

*The
Connecticut
Agricultural
Experiment
Station,
New Haven*

Seed Germination
and Purity
Analysis 1996

BY SHARON M. DOUGLAS

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Official samples of 351 vegetable and 15 lawn seed were collected by inspectors from the Bureau of Regulation and Inspection of the Connecticut Department of Agriculture for testing in 1996. 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 12 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 351 vegetable seeds tested, five did not meet their claims for germination. These 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 in each category for compliance are summarized for each vegetable seed company in Table 2. Table 3 summarizes the total number of samples tested and the percentage of claims in each compliance category 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 labelled 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 15 lawn seed samples tested met label claims for both purity and germination. Four samples did not meet claims for purity, five samples did not meet claims for germination, and two samples failed label claims for both germination and purity.

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.

Analyses were performed by Mary K. Inman and Dr. Sharon M. Douglas. Samples were collected by Alton Van Dyke, Seed Control Official. 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.

| Plant | Variety | Seed Company | Germination ¹ | |
|------------|---------------------------|------------------------|--------------------------|-----------------------|
| | | | Found ² | Standard ³ |
| Asparagus | Mary Washington | Plantation Products | 61 | 70 |
| Bean | Blue Lake #274 | Excel Seeds | 83 | 75 |
| Bean | Blue Lake Bush | Hart | 76 | 75 |
| Bean | Blue Lake Pole | New England Seed Co. | 92 | 75 |
| Bean | Blue Lake White Seeded | Burpee | 86 | 75 |
| Bean | Bountiful | Comstock-Ferre | 81 | 75 |
| Bean | Brittle Wax | Burpee | 88 | 75 |
| Bean | Buttercrisp | Comstock-Ferre | 88 | 75 |
| Bean | Cherokee Wax | American Seed | 98 | 75 |
| Bean | Contender | Advance Seeds | 94 | 75 |
| Bean | Contender | Hart | 96 | 75 |
| Bean | Gold Crop Wax | Hart | 90 | 75 |
| Bean | Golden Sands | Advance Seeds | 71 | 75 |
| Bean | Greencrop | Burpee | 86 | 75 |
| Bean | Greencrop Bush | NK Lawn and Garden Co. | 87 | 75 |
| Bean | Improved Golden Wax | New England Seed Co. | 93 | 75 |
| Bean | Improved Tendergreen Bush | NK Lawn and Garden Co. | 94 | 75 |
| Bean | Jacob's Cattle | Hart | 97 | 75 |
| Bean | Jade Stringless | New England Seed Co. | 80 | 75 |
| Bean | Kentucky Blue Pole | NK Lawn and Garden Co. | 75 | 75 |
| Bean | Kentucky Wonder 191 Pole | Agway | 97 | 75 |
| Bean | Kentucky Wonder Pole | Comstock-Ferre | 96 | 75 |
| Bean | Kentucky Wonder Pole | Plantation Products | 95 | 75 |
| Bean | Pure Gold | Plantation Products | 95 | 75 |
| Bean | Red Kidney | Comstock-Ferre | 100 | 75 |
| Bean | Roma II | Agway | 95 | 75 |
| Bean | Roma II | Comstock-Ferre | 97 | 75 |
| Bean | Romano Pole | Hart | 95 | 75 |
| Bean | Tendergreen | Excel Seeds | 98 | 75 |
| Bean | Tendergreen | New England Seed Co. | 96 | 75 |
| Bean | Tendergreen Imp. | American Seed | 89 | 75 |
| Bean | Vilbel | Agway | 90 | 75 |
| Bean, lima | Baby Fordhook | Burpee | 56* | 70 |
| Bean, lima | Fordhook Bush #242 | Advance Seeds | 65 | 70 |
| Bean, lima | Henderson Bush | NK Lawn and Garden Co. | 63 | 70 |
| Bean, lima | Henderson Bush | Plantation Products | 70 | 70 |
| Beet | Detroit Dark Red | American Seed | 82 | 65 |
| Beet | Detroit Dark Red | Excel Seeds | 92 | 65 |
| Beet | Detroit Dark Red | New England Seed Co. | 95 | 65 |
| Beet | Detroit Dark Red | NK Lawn and Garden Co. | 97 | 65 |
| Beet | Detroit Dark Red | Plantation Products | 91 | 65 |
| Beet | Early Wonder | Hart | 84 | 65 |
| Beet | Early Wonder Green Top | Comstock-Ferre | 91 | 65 |
| Beet | Red Ace | Agway | 88 | 65 |
| Beet | Ruby Queen | NK Lawn and Garden Co. | 93 | 65 |
| Beet | Tall Top Early Wonder | Advance Seeds | 95 | 65 |

Table 1. Germination of vegetable seeds (continued).

