and Purity
Analysis 2000

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Official samples of 306 vegetable, 16 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 2000. 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 14 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 306 vegetable seeds tested, two did not meet their claims for germination. Three additional samples did not meet 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. Seven of the 16 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. No 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 | Standard | Found |
|------------------|----------------------------|---|----------|--------|
| Artichoke | Green Globe | Charles C. Hart Seed Co. | 60 | 69 |
| Asparagus | Mary Washington | Charles C. Hart Seed Co. | 70 | 98 |
| Bean | Blue Lake | Livingston Seed Co. | 75 | 69 |
| Bean | Blue Lake Stringless | NK Lawn and Garden Co. | 75 | 70+14H |
| Bean | Bountiful | Comstock, Ferre & Co. | 75 | 83 |
| Bean | Brittle Wax | W. Atlee Burpee and Co. | 75 | 91 |
| Bean | Bush Blue Lake | Charles C. Hart Seed Co. | 75 | 80 |
| Bean | Bush Blue Lake 274 | Ferry-Morse Seed Co. | 75 | 83 |
| Bean | Bush Blue Lake 274 | Ferry-Morse Seed Co./Better Homes and Gardens | 75 | 88 |
| Bean | Bush Blue Lake 274 | W. Atlee Burpee and Co. | 75 | 91 |
| Bean | Bush Romano no. 14 | Ferry-Morse Seed Co./Better Homes and Gardens | 75 | 82 |
| Bean | Cherokee Wax | New England Seed Co. | 75 | 99 |
| Bean | Flageolet | Ferry-Morse Seed Co./Source of Nature Organically Grown | 75 | 27* |
| Bean | French Horticultural | Charles C. Hart Seed Co. | 75 | 80 |
| Bean | Golden Butterwax | Agway, Inc. | 75 | 93 |
| Bean | Improved Commodore | NK Lawn and Garden Co. | 75 | 91 |
| Bean | Jade | New England Seed Co. | 75 | 67 |
| Bean | Kentucky Blue Pole Snap | Botanical Interests, Inc. | 75 | 75 |
| Bean | Kentucky Wonder Pole | New England Seed Co. | 75 | 86 |
| Bean | Kentucky Wonder Pole | W. Atlee Burpee and Co. | 75 | 95 |
| Bean | Long Tendergreen | Agway, Inc. | 75 | 97 |
| Bean | Pencil Pod Black Wax | Comstock, Ferre & Co. | 75 | 97 |
| Bean | Provider | Charles C. Hart Seed Co. | 75 | 92 |
| Bean | Red Kidney | New England Seed Co. | 75 | 94 |
| Bean | Romano Pole | Plantation Products, Inc. | 75 | 63 |
| Bean | Royal Burgundy | Comstock, Ferre & Co. | 75 | 95 |
| Bean | Sheperd's Bush 3 Color Mix | Shepherd's Garden Seeds | 75 | 78 |
| Bean | Tendergreen | Plantation Products, Inc. | 75 | 96 |
| Bean | Tendergreen Improved | Ferry-Morse Seed Co./Better Homes and Gardens | 75 | 97 |
| Bean, lima | Henderson | Plantation Products, Inc. | 70 | 86 |
| Bean, lima | Jackson Wonder | New England Seed Co. | 70 | 96 |
| Beet | Burpee's Red Ball | W. Atlee Burpee and Co. | 65 | 94 |
| Beet | Chioggia | Thompson and Morgan | 65 | 83 |
| Beet | Cylindra | Comstock, Ferre & Co. | 65 | 87 |
| Beet | Cylindra | Plantation Products, Inc. | 65 | 87 |
| Beet | Detroit Dark Red | Agway, Inc. | 65 | 81 |
| Beet | Detroit Dark Red | Botanical Interests, Inc. | 65 | 88 |
| Beet | Detroit Dark Red | New England Seed Co. | 65 | 85 |
| Beet | Green Top Bunching | Charles C. Hart Seed Co. | 65 | 80 |
| Beet | Ruby Queen | NK Lawn and Garden Co. | 65 | 91 |
| Beet | Sangria | Shepherd's Garden Seeds | 65 | 83 |
| Beet | Tall Top Early Wonder | Ferry-Morse Seed Co./Source of Nature Organically Grown | 65 | 90 |
| Broccoli | Calabrese | Ferry-Morse Seed Co./Source of Nature Organically Grown | 75 | 96 |
| Broccoli | Calabrese | Plantation Products, Inc. | 75 | 78 |
| Broccoli | DeCicco | Charles C. Hart Seed Co. | 75 | 87 |
| Broccoli | Southern Comet | Agway, Inc. | 75 | 79 |
| Broccoli | Waltham | Comstock, Ferre & Co. | 75 | 97 |
| Broccoli | Waltham 29 | NK Lawn and Garden Co. | 75 | 89 |
