

# Vegetable Cultivar Descriptions for North America

## List 24

### 1999

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**Crop listings:** asparagus, bean—dry, bean—green, beet, broccoli, Brussels sprouts, cabbage, carrot, cauliflower, celery, chickpea, collard, cucumber, cucumber—Armenian, daikon, eggplant, endive, gourd—benincasa, gourd—cucurbita, gourd—lagenaria, gourd—luffa ridge, gourd—luffa sponge, gourd—momordica, gourd—sechium, herbs—parsley, kale, leek, lettuce

This list of the North American vegetable cultivars was developed using the database of cultivars registered with the American Seed Trade Association, as well as published descriptions from scientific journals and seed catalogs. Assistant editors responsible for each crop were instructed to obtain as much information as possible about the cultivars available to North American growers. The crop species are listed alphabetically, with cultivars listed alphabetically within each of those.

The information about each cultivar is presented in a standard format that includes the cultivar name, experimental designation, breeder, vendor, parents, plant characteristics, disease and other resistances, similar cultivars, areas of adaptation, plant variety protection information, and year of release. In many cases, complete information was not available for the cultivars included in the list. Cultivars listed here were generally released since 1988, when the last vegetable cultivar list was assembled by Tigchelaar (22).

Previous vegetable cultivar lists have been published (1–22) in this journal, and its predecessor.

- 1) Anonymous. 1954. New vegetable varieties list I. Proc. Amer. Soc. Hort. Sci. 63:503–525.
- 2) Anonymous. 1955. New vegetable varieties list II. Proc. Amer. Soc. Hort. Sci. 65:493–511.
- 3) Anonymous. 1956. New vegetable varieties list III. Proc. Amer. Soc. Hort. Sci. 67:587–609.
- 4) Anonymous. 1957. New vegetable varieties list IV. Proc. Amer. Soc. Hort. Sci. 69:574–587.
- 5) Anonymous. 1958. New vegetable varieties list V. Proc. Amer. Soc. Hort. Sci. 71:591–600.
- 6) Anonymous. 1960. New vegetable varieties list VI. Proc. Amer. Soc. Hort. Sci. 75:842–850.
- 7) Anonymous. 1961. New vegetable varieties list VII. Proc. Amer. Soc. Hort. Sci. 77:648–653.
- 8) Anonymous. 1963. New vegetable varieties list VIII. Proc. Amer. Soc. Hort. Sci. 82:652–660.
- 9) Anonymous. 1964. New vegetable varieties list IX. Proc. Amer. Soc. Hort. Sci. 84:665–673.
- 10) Minges, P.A. 1965. New vegetable varieties list X and XI. Proc. Amer. Soc. Hort. Sci. 86:824–845.
- 11) Minges, P.A. 1966. New vegetable varieties list XII. Proc. Amer. Soc. Hort. Sci. 88:718–726.
- 12) Minges, P.A. 1966. New vegetable varieties list XIII. Proc. Amer. Soc. Hort. Sci. 88:727–732.
- 13) Minges, P.A. 1967. New vegetable varieties list XIV. Proc. Amer. Soc. Hort. Sci. 90:567–569.
- 14) Minges, P.A. 1968. New vegetable varieties list XV. Proc. Amer. Soc. Hort. Sci. 92:823–840.
- 15) Barnes, W.C. 1969. New vegetable varieties list XVI. HortScience 4:65–69.
- 16) Barnes, W.C. 1970. New vegetable varieties list XVII. HortScience 5:146–149.

- 17) Barnes, W.C. 1971. New vegetable varieties list XVIII. HortScience 6:124–127.
- 18) Lower, R.L. 1973. New vegetable varieties list XIX. HortScience 8:465–470.
- 19) Lower, R.L. 1975. New vegetable varieties list XX. HortScience 10:467–470.
- 20) Tigchelaar, E.C. 1980. New vegetable variety list XXI. HortScience 15:565–578.
- 21) Tigchelaar, E.C. 1986. New vegetable variety list 22. HortScience 21:195–212.
- 22) Tigchelaar, E.C. 1991. New vegetable variety list 23. HortScience 26:343–357.

#### ASPARAGUS

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**Brock Imperial 84.**—Breeder and vendor: ARCO. 1984.  
**Emerald (NHG 81).**—Breeder: L.C. Peirce. Vendor: Univ. of New Hampshire. Characteristics: high yield, no purple color on stalk or tip, same as existing cultivars in tenderness and sugar content, but milder flavor. Resistance: tolerance to rust. 1984–85.

#### BEAN—DRY

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**2B-5-1.**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: La Vega/15R-55//Mex 309 x La Vega 7. Characteristics: medium semi-vine habit, dull black seed, resistant to BCMV and rust. 1979.

**2W-33-2.**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: Bonita 1\*/Bonita/La Vega (Puerto Rico). Characteristics: white bean seed and low rusting. 1979.

**AC Calmont (HR41-923).**—Orig. by Agr. and Agri-Food Canada Research Centre, Harrow, Ontario, Canada. Parentage: California Light Red Kidney x Montcalm. Characteristics: determinate short bush growth habit, medium to full maturity, dark red kidney, shiny lustered seed, resistant to BCMV (1 and NY15 strains) and to alpha and delta and alpha Brazil races of anthracnose. 1996.

**AC Darkid (HR31-923).**—Orig. by Agr. and Agri-Food Canada Research Centre, Harrow, Ontario, Canada. Parentage: California Dark Red Kidney/Montcalm. Characteristics: dark red kidney bean seed, medium maturing, acceptable canning quality, resistant to BCMV 1 and NY15 strains, and to alpha and alpha Brazilian races of anthracnose. Released 1995. Can. J. Plant Sci. 76:145–146, 1996.

**AC Elk (HR48-1290).**—Orig. by Agr. and Agri-Food Canada Research Centre, Harrow, Ontario, Canada. Parentage: Mecosta x MRK44. Characteristics: light red kidney with shiny seed coat, bush

<sup>1</sup>Individuals knowing of new cultivars to add to the list, or corrections to be made in the published lists are encouraged to contact T.C.W. (todd\_wehner@ncsu.edu). The assistance of Robert Falasca, American Seed Trade Association, is gratefully acknowledged.

determinate growth type, early maturity, resistant to BCMV race 1 and to alpha and alpha Brazil races of anthracnose. 1996.

**AC Hensall (HR43-1582).**—Orig. by Agr. and Agri-Food Canada Research Centre, Harrow, Ontario, Canada. Parentage: OAC Rico/4/W1541-1503F2/3/W1336-F2//OAC Seaforth/1667. Characteristics: navy bean, indeterminate, short vine growth habit, medium early maturing, resistant to BCMV 1 and NY15 strains, alpha and delta races of anthracnose. 1995.

**AC Litekid (HR24-942).**—Orig. by Agr. and Agri-Food Canada Research Centre, Harrow, Ontario, Canada. Parentage: Ruddy/California Dark Red Kidney. Characteristics: light red kidney bean seed, medium to full season maturity, acceptable cooking and canning quality, resistant to alpha and alpha Brazilian races of anthracnose, BCMV 1 and NY15 strains. 1995. *Can. J. Plant Sci.* 76:147–148, 1996.

**AC Ole (HR50-1607).**—Orig. by Agr. and Agri-Food Canada Research Centre, Harrow, Ontario, Canada. Parentage: Sierra x Fiesta. Characteristics: pinto bean seed, indeterminate erect growth habit with short vine, medium maturity, acceptable cooking quality, and resistant to BCMV 1 and NY15 strains. 1996.

**Admiral.**—Orig. by Idaho Seed Bean Co., Twin Falls. Characteristics: navy bean, type I bush plant habit, intermediate maturity, resistant to rust halo blight, BCMV (1 and NY15 strains), and curly top virus. 1981.

**Agassiz (D81127B).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: pinto bean, type Ib growth habit, moderately early, resistant to BCMV. 1993.

**Albion (XPB166).**—Orig. by Asgrow Seed Co. Characteristics: early navy bean with good yield and high quality, resistant BCMV. 1987.

**Alpine (MSU#G89003).**—Orig. by Michigan Agr. Expt. Sta. and USDA–ARS. Parentage: Starlight/P86297. Characteristics: Great Northern, upright type II growth habit, midseason, resistant to rust (Ur-3 gene). 1992. *Crop Sci.* 32:1509–1510, 1992.

**Apache (ISBB6211).**—Orig. by Idaho Seed Bean Co., Twin Falls. Parentage: Beldak RR-2. Characteristics: pinto seed, type III plant habit, good seed quality, moderate maturity, broad adaptation, resistant to 38 rust strains (CNC, Ur-3, Ur-6 genes). 1995. *Crop Sci.* 29:834–835, 1989.

**Arapaho (CO80-1744).**—Orig. by Colorado Agr. Expt. Sta. Parentage: Pinto UI 114/MO19/3/1367-1/N203/Ouray. Characteristics: pinto bean, moderate upright type II to type III habit, moderate avoidance of white mold infection, resistant to BCMV type and NY15 strains. 1993. *Crop Sci.* 35:1511–1512, 1995.

**Areteuben (Stueben BC6-Arc).**—Orig. by Agr. Canada Res. Sta., Harrow, Canada. Parentage: Stueben 6\*/Stueben x PI 32648. Characteristics: short vine type, medium size and yellow eye seed, resistant to BCMV NY15, alpha, beta, gamma and delta races of bean anthracnose, good cooking quality. 1986.

**Arroyo Loro (2W-33-2).**—Orig. by Puerto Rico Agr. Expt. Sta. and USDA–ARS. Parentage: Bonita\*/1/Bonita/La Vega. Characteristics: white bean, type II growth habit, resistant to BCMV (I gene) and expresses small pustule size to many rust races. Adaptation: Puerto Rico, Dominican Republic. 1979. *Crop Sci.* 30:746, 1990.

**Artic.**—Orig. by C. Muehlfield, Bridgeport, Mich. Characteristics: navy bean, bush plant habit, early, resistant to BCMV (strain 1) and halo blight. 1981.

**Auburn (D83360).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: light red kidney seed, type Ia growth habit, early maturity, broad adaptation, good canning quality, resistant to BCMV (I gene) and rust. 1992.

**Aurora (NY 69-6207-02).**—Orig. by The New York State College of Agr. and Life Sciences, Cornell Univ., Ithaca, N.Y. Parentage: Black Turtle Soup/Cornell 49-242. Characteristics: Small white, similar to California Small White 53 and 59 in seed size and shape, medium early, type IIb growth habit, resistant to rust, BCMV NY15 strain, and halo blight. Adaptation: widely adapted in U.S. 1973. *NY Food and Life Sci. Quart.* 6:14–15, 1973.

**Avanti (XP-B229).**—Orig. by Seminis Vegetable Seeds. Parentage: C20/Seafarer. Characteristics: navy bean, indeterminate bush, good canning quality, resistant to BCMV (I gene), moderate resistance to white mold and moderate tolerance to air pollution. 1990.

**Aztec (MSU#P89430).**—Orig. by Michigan Agr. Expt. Sta. and USDA–ARS. Parentage: CO81-12034/P86297. Characteristics: pinto bean, upright type II plant habit, early season, resistant to alpha race of anthracnose. 1992. *Crop Sci.* 32:1509, 1992.

**B-128.**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: 15R-55/50600 (Costa Rica). Characteristics: dull black seed, resistant to BCMV and low rusting. 1979.

**B-190.**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: Mex 309/50600 (Costa Rica). Characteristics: semi-vine plant habit, dull black seed, resistant to BCMV and rust. 1979.

**B-351.**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: Bonita/Jamapa (Mexico). Characteristics: short semi-vine plant habit, shiny black seed, resistant to BCMV and low rusting. 1979.

**Beryl (D81088).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: Great Northern, type IIIb plant habit, intermediate maturity, resistant to BCMV (*Ibc* genes), white mold tolerant. 1987.

**Bill Z (81-13197).**—Orig. by Colorado State Univ., Fort Collins. Parentage: Pink Gloria/Pinto 3526. Characteristics: pinto, type III growth habit, resistant to BCMV type and NY15 strains, and curly top virus. Adaptation: western U.S. 1987. *Crop Sci.* 29:488, 1989.

**Black Hawk (MSU#B83302).**—Orig. by Michigan Agr. Expt. Sta. and USDA–ARS. Parentage: Tuscola/CN49-242//Black Magic/3/Midnight. Characteristics: Black bean, erect type II short vine growth habit, resistant to BCMV (I gene), anthracnose (*Ar* gene), rust, and tolerant to oxidant air pollution. 1989. *Crop Sci.* 30:744–745, 1990.

**Black Magic (MSU#61356).**—Orig. by Michigan Agr. Expt. Sta. and USDA–ARS. Parentage: F3 NEP-2/Black Turtle Soup. Characteristics: black bean, type II upright short vine growth, resistant to BCMV (I gene), rust, beta, gamma, and delta races of anthracnose, and tolerant to oxidant air pollution injury caused by ozone. 1981. *Crop Sci.* 27:363, 1987.

**Black Turtle Soup.**—Orig. by New York State Agr. Expt. Sta. Characteristics: black bean, type III growth habit, late maturity, resistant to rust and BCMV (1 and NY15 strains). Landrace from South America.

**Bonus.**—Orig. by Stokely Van Camp Co., Spokane, Wash. Parentage: Red Mexican UI 35 selection/Calproof 38. Characteristics: Small white, type III growth habit, moderately late, resistant to halo blight, BCMV (strain 1), and curly top virus. 1965.

**Bos'n.**—Orig. by Idaho Seed Bean Co., Twin Falls. Characteristics: Navy bean, type I bush plant habit, moderately early, resistant to halo blight, rust, BCMV (1 and NY strains) and curly top virus. 1981.

**Buckskin (RNK101).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: Pinto bean seed, good seed quality, early maturity, type IIIb plant habit, resistant to BCMV and moderately tolerant to root rot. 1995.

**C 20 (76706-D6-B).**—Orig. by Michigan Agr. Expt. Sta. and USDA–ARS. Parentage: Jamapa/Nep-2//W-20/Kentwood. Characteristics: navy bean; type II upright short vine plant habit; full season; resistant to BCMV (I gene), rust, beta, gamma, and delta races of anthracnose; and is field tolerant to ozone pollution and to halo blight, white mold, and root rot; tolerant to Michigan halo blight. 1982. *Crop Sci.* 24:822, 1984.

**Cahone (C277159).**—Orig. by Colorado State Univ. Expt. Sta. Parentage: (A56244-39/UI 111//A56244-8/3/Yellow Jacket). Characteristics: pinto bean, vine to semi-vine growth habit, resistant to BCMV (type and NY15 strains). 1981.

**Cajun (ROG001).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: small red bean, type IIb growth habit, intermediate maturity, resistant to BCMV (I gene). 1996.

**California #59.**—Orig. by Univ. of California, Davis. Parentage: Small White #7/Small White/Idaho Refugee. Characteristics: small white bean, type III plant habit, late maturity, resistant BCMV (strain 1). 1958.

**Camelot (D83351).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: dark red kidney, type IA growth habit, moderately early, good canner, resistant to BCMV (I gene). 1994.

**Captain.**—Orig. by Idaho Seed Bean Co., Twin Falls. Characteristics: Navy bean, type II growth habit, intermediate maturity, resistant to rust, halo blight, BCMV (1 and NY15 strains) and curly top virus. 1981.

**Carbon (536-1BK-3BK).**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: recurrent selection using as one of the parents a hybrid plant in PI 180760 (Germany). Characteristics: black shiny seed, semi-vine habit, vigorous plant, highly resistant to soil-borne diseases, rust, and BCMV. 1979.

**Cardinal (Cran 0425).**—Orig. by USDA-ARS and Michigan State Univ. Parentage: selections within the Cranberry cultivar UI-30. Characteristics: cranberry, type I growth habit, early maturity, large seed, resistant to BCMV (*I* gene). Adaptation: Michigan. 1986.

**Chase (PWM2-89-5).**—Orig. by Univ. of Nebraska, Lincoln. Parentage: PWM2-84-45/6/Great Northern Nebr. #sel. 27/Tacaragua/GN Nebr. #1 sel. 27/Tacaragua/5/GN Nebr. #1 sel. 27\*6/GN Nebr. #1 sel. 27/Pinto UI 111. Characteristics: pinto, type III growth habit, compact with fairly open canopy, resistant to common bacterial blight, halo blight, brown spot, rust (Ur-3 gene), and with moderate avoidance of white mold. Adaptation: western Nebraska, eastern Colorado, Wyoming, and North Dakota. 1993. HortScience 29:44-55, 1994.

**Chinook (MSU#K86506).**—Orig. by Michigan Agr. Expt. Sta. and USDA-ARS. Parentage: CN49242/3\*Montcalm/Redcloud. Characteristics: light red kidney, erect determinate type I growth habit, midseason maturity, resistant to BCMV (*I* and *bc-12* genes), rust, and alpha, beta, delta, lambda, and epsilon races of anthracnose. 1991. Crop Sci. 32:492-493, 1992.

**Chorro (527-1BK-1BK).**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: recurrent selection utilizing a hybrid plant as one source of traits in PI 207198 (Colombia). Characteristics: pinto, medium-sized seed, high yielding with vigorous vine habit, extensive root system, resistant to soilborne diseases, BCMV, rust, and moderately resistant to angular leaf spot. 1979.

**Cinnabar (D81125).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: pinto bean, type IIb, intermediate maturity, resistant to BCMV. 1993.

**Congo Rico (70-R-40-BK-A).**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: selection from PI 199043 (Zaire). Characteristics: cranberry-type bean seed, medium height, upright bush habit, resistant to lodging, strong well-formed root system, early maturity, resistant to BCMV. Adapted to hot humid tropical climate. 1976.

**Crestwood (GT0381).**—Orig. by Gentec. Parentage: Ex Rico 23\*3/ExRico 23/PI326418. Characteristics: navy bean, resistant to white mold and alpha, beta, gamma, delta races of anthracnose. 1986.

**Crimson (ROG4505).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: small red bean, type IIa growth habit, intermediate maturity, resistant to BCMV (*I* gene). 1993.

**D81126 (D81126).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: pinto bean, type II to IIIb growth habit, early maturity, resistant to BCMV. 1991.

**Domino (MSU#61380).**—Orig. by Michigan Agr. Expt. Sta. and USDA-ARS. Parentage: NEP-2/Black Turtle Soup. Characteristics: black bean, type II upright short vine growth habit, resistant to BCMV (*I* gene), rust, gamma race of anthracnose, and tolerant to oxidant air pollution injury. 1981. Crop Sci. 27:363, 1987.

**Drake (XP-B279).**—Orig. by Seminis Vegetable Seeds. Parentage: Charlevoix/Dark Red Kidney breeding line. Characteristics: red kidney, type I growth habit, resistant to BCMV (*I* gene). 1995.

**Ebony.**—Orig. by Wilbur-Ellis Co. Seed Division, Spokane, Wash. Parentage: Cal Proof #38/Red Mexican UI 35. Characteristics: black bean, bush-type plant, moderate maturity, resistant to BCMV (1 and NY15 strains) and curly top virus. 1981.

**Etna (XP-B213).**—Orig. by Seminis Vegetable Seeds. Parentage: Taylors Hort/Mosaic resistant Cranberry breeding line. Characteristics: cranberry bean, type I bush, early maturing, resistant to BCMV (*I* gene). 1987.

**Fargo (ROG136).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: pinto bean seed, semi-upright type IIIb, moderately early maturity, broad adaptation, resistant BCMV, moderately tolerant to root rot. 1995.

**Fiesta.**—Orig. by Idaho Seed Bean, Twin Falls, Idaho. Parentage: UI 111/UI 111/Great Northern unknown cultivar. Characteristics: pinto, early, upright indeterminate plant habit, resistant to BCMV type and NY strains. 1981.

**Fisher (CZ59196).**—Orig. by Colorado Agr. Expt. Sta. Parentage: San Juan/A56-240//Yellow Jacket/3/Olathe/AR83-2. Characteristics: Pinto bean, type III growth habit, resistant to BCMV type, NY15, Mexican, and Ur-3 strains. 1994. Crop Sci. 35:1511, 1995.

**Flamingo.**—Orig. by Idaho Seed Bean Co., Twin Falls. Characteristics: Pink bean and type III growth habit. 1988.

**Fleetside (GTS 0285).**—Orig. by Gen-Tec Seeds Ltd., Woodslee, Ontario, Canada. Parentage: Fleetwood/Cornell 49-242//Fleetwood/Seafarer. Characteristics: navy bean slightly shiny seed, determinate, spreading bush, resistant to BCMV type and NY15, alpha, beta, gamma, delta races of bean anthracnose, and tolerant to air pollution. 1983.

**Flint (81122).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: pinto bean, type II to IIIb growth habit, intermediate maturity, resistant to BCMV. 1991.

**Focus (XPB309).**—Orig. by Asgrow Seed Co. Characteristics: pinto bean, upright plant type, high pod set, resistant to BCMV. 1994.

**Foxfire (RNK702).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: light red kidney, upright type Ia bush habit, early maturity, broad adaptation, resistant to BCMV (*I* gene) and rust, moderately tolerant to halo blight and brown spot. 1992.

**Gala.**—Orig. by Idaho Seed Bean Co., Twin Falls. Characteristics: pinto bean, type III growth habit, moderately early, resistant to BCMV (1 and NY15 strains), curly top virus and halo blight. 1981.

**Gloria (GR-5).**—Orig. by USDA-ARS and Washington State Univ. Parentage: Sutter Pink//virus-resistant red-seeded bush breeding line/Red Mexican UI-35/PI 203958. Characteristics: pink bean, early maturing, short type III plant habit, resistant to the prevalent type and NY15 strains of BCMV, and fusarium root rot. 1974. Crop Sci. 22:684, 1982.

**GN 196-2.**—Orig. by USDA-ARS and Washington Agr. Expt. Sta. Parentage: UI 114/2/Pinto UI 114/PI 203598/3/Pinto UI-114/4/Red Mexican UI-35/PI 203598/5/red-seeded early maturing Japanese bush bean. Characteristics: bright-seeded Pinto, good cooking quality, high yielding under root rot stress, resistant to curly top and BCMV. 1986.

**Harofleet (Fleetwood Are).**—Orig. by Agr. Canada Research Sta., Harrow, and Crop Science Dept., Univ. of Guelph. Parentage: Fleetwood 6\*/PI326418/Fleetwood. Characteristics: navy bean, bush plant habit, very white glossy seed coat, resistant to BCMV (1 and NY15 strains) and anthracnose (*Are* gene). 1983.

**Harokent (Kentwood 83).**—Orig. by Agr. Canada Research Sta., Harrow, Canada, and Crop Science Dept., Univ. of Guelph, Canada. Parentage: Kentwood 6\*/PI 326418/Kentwood. Characteristics: navy bean, bush plant type, same maturity and seed as Kentwood, resistant to BCMV (1 and NY15 strains) and anthracnose (*Are* gene). 1983.

**Harold (GH-1053).**—Orig. by USDA-ARS and Agr. Expt. Sta., Washington, Idaho, and Oregon. Parentage: Victor/Aurora. Characteristics: pink bean, type III short vine growth habit, resistant to BCMV type and NY15 strains, curly top, and field resistance to fusarium root rot. Adaptation: western U.S. 1983. Crop Sci. 35:943, 1995.

**Harris.**—Orig. by Univ. of Nebraska, Lincoln. Parentage: Bulk of 100 early maturing plants in Great Northern (GN) Valley. Characteristics: Great Northern, type III growth habit, resistant to common bacterial blight, brown spot, halo blight, and BCMV. Adaptation: western Nebraska, eastern Wyoming, and Idaho. 1980. HortScience 15:531, 1980.

**Hatton (88-025-02).**—Orig. by at North Dakota Agr. Expt. Sta. Parentage: PX-057/87-071-01. Characteristics: pinto bean, medium early, type IIIa plant habit, resistant to BCMV (*bc-1*, *bc-2* genes), adapted to northern Great Plains. 1995. Annu. Rpt. Bean Improv. Coop. 31:223, 1988.

**Holberg (GR-364 and ND364).**—Orig. by North Dakota and Washington Agr. Expt. Sta. and USDA-ARS. Parentage: Viva Pink/Pinto SR-568. Characteristics: Pinto bean, type III growth habit, resistant to BCMV type and NY15 strains, curly top virus, and fusarium root rot. 1982. Crop Sci. 23:1219, 1983.

**Horizon (XPB212).**—Orig. by Asgrow Seed Co. Characteristics: Type I growth habit, very early light red kidney bean with excellent bean quality, resistant to BCMV. 1990.

**Huron (N90563).**—Orig. by Michigan Agr. Expt. Sta. and USDA-

ARS. Parentage: C20/Harokent. Characteristics: navy bean, upright type II indeterminate growth habit, midseason, resistant to BCMV (I gene), alpha race of anthracnose (A gene) and rust (Ur-3 gene). 1994. *Crop Sci.* 34:1408, 1994.

**Hyden (NW-230).**—Orig. by USDA–ARS and Washington State Univ. Parentage: Aurora/Pinto UI 114. Characteristics: navy bean, upright open type II growth habit, early maturing, resistant to BCMV (I gene), curly top virus, and fusarium root rot. 1985. *Crop Sci.* 35:942, 1995.

**ICA Bunsí.**—Orig. by Colombian Agr. Institute (ICA), Colombia. Parentage: Magdalena 8/Japan 3. Characteristics: navy bean, type II plant habit, tolerant to white mold, resistant to BCMV (I gene), rust, and ozone pollution. 1974.

**Isabella (MSU#70688).**—Orig. by Michigan Agr. Expt. Sta. and USDA–ARS. Parentage: Redcloud/Mecosta. Characteristics: light red kidney, type I upright growth habit, early maturity, resistant to BCMV (*I* and *bc* genes), rust and the alpha race of anthracnose. 1982. *Crop Sci.* 27:363–364, 1987.

**ISB 462.**—Orig. by Idaho Seed Bean Co., Twin Falls. Characteristics: pink bean, type III growth habit, early maturity, resistant to BCMV (type and NY15 strains) and curly top virus. 1989.

**Isles (K86012).**—Orig. by Michigan Agr. Expt. Sta. and the USDA–ARS. Parentage: Isabella/CN49242/3\*Montcalm//Charlevoix. Characteristics: dark red kidney, full season, upright type I determinate bush growth habit, resistant to BCMV (I gene), all North American races of anthracnose (*A* and *Are* genes), and rust. 1994. *Crop Sci.* 34:1407–1408, 1994.

**Ivory (D80152).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: Great Northern, type III growth habit, early maturity, resistant to BCMV and common blight. 1983.

**Jules (Nebr. 67-90).**—Orig. by Univ. of Nebraska, Lincoln. Parentage: Great Northern Nebr. #1 sel. 27/GN 1140. Characteristics: similar to GN Tara, type 3 growth habit, late maturity, resistant to common blight. Adaptation: western Nebraska. 1979. *Plant Dis. Repr.* 54:557–559, 1970.

**Kamiakin (K83 and K279).**—Orig. by USDA–ARS and Washington State Univ. Parentage: Royal Red/Redkote. Characteristics: light red kidney bean, strong upright type 1 growth habit, resistant to curly top virus and BCMV (*I* gene). 1986. *Crop Sci.* 35:944, 1995.

**Kardinal (K333 and GRK333).**—Orig. by USDA–ARS, Washington State Univ., and Univ. of Idaho. Parentage: Manitou/5/Pinto UI-114/3/Pinto UI-112/2/UI-112/PI 203958/4/Jacob's Cattle. Characteristics: light red kidney bean, strong upright type I growth habit, maturity 90 to 100 days, resistant to curly top virus and BCMV (*I* gene). 1986. *Crop Sci.* 35:944, 1995.

**La Vega (R-19).**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: Bulk selection in PI287536 (Holland). Characteristics: semi-vine, high yielding and intermediate in maturity, dull black bean with resistance to Rhynchosia mosaic virus, BCMV, cowpea mosaic virus, a beetle-transmitted virus and slow rusting. Adapted to tropical climate. 1973.

**Lakeland (Agri-I).**—Orig. by Gentec. Parentage: Upland/8/Upland/PI 326418. Characteristics: navy bean, resistant to BCMV (*I* gene) and to beta, gamma, delta races of bean anthracnose (*Are* gene). 1984.

**Laker (C-15).**—Orig. by Michigan Agr. Expt. Sta. and USDA–ARS. Parentage: ICA-Pijao/Nep-2//W-20/Kentwood. Characteristics: navy bean, upright type I determinate growth habit, highly resistant to lodging, resistant to BCMV (*I* gene), tolerant to rust and ozone pollution. 1983. *Crop Sci.* 24:1210, 1984.

**Lark (XPB178).**—Orig. by Asgrow Seed Co. Characteristics: uniform light-red kidney with attractive bean shape, straight across the hilum, type I growth habit, resistant to BCMV. 1987.

**Lasser.**—Orig. by Sacramento Valley Milling, Ordbend, Calif. Parentage: mutant of Sacramento. Characteristics: white kidney seed, same maturity and plant type as Sacramento. 1985.

**Marquis (D82166).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: Great Northern, type IIIb growth habit, moderately late, resistant to BCMV (*Ibc* genes). 1993.

**Maverick (88-048-03).**—Orig. by at North Dakota Agr. Expt. Sta. Parentage: Fiesta/Black Magic//8313229//CO81-12034/T295 (MSU).

Characteristics: pinto bean, medium-early maturity, semi-prostrate type IIIa plant habit, resistant to rust (*Ur-3*). 1996.

**Mayflower (MSU#N84024).**—Orig. by Michigan Agr. Expt. Sta. and USDA–ARS. Parentage: Nep-2/Black Turtle Soup//2W-33-2/3/C-20. Characteristics: navy bean, type II upright and short vine plant habit, resistant to BCMV (I gene), rust, beta, and gamma races of anthracnose, and tolerant to ozone pollution. 1987. *Crop Sci.* 29:1571–1572, 1989.

**Mecosta.**—Orig. by USDA–ARS and Michigan Agr. Expt. Sta. Parentage: Great Northern #1/Manitou. Characteristics: light red kidney, type I growth habit, tolerant to halo blight, resistant to BCMV. 1974.

**Midland (T7901).**—Orig. by Seminis Vegetable Seeds. Parentage: Seafarer/74 F1-2 line. Characteristics: navy bean, type I bush growth habit, resistant to BCMV (*I* gene), tolerant to air pollution. 1983.

**Midnight.**—Orig. by The New York State College of Agr. and Life Sciences, Cornell Univ., Ithaca, N.Y. Parentage: composite of 3 NY lines 70001, 70002, and 70003 from single plant selections made in 25 germplasm lines (CIAT, Cali, Colombia, SA). Characteristics: black seed, upright type IIa growth habit, large basal root system, resistant to lodging, resistant to BCMV, and moderately resistant to *Fusarium solani* root rot and *Pythium ultimum* damping-off diseases, and has some plant avoidance of white mold. Adaptation: widely adapted in U.S. 1980.

**Mita (76-R287).**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: 15R-55/Mex 309. Characteristics: black bean, multiple disease resistance. 1979.

**Mogote (514-IBK).**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: recurrent selection using as one parent a hybrid plant from PI 300660 (Chile). Characteristics: vigorous semi-vine habit, light brown seeds, resistant to soilborne diseases, common bacterial blight and rust, BCMV, CPMV, CMV, and cercospora leaf spot. 1979.

**Monet (ROG 055).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: Alubia bean, type Ib growth habit, late maturity, resistant to BCMV (*I* gene). 1996.

**Montcalm (DRK023).**—Orig. by USDA–ARS and Michigan Agr. Expt. Sta., East Lansing. Parentage: Great Northern No. 1 x Red Kidney. Characteristics: dark red kidney, upright type I bush habit, field tolerance to halo blight and resistant to BCMV (type and NY15 strains). 1974.

**Monument (Nebr. CSW-5).**—Orig. by Univ. of Nebraska, Lincoln. Parentage: Aurora/3/Small White 53 3\*/Small White 53/Meador #1. Characteristics: small white, early maturity, type IIa growth habit, resistant to BCMV NY15 strain and some rust strains, and has some avoidance of white mold. Adaptation: western Nebraska. 1985. *HortScience* 21:542, 1986.

**Moonbeam (XP-B303).**—Orig. by Seminis Vegetable Seeds. Characteristics: Great Northern, upright indeterminate. 1995.

**Navajo.**—Orig. by New Mexico Agr. Expt. Sta., Las Cruces. Parentage: USDA 2207/NM56-778. Characteristics: pinto bean, viny to semi-erect growth habit and moderately early maturity. 1980.

**Navigator (ROG345).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: navy bean, type IIb growth habit, late maturity, useful for direct harvesting, resistant to BCMV (*I* gene). 1995.

**Neptune (MSU#790053).**—Orig. by Michigan Agr. Expt. Sta. and USDA–ARS. Parentage: MSU#31906/San Fernando//Seafarer. Characteristics: navy bean, type II upright short vine growth habit, resistant to BCMV (I gene), rust, tolerant to Michigan isolates of halo blight and to air pollution oxidant ozone. 1981. *Crop Sci.* 26:1080–1081, 1986.

**Newport (N90599).**—Orig. by Michigan Agr. Expt. Sta. and USDA–ARS. Parentage: N85606/Harokent. Characteristics: navy bean, upright type I growth habit with excellent resistance to lodging, midseason, resistant to BCMV (*I* gene), all races anthracnose (*A* and *Are* genes), and rust (*Ur-3*). 1995. *Crop Sci.* 35:1710–1711, 1995.

**Nodak (GH-370).**—Orig. by North Dakota Agr. Expt. Sta. and USDA–ARS. Parentage: GN 1140/UI-35/UI-35/PI 203958. Characteristics: pinto bean, type III growth habit with short vines, resistant to curly top virus and BCMV (type and NY15 strains). 1984. *Crop Sci.* 25:571, 1985.

**Norstar (Nx-041).**—Orig. by North Dakota Expt. Sta. Parentage: C-20/Fleetwood. Characteristics: navy bean, type II upright short vine plant habit coupled with a narrow plant profile, resistant to BCMV (*I* gene) and rust. 1991. *Crop Sci.* 33:1405–1406, 1993.

**Northland.**—Orig. by W.G. Thompson & Sons Ltd., Canada. Parentage: Buns/Seafarer. Characteristics: navy bean. 1983.

**NW 59 (RS-59 or RM-59).**—Orig. by USDA–ARS and Washington State Univ. Parentage: Sutter Pink//PI203958/Red Mexican UI35//Dark Red Kidney 801. Characteristics: Red Mexican, early maturity, resistant to fusarium root rot, BCMV type and NY15, and curly top virus. 1974. *Crop Sci.* 22:685–686, 1982.

**NW 63 (RS-63 or RM-63).**—Orig. by USDA–ARS and Washington State Univ. Parentage: Sutter Pink//PI203958/Red Mexican UI35//Dark Red Kidney 801. Characteristics: Red Mexican, early maturity, resistant to fusarium root rot, BCMV type and NY15, and curly top virus. 1974. *Crop Sci.* 22:685–686, 1982.

**NW 395 (LR-395 and W-395).**—Orig. by USDA–ARS and Agr. Expt. Sta., Washington, Idaho, and Oregon. Parentage: Miluno (Chile)/t-1-2204 breeding line. Characteristics: navy bean, short vine type, adapted for western production under irrigation, early maturity, resistant to curly top virus and BCMV (*I* gene). 1980. *Crop Sci.* 22:898, 1982.

**NW 410 (GR-410).**—Orig. by USDA–ARS and Washington State Univ. Parentage: Sutter Pink x Pinto UI 114. Characteristics: pinto, early maturing, short type III plant habit; resistant to fusarium root rot, BCMV, and curly top virus. 1980. *Crop Sci.* 22:684–685, 1982.

**NW 590 (GR-590 and GR-563).**—Orig. by USDA–ARS and Washington State Univ. Parentage: Pinto UI-114//Red Mexican UI-35\*1/PI 203958/Red Mexican UI-35. Characteristics: pinto bean, resistant to fusarium root rot, BCMV type and NY15 strains, and curly top virus. 1980. *Crop Sci.* 22:684–685, 1982.

**OAC Cygnus (OAC 86-1).**—Orig. by Univ. of Guelph, Guelph, Ontario, Canada. Parentage: Ex Rico 23/5/Ex Rico 23/Narda. Characteristics: navy bean, bush type I plant habit, early maturity, resistant to anthracnose races and BCMV type and NY15 strains. 1988.

**OAC Gryphon (OAC 82-2).**—Orig. by Dept. of Crop Science, Univ. of Guelph, Guelph, Ontario, Canada. Parentage: Ex Rico/5/Ex Rico 23/Narda. Characteristics: navy bean seed, indeterminate, semi-vine plant habit, medium maturity, resistant to alpha, beta, gamma, and delta races of bean anthracnose, resistant to BCMV 1 and NY15 strains. 1988.

**OAC Seaforth.**—Orig. by Crop Science Dept., Univ. of Guelph and Agr. Canada Research Sta., Harrow, Canada. Parentage: Seafarer/PI 32648. Characteristics: navy bean, bush type plant habit, resistant to BCMV (1 and NY15 strains) and anthracnose (*Are* gene). 1983.

**OAC Spring (OAC 85-1).**—Orig. by Dept. of Crop Science, Univ. of Guelph, Guelph, Ontario, Canada. Parentage: Seafarer/5/Seafarer/Narda. Characteristics: navy bean, determinate bush-type plant habit, average maturity, resistant to anthracnose and BCMV type and NY15 strains. 1988.

**Olathe (Colo 3439).**—Orig. by Colorado State Univ. Expt. Sta., Fort Collins. Parentage: Pinto 5958-B-1 (USDA)/Red Kidney B23. Characteristics: Pinto, type III growth habit, moderate early maturity, resistant to BCMV NY15 strain and to many rust races. Adaptation: western U.S. 1979. *Crop Sci.* 22:1259–1260, 1982.