| Plant | Variety | Seed Company | Germination ¹ | |
|-----------------|------------------------|-------------------------|--------------------------|-----------------------|
| | | | Found ² | Standard ³ |
| Broccoli | Calabrese | American Seed | 86 | 75 |
| Broccoli | Calabrese | Plantation Products | 79 | 75 |
| Broccoli | Southern Comet hyb. | Agway | 97 | 75 |
| Broccoli | Spring Raab | Hart | 97 | 75 |
| Broccoli | Waltham 29 | NK Lawn and Garden Co. | 77 | 75 |
| Broccoli | Waltham 29 Calabrese | Comstock-Ferre | 74 | 75 |
| Brussels sprout | Bubbles | Comstock-Ferre | 86 | 70 |
| Brussels sprout | Catskill | Advance Seeds | 73 | 70 |
| Brussels sprout | Catskill | Agway | 76 | 70 |
| Brussels sprout | Jade Cross hyb. | New England Seed Co. | 97 | 70 |
| Cabbage | Copenhagen Market | Comstock-Ferre | 94 | 75 |
| Cabbage | Copenhagen Market | NK Lawn and Garden Co. | 93 | 75 |
| Cabbage | Early Golden Acre | Plantation Products | 81 | 75 |
| Cabbage | Early Jersey Wakefield | Hart | 90 | 75 |
| Cabbage | Fast Ball | Burpee | 89 | 75 |
| Cabbage | Golden Acre | New England Seed Co. | 77 | 75 |
| Cabbage | Red Acre | Agway | 71 | 75 |
| Cabbage | Red Acre | Burpee | 76 | 75 |
| Cabbage | Savoy Chieftain | Hart | 92 | 75 |
| Cantaloupe | Burpee Hybrid | Burpee | 95 | 75 |
| Cantaloupe | Delicious | Hart | 95 | 75 |
| Cantaloupe | Delicious 51 | Agway | 91 | 75 |
| Cantaloupe | Delicious 51 | New England Seed Co. | 96 | 75 |
| Cantaloupe | Hales Best | American Seed | 97 | 75 |
| Cantaloupe | Hales Best | Plantation Products | 95 | 75 |
| Cantaloupe | Honey Dew | Advance Seeds | 71 | 75 |
| Cantaloupe | Iroquois | Comstock-Ferre | 92 | 75 |
| Cantaloupe | Iroquois | NK Lawn and Garden Co. | 92 | 75 |
| Carrot | Danvers Half Long | Advance Seeds | 78 | 55 |
| Carrot | Danvers Half Long | Excel Seeds | 56 | 55 |
| Carrot | Danvers Half Long | Hart | 54 | 55 |
| Carrot | Danvers Half Long | New England Seed Co. | 61 | 55 |
| Carrot | Imperator Long | New England Seed Co. | 51 | 55 |
| Carrot | King Midas | Shepherd's Garden Seeds | 81 | 55 |
| Carrot | Minicor | Plantation Products | 60 | 55 |
| Carrot | Nantes Coreless | American Seed | 60 | 55 |
| Carrot | Pioner hyb. | Comstock-Ferre | 76 | 55 |
| Carrot | Royal Chantenay | Agway | 72 | 55 |
| Carrot | Tendersweet | NK Lawn and Garden Co. | 74 | 55 |
| Carrot | Thumbelina | Plantation Products | 55 | 55 |
| Cauliflower | Purple Giant | Agway | 96 | 75 |
| Cauliflower | Self-Blanching | Hart | 85 | 75 |
| Cauliflower | Snowball Early Select | Comstock-Ferre | 73 | 75 |

Table 1. Germination of vegetable seeds (continued).

| Plant | Variety | Seed Company | Germination ¹ | |
|-----------------|--------------------------|------------------------|--------------------------|-----------------------|
| | | | Found ² | Standard ³ |
| Cauliflower | Snowball X | American Seed | 67 | 75 |
| Cauliflower | Snowball X | Plantation Products | 66 | 75 |
| Celery | Giant Pascal | Comstock-Ferre | 90 | 55 |
| Celery | Giant Pascal | New England Seed Co. | 75 | 55 |
| Chicory | Italian Dandelion | Hart | 88 | 65 |
| Chicory | Red Verona | Burpee | 91 | 65 |
| Chinese cabbage | | Burpee | 97 | 75 |
| Chinese cabbage | Jade Pagoda | Agway | 99 | 75 |
| Chinese cabbage | Michihli | NK Lawn and Garden Co. | 97 | 75 |
| Chinese cabbage | Pak choi | Burpee | 96 | 75 |
| Chinese cabbage | Wong Bok Select | Comstock-Ferre | 96 | 75 |
| Collards | Georgia | Comstock-Ferre | 80 | 80 |
| Collards | Georgia | NK Lawn and Garden Co. | 59 | 80 |
| Collards | Vates | Agway | 70 | 80 |
| Collards | Vates | Hart | 45* | 80 |
| Collards | Vates | Plantation Products | 85 | 80 |
| Corn | Breeders' Bicolor | Burpee | 96 | 75 |
| Corn | Butter and Sugar | Agway | 100 | 75 |
| Corn | Butter and Sugar | New England Seed Co. | 98 | 75 |
| Corn | Classic Touch | Hart | 94 | 75 |
| Corn | Comstock's Pride and Joy | Comstock-Ferre | 86 | 75 |
| Corn | Early Sunglow | Agway | 98 | 75 |
| Corn | Golden Beauty hyb. | Excel Seeds | 91 | 75 |
| Corn | Golden Cross Bantam | American Seed | 96 | 75 |
| Corn | Golden Cross Bantam | Plantation Products | 96 | 75 |
| Corn | Iochief hyb. | Plantation Products | 94 | 75 |
| Corn | Jubilee hyb. | NK Lawn and Garden Co. | 95 | 75 |
| Corn | Kandy Korn hyb. | NK Lawn and Garden Co. | 96 | 75 |
| Corn | Miracle se. | Comstock-Ferre | 87 | 75 |
| Corn | Seneca Chief | Hart | 92 | 75 |
| Corn | Silver Bullet | Advance Seeds | 94 | 75 |
| Corn | Silver Choice hyb. | Burpee | 98 | 75 |
| Corn | Silver Queen | Agway | 90 | 75 |
| Corn | Silver Queen | Comstock-Ferre | 96 | 75 |
| Corn | Silver Queen | New England Seed Co. | 94 | 75 |
| Corn | Silver Queen hyb. | NK Lawn and Garden Co. | 91 | 75 |
| Corn | Sugar and Gold | Hart | 93 | 75 |
| Corn | Sweet Treat | Advance Seeds | 93 | 75 |
| Corn | Table Treat | Agway | 98 | 75 |
| Cowpea | California Blackeye | Burpee | 60* | 75 |
| Cowpea | California Blackeyed #5 | Advance Seeds | 69 | 75 |
| Cowpea | California Blackeyed #5 | Plantation Products | 89 | 75 |