| Broccoli raab | Cima di Rapa | Shepherd's Garden Seeds | 75 | 98 |
| Broccoli raab | Early Pugliese | New England Seed Co. | 75 | 92 |
| Brussels sprouts | Bubbles | Comstock, Ferre & Co. | 70 | 98 |
| Brussels sprouts | Catskill | Agway, Inc. | 70 | 83 |
| Brussels sprouts | Catskill | Ferry-Morse Seed Co. | 70 | 78 |
| Brussels sprouts | Catskill | Ferry-Morse Seed Co./Better Homes and Gardens | 70 | 84 |
| Brussels sprouts | Long Island Improved | Charles C. Hart Seed Co. | 70 | 76 |

Table 1. Germination of vegetable seeds (continued). 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 | Found |
|-----------------|--------------------------|---|----------|-------|
| Cabbage | Copenhagen Market | NK Lawn and Garden Co. | 75 | 73 |
| Cabbage | Copenhagen Market Early | Ferry-Morse Seed Co./Better Homes and Gardens | 75 | 70 |
| Cabbage | Danish Ball Head | New England Seed Co. | 75 | 71 |
| Cabbage | Gourmet | Agway, Inc. | 75 | 84 |
| Cabbage | Ireland | W. Atlee Burpee and Co. | 75 | 66 |
| Cabbage | Red Acre | Agway, Inc. | 75 | 68 |
| Cabbage | Red Acre | Comstock, Ferre & Co. | 75 | 83 |
| Cabbage | Savoy Chieftain | Charles C. Hart Seed Co. | 75 | 79 |
| Cabbage | Vertus Savoy | Plantation Products, Inc. | 75 | 77 |
| Cantaloupe | Delicious 51 | New England Seed Co. | 75 | 70 |
| Cantaloupe | Hales Best Jumbo | Ferry-Morse Seed Co./Better Homes and Gardens | 75 | 97 |
| Cantaloupe | Honey Rock | Livingston Seed Co. | 75 | 98 |
| Cantaloupe | Iroquois | Charles C. Hart Seed Co. | 75 | 97 |
| Cantaloupe | Saticoy | Comstock, Ferre & Co. | 75 | 72 |
| Carrot | Bolero | Shepherd's Garden Seeds | 55 | 68 |
| Carrot | Danvers 126 | Agway, Inc. | 55 | 74 |
| Carrot | Danvers Half Long | Livingston Seed Co. | 55 | 81 |
| Carrot | Imperator | Charles C. Hart Seed Co. | 55 | 86 |
| Carrot | Kundulus | Thompson and Morgan | 55 | 35* |
| Carrot | Little Fingers | New England Seed Co. | 55 | 80 |
| Carrot | Nantes Half Long | W. Atlee Burpee and Co. | 55 | 74 |
| Carrot | Red Cored Chantenay | Ferry-Morse Seed Co./Better Homes and Gardens | 55 | 87 |
| Carrot | Scarlet Nantes | NK Lawn and Garden Co. | 55 | 68 |
| Carrot | Touchon | Plantation Products, Inc. | 55 | 70 |
| Cauliflower | Broccoverde | Comstock, Ferre & Co. | 75 | 39* |
| Cauliflower | Early Snowball A | Ferry-Morse Seed Co. | 75 | 88 |
| Cauliflower | Self Blanching | Charles C. Hart Seed Co. | 75 | 86 |
| Celeriac | Giant Smooth Prague | Comstock, Ferre & Co. | 55 | 82 |
| Celery | Giant Pascal | Comstock, Ferre & Co. | 55 | 73 |
| Celery | Golden Self Blanching | Charles C. Hart Seed Co. | 55 | 85 |
| Chicory | Italian Dandelion | New England Seed Co. | 65 | 90 |
| Chicory | Palla Rosa | Charles C. Hart Seed Co. | 65 | 91 |
| Chinese cabbage | Bok Choi | Charles C. Hart Seed Co. | 75 | 91 |
| Chinese cabbage | Jade Pagoda | Agway, Inc. | 75 | 89 |
| Collards | Georgia | Comstock, Ferre & Co. | 80 | 87 |
| Collards | Georgia | New England Seed Co. | 80 | 75 |
| Collards | Vates | Agway, Inc. | 80 | 91 |
| Corn | Ambrosia | Charles C. Hart Seed Co. | 75 | 97 |
| Corn | Bodacious | Agway, Inc. | 75 | 96 |
| Corn | Butter and Sugar | Agway, Inc. | 75 | 70 |
| Corn | Butter and Sugar | New England Seed Co. | 75 | 98 |
| Corn | Classic Touch | Charles C. Hart Seed Co. | 75 | 94 |
| Corn | Early and Often | W. Atlee Burpee and Co. | 75 | 98 |
| Corn | Golden Bantam | Comstock, Ferre & Co. | 75 | 99 |
| Corn | Golden Cross Bantam T-51 | Ferry-Morse Seed Co./Better Homes and Gardens | 75 | 97 |
| Corn | Honey Cream | Ferry-Morse Seed Co./Source of Nature Organically Grown | 75 | 82 |
| Corn | Jubilee | NK Lawn and Garden Co. | 75 | 88 |
| Corn | Kandy Korn | Shepherd's Garden Seeds | 75 | 99 |
| Corn | Kandy Korn EH | New England Seed Co. | 75 | 99 |