**Oro Rico (70-R-108-BK-A).**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: two bush plants selected from PI 207180 (Brazil). Characteristics: high-yielding pink bean, upright bush to semi-vine habit, resistant to BCMV, rhizoctonia root rot, and moderately resistant to powdery mildew. Adapted to tropical lowland environments. 1976.

**Othello (GH-215).**—Orig. by USDA–ARS and Agr. Expt. Sta., Idaho and Oregon. Parentage: Pinto NW-410/2/Pink Victor/Aurora. Characteristics: pinto, type IIIa growth habit, early maturity, resistant to BCMV (*ibc* 22 genes) and curly top, and has field resistance to fusarium root rot. Adaptation: western U.S. 1986. *Crop Sci.* 35:943, 1995.

**Ouray (Colo 15B).**—Orig. by Colorado State Univ. Expt. Sta., Fort Collins. Parentage: Sanilac/Pinto UI 111/Light Red Kidney/Pinto 5439-1. Characteristics: pinto, upright bush growth habit, early maturity, resistant to BCMV and to some rust races but susceptible to

common bacterial blight and white mold. Adaptation: western U.S. under irrigation. 1972. *Crop Sci.* 22:1260, 1982.

**Palmarejo (70-R-31).**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: origin, PI 207139 (Colombia). Characteristics: bush bean of medium height, stem resistant to lodging, good yield under lowland tropical conditions, pink mottled seed color, highly resistant to rust races endemic to Puerto Rico, and resistant to BCMV. 1976.

**Panther (RNK903).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: black bean, type IIa growth habit, moderately late, adapted to northern U.S., resistant to BCMV (*I* gene). 1995.

**Pilgrim (PVD865).**—Orig. by Wilbur Ellis Seed Div., Spokane, Wash. Characteristics: early, type I bush, long burgundy splashed pods, very high yield capabilities, very concentrated bloom and pod set, seeds kidney shaped, similar color to cranberry, outstanding root system, resistant to BCMV (1, NY15), curly top, bean root rots. 1982.

**Pindak (GR-35).**—Orig. by USDA–ARS, Agr. Expt. Sta., Washington and North Dakota. Parentage: Japanese bush bean/UI 114/UI 114 1/PI203958. Characteristics: upright vine, uniform plump pinto seed, high yielding, resistant to BCMV (NY15), curly top, fusarium root rot, and rust. 1981. *Crop Sci.* 157, 1981.

**Prairie (ROG523).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: Great Northern bean, type IIIb growth habit, moderately late, resistant to BCMV. 1996.

**PR-H-71-1-R101.**—Orig. by USDA–ARS, Federal Expt. Sta., Mayaguez, Puerto Rico. Parentage: Female parent PI 200956/Male parent unknown. Characteristics: black bean, seed pea bean shape, viny plant habit, resistant to BCMV and rust and cowpea mosaic virus (PR). 1974.

**PR-H-71-1-R113.**—Orig. by USDA–ARS, Federal Expt. Sta., Mayaguez, Puerto Rico. Parentage: female parent PI 289377/male parent unknown. Characteristics: black bean, dull color, semi-viny habit, resistant to BCMV, rust and cowpea mosaic virus (PR). 1974.

**PR-H-71-1-R136.**—Orig. by USDA–ARS, Federal Expt. Sta., Mayaguez, Puerto Rico. Parentage: female parent PI 195364/male parent unknown. Characteristics: black, pea bean shape seed, dull color, semi-viny habit, resistant to BCMV, rust and cowpea mosaic virus (PR). 1974.

**Pulsar.**—Orig. by Wilbur-Ellis Co. Seed Div., Spokane, Wash. Parentage: navy type seed found in Red Mexican breeding line PVD545 (74221-B-B2-5-3-3-5-B), Cal. Proof #38 x Red Mexican UI#34. Characteristics: navy bean, uniform seed and stable performance. 1981.

**Raven (B90222).**—Orig. by Michigan Agr. Expt. Sta. and USDA–ARS. Parentage: N84004/B85009. Characteristics: black bean, upright type II indeterminate growth habit, midseason, small flat seeded, resistant to BCMV (*I* and *bc3* genes), alpha and alpha Brazilian races of anthracnose, rust (*Ur-3* gene). 1994. *Crop Sci.* 34:1406–1407, 1994.

**Redcloud.**—Orig. by Cornell Univ., College of Agr., Dept. of Vegetable Crops, Ithaca, N.Y. Parentage: light red kidney Redkote/Charlottetown (Yellow Eye). Characteristics: light red kidney, type I growth habit, matures 2 to 3 weeks earlier than Red Kidney or Redkote in NYS, resistant to BCMV and moderate resistance to halo blight. 1973.

**Redkote (60-8208).**—Orig. by Cornell Univ., College of Agr., Dept. of Vegetable Crops, Ithaca, N.Y. Parentage: Great Northern #1/Red Kidney. Characteristics: light red kidney, type I growth habit, white flowers, resistant to BCMV 1 and NY15 strains, and moderate resistance to halo blight. 1966.

**Remington (ROG123).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: pinto bean, type IIb growth habit, early maturity, resistant to rust and BCMV. 1996.

**RNK354 (RNK354).**—Orig. by Rogers Sandoz Seeds, Nampa, Idaho. Characteristics: pinto bean seed; good seed size, shape, and color; vigorous type IIIb plant habit; moderately late maturity; resistant to BCMV. 1994.

**Rocket (XPB185).**—Orig. by Asgrow Seed Co. Characteristics: midseason navy bean, resistant to BCMV. 1987.

**Roza (GR-18).**—Orig. by USDA–ARS and Washington State Univ. Parentage: Sutter Pink//virus-resistant red-seeded bush breed-

ing line/Red Mexican UI-35/PI 203958. Characteristics: pink bean, early maturing, short-vined type III plant habit, resistant to the prevalent type and NY15 strains of BCMV, and to fusarium root rot. 1974. *Crop Sci.* 22:684, 1982.

**Ruddy (79512).**—Orig. by Cornell Univ., College of Agr., Dept. of Vegetable Crops, Ithaca, N.Y. Parentage: White Kidney G01562 (CIAT)/Light Red Kidney Redkloud. Characteristics: light red kidney, type I growth habit, early maturing, resistant to BCMV 1 and NY15 strains. 1982.

**Rufus (AR58-4).**—Orig. by USDA-ARS and Washington State Univ. Parentage: PI 203958/Red Mexican UI-35/PI 203958. Characteristics: Red Mexican, moderate upright type, moderate maturity, resistant to fusarium root rot, BCMV type and NY15 strains and curly top virus. 1974. *Crop Sci.* 22:685–686, 1982.

**Sacramento.**—Orig. by Sacramento Valley Milling, Ordbend, Calif. Parentage: selection from California Light Red Kidney. Characteristics: light red kidney seed, early maturing, type I plant habit, resistant to rust. 1977.

**Sal.**—Orig. by Univ. of California, Davis. Characteristics: small white, type III plant habit, moderately late, resistant to BCMV (strain 1). 1983.

**San Juan.**—Orig. by Colorado State Univ., Fort Collins. Characteristics: pinto bean, type III growth habit, moderately early, resistant to halo blight. 1935.

**Santiago (811865-6-1-7).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: pinto, type IIa growth habit, early maturity, resistant to BCMV (*I* gene). 1995.

**Sapphire (D77125).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: vigorous type Great Northern variety, matures at 89 days at Twin Falls, Idaho, suitable for light and sloping soils, resistant to BCMV, halo and common blight. 1983.

**Schooner (83045).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: navy bean seed, semi-upright to semi-vine, type II to III3b, moderately late maturity, adapted northern plains, resistant to BCMV (*I* gene) and resistant to most rust strains in North America. 1992.

**Scottsbluff Pinto.**—Orig. by Nebraska Agr. Expt. Sta. Parentage: Great Northern/common pinto bean. Characteristics: pinto bean, type III plant habit, early maturity. 1944.

**Shadow (ROG903).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: black bean, type II 2A growth habit, moderately late, resistant to BCMV (*I* gene). 1995.

**Sierra (P86299).**—Orig. by Michigan Agr. Expt. Sta. and USDA-ARS. Parentage: derived from cross made as part of population improvement program to develop a prototype upright pinto bean. Characteristics: pinto bean, late maturity with upright type II plant habit, resistant to rust, moderate resistance to alpha race anthracnose and tolerant to Michigan isolates halo blight and to potato leaf hopper. 1989. *Crop Sci.* 30:745–746, 1990.

**Snowball (PVD895).**—Orig. by Wilbur Ellis Seed Div., Spokane, Wash. Characteristics: large, spherical, white, round-near round; semi-trailing plant; white semi-rough pods, open, vigorous foliage, medium-late maturity, very high production potential; very extensive root structures, resistant to BCMV (1, NY15), curly top, bean root rots. 1982.

**Spinel (D78174).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: determinate (bush) Great Northern, resistant to bean rust and BCMV. 1983.

**Star (GN-CB-BW-71-44).**—Orig. by Univ. of Nebraska, Lincoln. Parentage: Great Northern (GN) #1 sel. 27\*6/GN Nebr. #1 sel. 27/PI 165078. Characteristics: Great Northern, type III growth habit, resistant to common bacterial blight, halo blight, bacterial wilt, BCMV and curly top. Adaptation: western Nebraska and eastern Wyoming. 1975. *HortScience* 11:621, 1976.

**Starlight (WMI-85-43).**—Orig. by Univ. of Nebraska, Lincoln. Parentage: Tacaragua/Great Northern (GN) Nebraska #1 sel. 27//GN Nebraska # sel. 27/Bulgarian White. Characteristics: Great Northern, type IIb growth habit, large (30–40 g/100 seed) bright white seed, resistant to rust (Ur-3 gene), good avoidance of white mold due to more open plant canopy. Adaptation: western Nebraska. 1990. *HortScience* 26:441–442, 1991.

**Steuben Yellow Eye (64-23).**—Orig. by Cornell Univ. College of Agr., Dept. of Vegetable Crops, Ithaca, N.Y. Parentage: selection from standard variety Yellow Eye. Characteristics: Yellow Eye, seed slightly larger and more uniform, higher yielding than original Yellow Eye. 1961.

**Stinger (XPB155).**—Orig. by Asgrow Seed Co. Characteristics: high-yielding navy bean, good seed quality, late maturity, resistant to BCMV (*I* gene). 1986.

**Sumcran.**—Orig. by Sacramento Valley Milling Co., Ordbend, Calif. Characteristics: cranberry, type I growth habit, and intermediate maturity. 1986.

**Sutter.**—Orig. by Univ. of California, Davis. Parentage: standard Pink/Early Pink. Characteristics: pink bean, type III growth habit, moderately early, resistant to curly top virus. 1943.

**Swan Valley (MSU#61618).**—Orig. by Michigan Agr. Expt. Sta. and USDA-ARS. Parentage: NEP-2/Black Turtle Soup. Characteristics: navy bean, off-white seed, type II upright short vine growth habit, resistant to BCMV (*I* gene), rust, beta, gamma, and delta races of anthracnose, tolerant to Michigan isolates of halo blight, and to air pollution oxidant ozone. 1981. *Crop Sci.* 26:1080–1081, 1986.

**T 39.**—Orig. by Univ. of California, Davis. Characteristics: black bean, type III growth habit, late maturity, resistant to BCMV (1 and NY15 strains) and rust. 1975.

**Tall Brun-Yan.**—Orig. by Clarence Muehfeld, Bridgeport, Mich. Characteristics: navy bean, bush plant habit and moderately late. 1981.

**Tuscola (8467).**—Orig. by Michigan Agr. Expt. Sta. and USDA-ARS. Parentage: derived from a fourth intercross generation of 10x10 diallel cross of navy beans. Characteristics: navy bean, vigorous bush habit, more erect than Sanilac, seed coat more resistant to mechanical damage than standard varieties, resistant to alpha and beta races of anthracnose, resistant to BCMV (type and NY15 strains). 1977.

**UI 16.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: GN UI 59/Common Red Mexican. Characteristics: Great Northern, indeterminate plant habit, resistant to curly top and BCMV (type and NY15). 1948. *Univ. of Idaho Agr. Expt. Sta. Circ. No.* 118, 1952.

**UI 31.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: Great Northern UI 59/Common Red Mexican. Characteristics: similar seed and vine type to GN UI 123, resistant to curly top and BCMV (type and NY15 strains). 1948. *Univ. of Idaho Agr. Expt. Sta. Circ. No.* 118, 1952.

**UI 36.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: Red Mex UI 34/GN UI 31. Characteristics: Red Mexican bean seed, early maturity, upright plant habit, resistance to BCMV and curly top. 1964. *Idaho Agr. Expt. Sta. Bul. No.* 429.

**UI 37.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: Red Mex UI 34/GN UI 56. Characteristics: Red Mexican seed, short semi-vining upright plant habit, early maturity, resistant to BCMV and curly top. 1964. *Idaho Agr. Expt. Sta. Bul. No.* 429.

**UI 42 (KR42).**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: UI 36/R-370. Characteristics: Red Mexican, short vine type, intermediate maturity, resistant to curly top and BCMV (type and NY15 strains). 1983.

**UI 50.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: 61-2942/Cran 1466. Characteristics: cranberry seed, near bush plant habit, late maturity, resistant to BCMV (1 and 1A). 1974.

**UI 51.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: 61-2942/Cran 1466. Characteristics: cranberry seed, near bush plant habit, moderately late maturity, resistant to BCMV (1 and 1A). 1974.

**UI 59.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: selected from the common Great Northern. Characteristics: Great Northern, type III growth habit, resistant to BCMV (type and NY15 strains). 1932. *Univ. of Idaho Agr. Expt. Sta. Circ. No.* 118, 1952.

**UI 60 (KL10).**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: Great Northern UI 61/R221. Characteristics: Great Northern, type III plant habit, intermediate maturity, resistant to curly top and BCMV type and NY15 strains. 1983.

**UI 61.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: Great Northern UI 59/Common Red Mexican. Characteristics: semi-vining plant habit, average Great Northern seed size, resistant to curly top and BCMV. Adapted throughout U.S. 1975. *Idaho Agr. Expt. Sta. Bul. No.* 561.

**UI 72.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: Red Mexican UI 34/Common Pinto. Characteristics: pinto, resistant to curly top and BCMV (type). 1945. Univ. of Idaho Agr. Expt. Sta. Circ. No. 118, 1952.

**UI 76.**—Orig. by Univ. of Idaho College of Agr. Parentage: PI 282057/Experimental line 4792. Characteristics: navy bean, semi-vining plant habit, moderate late maturity, resistant to BCMV (type and NY15 strains). 1976.

**UI 111.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: Red Mexican UI 34/Common Pinto. Characteristics: pinto, type III plant habit, resistant to curly top and BCMV (type). 1945. Univ. of Idaho Agr. Expt. Sta. Circ. No. 118, 1952.

**UI 114.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: Pinto UI 111/Great Northern line J378. Characteristics: pinto, type III growth habit, large seed, resistant to BCMV and curly top virus. Adaptation: western U.S. 1967.

**UI 123.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: selected from the common Great Northern. Characteristics: Great Northern, type III plant habit, resistant to BCMV (type and NY15 strains). 1932. Univ. of Idaho Agr. Expt. Sta. Circ. No. 118, 1952.

**UI 125.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Characteristics: small white, type II growth habit, late maturity, resistant to BCMV (type and NY15 strains). 1990.

**UI 126.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: R764 x Pinto UI 114. Characteristics: pinto, type III growth habit, resistant to BCMV and curly top viruses. Adaptation: western U.S. 1983.

**UI 129 (KP97).**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: unknown. Characteristics: pinto bean, type III plant habit, maturity intermediate, resistant to curly top and BCMV. 1983.

**UI 137.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Characteristics: navy bean, type II growth habit, intermediate maturity, resistant to BCMV (type and NY15 strains). 1991.

**UI 158 (K0158).**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: Aurora/UI 76. Characteristics: navy bean with slightly ovate and flat seed, type II plant habit, good cooking quality, resistant to curly top and BCMV (I gene) and tolerant to bacterial disease. 1985.

**UI 196.**—Orig. by Univ. of Idaho Agr. Expt. Sta. and USDA—ARS. Parentage: Pinto UI 114/PI 203598/UI35. Characteristics: pinto, type III, resistant to BCMV and curly top viruses, and fusarium root rot. Adaptation: western U.S. 1990.

**UI 228.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Characteristics: small red, type III, intermediate maturity, resistant to BCMV (type and NY15 strains) and curly top virus. 1993.

**UI 239.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Characteristics: small red, type III growth habit, intermediate maturity, resistant to BCMV (type and NY15 strains) and curly top virus. 1993.

**UI 425.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: Emerson/R544/Great Northern UI 61. Characteristics: Great Northern, type 3 growth habit, moderately late, resistant to BCMV. Adaptation: western U.S. 1984.

**UI 537.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: Red Mexican UI 37/Pink Viva. Characteristics: pink bean, type III growth habit, intermediate maturity, resistant to BCMV type and NY15 strains and curly top virus. 1990.

**UI 686.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: UI 50/Hilo Bean. Characteristics: upright indeterminate vine growth habit, large seeded cranberry bean with good yields, resistant to BCMV (I gene). Crop Sci. 31:1708–1709, 1991.

**UI 722.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: Mecosta//67-105/PI 226856. Characteristics: dark red kidney, type I growth habit, resistant to BCMV (I gene), and slow rusting in Nebraska and Maryland. Adaptation: Idaho, New York, and Michigan. 1988. Crop Sci. 31:1709, 1991.

**UI 906.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Parentage: Midnight/07053. Characteristics: black, type IIa growth habit, early maturity, resistant to BCMV (I gene) and some rust races. Adaptation: Pacific Northwest, North Central states, and central Canada. 1988. Crop Sci. 31:1710, 1991.

**UI 911.**—Orig. by Univ. of Idaho Agr. Expt. Sta. Characteristics: black bean, type II growth habit, intermediate maturity, resistant to BCMV (type and NY15 strains). 1993.

**Valley (GN Expt.-M).**—Orig. by Univ. of Nebraska, Lincoln. Parentage: Great Northern (GN) Nebraska #1 sel. 27\*6/GN Nebr. #sel. 27/GN 1140. Characteristics: Great Northern, type III growth habit, variable for maturity, resistant to common bacterial blight and BCMV. Adaptation: western Nebraska. 1974. HortScience 9:482, 1974.

**Victor (GR-122).**—Orig. by USDA—ARS and Agr. Expt. Sta., Washington, Idaho, and Oregon. Parentage: Sutter Pink/3/Red Mexican UI-35/PI 203958/Red Mexican UI-35. Characteristics: pink bean, type III short vine growth habit, resistant to BCMV type and NY15 strains, and field resistant to fusarium root rot. Adaptation: western U.S. 1983. Crop Sci. 35:942, 1995.

**Violeta (70-R-23-BK-A).**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: bulk selection from PI 209808 (Kenya). Characteristics: intermediate height bush bean, high yielding with intermediate maturity, pink with purple bean seed, moderately tolerant to bacterial blight and rust, resistant to BCMV. 1976.

**Vision (XP-B309).**—Orig. by Seminis Vegetable Seeds. Parentage: Pinto breeding line/Pinto Othello. Characteristics: pinto, upright indeterminate, rust resistant (Ur-3), with moderate tolerance to air pollution. 1995.

**Viva (5R-119 and GR-47).**—Orig. by USDA—ARS and Washington State Univ. Parentage: Sutter Pink/Red Mexican UI-35 1\*/Red Mexican UI-35/PI 203958. Characteristics: pink bean, early maturing, short vined type III plants, resistant to the prevalent type and NY15 strains of BCMV and to fusarium root rot. 1974. Crop Sci. 22:684, 1982.

**Voyager (ROG303).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: navy bean, type IIb growth habit, moderately early, adapted to northern U.S., resistant to BCMV (I gene). 1995.

**W 117.**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: Bonita/15R-55 (Puerto Rico). Characteristics: short, erect semi-vine plant habit, and white bean seed. 1979.

**W 142.**—Orig. by USDA and Agr. Expt. Sta., Univ. of Puerto Rico. Parentage: Bonita/50600 (Costa Rica). Characteristics: short, erect semi-vine plant habit, white bean seed, low rusting, and resistant to BCMV. 1979.

**Westland (T8001).**—Orig. by W.G. Thompson & Sons, Ltd., Canada. Parentage: Kentwood/74F-2. Characteristics: navy bean. 1983.

**Winchester (ROG171).**—Orig. by Rogers Seed Co., Nampa, Idaho. Characteristics: pinto bean, type IIb growth habit, intermediate maturity, resistant to rust and BCMV (I gene). 1996.

**WYO 166.**—Orig. by Univ. of Wyoming, Laramie. Parentage: *Phaseolus vulgaris* Golden Pinto/*Phaseolus coccineus* White Runner. Characteristics: pinto, type 3 growth habit. Adaptation: western U.S. 1965.

**WYO 167.**—Orig. by Univ. of Wyoming, Laramie. Parentage: Pinto WYO 166/Pinto UI 114. Characteristics: pinto, type III growth habit. Adaptation: western U.S. 1984.

**Yolano.**—Orig. by Univ. of California, Davis. Characteristics: pink bean, type III growth habit, moderate early maturity, resistant to BCMV (type I and NY15 strains) and curly top virus. 1989.

## BEAN—GREEN

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**Acclaim (XPB199).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: high yield, high quality. Resistance: halo blight, bean common mosaic virus. Similar: Eagle. PVP. 1988.

**Allegro (XPB271).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: Very small sieve green bean for fresh-market fine beans. Resistance: Bean common mosaic virus. Similar: Borneo. PVP. 1992.

**Aminca.**—Breeder: Nunhems. Vendor: Cannors. Characteristics: yellow wax stringless, pod length 9–1.5 cm, 60% sieve size 9–1.5 mm. Resistance: anthracnose, bean common mosaic virus, bean yellow mosaic virus. 1989.

**Anchor (XPB228).**—Breeder: Asgrow. Vendor: Asgrow. Charac-

teristics: early maturity with good yield and very good product quality. Resistance: bean common mosaic virus. Similar: Avanti. PVP. 1991.

**Applause (XPB194).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: processing bean. Resistance: halo blight, bean common mosaic virus. Similar: Eagle. PVP. 1988.

**Arena.**—Breeder: Nunhems Zaden. Vendor: Cannors. Characteristics: dark green pod, 11 cm. Resistance: anthracnose, bean common mosaic virus, bean yellow mosaic virus. 1990.

**Argo (XPB142).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: dark shiny-podded slender bush bean with colored seed coat. Resistance: bean common mosaic virus. Similar: Slankette. PVP. 1985.

**Asset (XPB251).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: very small sieve; good yield. Resistance: bean common mosaic virus. Similar: Laureat. PVP. 1991.

**Atlantic (XPB148).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: very long pods, colored seed coat. Resistance: bean common mosaic virus. Similar: Gatorgreen. PVP. 1984.

**Axel.**—Vendor: Vilmorin. Characteristics: for processing, pods diameter, extra fine to fine. Resistance: common bean mosaic virus, *C. lindemuthianum*. Similar: Irvell. 1989.

**Bambi (GP79-189).**—Breeder: Dr. J. Morris. Vendor: Rogers. Characteristics: smaller sieve pods than Dandy, shorter and darker; 7–8 mm diameter pod and 9 cm long; mid- to late-season maturity; has an erect, open bush type. Resistance: bean common mosaic virus. Similar: Dandy. PVP. 1989.

**Banquet (XPB250).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: slim pods, very dark green, good quality, good plant type. Resistance: bean common mosaic virus. Similar: Labrador. PVP. 1991.

**Biscayne (XPB204).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: colored seed coat. Resistance: bean common mosaic virus. Similar: Triumph. PVP. 1987.

**Blenda.**—Breeder: Nunhems. Vendor: Cannors. Characteristics: very slender pods length 12 cm, 70%, 6.5–8 mm sieve size, stringless. Resistance: bean common mosaic virus, anthracnose, bean yellow mosaic virus. 1989.

**Blue Chip (CODE167).**—Breeder: L.B. Kerr. Vendor: Musser. Characteristics: heavy yield, large sieve, Blue Lake type. Resistance: bean common mosaic virus. Similar: OSU1604. PVP. 1984.

**Blue Gem (WMI70-4).**—Vendor: Rogers. Characteristics: Blue Gem is an upright bush type snap bean variety which has strong Blue Lake flavor and texture; pod color is dark green and yield is very good. Resistance: bean common mosaic virus, bean virus 1, New York 15. Similar: OSU #4091-G. 1989.

**Blue Knight (EI203).**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: Bush Blue Lake type; early maturity, and upright plant habit. Resistance: bean virus 1A. PVP. 1988.

**Blue Lagoon (RS5402).**—Breeder: Waltrip. Vendor: Petoseed. Characteristics: bush bean, very dark pea, medium large size, vigorous plant type, medium early maturity. Resistance: curly top, bean common mosaic virus. Similar: Blue Lake.

**Blue Ridge (FMI03).**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: round Greenpod market/processing, dual use type; good seed vigor under cool soil conditions. Resistance: bean common mosaic virus. Similar: Producer. PVP. 1989.

**Bluepak (81-WM-173-1).**—Breeder: Dr. J. Morris. Vendor: Rogers. Characteristics: Bluepak is an early- to mid-season maturity Bush Blue Lake variety that combines typical BBL quality with a compact erect bush. Bluepak has a 15-cm pod with a 10–11 mm diameter. Resistance: bean common mosaic virus. Similar: OSU #4755. PVP. 1985.

**Bounty (XPI00).**—Breeder: Ferry-Morse. Vendor: Ferry-Morse. Characteristics: an early white-seeded green snap bean, ≈50 days in maturity; pods are medium green, 5.75–6" in length, round in cross-section, and are borne high on the plant in a large concentrated set. Resistance: bean common mosaic virus. Similar: Torrent and Producer. PVP. 1985.

**Brio (XPB221).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: early high yield of medium dark green, medium long, slim pods. Resistance: bean common mosaic virus. Similar: Bronco. 1988–89.

**Calgreen (GP81381-2-8).**—Breeder: Dr. J. Morris. Vendor: Rogers. Characteristics: Calgreen is a narrow flat, green-podded snap bean variety that is similar to the variety Greengenes, but Calgreen has a more erect bush which holds the pods high; pods are darker green and are straight and uniform. Resistance: bean virus 1, New York 15. Similar: Greengenes. PVP. 1990.

**Calima.**—Breeder: Nunhems Zaden. Vendor: Nunhems. Characteristics: filet-type dwarf French bean, stringless, pod length 18–20 cm, dark green, best suited for hand harvest. PVP. 1991.

**Carlo (XPB282).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: excellent dark pod color and straightness, excellent for whole pod bean, nice pod position. Resistance: bean common mosaic virus. Similar: Banquet. 1993.

**Cascade Giant (OSU5398).**—Breeder: J.R. Baggett. Vendor: OSU. Characteristics: indeterminate plant, round stringless pod, mottled: very long, up to 11 or 12". Similar: Oregon Giant. 1992.

**Castel.**—Vendor: Vilmorin. Resistance: *S. lindemuthianum*, cbmv, *Pseudomonas phaseolicola*. 1988.

**Celtic (HB324-1-2-3).**—Breeder: Rogers. Vendor: Rogers. Characteristics: whole pack bean for and on fourth length, two to three sieve, medium dark green pods, erect bush. Resistance: bean virus 1, New York 15, ctv. Similar: Dandy. PVP. 1993.

**Cinguow (XPB305).**—Breeder: Asgrow. Characteristics: small sieve bean, medium color. Resistance: bean common mosaic virus, *Are* gene. 1995.

**Colt (GP79-140).**—Breeder: Dr. J. Morris. Vendor: Rogers. Characteristics: ≈58 days to fresh maturity; 5.25" pod length and averages three to four sieve; has medium dark and bright green pod color, with round, straight, smooth pods. Resistance: bean common mosaic virus. Similar: Slenderette. 1987.

**Crest (XPB198).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: high yield, high quality. Resistance: halo blight, bean common mosaic virus. Similar: Blue Lake 47. PVP. 1990.

**Daytona (FM477).**—Breeder: Ferry-Morse. Vendor: Ferry-Morse. Characteristics: strong plant growth, concentrated maturity, smooth long pods. Resistance: bean common mosaic virus. Similar: Javelin.

**Deli (NUN0891).**—Breeder: Nunhems. Vendor: Nunhems. Characteristics: improved Romano type. Resistance: common bean mosaic virus. Similar: Romano II.

**Derby (FMI75).**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: combination shipping, processing; home garden variety; strong upright habit, long pods, white seeded. Resistance: bean virus 1, bean virus 1A. Similar: Eagle. PVP. 1990.

**Dorabel.**—Vendor: Vilmorin. Resistance: bean common mosaic virus, *Pseudomonas phaseolicola*. Similar: Maxidor. 1983.

**Drake (XPB279).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: early maturity, *I* gene resistance 10 bean common mosaic virus, excellent canning quality. Resistance: bean common mosaic virus. Similar: Charlevoix dark red kidney. 1993.

**Earliserve (CODE151).**—Breeder: L. B. Kerr. Vendor: Musser. Characteristics: very early small pod with Blue Lake flavor and appearance. Resistance: bean common mosaic virus. PVP. 1984.

**Early Riser (EO215).**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: heavy, consistent yielder with vigorous seed quality; good upright habit, large/medium leaves, medium in number; dark green, straight, long pods, Greenpod processing bean for canning and freezing, late midseason maturity. Resistance: bean virus 1A, bean virus 1. Similar: Early Gallatin, Cascade. 1983.

**Era (XPB253).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: very small sieve wax bean; good yield. Resistance: bean common mosaic virus. PVP. 1991.

**Espada.**—Vendor: Harris Moran. 1988.

**Etna (XPB213).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: Taylor Hort type with *I* gene and larger seeds. Resistance: bean common mosaic virus. Similar: Taylors Horticultural. PVP. 1990.

**Fesca (NUN7324).**—Breeder: Nunhems Zaden. Vendor: Nunhems. Characteristics: very good heat resistance, slow seed development, good pod quality, dark green pod color. Resistance: anthracnose, bean common mosaic virus, bean yellow mosaic virus, halo blight. 1991.

**Finesse (HMX7955).**—Vendor: Harris Moran. 1989.

**Flatbush (FMI42).**—Breeder: Dr. G.C. Emery. Vendor: Ferry-

Morse. Characteristics: flat-podded green crop type with heavy concentrated yields; pods are straight, smooth, uniform, medium green, white seeded. Resistance: bean virus 1A. Similar: Greencrop. PVP. 1988.

**Flexo (Xpb314).**—Breeder: Asgrow. Characteristics: compact plant type, glossy, dark green pods, fresh market. Resistance: *Are* gene, bean common mosaic virus. Similar: Xera.

**Gentry (H493-1-6-1).**—Breeder: Dr. P. Moser. Vendor: Rogers. Characteristics: Victor is a slender-podded, medium-early variety, adapted for processing and fresh-market use. Resistance: bean virus 1, New York 15. Similar: Slenderette. 1989.

**Gold Mine (XPB230).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: medium sieve wax bean. Resistance: halo blight. Similar: Goldrush. 1989.

**Gourmand (NCX8024).**—Breeder: Moran. Vendor: Moran. Characteristics: Bush Blue Lake type; pods average 5.5–6.25" long, slow seed development; average 60% five sieve and above; pods set high on moderately erect bush; good eating flavor. Resistance: interlocular cavitation, adverse seasonal conditions. Similar: BBL274. PVP. 1984.

**Gourmet (NCX8024).**—Breeder: Moran. Vendor: Moran. Characteristics: Bush Blue Lake type; pods average 5.5–6.25" long, slow seed development; average 60% five sieve and above; pods set high on moderately erect bush; good eating flavor. Resistance: interlocular cavitation, adverse seasonal conditions. Similar: BBL274. PVP. 1984.

**Hialeah (FM216).**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: gator green pods on an upright plant habit, excellent concentration of maturity and yield potential. Resistance: bean common mosaic virus. Similar: Gator Green 15. PVP. 1989.

**Homestyle (XPB196).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: round-podded green bean with colored seed coats. Resistance: bean common mosaic virus, anthracnose. Similar: Flo. PVP. 1989.

**Hypa.**—Vendor: Harris Moran. Characteristics: high yielding, compact, lodge resistant, well suited to mechanical harvest. Resistance: bean common mosaic virus. 1992.

**Indy Gold (BE506101).**—Breeder: Rogers. Vendor: Rogers. Characteristics: wax bean for processing or market, golden color. Similar: Goldrush.

**Impact (XPB254).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: very small sieve wax bean, good yield. Resistance: bean common mosaic virus. PVP. 1991.

**Klondyke (XPB285).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: medium large sieve bean with intense yellow pod color, compact, modern plant type. Resistance: bean common mosaic virus. Similar: Yukon, Goldrush. 1993.

**Label.**—Vendor: Vilmorin. Characteristics: high-quality type in extra fine category with collective productivity, early variety, semi-upright habit, average development, pods 14 cm long, regular, and with excellent presentation. Resistance: common bean mosaic virus, *C. lindemuthianum*. 1988.

**Legion (XPB222).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: high yield, sieve size, 60% five. Resistance: bean common mosaic virus. Similar: BBL47. PVP. 1989.

**Lodi (XPB286).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: compared to Roma II, better plant type, excellent yield potential. Resistance: bean common mosaic virus. Similar: Gina, Roma. 1993.

**Magnum (XPB211).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: long, flat pods, colored seed. Resistance: bean common mosaic virus. Similar: Greencrop. PVP. 1988.

**Malibu (FM202).**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: pole type with smaller vine, earlier maturity, and more concentrated maturity than Morses, white seeded. Similar: Morse's 191. 1988.

**Matador (XPB247).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: dark-green, fresh-market and processing bean with upright plant type, keeping pods off the ground. Resistance: anthracnose, bean common mosaic virus. Similar: Labrador. 1992.

**Midland (T7901).**—Breeder: Thompson. Vendor: Asgrow. Characteristics: an early maturing navy bean with very good yield and quality. Resistance: bean common mosaic virus. Similar: Seafarer. 1983.

**Milano (EO217).**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: white seeded, wide pods, Bush Romano type with upright plant habit, early maturity. Resistance: bean virus 1A. Similar: Caesar. PVP. 1983.

**Minigreen (GP76108).**—Breeder: Dr. J. Morris. Vendor: Rogers. Characteristics: ≈58 days fresh maturity, 4.5" pod length and average three sieve, has dark green pod color with dark green internal pod flesh; pods are round and straight. Resistance: bean common mosaic virus. Similar: Dandy. 1987.

**Minuette (HMX9963).**—Breeder: S. Magnuson. Vendor: Harris Moran. Characteristics: 12-cm-long pod that is dark green and glossy in color; plant is erect with a compact habit and dark green foliage. Resistance: halo blight r.2, anthracnose, bean common mosaic virus. PVP. 1993.

**Miriad (FMX92).**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: French whole pack with heavy yields of dark green smooth pods with long spur. Resistance: bean virus 1A. Similar: Interior. PVP. 1983.

**Modus (NUN7318).**—Breeder: Nunhems Zaden. Vendor: Nunhems. Characteristics: stringless, long, straight pods, 15 cm long, very slow seed development, very good pod quality, dark green color. Resistance: anthracnose, bean common mosaic virus, bean yellow mosaic virus, halo blight. PVP. 1991.

**Mustang (XPB202).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: high yield, slender pods, fresh-market type, colored seed. Resistance: bean common mosaic virus. Similar: Bronco. PVP. 1989.

**Mutin-EEC (XPB170).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: high yield, smooth pods, straight, very attractive, and slender. Resistance: bean common mosaic virus. Similar: Strike. PVP. 1986.

**Necores.**—Breeder: Nunhems. Vendor: Cannors. Characteristics: stringless, slow seed pods 22 cm long, diameter 15 mm. Resistance: bean common mosaic virus, anthracnose. 1989.

**Northland (T8101).**—Breeder: Thompson. Vendor: Asgrow. Characteristics: an extra early navy bean with good quality and exceptional yield for its maturity. Resistance: bean common mosaic virus 1 and 15. Similar: Seafarer. 1983.

**Nugget (FM516).**—Breeder: Ferry-Morse. Vendor: Ferry-Morse. Characteristics: bright yellow color, little or no green retention. Resistance: bean common mosaic virus. Similar: Golden Rod.

**Opus (XPB223).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: high yield, good pod style. Resistance: rust, bean common mosaic virus. Similar: Podsquad. PVP. 1990.

**Oregon 1604 (OSU1604).**—Breeder: Oregon Agr. Expt. Sta. Vendor: OSU. Characteristics: bush green bean of Blue Lake type pod, resistant to Halo Blight, high yielding. Resistance: bean common mosaic virus. Similar: Blue Lake but with bush habit. 1969.

**Oregon 43 (OSU4843-1).**—Breeder: J.R. Baggett. Vendor: OSU. Characteristics: processing green bean, Blue Lake quality characteristics with bush habit, good yields of smaller sieve sizes. Resistance: bean common mosaic virus, halo blight. Similar: Oregon 91. 1982.

**Oregon 54 (OSU5402).**—Breeder: J.R. Baggett. Vendor: OSU. Characteristics: high yield, Blue Lake pod type and quality on bush plant. Resistance: bean common mosaic virus. Similar: Oregon 91. 1992.

**Oregon 55 (OSU4755-2).**—Breeder: J.R. Baggett. Vendor: OSU. Characteristics: processing green bean, Blue Lake quality characteristics with an upright bush habit, long slender, dark green pods. Resistance: bean common mosaic virus. Similar: Oregon 1604. 1982.

**Oregon 58 (OSU58).**—Breeder: Oregon Agr. Expt. Sta. Vendor: OSU. Characteristics: Blue Lake type pod of large size, on upright growth habit, tenderness. Similar: Blue Lake with Bush Habit. 1969.

**Oregon Trail (OSU4911).**—Breeder: Oregon Agr. Expt. Sta. Vendor: OSU. Characteristics: bush bean with long pods, Blue Lake quality characteristics, productive, suited for home garden use. Resistance: bean common mosaic virus. Similar: Oregon 1604 with larger pods and better plant habit. 1983.