Table 1. Germination of vegetable seeds (continued).

| Plant | Variety | Seed Company | Germination ¹ | |
|----------|-------------------------------|-------------------------|--------------------------|-----------------------|
| | | | Found ² | Standard ³ |
| Cress | Upland | Hart | 97 | 75 |
| Cucumber | Armenian Yard Long | Advance Seeds | 94 | 80 |
| Cucumber | Boston Pickling | New England Seed Co. | 99 | 80 |
| Cucumber | Boston/National Pickling | Comstock-Ferre | 98 | 80 |
| Cucumber | Earlipik 14 hyb. | NK Lawn and Garden Co. | 93 | 80 |
| Cucumber | Marketer | Hart | 99 | 80 |
| Cucumber | Marketmore 76 | Agway | 99 | 80 |
| Cucumber | Marketmore 76 | Hart | 99 | 80 |
| Cucumber | Marketmore 76 | Plantation Products | 99 | 80 |
| Cucumber | National Pickling | Hart | 99 | 80 |
| Cucumber | Poinsett 76 | Advance Seeds | 97 | 80 |
| Cucumber | Slicemaster hyb. | Comstock-Ferre | 97 | 80 |
| Cucumber | Straight Eight | American Seed | 99 | 80 |
| Cucumber | Straight Eight | NK Lawn and Garden Co. | 98 | 80 |
| Cucumber | Tasty Green, Burpless Hyb.#26 | Comstock-Ferre | 100 | 80 |
| Cucumber | Wisconsin SMR-58 | Agway | 99 | 80 |
| Eggplant | Black Beauty | Advance Seeds | 85 | 60 |
| Eggplant | Black Beauty | Comstock-Ferre | 96 | 60 |
| Eggplant | Black Beauty | Hart | 90 | 60 |
| Eggplant | Black Beauty | Plantation Products | 96 | 60 |
| Eggplant | Dusky hyb. | New England Seed Co. | 94 | 60 |
| Eggplant | High Bush Select | Agway | 90 | 60 |
| Eggplant | Japanese Long Purple | NK Lawn and Garden Co. | 92 | 60 |
| Endive | Full Heart Batavian | NK Lawn and Garden Co. | 90 | 70 |
| Endive | Green Curled | Hart | 93 | 70 |
| Endive | Salad King | Comstock-Ferre | 80 | 70 |
| Kale | Blue Scotch | Agway | 94 | 75 |
| Kale | Dwarf Siberian | Hart | 65 | 75 |
| Kale | Vates Dwarf Blue Curled | Burpee | 86 | 75 |
| Kohlrabi | Early Purple Vienna | Agway | 94 | 75 |
| Kohlrabi | Early White Vienna | Burpee | 96 | 75 |
| Kohlrabi | Early White Vienna | Comstock-Ferre | 95 | 75 |
| Kohlrabi | Early White Vienna | NK Lawn and Garden Co. | 93 | 75 |
| Leek | American Flag | Advance Seeds | 82 | 60 |
| Leek | American Flag | Hart | 19* | 60 |
| Leek | Broad London | Burpee | 80 | 60 |
| Leek | Carina | Agway | 88 | 60 |
| Lettuce | Bibb | Shepherd's Garden Seeds | 98 | 80 |
| Lettuce | Big Boston | Comstock-Ferre | 97 | 80 |
| Lettuce | Black Seeded Simpson | Agway | 100 | 80 |
| Lettuce | Black Seeded Simpson | NK Lawn and Garden Co. | 93 | 80 |
| Lettuce | Burpee Bibb | Burpee | 98 | 80 |

Table 1. Germination of vegetable seeds (continued).