| Corn | Peaches and Cream | Livingston Seed Co. | 75 | 97 |
| Corn | Platinum Lady | Comstock, Ferre & Co. | 75 | 100 |
| Corn | Rapture | Agway, Inc. | 75 | 78 |
| Corn | Scarlet | Agway, Inc. | 75 | 99 |

Table 1. Germination of vegetable seeds (continued). 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 | Found |
|-----------|-----------------------------|---|----------|-------|
| Corn | Silver Bullet | Ferry-Morse Seed Co./Better Homes and Gardens | 75 | 91 |
| Corn | Silver Queen | Ferry-Morse Seed Co. | 75 | 98 |
| Corn | Silver Queen | W. Atlee Burpee and Co. | 75 | 98 |
| Corn | Sugar Dots | NK Lawn and Garden Co. | 75 | 97 |
| Cornsalad | Burpee's Heirloom D'Etampes | W. Atlee Burpee and Co. | 70 | 97 |
| Cornsalad | Mache | Botanical Interests, Inc. | 70 | 91 |
| Cowpea | California Blackeye | Ferry-Morse Seed Co./Source of Nature Organically Grown | 75 | 98 |
| Cowpea | Pinkeye Purple Hull | Ferry-Morse Seed Co./Better Homes and Gardens | 75 | 93 |
| Cress | Extra Curled | Thompson and Morgan | 75 | 95 |
| Cucumber | Armenian | Botanical Interests, Inc. | 80 | 90 |
| Cucumber | Boston Pickling | New England Seed Co. | 80 | 90 |
| Cucumber | Bush Crop | Charles C. Hart Seed Co. | 80 | 94 |
| Cucumber | Bush Pickle | Charles C. Hart Seed Co. | 80 | 99 |
| Cucumber | Fanfare | Agway, Inc. | 80 | 97 |
| Cucumber | Fanfare | New England Seed Co. | 80 | 82 |
| Cucumber | Marketmore 76 | Ferry-Morse Seed Co./Better Homes and Gardens | 80 | 71 |
| Cucumber | Picarow | Agway, Inc. | 80 | 95 |
| Cucumber | Poinsett 76 | Plantation Products, Inc. | 80 | 93 |
| Cucumber | Spacemaster | Comstock, Ferre & Co. | 80 | 82 |
| Cucumber | Spacemaster Bush | Livingston Seed Co. | 80 | 79 |
| Cucumber | Straight Eight | NK Lawn and Garden Co. | 80 | 87 |
| Cucumber | Straight Eight | W. Atlee Burpee and Co. | 80 | 97 |
| Cucumber | White Wonder | Comstock, Ferre & Co. | 80 | 90 |
| Eggplant | Black Beauty | Charles C. Hart Seed Co. | 60 | 91 |
| Eggplant | Ghostbuster | Comstock, Ferre & Co. | 60 | 96 |
| Eggplant | High Bush Select | Agway, Inc. | 60 | 86 |
| Eggplant | Long Purple | New England Seed Co. | 60 | 87 |
| Eggplant | Rosa Bianca | Shepherd's Garden Seeds | 60 | 86 |
| Endive | Batavian Full Heart | Comstock, Ferre & Co. | 70 | 84 |
| Endive | Batavian Full Heart | New England Seed Co. | 70 | 82 |
| Endive | Green Ruffle | Agway, Inc. | 70 | 88 |
| Escarole | Grosse Bouclee | Botanical Interests, Inc. | 70 | 79 |
| Kale | Blue Scotch | Agway, Inc. | 75 | 78 |
| Kale | Red Russian | Comstock, Ferre & Co. | 75 | 95 |
| Kale | Vates Dwarf Blue Curled | Ferry-Morse Seed Co. | 75 | 94 |
| Kale | Vates Dwarf Blue Curled | Ferry-Morse Seed Co./Better Homes and Gardens | 75 | 89 |
| Kohlrabi | Early Purple Vienna | Agway, Inc. | 75 | 96 |
| Kohlrabi | Early White Vienna | Ferry-Morse Seed Co./Better Homes and Gardens | 75 | 90 |
| Kohlrabi | Grand Duke | Comstock, Ferre & Co. | 75 | 74 |
| Leek | American Broad Flag | New England Seed Co. | 60 | 96 |
| Leek | American Flag | Comstock, Ferre & Co. | 60 | 93 |
| Leek | American Flag | Ferry-Morse Seed Co./Better Homes and Gardens | 60 | 83 |
| Leek | Carina | Agway, Inc. | 60 | 94 |
| Lettuce | Bibb | Charles C. Hart Seed Co. | 80 | 88 |
| Lettuce | Black Seeded Simpson | New England Seed Co. | 80 | 98 |
| Lettuce | Bupee's Iceberg Crisphead | W. Atlee Burpee and Co. | 80 | 82 |
| Lettuce | Buttercrunch | Agway, Inc. | 80 | 89 |
| Lettuce | Galactic Looseleaf | Shepherd's Garden Seeds | 80 | 99 |
| Lettuce | Grand Rapids | NK Lawn and Garden Co. | 80 | 90 |
| Lettuce | Parris Island Cos | Ferry-Morse Seed Co./Better Homes and Gardens | 80 | 93 |
| Lettuce | Prizehead | Agway, Inc. | 80 | 95 |

Table 1. Germination of vegetable seeds (continued). 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 | Found |