**Packers (ID263).**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: earlier and more concentrated pod set than most Lima Beans; seeds lime green, smooth, medium small, but plump for a Sieva type Lima. Similar: Eastland. PVP. 1990.

**Phoenix (SUNEX9065).**—Breeder: Rogers. Vendor: Rogers. Characteristics: 54-day maturity 6" length, four sieve slender, smooth, straight pods with dark green color. Resistance: bean virus 1, New York 15. Similar: Labrador. 1994.

**Piper (XPB249).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: upright plant type, 40% five sieve, rich bean flavor. Resistance: bean common mosaic virus. Similar: Flo. 1993.

**Podsquad (XPB171).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: very high yielding fresh-market bean with long slender pods. Resistance: bean common mosaic virus. Similar: Gatorgreen. 1986.

**Primo (FM168).**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: Bush Romano type, early maturity, high yield potential, resistant to sloughing during processing, pods flat wide Romano type, white seeded. Resistance: bean virus 1, bean virus 1A, bean common mosaic virus. Similar: Roma. PVP. 1989.

**Pronto (FM156B).**—Breeder: Ferry-Morse. Characteristics: early season, produces five sieve beans with medium green 6" pods. Resistance: bean common mosaic virus. Similar: Venture. 1993.

**Prosperity (HMS8959).**—Vendor: Harris Moran. Characteristics: long, smooth, straight pods, concentrated pod set, upright bush habit. Resistance: bean common mosaic virus. PVP. 1992.

**Pulsar (PVD200-81-4).**—Breeder: Wilbur Ellis. Vendor: Wilbur Ellis. Characteristics: blooms and pods under leaf canopy vs. Michigan navies whose flowers are above and underneath, exhibits direct harvest capabilities, heat and moisture tolerant. Resistance: ctv, rust and f. root rot, bean common mosaic virus, bean yellow mosaic virus. Similar: Seafarer, except flowers and blooms under canopy. PVP. 1984.

**Quest (HMX9965).**—Breeder: S. Magnuson. Vendor: Harris Moran. Characteristics: persistent green, erect habit with pods set high on the bush. Resistance: bean common mosaic virus, bacterial brownspot, curly top virus. Similar: Labrador. PVP. 1994.

**Quorum (XPB252).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: very small sieve, good yield. Resistance: bean common mosaic virus. Similar: Laureat. PVP. 1991.

**Rhapsody (FM359).**—Breeder: Ferry-Morse. Vendor: Ferry-Morse. Characteristics: medium size bush with dark green leaves and upright habit, pods are 5–6" long and round. Resistance: rust, bean common mosaic virus. Similar: Slender White, Eagle, Seville.

**Rocdor.**—Vendor: Vilmorin. Characteristics: a yellow wax bean, well colored and high yielding, early variety recommended for early crops, quite collective productivity, long pods 16–18 cm round, straight, consistent yellow color. Resistance: common bean mosaic virus, *C. lindemuthianum*. Similar: Major, Tendror. 1982.

**Romano 26 (NCX8026).**—Breeder: Moran. Vendor: Moran. Characteristics: bush Romano type, adapted to South America, pods slightly more fleshy than standard Romano types. Similar: Romano. 1983.

**Romano 635 (635-1-13).**—Breeder: Dr. P. Moser. Vendor: Rogers. Characteristics: Bush Romano 635 is a 59-day, home garden type Romano; pods are 14–16 cm in length and have a medium green color that is persistent through maturation; pod flavor is typical of Oregon Blue Lake types. Resistance: bean virus 1, New York 15, curly top. Similar: Roma. PVP. 1989.

**Romil (NUN7551).**—Breeder: Nunhems Zaden. Vendor: Nunhems. Characteristics: very easy to harvest, straight fleshy pods, slow seed development. Resistance: anthracnose, bean common mosaic virus yellow bean mosaic, halo blight. 1992.

**Rondina.**—Breeder: Nunhems Zaden. Vendor: Nunhems. Characteristics: 12-cm-long pods, 8–9 mm sieve size, dark green, very straight, whole pack, stringless. Resistance: bean common mosaic virus, yellow bean mosaic virus, anthracnose.

**Rushmore (XPB244).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: fresh-market bean, green, early maturing, potential high yield, white seeded. Similar: Provider. PVP. 1993.

**Santil.**—Breeder: Nunhems Zaden. Vendor: Nunhems. Characteristics: stringless filet type for outdoor and protected cultivation, early production, heat tolerant, dark green pod. Resistance: anthracnose, bean common mosaic virus. 1991.

**Satin (FM93).**—Breeder: Dr. G.C. Emery. Vendor: Ferry-Morse.

Characteristics: straight, smooth, slender, round, dark green pods slightly longer than Pros Gitana; plant medium to tall; early-midseason maturity. Resistance: bean virus 1A. Similar: Pros Gitana. PVP. 1988.

**Shamrock (CP79151).**—Breeder: Dr. J. Morris. Vendor: Rogers. Characteristics: Shamrock has an erect, open bush with slender pods that are 5.5–6" long, has a unique bright green color and is round and straight. Resistance: bean common mosaic virus, bean virus 1, New York 15. Similar: Slenderette. 1983.

**Shore (FM208).**—Breeder: Dr. G.C. Emery. Vendor: Ferry-Morse. Characteristics: white seeded bush type with excellent yield potential; attractive straight, smooth, uniform pods; can be used for fresh market or processing. Resistance: bean virus 1, bean virus 1A. Similar: Rebel. PVP. 1988.

**Slenderella (FM130).**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: fresh-market and processing green bean, dark green, straight, smooth, uniform pods, white seeded. Resistance: bean common mosaic virus, New York strain, common bean mosaic virus 1A. Similar: Slenderette. PVP. 1988.

**Slenderwax (Code164).**—Breeder: L.B. Kerr. Vendor: Musser. Characteristics: slim pod with early appearance of buttery yellow color. Resistance: bean common mosaic virus, New York 15. Similar: Goldette. PVP. 1984.

**Stiletto (FM111).**—Breeder: Dr. G.C. Emery. Vendor: Ferry-Morse. Characteristics: concentrated medium to heavy yields, early maturity, long straight round attractive pods; brown-seeded, fresh-market and home-garden use. Resistance: bean virus 1A, field resistance to several rust strains. Similar: Provider. PVP. 1988.

**Sundial (E1204).**—Breeder: Dr. G.C. Emery. Vendor: Ferry-Morse. Characteristics: early maturing, small sieve wax bean; has early waxing ability under some conditions. Resistance: bean virus 1A. Similar: Earliwax. PVP. 1982.

**Sunrae (WAX6429).**—Breeder: Dr. J. Morris. Vendor: Rogers. Characteristics: a wax podded snap bean variety with 5.5" slender; smooth bright yellow pods that are uniform in size and have slow seed development. Resistance: bean common mosaic virus. Similar: Goldrush. 1988.

**Tanta (PVS295).**—Breeder: Weco. Vendor: Wilbur Ellis. Characteristics: dark green pods, pods spherical in cross-section, one-three sieve, pods very straight, very compact bush, whole pack potential. Resistance: curly top, bean common mosaic virus. Similar: USDA 8BP3. PVP. 1986.

**Tema (XPB201).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: high yield, slender, attractive pods. Resistance: bean common mosaic virus. Similar: Latemar. PVP. 1988.

**Tipper (NUN8548).**—Breeder: Nunhems Zaden. Vendor: Nunhems. Characteristics: best for fresh-market production, good pod quality both internal and external; slow seed development. Resistance: anthracnose, bean common mosaic virus, yellow bean mosaic virus. 1991.

**Tornado (FMX60).**—Breeder: Dr. G.C. Emery. Vendor: Ferry-Morse. Characteristics: French whole-pack type with medium upright bush; holds good pod character under wide range of growing conditions. Resistance: bean virus 1A. Similar: Intenor. 1983.

**Trueblue (FM177).**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: main season white-seeded blue lake type with outstanding field-holding ability, for canning and freezing. Resistance: bean virus 1, bean virus 1A. Similar: BBL 92. PVP. 1988.

**Velbel.**—Vendor: Vilmorin. Characteristics: versatility in picking and high pod quality, a stringless filet type with quite collective productivity, high yielding, long pods 16–19 cm of a very consistent green. Resistance: *Colletotrichum lindemuthianum*, common bean mosaic. Similar: Delinel. 1989.

**Volcano (XPB 265).**—Breeder: Asgrow. Characteristics: classic pod elegance. Resistance: bean common mosaic virus 1 gene. Similar: Gipsy. 1995.

**Wesland (T8001).**—Breeder: W.G. Thompson. Vendor: Asgrow. Characteristics: a second early navy bean with excellent yield and quality. Resistance: bean common mosaic virus 1 and 5. Similar: Sanilac. 1983.

**Wrangler (XPB203).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: high yielding shipping, fresh market, bean with colored

seed, attractive pods. Resistance: common bean mosaic. Similar: Podsquad. PVP. 1989.

**Yukon (XPB186).**—Breeder: Asgrow. Vendor: Asgrow. Characteristics: large sieve wax bean. Resistance: bean virus 1. Similar: Goldrush. PVP. 1987.

## BEEET

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**Madison, WI 53706**

**Action.**—Breeder: Bejo. Characteristics: F<sub>1</sub> hybrid, round shape, dark red interior, disease resistance; multipurpose beet, high bolting resistance.

**Avenger.**—Breeder: Harris Moran. Characteristics: F<sub>1</sub> hybrid, flattened globe shape, tall, full, glossy green tops, developed for the bunching and greens markets, developed from germplasm from the Univ. of Wisconsin beet breeding program.

**Big Red.**—Breeder: W.H. Gabelman, Univ. of Wisconsin, Madison. Characteristics: F<sub>1</sub> hybrid, round shape, dark red interior, high sugar content, bright green glossy leaf, sweet flavor, multipurpose beet, high yield potential.

**Bikores.**—Breeder: Bejo. Characteristics: round shape, dark red interior, strong tops, bolt resistant.

**Bolivar.**—Breeder: Nunhems Zaden. Vendor: Nunhems Zaden. Characteristics: round multigerm suited for processing, very uniform, smooth skin, deep red internal color, very strong plant type, upright leaves, very slow bolting. 1989.

**Chicago Red.**—Breeder: Burpee. Characteristics: purple red, roots elongated, extra sweet.

**Chioggia.**—Characteristics: flattened globe shape, medium green leaf, zoned purple and white bullseye appearance, novelty color. Resistance: high tolerance to bolting.

**Crosbys Egyptian.**—Characteristics: top shape, dark red interior, dark green matte leaf, early maturity. Resistance: low tolerance to bolting

**Cylindra.**—Characteristics: blunt cylinder, purple-dark red interior, dark green matte leaf, high yield. Resistance: tolerance to downy mildew, moderate tolerance to bolting .

**Cyndor.**—Characteristics: blunt cylinder, dark red interior, medium green matte leaf, resists curved root. Resistance: high tolerance to bolting.

**Darko.**—Breeder: Vilmorin. Characteristics: globe shape, bright red interior. Resistance: good tolerance to bolting.

**Detroit Dark Red.**—Characteristics: globe, dark red interior, dark green matte leaf, multipurpose beet. Resistance: high tolerance to bolting, tolerance to cercospora leaf spot, moderate tolerance to downy mildew. Adaptation: wide.

**Detroit Short Top.**—Characteristics: globe, purple interior, medium dark green glossy leaf, strong tops. Resistance: moderate tolerance to downy mildew, moderate bolting tolerance.

**Detroit Supreme.**—Breeder: Christianson. Characteristics: root color very even and dark, very smooth, good dark outside color, shape round to somewhat high round; leaves medium length with small root attachments, long petioles. Resistance: downy mildew; tolerance to *Peronospora farinosa* f. sp. *Betea*. Similar: Detroit Dark Red. 1984.

**Early Wonder Tall Top.**—Characteristics: flat globe, medium red interior, medium green slightly glossy leaf, durable tops, low bolting tolerance.

**Forono.**—Characteristics: cylindrical root, excellent dark red interior, processing beet.

**Ivax (NUN5017).**—Breeder and vendor: Nunhems. Characteristics: monogerm; deep red internal color; upright leaves; very uniform. Resistance: tolerance to bolting. 1991.

**Kestrel.**—Breeder: Alf Christianson. Characteristics: F<sub>1</sub> hybrid, globe shape, dark red interior, high sugar content, bright green medium glossy foliage, high yield potential. Resistance: tolerance to cercospora, moderate tolerance to powdery mildew, downy mildew, rhizoctonia.

**Lutz Green Leaf.**—Characteristics: top shape, purple interior,

light green glossy leaf, excellent storage potential. Resistance: high tolerance to bolting, tolerance to cercospora, moderate tolerance to downy mildew, tolerance to powdery mildew.

**Monopoly.**—Characteristics: globe shape, monogerm, good storage potential.

**Pablo.**—Breeder: Bejo. Characteristics: F<sub>1</sub> hybrid, round shape, dark red interior, multipurpose beet.

**Pacemaker III.**—Breeder: Alf Christianson. Characteristics: F<sub>1</sub> hybrid, globe shape, dark red interior, high sugar content, medium green glossy leaf, multipurpose beet. Resistance: tolerance to cercospora leaf spot, tolerance to downy mildew, powdery mildew, rhizoctonia.

**Preco.**—Breeder: Vilmorin. Characteristics: globe shape, deep red interior, strong top.

**Red Ball.**—Characteristics: globe shape, dark red interior, intended for baby beet production, tender greens, small tap root.

**Red Russian.**—Breeder: Burpee. Characteristics: purple-red roots; elongated; extra sweet.

**Red Velvet (PSX1188).**—Breeder and vendor: Petoseed. Characteristics: very smooth roots with dark purple color attractive green tops very early maturity. Resistance: powdery mildew. Similar: Red Ace. 1994.

**Rosette (XPH3646).**—Breeder and vendor: Asgrow. Characteristics: hybrid beet with small crown attachment, excellent internal color with very little zoning, medium size top with dark green color, for both fresh market and processing. Similar: Detroit Dark Red. 1992.

**Royal Delight.**—Breeder: Abbott & Cobb. Vendor: Otis Twilley. Characteristics: deep red interior free of zoning, uniform size and shape. Similar: Detroit Dark Red. 1982.

**Sangria.**—Breeder and vendor: Petoseed. Characteristics: tall green tops, dark purple-red interior, very smooth roots. Similar: Early Wonder Green Top. 1988.

**Scarlet Early (PS2988).**—Breeder: Crookham. Vendor: Petoseed. Characteristics: globe shaped, red interior, medium-sized crowns, good for fresh market or processing.

**Scarlet Supreme.**—Breeder: Seminis Vegetable Seeds. Characteristics: F<sub>1</sub> hybrid, round shape, blood red interior, excellent for processing, little zoning, holds shape well under crowded conditions.

**Solo.**—Breeder: Alf Christianson. Characteristics: F<sub>1</sub> hybrid, monogerm, globe to top shape, dark red interior, dark green glossy leaf, early maturity. Resistance: tolerance to cercospora, moderate tolerance to downy mildew, powdery mildew, tolerance to rhizoctonia.

## BROCCOLI

**Mark W. Farnham**  
**USDA/ARS Vegetable Laboratory**  
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**Charleston, SC 29414**

**Arcadia (#83-3).**—Breeder and vendor: Sakata. Characteristics: midseason ≈108-day maturity from sowing, very deep domed-shaped head with small fine beads of dark green color, good cold resistance for winter harvest, suitable for fresh market and processing. Resistance: tolerance to downy mildew, black rot. Similar: Hybrid Broccoli, Marathon. 1985.

**Baccus (XPH 5003).**—Breeder and vendor: Asgrow. Characteristics: early, heat tolerant for Midwest. Similar: Packman, Galaxy. 1986.

**Big Sur (XPH5609).**—Breeder and vendor: Asgrow. Characteristics: small plant; clean stem; domed head; 77-day maturity. Similar: Gem, Futura, Symphony. 1990.

**Brigadier (PSX 17883).**—Breeder and vendor: Petoseed. Characteristics: midseason, medium-size plant for fresh market or freezer, light domed, good weight and exertion, medium bead. Similar: Emperor, Premium Crop. 1987.

**Buccaneer (PSX20684).**—Breeder and vendor: Petoseed. Characteristics: early midseason, medium-fine beads on a well-rounded dome, for processing and fresh market in Texas, California, Pacific Northwest. Adaptation: wide. 1987.

**Captain.**—Breeder: Royal Sluis. Vendor: Seminis. Characteristics: early maturing, medium bead size, and medium thick head, fresh-market cultivar. Resistance: good tolerance to downy mildew, heat.

Adaptation: wide. 1993.

**Classic (SSC5248).**—Breeder and vendor: Shamrock. Characteristics: a medium-late hybrid with a high dome, fine bead size, a refined stalk, outstanding uniformity. Resistance: downy mildew. Similar: Marathon, Green Belt. 1993.

**Claudia.**—Breeder: Triago. Vendor: Ferry-Morse. Characteristics: compact, medium-height plant, blue-green, high yield potential, well-domed, large heavy heads with fine beads, suitable for fresh market or processing, performs best in California seeded between March and September. Similar: Premium Crop. 1990.

**Commodore (GSV 2820).**—Breeder: Goldsmith. Vendor: Northrup King. Characteristics: medium-late hybrid, well-shaped domed heads, small to medium beads, thick stems, heads are at top of wrappers. Similar: Shogun. 1983.

**Decathlon (SBC5506).**—Breeder and vendor: Sakata. Characteristics: mid-late maturity, small, fine beads, vigorous, upright plant, suitable for bunching and processing market. Resistance: tolerance to heat, cold. Similar: Shogun. 1996.

**Early Dawn (XPH 5167).**—Breeder: Known-You. Vendor: Asgrow. Characteristics: this cultivar is extremely early, maturing several days before Galaxy, it produces a large domed head with a heavy stem. Similar: Baccus. 1989.

**Early Dividend (PSX174501).**—Breeder and vendor: Petoseed. Characteristics: very early 45-day maturity, compact plants, excellent side shoot development after main head is cut. Similar: Packman. 1994.

**El Capitan (NVH 518).**—Breeder and vendor: Northrup King. Characteristics: fine beaded, large frame with a dome-shaped head. Resistance: mildew. 1988.

**Embassy (XPH 5002).**—Breeder: Known-You. Vendor: Asgrow. Characteristics: early maturity, short, heavy stem, heads are domed, large, solid, none branched. Similar: Galaxy. 1987.

**Emerald City.**—Breeder and vendor: Sakata. Characteristics: mid-early maturity, small beads, medium dome shape, long spears, good in cool seasons, suitable for bunching. 1987.

**Everest (NVH520).**—Breeder and vendor: Northrup King. Characteristics: domed shaped heads suitable for fresh or processing market. Resistance: mildew. Similar: Emperor. 1988.

**Fieldcrest 71 (BOSCO71).**—Breeder: Orsetti. Vendor: Brinker. Characteristics: uniform maturity, fine beads. Similar: Premium Crop. 1988.

**Florette (XPH5644).**—Breeder and vendor: Asgrow. Characteristics: long, individual shoots for spear production; big plant; flat head; 87-day maturity. Resistance: downy mildew. 1990.

**Galleon (PS50785).**—Breeder and vendor: Petoseed. Characteristics: semi-domed dark green heads, medium even beads, fresh market, home garden. 1990.

**Green Bouquet (XPH12037).**—Breeder and vendor: Asgrow. Characteristics: flat head with good stalk extension, best suited for processor market. Resistance: downy mildew. Similar: Legacy. 1994.

**Green Defender (ACX1366B).**—Breeder and vendor: Abbott & Cobb. Characteristics: holds well into late fall. Resistance: good tolerance to cold, good tolerance to downy mildew, black rot. Similar: Premium Crop. 1982.

**Green Valiant.**—Breeder and vendor: Sakata. Characteristics: midseason, good holding ability, wide adaptability, medium plant habit, small beads, high dome shape. 1976.

**Greenbelt.**—Breeder: Sakata. Vendor: Rogers Brothers. Characteristics: midseason, small beads, nice dome shape, good for bunching, processing and export. Similar: Green Valiant. Adaptation: wide. 1982.

**Hercules (HMX4138).**—Breeder and vendor: Harris Moran. Characteristics: medium-late broccoli, large smooth blue-green heads, large stalk size, medium to small bead size, very smooth, semi-dome head structure. Similar: Citation. 1991.

**High Sierra (XPH5562).**—Breeder: Takii. Vendor: Asgrow. Characteristics: high, round, domed head with a medium stalk, bead size is small and uniform, color is blue-green, can be used for fresh or frozen product; late-season maturity. Similar: Shogun, Green Valiant. 1988.

**Jaguar (SSC5172).**—Breeder and vendor: Shamrock. Characteristics: fast maturity, semi-domed heads with medium refined beads.

Similar: Pinnacle, Premium Crop. 1992.

**Kwik Green (ACX2782).**—Breeder and vendor: Abbott & Cobb. Characteristics: extra early, very uniform maturity, compact plant habit. Resistance: tolerance to downy mildew. Similar: Green Comet. 1982.

**Lancelot.**—Breeder and vendor: Petoseed. Characteristics: main season maturity, tall plants, tight semi-domed heads. Resistance: downy mildew. Similar: Buccaneer. 1991.

**Legacy (XPH5914).**—Breeder and vendor: Asgrow. Characteristics: targeted for wide geographical adaptation including overwintering production, plant height is normally 40–50 cm with head size of 10–15 cm, bead size is small to medium, stems are clean, heads high domed. Similar: Shogun. 1992.

**Legend (SBC7402).**—Breeder and vendor: Sakata. Characteristics: mid-early maturity, downy mildew tolerance, tall for ease of harvest, medium beads, clean attractive stem, excellent for fresh-market bunching. 1990.

**Liberty (PSX61191).**—Breeder and vendor: Petoseed. Characteristics: high-quality, dense-headed cultivar with a high, rounded, mushroom-shaped dome; fine bead size, firm heads that hold their shape well. Similar: Greenbelt, Arcadia, Patriot, Pinnacle. Adaptation: wide for spring, summer, fall harvest. 1994.

**Majestic (XPH12151).**—Breeder and vendor: Asgrow. Characteristics: semi-domed, medium bead, large firm head, good holding ability. Similar: Greenbelt, Arcadia. 1996.

**Major.**—Breeder: Royal Sluis. Vendor: Seminis. Characteristics: similar to Captain; early maturing with; medium bead size and medium thick head. Resistance: good tolerance to heat, downy mildew. Adaptation: wide, fresh market. 1993.

**Marathon.**—Breeder and vendor: Sakata. Characteristics: over-winters, cold tolerant cultivar, good uniformity, high yield, small beads, large dome head, heavy stalks, good for fresh, freezer, and crown cut markets. 1985.

**Mariner.**—Breeder: Petoseed. Vendor: Seminis. Characteristics: early midseason; medium-fine beads on a medium compact head. Resistance: good tolerance to heat. Adaptation: summer harvest. 1987.

**Midori 8 (BOSCO8).**—Breeder: Orsetti. Vendor: Brinker. Characteristics: uniform maturity. Similar: Premium Crop. 1988.

**Musket (PSX16284).**—Breeder and vendor: Petoseed. Characteristics: fresh market and processing, medium-late maturity; fine bead, well exerted dome. 1990.

**Ninja.**—Breeder and vendor: Sakata. Characteristics: mid-early maturity, tight dome, dark green head with medium beads, large, heavy head, suitable for bunching and crown cut. Similar: Emperor. 1988.

**Nordic (XPH5773).**—Breeder and vendor: Asgrow. Characteristics: semi-domed, medium bead. Resistance: downy mildew. Similar: Green Belt. 1994.

**Packman.**—Breeder: Petoseed. Vendor: Petoseed. Characteristics: earliest commercial cultivar in Peto brand, uniform, widely adapted; used widely for its earliness both for fresh market and home garden, also used by processors in the Pacific Northwest. Resistance: tolerance to heat. 1983.

**Parasol (XPH 852).**—Breeder and vendor: Asgrow. Characteristics: large, firm head, well domed with small buds, heavy stem. Resistance: excellent tolerance to heat. Similar: Futura, Emperor. 1987.

**Patriot (SBC7401).**—Breeder and vendor: Sakata. Characteristics: slightly tall plant, small fine beads, high dome shape, suitable for bunching, crown cuts, and freezer markets. Resistance: good tolerance to brown head. Similar: Greenbelt. 1991.

**Pirate (PSX21684).**—Breeder and vendor: Petoseed. Characteristics: medium late, 24" medium compact plants, large, tight-domed heads, fine medium green beads, fresh market and processor. Resistance: downy mildew. 1986.

**Regal (FMX144).**—Breeder and vendor: Ferry-Morse. Characteristics: very even maturation of heads. 1993.

**Republic (PS21290).**—Breeder and vendor: Petoseed. Characteristics: midseason maturity, fine bead on tight uniform rounded dome, medium sized plant, spring and winter harvest. Resistance: tolerance downy mildew. Similar: Mariner. Adaptation: California, Arizona. 1994.

**Sabre (XPH5774).**—Breeder and vendor: Asgrow. Characteristics: main season maturity, tall plant, 35–45 cm, dark green color with clean stem, good head exertion, heads are well domed and smooth, beads are small to medium and uniform, good holding ability. Similar: Premium Crop. 1992.

**Samurai.**—Breeder and vendor: Sakata. Characteristics: late maturity, vigorous plant, good cold tolerance, very smooth high dome shape, excellent quality. 1980.

**Scorpio (XPH 5166).**—Breeder and vendor: Asgrow. Characteristics: early maturity, large-domed heads with good solidity and weight, buds are medium-fine and blue-green in color, the stem is heavy, the head extends well for easy harvest. Similar: Baccus. 1985.

**Signal.**—Breeder and vendor: Rogers Brothers. Characteristics: fresh-market semi-dome head with medium beads. Resistance: downy mildew. Similar: Cruiser, Packman. 1994.

**Sprinter.**—Breeder and vendor: Sakata. Characteristics: early maturity, good under heat conditions, medium beads, semi-dome head, dark green color. 1988.

**Sultan (86-9).**—Breeder and vendor: Sakata. Characteristics: compact plant, large heavy head and stalk, medium small bead, main season. Resistance: foliar downy mildew. Similar: Ninja. 1989.

**Summit (NVH521).**—Breeder and vendor: Northrup King. Characteristics: excellent fine bead structure, dome-shaped heads suitable for fresh or processing market. Resistance: mildew. Similar: Emperor. 1988.

**Super Dome (PSX16284).**—Breeder and vendor: Petoseed. Characteristics: compact growth, habit large well-domed heads, tight beads, early maturity. Resistance: downy mildew. Similar: Packman. 1992.

**Symphony (XPH 5004).**—Breeder and vendor: Asgrow. Characteristics: plants are small, but vigorous, both leaves and head are medium dark green, heads are solid, well domed with heavy stems, bead size is medium to large. Similar: Embassy. 1988.

**Titleist (ATX320).**—Breeder and vendor: American Takii. Characteristics: good uniformity, dome heads, good for crown cuts and fresh domestic sales. Resistance: strong tolerance to downy mildew. 1994.

**Triathalon (K4001).**—Breeder and vendor: Sakata. Characteristics: mid-late maturity, dense, smooth, high dome-shaped head, thick stalk, high yield, good for bunching, crown cut, and processing, especially ideal for crown-cut market. Similar: Marathon. 1995.

**Viking (PSX16284).**—Breeder and vendor: Petoseed. Characteristics: mid-late maturity, tight domed heads with dark green color of uniform size, firm fine beads, with good quality for crown cuts, medium-sized plant, best suited to fall harvest. 1990.

**Wintergarden (XPH 5055).**—Breeder and vendor: Asgrow. Characteristics: large, late maturing plant with large domed heads, small to medium buds and heavy stem. Similar: Capitol, Shogun. 1987.

## BRUSSELS SPROUTS

Neal De Vos  
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**Acropolis.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, early maturity, round dark green sprouts, easy to pick.

**Adagio.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid.

**Adeline.**—Vendor: Sperli. Characteristics: F<sub>1</sub> hybrid.

**Adonis (SG2007).**—Breeder and vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, round dark green sprouts.

**Adri.**—Vendor: Nunhems Zaden. Characteristics: F<sub>1</sub> hybrid.

**Agil Lancelot.**—See Lancelot.

**Ajax (SG2011).**—Breeder and vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, late maturity, tall plants, very dark green sprouts.

**Alpine.**—Breeder and vendor: Elsoms. Characteristics: F<sub>1</sub> hybrid, late maturity, small to medium oval sprouts, mildew resistant.

**Ambitus.**—Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid.

**Amfortas.**—Breeder and vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, tall plants.

**Amoroso.**—Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid.

**Anagor.**—Vendor: Clause. Characteristics: open-pollinated cultivar, midseason to late maturity, round sprouts.

**Angus.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.

**Annette (PSX389).**—Breeder and vendor: Petoseed Co. 1990.

**Aries.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.

**Ariston.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.

**Asgard.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.

**Barendrechter.**—Vendor: Chrestensen. Characteristics: F<sub>1</sub> hybrid.

**Bastion (70401).**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, very late maturity, medium-sized dark green sprouts.

**Bedford-Darkmar 21.**—Characteristics: open-pollinated cultivar, midseason to late maturity, medium-large dark green sprouts.

**Bedford-Fillbasket.**—Vendor: Seeds of Change. Characteristics: open-pollinated cultivar.

**Belfort.**—Breeder: Royal Sluis. Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, late to very late maturity, round dark green sprouts.

**Billion.**—Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid.

**Boxer.**—Vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid.

**Brevis.**—Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid.

**Bubbles.**—Breeder and vendor: Petoseed Co. Characteristics: open-pollinated cultivar, home garden type. 1990.

**Buttons.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.

**Cabaletta.**—Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid.

**Cambridge.**—Vendor: Booker.

**Camelot (SG651).**—Breeder: Sluis and Groot. Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, midseason maturity, dark green round-oval sprouts.

**Cantil.**—Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid.

**Capitola.**—Breeder: Keystone. Vendor: Keystone. Characteristics: F<sub>1</sub> hybrid, early maturity, bright green sprouts, easy to pick.

**Captain Marvel.**—Breeder: Sakata. Vendor: Sakata. Characteristics: F<sub>1</sub> hybrid, very early maturity. 1977.

**Cascade.**—Characteristics: F<sub>1</sub> hybrid.

**Catskill Improved.**—Characteristics: open-pollinated cultivar, early maturity, compact plants. Similar: Long Island Improved.

**Cavalier.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid, early to midseason maturity, round-oval sprouts.

**Citadel (70558).**—Breeder: Royal Sluis. Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, very late maturity, round dark green medium sized sprouts. 1972.

**Claudette (PSX689).**—Breeder: Petoseed Co. Vendor: Petoseed Co. Characteristics: F<sub>1</sub> hybrid. 1990.

**Cluster.**—Breeder: Nozaki. Vendor: Nozaki.

**Collette.**—Vendor: Petoseed Co. Characteristics: F<sub>1</sub> hybrid.

**Columbia.**—Vendor: Clause. Characteristics: F<sub>1</sub> hybrid.

**Concorde.**—Characteristics: F<sub>1</sub> hybrid.

**Content.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.

**Cordelia.**—Breeder and vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid, midseason maturity, medium to tall, dark green round solid sprouts, long holding period.

**Corinth.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.

**Craton.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, very early maturity, smooth large sprouts.

**Crenel.**—Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, early maturity, round medium green sprouts.

**Crystal.**—Breeder and vendor: Takii. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, easy to defoliate.

**Cyrus.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.

**Dasher.**—Characteristics: F<sub>1</sub> hybrid.

**Davenport.**—Breeder and vendor: Keystone. Characteristics: 3-way hybrid, early maturity, some variability for plant height.

**Diablo.**—Vendor: Heine and Garvens. Characteristics: F<sub>1</sub> hybrid.

**Diego.**—Characteristics: F<sub>1</sub> hybrid.

**Dolmic.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, early maturity, tall plants, round-oval dark green sprouts.

**Dorema.**—Breeder and vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid, early maturity, slightly blistered foliage, bright green sprouts.

- Drummer.**—Vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid.
- Early Dutch Improved.**—Characteristics: open-pollinated cultivar.
- Early Green.**—Breeder and vendor: Kobayashi. Characteristics: F<sub>1</sub> hybrid, very early to early maturity, compact plant.
- Edmund.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.
- Emerald.**—Breeder and vendor: Takii. Characteristics: F<sub>1</sub> hybrid, early to midseason maturity, dark green wingless sprouts, easy to defoliate.
- Estate.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, very late maturity, frost tolerant, mechanical harvest only.
- Evident.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Excelline.**—Vendor: Huizer. Characteristics: F<sub>1</sub> hybrid.
- Explorer.**—Vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid.
- Extent.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Fasolt.**—Characteristics: F<sub>1</sub> hybrid, very late maturity, very dark green sprouts.
- Fermesse.**—Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid.
- Focus.**—Vendor: Daehnfeldt. Characteristics: F<sub>1</sub> hybrid.
- Fortress.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, very late maturity, tall plants, round dark green sprouts.
- Frijo.**—Breeder and vendor: Royal Sluis. Characteristics: open-pollinated cultivar, midseason to late maturity, medium tall to tall plant, medium-sized round-oval sprouts.
- Frigomax (WM5).**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, early maturity, dark green sprouts.
- Frigostar.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, early to midseason maturity.
- Frigosun.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, early to midseason maturity, round fresh-green sprouts.
- Frigotop.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, early to midseason maturity, round fresh-green sprouts, leaves drop easily.
- Frontline.**—Vendor: Huizer. Characteristics: F<sub>1</sub> hybrid.
- Gabion.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, small to medium oval-round dark green sprouts.
- Garnet.**—Breeder and vendor: Takii. Characteristics: F<sub>1</sub> hybrid, early to midseason maturity, smooth round-oval medium green sprouts.
- Garrison.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, late to very late maturity, slightly oval almost wingless sprouts.
- Gavin.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.
- Genius.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.
- Glentora.**—Breeder: Elsoms. Vendor: Elsoms. Characteristics: F<sub>1</sub> hybrid, late to very late maturity, small to medium oval sprouts, easy to defoliate, mildew resistant.
- Goldmine.**—Breeder and vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid, very early maturity, medium tall, bright green round sprouts.
- Golfer.**—Vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid.
- Gravendeel.**—Characteristics: open-pollinated cultivar, dark green medium-sized sprouts, good holding ability.
- Green Gem.**—Breeder and vendor: Keystone. Characteristics: F<sub>1</sub> hybrid, early maturity, round dark green sprouts, heat tolerant.
- Green Marvel.**—Breeder and vendor: Sakata. Characteristics: F<sub>1</sub> hybrid, very early maturity.
- Groenenboom.**—Characteristics: open-pollinated cultivar, very late maturity, winter hardy, medium dark green elongated sprouts.
- Gronalto.**—Breeder and vendor: Royal Sluis. Characteristics: open-pollinated cultivar, late maturity, small dark green sprouts, frost resistant.
- Groninger.**—Vendor: Chrestensen. Characteristics: open-pollinated cultivar.
- Harald 51.**—Characteristics: open-pollinated cultivar.
- Heracles.**—Characteristics: F<sub>1</sub> hybrid.
- Hilds Ideal.**—Vendor: Chrestensen. Characteristics: open-pollinated cultivar.
- Hossa.**—Vendor: Sperlling.
- Huizers Late.**—Breeder and vendor: Huizer. Characteristics: open-pollinated cultivar.
- Hunter.**—Vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid.
- Icarus (SG2004).**—Breeder and vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, early maturity, tall plants.
- Igor.**—Breeder and vendor: Nunhems Zaden. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, strong plant type, vigorous growth, very uniform cylindrical sprouts, medium green. 1991.
- Ilias.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.
- Indiana.**—Vendor: Clause. Characteristics: F<sub>1</sub> hybrid.
- Ivanhoe (SG829).**—Breeder and vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, early maturity, tall plants, dark green sprouts.
- Jackeline.**—Vendor: Sperli. Characteristics: F<sub>1</sub> hybrid.
- Jade Cross.**—Breeder and vendor: Takii. Characteristics: F<sub>1</sub> hybrid, very early to early maturity, dark green sprouts with some wings, difficult to defoliate. Adaptation: wide. AAS winner.
- Jade Cross E.**—Breeder and vendor: Takii. Characteristics: F<sub>1</sub> hybrid, early maturity, tall plants, dark green sprouts, difficult to defoliate. Resistance: tolerance to Botrytis.
- Jade Cross H.**—Breeder and vendor: Takii. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, tall plants, dark green oval sprouts. Resistance: tolerance to Botrytis.
- Jasper.**—Breeder and vendor: Takii. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, tall plants, bright green oval sprouts.
- Jubilee.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Karimu.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- King Arthur.**—Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, tall vigorous plants, frost resistance, large sprouts.
- Kundry.**—Breeder and vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, early to midseason maturity, compact plants, round very dark green sprouts.
- Ladora.**—Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, round medium green sprouts.
- Lady Anne.**—Vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid.
- Lancelot.**—Characteristics: F<sub>1</sub> hybrid, early to midseason maturity, medium tall plants.
- Largando.**—Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid.
- Lauris.**—Breeder and vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, late maturity, tall plants, needs no topping.
- Leonore.**—Breeder: Sluis and Groot. Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, round-oval medium green sprouts.
- Long Island Improved.**—Characteristics: open-pollinated cultivar, early to midseason, compact plants.
- Lunet (69777).**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, tall plants, small to medium round-oval very smooth sprouts.
- Marcoline.**—Vendor: Huizer. Characteristics: F<sub>1</sub> hybrid.
- Masterline.**—Vendor: Sperli. Characteristics: F<sub>1</sub> hybrid.
- Medium Dutch Improved.**—Characteristics: open-pollinated cultivar, early to midseason maturity, compact plants.
- Medium Early-Green.**—Breeder and vendor: Kobayashi. Characteristics: F<sub>1</sub> hybrid, early, easy to pick.
- Merkator.**—Vendor: Chrestensen. Characteristics: F<sub>1</sub> hybrid.
- Merlon.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, early to midseason maturity, medium oval round dark green sprouts.
- Mirna (NUN5722).**—Breeder and vendor: Nunhems Zaden. Characteristics: F<sub>1</sub> hybrid, early to midseason maturity, strong plant type, round medium green sprouts. 1991.
- Montgomery.**—Vendor: Tozer. Characteristics: F<sub>1</sub> hybrid.
- Nebraska.**—Breeder: Clause. Vendor: Clause. Characteristics: F<sub>1</sub> hybrid, late maturity, winter hardy, dark green round-oval sprouts.
- Nicoline.**—Vendor: Sperli. Characteristics: F<sub>1</sub> hybrid.
- Odense Torve.**—Vendor: Daehnfeldt.
- Odessa.**—Breeder and vendor: Clause. Characteristics: F<sub>1</sub> hybrid, early to midseason maturity, dark green round sprouts, good holding ability.
- Odette.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Odran (NUN5123).**—Breeder and vendor: Nunhems Zaden. Characteristics: F<sub>1</sub> hybrid, early to midseason maturity, very strong plant, uniform, cylindrical sprout setting, dark green round sprouts. 1990.
- Oliver (SG667).**—Breeder and vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, early maturity, medium to large round-oval dark green sprouts.