| Plant | Variety | Seed Company | Germination ¹ | |
|---------|----------------------------|------------------------|--------------------------|-----------------------|
| | | | Found ² | Standard ³ |
| Lettuce | Buttercrunch | Hart | 98 | 80 |
| Lettuce | Grand Rapids | Advance Seeds | 97 | 80 |
| Lettuce | Green Ice | Burpee | 97 | 80 |
| Lettuce | Green Ice | Comstock-Ferre | 92 | 80 |
| Lettuce | Iceberg | American Seed | 100 | 80 |
| Lettuce | Parris Island Cos | Agway | 97 | 80 |
| Lettuce | Parris Island Cos | Excel Seeds | 97 | 80 |
| Lettuce | Prizehead | Hart | 93 | 80 |
| Lettuce | Red Sails | Comstock-Ferre | 95 | 80 |
| Lettuce | Royal Oak Leaf | Burpee | 99 | 80 |
| Lettuce | Ruby | Hart | 96 | 80 |
| Lettuce | Salad Bowl | Advance Seeds | 98 | 80 |
| Lettuce | Salad Bowl | Plantation Products | 96 | 80 |
| Lettuce | Simpson Elite | New England Seed Co. | 100 | 80 |
| Mustard | Florida Broadleaf | Advance Seeds | 92 | 75 |
| Mustard | Florida Broadleaf | Burpee | 98 | 75 |
| Mustard | Florida Broadleaf | Hart | 96 | 75 |
| Mustard | Green Wave | Comstock-Ferre | 77 | 75 |
| Mustard | Tendergreen | Plantation Products | 96 | 75 |
| Okra | Clemson Spineless | Agway | 74 | 50 |
| Okra | Clemson Spineless | NK Lawn and Garden Co. | 84 | 50 |
| Okra | Dwarf Long Stalk Green | Hart | 48 | 50 |
| Okra | North and South hyb. | Burpee | 79 | 50 |
| Onion | Early Yellow Globe | Hart | 99 | 70 |
| Onion | Evergreen White Bunching | Hart | 75 | 70 |
| Onion | Granex hyb. | Burpee | 76 | 70 |
| Onion | Hardy Long White Bunching | Comstock-Ferre | 91 | 70 |
| Onion | Hardy White Bunching | New England Seed Co. | 84 | 70 |
| Onion | Long White Bunching | Agway | 99 | 70 |
| Onion | Southport White Globe | Advance Seeds | 100 | 70 |
| Onion | Utah, Yellow Sweet Spanish | Comstock-Ferre | 98 | 70 |
| Onion | White Lisbon Bunching | NK Lawn and Garden Co. | 90 | 70 |
| Parsley | Hamburg | Burpee | 56 | 60 |
| Parsley | Moss Curled | New England Seed Co. | 84 | 60 |
| Parsley | Plain Leaf | Hart | 67 | 60 |
| Parsnip | All American | Agway | 81 | 60 |
| Parsnip | All American | New England Seed Co. | 75 | 60 |
| Parsnip | Harris Model | Burpee | 70 | 60 |
| Pea | Alaska | Advance Seeds | 97 | 80 |
| Pea | Early Frosty | Agway | 99 | 80 |
| Pea | Early Perfection | NK Lawn and Garden Co. | 89 | 80 |
| Pea | Little Marvel | Excel Seeds | 94 | 80 |
| Pea | Little Marvel | Hart | 99 | 80 |

Table 1. Germination of vegetable seeds (continued).

| Plant | Variety | Seed Company | Germination ¹ | |
|---------|-----------------------|------------------------|--------------------------|-----------------------|
| | | | Found ² | Standard ³ |
| Pea | Little Marvel | NK Lawn and Garden Co. | 91 | 80 |
| Pea | Mammoth Melting Sugar | Hart | 96 | 80 |
| Pea | Melting Sugar | Advance Seeds | 89 | 80 |
| Pea | Oregon Sugar Pod | NK Lawn and Garden Co. | 99 | 80 |
| Pea | Progress #9 | Agway | 96 | 80 |
| Pea | Sparkle | New England Seed Co. | 99 | 80 |
| Pea | Sugar Ann | Comstock-Ferre | 99 | 80 |
| Pea | Sugar Ann | NK Lawn and Garden Co. | 94 | 80 |
| Pea | Sugar Bun Snap | Burpee | 97 | 80 |
| Pea | Sugar Daddy Snap | New England Seed Co. | 93 | 80 |
| Pea | Sugar Snap | Agway | 98 | 80 |
| Pea | Sugar Snap | Plantation Products | 89 | 80 |
| Pea | Thomas Laxton | Plantation Products | 97 | 80 |
| Pea | Wando | Burpee | 93 | 80 |
| Pea | Wando | Comstock-Ferre | 96 | 80 |
| Pepper | Anaheim Chili | Burpee | 89 | 55 |
| Pepper | Bell Boy hyb. | Comstock-Ferre | 73 | 55 |
| Pepper | Big Dipper | Burpee | 73 | 55 |
| Pepper | California Wonder | Burpee | 53 | 55 |
| Pepper | California Wonder | Hart | 67 | 55 |
| Pepper | Cubanelle | Comstock-Ferre | 82 | 55 |
| Pepper | Early Calwonder | New England Seed Co. | 51 | 55 |
| Pepper | Early Jalapeno | Comstock-Ferre | 77 | 55 |
| Pepper | Habanero | Comstock-Ferre | 77 | 55 |
| Pepper | Hungarian Yellow Wax | NK Lawn and Garden Co. | 57 | 55 |
| Pepper | Jalapeno | Plantation Products | 97 | 55 |
| Pepper | Jupiter | NK Lawn and Garden Co. | 49 | 55 |
| Pepper | Large Red Cayenne | New England Seed Co. | 60 | 55 |
| Pepper | Long Red Cayenne | Hart | 66 | 55 |
| Pepper | Long Thin Cayenne | Advance Seeds | 83 | 55 |
| Pepper | Marconi Rosso | Hart | 77 | 55 |
| Pepper | Staddon's Select | Agway | 69 | 55 |
| Pepper | Sweet Banana | Advance Seeds | 82 | 55 |
| Pepper | Sweet Banana | New England Seed Co. | 66 | 55 |
| Popcorn | Burpee's Poppy hyb. | Burpee | 100 | 75 |
| Popcorn | Strawberry | Hart | 95 | 75 |
| Popcorn | White Hulless | Comstock-Ferre | 97 | 75 |
| Pumpkin | Big Max | Agway | 84 | 75 |
| Pumpkin | Big Max | New England Seed Co. | 96 | 75 |
| Pumpkin | Connecticut Field | Hart | 99 | 75 |
| Pumpkin | Early Sugar or Pie | NK Lawn and Garden Co. | 90 | 75 |
| Pumpkin | Jack Be Little | Comstock-Ferre | 94 | 75 |
| Pumpkin | Jack O'Lantern | Advance Seeds | 97 | 75 |
| Pumpkin | Jack O'Lantern | NK Lawn and Garden Co. | 98 | 75 |
| Pumpkin | Jack O'Lantern | Plantation Products | 94 | 75 |