|---------------------|---------------------------------|---|----------|-------|
| Lettuce | Romaine | Charles C. Hart Seed Co. | 80 | 79 |
| Lettuce | Summertime | Comstock, Ferre & Co. | 80 | 95 |
| Lettuce | White Boston | Comstock, Ferre & Co. | 80 | 95 |
| Mustard | Early Mazuna | Ferry-Morse Seed Co./Source of Nature Organically Grown | 75 | 93 |
| Mustard | Southern Giant Curled | Charles C. Hart Seed Co. | 75 | 98 |
| Mustard | Southern Giant Curled | Ferry-Morse Seed Co./Better Homes and Gardens | 75 | 79 |
| New Zealand Spinach | | Agway, Inc. | 40 | 73 |
| New Zealand Spinach | | Charles C. Hart Seed Co. | 40 | 26* |
| Okra | Cajun Delight | New England Seed Co. | 50 | 75 |
| Okra | Clemson Spineless | Agway, Inc. | 50 | 88 |
| Okra | Clemson Spineless | W. Atlee Burpee and Co. | 50 | 61 |
| Okra | Long Green, Dwarf Stalk | Charles C. Hart Seed Co. | 50 | 78 |
| Onion | Evergreen Long White Bunching | W. Atlee Burpee and Co. | 70 | 89 |
| Onion | Long White Bunching | Agway, Inc. | 70 | 93 |
| Onion | Red Burgermaster | New England Seed Co. | 70 | 80 |
| Onion | Southport White Globe | Ferry-Morse Seed Co./Better Homes and Gardens | 70 | 82 |
| Onion | Sweet Spanish | Agway, Inc. | 70 | 93 |
| Onion | Utah Jumbo Sweet Spanish Yellow | Ferry-Morse Seed Co. | 70 | 87 |
| Onion | Utah Sweet Spanish | NK Lawn and Garden Co. | 70 | 89 |
| Onion | Walla Walla | Botanical Interests, Inc. | 70 | 74 |
| Onion | Wethersfield Red | Charles C. Hart Seed Co. | 70 | 81 |
| Onion | White Ebenezer | Comstock, Ferre & Co. | 70 | 85 |
| Onion | White Lisbon Bunching | Thompson and Morgan | 70 | 84 |
| Onion | White Portugal | Charles C. Hart Seed Co. | 70 | 82 |
| Parsley | Extra Curled Dwarf | W. Atlee Burpee and Co. | 60 | 83 |
| Parsley | Hamburg Rooted | Comstock, Ferre & Co. | 60 | 74 |
| Parsley | Italian Plain Leaf | Agway, Inc. | 60 | 62 |
| Parsley | Italian Plain Leaf | New England Seed Co. | 60 | 73 |
| Parsnip | All American | Agway, Inc. | 60 | 72 |
| Parsnip | All American | New England Seed Co. | 60 | 71 |
| Parsnip | Hollow Crown | Charles C. Hart Seed Co. | 60 | 68 |
| Pea | Alaska | Ferry-Morse Seed Co./Better Homes and Gardens | 80 | 92 |
| Pea | Cascadia Snap | Botanical Interests, Inc. | 80 | 80 |
| Pea | Dwar Gray Sugar | New England Seed Co. | 80 | 94 |
| Pea | Dwarf White Sugar | Agway, Inc. | 80 | 87 |
| Pea | Early Alaska | Plantation Products, Inc. | 80 | 88 |
| Pea | Green Arrow | Comstock, Ferre & Co. | 80 | 79 |
| Pea | Little Marvel | Agway, Inc. | 80 | 80 |
| Pea | Melting Sugar Edible Pod | Ferry-Morse Seed Co./Better Homes and Gardens | 80 | 77 |
| Pea | Mr. Big | W. Atlee Burpee and Co. | 80 | 77 |
| Pea | Norli Snowpea | Shepherd's Garden Seeds | 80 | 97 |
| Pea | Paxton's Progress no. 9 | Charles C. Hart Seed Co. | 80 | 92 |
| Pea | Sugar Snap | Comstock, Ferre & Co. | 80 | 82 |
| Pea | Sugar Snap | Livingston Seed Co. | 80 | 74 |
| Pea | Sugar Snap | W. Atlee Burpee and Co. | 80 | 83 |
| Pea | Super Sugar Snap | NK Lawn and Garden Co. | 80 | 83 |
| Pea | Tall Telephone | New England Seed Co. | 80 | 85 |
| Pea | Wando | Charles C. Hart Seed Co. | 80 | 80 |
| Pepper | Anaheim | Plantation Products, Inc. | 55 | 55 |
| Pepper | Bell Boy | New England Seed Co. | 55 | 84 |
| Pepper | California Wonder | W. Atlee Burpee and Co. | 55 | 61 |
| Pepper | California Wonder 300 TMR | Ferry-Morse Seed Co. | 55 | 73 |
| Pepper | Cubanelle | Comstock, Ferre & Co. | 55 | 67 |
| Pepper | Cubanelle Sweet Fryer | New England Seed Co. | 55 | 57 |

Table 1. Germination of vegetable seeds (continued). 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 | Found |
|----------|-----------------------------|---|----------|-------|
| Pepper | Czechoslovakian Black Chile | Shepherd's Garden Seeds | 55 | 57 |