- Olof.**—Vendor: Nunhems Zaden. Characteristics: F<sub>1</sub> hybrid.
- Origus.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.
- Ottoline.**—Vendor: Sperli. Characteristics: F<sub>1</sub> hybrid.
- Palisade.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity.
- Pallas.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.
- Pantera.**—Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid.
- Parsifal.**—Characteristics: F<sub>1</sub> hybrid, very early maturity, round-oval large sprouts.
- Patent.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Pauline.**—Vendor: Sperli. Characteristics: F<sub>1</sub> hybrid.
- Pearl.**—Breeder and vendor: Takii. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, tall plants.
- Peer Gynt.**—Breeder and vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, very early maturity, compact plants.
- Pegasus.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Perfect Line.**—Vendor: Heine and Garvens. Characteristics: F<sub>1</sub> hybrid, early to midseason maturity.
- Perrine.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, very early maturity.
- Philemon.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.
- Pilar.**—Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid.
- Pilot.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Plutar.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, early maturity, good freezer quality.
- Porter.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, midseason maturity, smooth round sprouts, easy to pick.
- Predora.**—Breeder and vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid, early to midseason maturity, medium tall, short petioles, round sprouts, easy to defoliate.
- Prelent.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Prince Askold.**—Characteristics: F<sub>1</sub> hybrid, late maturity, winter hardy, very dark green sprouts.
- Prince Marvel.**—Breeder and vendor: Sakata. Characteristics: F<sub>1</sub> hybrid, very early maturity, small to medium round-oval sprouts, suitable for machine harvesting.
- Promesse.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, midseason maturity, round-oval dark green sprouts.
- Prominent.**—Breeder and vendor: Rijk Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Queen Marvel.**—Breeder and vendor: Sakata. Characteristics: F<sub>1</sub> hybrid, late maturity, round-oval sprouts.
- Ralese.**—Vendor: Gibson. Characteristics: F<sub>1</sub> hybrid.
- Rampart.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, tall plants, round pear-shaped dark green sprouts.
- Rasalon.**—Vendor: Gibson. Characteristics: F<sub>1</sub> hybrid.
- Rasmunda.**—Breeder and vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, late to very late maturity, winter hardy, round-medium sprouts.
- Reprise.**—Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid.
- Richard.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.
- Rider.**—Vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid.
- Rido.**—Characteristics: open-pollinated cultivar, late to very late maturity, dark green round sprouts.
- Riga.**—Vendor: Clause. Characteristics: F<sub>1</sub> hybrid.
- Robert.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.
- Roccent.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Rocker.**—Vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid.
- Roger (SG666).**—Breeder and vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, early maturity, very smooth slightly elongated dark green sprouts.
- Ronald.**—Breeder and vendor: Nunhems. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, very strong plant type, sprouts medium green, oval to round shape. 1990.
- Roodnerf.**—Vendor: Bakker. Characteristics: open-pollinated cultivar.
- Rosella.**—Vendor: Chrestensen. Characteristics: open-pollinated cultivar.
- Rovoka.**—Breeder and vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid, midseason maturity, medium tall, slightly blistered foliage, bright green oval sprouts, easy to defoliate and pick.
- Rowena (SG669).**—Breeder and vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, midseason maturity, round dark green sprouts.
- Royal Marvel.**—Breeder and vendor: Sakata. Characteristics: F<sub>1</sub> hybrid, early maturity, tall plants.
- Rubine.**—Characteristics: open-pollinated cultivar, midseason to late maturity, red-purple sprouts.
- Sailor.**—Vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid.
- Sanda.**—Characteristics: open-pollinated cultivar, small to medium round sprouts, widely used by freezers. 1953.
- Sheriff.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Sigmund.**—Characteristics: F<sub>1</sub> hybrid, late to very late maturity, winter hardy, good holding quality.
- Silverstar.**—Vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid.
- Singer.**—Vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid.
- Skios.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.
- Smasher.**—Vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid.
- Solent.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Stabolite.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Stan (NUN6297).**—Breeder and vendor: Nunhems Zaden. Characteristics: F<sub>1</sub> hybrid, late maturity, strong plant type, round dark green sprouts. 1991.
- Starter.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.
- Stephen.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.
- Stiekema 1.**—Characteristics: open-pollinated cultivar, early to midseason maturity.
- Stockade.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, very late maturity.
- Sultan.**—Characteristics: F<sub>1</sub> hybrid.
- Suzette.**—Vendor: Petoseed Co. Characteristics: F<sub>1</sub> hybrid.
- Taiga.**—Breeder and vendor: Clause. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, dark green oval sprouts.
- Talent.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Tardis (SG664).**—Breeder and vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, late maturity, medium oval round dark green sprouts.
- Target.**—Vendor: Heine and Garvens. Characteristics: F<sub>1</sub> hybrid.
- Tasty Nuggets.**—Vendor: Burpee. Characteristics: Early maturity, extremely sweet flavor.
- Tavernos.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.
- Thor.**—Breeder: IVT, Wageningen. Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, excellent freezing size and quality.
- Titurel.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, early maturity.
- Toledo.**—Breeder and vendor: Rijk Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Topaz.**—Breeder and vendor: Elsoms. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, medium oval dark green sprouts, easy to defoliate, good holding ability.
- Topgrade.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, midseason to late maturity, round dark green sprouts.
- Topline.**—Vendor: Sperli. Characteristics: F<sub>1</sub> hybrid.
- Topscore.**—Breeder and vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid, very early maturity, round-oval medium-sized gray-green sprouts.
- Tornado.**—Breeder and vendor: Elsoms. Characteristics: F<sub>1</sub> hybrid, midseason maturity, medium round-oval dark green sprouts, easy to defoliate, mildew resistant.
- Trendline.**—Vendor: Sperli. Characteristics: F<sub>1</sub> hybrid.
- Trimmer.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Troika.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.
- Uniline.**—Vendor: Huizer. Characteristics: F<sub>1</sub> hybrid.
- Valiant.**—Breeder and vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid, early to midseason maturity, bred for once-over harvesting.
- Vancouver (RS90111).**—Breeder: D. Holmes. Vendor: Petoseed Co. Characteristics: F<sub>1</sub> hybrid, midseason maturity, processing type, round, smooth sprouts.
- Veloce.**—Vendor: Royal Sluis. Characteristics: F<sub>1</sub> hybrid.
- Veraline.**—Vendor: Sperli. Characteristics: F<sub>1</sub> hybrid.

**Victor.**—Vendor: Nickerson Zwaan. Characteristics: F<sub>1</sub> hybrid.  
**Vincent (NUN3253).**—Breeder and vendor: Nunhems Zaden. Characteristics: F<sub>1</sub> hybrid, late maturity, vigorous plant, dark green round sprouts, well protected by leaves. 1991.  
**Vittoria.**—Characteristics: F<sub>1</sub> hybrid.  
**Walter.**—Vendor: Nunhems Zaden. Characteristics: F<sub>1</sub> hybrid.  
**Welland.**—Breeder and vendor: Elsoms. Characteristics: F<sub>1</sub> hybrid, midseason maturity, medium round-oval dark green sprouts.  
**Wellington.**—Vendor: Tozer. Characteristics: F<sub>1</sub> hybrid.  
**Widora.**—Breeder and vendor: Bejo Zaden. Characteristics: F<sub>1</sub> hybrid, late maturity, medium tall, slightly blistered foliage, small round very solid sprouts, easy to defoliate.  
**Zoras.**—Vendor: Sluis and Groot. Characteristics: F<sub>1</sub> hybrid.

## CABBAGE

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**Albion.**—Breeder: Reed. Vendor: Nickerson. Characteristics: hybrid, excellent late storability, medium-sized head, flattened round, nice wrappers. Resistance: yellows, tolerance to thrips.  
**Almanac.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, processing, productive, early, dense. Resistance: tolerance to tipburn, splitting.  
**Amager Green.**—Breeder: Reed. Vendor: Daehfeldt. Characteristics: hybrid, stores well, green winter type, flattened round, fairly tight wrappers.  
**Amtrak.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, storage, large, green and clean out of storage, short core. Resistance: yellows, black spot, tolerance to tipburn, thrips.  
**Arcadia (XPH 793).**—Vendor: Asgrow. Characteristics: very early Napa type. Similar: Zephyr. 1984.  
**Arena (84G-YR50).**—Breeder and vendor: Sakata. Characteristics: hybrid, light green, upright, earlier than other storage types. Resistance: fusarium yellows, tip burn. Storage type. 1990.  
**Astrus (XPH5623).**—Breeder and vendor: Asgrow. Characteristics: large cabbage semi-flat, large formed plant, blue-green color. Similar: Natsuwase, Kenzan, Fuyutoyo. 1991.  
**Atria.**—Breeder: Reed. Vendor: Petoseed. Characteristics: hybrid, late fall type, excellent yield potential, holds well, dry matter high. Resistance: yellows, tipburn, tolerance to black rot.  
**Autoro.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, red, storage, very late, medium tall, well wrapped. Resistance: split, tolerance to tipburn, black speck.  
**Avalon.**—Breeder: Reed. Vendor: Nickerson. Characteristics: hybrid, storage type, high yield, stores well, medium tall plants, green. Resistance: yellows, tolerance to thrips.  
**Azan.**—Breeder: Reed. Vendor: Petoseed. Characteristics: hybrid, good yielding, uniform, week earlier than Atria, holds well, dry matter high. Resistance: yellows, tipburn.  
**Baseball (PSR2592).**—Breeder and vendor: Petoseed. Characteristics: very small heads, about the size of a softball, small space-saving plants, 45-day maturity, super early. 1994.  
**Bently.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, very late, very long-term storage, medium dark green, stands well, easy trim. Resistance: TMV, black speck, tolerance to tipburn, thrips.  
**Bertolo.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, storage, very late, very long term storage, thick wrapper leaves, a long-term standard. Resistance: tolerance to tipburn, black speck.  
**Bingo.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, long-term storage, blue-green. Resistance: black speck, TMV, tolerance to tipburn, thrips.  
**Blue Bayou (XPH5781).**—Breeder and vendor: Asgrow. Characteristics: medium sized plant with blue-green plant and head color, heads are round to semi-round in shape. Resistance: fusarium yellows, black rot. Similar: Conquest. 1994.  
**Blue Gem.**—Vendor: Harris Moran. 1992.

**Blue Thunder (HMX7270).**—Breeder: E. Merrell. Vendor: Harris Moran. Characteristics: large upright plant with tall wrapper leaves, blue-green plant color, heads mature in midseason and are dense with white interiors. Resistance: fusarium yellow race 1, black rot. Similar: Bravo. 1993.  
**Bounder.**—Breeder and vendor: Petoseed. Characteristics: blue-green, vigorous plant, round head. Resistance: tipburn, black rot. Adaptation: wide. 1989.  
**Bountivoy.**—Breeder: Reed. Vendor: Nickerson. Characteristics: hybrid, excellent midseason Savoy, very fancy, large-frame heavy round head, dark green. Resistance: yellows.  
**Brutus.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, storage, long term, round large, very green. Resistance: thrips, tolerance to black speck, tipburn.  
**Capitan (FMX 388).**—Breeder and vendor: Ferry-Morse. Characteristics: green color, large plant type, solid heads. Resistance: yellows, low tolerance to black rot. Similar: Bravo, Grand slam, Superette, Greenboy.  
**Cardinal (HMS5254).**—Vendor: Harris Moran. Characteristics: excellent head protection, good field-holding ability. Resistance: fusarium yellows. 1992.  
**Carlton.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, processing, dense, short core. Resistance: tolerance to yellows, tipburn.  
**Cecile.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, processing, round, high dry matter, very short core, blue-green. Resistance: yellows, tolerance to tipburn.  
**Charmant.**—Breeder: Reed. Vendor: Sakata. Characteristics: hybrid, very early, Stonehead and Princess class, medium dark green, flattened round head. Resistance: yellows, tolerance to tipburn, black speck.  
**Cheers.**—Breeder: Reed. Vendor: Takii. Characteristics: hybrid, like Bravo but bluer, flattened round. Resistance: yellows; tolerance to black rot, thrips, tipburn.  
**Chief.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, storage, round, medium, stands upright, late for short storage. Resistance: tolerance to yellows, tipburn.  
**Chiko.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, early, narrow cylindrical, vigorous tall.  
**Constanza (PSX17483).**—Vendor: Petoseed. Characteristics: main season blue-green shipper, high yield, and adaptable. Resistance: fusarium yellows, *Xanthomonas campestris*. Similar: Fortuna, Izalco. 1992.  
**Coronet.**—Vendor: Chriseed. Characteristics: hybrid, late, blue-green, medium head, medium-high dry matter, very good flavor, excellent storability. Resistance: yellows, tolerance to tipburn, thrips.  
**Cosmos (XPH819).**—Vendor: Asgrow. Characteristics: semi-flat hybrid. Resistance: black rot. Similar: KY-Cross. 1983.  
**Crimson (CB9-10).**—Breeder: Zaadunie. Vendor: Rogers Brothers. Characteristics: round, very dense, deep purple-red color. Similar: Ruby Perfection. 1992.  
**Crown.**—Breeder: Chriseed. Characteristics: hybrid, late, medium large, solid, cole slaw. Resistance: yellows, high tolerance to tipburn, frost.  
**Decema (OP).**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, storage, very late, long-term storage.  
**Dynasty (XPH 1104).**—Breeder and vendor: Asgrow. Characteristics: well suited to Rio Grande Valley of Texas and Mexico, vigorous hybrid, tolerance to downy mildew. Resistance: yellows. Similar: Market Prize. Adaptation: wide. 1985.  
**Early Cole (PS63880).**—Breeder and vendor: Petoseed. Characteristics: large heading early maturing cabbage for coleslaw and kraut. Resistance: fusarium yellows. Similar: Sanibel. 1992.  
**Early Curly (#8010).**—Breeder and vendor: Fukukaen. Characteristics: early maturing Savoy type with heavily crinkled or savoyed leaves, small core, sweet flavor. Similar: Salarite. 1985.  
**Emblem (SCB3319).**—Vendor: Sakata. Characteristics: hybrid, mid-maturity, greenish blue, medium-sized excellent wrap. Resistance: yellows, tolerance to tipburn.  
**Falcon.**—Breeder: Reed. Vendor: Petoseed. Characteristics: hybrid, large frame, high yielding, very late, good holding, dry matter

high. Resistance: yellows; tolerance to tipburn, black rot, thrips.

**Fast Vantage (SCB2109).**—Vendor: Sakata. Characteristics: hybrid, early maturity, very uniform, medium green.

**Fieldsport.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, fresh market, dense, early, well wrapped, good field holding. Resistance: yellows.

**Flash (PSX53380).**—Breeder and vendor: Petoseed. Characteristics: early cultivar, deep green color, small compact plant. Resistance: fusarium yellows. Similar: Golden Cross. 1989.

**Fortuna.**—Breeder: Reed. Vendor: Petoseed. Characteristics: hybrid, uniform, good wrappers, vigorous, holds well, gray blue-green. Resistance: yellows; tolerance to tipburn, black rot, thrips.

**Galaxy.**—Breeder: Reed. Vendor: Petoseed. Characteristics: hybrid, #1 in Europe for yield and storability, very long storability, tall vigorous high yield, excellent. Resistance: high to thrips, tolerance to storage diseases.

**Genesis (ARCO 206).**—Vendor: ARCO. Characteristics: midseason fresh-market type, green-bluegreen in color, medium to large frames with good wrappers, round heads with solid interiors, medium short cores, tolerance to black rot. Resistance: fusarium, yellows. Similar: Bravo. 1987.

**Geneva (RS87508).**—Breeder: Reed. Vendor: Petoseed. Characteristics: hybrid, stores well, flattened round, blue-green. Resistance: yellows, tolerance to thrips.

**Genuine.**—Breeder: Reed. Vendor: Sakata. Characteristics: hybrid, excellent early Savoy, hold well, flattened round, medium blue-green.

**Gideon.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, fresh market, round, short core, dense, thick waxy wrappers. Resistance: yellows, tolerance to tipburn, blackrot.

**Gloria (XPH 1058).**—Breeder and vendor: Asgrow. Characteristics: mid-early maturity, round-headed shipper cabbage, very uniform, holds well in field. Similar: Express, Viking. 1984.

**Gourmet.**—Breeder: Reed. Vendor: Ferry-Morse. Characteristics: hybrid, medium-short upright wrappers, slightly flattened. Resistance: yellows; tolerance to thrips, tipburn, black speck.

**Green Cup.**—Breeder: Reed. Vendor: Takii. Characteristics: hybrid, midseason, Bravo class, denser heads, bright green. Resistance: yellows; high tolerance to black rot, tolerance to thrips, tipburn, heat, cold.

**Green Knight (NVH 502).**—Breeder and vendor: Sakata. Characteristics: early hybrid, excellent uniformity, produces a medium large head; dome shaped with refined tight beads, plant is medium compact. Resistance: tolerance to downy mildew. Similar: Emperor, Commander. 1981.

**Grenadier.**—Breeder: Reed. Vendor: Northrup King. Characteristics: hybrid, gray-green, globe, short cores, Head Start class. Resistance: tolerance to tipburn, thrips.

**Hilton (89-886).**—Breeder: Reed. Vendor: Nickerson. Characteristics: hybrid, mid-long term storage, excellent dark wrappers, dark blue-green. Resistance: yellows.

**Hinova.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, processing flat, rounded heads, excellent interior, short cores. Resistance: yellows, tipburn, tolerance to black rot, black speck.

**Impala.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, storage, very late, medium dark green, medium tall. Resistance: TMV, black speck; tolerance to tipburn, thrips.

**Induna (XPH5785).**—Vendor: Asgrow. Characteristics: green ball head, semi-round with excellent holding from market type. Resistance: black rot, moderate fusarium yellows resistance. Similar: Bravo, Conquest. 1994.

**Itiro (CB-013).**—Breeder and vendor: Rogers Brothers. Characteristics: flat head with erect foliage, medium green wrappers. Resistance: black rot. Similar: Kenzan, Matsukase.

**Julius.**—Breeder: Reed. Vendor: Northrup King. Characteristics: hybrid, round head, more savoyed, more open than Savoy King, semiglobe, medium large, medium green.

**Kempero.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, red, long storage, very late, round large, black. Resistance: tolerance to tipburn, speck.

**Krautman.**—Breeder: Seedway. Vendor: Bejo. Characteristics:

hybrid, processing, medium-tall heads, stand upright dark green wrappers, midseason. Resistance: tolerance to tipburn, black speck.

**Krautpacker.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, processing, high yielding, midseason, oval, dense, short core. Resistance: yellows; tolerance to tipburn, split.

**Lectro.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, red, very long-term storage, very late, round, medium large. Resistance: tolerance to tipburn, black speck.

**Lennox.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, storage, long term, green out of storage. Resistance: tolerance to black speck, tipburn.

**Little League (PSX25950).**—Breeder and vendor: Petoseed. Characteristics: extremely early maturity, 48-day maturity, very small heads about softball size; small compact plants, good flavor. 1994.

**Lynx.**—Breeder: Chrised. Characteristics: hybrid, midseason, deep blue-green, medium size, very good flavor. Resistance: yellows, tolerance to tipburn, high tolerance to black rot.

**Marquis.**—Vendor: Takii. Characteristics: hybrid, early, holds well, bright green. Resistance: tolerance high to clubroot.

**Marvellon.**—Breeder: Reed. Vendor: Nickerson. Characteristics: hybrid, large, medium-early open, high yielder, good holding. Resistance: yellows, tipburn; tolerance to very strong to thrips.

**Masada.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, mid-term storage, easy trimming. Resistance: yellows, tolerance to thrips, tipburn.

**Megaton.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, processing, very large frame, vigorous, late to midseason. Resistance: yellows, tolerance to tipburn.

**Melissa.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, Savoy, early, dark green solid heads, tall wrappers. Resistance: yellows, tolerance to tipburn.

**Montego.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, storage, late, tapered base, large round heads excellent standability. Resistance: yellows, tolerance to tipburn, black speck.

**Morris.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, fresh market, dense, short core. Resistance: tipburn, splitting resistant, yellows, tolerance to tipburn, thrips.

**National.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, storage, very late, dark green, compact. Resistance: tolerance to tipburn, black speck.

**Novusa.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, Savoy, medium maturity, round to slightly flattened, solid heads, fresh market or storage. Resistance: tolerance to tipburn.

**Number 33.**—Breeder: Chrised. Characteristics: hybrid, medium maturity, blue-green, large head, flat round. Resistance: yellows; tolerance medium high to alternaria, moderate to black rot, tolerance to black speck, tipburn.

**Ocala.**—Breeder and vendor: Sunseeds. Characteristics: midseason, dual purpose for fresh market or processor, good holding quality. Resistance: fusarium yellows, black rot. Similar: Rio Verde.

**Olympic (NVH 658).**—Breeder and vendor: Northrup King. Characteristics: large frame, uniform, gray-blue color, holds very well, under stress conditions produces larger heads than Rio Verde, 2 weeks earlier than Rio Verde in maturity. Resistance: black rot, yellows, tip burn. Similar: Rio Verde. 1982.

**Optika.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, barrel shaped, vigorous, Napa type. Resistance: tolerance to tipburn, bolting.

**Pacifica (SCB8103).**—Breeder and vendor: Sakata. Characteristics: deep green color with a solid, round, tight head. Resistance: fusarium yellows, tip burn. Similar: Headstart. 1990.

**Panther.**—Vendor: Chrised. Characteristics: hybrid, early, medium green, small solid heads, fair field holding, good flavor. Resistance: yellows.

**Pedro.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, red, long term storage, very late, round-oval, medium tall, short cores. Resistance: tolerance to tipburn, black speck.

**Pennant (NVH 672).**—Breeder and vendor: Northrup King. Characteristics: a fresh-market type, medium frame size, blue-green in color, good wrapper leaves, healthy appearance under a wide range of climatic conditions, matures a week earlier than Rio Verde, holding

ability is excellent. Resistance: fusarium yellows, tip burn. Similar: Rio Verde. 1985.

**Polaris (87G-100).**—Vendor: Sakata. Characteristics: hybrid, mid-late maturity, semi-storage type, compact, bluish green. Resistance: yellows, tolerance to tipburn.

**Primavoy.**—Breeder: Reed. Vendor: Nickerson. Characteristics: hybrid, excellent late-market and storage cultivar Savoy, compact heads, flattened round medium dark blue-green. Resistance: yellows and frost tolerance.

**Primero (XPH5236).**—Breeder and vendor: Asgrow. Characteristics: large, vigorous plant, gray-green savoyed foliage, good canopy protection; round to slightly flattened heads, solid with short cores; maturity is 1 month later than Conquest. Similar: Bravo, A & C 5, Solid Blue 760. 1990.

**Princess.**—Canners. Characteristics: compact, cylindrical, oval type, average weight 1–1.2 kg, late bolting. 1989.

**Protector.**—Breeder: Reed. Vendor: Northrup King. Characteristics: hybrid, rugged, rough, short wrappers. Adaptation: wide, dark blue-green. Resistance: yellows; tolerance to black rot, very strong to thrips.

**Provita.**—Breeder: Reed. Vendor: Petoseed. Characteristics: hybrid, long-term storage, well wrapped, fine internal structures, deep round tapered base, medium dark green.

**Puma.**—Breeder: Chrised. Characteristics: hybrid, early, market, very solid, round to slightly flat, high density, solid. Resistance: yellows, tolerance to thrips.

**Quick Start.**—Vendor: Takii. Characteristics: hybrid, head start class early cabbage, round, dark green, shorter core, good field holding ability. Resistance: yellows.

**Rancho Red (BOSCO99).**—Breeder: Orsetti. Vendor: Brinker. Characteristics: medium-sized red cabbage; carries red through interior; adaptability good through U.S. Similar: Ruby Ball, Perfection. 1990.

**Red Express (102 134).**—Breeder and vendor: Petoseed. Characteristics: small size, red home garden specialty markets.

**Red Head.**—Breeder: Reed. Vendor: Orsetti. Characteristics: hybrid, main season red. Adaptation: south, bright red, flattened.

**Red Jewel (SCB9602).**—Vendor: Sakata. Characteristics: hybrid, red cabbage, good internal color, good size. Resistance: cracking resistant, tolerance to tipburn.

**Regal Red (BOSCO20).**—Breeder: Orsetti. Vendor: Brinker. Characteristics: large round head, earlier than Rio Grande Red. Similar: Red Head. 1989.

**Retosa.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, Savoy, early, medium fine, dark grey green. Resistance: yellows, tolerance to tipburn.

**Rinda.**—Breeder: Reed. Vendor: Petoseed. Characteristics: hybrid, earliest processing cultivar, solid, uniform, good holding. Resistance: yellows, tipburn.

**Rio Grande Red (BOSCO19).**—Breeder: Orsetti. Vendor: Brinker. Characteristics: hybrid, large-framed red, large wrappers, excellent in Florida, flattened, medium red. Resistance: tolerance to tipburn. Similar: Red Head. 1988.

**Rocket (PSX63880).**—Breeder: Reed. Vendor: Petoseed. Characteristics: hybrid, very early, best for cool season, good density, nice wrappers, round, dark blue-green. Resistance: fusarium yellows, tolerance to thrips. 1988.

**Rodolfo.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, processing, large round heads, short core. Adaptation: northern and southern U.S. Resistance: tolerance to yellows, tipburn.

**Rolto.**—Breeder: Reed. Vendor: Nickerson. Characteristics: hybrid, late market-storage red, nice wrappers, round-oval, dark red. Resistance: yellows, tolerance to tipburn, black rot.

**Rona.**—Breeder: Reed. Vendor: Petoseed. Characteristics: hybrid, excellent storage red, thick leathery fancy wrappers, round head, very dark red. Resistance: yellows, tolerance to tipburn, black rot.

**Rookie.**—Breeder: Reed. Vendor: Sakata. Characteristics: hybrid, red, midseason flattened round, medium-dark red. Resistance: tolerance to tipburn.

**Royal.**—Breeder: Reed. Vendor: Nickerson. Characteristics: hybrid, midseason red, high yielder, round-oval, yellows, tolerance to

tipburn.

**Royal Vantage.**—Breeder: Reed. Vendor: Sakata. Characteristics: hybrid, vigorous, fancy in Texas and Florida, round dark blue-green. Resistance: yellows; tolerance to thrips, black speck, black rot, tipburn.

**Ruby Ball.**—Breeder: Reed. Vendor: Takii. Characteristics: hybrid, very early open, round, solid, medium dark. Resistance: tolerance to green tipburn.

**Ruby perfection.**—Breeder: Reed. Vendor: Takii. Characteristics: hybrid, late red, excellent quality, medium sized, nice wrappers, round dark red. Resistance: yellows, tolerance to black rot, tipburn.

**Salad Delight.**—Vendor: Burpee. Characteristics: early maturing high quality red cabbage.

**Saratoga.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, storage, vigorous, holds green after long storage dense leafy heads. Resistance: yellows, tolerance to tipburn, black spot.

**Savoy Ace.**—Breeder: Reed. Vendor: Takii. Characteristics: hybrid, fancy, midseason, Savoy semiglobe, medium large, medium dark blue-green. Resistance: yellows field resistance.

**Solid Blue 760 (ACX82270).**—Breeder and vendor: Abbott & Cobb. Characteristics: round-oval head, deep blue-green, uniform maturing, 3.5–4 lb, holds well. Resistance: yellows. Similar: Moneymaker, Blueboy. 1983.

**Solid Savoy (CB9-07).**—Breeder: Zaadunie. Vendor: Rogers Brothers. Characteristics: semi-Savoy type, round shape, very dense for Savoy type. Similar: Savoy King. 1992.

**Storage Hybrid #4.**—Vendor: Reed. Characteristics: hybrid, also good for fresh market, solid heads, round, very solid, dark green. Resistance: yellows, black speck, tip burn.

**Strukton.**—Breeder: Reed. Vendor: Nickerson. Characteristics: hybrid, stores well, high yield, flattened top, tapered base, medium tall, open wrappers, grayish blue. Resistance: yellows, tolerance to thrips.

**Super Red 66.**—Vendor: Reed. Characteristics: hybrid, one of earliest reds, solid round, medium dark red. Resistance: yellows, tipburn tolerant.

**Super Red 77.**—Vendor: Chrised. Characteristics: hybrid, midseason red, medium dark red. Resistance: moderate to black rot, tipburn, tolerance to tipburn.

**Super Red 80.**—Vendor: Reed. Characteristics: hybrid, midseason red, fancy, medium dark red. Resistance: tipburn, tolerance to black rot.

**Super Red 83.**—Vendor: Reed. Characteristics: hybrid, midseason red, solid heads, fancy, dark red, round. Resistance: yellows, tolerance to tipburn.

**Super Red 90.**—Vendor: Chrised. Characteristics: hybrid, medium-late red, greenish red frame, medium red interior, medium, excellent holding ability. Resistance: yellows, highly tolerance to tipburn, fair to thrips.

**Superdane.**—Vendor: Reed. Characteristics: hybrid, late storage cultivar, high yielding, good slaw quality, flattened round head, tight wrappers, blue-green. Resistance: yellows, peppercorn.

**Supergreen.**—Vendor: Reed. Characteristics: hybrid, very fancy, tough wrappers, good shipper, excellent quality. Resistance: yellows; tolerance to black rot, tipburn, alternaria, black speck.

**Superkeeper.**—Vendor: Chrised. Characteristics: hybrid, very late, storage, medium blue-green, medium large, excellent storage holding ability. Resistance: yellows, tolerance to tipburn, tolerance to thrips.

**Superlite.**—Vendor: Reed. Characteristics: hybrid, fancy, tough, high tight wrappers, shipper, holds in field, sweet flavor, round, dark blue. Resistance: yellows, tolerance to black rot, black speck, tipburn.

**Supermarket.**—Breeder: Reed. Vendor: Takii. Characteristics: hybrid, round, blue-green, dense, medium cores. Resistance: yellows; tolerance to black rot, tipburn.

**Superpak.**—Vendor: Reed. Characteristics: hybrid, blue-green wrappers, very solid, medium head, long standing in field. Resistance: yellows, tipburn; tolerance to black speck.

**Supreme Vantage (SCB8202).**—Breeder: Sakata. Characteristics: hybrid, mid-early maturity, 7 days earlier than Royal Vantage, bluish-green, excellent holding, for shredder market. Resistance: fusarium yellows, tipburn. Similar: Royal Vantage. 1993.

**T-652.**—Breeder: Takii. Characteristics: hybrid, slow bolting, upright, holds well. Resistance: virus, soft rot, alternaria; tolerance to some club root races.

**Talisman (FMX381).**—Breeder and vendor: Ferry-Morse. Characteristics: round heads with short cores, holds well in field, early midseason maturity, black rot tolerant. Resistance: yellows. Similar: Grandslam, Bravo, Solid Blue 760-780.

**Tenacity (84G-11).**—Breeder and vendor: Sakata. Characteristics: strong black rot resistance, medium late main season cultivar. Round heads. Resistance: black rot, fusarium yellows. Similar: Grandslam. 1990.

**Tiara (Storage#4).**—Vendor: Chrised. Characteristics: dark blue green round heads 4–8 lb, firm, very good storability, 110-day maturity from transplant, good flavor, very good field holding ability. Resistance: yellows, tipburn. Similar: Early Langendijker. 1992.

**Tristar.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, fresh market, compact, early shipping, short core. Resistance: resists splitting, yellows, tolerance to thrips, black rot.

**Tropicana (PSX86384).**—Vendor: Petoseed. Characteristics: early maturity tropical type with excellent yield, uniformity, disease resistance, shippability. Resistance: yellows, *Xanthomonas campestris*. Similar: KK Cross. 1992.

**Two Seasons.**—Breeder and vendor: Choong Ang. Characteristics: short broad heads, very compact, does well as either spring or fall crop. Resistance: bolting, soft rot, heat. Similar: Burpee Hybrid. 1982.

**Vantage Point.**—Breeder: Reed. Vendor: Sakata. Characteristics: hybrid, vigorous, high yield, tall wrappers, dense, medium blue-green. Resistance: yellows, black speck, tipburn; tolerance to black rot, thrips.

**Viking (XP058).**—Breeder: K. Bixby. Vendor: Asgrow. Characteristics: an early ballhead type, ≈65-day maturity from transplant; suitable for early summer or early fall harvest, heads average 4 lb, about 6–7" in diameter; heads are round, solid, well covered with wrapper leaves. Resistance: fusarium yellows. Similar: Princess 39. 1984.

**Vorox.**—Breeder: Reed. Vendor: Petoseed. Characteristics: hybrid, late market red, solid, wrappers somewhat open, very dark red. Resistance: yellows, tolerance to tipburn.

**Wanda** – Breeder and vendor: Nunhems. Characteristics: extremely early, round, medium sized head, light green color, average weight 1–1.5 kg. Resistance: good to bolting. 1991.

**Wirosa.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, Savoy, late, very fine, round grey green, frost. Resistance: tolerance to tipburn.

**YR Storage #4.**—Vendor: Reed. Characteristics: hybrid, storage type, tall, very upright, excellent storability, round tapered base, dark blue-green. Resistance: yellows.

**Zerlina.**—Breeder: Seedway. Vendor: Bejo. Characteristics: hybrid, storage, very late, long term, tall, medium dark green. Resistance: tolerance to thrips, tipburn, black rot, black speck.

## CARROT

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**A Plus.**—Breeder: USDA, Simon and Peterson. Parentage: (6439 x 62742) x 8080. Similar: Imperator. 1983.

**Alpha Beta.**—Vendor: Shamrock. Similar: Imperator.

**Apollo.**—Vendor: Chrised. Similar: Imperator.

**Apopka.**—Breeder: Bassett and Peterson, Florida Agr. Expt. Sta. and USDA. Characteristics: open pollinated. Similar: Imperator. 1985.

**Avenger (PSX4986).**—Breeder and vendor: Petoseed Seed. Characteristics: market hybrid, shipper, high percentage packout. Resistance: powdery mildew. 1989.

**Blaze (NVH803).**—Breeder and vendor: Northrup King. Characteristics: early, smooth, roots are cylindrical and blunt tipped, exterior and interior color of roots are deep orange. Resistance: *Xanthomonas carotae*, *alternaria dauci*, cracking. Similar: Caropak, Apache, Domi-

nator, Fanci Pak. 1991.

**Bolero.**—Vendor: Vilmorin. Resistance: tolerance to alternaria. Similar: Nandor, Nanco, Narman. 1989.

**Canada Gold (PSX154109).**—Breeder and vendor: Petoseed. Characteristics: bright orange roots, Emperor shape, smooth and outstanding, fresh eating quality. Similar: Legend (hybrid). 1991.

**Candy Pack.**—Breeder: USDA, Peterson. Parentage: (3640 x 3080) x 4367. Similar: Imperator. 1977.

**Caro Best (XPH3623).**—Breeder and vendor: Asgrow. Characteristics: semi-blunt hybrid for fresh-market use, medium tops, excellent red-orange color; roots are smooth, 8–10" length. Resistance: alternaria, cercospora, horizontal lesion. Similar: Caropak. 1989.

**Caro Brite (XPH3507).**—Breeder and vendor: Asgrow. Characteristics: fresh-market shipper for production on both mineral and muckland soils; roots are 8–11" in length, of average smoothness, slightly tapered; both internal and external color is outstanding. Resistance: alternaria, cercospora, rusty root, cavity spot. Similar: Chancellor. 1988.

**Caro Chief (XPH3507).**—Breeder and vendor: Asgrow. Characteristics: a fresh-market shipper for muckland production; roots are smooth, with good orange color, average in length of 10–12"; medium tops; maturity is main season. Resistance: alternaria leaf blight. Similar: Caro-Pride. 1991.

**Caro Choice (XPH3628).**—Breeder and vendor: Asgrow. Characteristics: a blunt, smooth carrot, roots average 8–10" with good orange color, early to midseason maturity; medium top. Resistance: alternaria leaf blight. Similar: Cellobunch. 1989.

**Caro Gold (XPH3486).**—Breeder and vendor: Asgrow. Characteristics: fresh-market shipper for muckland and mineral soils, roots are 8–11" in length, very smooth, very good red-orange color, roots are slightly tapered to a semi-blunt tip. Resistance: alternaria, cercospora, rusty root. Similar: Chancellor. 1988.

**Caro Pride (XPH3622).**—Breeder and vendor: Asgrow. Characteristics: semi-blunt hybrid for fresh-market usage, excellent red-orange color, roots are 9–11" long with medium tops, roots are also very smooth in appearance. Resistance: alternaria leaf blight. Similar: Caropak. 1989.

**Caro Spike (XPH3708).**—Breeder and vendor: Asgrow. Characteristics: Emperor style hybrid with medium top size, roots are smooth with good orange color, early to main season maturity, root length varies between 8–10". Resistance: alternaria. Similar: Texas Gold Spike. 1990.