Table 1. Germination of vegetable seeds (continued).

| Plant | Variety | Seed Company | Germination ¹ | |
|---------------------|-----------------------------|------------------------|--------------------------|-----------------------|
| | | | Found ² | Standard ³ |
| Pumpkin | Spirit hyb. | Comstock-Ferre | 73 | 75 |
| Pumpkin | Thomas Halloween | Agway | 91 | 75 |
| Radicchio | Milan | Advance Seeds | 80 | 75 |
| Radish | Champion | Comstock-Ferre | 97 | 75 |
| Radish | Champion | Hart | 97 | 75 |
| Radish | Cherry Belle | Advance Seeds | 96 | 75 |
| Radish | Cherry Belle | Burpee | 99 | 75 |
| Radish | Cherry Belle | New England Seed Co. | 99 | 75 |
| Radish | Cherry Belle | NK Lawn and Garden Co. | 98 | 75 |
| Radish | Cherry Belle | Plantation Products | 85 | 75 |
| Radish | Chinese White Winter | Agway | 100 | 75 |
| Radish | French Breakfast | NK Lawn and Garden Co. | 96 | 75 |
| Radish | Shogoin Giant | NK Lawn and Garden Co. | 99 | 75 |
| Radish | White Icicle | Burpee | 100 | 75 |
| Rutabaga | Imperial Purple Top Yellow | New England Seed Co. | 94 | 75 |
| Rutabaga | Improved Purple Top Yellow | Comstock-Ferre | 93 | 75 |
| Spinach | Avon hyb. | Burpee | 96 | 60 |
| Spinach | Bloomsdale Dark Green | New England Seed Co. | 86 | 60 |
| Spinach | Bloomsdale Longstanding | Advance Seeds | 85 | 60 |
| Spinach | Bloomsdale Longstanding | Burpee | 88 | 60 |
| Spinach | Bloomsdale Longstanding | Hart | 93 | 60 |
| Spinach | Bloomsdale Longstanding | Livingston Seed Co. | 90 | 60 |
| Spinach | Correnta | Comstock-Ferre | 91 | 60 |
| Spinach | Giant Noble | American Seed | 91 | 60 |
| Spinach | Giant Noble | Plantation Products | 87 | 60 |
| Spinach | Melody | Agway | 94 | 60 |
| Spinach, N. Zealand | | Agway | 76 | 40 |
| Spinach, N. Zealand | Summer Crop | New England Seed Co. | 79 | 40 |
| Squash | Acorn, Table Ace hyb. | Comstock-Ferre | 74 | 75 |
| Squash | Acorn, Table King Bush | Burpee | 73 | 75 |
| Squash | Blue Hubbard | Agway | 91 | 75 |
| Squash | Blue Hubbard | New England Seed Co. | 96 | 75 |
| Squash | Buttercup | NK Lawn and Garden Co. | 78 | 75 |
| Squash | Buttercup Bush | Comstock-Ferre | 84 | 75 |
| Squash | Butternut, Waltham | Hart | 95 | 75 |
| Squash | Butternut, Waltham | Plantation Products | 95 | 75 |
| Squash | Crookneck Early Bush | Comstock-Ferre | 66 | 75 |
| Squash | Early Prolific Straightneck | Agway | 98 | 75 |
| Squash | Early Prolific Straightneck | Burpee | 97 | 75 |
| Squash | Early Prolific Straightneck | New England Seed Co. | 69 | 75 |
| Squash | Early Prolific Straightneck | NK Lawn and Garden Co. | 70 | 75 |
| Squash | Early White Scallop Bush | Advance Seeds | 97 | 75 |
| Squash | Puritan Butternut | Agway | 86 | 75 |

Table 1. Germination of vegetable seeds (continued).