| Pepper | Habanero | Ferry-Morse Seed Co./Better Homes and Gardens | 55 | 83 |
| Pepper | Hungarian Hot Wax | Charles C. Hart Seed Co. | 55 | 88 |
| Pepper | Jalapeno | W. Atlee Burpee and Co. | 55 | 87 |
| Pepper | Jalapeno M | Agway, Inc. | 55 | 94 |
| Pepper | Jupiter | NK Lawn and Garden Co. | 55 | 62 |
| Pepper | Large Red Cayenne Hot | New England Seed Co. | 55 | 55 |
| Pepper | Large Red Cherry Hot | Comstock, Ferre & Co. | 55 | 81 |
| Pepper | Marconi Golden | Botanical Interests, Inc. | 55 | 80 |
| Pepper | Purple Beauty | Comstock, Ferre & Co. | 55 | 58 |
| Pepper | Scotch Bonnet | Botanical Interests, Inc. | 55 | 67 |
| Pepper | Serrano Chile | NK Lawn and Garden Co. | 55 | 53 |
| Pepper | Staddon's Select | Agway, Inc. | 55 | 93 |
| Pepper | Sweet Banana | Charles C. Hart Seed Co. | 55 | 80 |
| Pepper | Sweet Banana | W. Atlee Burpee and Co. | 55 | 87 |
| Pumpkin | Baby Pam | Agway, Inc. | 75 | 93 |
| Pumpkin | Big Max | Charles C. Hart Seed Co. | 75 | 73 |
| Pumpkin | Big Max | NK Lawn and Garden Co. | 75 | 68 |
| Pumpkin | Connecticut Field | Comstock, Ferre & Co. | 75 | 92 |
| Pumpkin | Ghostrider | Charles C. Hart Seed Co. | 75 | 83 |
| Pumpkin | Jack Be Little | Comstock, Ferre & Co. | 75 | 98 |
| Pumpkin | Small Sugar | New England Seed Co. | 75 | 82 |
| Radish | Black Spanish Round | Charles C. Hart Seed Co. | 75 | 96 |
| Radish | Champion | Comstock, Ferre & Co. | 75 | 83 |
| Radish | Champion | New England Seed Co. | 75 | 100 |
| Radish | Crimson Giant | Botanical Interests, Inc. | 75 | 99 |
| Radish | Early Scarlet Globe | Agway, Inc. | 75 | 98 |
| Radish | French Breakfast | Plantation Products, Inc. | 75 | 91 |
| Radish | Sparkle | NK Lawn and Garden Co. | 75 | 90 |
| Rutabaga | American Purple Top | Agway, Inc. | 75 | 99 |
| Rutabaga | American Purple Top Yellow | Charles C. Hart Seed Co. | 75 | 96 |
| Spinach | Bloomsdale Long Standing | Livingston Seed Co. | 60 | 73 |
| Spinach | Correnta | Botanical Interests, Inc. | 60 | 89 |
| Spinach | Dark Green Bloomsdale | New England Seed Co. | 60 | 62 |
| Spinach | Hybrid No. 7 | Comstock, Ferre & Co. | 60 | 90 |
| Spinach | Indan Summer | NK Lawn and Garden Co. | 60 | 85 |
| Spinach | Melody | Agway, Inc. | 60 | 91 |
| Spinach | Melody | W. Atlee Burpee and Co. | 60 | 93 |
| Spinach | Razzle Dazzle | Ferry-Morse Seed Co. | 60 | 92 |
| Spinach | Tyee | Charles C. Hart Seed Co. | 60 | 90 |
| Squash | Acorn, Cream of the Crop | Comstock, Ferre & Co. | 75 | 50* |
| Squash | Ambercup | Agway, Inc. | 75 | 89 |
| Squash | Black Beauty | Agway, Inc. | 75 | 92 |
| Squash | Blue Hubbard | Comstock, Ferre & Co. | 75 | 95 |
| Squash | Blue Hubbard | New England Seed Co. | 75 | 94 |
| Squash | Buttercup | NK Lawn and Garden Co. | 75 | 78 |
| Squash | Buttercup Bush | Charles C. Hart Seed Co. | 75 | 89 |
| Squash | Butternut | Plantation Products, Inc. | 75 | 66 |
| Squash | Early Acorn Hybrid | W. Atlee Burpee and Co. | 75 | 70 |
| Squash | Early Crookneck | Charles C. Hart Seed Co. | 75 | 96 |
| Squash | Early Prolific Straightneck | NK Lawn and Garden Co. | 75 | 79 |
| Squash | Early Summer Crookneck | New England Seed Co. | 75 | 96 |
| Squash | Early White Bush Scallop | Ferry-Morse Seed Co. | 75 | 89 |
| Squash | Early Yellow Crookneck | Botanical Interests, Inc. | 75 | 92 |
| Squash | Gold Rush | Agway, Inc. | 75 | 89 |
| Squash | Spaghetti | New England Seed Co. | 75 | 97 |
| Squash | Waltham Butternut | Ferry-Morse Seed Co./Better Homes and Gardens | 75 | 97 |

Table 1. Germination of vegetable seeds (continued). 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 | Found |
|-------------|---------------------------|---|----------|-------|
| Squash | Yellow Summer Crookneck | Ferry-Morse Seed Co./Better Homes and Gardens | 75 | 95 |