**Caro Tex (XPH3706).**—Breeder and vendor: Asgrow. Characteristics: tops are medium length with strong attachment, roots are 9–10" with a slight taper, root color is deep orange. Resistance: alternaria. Similar: Caro-Spike. 1992.

**Cellobunch (XPH 568).**—Breeder and vendor: Asgrow. Characteristics: carries its weight well to tip, good tops, excellent exterior and interior color. Resistance: cercospora, tolerance to alternaria. Similar: Chancellor. 1984.

**Cheyenne (SUNEX3229).**—Breeder: R. Freeman. Vendor: Sunseeds. Characteristics: early Emperor type, smooth exterior, good internal color, cylindrical shape. Resistance: alternaria. Similar: Six Pak II, Navajo. 1992.

**Choctaw (SUNEX3231).**—Breeder: R. Freeman. Vendor: Sunseeds. Characteristics: vigorous growth, early maturity, strong crops, durable roots, good quality. Resistance: *Alternaria dauci*. Similar: Navajo, Six Pak. 1993.

**Comanche (SUNEX3246).**—Breeder: R. Freeman. Vendor: Sunseeds. Characteristics: long, slender roots with mostly cylindrical shape, deep orange color, smooth exterior. Resistance: alternaria. Similar: Orlando Gold, Imperator. 1993.

**Condor (Sunex3134).**—Breeder: R. Freeman. Vendor: Sunseeds. Characteristics: vigorous, heavy-yielding Danvers hybrid for the processing market, good interior color, excellent uniformity. Resistance: alternaria. Similar: Danvers 126. 1989.

**Convert (XPH3742).**—Breeder and vendor: Asgrow. Characteristics: processed flavor with tapered deep orange colored roots, dual purpose slice and dice type for processing. Resistance: alternaria, blight, long blight. Similar: Flak. 1994.

**Corrie (SDC 909).**—Breeder: G.S. McWalter. Vendor: Campbell

Institute. Characteristics: heavy-shouldered dicing carrot, smooth, semi-stumped, uniform and intense orange-red internal color, very little greening or pale cambium, requires 20+ weeks growth for maximum yield and color development. Similar: Camden F.I., Danvers 126. 1987.

**Crusader (FMX331).**—Breeder and vendor: Ferry-Morse. Characteristics: 8–10" long slightly blunted small indistinct cores, very good interior color and eating quality with good flavor. Resistance: good. Similar: Carpak.

**Cumberland (XPH3738).**—Breeder and vendor: Asgrow. Characteristics: processor-type carrot with improved color and carotene; tops are short with acceptable blight resistance. Resistance: alternaria leaf blight. Similar: Danvers 126. 1994.

**Dagger 78.**—Breeder: Ron Engle. Vendor: ARCO. Characteristics: high color, smooth, tip fill. 1978.

**Dan D.**—Breeder: W.H. Gabelman. Vendor: Univ. of Wisconsin, Madison. Parentage: W255 x W266. Similar: Nantes. 1988.

**Danvers Gold.**—Breeder: W.H. Gabelman. Vendor: Univ. of Wisconsin, Madison. Parentage: W133 x W204. Similar: Danvers. 1971.

**Dart (I280C).**—Breeder and vendor: ARCO. Characteristics: excellent color and flavor, slight taper with blunt tip, nonbolting, good root uniformity. Similar: Imperator, Gold Pak type. 1984.

**Dawn (87W342).**—Breeder: N. Molenaar. Vendor: Crookham. Characteristics: very uniform root shape, blunt Imperator, uniform dark orange interior color, small core; short top, 15–16". Similar: Olympia. 1991.

**Daybreak (87W87).**—Breeder: N. Molenaar. Vendor: Crookham. Characteristics: very uniform smooth Imperator, dark orange interior, small to medium core size; short top, 15–16". Resistance: alternaria. Similar: Savory. 1991.

**Debut (XPH 979).**—Vendor: Asgrow. Characteristics: muck carrot, very early maturity. Resistance: cercospora leaf blight. Similar: Spartan Fancy 80. 1983.

**Domination (XPH77-33-22).**—Breeder and vendor: Rispens. Characteristics: excellent color and disease resistance. Resistance: alternaria. Similar: Blaze. 1993.

**Dominator.**—Vendor: Dessert. Similar: Imperator.

**Douceur.**—Breeder: Nunhems. Vendor: Cannors. Characteristics: cylindrical roots, early color development, small core, smooth exterior, Amsterdam type. Similar: Minicore. 1989.

**Eclipse (XPH3739).**—Breeder and vendor: Asgrow. Characteristics: a high color hybrid Danvers type for processor market, tops and short. Resistance: alternaria, blight. Similar: Danvers 126. Adaptation: summer and winter production. 1994.

**Evora (Nun7615).**—Breeder and vendor: Nunhems Zaden. Characteristics: short dark foliage, Amsterdam type, medium long and cylindrical root, good shelf life. 1992.

**First Class (XPH3818).**—Breeder and vendor: Asgrow. Characteristics: long, smooth deep orange roots with good top fill and blunt tips. Resistance: alternaria, blight. Similar: Imperator. 1995.

**Flame (NVH1005).**—Breeder: K. Ladd. Vendor: Northrup King. Characteristics: tops are strong 18–22", roots are slightly tapered, blunt tipped 9–10"; excellent interior color. Resistance: good level to xanthomonas; alternaria. Similar: Imperator. 1988.

**Flare (NVH1016).**—Breeder and vendor: Rogers Brothers. Characteristics: tapered Imperator type with low nitrate and low sodium, and high carotene. Similar: Apache, Six Pak, Fanci Pak. 1992.

**Gladiator (FMX351).**—Characteristics: matures early, carries more weight. Similar: Apache. 1993.

**Gold Pride.**—Vendor: Harris Moran. Similar: Imperator.

**Gold Strike (NVH 1001).**—Breeder and vendor: Northrup King. Characteristics: a fresh-market and slicing hybrid, ≈75-day maturity, roots average 9–10" in length by 1 1/4" in diameter, tops are 15–17" tall, bright orange color. Similar: Fanci Pak, Woodland, Sierra. 1983.

**Golden State.**—Breeder: C.E. Peterson. Vendor: ARS, California and Florida. Parentage: (3475 x 4367) x F524. Characteristics: smooth, semi stumped, tapered roots; dark orange, uniform interior color, 19–23 cm long, uniform, good flavor, high carotene content. Similar: Orlando Gold. 1983.

**Goliath (PS30489).**—Breeder and vendor: Petoseed. Characteris-

tics: dicer or juicer, Danvers type. 1994.

**HCM (open pollinated).**—Breeder: P. Simon, USDA. Similar: Imperator. Characteristics: high carotene. 1987.

**Healthmaster (154541).**—Breeder: J. Waltrip. Vendor: Petoseed. Characteristics: large uniform Danvers hybrid, excellent color and yield for dicing and juicing. 1994.

**Heritage (XPH3789).**—Breeder and vendor: Asgrow. Characteristics: hybrid long Nantes type for processor market as a slicer, very uniform, good smoothness, large tops with good freeze tolerance, roots are 7–8" long with excellent color. Resistance: alternaria, blight. Similar: Lucky B. 1994.

**Icon.**—Vendor: Chriseeds. Similar: Nantes.

**Inca (Sunex 3132).**—Breeder: R. Freeman. Vendor: Sunseeds. Characteristics: use as mini or baby carrot; excellent quality, color, vigor, uniformity when grown under high density as mini; strong tops with good crown attachment. Similar: Scarlet Nantes. 1989.

**Ingot.**—Vendor: Chriseeds. Similar: Nantes.

**Lance.**—Vendor: Dessert. Similar: Imperator.

**Legend (PSX4486).**—Breeder and vendor: Petoseed. Characteristics: uniformity, high packout, sweet, firm, crisp flesh. 1990.

**Liberty.**—Vendor: Bakker. Similar: Imperator.

**Long Knife.**—Breeder and vendor: Pioneer.

**Lucky B.**—Breeder: W.H. Gabelman. Vendor: Univ. of Wisconsin, Madison. Parentage: W259 x W266. Similar: Nantes.

**Lucky's Gold.**—Breeder: W.H. Gabelman. Vendor: Univ. of Wisconsin, Madison. Parentage: W133 x W77C. Similar: Nantes.

**Luego (XPH7039).**—Breeder: Asgrow. Characteristics: hybrid Nantes type, cylindrical long smooth roots, uniform shape. Similar: Nantes. 1995.

**Luxor (XPH7023).**—Breeder and vendor: Asgrow. Characteristics: European Nantes type, length of root is 15–17 cm, roots are very smooth, uniform, cylindrical and blunt, maturity is early, good foliage and attachment for mechanical harvest, well-adapted bunching. Similar: Nantes. 1991.

**Madamoiselle (E9210).**—Breeder: Dr. C. Nichols. Vendor: Ferry-Morse. Characteristics: Nantes type, early, medium-sized, cylindrical, well stumped high quality. Resistance: tolerance to powdery mildew. Similar: Nantes Strong Top. 1984.

**Mercury.**—Vendor: Chriseeds. Similar: Imperator.

**Merida (Nun6255).**—Breeder and vendor: Nunhems Zaden. Characteristics: roots 18–20 cm long, Nantes type, slightly conical, uniform roots, very high yields, excellent internal and external color, strong foliage. 1991.

**Mokum.**—Vendor: Bejo. Similar: Danvers, Chantenay.

**Monique.**—Vendor: Crookham. Similar: Nantes.

**Motherlode.**—Vendor: Shamrock. Similar: Imperator.

**Nanco.**—Vendor: Vilmorin. Characteristics: very versatile carrot, high quality yields, beautiful roots of length 17–20 cm, cylindrical smooth, very good coloration with no green or purple tops, solid healthy foliage, excellent keeping quality. Similar: Nantaise Tip Top. 1980.

**Nantes Strong Top 3. NST 3.**—Breeder: Dr. C. Nichols. Vendor: Ferry-Morse. Characteristics: early attractive Nantes type with smooth, cylindrical, well-stumped roots, medium-sized tops, good interior color. Resistance: crack, tolerance to powdery mildew. Similar: Nantes Strong Top, Nantes Superior. 1983.

**Navajo (Sunex3211).**—Breeder: R. Freeman. Vendor: Sunseeds. Characteristics: excellent color, early uniform maturity. Resistance: alternaria. Similar: Apache. 1989.

**Neptune.**—Vendor: Chriseeds. Similar: Imperator.

**Olympiad.**—Breeder: Peterson and Simon, USDA. Parentage: (3475 x 4367) x 9253. Similar: Imperator. 1984.

**Orange Blitz.**—Breeder and vendor: Dakota. Characteristics: early maturing, high tonnage, solid orange. Resistance: bolting. Similar: Apache. 1992.

**Orange Crush.**—Breeder and vendor: Dakota. Characteristics: early maturing, high tonnage, solid orange. Resistance: bolting. Similar: Apache. 1992.

**Orange Strike.**—Breeder and vendor: Dakota. Characteristics: early maturing, high tonnage, solid orange. Resistance: bolting. Similar: Navajo. 1992.

**Orbit.**—Vendor: Chriseeds. Similar: Paris Market.

**Pacific Gold.**—Vendor: Sakata. Similar: Emperor.

**Parano.**—Breeder: Nunhems. Vendor: Canners. Characteristics: Nantes type, 17–19 cm long smooth exterior, good uniform internal and external color. 1989.

**Passage (XPH3740).**—Breeder: Asgrow. Characteristics: blocky Danvers type with deep orange color, superior flavor for processing, medium tops. Resistance: alternaria, blight. Similar: Danvers. 1994.

**Paydirt.**—Vendor: Shamrock. Similar: Emperor.

**Piece Keeper.**—Breeder and vendor: Pioneer.

**Plato.**—Vendor: Chriseeds. Similar: Emperor.

**Prago (XPH3748).**—Vendor: Asgrow. Characteristics: long blunt roots with deep orange color. medium sized tops. Similar: Nantes. 1995.

**Premium (XPH3883).**—Vendor: Asgrow. Characteristics: vigorous tops on smooth long deep orange roots with slight taper. Resistance: alternaria, blight. Similar: Emperor. 1995.

**Presto.**—Vendor: Vilmorin. Similar: Nantes.

**Primo.**—Vendor: Vilmorin. Characteristics: mechanical harvest, very early root length 16–18", quite cylindrical, stumped rooted, good internal and external color, no green tops. Resistance: bolting. Similar: Buor, Tancan, Tarenco. 1985.

**Protoge (XPH3786).**—Breeder and vendor: Asgrow. Characteristics: cylindrical large smooth root with good uniform interior color for processing as a slicer type. Resistance: alternaria, blight. Similar: Lucky B. 1996.

**Pygo Improved.**—Breeder: Rispens. Vendor: Rispens. Characteristics: heavy Nantes type, excellent for slicing. Resistance: tolerance to alternaria. Similar: Eagle. 1991.

**Royal Nantes (NV 1406).**—Breeder and vendor: Northrup King. Characteristics: a nonbolting selection, same as Scarlet Nantes. Similar: Scarlet Nantes. 1982.

**Shamrock I.**—Breeder and vendor: Shamrock. Characteristics: Emperor class roots 9–10" long, roots are smooth and semi-cylindrical, dark orange, strong crown attachment. Resistance: tolerance to blight. 1986.

**Shona (SDC1040).**—Breeder: G.C. McWalter. Vendor: Campbell Institute Characteristics: heavy shoulder dicer, very smooth, stumped, very intense and uniform internal color, very little greening or pale cambium, needs 20+ weeks growth, short top. Similar: Camden F.I., Corrie, Long Chantenay. 1987.

**Six Pak.**—Breeder: Harris Moran. Similar: Emperor.

**Six Pak II.**—Breeder: Harris Moran. Similar: Emperor.

**Sovereign (PS17789).**—Breeder and vendor: Petoseed. Characteristics: 8–8" roots, excellent interior color, good top attachment, nonharsh flavor, very uniform shape. Similar: Avenger, Legend, Prospector. 1994.

**Sparta.**—Vendor: Chriseed. Similar: Emperor.

**Spartan Bonus.**—Breeder: C.E. Peterson. Similar: Danvers. Parentage: (MSU1558 x MSU5931) x MSU9541 MSU. 1968.

**Starca (Nun4506).**—Breeder and vendor: Nunhems Zaden. Characteristics: suitable for mild and late cropping, smooth and cylindrical roots, medium long Nantes type 16–18 cm, strong foliage. 1991.

**Sugar Snax 54.**—Vendor: Sunseeds. Similar: Emperor.

**Sundance (NVH 1000).**—Breeder and vendor: Northrup King. Characteristics: fresh-market or slicing hybrid, 75-day maturity; produces 10–11" roots in length, 1 1/4" in diameter; tops 15–17" in length, interior and exterior color is bright orange, smooth and tapered. Similar: Fancipak. 1981.

**Sunrise (86W133).**—Breeder: N. Molenaar. Vendor: Crookham. Characteristics: uniform long blunt, dark orange interior, medium core, vigorous top, 20–22". Similar: Goldmine. 1990.

**Sweetness.**—Breeder and vendor: Petoseed. Characteristics: early maturing Nantes, lovely shape, good color, wonderful flavor, brittle roots must be dug by hand, home garden only. Similar: Scarlet Nantes. 1991.

**Temptation.**—Vendor: Petoseed. Similar: Emperor.

**Terminator (FMX 471).**—Breeder and vendor: Ferry-Morse. Characteristics: long slender 12–14" with a width of 1–1.5" cylindrical root with medium external smoothness. good orange color uniformly through out the root, strong tops. Similar: Gold Pride, Apache.

**Thumbelina (PSR1030).**—Breeder and vendor: Petoseed. Characteristics: small round root, excellent orange color, home garden and processing. 1990.

**Toudo.**—Vendor: Vilmorin. Characteristics: short growth cycle, average length roots very smooth and well colored. Similar to Touchon. 1981.

**Triple Play 58.**—Vendor: Sunseeds. Similar: Emperor.

**Triumph (PS 5086).**—Breeder and vendor: Petoseed. Characteristics: fresh market, cello and peeler. Similar: Avenger, Legend.

**Vitasweet tm 830 (ACX 824427).**—Breeder and vendor: Abbott & Cobb. Characteristics: good uniform cello pack type, deep orange color, strong top, sweet flavor. Similar: Gold Pack, Emperor 58. 1983.

**Vitasweet tm 840 (ACX 824418).**—Breeder and vendor: Abbott & Cobb. Characteristics: strong top, uniform size and shaped root, deep orange exterior and interior, sweet flavor. Gold Pack, Emperor 58. 1983.

**Vitasweet tm 850 (ACX824404).**—Breeder and vendor: Abbott & Cobb. Characteristics: 8–9" uniform root, uniform dark orange interior and exterior, sweet flavor. Similar: Gold Pak, Emperor 58. 1983.

**Warrior (FMX 611).**—Breeder and vendor: Ferry-Morse. Characteristics: 7–9" carrot with slightly tapered shape and semi-blunt tip, very smooth exterior and good color throughout, tops are medium height, dark green and very strong, good flavor. Resistance: tolerance to alternaria. Similar: Caro Spike.

## CAULIFLOWER

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**Alpine (SSC 55).**—Breeder and vendor: Shamrock. Characteristics: an early hybrid for autumn cropping, curds are pure white with a deep dome. Resistance: international greening. Similar: Candid Charm. 1992.

**Arctic (SSC-58).**—Breeder and vendor: Shamrock. Characteristics: a second early hybrid for autumn cropping, plants produce dense deep domed white curds. Resistance: international greening. Similar: Cashmere. 1992.

**Artemis (XPH 5793).**—Breeder and vendor: Asgrow. Characteristics: medium maturity, head coverage is excellent with upright jacket leaves, the curd is dense and well domed with nice white color. Similar: Snow Star. Adaptation: southern, central Italy for over-wintering plantings. 1992.

**Blizzard (NV1550).**—Breeder and vendor: Rogers Brothers. Characteristics: white curd with high density, ≈85–90-day maturity, 6–7" head diameter. Similar: White Rock, White Satin. 1991.

**Cashmere (S-22).**—Breeder and vendor: Sakata. Characteristics: vigorous leaf jacket protects a dense white core. Similar: Early Glacier. 1988.

**Crown Jewels (PSX 516189).**—Breeder and vendor: Petoseed. Characteristics: early maturing, self-blanching, high-quality white curd. Similar: Snow Crown. 1994.

**Crystal (PSX 90384).**—Breeder and vendor: Petoseed. Characteristics: upright medium green leaves, good handling, dense white curd. Similar: Snowball Y Improved. 1991.

**Defender (PSX 548290).**—Breeder and vendor: Petoseed. Characteristics: large vigorous plant mid to late maturity for winter harvest in coastal areas. Similar: Snow March. 1992.

**Earli-light (ACX 1803).**—Breeder and vendor: Abbott & Cobb. Characteristics: extra early maturity, heat tolerant. Similar: Early Snowball. 1982.

**Green Goddess (SSC-83).**—Breeder and vendor: Shamrock. Characteristics: medium green colored cauliflower with exceptional uniformity for year round production. Similar: Alverda. 1992.

**Guardian (PSX 518789).**—Breeder and vendor: Petoseed. Characteristics: uniform maturity, high quality dense and smooth curd. Similar: Unique. 1992.

**Ice Age.**—Breeder and vendor: Ferry-Morse. Characteristics: potential for nearly year-round usage in California, tall plants with good leaf cover, curds massive, high quality, deep, white. Similar: Snow Crown. 1990.

**Incline (SCF 8601).**—Breeder and vendor: Sakata. Characteristics: excellent inner and outer wrap protection. Similar: White Rock. 1985.

**Minuteman (PSX 520389).**—Breeder and vendor: Petoseed. Characteristics: second early maturing, vigorous plant with strong self blanch and curd quality. Similar: Ravella. 1993.

**Mits (SUNRE 8019).**—Breeder and vendor: Sunseeds. Characteristics: Snowball Y type high yields excellent wrapper leaves, early and good uniformity. Similar: Snowball Y. 1989.

**Polar Cap.**—Breeder and vendor: Ferry-Morse. Characteristics: plants tall, vigorous, upright with excellent head wrapping, curds medium large, firm, deep, solid, white, performs best for spring or fall harvest. Similar: White Rock. 1990.

**Shasta (NVH 111510).**—Breeder and vendor: Rogers Brothers. Characteristics: midseason 72-day maturity, white high domed heads, large plant with good protection. Similar: Ravella. 1993.

**Silver Streak (XPB 5105).**—Breeder and vendor: Asgrow. Characteristics: early maturity with large plant size and broad, semi-crinkled leaves; curd has good size and depth, with good solidity. Adaptation: warmer climates. Similar: White Cloud. 1988.

**Snow Mystique (525).**—Breeder and vendor: Takii. Similar: White Rock. 1993.

**Snow Star (XP 824).**—Breeder and vendor: Asgrow. Characteristics: very full season, overwinter. Similar: February. 1983.

**Snowcone (FM 47).**—Breeder and vendor: Ferry-Morse. Characteristics: medium-large plants, ≈1 week earlier than Snowball Y, thick semi-domed white curds. Similar: Snowball X. 1990.

**Stardust (PSX 5188589).**—Breeder and vendor: Petoseed. Characteristics: large plants produce high-quality pure white heads, semi-self blanch medium season to late maturity. 1993.

**Vail (FMX 88).**—Breeder: Ferry-Morse. Vendor: Henderson. Characteristics: head is large white smooth and domed, high-quality curd is protected by good self wrap. Similar: White Rock, Ravella. 1995.

**White Cloud (XP 5141).**—Breeder and vendor: Asgrow. Characteristics: early maturity with deep, white curd which is well protected by inner leaves that cap the curd closely. Similar: Blue Diamond. 1986.

**White Elite (S 107).**—Breeder and vendor: Sakata. Characteristics: F1 hybrid cauliflower for the commercial grower yielding a heavy curb with good self-wrap. 1994.

**Yukon (SCF 8501).**—Breeder and vendor: Sakata. Characteristics: large plant frame with uniform white heads. Similar: Silver Star. 1987.

## CELERY

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**Comet (RS2027).**—Breeder: D. Sousa. Vendor: Petoseed. Characteristics: Tall Utah-type main season, western shipper type for summer and fall harvest, uniform maturity. Resistance: some tolerance to fusarium race 2. Similar: Florida 683. 1995.

**Conquistador.**—Breeder: Pybas Vegetable Seed. Characteristics: highly refined Tall Utah 52-75 selection, dark green color, smooth petioles. Resistance: good tolerance to bolting. Adaptation: West Coast. 1992.

**Floribelle M9.**—Breeder: E. Wolf. Vendor: Univ. of Florida. Characteristics: intermediate growth habit between Crystal Jumbo and Utah types, midseason cultivar, 92–99-day maturity after transplant; petioles and leaves moderate glossy and green, susceptible to black-heart. Resistance: early and bacterial blight. 1991.

**Florida Slobolt M68.**—Breeder: E. Wolf. Vendor: Univ. of Florida.

Characteristics: medium green Utah type. Resistance: bolting in Everglades. Adaptation: Florida production in April, early May. 1993.

**Green Giant.**—Vendor: American Takii. Characteristics: hybrid, early harvest, medium tall, upright, medium green color, petioles of moderate length and width.

**Hercules (FM 1218).**—Breeder: L. Gautney. Vendor: Ferry-Morse. Characteristics: good uniformity and petiole length, earlier than Tall Utah 52-75 and has a darker green, longer, and wider petioles. Similar: Deacon. 1989.

**Matador.**—Vendor: Pybas Vegetable Seed. Characteristics: Tall Utah type, smooth petioles, moderate bolting, medium green color, good replacement for T.U. 52-70R. Resistance: fusarium yellows race 2. 1990.

**Pacifica (PSP 003).**—Breeder: B. Briggs. Vendor: Pacific. Characteristics: processor type, very dark green petiole, very good flavor very few secondary petioles, 18" stalks, good for dehydrating. Similar: Camlynn Celery. 1990.

**Peto 285.**—Vendor: Petoseed. Characteristics: Tall Utah type, good stalk length, thickness and petiole nesting, recommended for upper Midwest and Northwest. Resistance: tolerant to fusarium race 2. 1993.

**Picador.**—Vendor: Pybas Vegetable Seed. Characteristics: Tall Utah type, long, semi-smooth, petioles, dark green color; good cultivar for processing industry. Resistance: fusarium yellows race 2, moderate bolting. 1988.

**Ponderosa (PSX 10490).**—Breeder and vendor: Petoseed. Characteristics: medium dark green summer Tall Utah type celery, medium height, some ribbiness. Resistance: fusarium wilt races 1, 2. Similar: Tall Utah 52-70R Improved. 1993.

**Promise.**—Breeder: C. Quiros. Vendor: Univ. of California Davis. Characteristics: Tall Utah type, moderate green and smooth petioles, moderate bolting. Resistance: fusarium yellows race 2. 1995.

**Rocket (RS7124).**—Vendor: Petoseed. Characteristics: smooth petioles, uniform length, good color, high yield potential in California. Resistance: good tolerance to fusarium yellows race 2.

**Starlet.**—Breeder: Petoseed. Characteristics: Tall Utah type, long petioles, moderate bolting, medium green color; western shipper, harvest summer, fall and early winter. Resistance: fusarium yellows race 2. 1988.

**Summit (E0223).**—Breeder: Tambo. Vendor: Ferry-Morse. Characteristics: early, 85-day maturity after transplanting, long petioles 11–13", medium green color, very uniform tops, plants compact. Resistance: tolerance to fusarium yellows in infested fields. Similar: Tall Utah 52-70R TMP. 1982.

**Tall Utah 52-70R Improved.**—Vendor: Harris Moran. Characteristics: selection of T.U. 52-70R, moderate petiole length, dark green color, compact plant habit, western shipper.

**Ventura (FM 1213).**—Breeder: Tambo. Vendor: Ferry-Morse. Characteristics: Tall Utah type with long petioles, glossy green with very smooth ribbing. Resistance: field tolerance to fusarium. Similar: Calmario Tall Utah 52-75. 1983.

**Vicar.**—Breeder: Harris Moran. Characteristics: longer petioles with deeper cupping than T.U. 52-70R, Improved Tendercrisp type.

**Wolf-249.**—Breeder: B. Scully. Vendor: Univ. of Florida. Characteristics: midseason cultivar, 87–98-day maturity after transplant, glossy, medium green petioles, moderate ribbed. 1994.

## CHICKPEA (GARBANZO)

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**Baron (CA 65).**—Breeder: WECO. Vendor: Ellis. Characteristics: large seeded, very beautiful brown when processed, seeds are fine, desirable golden color. Similar: Puritan. 1984.

**Puritan (CA 64).**—Breeder: WECO. Vendor: Ellis. Characteristics: large seed, very white. Similar: Wyen, except color. Adaptation: southern European markets. 1985.

## COLLARD

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**Champion.**—Breeder: Virginia Agr. Expt. Sta. Characteristics: developed as an open-pollinated population, selected out of Vates, similar to Vates in most characteristics but significantly slower in developing seed stalks in the spring following fall planting. Similar to Vates. 1979.

**Top Bunch.**—Breeder and vendor: Sakata. Characteristics: tall, semi-erect, rapid maturing, F<sub>1</sub> hybrid; deep green, slightly wavy, broad leaves, vigorous and uniform growth. 1987.

**Vates.**—Breeder: Virginia Agr. Expt. Sta. Characteristics: nonheading type, dark green, thick textured leaves with a high ratio of blade to stalk, open-pollinated population that was industry standard for almost two decades, cold hardy. Adaptation: wide. 1950.

## CUCUMBER

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**A and C.**—Breeder: Abbott & Cobb. Vendor: Hollar. Characteristics: 8" fruit length, 64-day maturity, green, stippling at blossom end, tapers at ends. Similar: Davis Perfect. 1928.

**A and C 1810 (ACX 1810).**—Breeder: Petoseed. Vendor: Abbott & Cobb. Characteristics: uniform color, uniform size and shape, monoecious hybrid, heavy yield. Resistance: scab, cucumber mosaic virus, powdery mildew, downy mildew, angular leaf spot, anthracnose. Similar: Poinsett 76. 1982.

**Abundance.**—Breeder: home gardener near Rochester, N.Y. Characteristics: fruit smooth, symmetrical, yellow green specks, dark green, 9–10 × 2–2.25" fruit, pickler, inbred. Similar: Davis Perfect. 1916.

**Adams.**—Breeder: T. Lee Adams Co. Characteristics: fruit dark blue-green to dull green, 9–10 × 2.25–2.5" fruit, pickler, monoecious, inbred. Similar: Longfellow. 1926.

**Aladyn F1.**—Breeder: Research Institute of Vegetable Crops, Poland. Characteristics: fruit attractive, short, green, small seed size, pickler, monoecious hybrid. Resistance: anthracnose, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Albion.**—Breeder: H. Munger, Cornell Univ. Characteristics: powdery mildew resistance backcrossed into SR 551. Similar: SR 551.

**Albion 87.**—Breeder: H. Munger, Cornell Univ. Characteristics: target leaf spot resistance backcrossed into Albion. Similar: SR 551.

**Alexander (Sun 3504).**—Breeder and vendor: Sunseeds. Characteristics: slightly tapered, dark green, white spined, machine or hand harvest, pickler, gynoeious hybrid, 5.37" fruit length, vine determinate. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**All Season.**—Characteristics: early gynoeious slicer, 49 days to harvest. 1996.

**Alpha Green.**—Vendor: Natl. Seed Storage Lab. Characteristics: inbred.

**Alpha Plus (002515).**—Breeder: D. Coker. Vendor: Petoseed. Characteristics: open field, gynoeious, dark green 1 × 6" fruit, sweet taste, middle eastern slicer. Resistance: powdery mildew, cucumber mosaic virus, downy mildew. Similar: Babylon, Beit Alpha.

**Amir.**—Breeder and vendor: Nunhems. Characteristics: gynoeious, parthenocarpic, dark green ribbed cylindrical fruit 16–17 cm long. Resistance: powdery mildew. 1992.

**Amira.**—Breeder and vendor: Petoseed. Characteristics: smooth skin, middle eastern slicer, medium green, gynoeious, 5" fruit length, extremely productive, very good taste, 54-day maturity. Resistance: downy mildew, powdery mildew, cucumber mosaic virus. Similar: Beit Alpha. 1992.

**Aodai-Nazare.**—Breeder and vendor: Asgrow. Characteristics:

Large vines and fruit, white spined, slicer, monoecious, inbred.

**Apple Shape Lemon.**—Vendor: Natl. Seed Storage Lab. Characteristics: hermaphroditic, inbred, garden novelty, round yellow fruit with five carpels. Similar: Lemon.

**Aria.**—Characteristics: bitterfree, thin skinned, short slicer, 4–6" fruit length, nonrobust vines. 1996.

**Arlington White Spine (Ak-sar-ben, Aldon White Spine, Arlington, Arlington Early White Spine, Arlington Famous White Spine, Arlington Improved, Baltimore White Spine, Bloomsdale Perfected White Spine, Blue Ribbon Improved White Spine, California Gem, Climax, Crystal Springs, Early Perfection White Spine, Early Prolific White Spine, Extra Early Arlington White Spine, Extra Early White Spine, Extra Select White Spine, Famous, Famous White Spine, Ideal White Spine, Improved Arlington, Improved Arlington White Spine, Improved Baltimore White Spine, Improved Early White Spine, Improved Extra Early Arlington White Spine, Ohio White Spined, Perfected Arlington, Washington White Spine).**—Breeder: W.W. Rawson, Vendor: D.M. Ferry and Co. Characteristics: fruit straight, medium light green, broad tip stripes, 7–7.5 × 2.5–2.75" fruit, slicer, monoecious, inbred. 1886.

**Armada (PS 20580).**—Breeder and vendor: Petoseed. Characteristics: pickler, 53–54-day maturity, gynoeious, L/D 3.15, dark green, high yielding processor, white spined, vine vigorous, excellent brining. Resistance: scab, anthracnose, angular leaf spot, downy mildew, powdery mildew. 1985.

**Armstrong Early Cluster.**—Characteristics: early flowering, round fruit, monoecious, inbred.

**Astor (E0205).**—Breeder: L. Gautney. Vendor: Ferry-Morse. Characteristics: fine spined, European, pickler hybrid. Resistance: scab, cucumber mosaic virus. 1983.

**Aurora (ARCO 699).**—Breeder: A. Gabert. Vendor: ARCO. Characteristics: uniform fruit shape, white spined, good fruit color distribution, small seedcell, late seed development, L/D 3.0, blocky shape. Resistance: cucumber mosaic virus, powdery mildew, downy mildew, angular leaf spot, scab, anthracnose. Similar: Calico. 1985.

**Babylon (PS 30785).**—Breeder: K. Owens. Vendor: Petoseed. Characteristics: gynoeious hybrid, middle eastern slicer, dark green fruit 6.5 × 1" size, glossy ribbed fruit skin, very early, high yielding. Resistance: powdery mildew, downy mildew, cucumber mosaic virus. Similar: Beit Alpha.

**Banquet (XPH 1619).**—Breeder and vendor: Asgrow. Characteristics: monoecious hybrid, dark green fruit. Resistance: major cuke disease. Similar: Calypso. 1989.

**Baron (HMX 6466).**—Breeder and vendor: Harris Moran. Characteristics: excellent color, attractive shape, high packout. Resistance: scab, powdery mildew, cucumber mosaic virus, anthracnose, downy mildew. Similar: Royal.

**Barteldes.**—Breeder: Barteldes. Characteristics: fruit dark green, dark green, yellow green specks, 10–12 × 2.5–3" fruit, slicer, monoecious hybrid. Similar: Longfellow. 1925.

**Beit Alpha.**—Vendor: Dessert Seed Co. Characteristics: cylindrical fruit with slight taper, black spines, glossy green skin; middle eastern slicer, 55-day maturity, 6 × 2" fruit. Resistance: cucumber mosaic virus.

**Beit Alpha Smooth MR.**—Breeder and vendor: ARCO. Characteristics: black spined, middle eastern slicer, inbred, 6 × 2" fruit, glossy green, tender skin. Resistance: cucumber mosaic virus. Similar: Beit Alpha.

**Bella.**—Breeder: Nunhems. Vendor: Canners. Characteristics: gynoeious hybrid greenhouse slicer, extra long fruit. Resistance: powdery mildew, downy mildew. Similar: Sandra.

**Benson (XPH1651).**—Breeder and vendor: Asgrow. Characteristics: monoecious hybrid, dark green fruit, prolific staminate flower production to aid in pollinating of hybrids. Resistance: anthracnose, scab, downy mildew. Similar: Magic. 1991.

**Black Diamond.**—Breeder and vendor: Hollar. Characteristics: monoecious, inbred.

**Blitz (PSX 1479).**—Breeder and vendor: Petoseed. Characteristics: Semi-dwarf, small seedcell, medium green, white spined, pickler, gynoeious hybrid, L/D 3.0, vine vigorous, 51-day maturity. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mil-

dew, scab, cucumber mosaic virus. 1984.

**Boston Pickling** (*Boston Pickle, Early Green Prolific, Extra Early Green Prolific, Extra Early Prolific, Extra Green Prolific Pickling, Extra Long Green Prolific Green Prolific Pickling, Improved Extra Early Green Prolific, Short Green Pickling, Short Pickling, Short Prolific, Short Prolific Pickle, Short Prolific Pickling*).—Breeder and vendor: Wood and Sons. Characteristics: fruit straight, dark green, tip stripes, 6–7 × 2.25–2.5" fruit, black spined, pickler, monoecious, inbred. 1880.

**Bradley** (*Sun 3539*).—Breeder and vendor: Sunseeds. Characteristics: blocky fruit, dark green, white spined, brines well, excellent yields of straight fruit, machine or hand harvest, hybrid pickle, L/D 3.0, determinate. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Brice**.—Breeder: Burrell Seed. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious, inbred.

**Brine Time** (*FMX 4447*).—Breeder: Dr. L. Gautney. Vendor: Ferry-Morse. Characteristics: white spined, pickler hybrid, medium-long vines, good yields, medium fruit color, good fruit length, L/D 3.0–3.2, brines well. Resistance: scab, anthracnose, cucumber mosaic virus, angular leaf spot. Similar: Score. 1987.

**Brooks** (*DEXP 377*).—Breeder: Dr. A. Gabert. Vendor: ARCO. Characteristics: medium dark green fruit, white spined, L/D 2.8–2.9, small seedcell, firm flesh, 52-day maturity, straight, blocky, machine or hand harvest, pickler. Resistance: cucumber mosaic virus, angular leaf spot, powdery mildew, downy mildew, anthracnose, scab. Similar: Calico. 1984.

**Burpless 33**.—Breeder: Hastings Co. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious, inbred.

**Burpless Bush**.—Breeder and vendor: Rogers NK. Characteristics: fruit straight, cylindrical, dark green, slicer hybrid, 10–12" fruit length, bush habit, firm, nearly seedless.

**Burpless Hybrid**.—Breeder and vendor: Burpee Seed. Characteristics: F<sub>1</sub> hybrid, mild flavor, 62-day maturity, white spined, trellis type, 10" fruit length.

**Bush Baby**.—Breeder and vendor: Stokes Seeds. Characteristics: 18–20" vine length. White spined, pickler, determinate vines. Resistance: downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Bush Crop**.—Breeder and vendor: Rogers NK. Characteristics: home garden, fruit slightly tapered, medium green, slicer, monoecious inbred, 7.5" fruit length, 55-day maturity. Resistance: scab.

**Caimon** (*XPH 1703*).—Breeder and vendor: Asgrow. Characteristics: large robust vine for trellising, slicer type, fruit with L/D 4.3, dark green, blocky ends. Resistance: scab, cucumber mosaic virus, powdery mildew, angular leaf spot, moderate to downy mildew. Similar: Marketmore 76.