| Plant | Variety | Seed Company | Germination ¹ | |
|-------------|--------------------------|------------------------|--------------------------|-----------------------|
| | | | Found ² | Standard ³ |
| Squash | Straightneck | Hart | 85 | 75 |
| Squash | Yellow Summer Crookneck | Advance Seeds | 85 | 75 |
| Squash | Zucchini, Black Beauty | Agway | 87 | 75 |
| Squash | Zucchini, Black Beauty | Excel Seeds | 69 | 75 |
| Squash | Zucchini, Dark Green | American Seed | 55* | 75 |
| Squash | Zucchini, Dark Green | Hart | 79 | 75 |
| Squash | Zucchini, Dark Green | Plantation Products | 71 | 75 |
| Squash | Zucchini, Greyzini hyb. | Comstock-Ferre | 95 | 75 |
| Squash | Zucchini, Sweet Surprise | Livingston Seed Co. | 65 | 75 |
| Swiss chard | Fordhook Giant | New England Seed Co. | 93 | 65 |
| Swiss chard | Large Ribbed Dark Green | Advance Seeds | 94 | 65 |
| Swiss chard | Lucullus | Plantation Products | 95 | 65 |
| Swiss chard | Rhubarb Chard | Hart | 96 | 65 |
| Swiss chard | Ruby Red | Agway | 96 | 65 |
| Tomatillo | | Advance Seeds | 95 | 50 |
| Tomatillo | | Livingston Seed Co. | 83 | 50 |
| Tomato | Beefsteak | American Seed | 80 | 75 |
| Tomato | Beefsteak | Plantation Products | 72 | 75 |
| Tomato | Big Beef | Comstock-Ferre | 91 | 75 |
| Tomato | Big Beef | Hart | 89 | 75 |
| Tomato | Bradley | Advance Seeds | 87 | 75 |
| Tomato | Burpee Big Boy | Agway | 83 | 75 |
| Tomato | Burpee Big Boy | New England Seed Co. | 91 | 75 |
| Tomato | Early Girl | New England Seed Co. | 87 | 75 |
| Tomato | Heinz 1370 | Agway | 86 | 75 |
| Tomato | Jetstar | Hart | 88 | 75 |
| Tomato | Large Red Cherry | Advance Seeds | 76 | 75 |
| Tomato | Large Red Cherry | Plantation Products | 78 | 75 |
| Tomato | Milano hyb. | NK Lawn and Garden Co. | 88 | 75 |
| Tomato | Mountain Pride | Comstock-Ferre | 85 | 75 |
| Tomato | Roma VF | Comstock-Ferre | 90 | 75 |
| Tomato | Roma VF | New England Seed Co. | 92 | 75 |
| Tomato | Rutgers | Burpee | 88 | 75 |
| Tomato | Rutgers Select | American Seed | 87 | 75 |
| Tomato | Sweet 100 | Hart | 83 | 75 |
| Turnip | Purple Top White Globe | Advance Seeds | 95 | 80 |
| Turnip | Purple Top White Globe | American Seed | 90 | 80 |
| Turnip | Purple Top White Globe | Hart | 96 | 80 |
| Turnip | Purple Top White Globe | New England Seed Co. | 90 | 80 |
| Turnip | Seven Top | Burpee | 93 | 80 |
| Turnip | Seven Top Summer Green | Comstock-Ferre | 92 | 80 |
| Watermelon | Congo | Advance Seeds | 85 | 70 |
| Watermelon | Crimson Sweet | Agway | 86 | 70 |
| Watermelon | Crimson Sweet | Burpee | 89 | 70 |

Table 1. Germination of vegetable seeds (continued).

| Plant | Variety | Seed Company | Germination ¹ | |
|------------|---------------|------------------------|--------------------------|-----------------------|
| | | | Found ² | Standard ³ |
| Watermelon | Crimson Sweet | Comstock-Ferre | 78 | 70 |
| Watermelon | Crimson Sweet | NK Lawn and Garden Co. | 92 | 70 |
| Watermelon | Sugar Baby | Hart | 99 | 70 |

1. Blanks indicate claims and/or standards are not available for that vegetable
2. * = does not meet label claims within allowable tolerance
3. Standards are provided for by the rules and regulations of the Federal Seed Act.

Table 2. Summary for each seed company of total number of germination claims and the percentage of claims in each compliance category.

| Seed Company | Claims | % Samples in Each Compliance Category* | |
|-------------------------|--------|--|---|
| | | 1 | 2 |
| Advance Seeds | 34 | 100 | 0 |
| Agway | 44 | 100 | 0 |
| American Seed | 15 | 93 | 7 |
| Burpee | 39 | 95 | 5 |
| Comstock-Ferre | 51 | 100 | 0 |
| Excel Seeds | 8 | 100 | 0 |
| Hart | 51 | 96 | 4 |
| Livingston Seed Co. | 3 | 100 | 0 |
| New England Seed Co. | 36 | 100 | 0 |
| NK Lawn and Garden Co. | 38 | 100 | 0 |
| Plantation Products | 30 | 100 | 0 |
| Shepherd's Garden Seeds | 2 | 100 | 0 |

* Compliance Categories:

1= meets label claims

2= does not meet label claims within allowable tolerance

Table 3. Summary by vegetable type of average percent germination claimed, that found, and set standard.