| Squash | Zucchini, Ambassador | Comstock, Ferre & Co. | 75 | 90 |
| Squash | Zucchini, Ambassador | New England Seed Co. | 75 | 90 |
| Squash | Zucchini, Burpee's Hybrid | W. Atlee Burpee and Co. | 75 | 85 |
| Squash | Zucchini, Dark | Livingston Seed Co. | 75 | 90 |
| Swiss chard | Bright Lights | Agway, Inc. | 65 | 84 |
| Swiss chard | Giant Lucullus | New England Seed Co. | 65 | 83 |
| Swiss chard | Perpetual | Comstock, Ferre & Co. | 65 | 82 |
| Tomatillo | Toma Verde | Comstock, Ferre & Co. | 50 | 94 |
| Tomatillo | Toma Verde | Plantation Products, Inc. | 50 | 88 |
| Tomato | Beefsteak | Ferry-Morse Seed Co./Source of Nature Organically Grown | 75 | 92 |
| Tomato | Better Boy | Comstock, Ferre & Co. | 75 | 95 |
| Tomato | Big Beef | Comstock, Ferre & Co. | 75 | 88 |
| Tomato | Burpee's Big Boy | W. Atlee Burpee and Co. | 75 | 86 |
| Tomato | Celebrity | NK Lawn and Garden Co. | 75 | 77 |
| Tomato | Jet Star | Charles C. Hart Seed Co. | 75 | 75 |
| Tomato | Jubilee | Ferry-Morse Seed Co./Better Homes and Gardens | 75 | 90 |
| Tomato | Keepsake | Agway, Inc. | 75 | 91 |
| Tomato | Marglobe | New England Seed Co. | 75 | 70 |
| Tomato | Patio | Comstock, Ferre & Co. | 75 | 68 |
| Tomato | Red Cherry Large Fruited | Ferry-Morse Seed Co. | 75 | 91 |
| Tomato | Roma | Charles C. Hart Seed Co. | 75 | 88 |
| Tomato | Roma VF | New England Seed Co. | 75 | 90 |
| Tomato | Roma VF | W. Atlee Burpee and Co. | 75 | 80 |
| Tomato | Rutgers | Plantation Products, Inc. | 75 | 70 |
| Tomato | Super Beefsteak | W. Atlee Burpee and Co. | 75 | 93 |
| Tomato | Tiny Tim | New England Seed Co. | 75 | 71 |
| Turnip | Purple Top White Globe | Agway, Inc. | 80 | 98 |
| Turnip | Purple Top White Globe | Charles C. Hart Seed Co. | 80 | 93 |
| Turnip | Purple Top White Globe | New England Seed Co. | 80 | 96 |
| Turnip | Yellow Globe | Comstock, Ferre & Co. | 80 | 71 |
| Watermelon | Congo | Ferry-Morse Seed Co./Better Homes and Gardens | 70 | 83 |
| Watermelon | Kleckley's Sweet | Comstock, Ferre & Co. | 70 | 71 |
| Watermelon | Sugar Baby | Charles C. Hart Seed Co. | 70 | 91 |
| Watermelon | Sugar Baby | Plantation Products, Inc. | 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 Claims | % Meeting Claims | % Not Meeting Claims |
|---|--------------|------------------|----------------------|
| Agway, Inc. | 43 | 100 | 0 |
| Botanical Interests, Inc. | 12 | 100 | 0 |
| Charles C. Hart Seed Co. | 44 | 98 | 2 |
| Comstock, Ferre & Co. | 44 | 95 | 5 |
| Ferry-Morse Seed Co. | 10 | 100 | 0 |
| Ferry-Morse Seed Co./ Better Homes & Gardens | 24 | 100 | 0 |
| Ferry-Morse Seed Co./Source of Nature Organically Grown | 7 | 86 | 14 |
| Livingston Seed Co. | 8 | 100 | 0 |
| New England Seed Co. | 41 | 100 | 0 |
| NK Lawn and Garden Co. | 20 | 100 | 0 |
| Plantation Products, Inc. | 15 | 100 | 0 |
| Shepherd's Garden Seeds | 9 | 100 | 0 |
| Thompson & Morgan | 4 | 75 | 25 |
| W. Atlee Burpee and Co. | 25 | 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 | Avg. Germination |
|---------------------|-----------------------|-----------------|-------------------------|
| Artichoke | 1 | 60 | 69 |
| Asparagus | 1 | 70 | 98 |
| Bean | 29 | 75 | 85 |
| Bean, lima | 2 | 70 | 91 |
| Beet | 11 | 65 | 86 |
| Broccoli | 6 | 75 | 88 |
| Broccoli raab | 2 | 75 | 95 |
| Brussels sprouts | 5 | 70 | 84 |
| Cabbage | 9 | 75 | 75 |
| Cantaloupe | 5 | 75 | 87 |
| Carrot | 10 | 55 | 72 |
| Cauliflower | 3 | 75 | 71 |
| Celeriac | 1 | 55 | 82 |
| Celery | 2 | 55 | 79 |
| Chicory | 2 | 65 | 91 |
| Chinese cabbage | 2 | 75 | 90 |
| Collards | 3 | 80 | 84 |
| Corn | 20 | 75 | 94 |
| Cornsalad | 2 | 70 | 94 |
| Cowpea | 2 | 75 | 96 |
| Cress | 1 | 75 | 95 |
| Cucumber | 14 | 80 | 89 |
| Eggplant | 5 | 60 | 89 |
| Endive | 3 | 70 | 85 |
| Escarole | 1 | 70 | 79 |