**Calico** (*G 48*).—Breeder: R.L. Lower, North Carolina State Univ., Raleigh. Parentage: Gy 2 × Clinton (M 24). Characteristics: predominantly gynoecious hybrid, white spined, L/D 2.9, pickler. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, moderate to cucumber mosaic virus. 1978.

**Capitol**.—Breeder: Luther Burbank. Characteristics: green fruited monoecious slicer. Similar: Iceland, Lemon. 1923.

**Carnimus**.—Breeder and vendor: Royal Sluis. Characteristics: schalgurken type, monoecious, inbred, 14" fruit length. Similar: Riesenschal.

**Cascade** (*DEXP 387*).—Breeder: A. Gabert. Vendor: ARCO. Characteristics: white spined pickler, medium dark green fruit, straight, slight taper, L/D 3.0–3.1, good length, good mechanical harvest yield, 51-day maturity. Resistance: cucumber mosaic virus, powdery mildew, downy mildew, angular leaf spot, scab, anthracnose. Similar: Calypso. 1984.

**Celebrity**.—Breeder and vendor: Ferry-Morse. Characteristics: predominantly gynoecious hybrid, white spined, middle eastern slicer, 6" fruit length. Resistance: cucumber mosaic virus, watermelon mosaic virus. Similar: Beit Alpha.

**Cezar F1** (*GOF-190*).—Breeder: Research Institute of Vegetable Crops, Poland. Characteristics: fruit uniform, green, numerous small warts, pickler, monoecious hybrid. Resistance: anthracnose, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Challenger**.—Breeder: Niagara. Vendor: Natl. Seed Storage Lab.

Characteristics: slicer, monoecious, inbred. Resistance: downy mildew, cucumber mosaic virus. 1958.

**Chemset** (*TX 79-2*).—Breeder: Texas A&M Univ. Parentage: gynoecious × hermaphroditic hybrid. Characteristics: white spined, pickler, gynoecious hybrid, L/D 3.0. Resistance: anthracnose, angular leaf spot.

**Chicago Pickling** (*Improved Chicago Pickling, Westerfield, Westerfield Chicago Pickling, Westerfield Pickling*).—Breeder: D.M. Ferry and Co. Vendor: Northrup King. Characteristics: fruit medium green, 5–6 × 2–2.25" size, monoecious, pickling inbred, 58-day maturity, L/D 2.85, black spined, vigorous vines. Resistance: scab, cucumber mosaic virus. 1888.

**China Long** (*Chicago Giant, Chinese Evergreen, Early Chinese, Great Giant, Jumbo, Long China, Long Green China, Long Green Chinese, Shumways Giant, Very Long Green Chinese*).—Breeder: James Vicks Seeds. Characteristics: fruit straight, medium-dark green with fine yellow speckles, 12–14 × 2.5–2.75" size, monoecious slicer inbred. 1862.

**Chinese Long**.—Parentage: obtained from China by R.H. Porter (Iowa State Univ.); sent it to O. Shifriss in 1930s. Characteristics: uniform green fruit (original source of trait for most American slicers). Resistance: cucumber mosaic virus (main source of trait for most American cultivars).

**Chinese Three Feet** (*Chinese Long-Remaining Green, Chinese Snake, Climbing, Climbing China, Japan Dark Green, Japanese Dark Green*).—Breeder: Dupuy and Ferguson. Characteristics: fruit light green with yellow-green speckles and dark green stripes, 18–24 × 1.75–2" size, monoecious trellis type. 1933.

**Chipper u**.—Breeder: H. Munger, Cornell Univ. Parentage: uniform green fruit trait backcrossed into Chipper. Characteristics: monoecious inbred, white spined, pickler.

**Clark's Special** (*Imperator, Lago Nu-green*).—Breeder: Associated Seed Growers (Asgrow). Characteristics: fruit like Davis Perfect, dark green, 9–10 × 2.5–3" size, monoecious slicer. Similar: Davis. 1932.

**Clinton** (*M24, 8AM4*).—Breeder: R.L. Lower, North Carolina State Univ., Raleigh. Parentage: Pixie × NCARS lines × Clemson lines. Characteristics: monoecious inbred, blocky fruit, white spined, pickler, L/D 2.8. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. 1978.

**Colonial**.—Breeder: Joseph Harris Co. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious, inbred.

**Colorado** (*A and C*).—Breeder: J.C. Robinson. Vendor: Niagara. Characteristics: fruit straight, dark green, 9–12 × 2–2.25" size, monoecious inbred slicer. Similar: Vaughan. 1934.

**Comet**.—Breeder: H. Munger, Cornell Univ. Characteristics: predominantly gynoecious hybrid slicer, white spined, 8" fruit length. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. 1986.

**Comet 86**.—Vendor: Agway. Characteristics: predominantly gynoecious hybrid slicer, white spined, 8" fruit length. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. 1986.

**Commanche 7**.—Parentage: Gy 57 × unknown inbred. Characteristics: predominantly gynoecious hybrid, white spined, slicer, 8 × 2.25" fruit, 70-day maturity, dark green, L/D 2.8, vigorous, long harvesting period. Resistance: scab, cucumber mosaic virus.

**Commander**.—Breeder: Petoseed. Characteristics: predominantly gynoecious hybrid, white spined, pickler.

**Common Rough Green Pickling**.—Breeder: Mawe and Abercrombie. Characteristics: fruit dark green, monoecious pickler, 6–7" fruit length. 1778.

**Conquest** (*PSX 50183*).—Breeder and vendor: Petoseed. Characteristics: predominantly gynoecious pickler, vigorous, semi determinate plant, white spined, medium dark green skin color, L/D 3.0, 52-day maturity, hand harvest. Resistance: scab, angular leaf spot, downy mildew, powdery mildew, anthracnose race 2, cucumber mosaic virus. Adaptation: United States, Mexico, Canada. 1990.

**Conquistador** (*I59088*).—Breeder and vendor: Petoseed. Characteristics: monoecious hybrid slicer, medium-late, vigorous plant, produces consistently high yield, cylindrical, straight, dark green fruit,

white spined, high percentage of super-selects. Resistance: zucchini yellow mosaic virus, papaya ringspot virus, watermelon mosaic virus, cucumber mosaic virus, powdery mildew, angular leaf spot, anthracnose race 2. Adaptation: wide. 1996.

**Continental (FMX4934).**—Breeder and vendor: Ferry-Morse. Characteristics: predominantly gynoeocious pickler, fruit very straight, with blocky, blunt ends, good yield uniformity, machine and hand harvest, medium dark green, white spined, L/D 2.8–3.2, 52–54-day maturity, small seedcell, slow seed development. Resistance: powdery mildew, downy mildew, scab, anthracnose, cucumber mosaic virus, angular leaf spot. Similar: Discover, Vlaspiik, Flurry, Royal.

**Cool and Crisp.**—Breeder: Peter Henderson and Co. Characteristics: 7–8 × 2–2.25" fruit size, dark green, white spined, pickler. Similar: Arlington, White Spine. 1893.

**Coolgreen.**—Breeder and vendor: Asgrow. Characteristics: monoecious, middle eastern slicer, brown spined, inbred, 6" fruit length. Similar: Beit Alpha.

**Coolgreen MR.**—Breeder and vendor: Asgrow. Characteristics: middle eastern slicer, monoecious, inbred. Resistance: cucumber mosaic virus. Similar: Beit Alpha.

**Cortez.**—Breeder and vendor: Petoseed. Characteristics: predominantly gynoeocious hybrid, very vigorous, straight very dark green fruit, 61-day maturity. Resistance: powdery mildew, anthracnose, angular leaf spot, cucumber mosaic virus, papaya ringspot virus, watermelon mosaic virus 2, zucchini yellow mosaic virus.

**Country Pick (FMX4937).**—Breeder and vendor: Ferry-Morse. Characteristics: very dark green fruit color holds well even in warm climates, slightly tapered shape. Resistance: scab, cucumber mosaic virus, angular leaf spot, powdery mildew, downy mildew, anthracnose. Similar: Royal, Flurry, Pick Rite.

**County Fair.**—Breeder: Wis–USDA. Parentage: WI 744G × WI 1082H. Characteristics: predominantly gynoeocious pickling hybrid, parthenocarpic. Resistance: downy mildew, powdery mildew, scab, cucumber mosaic virus, moderate anthracnose. 1978.

**County Fair 83.**—Breeder: Wis–USDA. Parentage: WI 1701G × WI 1983A. Characteristics: predominantly gynoeocious pickling hybrid, vines dark green, vigorous, branching, parthenocarpic, fruit bitterfree, tapered, L/D 3.0–3.2, white spined. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. 1985.

**County Fair 87 (County Fair 86).**—Breeder: Wis–USDA. Vendor: Parks, Asgrow, Jung. Parentage: WI 1701G × WI 1983H. Characteristics: highly gynoeocious pickling hybrid, vines dark green, vigorous, branching, parthenocarpic, fruit bitterfree, white spined, tapered, L/D 3.0–3.2. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Cracker Lee.**—Vendor: Natl. Seed Storage Lab. Characteristics: slicer inbred, 56-day maturity, cylindrical, slight taper, 8 × 2.5" fruit, white spined, dark green, good shipping. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew.

**Cresta.**—Breeder and vendor: Royal Sluis. Characteristics: monoecious hybrid, white spined. Resistance: scab. Adaptation: greenhouse.

**Cross Country (FMX 4318).**—Breeder: L. Gautney. Vendor: Ferry-Morse. Characteristics: predominantly gynoeocious pickling hybrid, white spined, good length, L/D 3.0–3.2, very good dark green color, fruit blocky and straight, yields well, brines well, machine and hand harvest, 50–52-day maturity. Resistance: scab, anthracnose, cucumber mosaic virus, angular leaf spot, powdery mildew, downy mildew. Similar: Calypso. Adaptation: wide. 1987.

**Crystal Apple.**—Breeder and vendor: Arthur Yates and Co. Characteristics: fruit like Lemon yet lighter in color, white spined, slicer, hermaphroditic, inbred, round, 3" diameter, creamy white, 65-day maturity. Similar: Lemon. 1933.

**Cumberland (New Cumberland).**—Breeder and vendor: Chauncey P. Coy and Sons. Characteristics: fruit straight, rough, medium green, 7–8 × 2–2.25" fruit, monoecious pickling inbred. 1902.

**Cyclone (XPH 1685).**—Breeder and vendor: Asgrow. Characteristics: monoecious slicer hybrid, maintains fruit length under stress conditions, pollenizer for Thunder and Lightning blends. Resistance: angular leaf spot, scab, cucumber mosaic virus, anthracnose. Similar:

Monarch. 1993.

**Danish Common.**—Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.

**Danish Mustard.**—Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.

**Danish Pickling.**—Breeder: L. Daehnfeldt. Characteristics: fruit dull dark green, 12–15 × 2.5–3" fruit, monoecious pickling inbred. Similar: Cumberland. 1912.

**Darina.**—Breeder and vendor: Royal Sluis. Characteristics: dark green cylindrical fruit, white spined, 3 days earlier than Bellando; white spined, gynoeocious hybrid slicer, 8" fruit length. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Dasher II.**—Breeder and vendor: Petoseed. Characteristics: predominantly gynoeocious hybrid slicer, white spined, 8" fruit length; two days earlier than Dasher with better disease resistance. Resistance: angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. 1982.

**Davis Perfect (Challenge, Davis Perfection, Davis Perfect Select, Perfected Davis Perfect, 20th Century, Vadco Wonder).**—Breeder: Eugene Davis. Vendor: Niagara. Characteristics: fruit dark green, 9–10 × 2–2.25" fruit, monoecious slicer inbred. 1906.

**Daytona (PS 191091).**—Breeder: S. Kimbrue. Vendor: Petoseed. Characteristics: very dark green fruit, white spined, medium early maturity, gynoeocious hybrid; fruit vigorous, straight, color exceptional; performs well on plastic and ground culture, fruit hold length under stress, 60-day maturity. Resistance: powdery mildew, downy mildew, scab, cucumber mosaic virus, angular leaf spot, anthracnose race 1, watermelon mosaic virus, zucchini yellow mosaic virus, papaya ringspot virus. Similar: Darker II.

**Deltus.**—Breeder: A. Titus. Characteristics: fruit dark green, 9–10 × 2.25–2.5" fruit, slicer, monoecious hybrid. 1919.

**Dilly (XPF 921).**—Breeder and vendor: Moran Seeds. Characteristics: dwarf vine 16–18" long, 7" fruit length, medium dark skin, monoecious, white spined. Resistance: tolerance to cucumber mosaic virus. 1978.

**Discover (XPH 1550).**—Breeder and vendor: Asgrow. Characteristics: determinate pickler, long fruit. Resistance: broad range. 1987.

**Double Yield Pickle.**—Breeder and vendor: Joseph Harris Co. Characteristics: 50-day maturity, high yield, Fruit medium green, 5–6 × 1.88–2" fruit, monoecious pickle inbred. 1924.

**Dryden (PSMRI8 WS).**—Breeder: H. Munger, Cornell Univ. Characteristics: white spined monoecious pickle inbred. Parentage: powdery mildew resistance and white spine traits backcrossed into Wisconsin SMR 18. Resistance: powdery mildew, scab, cucumber mosaic virus.

**Dryden 87.**—Breeder: H. Munger, Cornell Univ. Characteristics: white spined monoecious pickle inbred. Parentage: target leaf spot resistance backcrossed into Dryden. Resistance: target leaf spot, powdery mildew, scab, cucumber mosaic virus.

**Dublin.**—Breeder and vendor: Stokes. Characteristics: predominantly gynoeocious slicer hybrid, 8–9" dark green fruit, 48-day maturity. Resistance: anthracnose, downy mildew, scab, cucumber mosaic virus.

**Dugan (NUN 6514).**—Breeder and vendor: Nunhems. Characteristics: gynoeocious, parthenocarpic, suitable for rockwool or soil culture, high production, good endurance until the end of the cropping period, normal length fruit on stems and lateral branches. Adaptation: greenhouse. 1990.

**Duke (HMX 4489).**—Breeder and vendor: Harris Moran. Characteristics: gynoeocious pickle hybrid, early, white spined, dark green, cylindrical, blocky, L/D 2.9–3.1. Resistance: anthracnose, cucumber mosaic virus, downy mildew, powdery mildew, scab, angular leaf spot.

**Dynasty (PSX 681).**—Breeder and vendor: Petoseed. Characteristics: white spined gynoeocious slicer hybrid, 8" fruit length. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. 1984.

**Earliest of All (Burrells Earliest of All, Earliest White Spine, First Crop, First of All, Forty Day, Mills Earliest).**—Breeder and vendor: Ferry-Morse. Characteristics: fruit straight, moderate dark

green, 6.5–7 × 2.25–2.5" fruit, monoecious slicer. 1906.

**Early Beauty** (*Early Express, Express Extra Early, Tempeys Express Pickler*).—Breeder: John Lewis Childs. Characteristics: monoecious slicer, fruit straight, medium bright green, 6–7 × 2–2.25" size. 1899.

**Early Cluster** (*Cluster, Early Cluster Prickley, Green Cluster, Improved Early Green Cluster, Table Queen*).—Breeder and vendor: Mawe and Abercrombie. Characteristics: fruit straight, tapers toward end, light green, 5–6 × 2.25–2.5" size, white spined, monoecious pickle, 53-day maturity. 1778.

**Early Cyclone** (*Cyclone, White Cluster*).—Breeder: Chauncey P. Coy. Characteristics: fruit straight, medium green, 3.5–4 × 2.25–2.5" size, monoecious slicer. 1900.

**Early Fortune** (*Special Dark Green*).—Breeder: J. Bolgiano and Son of Baltimore. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious slicer; cylindrical, white spined fruit, dark green, 8–9 × 2–2.25" size; maintains color and freshness over long periods, 65-day maturity. 1906.

**Early Frame** (*Early Frame Short Green, Early Prolific Short Green, Early Short Green, Early Short Prolific, Extra Early Frame, Short Green*). Characteristics: fruit straight, dark green, 6–7 × 2.25–2.5" size, monoecious slicer. McMahon Gardeners Catalog. 1806.

**Early Green Cluster**.—Breeder: Wood and Sons. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious pickler.

**Early Perfection**.—Breeder and vendor: Sakata Seed. Characteristics: highly productive Telegraph type of F1 hybrid for greenhouse forcing, gynoeocious, 16" fruit length. Adaptation: greenhouse.

**Early Pride**.—Breeder and vendor: Burpee. Characteristics: gynoeocious, slicer, dark green color, early, produces over long season. Resistance: cucumber mosaic virus, mildew. Similar: Triumph. 1983.

**Early Russian** (*Borowskian, Early Russian Gherkin, Extra Early Russian, Improved Early Russian, Muromian, Muromian Gherkin, Russian, Russian Gherkin, Russian Shortish Green, Russian Small Early Pickling, Small Early Russian*).—Breeder: Hovey and Co. Vendor: Natl. Seed Storage Lab. Characteristics: fruit moderate light green, 3.5–4 × 1.75–2" fruit, tapers at ends, monoecious pickler, 50–55-day maturity. 1854.

**Early Set**.—Breeder and vendor: Sakata Seed. Characteristics: small plant size, may plant more closely, earlier and longer producer, gynoeocious hybrid slicer, 8.5" fruit length. Resistance: powdery mildew.

**Early Short Prickley** (*Early Short Green Prickley, Short Prickley, Short Green Prickley*).—Breeder: Mawe and Abercrombie. Characteristics: fruit smooth, 3–4" fruit length, monoecious slicer. 1778.

**Early Surecrop**.—Characteristics: monoecious hybrid, slicer. Resistance: downy mildew, cucumber mosaic virus.

**Early Surecrop Hybrid**.—Breeder and vendor: Petoseed. Characteristics: monoecious hybrid slicer, 8" fruit length.

**Early White**.—Breeder: New York Agr. Expt. Sta. Characteristics: fruit straight, greenish white, 8–9 × 2.5–3" size, monoecious inbred slicer. 1887.

**Early White Spine** (*Chicago, Extraordinary White Spine, Famous Peerless, Monarch, Monarch White Spine, Peerless, Peerless Improved White Spine, Peerless White Spine, Prolific White Spine, special White Spine, Success, Unexcelled White Spine, White Spine*).—Breeder: McMahon. Vendor: Natl. Seed Storage Lab. Characteristics: fruit straight, light green, 7–8 × 2.25–2.75" fruit, slicer, monoecious, inbred. 1806.

**Early Yellow Dutch**.—Breeder: Geneva. Characteristics: fruit curved, greenish white, 8–9 × 2.5–3" size, monoecious inbred slicer. 1884.

**Elite**.—Breeder and vendor: Petoseed. Characteristics: white spined, gynoeocious hybrid slicer, 8" fruit length. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Elka** (*Nun 4467*).—Breeder and vendor: Nunhems Zaden. Characteristics: white spined, gynoeocious hybrid slicer. Adaptation: greenhouse.

**Emerald** (*Emerald Green White Spine, Florida Emerald, Florida Green*).—Breeder: A.W. Livingstons Sons. Characteristics: fruit straight, very dark green, 6–7 × 2.25–2.5" size, monoecious inbred

slicer. 1897.

**Empress** (*P2E16*).—Breeder and vendor: Joseph Harris Co. Characteristics: early hybrid slicer, predominantly gynoeocious, white spined. Resistance: scab, cucumber mosaic virus. Similar: Challenger hybrid. Adaptation: eastern United States. 1966.

**Encore** (*HM77623*).—Breeder and vendor: Harris Moran. Characteristics: predominantly gynoeocious hybrid slicer, early maturity (2 days later than Raider), very dark green slightly tapered fruit, white spined. Resistance: angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. Adaptation: to southeast. 1985.

**Endeavor** (*WI 2870G x Clinton*).—Breeder: J.E. Staub and T.C. Wehner, USDA–Wisconsin and North Carolina State Univ., Raleigh. Parentage: WI 2870 G x Clinton. Characteristics: white spined, dark green, pickler, gynoeocious hybrid, L/D 2.9, strong vine for extended season, 52-day maturity, hand harvest, high quality whole packer. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. 1988.

**Eureka** (*PSX 2888*).—Breeder and vendor: Petoseed. Characteristics: pickler, 57-day maturity, monoecious, vigorous vine, L/D 3.15, white spined, very dark green, hand harvest, excellent fruit quality. Resistance: anthracnose race 2, angular leaf spot, cucumber mosaic virus, downy mildew, powdery mildew, scab, papaya ringspot virus, watermelon mosaic virus, zucchini yellow mosaic virus. Adaptation: western United States. 1990.

**Euroamerican**.—Breeder and vendor: Rogers NK. Characteristics: fruit slightly tapered, bright green, slicer, monoecious hybrid, 10" fruit length, 60-day maturity, sweet thin skin, small seedcell. Resistance: scab, cucumber mosaic virus.

**Everbearing** (*Earliest Everbearing, New Everbearing, Thorburn Everbearing, Thorburns New Everbearing*).—Breeder: J.M. Thorburn and Co. Vendor: Burpee Seed (Natl. Seed Storage Lab). Characteristics: monoecious inbred slicer, fruit straight, medium-light green, 4.5–5 × 2–2.25" size. 1888.

**Evergreen White Spine** (*Century, Early Evergreen, Early Long White Spine, Evergreen, Evergreen Early White Spine, Extra Early Evergreen White Spine, Extra Long, Extra Long Evergreen, Extra Long White Spine, Improved Early Long White Spine, Long Evergreen White Spine, New Century, New Evergreen, New Evergreen White Spine, New York Extra Long Perfected White Spine, Pride of the Pacific, Toledo Market Evergreen White Spine, White Oak*).—Breeder: Johnson and Stokes. Characteristics: monoecious inbred slicer, fruit straight, dark green, 10–12 × 2.5–3" size. 1886.

**Everslice** (*NK2160*).—Breeder and vendor: Northrup King. Characteristics: slicer, uniform green, extra long harvest period, predominantly gynoeocious; cylindrical, dark green fruit 8.5" long, 55-day maturity. Resistance: scab, cucumber mosaic virus, powdery mildew, downy mildew, angular leaf spot, anthracnose race 1. Similar: Centurion. 1989.

**Eversweet**.—Characteristics: inbred slicer with bitterfree, black spined fruit.

**Excel** (*XPH 1682*).—Breeder and vendor: Asgrow. Characteristics: gynoeocious hybrid pickler, short determinate vine, L/D 3.1, dark green fruit, small seedcell. Resistance: scab, powdery mildew, angular leaf spot, zucchini yellow mosaic virus, moderate to anthracnose. Similar: Discover. 1993.

**Express** (*79-1197*).—Breeder and vendor: Musser. Characteristics: early gynoeocious hybrid pickler, productive vines, dark green bitterfree fruit, excellent briner, L/D 3.1, 55-day maturity. Resistance: anthracnose 1, angular leaf spot, downy mildew, powdery mildew, scab, tolerance to cucumber mosaic virus. 1984.

**Extra Early Majestic**.—Vendor: Natl. Seed Storage Lab. Characteristics: monoecious, inbred.

**Fanfare** (*PSX 113088*).—Breeder and vendor: Petoseed. Characteristics: semi-determinate vine, monoecious, slicer, AAS winner, excellent color and fruit length, straight, 62-day maturity. Resistance: cucumber mosaic virus, downy mildew, powdery mildew, anthracnose, angular leaf spot, scab. 1990.

**Fojin** (*Mandarin, New Early Fojin, Quality*).—Breeder: Vaughan Seed. Characteristics: fruit slightly curved, medium dark green, 8–9 × 1.75–2" size, monoecious slicer. 1932.

**Fordhook Famous** (*Early Fordhook White Spine, Fordhook*

**Fancy, Fordhook White Spine, Imperial).**—Breeder: Mr. A. McInnis, Canada. Characteristics: fruit straight, light green, 10–12 × 2.5–3” size, monoecious slicer. 1894.

**Fordhook Pickling (Fordhook, New Fordhook Pickling).**—Breeder: C.P. Coy. Characteristics: fruit usually straight, medium dark green, 7–8 × 2.25–2.5” fruit, monoecious pickler. 1896.

**Furax (NUN 7209).**—Breeder and vendor: Nunhems. Characteristics: vigorous, open vines, dark green fruit, L/D 3.0–3.1. Resistance: powdery mildew, scab, tolerance to cucumber mosaic virus. Similar: Parker. 1992.

**Fushinari.**—Breeder: Oriental. Characteristics: fruit straight, light green, 8–9 × 1.5–1.75” size, monoecious slicer. 1927.

**Futura.**—Breeder: L. Daehnfeldt. Characteristics: gynoecious hybrid greenhouse slicer, high yield, vigorous, open growth habit, 10 5/8–13” fruit length, white spined. Resistance: high to powdery mildew. Adaptation: greenhouse. 1994.

**G 30.**—Breeder: R.L. Lower, North Carolina State Univ., Raleigh. Parentage: Gy 2 × M 21. Characteristics: semi-dwarf, predominantly gynoecious hybrid pickler, fruit longer than Calypso, excellent for making chips and spears, good for high density once-over harvest. Resistance: scab, anthracnose, angular leaf spot, downy mildew, powdery mildew, cucumber mosaic virus. Similar: Calypso. Adaptation: wide. 1978.

**Galaxy u.**—Breeder: H. Munger, Cornell Univ. Characteristics: Galaxy with uniform green fruit color gene added by backcrossing.

**Garden (Dual).**—Breeder: M.L. Robbins, Clemson Univ. Characteristics: long fruited pickler, for home garden use, white spined, monoecious inbred. Resistance: high to anthracnose and chilling.

**Gemini 7.**—Breeder: W.C. Barnes, Clemson Univ. Vendor: ARCO. Parentage: Gy 57u × Tablegreen. Characteristics: predominantly gynoecious hybrid slicer, fruit straight, white spined, slightly taper, vigorous, 8.5 × 2.5” size, 60-day maturity. Resistance: cucumber mosaic virus, scab. Similar: Ashley.

**General Lee (FMX 4440).**—Breeder: L. Gautney. Vendor: Ferry-Morse. Characteristics: predominantly gynoecious slicer hybrid, high yield, attractive, dark green, straight fruit; vines large, vigorous. Resistance: powdery mildew, downy mildew, scab, cucumber mosaic virus. Similar: Sprint. 1988.

**Geneva.**—Breeder: Richard Wellington, Minnesota Agr. Expt. Sta. Characteristics: monoecious slicer; fruit straight, grayish green, 10–12 × 2.25–2.5” size. 1930.

**Get Set.**—Breeder and vendor: Sakata Seed. Characteristics: gynoecious hybrid slicer, vigorous vines, prolific yield, recommended for hot and humid conditions, white spined, 9” fruit length. Resistance: cucumber mosaic virus.

**Giant Pera (Grand Pera, Long Giant Pera, Long Green Giant Pera, Mammoth Giant Pera, New Giant Pera, Pera).**—Breeder: Dr. Harris (Pennsylvania) and W. Atlee Burpee. Characteristics: monoecious hybrid trellis slicer, fruit light green, 12–15 × 2.5–3” size. 1886.

**Giant White Arnstadt.**—Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.

**Goddess.**—Breeder: Keystone. Characteristics: hybrid pickler, black spined, L/D 3.4. Resistance: powdery mildew.

**Grand Rapids Forcing.**—Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.

**Green King.**—Breeder: Sakata Seed. Characteristics: gynoecious hybrid slicer; extra early, high yielding, recommended for mild climate, heavy producer, 8.5” fruit length. Resistance: powdery mildew, cucumber mosaic virus.

**Green Knight Hybrid.**—Breeder: Burpee Seed. Characteristics: hybrid trellis slicer, 60 days maturity, long, straight, dark green fruit, 12” fruit length.

**Green Prolific.**—Breeder: Wood and Sons. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.

**Green Star (I159).**—Breeder and vendor: Joseph Harris Co. Characteristics: gynoecious hybrid pickler. Resistance: scab, cucumber mosaic virus. 1974.

**Grow Quick (Quick Grow).**—Breeder: Vaughan-Jacklin. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious slicer inbred; fruit slightly curved, light green, 5–6 × 2–2.25” size. 1929.

**Guerrero Classic (Sun-3541).**—Breeder and vendor: Sunseeds.

Characteristics: hybrid pickler, white spined, 52-day maturity, blocky shape. Resistance: cucumber mosaic virus, papaya ringspot virus, watermelon mosaic virus, zucchini yellow mosaic virus.

**H-19 (Arkansas Little-Leaf).**—Breeder: Univ. of Arkansas. Vendor: Petoseed. Characteristics: monoecious inbred pickler; fruit white spined, medium green color, parthenocarpic, L/D 2.95, littleleaf type, 62-day maturity, vigorous multi-branched vines. Resistance: anthracnose, angular leaf spot, downy mildew, cucumber mosaic virus. Adaptation: wide. PVP.

**Hanover.**—Characteristics: monoecious, inbred, schalgurken type, 14” fruit length. Similar: Riesenschal.

**Harrow Jubilee (Harrow 77.07).**—Breeder: Agriculture Canada. Vendor: Nuttall-Bonn. Characteristics: gynoecious pickler, white spined, medium green, blunt blossom and stem ends, L/D 3.2, very good yield, no brining defects. Resistance: angular leaf spot, cucumber mosaic virus, scab. Similar: Triplemech.

**Harvestmore.**—Breeder and vendor: Rogers NK. Characteristics: monoecious hybrid slicer, consistent yield, long harvest, 63-day maturity, 8.4–9” fruit length, dark green. Resistance: angular leaf spot, cucumber mosaic virus, scab, downy mildew, powdery mildew, anthracnose race 1. Similar: Slice King.

**Hendersons Perfected (Perfect White Spine, Perfected White Spine, Perfection White Spine, The Henderson).**—Breeder: Peter Henderson. Characteristics: monoecious inbred slicer, fruit straight, dark green, 7–8 × 2.5–2.7 5” size. 1900.

**Heron F1.**—Breeder: Research Institute of Vegetable Crops, Poland. Characteristics: monoecious hybrid pickler, fruit attractive, dark green, small seed size. Resistance: anthracnose, downy mildew, powdery mildew, scab, cucumber mosaic virus. Similar: longer fruit than Aladyn F1.

**Hes Crow.**—Breeder: A.H. MacClennan, Ontario, Canada. Characteristics: monoecious hybrid slicer, fruit smooth, straight, moderately dark green, 8–10 × 2” size. 1920.

**High Tide (PSX 50585).**—Breeder and vendor: Petoseed. Characteristics: gynoecious hybrid pickler, medium dark green fruit, multiple fruit per node, 51-day maturity, vigorous vine, L/D 3.05, white spined. Resistance: scab, angular leaf spot, downy mildew, powdery mildew, anthracnose race 2. 1990.

**Highest Quality.**—Breeder: Routledge Seed and Floral Co. Characteristics: monoecious slicer, fruit straight, dark green, 6–7 × 2–2.25” size. 1918.

**Holland.**—Breeder and vendor: Petoseed. Characteristics: gynoecious hybrid slicer, vigorous vines, 64-day maturity, fruit cylindrical, straight, uniform dark green, 15–16 × 2” size, parthenocarpic. Resistance: scab, target leaf spot. Adaptation: greenhouse. 1990.

**Homegreen #2 (Homegreen).**—Characteristics: monoecious inbred. Resistance: gummy stem blight.

**Hybrid Ashley.**—Breeder and vendor: Ferry-Morse. Parentage: Ashley × FM inbred. Characteristics: predominantly gynoecious hybrid slicer, 8” fruit length. Resistance: downy mildew. 1961.

**Hybrid Pinnacle (NVH 1900).**—Breeder and vendor: Northrup King. Characteristics: predominantly gynoecious hybrid pickler, white spined, L/D 2.9, excellent quality and vine vigor. Resistance: cucumber mosaic virus, scab, angular leaf spot, downy mildew, powdery mildew, anthracnose. Similar: Carolina, Calypso, PikMaster. 1981.

**Hybrid Reliance (NVH 2025).**—Breeder and vendor: Northrup King. Characteristics: predominantly gynoecious hybrid pickler; fruit 3 celled, white spined, L/D 3.2, slightly longer than Calypso. Resistance: powdery mildew, downy mildew, scab, cucumber mosaic virus, angular leaf spot, anthracnose. Similar: Calypso. 1981.

**Hybrid Tabletreat.**—Breeder: Ferry-Morse. Parentage: Tablegreen × FM inbred. Characteristics: predominantly gynoecious hybrid slicer. Resistance: cucumber mosaic virus. 1961.

**Hycrop Pickling Hybrid.**—Breeder: Guelph, Ontario. Parentage: York State × Petoseed inbred. Characteristics: predominantly gynoecious hybrid pickler. Resistance: cucumber mosaic virus. 1954.

**Iceland (Burbank's Iceland).**—Breeder: Luther Burbank. Characteristics: monoecious slicer, fruit nearly white, 3.5–4 × 2.5–2.75” size. 1917.

**Iceman (06050).**—Breeder: D. Croker. Vendor: Petoseed. Characteristics: early maturity. Resistance: angular leaf spot, cucumber

mosaic virus, scab, downy mildew, powdery mildew. Similar: Fanfare. 1994.

**Improved Hycrop Pickling.**—Breeder: Guelph, Canada. Parentage: Guelph inbred x Petoseed inbred. Characteristics: predominantly gynoeious hybrid pickler. Resistance: scab, cucumber mosaic virus. 1960.

**Improved Long Green.**—Vendor: Dessert Seed Co. Characteristics: slicer, fruit tapered, warty, 10 x 3" size, 70-day maturity, black spined, dark green. Adaptation: home garden.

**Improved White Spine.**—Breeder: Hastings. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.

**Indefatigable Of Konigsdorf.**—Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.

**Indy (PS 119991).**—Breeder and vendor: Petoseed. Characteristics: predominantly gynoeious slicer hybrid, fruit early, white spined, 8–12" long, blocky cylindrical dark green, exceptional quality, vines vigorous, dark green, set early, high yield, 59-day maturity. Resistance: powdery mildew, cucumber mosaic virus, angular leaf spot, scab, zucchini yellow mosaic virus, papaya ringspot virus, watermelon mosaic virus 2, anthracnose. Similar: Dasher II, Speedway.

**Irish Queen (New England).**—Breeder: S.M. Isbell and Co. Characteristics: monoecious slicer, fruit straight, grayish green, 6–7.5 x 2.5–2.75" size. 1916.

**Jackson (Sun 3540).**—Breeder and vendor: Sunseeds. Characteristics: white spined, determinate vined, gynoeious hybrid pickler. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Japanese Climbing (Japan Climbing, Japan Dark Green, Japanese, Japanese Climbing Green, New Japanese Climbing).**—Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred slicer, fruit straight, light green, 7–8 x 2–2.25" size.

**Jersey Pickling (Early Long Pickling, Extra Long Green Pickling, Improved Jersey Pickle, Improved Long Green Pickling, Jersey Extra Early Prolific Pickle, Jersey Pickle, Jersey Pride, Perfected Jersey Pickle, Perfected Pickle).**—Breeder: New Jersey. Characteristics: monoecious pickler, fruit straight, medium green, 7–8 x 2–2.25" size.

**Johnston (G 65).**—Breeder: T.C. Wehner, S.F. Jenkins Jr. and R.L. Lower, North Carolina State Univ., Raleigh and Univ. of Wisconsin, Madison. Parentage: Gy 5 x M 21. Characteristics: predominantly gynoeious pickling hybrid, dark green fruit, L/D 3.3, good processing quality. Resistance: scab, fusarium wilt, cucumber mosaic virus, downy mildew, powdery mildew, anthracnose, angular leaf spot. Similar: Regal. Adaptation: wide. 1991.

**Jordan.**—Vendor: Hollar. Characteristics: 6.5" fruit length, glossy green, 56-day maturity, heavy yield, gynoeious hybrid, middle eastern slicer. Similar: Beit Alpha.

**Khiva (Brown Netted, Early Netted Russian, Khiva Netted, Long Netted Russian, Netted Russian, Russian Netted Cluster).**—Breeder: Khiva, B.K. Bliss and Sons. Characteristics: monoecious, fruit straight, dark green, 4–5 x 2.5–3" size. 1880.

**Kirby (Black Diamond, D. and B. Special, Dark Green, Dark Green Slicer, Earliest Black Diamond, Green Pack, Kirbys Stays Green, Stay Green, Sunny South).**—Breeder: Norval E. Kirby. Characteristics: monoecious inbred pickler type for fresh-market use, fruit straight, dark green, 8–9 x 2.5–2.7 5" size. 1920.

**Klondike (Everlasting, Extra Early Klondike, Klondike Long White Spine, Klondike White Spine, New Klondike, New White Spine, Sterling).**—Breeder: D. V. Burrell. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious open-pollinated slicer, fruit straight, very dark green, 7–8 x 2.5–3" size. 1902.

**La Salle.**—Breeder: Ferry-Morse. Characteristics: hybrid pickler.

**Lafayette (Sun 3529).**—Breeder and vendor: Sunseeds. Characteristics: good dark green, white spined, slightly tapered, machine or hand white spined, gynoeious hybrid pickler. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, mosaic virus.

**Lama II (XPH 1596).**—Breeder and vendor: Asgrow. Characteristics: a smoothed skinned, dark green, middle eastern slicer, L/D 4.0, skin slightly thicker than similar hybrids to extend shelf life. Similar: Lama. 1988.

**Lemon (Apple Shaped, Garden Lemon).**—Breeder: Samuel Wilson. Vendor: Natl. Seed Storage Lab. Characteristics: hermaphroditic inbred slicer, fruit short oval, 3" diameter, greenish yellow-lemon yellow-golden yellow, 3–3.5 x 2–2.5" size, black spined, prolific fruiting, sweet taste. Adaptation: home garden. 1894.

**Lightning (XPH 1701).**—Breeder and vendor: Asgrow. Characteristics: predominately gynoeious hybrid slicer, vigorous vines, uniform dark green fruit, early yield, white spined. Resistance: powdery mildew, cucumber mosaic virus, zucchini yellow mosaic virus. 1993.