| Vegetable | No. of Samples | Average % Germination | |
|----------------------|----------------|-----------------------|------------|
| | | Found | Standard # |
| Asparagus | 1 | 61 | 70 |
| Bean | 31 | 90 | 75 |
| Bean, lima | 4 | 64 | 70 |
| Beet | 10 | 91 | 65 |
| Broccoli | 6 | 85 | 75 |
| Brussels sprouts | 4 | 83 | 70 |
| Cabbage | 9 | 85 | 75 |
| Cantaloupe | 9 | 92 | 75 |
| Carrot | 12 | 65 | 55 |
| Cauliflower | 5 | 77 | 75 |
| Celery | 2 | 83 | 55 |
| Chicory | 2 | 90 | 65 |
| Chinese cabbage | 5 | 97 | 75 |
| Collards | 5 | 68 | 80 |
| Corn | 23 | 94 | 75 |
| Cowpea | 3 | 73 | 75 |
| Cress | 1 | 97 | 75 |
| Cucumber | 15 | 98 | 80 |
| Eggplant | 7 | 92 | 60 |
| Endive | 3 | 88 | 70 |
| Kale | 3 | 82 | 75 |
| Kohlrabi | 4 | 95 | 75 |
| Leek | 4 | 67 | 60 |
| Lettuce | 19 | 97 | 80 |
| Mustard | 5 | 92 | 75 |
| Okra | 4 | 71 | 50 |
| Onion | 9 | 90 | 70 |
| Parsley | 3 | 69 | 60 |
| Parsnip | 3 | 75 | 60 |
| Pea | 20 | 95 | 80 |
| Pepper | 19 | 71 | 55 |
| Popcorn | 3 | 97 | 75 |
| Pumpkin | 10 | 92 | 75 |
| Radicchio | 1 | 80 | 75 |
| Radish | 11 | 97 | 75 |
| Rutabaga | 2 | 94 | 75 |
| Spinach | 10 | 90 | 60 |
| Spinach, New Zealand | 2 | 78 | 40 |
| Squash | 24 | 82 | 75 |
| Swiss chard | 5 | 95 | 65 |
| Tomatillo | 2 | 89 | 50 |
| Tomato | 19 | 85 | 75 |
| Turnip | 6 | 93 | 80 |
| Watermelon | 6 | 88 | 70 |

Standards are provided for by the rules and regulations of the Federal Seed Act.

Table 4. Germination and Purity of Lawn Seed.

| Seed Company/Seed Mix. | Purity | | Germination ¹ | |
|--|--------|--------------------------|--------------------------|--------------------------|
| | Claim | Found ^{2&3} | Claim | Found ^{2&3} |
| <i>AGRI-TURF Putnam Landscape Mix</i> | | | | |
| Kentucky Bluegrass | 17.21 | 24.28* | 80 | 76 |
| Pennant Perennial Ryegrass | 19.65 | | 94 | 97 |
| Annual Ryegrass | 14.63 | | 90 | 97 |
| total ryegrass | 34.28 | 32.01 | | |
| Creeping Red Fescue | 24.25 | | 93 | 82 |
| Koket Chewings Fescue | 19.67 | | 85 | 82 |
| total fescue | 43.92 | 39.66 | | |
| <i>STANFORD SEED CO. Proscape Landscape 85 Mixture</i> | | | | |
| Kentucky Bluegrass | 17.33 | 19.75 | 85 | 73* |
| Allaire Perennial Ryegrass | 19.52 | | 90 | 97 |
| Annual Ryegrass | 14.65 | | 90 | 97 |
| total ryegrass | 34.17 | 32.04 | | |
| Creeping Red Fescue | 24.69 | | 90 | 93 |
| Chewings Fescue | 19.64 | | 85 | 93 |
| total fescue | 44.33 | 43.52 | | |
| <i>HALSEY SEED CO. Conservation Mix</i> | | | | |
| Kentucky Bluegrass | 8.69 | 12.86 | 84 | 58* |
| Perennial Ryegrass | 11.68 | | 94 | 96 |
| Annual Ryegrass | 14.74 | | 90 | 96 |
| total ryegrass | 26.42 | 22.08 | | |
| Creeping Red Fescue | 33.64 | 34.39 | 90 | 85 |
| Richmond Tall Fescue | 24.57 | 24.97 | 90 | 82 |
| Dutch White Clover | 2.96 | 4.20 | 50+35HS | 53+38HS |
| <i>AGWAY, INC. Landscape Grass Seed Mixture</i> | | | | |
| Kentucky Bluegrass | 28.46 | 35.23 | 80 | 73 |
| Perennial Ryegrass | 33.34 | 28.08* | 90 | 96 |
| Creeping Red Fescue | 32.31 | 31.20 | 85 | 97 |
| <i>BLUE SEAL Fleming's Athletic Mix #2</i> | | | | |
| Kentucky Bluegrass | 19.81 | 22.68 | 85 | 84 |
| Perennial Ryegrass | 19.87 | 18.78 | 90 | 94 |
| Creeping Red Fescue | 29.51 | | 90 | 95 |
| Chewings Fescue | 14.63 | | 80 | 95 |
| total fescue | 44.14 | 43.28 | | |
| KY 31 Tall Fescue | 14.71 | 12.46 | 85 | 78 |

Table 4. Germination and Purity of Lawn Seed (continued).