| Kale | 4 | 75 | 89 |
| Kohlrabi | 3 | 75 | 87 |
| Leek | 4 | 60 | 92 |
| Lettuce | 11 | 80 | 91 |
| Mustard | 3 | 75 | 90 |
| New Zealand Spinach | 2 | 40 | 50 |
| Okra | 4 | 50 | 76 |
| Onion | 12 | 70 | 85 |
| Parsley | 4 | 60 | 73 |
| Parsnip | 3 | 60 | 70 |
| Pea | 17 | 80 | 84 |
| Pepper | 21 | 55 | 72 |
| Pumpkin | 7 | 75 | 84 |
| Radish | 7 | 75 | 94 |
| Rutabaga | 2 | 75 | 98 |
| Spinach | 9 | 60 | 85 |
| Squash | 22 | 75 | 87 |
| Swiss chard | 3 | 65 | 83 |
| Tomatillo | 2 | 75 | 91 |
| Tomato | 17 | 75 | 83 |
| Turnip | 4 | 80 | 90 |
| Watermelon | 4 | 70 | 84 |

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 (Purity F) minus Purity Claimed (Purity C). Germination Claimed (Germ C); Germination Found (Germ F);

| Seed Company | Seed Mixture | Purity C | Purity F | Var. | Tol. | Germ C | Germ F |
|--------------------------|--|----------------|----------------|---------------|----------------|----------|----------|
| Agway | <i>Agway Wear Green Grass Mixture</i> | | | | | | |
| | Aaron Kentucky Bluegrass | 9.00 | 12.67 | 3.67 | 1.47 * | 80 | 81 |
| | Barlennium Perennial Ryegrass | 19.00 | 21.46 | 2.46 | 3.45 | 85 | 97 |
| | Chewings Fescue | 9.60 | 10.71 | 1.11 | 1.83 | 80 | 79 |
| | Veronda Tall Fescue | 19.00 | | | | 85 | 92 |
| | Kittyhawk Tall Fescue | 19.00 | | | | 85 | 92 |
| | Barlexas Tall Fescue total tall fescue | 19.00 57.00 | | | | 85 | 92 |
| | | 54.03 | -2.97 | 3.83 | | | |
| Agway | <i>Agway Landscaper Grass Seed Mixture</i> | | | | | | |
| | Kentucky Bluegrass | 21.25 | 22.09 | 0.84 | 2.44 | 80 | 86 |
| | Perennial Ryegrass | 53.90 | 53.93 | 0.03 | 4.19 | 85 | 90 |
| | Boreal Creeping Red Fescue | 19.40 | 18.64 | -0.76 | 2.42 | 85 | 93 |
| New England Seed Company | <i>New England Seed Athletic Mix</i> | | | | | | |
| | Perennial Ryegrass | 14.93 | 16.49 | 1.56 | 3.10 | 85 | 95 |
| | Creeping Red Fescue Tall Fescue | 38.88 44.73 | 35.04 46.81 | -3.84 2.08 | 3.33 * 3.79 | 85 85 | 79 91 |
| New England Seed Company | <i>Putnam Co-op Landscape 85 Mix</i> | | | | | | |
| | Kentucky Bluegrass | 17.17 | 19.97 | 2.80 | 1.87 * | 80 | 71 |
| | Manhattan Perennial Ryegrass | 19.57 | | | | 90 | 94 |
| | Annual Ryegrass total Ryegrass | 14.49 34.06 | | | | 90 | 94 |
| | Chewings Fescue | 24.68 | 27.66 | -6.40 | 4.32 * | | |
| | Creeping Red Fescue | 19.67 | | | | 85 | 87 |
| | total fine Fescue | 44.35 | 48.40 | 4.05 | 3.79 * | 85 | 87 |
| Blue Seal Feeds, Inc. | <i>Blue Seal Early Green Lawn Mixture</i> | | | | | | |
| | Kentucky Bluegrass | 14.78 | 17.83 | 3.05 | 2.07 * | 85 | 89 |
| | Perennial Ryegrass | 48.54 | | | | 90 | 94 |
| | Annual Ryegrass total Ryegrass | 9.81 58.35 | | | | 90 | 94 |
| | Creeping Red Fescue | 24.46 | 60.70 | 2.35 | 4.19 | | |
| | | 19.54 | -4.92 | 3.54 * | 85 | 91 | |
| Blue Seal Feeds, Inc. | <i>Blue Seal Shady Lawn Mixture</i> | | | | | | |
| | Ram Kentucky Bluegrass | 9.94 | | | | 85 | 89 |
| | Kentucky Bluegrass | 4.93 | | | | 85 | 89 |
| | Rough Bluegrass total Bluegrass | 19.85 34.72 | | | | 85 | 89 |
| | Perennial Ryegrass | 14.29 | 41.02 | 6.30 | 3.34 * | | |
| | Creeping Red Fescue | 14.29 | 14.80 | 0.51 | 4.06 | 90 | 88 |
| | Chewings Fescue | 38.92 | | | | 85 | 78 |
| | total fine Fescue | 9.83 48.75 | 40.42 | -8.33 | 3.91 * | 79 | 78 |
| Salem Country Gardens | <i>Premium Lawn Seed Mixture</i> | | | | | | |
| | Newport Kentucky Bluegrass | 19.64 | 23.69 | 4.05 | 2.44 * | 85 | 58 |
| | Cutter Perennial Ryegrass | 19.61 | | | | 90 | 92 |
| | Elf Perennial Ryegrass total Perennial Ryegrass | 19.57 39.18 | | | | 90 | 92 |
| | Creeping Red Fescue | 24.37 | 35.33 | -3.85 | 4.86 | | |
| | Raymond Chewings Fescue | 14.67 | | | | 85 | 86 |
| | total fine Fescue | 39.04 | 37.47 | -1.57 | 3.81 | 85 | 86 |

Table 4. Germination and purity of lawn seed (continued).