**Long Grecian (Athenian, Athens, Extra Long Green Smooth, Extra Long Smooth, Grecian, Long Green Smooth, New Long Grecian).**—Breeder: Hovey and Co. Characteristics: monoecious open-pollinated slicer, fruit straight, bright green, 10–12 x 2.5–3" size. 1870.

**Long Green (California Long Green, Common Long Green, Diamond Long Green, Extra Early Long Green, Improved Extra Long Green, Improved Special Strain Long Green, Indianapolis Long Green, Kilgore's Dark Long Green, Landreth's Long Slim Pickle, Landreth's Long Slim, London, London Extra Long Green, London Long Green, London Pickler, Long Green Common, Long London Green, Long Slim, Mammoth Long, Milwaukee Long Green).**—Breeder: Prince. Vendor: Northrup King. Characteristics: monoecious, open-pollinated slicer, black spined, 2 1/2 x 8–9" size. Similar: Davis Perfect, Long Green Turkey. 1842.

**Long Green Turkey (Extra Early Green Turkey, Green Turkey, Improved Extra Long Green Turkey, Landreth First, Landreth First Early, Long Smooth Green Turkey, Long Turkey, Turkey).** Characteristics: monoecious open-pollinated slicer, fruit green, 10–15" fruit length. 1778.

**Long Marketer.**—Breeder: Ferry-Morse. Parentage: long fruited selection from Marketer. Characteristics: monoecious inbred slicer. 1956.

**Long of Keschmet.**—Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.

**Longfellow (Cliffwood Longfellow, Fairfield Giant, New Longfellow, Penny Pack Valley, The Longfellow).**—Breeder: Jerome B. Rice. Vendor: Farmer Seed. Characteristics: monoecious inbred slicer, fruit straight with blunt ends, very dark green, 10–12 x 2.25–2.5" size. 1927.

**Magic (XPH 1589).**—Breeder and vendor: Asgrow. Characteristics: monoecious hybrid pickler, used as pollinizer for gynoeious cultivars, long dark green fruit. Resistance: major diseases. Similar: Primepak. 1988.

**Mandarin.**—Breeder: Vaughan-Jacklin. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.

**Marathon.**—Breeder and vendor: Petoseed. Characteristics: monoecious slicer, strong, vigorous vines, fruit straight, uniform dark green, good color, 8.5 x 2.25" size, 64-day maturity. Resistance: scab, cucumber mosaic virus, powdery mildew, anthracnose race 2, angular leaf spot.

**Marketer Long.**—Vendor: Hollar. Characteristics: monoecious inbred slicer, 8.5" fruit length, dark green fruit, 64-day maturity.

**Marketmore.**—Breeder: H. Munger, Cornell Univ. Characteristics: monoecious, inbred, white spined, slicer, 8.5 x 2.5" fruit, 70-day maturity. Resistance: scab, cucumber mosaic virus. Adaptation: wide. Similar: Marketer. 1968.

**Marketmore 70.**—Breeder: H. Munger, Cornell Univ. Characteristics: uniform dark green fruit trait backcrossed into Marketmore. 1970.

**Marketmore 70F.**—Breeder: H. Munger, Cornell Univ. Characteristics: gynoeious Marketmore 70. 1970.

**Marketmore 72.**—Breeder: H. Munger, Cornell Univ. Characteristics: bitterfree Marketmore 70. 1972.

**Marketmore 72F.**—Breeder: H. Munger, Cornell Univ. Characteristics: gynoeious Marketmore 72. 1972.

**Marketmore 76 (427).**—Breeder: H. Munger, Cornell Univ. Characteristics: 67–70-day maturity, monoecious, inbred slicer with dark green, straight, slightly tapered, white spined, 8–9 x 2.25" fruit, vigorous, market and home garden. Resistance: downy mildew, powdery mildew, scab, cucumber mosaic virus. 1976.

- Marketmore 76F.**—Breeder: H. Munger, Cornell Univ. Characteristics: gynoecious Marketmore 76. 1976.
- Marketmore 80.**—Breeder: H. Munger, Cornell Univ. Characteristics: bitterfree Marketmore 76. 1980.
- Marketmore 80F.**—Breeder: H. Munger, Cornell Univ. Characteristics: gynoecious Marketmore 80. 1980.
- Marketmore 80 Bw.**—Breeder: H. Munger, Cornell Univ. Characteristics: bacterial wilt resistant Marketmore 80. 1980.
- Marketmore 85 (DM 81-485).**—Breeder: H. Munger, Cornell Univ. Parentage: (((PG57xMM)MM)MM70 F8)MM76 BC3)MM80 F6. Characteristics: smallest vine of MM series, larger than Spacemaster, earliest maturity, white spined, slicer, monoecious, inbred, 8" fruit length, dwarf. Resistance: downy mildew, powdery mildew, scab, cucumber mosaic virus. 1985.
- Marketmore 86 (DM 87-545).**—Breeder: H. Munger, Cornell Univ. Parentage: (((PG57 x MM BC2)MM72 F8)MM76 BC5)F5. Characteristics: earlier and smaller plant than Marketmore 76, but larger than Marketmore 85, white spined, slicer, monoecious, inbred, 8" fruit length, dwarf. Resistance: downy mildew, powdery mildew, scab, cucumber mosaic virus. 1986.
- Marketmore 87.**—Breeder: H. Munger, Cornell Univ. Characteristics: target leaf spot resistant Marketmore 76. 1987.
- Marketmore 88.**—Breeder: H. Munger, Cornell Univ. Characteristics: watermelon mosaic virus-2, papaya ringspot virus-w, and zucchini yellow mosaic virus resistant Marketmore 76. 1988.
- Marketmore 92.**—Breeder: H. Munger, Cornell Univ. Characteristics: Combined resistances of Marketmore 87 and 88. 1992.
- Marketmore 97 (92-414).**—Breeder: H. Munger, Cornell Univ. Characteristics: monoecious, inbred, white spined, slicer, 8" fruit length, uniform green, bitterfree. Resistance: downy mildew, powdery mildew, scab, alternaria leaf spot, target leaf spot, Ulocladium, cucumber mosaic virus, watermelon mosaic virus-2, papaya ringspot virus-w, zucchini yellow mosaic virus. 1997.
- Matador (Sunex 3739).**—Breeder: A. Gabert. Vendor: Sunseeds. Characteristics: monoecious hybrid slicer, vigorous plant, high yield, cylindrical, straight, dark green fruit, white spined. Resistance: powdery mildew, downy mildew, scab, cucumber mosaic virus, papaya ringspot virus, watermelon mosaic virus, zucchini yellow mosaic virus. Similar: Conquistador, but earlier.
- Maximore 100.**—Vendor: Abbott & Cobb. Characteristics: hybrid slicer, 55-day maturity, fruit very dark green, smooth, straight, white spined, 8.5 x 2.75". Resistance: angular leaf spot, anthracnose, downy mildew, powdery mildew, scab, cucumber mosaic virus.
- Meridian (Meridian 70).**—Breeder: H. Munger, Cornell Univ. Parentage: Tablegreen 68 x Marketmore 70. Characteristics: uniform dark green fruit trait added to Meridian T. 1970.
- Meridian T.**—Breeder: H. Munger, Cornell Univ. Parentage: Tablegreen 68 x Marketmore. Characteristics: predominantly gynoecious hybrid, white spined, slicer, 8" fruit length. Resistance: scab, cucumber mosaic virus. 1968.
- Meridian 72.**—Breeder: H. Munger, Cornell Univ. Parentage: Tablegreen 72F x Marketmore 72. Characteristics: bitterfree Meridian 70. 1972.
- Meridian 80.**—Breeder: H. Munger, Cornell Univ. Parentage: Tablegreen 72F x Marketmore 80. Characteristics: predominantly gynoecious hybrid, white spined, bitterfree slicer, 8" fruit length. Resistance: downy mildew, powdery mildew, scab, cucumber mosaic virus. 1980.
- Meteor (XPH 1653).**—Breeder and vendor: Asgrow. Characteristics: predominantly gynoecious hybrid slicer, early maturity, white spined, 7–8" fruit length. Resistance: ulocladium leaf spot, anthracnose, angular leaf spot, cucumber mosaic virus, scab, downy mildew, powdery mildew, target spot. Similar: Comet A. 1992.
- Milo (CTAHR).**—Breeder: Sekioka et al., Univ. of Hawaii. Parentage: 79–25 x 75A-1. Characteristics: vigorous, monoecious hybrid slicer, fruit with crisp uniform green skin and white spines. Resistance: cucumber mosaic virus, watermelon mosaic virus 2, powdery mildew. Similar: Burpee Hybrid, Sweet Slice. 1988.
- Mincu Extra Early.**—Vendor: ARCO. Characteristics: slicer or pickler, white spined, medium green, oblong, 4.5 x 2" fruit, 50-day maturity.
- Minisol.**—Breeder and vendor: De Ruiters. Characteristics: gynoecious hybrid, mini greenhouse cucumber, high number of fruit per plant, white spined, 9" fruit length. Resistance: powdery mildew. Adaptation: greenhouse.
- Monarch (XPH 1187).**—Breeder and vendor: Asgrow. Characteristics: monoecious hybrid slicer, early maturity, very productive over a long harvest period, blocky ends. Resistance: scab, cucumber mosaic virus; tolerance to downy mildew, powdery mildew, anthracnose, angular leaf spot. Similar: Marketmore 76. 1983.
- Monika.**—Breeder: Research Institute of Vegetable Crops, Poland. Characteristics: monoecious hybrid slicer, fruit uniform dark green, 11.5–12 x 3.1 cm size.
- Mountain Perfection.**—Breeder: Grand Junction. Characteristics: monoecious slicer, fruit slightly curved, dark green, 12–14 x 2.5–2.75" size. 1928.
- Muncher.**—Characteristics: middle eastern slicer, 6.5" fruit length, medium green, 59-day maturity. Resistance: cucumber mosaic virus. Similar: Beit Alpha.
- Muronium.**—Breeder: Niagara. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.
- Muscatine Pickling.**—Breeder and vendor: D.M. Ferry and Co. Characteristics: monoecious pickler, fruit dark green. 1910.
- Napoleon (SUNRE 3502).**—Breeder: A. Gabert. Vendor: Sunseeds. Characteristics: determinate vine, white spined, high concentrated yield for machine harvesting. Resistance: scab, cucumber mosaic virus, powdery mildew, downy mildew, angular leaf spot, anthracnose. Similar: Castlepik 2012. 1988.
- Nappa 63.**—Breeder: Asgrow. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.
- National Pickling (National, National Pickle, National Association Pickling).**—Breeder: Michigan Agr. Expt. Sta. Characteristics: monoecious inbred pickler, fruit straight, medium green, 5.5–6 x 1.75–1.88" size, black spined, 54-day maturity. 1924.
- Nautilus (XPH 1707).**—Breeder and vendor: Asgrow. Characteristics: hybrid pickler, manageable vine length for hand harvest, L/D 3.0. Resistance: degree of resistance to cucumber mosaic virus, scab, angular leaf spot, downy mildew, powdery mildew, anthracnose. Similar: Fancipak. 1993.
- Navigator (XPH 1706).**—Breeder and vendor: Asgrow. Characteristics: hybrid pickler, stable gynoecious flowering habit, suitable for hand harvest or machine pick, fruit L/D 3.1. Resistance: some resistance to cucumber mosaic virus, scab, angular leaf spot, downy mildew, powdery mildew, anthracnose. Similar: Primepak. 1993.
- Neptune (HMX 6466).**—Breeder and vendor: Harris Moran. Characteristics: predominantly gynoecious hybrid pickler, middle to early maturity, white spined, medium green, cylindrical, L/D 3.1–3.3. Resistance: anthracnose, cucumber mosaic virus, downy mildew, powdery mildew, scab, target leaf spot. 1993.
- Neron F1 (GOF-290).**—Breeder: Research Institute of Vegetable Crops, Poland. Characteristics: monoecious hybrid pickler, fruit dark green, numerous large warts, larger than GOF-190. Resistance: anthracnose, downy mildew, powdery mildew, scab, cucumber mosaic virus. Similar: GOF-190.
- Niagara Green.**—Breeder and vendor: Niagara (Harris Moran). Characteristics: middle eastern slicer, inbred. Resistance: cucumber mosaic virus. Similar: Beit Alpha.
- Nichols Medium Green (Medium Green, Medium Pickling, Nichols Green).**—Breeder: A.W. Livingston and Sons. Characteristics: monoecious open-pollinated pickler, fruit straight, light green, 6–7 x 2.5–3" size. 1884.
- Nory.**—Breeder: Oris. Characteristics: hybrid slicer. Resistance: some diseases.
- Oasis.**—Breeder: Ball Seed. Characteristics: slicer.
- Olympian (SS138).**—Breeder: J.C. Hollar. Vendor: Hollar. Characteristics: predominantly gynoecious hybrid slicer. Resistance: scab, angular leaf spot, downy mildew, powdery mildew. 1985.
- Panther (Sunex 3727).**—Breeder and vendor: Sunseeds. Characteristics: hybrid slicer, uniform dark green color, good early yield, 70-day maturity. Resistance: downy mildew, powdery mildew.
- Parisian Pickling (Improved Bourbonne, Long Green Parisian, Long Parisian, Paris Early Cluster Pickle, Paris Pickling, Parisian**

**Prolific Pickling**.—Breeder: Oris. Characteristics: monoecious open-pollinated pickler, black spined, fruit straight, dark green, 9–10 × 2.25–2.5" size. 1892.

**Parker (NUN6180)**.—Breeder: Nunhems. Vendor: Cannery. Characteristics: predominantly gynoecious hybrid pickler, white spined. Resistance: powdery mildew, cucumber mosaic virus, scab. Similar: Calypso.

**Parys F1**.—Breeder: Research Institute of Vegetable Crops, Poland. Characteristics: monoecious hybrid pickler, fruit attractive, uniform, longer than Aladyn, green. Resistance: anthracnose, downy mildew, powdery mildew, scab, cucumber mosaic virus. Similar: Aladyn.

**Paska**.—Breeder: Nunhems. Vendor: Cannery. Characteristics: gynoecious, parthenocarpic, suitable for outdoor and protected cultivation, 20–22 cm fruit length, slightly ribbed, bitterfree. Resistance: scab, powdery mildew, tolerance to downy mildew, cucumber mosaic virus.

**Patio Pickle (004 500)**.—Breeder: Waltrip. Vendor: Petoseed. Characteristics: gynoecious pickler, fruit straight, dark green, small seedcell, L/D 3.5, concentrated set, hand or machine harvest, semi-determinate vine, 52-day maturity. Resistance: scab, angular leaf spot, anthracnose, powdery mildew, downy mildew, cucumber mosaic virus. Similar: Quest, Napoleon.

**Patio Pik**.—Breeder and vendor: Petoseed. Characteristics: predominantly gynoecious hybrid slicer, white spined, dwarf determinate vines. Resistance: anthracnose, downy mildew.

**Patton (Sun 3528)**.—Breeder and vendor: Sunseeds. Characteristics: predominantly gynoecious hybrid pickler, fruit dark green, white spined, slightly tapered, machine or hand, shorter vines than Calypso, white spined, L/D 3.1. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Pennant**.—Breeder and vendor: Harris Moran. Characteristics: predominantly gynoecious hybrid pickler, fruit white spined, L/D 3.0. Resistance: scab.

**Petra**.—Breeder and vendor: Nunhems. Characteristics: gynoecious hybrid greenhouse slicer, parthenocarpic, 16–19 cm fruit length, good for spring and autumn cultivation. Resistance: powdery mildew, downy mildew, tolerance to cucumber mosaic virus. 1992.

**Picarow (XP 444)**.—Breeder: D. Groff. Vendor: Asgrow. Characteristics: predominantly gynoecious hybrid pickler, suitable for hand and machine harvest, white spined. Resistance: scab, angular leaf spot, cucumber mosaic virus, downy mildew, powdery mildew. Similar: Score. 1983.

**Pickalot**.—Breeder and vendor: Burpee Seed. Characteristics: monoecious inbred pickler, dwarf determinate vines, early maturity. Resistance: powdery mildew.

**Pickalot Hybrid**.—Breeder and vendor: Burpee Seed. Characteristics: predominantly gynoecious hybrid pickler, 54-day maturity, dwarf vines, early maturity, 4.5" fruit length. Resistance: powdery mildew.

**Picklebush**.—Breeder and vendor: Burpee Seed. Characteristics: dwarf pickler, 52-day maturity, short vines 20–24" long, 4.5" fruit length. 1986.

**Picklemech (NVH 1914)**.—Breeder and vendor: Northrup King. Characteristics: predominantly gynoecious hybrid pickler, vigorous plant habit, dark green, white spined, L/D 3.1, slight taper to blossom end, 54-day maturity, hand or machine harvest. Resistance: powdery mildew, downy mildew, angular leaf spot, anthracnose, cucumber mosaic virus, scab. Similar: Pikmaster, Calypso. 1989.

**Picklers Special**.—Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred pickler.

**Pik-Nik**.—Breeder and vendor: Northrup King. Characteristics: pickler. Resistance: scab, cucumber mosaic virus. 1965.

**Pik-Rite (FMX 4500)**.—Breeder: L. Gautney. Vendor: Ferry-Morse. Characteristics: predominantly gynoecious hybrid pickler, dark green, blocky, white spined, L/D 2.9, hand harvest only, good brine performance, 50–52-day maturity, high yield, high-quality small pickles. Resistance: scab, anthracnose, powdery mildew, downy mildew, cucumber mosaic virus, angular leaf spot. Similar: Calico. Adaptation: Midwest, northeast United States. 1983.

**Pinnacle**.—Breeder and vendor: Rogers NK. Characteristics: pre-

dominantly gynoecious pickler, L/D 2.9, blunt, medium green, 55-day maturity, uniform hybrid, high yields, few nubs. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew; scab, cucumber mosaic virus.

**Pioneer Improved**.—Vendor: ARCO. Characteristics: predominantly gynoecious hybrid pickler, L/D 3.0, fruit straight, blunt, medium dark green, black spined, 55-day maturity, good for cool seasons. Resistance: scab, cucumber mosaic virus. Similar: Pioneer.

**Poinsett 76**.—Breeder: H. Munger, Cornell Univ. Parentage: Poinsett, with scab resistance, fruit length and uniform green fruit genes backcrossed into it. Characteristics: monoecious inbred slicer with uniform dark green, straight fruit with slight taper, white spine, 7.5–8 × 2.5", moderately vigorous vine, 63–65-day maturity, for commercial use. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab. Similar: Poinsett. 1976.

**Poinsett 83**.—Breeder: H. Munger, Cornell Univ. Characteristics: cucumber mosaic virus resistant Poinsett 76. 1983.

**Poinsett 83F**.—Breeder: H. Munger, Cornell Univ. Characteristics: gynoecious Poinsett 83. 1983.

**Poinsett 87**.—Breeder: H. Munger, Cornell Univ. Characteristics: target leaf spot resistant Poinsett 83. 1987.

**Poinsett 93**.—Breeder: H. Munger, Cornell Univ. Characteristics: white spined, slicer, monoecious, inbred, 8" fruit length. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew (better than Poinsett 76), scab, cucumber mosaic virus, zucchini yellow mosaic virus, papaya ringspot, watermelon mosaic virus-2. 1993.

**Poinsett 93F**.—Breeder: H. Munger, Cornell Univ. Characteristics: gynoecious Poinsett 93. 1993.

**Poinsett 97**.—Breeder: H. Munger, Cornell Univ. Parentage: (Poinsett 87 × Poinsett 93) × Poinsett 93 × Poinsett 93 inbred. Characteristics: white spined, slicer, monoecious, inbred, 8" fruit length. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew (better than Poinsett 76), scab, target leaf spot, Ulocladium, cucumber mosaic virus, zucchini yellow mosaic virus, papaya ringspot virus, watermelon mosaic virus-2. 1997.

**Poseidon (XPH 1547)**.—Breeder and vendor: Asgrow. Characteristics: predominantly gynoecious hybrid pickler, prolific yield, short fruit ideal for small pickles (gherkins), fruit dark green, L/D 2.4. Resistance: scab, cucumber mosaic virus, powdery mildew, downy mildew, high resistance to anthracnose and angular leaf spot. Similar: Calico. 1986.

**President**.—Breeder: Walter S. Schell, Inc. Characteristics: monoecious slicer, fruit straight, dark green, 9–10 × 2.75–3" size. 1928.

**Prince (HM 1445)**.—Breeder and vendor: Harris Moran. Characteristics: predominantly gynoecious hybrid pickler, earlier than Calypso, good for northwest, dark green tapered fruit, white spined, L/D 3.0–3.1. Resistance: downy mildew, powdery mildew, scab, cucumber mosaic virus. Similar: Calypso.

**Prolific**.—Breeder and vendor: Sakata Seed. Characteristics: predominantly gynoecious hybrid slicer, white spined, 8" fruit length, main season. Similar: Dasher II.

**Quest (PSX 50885)**.—Breeder and vendor: Petoseed. Characteristics: predominantly gynoecious hybrid pickler, 50-day maturity, vigorous vine, white spined, medium dark green fruit, excellent length for chips and relish, L/D 3.1, good concentration of long fruit for mechanical harvest. Resistance: scab, angular leaf spot, downy mildew, powdery mildew, cucumber mosaic virus, anthracnose race 2. 1989.

**Quick Set**.—Breeder and vendor: Sakata Seed. Characteristics: predominantly gynoecious hybrid slicer, vigorous, early, high yielding, recommended for growing in South America and Southern Europe, 8.5" fruit length. Resistance: angular leaf spot, moderate to powdery mildew and cucumber mosaic virus.

**Radja (NUN 6235)**.—Breeder: Nunhems Zaden. Vendor: Cannery Seed. Characteristics: gynoecious greenhouse slicer, suitable for rockwool and soil culture, well-balanced open habit, excellent fruit quality and shelf life, fruit dark green, medium ribbed. Similar: Corona. 1988.

**Raleigh (G 56)**.—Breeder: R.L. Lower, T.C. Wehner, and S.F. Jenkins Jr., Univ. of Wisconsin, Madison, and North Carolina State Univ., Raleigh. Parentage: Gy 4 × M 21. Characteristics: predomi-

nantly gynoecious pickling hybrid, dark green fruit, L/D 3.1, good processing quality. Resistance: scab, fusarium wilt, cucumber mosaic virus, downy mildew, powdery mildew, anthracnose, angular leaf spot. Similar: Calypso. Adaptation: wide. 1991.

**Redlands Long White.**—Breeder: Redlands Hort. Sta., Australia. Characteristics: monoecious slicer, vigorous, white skinned, long fruited, high yield, high fruit quality. Resistance: watermelon mosaic virus. Similar: Green Gem, Sprint, Crystal Apple. 1985.

**Reia (XPH 1698).**—Breeder and vendor: Asgrow. Characteristics: middle eastern slicer hybrid, wide disease resistance. Resistance: scab, cucumber mosaic virus, angular leaf spot, anthracnose, cucumber mosaic virus, powdery mildew. Similar: Beit Alpha. 1993.

**Revenue (E0211).**—Breeder: L. Gautney. Vendor: Ferry-Morse. Characteristics: predominantly gynoecious hybrid slicer, for market and home garden, better color and fruit length than Cypress, 66–68-day maturity, high yield, uniform dark green fruit. Similar: Cypress, Raider, Sprint. 1982.

**Riesenschal.**—Breeder and vendor: Royal Sluis. Characteristics: schalgurken type, monoecious, inbred, 14" fruit length. Similar: Carnimus.

**Roadside Market Wonder.**—Breeder: Grand Junction. Characteristics: monoecious slicer, fruit slightly curved, moderate dark green, 10–12 × 2.25–2.75" size. 1927.

**Robin 50.**—Breeder: Niagara. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.

**Royal (HM 77614).**—Breeder and vendor: Harris Moran. Characteristics: predominantly gynoecious hybrid pickler, fruit dark green, cylindrical, short vines, seeds slow to develop, L/D 3.0–3.2. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. Similar: Regal.

**Sabal.**—Breeder: Wis–USDA. Parentage: WI2238G × WI1983A. Characteristics: predominantly gynoecious hybrid pickler, white spined, L/D 2.9. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. Similar: Endeavor. 1985.

**Salad (White).**—Breeder: Mrs. T.P. Mony, California. Characteristics: monoecious slicer, fruit straight, pale greenish-yellow to lemon-yellow to bright yellow, 6–7 × 2–2.25" size. 1924.

**Salad Bar (NVH 2100).**—Breeder and vendor: Northrup King. Characteristics: predominantly gynoecious hybrid slicer, commercial fresh market, 57-day maturity, white spined, uniform green color, 8" × 2" fruit, slight taper, medium-sized vines. Resistance: cucumber mosaic virus, scab, angular leaf spot, anthracnose, powdery mildew, downy mildew. Similar: Dasher, Slicemaster, Sprint. 1982.

**Salad Bush.**—Breeder and vendor: Petoseed. Characteristics: dwarf determinate vine, monoecious slicer, 57-day maturity, cylindrical uniform dark green fruit, 8 × 2.25" fruit, AAS winner. Resistance: cucumber mosaic virus, scab, target leaf spot. Adaptation: home garden. 1988.

**Saladin.**—Breeder and vendor: Sluis and Groot. Characteristics: predominantly gynoecious hybrid pickler, L/D 2.8, white spined. Resistance: powdery mildew, scab, moderate cucumber mosaic virus.

**Salvo.**—Breeder and vendor: Petoseed. Characteristics: predominantly gynoecious hybrid pickler, black spined. Resistance: scab, cucumber mosaic virus.

**Sawan Slicer.**—Breeder and vendor: Rogers Brothers. Characteristics: maintains dark green color under heat stress, good length under cool conditions, 58–60-day maturity, vigorous vine. Resistance: anthracnose, angular leaf spot, cucumber mosaic virus. 1994.

**Seneca Longbow.**—Breeder and vendor: Robson Seed. Characteristics: predominantly gynoecious hybrid slicer, high yield, early maturity, long dark green fruit, even under stress.

**Seray.**—Breeder and vendor: Nunhems. Characteristics: gynoecious hybrid, parthenocarpic, early, 17–18 cm fruit length, strong vines. 1992.

**Setter.**—Breeder and vendor: Abbott & Cobb. Characteristics: predominantly gynoecious hybrid slicer, 8" fruit length. Resistance: angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus, moderate to anthracnose.

**Shenandoah (FMX 4937).**—Breeder and vendor: Ferry-Morse. Characteristics: predominantly gynoecious hybrid pickler, very dark

green skin, blocky to slightly tapered on blossom end, white spined, L/D 2.7–2.9, small seedcell, excellent interior quality, machine and hand harvest, 50–52-day maturity, high yields, excellent for brining, resistant to bleaching in sunlight. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Shogoin.**—Breeder: H. Munger, Cornell Univ. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.

**Siberian (Early Siberian, Extra Early Siberian, New Siberian).**—Breeder and vendor: Northrup King. Characteristics: monoecious open-pollinated slicer, fruit straight, light green, 5–5.25 × 1.88–2" fruit. 1889.

**Slice King S.**—Breeder and vendor: Sakata Seed. Characteristics: predominantly gynoecious hybrid slicer, medium dark green fruit 8" long, early season. Resistance: scab, powdery mildew, downy mildew, angular leaf spot. Not the same as Slice King from Northrup King.

**Slice King N (NVH 2160).**—Breeder and vendor: Northrup King. Characteristics: predominantly gynoecious hybrid slicer, uniform green, excellent shape that is ideal for slicing. Resistance: scab, powdery mildew, downy mildew, cucumber mosaic virus tolerance. Not the same as Slice King from Sakata. 1989.

**Slice Max (Exp 7).**—Breeder and vendor: Sakata Seed. Characteristics: predominantly gynoecious hybrid slicer, white spined, 8" fruit length, midseason. Resistance: powdery mildew.

**Slice Nice (DEXP 3).**—Breeder: A. Gabert. Vendor: ARCO. Characteristics: predominantly gynoecious hybrid slicer, white spined, uniform color, 8.5 × 2.5" fruit, 70-day maturity, vines withstand multiple harvest handling, straight, blocky. Resistance: cucumber mosaic virus, powdery mildew, downy mildew, angular leaf spot, scab, anthracnose. Similar: Dasher II. 1984.

**Slice Top.**—Breeder and vendor: Sakata Seed. Characteristics: predominantly gynoecious hybrid slicer, white spined, dark green fruit, 8" fruit length, main season. Resistance: scab, downy mildew, powdery mildew, angular leaf spot. Similar: Marketmore, but higher yield.

**Slicemaster Select.**—Breeder and vendor: Petoseed. Characteristics: predominantly gynoecious hybrid slicer, early maturity, 60-day maturity, uniform dark green, cylindrical, straight, slightly tapered fruit, 8.25 × 2.25" fruit, vigorous vines. Resistance: anthracnose race 2, angular leaf spot, scab, cucumber mosaic virus.

**Smooth Set.**—Breeder and vendor: Sakata Seed (Park Seed in US). Characteristics: predominantly gynoecious hybrid greenhouse slicer, recommended in locations of high temps and excessive humidity, 8" fruit length. Resistance: cucumber mosaic virus. Adaptation: greenhouse.

**SMR 58.**—Breeder and vendor: L. Robinson Co. Characteristics: probably a local version of Wisconsin SMR 18.

**Snows Perfection.**—Breeder: Joseph Harris Co. Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.

**Snows Pickling (Fancy Pickle, Snows Early, Snows Fancy Pickling, Snows Perfected Pickle).**—Breeder: Mr. J. C. Snow. Characteristics: monoecious inbred pickler, fruit straight, moderate dark green, 5–6 × 1.5–1.75" size. 1905.

**Sonata (XPH 1356).**—Breeder and vendor: Asgrow. Characteristics: hybrid slicer, fruit dark green, cylindrical, blocky, L/D 4.1. Resistance: scab tolerance to cucumber mosaic virus, powdery mildew. Similar: Marketmore 76. 1988.

**Southern Belle (G 61).**—Breeder: R.L. Lower, North Carolina State Univ., Raleigh. Parentage: Gy 2 × M 27. Characteristics: predominantly gynoecious hybrid pickler, white spined, L/D 3.1. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, cucumber mosaic virus. Similar: Calypso. 1978.

**Southern Cross.**—Breeder: Clemson Univ. Parentage: Gy 3 × SC 10. Characteristics: predominantly gynoecious hybrid pickler, white spined. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, cucumber mosaic virus. 1967.

**Spacemaster.**—Breeder: H. Munger, Cornell Univ. Vendor: Burpee Seed. Characteristics: monoecious slicer inbred, dwarf determinate version of Tablegreen 65, 56 days to harvest, white spined, dark green, 7.5–2.5" fruit. Resistance: cucumber mosaic virus, scab, moderate to downy mildew, moderate to powdery mildew. 1972.

**Spacemaster 80.**—Breeder: H. Munger, Cornell Univ. Character-

istics: bitterfree Spacemaster. 1980.

**Spartan Salad (C7-63).**—Breeder: C.E. Peterson, Michigan State Univ. Characteristics: monoecious inbred, slight taper, 7.5 × 2" fruit, black spined, uniform shape and size, medium green, 60-day maturity, for pickling and slicing. Resistance: downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Speedway (PSX 104388).**—Breeder and vendor: Petoseed. Characteristics: predominantly gynoeocious hybrid slicer, early maturity, 56 days, fruit cylindrical, blocky, uniform dark green skin, strong vigorous vine, high yield. Resistance: cucumber mosaic virus, powdery mildew, scab, downy mildew, anthracnose, angular leaf spot. 1991.

**Sprint.**—Breeder and vendor: Asgrow. Characteristics: predominantly gynoeocious hybrid slicer. Sprint S has Poinsett 76 pollenizer (southern production), Sprint N has Marketmore 76 pollenizer (northern production). Resistance: anthracnose, downy mildew, powdery mildew, scab, cucumber mosaic virus. 1972.

**SR 551.**—Breeder: H. Munger, Cornell Univ. Characteristics: monoecious inbred pickler, white spined, vigorous, late maturing. Resistance: scab, cucumber mosaic virus. Similar: Wis. SMR 18.

**Stokes Early Hybrid.**—Breeder and vendor: Stokes Seed. Characteristics: predominantly gynoeocious hybrid slicer, 8" fruit length, 55-day maturity. Resistance: moderate to downy mildew and cucumber mosaic virus.

**Straight Eight (Straight 8).**—Breeder and vendor: Ferry-Morse. Characteristics: monoecious inbred slicer, 58–65-day maturity, all purpose cultivar, vigorous vines, fruit dark green, straight, 8–9 × 2–2.25" size, white spined, cylindrical, blunt ends, uniform shape and size. Resistance: none. 1935.

**Straight Nine (Z609-83).**—Breeder and vendor: Hollar. Characteristics: monoecious inbred slicer, fruit longer than Ashley, 8.5" long, medium dark green, somewhat pointed blossom end. Resistance: downy mildew, powdery mildew. Similar: Ashley. 1984.

**Streamliner Hybrid.**—Breeder and vendor: Burpee Seed. Characteristics: predominantly gynoeocious hybrid trellis slicer, 60-day maturity, extra long, slender, thick flesh, small seedcell, 11" fruit length. Resistance: powdery mildew, cucumber mosaic virus. Adaptation: trellis or garden.

**Striker (XPH 1471).**—Breeder and vendor: Asgrow. Characteristics: predominantly gynoeocious hybrid slicer, for use where Marketmore 76 is planted, fruit slightly longer than Marketmore 76, second early maturity, white spined, 8–9" length, blocky ends. Resistance: downy mildew, powdery mildew, cucumber mosaic virus, anthracnose, angular leaf spot, scab. Similar: Marketmore 76.

**Sumter u.**—Breeder: H. Munger, Cornell Univ. Characteristics: Sumter with uniform green fruit gene.

**Sunny South.**—Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.

**Supersett (Floracuke).**—Breeder and vendor: Petoseed. Characteristics: predominantly gynoeocious hybrid slicer, fruit white spined, cylindrical, uniform dark green, 8.5 × 2.25" size, vine vigorous, 60-day maturity, excellent packout, high quality fruit. Resistance: anthracnose race 2, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Sweet Alpee.**—Breeder and vendor: Sakata Seed. Characteristics: monoecious middle eastern slicer, mid early maturity, bright green fruit. Resistance: downy mildew, powdery mildew, cucumber mosaic virus, squash mosaic virus, watermelon mosaic virus 2. Similar: Beit Alpha.

**Sweet Crunch.**—Breeder and vendor: Sakata Seed. Characteristics: predominantly gynoeocious middle eastern slicer, mid-early maturity, medium green fruit. Resistance: downy mildew, powdery mildew, cucumber mosaic virus, squash mosaic virus, watermelon mosaic virus 2. Similar: Beit Alpha, higher yield than Sweet Alpee in some areas.

**Sweet Salad.**—Breeder and vendor: Petoseed. Characteristics: monoecious hybrid slicer, moderate vigor, fruit sweet, slender, tapered, 12 × 2" size, 63-day maturity, crispy, excellent taste for home garden and fresh market. Resistance: papaya ringspot virus, anthracnose, downy mildew, powdery mildew, cucumber mosaic virus. 1992.

**Sweet Slice Hybrid.**—Breeder and vendor: Burpee Seed. Charac-

teristics: hybrid slicer, 62-day maturity, 10" fruit length. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Sweet Success.**—Breeder and vendor: Petoseed. Characteristics: gynoeocious hybrid slicer, white spined, fruit very long, straight, rounded at blossom end, medium green, smooth 12–14 × 2.25" size, 54-day maturity, parthenocarpic, market and home garden, AAS winner. Resistance: scab, cucumber mosaic virus. Adaptation: greenhouse.

**Sweet'N Crunchy Hybrid.**—Breeder and vendor: Burpee Seed. Characteristics: middle eastern hybrid slicer, dark green fruit, white spined, 7" fruit length. Resistance: downy mildew, powdery mildew, cucumber mosaic virus. Similar: Beit Alpha.

**Sword (XPH 1699).**—Breeder and vendor: Asgrow. Characteristics: middle eastern, predominantly gynoeocious hybrid slicer, fruit attractive, medium dark-green, slender, L/D 3.8. Resistance: scab, cucumber mosaic virus, anthracnose, powdery mildew, downy mildew, anthracnose. Similar: Beit Alpha. 1994.

**Tablegreen 65.**—Breeder: H. Munger, Cornell Univ. Characteristics: monoecious inbred white spined, slicer, 8" fruit length. Resistance: scab, cucumber mosaic virus, moderate to downy mildew, moderate to powdery mildew. 1965.

**Tablegreen 68.**—Breeder: H. Munger, Cornell Univ. Characteristics: gynoeocious Tablegreen 65. 1968.

**Tablegreen 72.**—Breeder: H. Munger, Cornell Univ. Characteristics: bitterfree Tablegreen 65. 1972.

**Tablegreen 72F.**—Breeder: H. Munger, Cornell Univ. Characteristics: gynoeocious Tablegreen 72. 1972.

**Tablegreen 72 Bw.**—Breeder: H. Munger, Cornell Univ. Characteristics: bacterial wilt resistance backcrossed into Tablegreen 72. Short fruit and late maturity. For use as parent of hybrid. 1972.

**Tablegreen 76.**—Breeder: H. Munger, Cornell Univ. Characteristics: high powdery mildew resistance backcrossed into Tablegreen 65. Has many traits of Marketmore 76 and Poinsett 76, but released later. 1996.

**Tableslice.**—Breeder and vendor: Abbott & Cobb. Characteristics: monoecious inbred slicer, 9" fruit length. Resistance: downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Tailby's Hybrid (Bismarck, Improved Bismarck, New Orleans Market, Giant Tailby Hybrid, Tailby).**—Breeder: Joseph Tailby. Characteristics: monoecious open-pollinated slicer, fruit straight, very dark green, 8–9 × 2.5–2.75" size. 1872.

**Tamara (FMX0100).**—Breeder and vendor: Ferry-Morse. Characteristics: parthenocarpic, fruit shiny, 7–8" long. Similar: Zaina. Adaptation: greenhouse.