| Seed Company/Seed Mix. | Purity | | Germination ¹ | |
|---|--------|--------------------------|--------------------------|--------------------------|
| | Claim | Found ^{2&3} | Claim | Found ^{2&3} |
| BLUE SEAL FEEDS, INC. <i>Fleming's Contractors Mix</i> | | | | |
| Perennial Ryegrass | 24.85 | 90 | 93 | |
| Annual Ryegrass | 24.04 | 90 | 93 | |
| total ryegrass | 48.89 | 47.40 | | |
| Creeping Red Fescue | 19.67 | 23.68 | 90 | 90 |
| KY 31 Tall Fescue | 29.44 | 28.08 | 85 | 79 |
| BLUE SEAL FEEDS, INC. <i>Fleming's Conservation Mix</i> | | | | |
| Kentucky Bluegrass | 19.84 | 26.78* | 85 | 84 |
| Perennial Ryegrass | 14.50 | | 90 | 95 |
| Annual Ryegrass | 14.75 | | 90 | 95 |
| total ryegrass | 29.25 | 26.63 | | |
| Creeping Red Fescue | 39.33 | 29.63* | 90 | 97 |
| Highland Bentgrass | 4.92 | 6.95 | 90 | 90 |
| White Clover | 5.00 | 8.07 | 83+2HS | 95+3HS |
| NEW ENGLAND SEED CO. <i>Turf Club Lawn Seed Mix</i> | | | | |
| Kentucky Bluegrass | 9.97 | 10.12 | 80 | 76 |
| Perennial Ryegrass | 34.83 | | 90 | 97 |
| Annual ryegrass | 34.35 | | 90 | 97 |
| total ryegrass | 69.18 | 59.17* | | |
| Creeping Red Fescue | 19.44 | 27.76* | 85 | 96 |
| LOFT'S SEED, INC. <i>River Run Wear&Tear Mixture</i> | | | | |
| Kentucky Bluegrass | 19.67 | 22.08 | 85 | 79 |
| Perennial Ryegrass | 79.40 | 76.34 | 85 | 97 |
| LOFT'S SEED, INC. <i>River Run Sunny Mixture</i> | | | | |
| Kentucky Bluegrass | 19.67 | 25.22 | 85 | 70* |
| Caliente Perennial Ryegrass | 58.91 | 54.98 | 90 | 96 |
| Boreal Creeping Red Fescue | 19.60 | 18.12 | 85 | 87 |
| LOFT'S SEED, INC. <i>River Run Shade Mixture</i> | | | | |
| Kentucky Bluegrass | 8.75 | 13.16 | 80 | 68* |
| Perennial Ryegrass | 19.85 | 22.90 | 85 | 95 |
| Boreal Creeping Red Fescue | 58.80 | | 85 | 91 |
| Cascade Chewings Fescue | 9.88 | | 85 | 91 |
| total fescue | 68.68 | 61.52* | | |

Table 4. Germination and Purity of Lawn Seed (continued).

| Seed Company/Seed Mix. | Purity | | Germination ¹ | |
|--|--------|--------------------------|--------------------------|--------------------------|
| | Claim | Found ^{2&3} | Claim | Found ^{2&3} |
| JONATHAN GREEN <i>Fall Magic Grass Seed Mixture</i> | | | | |
| Washington Kentucky Bluegrass | 6.83 | 9.02 | 88 | 80 |
| Gettysburg Perennial Ryegrass | 32.47 | 37.16 | 92 | 92 |
| Salem Creeping Red Fescue | 9.80 | | 90 | 92 |
| Southport Chewings Fescue | 9.83 | | 90 | 92 |
| total fine fescue | 19.63 | 17.49 | | |
| Duke Tall Fescue | 19.73 | | 90 | 95 |
| Montauk Tall Fescue | 19.70 | | 90 | 95 |
| total tall fescue | 39.43 | 35.29 | | |
| JONATHAN GREEN <i>Full Sun Grass Seed Mixture</i> | | | | |
| Washington Kentucky Bluegrass | 19.50 | 23.87 | 90 | 83 |
| Gettysburg Perennial Ryegrass | 24.80 | | 92 | 93 |
| Sherwood Perennial Ryegrass | 24.75 | | 92 | 93 |
| total ryegrass | 49.55 | 48.08 | | |
| Salem Creeping Red Fescue | 14.70 | | 90 | 69* |
| Southport Chewings Fescue | 14.75 | | 90 | 69* |
| total fescue | 29.45 | 26.35 | | |
| SALEM COUNTRY GARDENS <i>Landscape Mix</i> | | | | |
| Kentucky Bluegrass | 13.13 | 16.01 | 85 | 54* |
| Perennial Ryegrass | 34.29 | 47.68* | 85 | 97 |
| Creeping Red Fescue | 29.87 | | 85 | 94 |
| Chewings Fescue | 19.57 | | 85 | 94 |
| total fescue | 49.44 | 33.07* | | |
| SALEM COUNTRY GARDENS <i>Contractors Mix</i> | | | | |
| Kentucky Bluegrass | 8.75 | 8.38 | 87.5 | 42* |
| APM Perennial Ryegrass | 48.99 | | 87.5 | 98 |
| Annual Ryegrass | 9.76 | | 87.5 | 98 |
| total ryegrass | 58.75 | 55.03 | | |
| Creeping Red Fescue | 29.87 | 34.43 | 87.5 | 93 |

1. HS= Hard Seed
2. Results for seeds which were separated by genus and not by species or by variety are reported as the sum for that genus.
3. * = does not meet label claims within allowable tolerance

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