| Seed Company | Seed Mixture | Purity C | Purity F | Var. | Tol. | Germ C | Germ F |
|-------------------------------|---|----------|----------|-------|--------|--------|--------|
| Salem Country Gardens | <i>Landscaper's Lawn Seed Mixture</i> | | | | | | |
| | Newport Kentucky Bluegrass | 9.80 | 12.48 | 2.68 | 1.50 | 85 | 87 |
| | Cutter Perennial Ryegrass | 29.41 | | | | 90 | 92 |
| | Elf Perennial Ryegrass | 19.57 | | | | 90 | 92 |
| | total Perennial Ryegrass | 48.98 | 49.38 | 0.40 | 4.17 | | |
| | Creeping Red Fescue | 39.02 | 35.93 | -3.09 | 3.81 | 85 | 81 |
| Salem Country Gardens | <i>Contractor's Lawn Seed Mixture</i> | | | | | | |
| | Perennial Ryegrass | 39.21 | | | | 90 | 96 |
| | Annual Ryegrass | 49.15 | | | | 90 | 96 |
| | total Ryegrass | 88.36 | 86.30 | -2.06 | 1.99 * | | |
| | Creeping Red Fescue | 9.75 | 12.12 | 2.37 | 1.83 * | 85 | 89 |
| Jonathan Green and Sons, Inc. | <i>Sun and Shade Grass Seed Mix</i> | | | | | | |
| | Washington Kentucky Bluegrass | 14.80 | 16.15 | 1.35 | 1.87 | 90 | 93 |
| | Chatham Perennial Ryegrass | 29.65 | | | | 94 | 92 |
| | Gettysburg Perennial Ryegrass | 14.80 | | | | 94 | 92 |
| | total Ryegrass | 44.45 | 40.35 | -4.10 | 4.17 | | |
| | Southport Chewings Fescue | 19.60 | | | | 90 | 94 |
| | Eugene Creeping Red Fescue | 19.50 | | | | 90 | 94 |
| | total Fine Fescue | 39.10 | 41.70 | 2.60 | 3.79 | | |
| Jonathan Green and Sons, Inc. | <i>Sodmaker Kentucky Bluegrass Mixture</i> | | | | | | |
| | Washington Kentucky Bluegrass | 39.45 | | | | 80 | 90 |
| | Gnome Kentucky Bluegrass | 29.70 | | | | 80 | 90 |
| | Merit Kentucky Bluegrass | 19.70 | | | | 80 | 90 |
| | Jefferson Kentucky Bluegrass | 9.85 | | | | 80 | 90 |
| | total Kentucky Bluegrass | 98.70 | 97.50 | -1.20 | 0.95 * | | |
| The Scotts Company | <i>Scotts Quick Fix Quality Grass Seed</i> | | | | | | |
| | Gulf Annual Ryegrass | 97.20 | 99.43 | 2.23 | 0.89 | 90 | 98 |
| The Scotts Company | <i>Scotts Sun and Shade Mix</i> | | | | | | |
| | Kenblue Kentucky Bluegrass | 26.38 | 29.89 | 3.51 | 3.19 | 87 | 89 |
| | Linn Perennial Ryegrass | 29.27 | | | | 90 | 94 |
| | Buccaneer Perennial Ryegrass | 6.28 | | | | 90 | 94 |
| | Parcour Perennial Ryegrass | 4.28 | | | | 90 | 94 |
| | total Ryegrass | 39.83 | 39.79 | -0.04 | 4.86 | | |
| | Boreal Creeping Red Fescue | 28.70 | 25.82 | -2.88 | 3.76 | 85 | 93 |
| Loft's of New England | <i>Front Lawn Mixture</i> | | | | | | |
| | Kentucky Bluegrass | 51.00 | 54.45 | 3.45 | 4.66 | 80 | 85 |
| | Perennial Ryegrass | 7.12 | 6.69 | -0.43 | 3.62 | 85 | 96 |
| | Boreal Creeping Red Fescue | 21.83 | | | | 85 | 81 |
| | Creeping Red Fescue | 9.70 | | | | 85 | 81 |
| | total Fine Fescue | 31.53 | 28.82 | -2.71 | 4.88 | | |
| Winding Brook Turf Farm | <i>New England Sun and Shade Mix</i> | | | | | | |
| | Baron Kentucky Bluegrass | 24.68 | | | | 85 | 92 |
| | Huntsville Kentucky Bluegrass | 19.93 | | | | 85 | 92 |
| | total Kentucky Bluegrass | 44.61 | 45.90 | 1.29 | 4.53 | | |
| | Tri-Green Blend Perennial Ryegrass (Buccaneer, 8990, Charisma) | 23.85 | 20.79 | -3.06 | 5.30 | 90 | 99 |
| | Chewings Fescue | 14.88 | | | | 85 | 90 |
| | Creeping Red Fescue | 14.80 | | | | 85 | 90 |
| | total Fine Fescue | 29.68 | 31.48 | 1.80 | 4.31 | | |
| Jacklin Seed Company | <i>Quick Gro Mixture</i> | | | | | | |
| | Kentucky Bluegrass | 8.57 | 10.95 | 2.38 | 1.33 * | 80 | 82 |
| | Perennial Ryegrass | 29.37 | | | | 85 | 88 |
| | Annual Ryegrass | 29.09 | | | | 85 | 88 |
| | total Ryegrass | 58.46 | 62.38 | 3.92 | 3.46 * | | |
| | Creeping Red Fescue | 29.42 | 24.17 | -5.25 | 2.89 * | 85 | 88 |

Table 5. Germination and purity of crop seed.

| Mixture | Company | Purity Claim | Purity Found | Germ. Claim | Germ. Found |
|----------------|--------------------------|---------------------|---------------------|--------------------|--------------------|
| Rye | AgriCulver, Inc. | 99.0 | 99.9 | 85 | 96 |
| Rye | Crop Production Services | 98.4 | 97.2 | 89 | 93 |
| Rye | Ventura Grain Co. Inc. | 95.0 | 98.3 | 85 | 97 |
| Rye | AgriCulver, Inc. | 99.0 | 99.9 | 85 | 94 |
| Rye | Agway, Inc. | 97.9 | 98.6 | 90 | 90 |
| Rye | AgriCulver, Inc. | 99.0 | 99.8 | 85 | 91 |

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