**Target.**—Breeder and vendor: Petoseed. Characteristics: predominantly gynoeocious hybrid pickler, fruit white spined, L/D 3.1. Resistance: anthracnose, angular leaf spot.

**Teton (XPH 1664).**—Breeder and vendor: Asgrow. Characteristics: monoecious hybrid pickler, developed as a pollenizer for gynoeocious hybrids with short L/D, such as Vlasset or Fancipak. Resistance: cucumber mosaic virus, scab, angular leaf spot, downy mildew, powdery mildew, anthracnose. Similar: Sumter. 1993.

**Tex Long (Texlong).**—Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred slicer, 68-day maturity, fruit dark green, 8–9" long. Resistance: downy mildew, powdery mildew.

**Thunder (XPH 1700).**—Breeder and vendor: Asgrow. Characteristics: predominantly gynoeocious hybrid slicer, vigorous vines, uniform fruit, early yield, white spined. Resistance: scab, powdery mildew, downy mildew, anthracnose, cucumber mosaic virus, zucchini yellow mosaic virus. 1993.

**Tirana (E2056).**—Breeder and vendor: Enza. Characteristics: gynoeocious hybrid slicer. Resistance: scab. Adaptation: greenhouse.

**TMG-1.**—Breeder: R. Provvidenti, Cornell Univ. Characteristics: monoecious inbred, selection from Taichung Mau Gua selection for use as a source of multiple virus resistance. Resistance: cucumber mosaic virus, zucchini yellow mosaic virus, papaya ringspot virus, watermelon mosaic virus 2. 1985.

**Tokyo Long Green.**—Parentage: given by a Japanese seed company in California to S.P. Doolittle (USDA), who gave it to O. Shiffriss, Cornell Univ., in 1936. Characteristics: vigorous vines, late maturity,

L/D similar to American slicer, light green, tendency toward bitter fruit and internal fruit defects; used as parent of successful slicer hybrids. Resistance: cucumber mosaic virus.

**Tomara.**—Breeder and vendor: Nunhems Zaden. Characteristics: predominantly gynoeocious hybrid. Resistance: powdery mildew, scab, cucumber mosaic virus, moderate to downy mildew. Adaptation: greenhouse.

**Trailblazer.**—Breeder: Robson Seed / Midwest Seed Growers. Characteristics: hybrid slicer, dark green fruit, high yield.

**Transamerica (FMX 4639).**—Breeder: L. Gautney. Vendor: Ferry-Morse. Characteristics: predominantly gynoeocious hybrid pickler, dark green, blocky, medium long, white spined, performs well at high plant density, excellent brining, 50–52-day maturity. Resistance: anthracnose, angular leaf spot, cucumber mosaic virus, scab, powdery mildew, downy mildew. Adaptation: U.S., Mexico. 1988.

**Triple Threat (FMX 4446).**—Breeder: L. Gautney. Vendor: Ferry-Morse. Characteristics: 3-way hybrid gynoeocious pickler, good fruit length, medium fruit color, good yielding, large-vined type, 51–53-day maturity, L/D 3.0–3.2, straight, blocky, white spined, dark green, brines well. Resistance: scab, cucumber mosaic virus, anthracnose, angular leaf spot. 1983.

**Triplecross.**—Breeder: Texas A & M Univ. Characteristics: 3-way hybrid gynoeocious pickler, white spined, L/D 3.1. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Triplemech.**—Breeder and vendor: Petoseed. Characteristics: 3-way hybrid gynoeocious pickler, L/D 3.15, white spined. Resistance: anthracnose, angular leaf spot, powdery mildew, scab, cucumber mosaic virus. Similar: Calypso.

**Tropicuke.**—Breeder and vendor: Petoseed. Characteristics: gynoeocious hybrid slicer, vigorous dark green plant, early maturity, begins production 60 days after emergence, fruit cylindrical, uniform dark green smooth, firm, creamy white flesh, crisp, flavorful. Resistance: anthracnose race 2, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. Adaptation: wide, especially tropical and subtropical areas.

**Turbo (PSX 34885).**—Breeder and vendor: Petoseed. Characteristics: gynoeocious hybrid slicer, high yields, excellent-quality fruit late in season, very vigorous plant, uniform very dark green skin, cylindrical, blocky, 9.25 × 2.25" size, small seedcell, high percent of super select grade fruit, excellent length. Resistance: cucumber mosaic virus, powdery mildew, scab, downy mildew, anthracnose race 2, angular leaf spot. 1991.

**Ultra Pak.**—Vendor: Stokes Seeds. Characteristics: hybrid slicer, matures in 48 days, dark green fruit 8.5 × 2". Resistance: angular leaf spot, anthracnose, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Universal.**—Breeder: Otis Twilley. Vendor: Abbott & Cobb. Characteristics: monoecious hybrid slicer, smooth, uniform dark green fruit free of stippling. Resistance: cucumber mosaic virus, scab, downy mildew, powdery mildew, angular leaf spot, anthracnose. Similar: Poinsett. 1982.

**Val-U-More (AC 110).**—Breeder and vendor: Abbott & Cobb. Characteristics: all-hybrid blend, good yield, 60-day maturity, white spined, slicer. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Vaughan (Longfellow).**—Breeder: Mr. Dilger, Chicago. Vendor: Natl. Seed Storage Lab. Characteristics: open-pollinated monoecious slicer, fruit straight, dark green, 12–14 × 2.75–3" fruit. 1920.

**Very Important Pickle (VIP).**—Breeder and vendor: Ferry-Morse. Characteristics: 3-way hybrid gynoeocious pickler, white spined, L/D 2.9. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus.

**Vestervange.**—Vendor: Natl. Seed Storage Lab. Characteristics: monoecious inbred.

**Victoria (Sun-3547).**—Breeder and vendor: Sunseeds. Characteristics: monoecious hybrid pickler, white spined, 48-day maturity, slightly tapered fruit, good length. Resistance: powdery mildew, downy mildew, scab, cucumber mosaic virus, papaya ringspot virus, watermelon mosaic virus, zucchini yellow mosaic virus.

**Victory.**—Breeder and vendor: Petoseed. Characteristics: pre-

dominantly gynoeocious hybrid slicer, white spined. Resistance: anthracnose, scab, cucumber mosaic virus, moderate to angular leaf spot.

**Vlaspik (XVC 2643).**—Breeder: G.E. Tolla. Vendor: Campbell (Vlasic), acquired by Asgrow. Characteristics: predominantly gynoeocious hybrid pickler, L/D 3.2, white spined. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. Adaptation: hand harvest in southern U.S., machine harvest in northern U.S. Similar: Lafayette. 1994.

**Vlasset (XVC 2649).**—Breeder: G.E. Tolla. Vendor: Campbell (Vlasic), acquired by Asgrow. Characteristics: predominantly gynoeocious hybrid pickler, L/D 2.8, white spined. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. Adaptation: hand harvest in Mexico or northern U.S. Similar: Fancipak. 1994.

**Vlasstar (XVC 10489).**—Breeder: G.E. Tolla. Vendor: Campbell (Vlasic), acquired by Asgrow. Characteristics: predominantly gynoeocious hybrid pickler, medium sized vine, L/D 3.0, white spined, fruit medium dark color. Resistance: powdery mildew, downy mildew, scab, cucumber mosaic virus, angular leaf spot. Adaptation: hand harvest in Mexico or southern U.S. Similar: Flurry. 1995.

**Volley (PS 20680).**—Breeder and vendor: Petoseed. Characteristics: predominantly gynoeocious hybrid pickler, maturity 53 days, fruit dark green, L/D 2.95, white spined. Resistance: scab, anthracnose, downy mildew, powdery mildew. 1985.

**Wautoma (WI 1902).**—Breeder: Wis-USDA. Parentage: Gy 14 × WI 409M. Characteristics: monoecious inbred pickler, L/D 3.0, white spined. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. 1985.

**Wellington (PSX 10588).**—Breeder and vendor: Petoseed. Characteristics: predominantly gynoeocious hybrid pickler, 49-day maturity, semi-determinate, white spined, fruit medium dark green. Resistance: angular leaf spot, powdery mildew, downy mildew, cucumber mosaic virus, anthracnose race 2, scab. 1995.

**White German (Extra Long White, Giant White, Long Snow White, Long White, New Giant White, Panmure Long White, White Dutch).**—Characteristics: monoecious open-pollinated slicer, fruit straight, greenish white, 10–12 × 2.25–2.5" size. 1778.

**White Lemon (Crystal Apple).**—Vendor: Natl. Seed Storage Lab. Characteristics: hermaphroditic inbred, round white fruit with five carpels. Similar: Lemon.

**White Wonder (Albino, Ivory King, Jack Frost, Landreths White Slicing, White Albino).**—Breeder: Burpee. Parentage: sent to White in 1890 by customer. Characteristics: monoecious inbred slicer, fruit oval, ivory white, 6–7 × 2.25–2.5" size, white spined. 1893.

**WI 2757.**—Breeder: Wis-USDA. Parentage: WI 1589 × Expo S4. Characteristics: gynoeocious inbred middle eastern slicer, parthenocarpic, delayed flowering, fruit nonwarty, thin skinned, uniform dark green, L/D 3.0, white spined. Resistance: anthracnose, angular leaf spot, downy mildew, powdery mildew, scab, cucumber mosaic virus. Similar: Beit Alpha. 1982.

**Windermoor Wonder.**—Breeder and vendor: Stokes Seed. Characteristics: monoecious inbred slicer, fruit dark green, 65-day maturity, white spined. 1916.

**Woodruff Hybrid.**—Breeder: Massachusetts. Characteristics: monoecious slicer, fruit straight, dark green, 9–10 × 2.25–2.5" size.

**Zaina (FMX 5002).**—Breeder and vendor: Ferry-Morse. Characteristics: parthenocarpic, middle eastern slicer, shiny, 7–8" fruit length. Adaptation: greenhouse. Similar: Tamara, Beit Alpha.

**Zenith (FMX 4761).**—Breeder and vendor: Ferry-Morse. Characteristics: predominantly gynoeocious hybrid slicer, fruit very dark green, very straight, 7.5–8.5" length. Resistance: scab, powdery mildew, downy mildew, tolerance to cucumber mosaic virus. Similar: Dasher II.

**Zeppelin.**—Breeder and vendor: Van Der Ploeg. Characteristics: schalgurken type, monoecious, inbred, 14" fruit length. Similar: Riesenschal.

**Zesty (PSX 51083).**—Breeder and vendor: Petoseed. Characteristics: predominantly gynoeocious, long fruited, L/D 3.4, suited for relish, spears or dual purpose slicer and pickler for home garden. Resistance: scab. 1986.

## CUCUMBER—ARMENIAN

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**Armenian.**—Breeder: Burpee Seed. Characteristics: 70-day maturity, long, thin, light green, inbred, 24" fruit length, snake (Armenian) cucumber, *Cucumis melo* var. *flexuosus*.

**Armenian Yard Long.**—Vendor: Natl. Seed Storage Lab. Characteristics: monoecious, inbred, 60-day maturity, 36 × 4" fruit, white spined, light green, curved, ribbed, extra long fruit, snake (Armenian) cucumber, *Cucumis melo* var. *flexuosus*.

**Serpent.**—Vendor: Hollar. Characteristics: 7–8" fruit length, pale green, snake (Armenian) cucumber, *Cucumis melo* var. *flexuosus*.

## DAIKON

**Jon Behling**  
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**April Cross.**—Vendor: Takii and Company. Characteristics: white shouldered, 60-day maturity radish, 40-cm root length. Resistance: moderate tolerance to heat, cold.

**Mino Spring Cross.**—Vendor: Sakata Seed. Characteristics: a slow bolting radish suitable for late spring growing, roots are white skinned, texture is juicy, taste is mild, high level of disease resistance.

**Minowase Summer Cross 3.**—Vendor: Takii and Company. Characteristics: white shouldered, 50-day maturity radish. Resistance: high tolerance to heat, virus, fusarium.

**Omny F1.**—Breeder and vendor: Sakata Seed America. Characteristics: a white-shouldered, all-season-type hybrid.

**Oshin.**—Vendor: Takii and Company. Characteristics: slow bolting, 70-day maturity, root shoulder color is light green. Resistance: strong tolerance to cold.

**Relish Cross.**—Vendor: Takii and Company. Characteristics: green root shoulder color, root length is 38 cm, 60-day maturity. Resistance: moderate tolerance to fusarium, strong tolerance to heat, cold.

**SDA0102 F1.**—Breeder: Sakata Seed America. Characteristics: green shouldered, slightly tapered root, excellent taste, slow bolting.

## EGGPLANT

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**Bambino (PS 8280).**—Breeder and vendor: Petoseed. Characteristics: ornamental eggplant for pot culture, dwarf plants about 15" tall, pretty lavender flowers, miniature dwarf black fruit about 1" long are edible. Resistance: tobacco mosaic virus. 1992.

**Black Beret (HMX 2531).**—Breeder: Rosa Dumlao. Vendor: Harris Moran. Characteristics: early, round-oval, holds black glossy color for a longer time than Black Magic, responds well to hormone treatment. Similar: Black Magic. 1989.

**Early Prolific F2.**—Breeder and vendor: Dessert. Characteristics: heavy yields. Similar: Florida Market.

**Maya (XPH 5193).**—Breeder and vendor: Asgrow. Characteristics: oval shape, slightly elongated fruit, good yields, excellent shelf life. Similar: Bonica, Missionbelle. 1986.

**Rayada.**—Breeder: Puerto Rico Agr. Expt. Sta., Rio Piedras. Vendor: Seed Farms Division, Puerto Rico Agr. Sta. Parentage: Native White X unknown. Characteristics: very prolific, white flesh, light purple with white stripes. Similar: Florida Market. Adaptation: tropics. 1944.

**Rega (NVH 2227).**—Breeder and vendor: Northrup King. Charac-

teristics: long oval-shaped fruit, size ≈7" × 3.5" deep, glossy dark purple color, plant is very vigorous, uniform in height, the very glossy purple color is unique characteristic of this cultivar. 1986.

**Santana (NVH2228).**—Breeder and vendor: Rogers Brothers. Characteristics: long tear drop glossy purple plant on a upright bush. Similar: Classic.

**Tasca.**—Breeder and vendor: Vilmorin. Characteristics: can produce constant quality fruit over long cycles, shiny black fruit, green spineless calyx, uniform size, average weight 350 g. Resistance: cucumber mosaic virus, tobacco mosaic virus. Similar: Black Bell, Mission Bell. 1991.

**Twilight (PSX 48450).**—Breeder and vendor: Petoseed. Characteristics: very early maturity, 64-day maturity, beautiful oval fruit, superior yield potential, uniform 8 1/4" × 4" fruit are deep purple color. Resistance: tobacco mosaic virus. Similar: Florida Market. 1994.

**UGA 1-MS (Male Sterile).**—Breeder: Phatak and Jaworski. Vendor: Coastal Plain Agr. Res. Sta., Tifton, Ga. Characteristics: 80–110 cm tall, vigorous, purple flowers, leaves and stem, fruit is purplish-black, oval globe shaped, sterility due to failure of anthers to dehisce, will not self pollinate. 1989.

**Vernal.**—Breeder and vendor: Vilmorin. Characteristics: average to high plant vigor, having few spines, fruit of very good appearance, shiny black color, average weight 280–300 g. Resistance: cucumber mosaic virus, tobacco mosaic virus. Similar: Avan, Rima. 1990.

**Virgin Long.**—Breeder: Agr. Expt. Sta., Ramcharan, Padda. Characteristics: long cylindrical shaped, light to dark purple color, late maturing, average, weight 202 g, good texture, high yields (40.2 Mg/ha). Resistance: high tolerance to phomopsis rot and high pH soils. 1982.

## ENDIVE

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**Bossa.**—Breeder and vendor: SeedWay. Characteristics: 90-day maturity, head size 12 to 14", deep green, broad, slightly upright leaves, midrib creamy white.

**Coral.**—Breeder and vendor: Johnny's Selected Seeds. Characteristics: medium size, upright dense head of wavy, mid-green, broad leaves, partially self-blanches, creamy yellow to white, well-filled heart, slow bolting, replaces Nuvol, 48-day maturity.

**Cornet d'Anjou.**—Breeder and vendor: Cook's Garden. Characteristics: resembles mouth of a horn, best in fall and spring, blanched by tying to mellow its flavor, 80-day maturity.

**Escarole.**—Breeder and vendor: Burpee Gardens. Characteristics: broad leaved Batavian, 90-day maturity, large, broad, slightly twisted lettuce-like leaves, round plants up to 16" across, heart very deep, well blanched, creamy white with buttery texture. 1991.

**Fine Curled.**—Breeder and vendor: Cook's Garden. Characteristics: known as Frisee, finely cut leaves, blanch by tying heads.

**Flash.**—Breeder: I.N.R.A., Fed. Res. Sta., France. Vendor: Johnny's Selected Seeds. Characteristics: versatile witloof chicory variety, 110-day maturity.

**Florida Deep Heart.**—Breeder and vendor: Twilley Seeds. Characteristics: 90-day maturity, broad leaf southern type produces broad, dark green, coarsely crumpled leaves with white midribs.

**Frisan.**—Breeder and vendor: Stokes. Characteristics: 98-day maturity, heads average 41 cm across, very well filled with well blanched centers, outer leaves are dark green, longer.

**Full Heart Batavian Escarole.**—Breeder: Royal Sluis. Vendor: Stokes. Characteristics: 85-day maturity, imported strain NR65 from Royal Sluis, upright, broad smooth dark green leaves with less basal rot, nicely bunched creamy yellow blanched centers.

**Galia.**—Breeder and vendor: Cook's Garden. Characteristics: similar to Fine Curled but more petite and finely cut leaves, more

trouble free than Fin des Louviers, which it replaces. Similar: Fine Curled

**Geante Maraichere.**—Breeder and vendor: Vilmorin. Characteristics: for harvesting in autumn and winter, full hearted and heavy, versatile and presentation offering a very good quality production. 1990.

**Green Curled Endive.**—Breeder and vendor: Burpee Gardens. Characteristics: giant fringed oyster, 90-day maturity, crisp, tender, rich green, finely cut, fringed leaves blanch to creamy white in center, plants 16–18" across. 1991.

**Green Curled Ruffec.**—Breeder and vendor: Nichols Garden Nursery. Characteristics: finely cut and frilled leaves, flavor slightly bitter, 90-day maturity. 1994.

**Grossee Bouchlee.**—Breeder and vendor: Willhite. Characteristics: 50-day maturity, very tight heart, smooth leaves are long and well blanching, tender, crunchy leaves, easy to grow.

**Grosse Bouclee.**—Breeder and vendor: Vilmorin. Characteristics: large sized, early variety, very tight heart, curled leaves, long and blanched. Resistance: bolting.

**Lorca.**—Breeder and vendor: SeedWay. Characteristics: 70-day maturity, head size 14", leaf deep green, curled, toothed, midrib color light green, large, dense heads, refined look, uniform Salad King type, slow bolt. Resistance: tolerance tipburn. Similar: Salad King.

**Moss Curled.**—Breeder and vendor: Bountiful Gardens. Characteristics: feathery dark green curled leaves, heavy growth, grows fast in cold weather, blanch by tying outer leaves together to exclude the daylight. Resistance: heat.

**Neos.**—Breeder and vendor: SeedWay. Characteristics: 90-day maturity, head size 12–14", leaves light green, pale green finely cut midrib color, finely curled, heavy heads with well-blanched centers.

**President.**—Breeder and vendor: Seeds Blum. Characteristics: hardiest in fall.

**Rhodod.**—Breeder and vendor: Johnny's Selected Seeds. Characteristics: French Tres Fine Maraichere type, smooth, deeply cut, toothed grey-green leaves, mass of tender, white-blanched leaves at heart, harvest early before showing tipburn or bottom rot.

**Salad King.**—Breeder and vendor: Johnny's Selected Seeds. Characteristics: vigorous, healthy, curly, deep green, toothed, curled leaves, very heavy and large, slow bolting, 52-day maturity, Wallonne type. Resistance: tolerance to tipburn and frost. Similar: Wallone.

**Salad King Improved.**—Breeder and vendor: Harris Moran. Similar: Salad King.

**Sinco Escarole.**—Breeder and vendor: Shepard's Garden. Characteristics: big head, large outer leaves folded around a closely brunched crunchy heart, leaves are extra crispy and succulent.

**Sugarloaf.**—Breeder and vendor: Cook's Garden. Characteristics: known in France as Pain de Sucre, relatively large, cos-like green head, high yielding, best as a fall crop, 80-day maturity.

**Tosca.**—Breeder and vendor: Stokes Growers Guide. Characteristics: 85-day maturity, very large, early type with very fine "shoe string" leaves, narrower than other types, medium green leaves, white blanched hearts.

**Tasos.**—Breeder and vendor: SeedWay. Characteristics: 90-day maturity, head size 12–14", dark green, finely cut leaves, midrib is pale green, very finely curled. Resistance: tolerance to cold.

**Traviata.**—Breeder and vendor: Vilmorin. Similar: Grosse Pommant Seule. 1990.

**Tres Fine.**—Breeder and vendor: Shepard's Garden. Characteristics: extra finely cut, lacy leaves, delicate crispy ribs and cream colored hearts, slow bolting, easy to grow.

**Tres Fine Maraichere race Galia.**—Breeder and vendor: Vilmorin. 1993.

**Wallonne.**—Breeder and vendor: Seeds Blum. Characteristics: excellent fall and winter type.

**Wallonne race Lorca.**—Breeder and vendor: Vilmorin. Characteristics: adapted for cropping in autumn, petioles are curled right to the base of intermediate size, very full dense centers, good yield of blanched leaf. Similar: Minerva. 1990.

## GOURD—BENINCASA

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**Chinese Fuzzy (Fuzzy Squash, Fuzzy Melon).**—Vendor: Seed Saver's Exchange. Characteristics: fruit small (8–14" long × 3–4" diameter), weighing 5–15 lb, hairy with little waxy bloom, heavy yielder, 55–60-day maturity, eaten immature like summer squash. 1981.

**Chinese Preserving Melon (Courge à la cire, Chinese Winter Melon).**—Characteristics: introduced to USA from China in 1892, large round to oblong fruit, 10–15" long, weighing 15–25 lb, waxy. 1892.

**Giant.**—Vendor: Seed Saver's Exchange. Characteristics: fruit very large. 1985.

**Green Long and White (Long White).**—Vendor: Sunrise. Characteristics: fruit cylindrical, narrower than Chinese Preserving Melon, weighing about 20 lb, 90-day maturity. 1987.

**Large Round.**—Vendor: Sunrise. Characteristics: fruit round to oblong, 20" diameter to 24" long × 12" diameter, rind light green covered with white wax at maturity, flesh fine grained, 90-day maturity. 1981.

**Long Fuzzy.**—Vendor: Seed Saver's Exchange. Characteristics: fruit 2' long × 6" diameter, 90-day maturity. 1996.

**Round.**—Vendor: Seed Saver's Exchange. Characteristics: fruit similar to Chinese Fuzzy but roundish to oval instead of cylindrical. 1988.

**Small Chinese.**—Vendor: Sunrise. Characteristics: fruit round and small, maturing to 5–10 lb, flesh fine-grained. 1987.

**Super Soup.**—Characteristics: fruit very long, 39" long × 8" diameter, rind smooth and without waxy bloom, vigorous short day plant; from Taiwan. Facciola's Cornucopia, 1990.

**Tong Qua Large White.**—Vendor: Evergreen. Characteristics: very large fruit 30" long × 18" diameter, 120-day maturity. 1987.

## GOURD—CUCURBITA

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**Apple (Early Apple, Apple Squash).**—Vendor: Hovey. Characteristics: fruit obtusely conical to spherical, <3" diameter, rind pale yellow to white. 1847.

**Ball, White.**—Vendor: Stokes. Characteristics: similar to Yellow Ball but with white rind. Similar: Yellow Ball. 1995.

**Ball, Yellow.**—Vendor: Stokes. Characteristics: rind dull yellow. Similar: Apple. 1982.

**Bell (=Bishop's Mitre of 1866?).**—Characteristics: fruit bell shaped, 3.5" long × 3.5" diameter at widest point near blossom end, obscurely ridged, rind yellow flecked with green patches. Bailey's The Garden of Gourds, 1937.

**Bell, Big.**—Characteristics: fruit shaped similar to Bell but larger, 4–6" long, surface smooth or somewhat warty, rind cream colored or green. Bailey, 1937.

**Brazilian Sugar (Brazilian, Brazilian Sugar Gourd).**—Vendor: Vilmorin. Characteristics: fruit oval, 5–6" long × 4–5" diameter, obscurely ribbed, warty, rind orange, flesh yellow. 1885.

**Crown of Thorns (Finger, Holy Gourd, Sugar Bowl).**—Characteristics: fruit spherical to oblong, ≈5" diameter, with five pairs of finger-shaped protuberances extending from the ridges at the stem end freely out toward the blossom end, surface typically smooth but sometimes warty, rind white to yellow. Bailey, 1937.

**Crown of Thorns, Striped.**—Vendor: Stokes. Characteristics: similar to Crown of Thorns but rind has green and white stripes.

Similar: Crown of Thorns. 1985.

**Der Wing.**—Vendor: Burpee. Characteristics: fruit oval, 5–6" long × 2.5–3" diameter, warty, rind white, flesh light yellow with greenish tinge; supposedly selected from Chinese germplasm. 1892.

**Egg (Nest Egg, White Egg, Goose Egg).**—Characteristics: fruit obovate, 2.5–3" long × 1.7–2.5" diameter at widest point near blossom end, rind typically all white but cultivars with green stripes may also be sold under this name. Burr's Field and Garden Vegetables of America, 1865.

**Flat Striped (Broad Striped, White-striped Flat Fancy Gourd).**—Vendor: Vilmorin. Characteristics: fruit short cylindrical, 1.5–2.5" long × 3–4" diameter, flattened to concave at ends, somewhat angular around circumference, rind dark green with lighter colored stripes or marbling, flesh bitter. 1885.

**Ladle (Scoop).**—Characteristics: fruit elongated pear shaped, 6–8" long, often warty, rind often bicolored as in Bicolor Pear. Bailey, 1937.

**Miniature (Miniature Ball).**—Vendor: Vilmorin. Characteristics: fruit oblate to nearly spherical, 1.5" long × 1.5–2" diameter, rind dark green variegated with pale green stripes. 1885.

**Orange (Orange Ball, Mock Orange).**—Characteristics: fruit spherical to oblong, 3–4" diameter to 5" long, surface smooth, rind orange. Burr, 1865.

**Pear, Bicolor (Ringed Pear).**—Vendor: Vilmorin. Characteristics: similar to Striped Pear, but the stem end half is striped in shades of yellow and the blossom end in greens; Ringed Pear is a variant where the green portion forms only a rind instead of covering half the fruit. Similar: Striped Pear. 1885.

**Pear, Striped.**—Vendor: Vilmorin. Characteristics: similar to White Pear but rind is dark green with lighter colored stripes. Similar: White Pear. 1885.

**Pear, White.**—Vendor: Vilmorin. Characteristics: fruit pear shaped, 3–5" long, surface smooth, rind white. 1885.

**Pineapple (Early Pineapple, White Pineapple, White Turban).**—Vendor: Burpee. Characteristics: fruit 8" long × 8" diameter, spindle shaped with five pairs of prominent projections around the median, some inclined outwards and others towards the apex or base, rind white; supposedly selected from Chilean germplasm. 1884.

**Spoon (Bicolor Spoon, Small Spoon).**—Characteristics: similar to Bicolor Pear except that the stem-end neck is elongated and may be curved. Similar: Bicolor Pear. Bailey, 1937.

**Warty (Orange Warty, Warty Hardhead, Warty Fancy Gourd).**—Vendor: Vilmorin. Characteristics: fruit oblate to spherical to short oblong, 3–4" diameter, covered with numerous round protuberances or warts, rind orange, green, or rarely white, sometimes striped. 1885.

## GOURD—LAGENARIA

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**Acoma Rattle.**—Vendor: Native Seeds, Search. Characteristics: small discoid fruit measuring 4" long × 8" diameter; from Acoma Pueblo, New Mexico. 1994.

**Banana.**—Characteristics: narrow cylindrical, club-shaped fruit up to 8" long. American Gourd Society's The Gourd, 1994.

**Basketball.**—Characteristics: 6–10" diameter spherical fruit. American Gourd Society, 1994.

**Birdhouse (Purple Martin House, Bird's Nest).**—Characteristics: large bilobal with slender neck, thick rind, large blossom end bowl, 8–14" diameter, suitable for making birdhouse, 95–120-day maturity. Whitaker & Davis's Cucurbits, 1962.

**Blow Gun Kapok (Cofan Kapok).**—Vendor: Seed Saver's Exchange. Characteristics: fruit 6" long with a 3–4" bowl, 150-day maturity; from Cofan people of the Amazon. 1996.

**Bottle (Common Bottle, Pilgrim, Dumbbell).**—Vendor: Vilmorin.

Characteristics: bilobal fruit up to 18" long with the two unequal bowls separated by a constricted neck, the larger blossom end bowl contains the seeds. Burr, 1865.

**Bottle, Chinese.**—Vendor: Seed Saver's Exchange. Characteristics: small bilobal, 5" diameter blossom end bowl, 100–110-day maturity. 1996.

**Bottle, Indonesian.**—Vendor: Seed Saver's Exchange. Characteristics: 12–15" long bilobal with distinct elongated neck, stem end bowl 3–4" diameter and blossom end bowl 10–15" diameter; from Bali, Indonesia. 1996.

**Bottle, Large.**—Vendor: DeGiorgi. Characteristics: bilobal with large blossom end bowl up to 14" diameter. 1985.

**Bottle, Mexican.**—Characteristics: 12" or more long bilobal, smaller stem end bowl topped with a nipple. American Gourd Society, 1994.

**Bottle, Miniature.**—Vendor: Seed Saver's Exchange. Characteristics: small bilobal, 1.5–6" long; used as baby rattle in Southeast Asia. 1996.

**Bottle, Sennari (Sennari).**—Characteristics: small bilobal, 2–6" long, the smaller stem end bowl topped with a nipple; used as sake container in Japan. American Gourd Society, 1994.

**Bushel (Bushel Basket).**—Vendor: Gleckler's. Characteristics: large round, though usually wider than long, to somewhat conical fruit up to 24" diameter and 100 lb. Resistant: insects. Similar: African Giant. 1993.

**Cannonball.**—Characteristics: small spherical fruit, 2.5–4" diameter. American Gourd Society, 1994.

**Cheese.**—Vendor: Seed Saver's Exchange. Characteristics: fruit shaped like cheese squash. 1996.

**Chinese Water Jug (Giant Bottle, Water Jug).**—Vendor: Stokes. Characteristics: fruit with a 9–10" diameter bowl, 14–16" neck, very thick rind. 1995.

**Club (Clavata, Hercules Club, Trumpet).**—Characteristics: long cylindrical fruit which slowly enlarges towards the blossom end, where it is about twice as large in diameter as it is at stem end. Naudin's Annales des Sciences Naturelles, 1859.

**Corsican Flat (Cource Plate de Corse, Flat, Canteen, Bowl, Sugar Bowl).**—Vendor: Vilmorin. Characteristics: conical to discoid fruit, measuring 3–4" long × 6–15" diameter. 1883.

**Cow Leg.**—Characteristics: high resistance to viruses; from Taiwan. Cucurbit Genetics Cooperative Report, 1995.

**Dipper (Siphon, Retort).**—Vendor: Vilmorin. Characteristics: fruit with swollen blossom end, 8–12" diameter, thin elongated neck, rind thick and hard. Burr, 1865.

**Dipper, Apache.**—Vendor: Native Seeds, Search. Characteristics: dipper-shaped fruit with neck to 1' long; from Apache tribe in Arizona. 1994.

**Dipper, Extra Long Handled.**—Characteristics: dipper shaped fruit with thin neck 4–6' long. Summit's Gourds in Your Garden, 1998.

**Dipper, Long Handled.**—Vendor: Gleckler's. Characteristics: dipper shaped fruit with thin neck 3–4" long, bowl 4–8" diameter. 1993.

**Dipper, Miniature.**—Vendor: Seed Saver's Exchange. Characteristics: dipper shaped fruit with neck 4–6" long, bowl 2–3" diameter. 1996.

**Dipper, O'odham.**—Vendor: Native Seeds, Search. Characteristics: dipper shaped fruit measuring 8–18" long; from Tohono O'odham Nation at Topawa. 1996.

**Dipper, Santo Domingo.**—Vendor: Native Seeds, Search. Characteristics: short-handled dipper with medium to large bowl; from Santo Domingo tribe, New Mexico. 1994.

**Dipper, Short Handled.**—Characteristics: dipper shaped fruit with relatively thick neck measuring about 8" long. Summit, 1998.

**Dipper, South Seas Island.**—Characteristics: dipper shaped fruit with neck 16" long, bowl 6" diameter, rind green with white spots. 1988.

**Early Green Long.**—Vendor: Sunrise. Characteristics: club-shaped fruit, 1.5" long × 3–5" diameter, eaten young; from China. 1987.

**Extra Long.**—Characteristics: fruit 30" to 3' long × 3" wide, flesh thick and tender; from southeast Asia. Facciola, 1990.

**Hahre-hawan.**—Characteristics: ovoid medium sized fruit, thin pale green rind streaked with white. Naudin, 1859.

**Hawaiian Mask (*Hawaiian Ipu Nui*).**—Characteristics: large 12" bowl with a 6" stem end neck; old type from Hawaii. Whitaker & Davis, 1962.

**Hopi Rattle.**—Vendor: Seeds of Change. Characteristics: small to medium sized discoid fruit measuring 3" long × 3–6" diameter; used as rattle since ancient times by Hopi tribe in Arizona. 1993.

**Japanese Long (*Japanese Bottle Siphon*).**—Vendor: Seed Saver's Exchange. Characteristics: cylindrical fruit, 18"–6' long, with slight bulbs at each end; from Japan. 1996.

**Japanese Round Basket (*Japanese Round*).**—Vendor: Seed Saver's Exchange. Characteristics: similar to Kettle but more elongated, 18" long × 12–14" diameter. Similar: Kettle. 1996.

**Kampyo (*Yûgao*).**—Characteristics: club-shaped fruit from which the Japanese prepare dried gourd shavings. Facciola, 1990.

**Kettle (*African Kettle, Big Calabash of Africa*).**—Characteristics: large round, usually wider than long to conical fruit, sometimes with a short neck towards stem end, thick woody rind, large seeds. Naudin, 1859.

**Knob Kerrie.**—Characteristics: long, slender, club-shaped fruit with knob, slight enlargement at stem end. Bailey, 1937.

**Large and Long.**—Vendor: Sunrise. Characteristics: club-shaped fruit, 3' long × 8" diameter, 20 lb, eaten immature; from China. 1987.

**Long Calabash (*Calabash Extra Long*).**—Vendor: Evergreen. Characteristics: club-shaped fruit measuring 3' long × 6" diameter, eaten immature, also used as watermelon rootstock; from Japan. 1981.

**Long Marmorata.**—Vendor: Nichols. Characteristics: club-shaped fruit, 45" long × 3–4" diameter. 1995

**Long White Prolific.**—Characteristics: Club-shaped fruit up to 30" long, eaten immature at 16–20" long. Tindall's Vegetables in the Tropics, 1983.

**Longissima (*Baton, Long Club, Italian Edible, Cucuzzi, Cucuzzi Caravazzi, Snake, Flute, Serpent*).**—Vendor: Vilmorin. Characteristics: similar to Hercules Club but longer, edible at 1' long × 2" diameter but will grow to 6' long; from Italy. Similar: Hercules Club. 1885.

**Longneck.**—Vendor: Seed Saver's Exchange. Characteristics: thin fruit with tapered head, neck to 3' long. 1996.

**Lump-in-the-neck.**—Vendor: Native Seeds, Search. Characteristics: small bilobal with a continuation of the neck above the stem end bowl; from southwestern U.S. 1988.

**Maranka (*Dolphin, Dinosaur, Monkey, Cave Man's Club, Swan, Alley Oop, Alligator*).**—Characteristics: overall short handled dipper-shaped fruit of medium size, 12–21" long with a curved neck, with convoluted knobby ridges on the bowl, rind is hard and relatively dark and shiny, seeds are large. Bailey, 1937.

**Mayo.**—Vendor: Seed Saver's Exchange. Characteristics: round bowl to 6" diameter with stout straight neck, thick rind. 1996.

**Mayo Bilobal.**—Vendor: Native Seeds, Search. Characteristics: medium sized, 10–12" long bilobal fruit with thick shell; from Sonora, Mexico. 1994.

**Mayo Giant Bule.**—Vendor: Native Seeds, Search. Characteristics: large ovoid-shaped fruit, 20–24" long; from Sonora, Mexico. 1994.

**Mayo Gooseneck.**—Vendor: Native Seeds, Search. Characteristics: 1' long bilobal fruit with a curved narrow neck, the larger bowl, 6" diameter comes to a point, forming a nipple, at the blossom end; from Sonora, Mexico. 1994.

**Mayo Warty Bule.**—Vendor: Native Seeds, Search. Characteristics: pear shaped fruit, 1' long with a 10" diameter bowl with large knobby "warts" on bowl; from Sonora, Mexico. 1994.

**Med-Long Calabash (*Medium Long*).**—Vendor: Evergreen. Characteristics: club-shaped fruit, 15" long × 4" diameter, yellowish-green rind, eaten immature; from eastern Asia. 1981.

**New Guinea Butter Bean (*New Guinea Butter Vine*).**—Characteristics: long cylindrical club-shaped fruit, eaten young; from New Guinea. Whitaker & Davis, 1962.

**Nigerian Saybo.**—Vendor: Seed Saver's Exchange. Characteristics: large bilobal with a pointed end, bulbous neck. 1996.

**O'odham Small Bilobal.**—Vendor: Native Seeds, Search. Characteristics: bilobal fruit measuring 8–10" long; from Tohono O'odham Nation. 1996.

**Penis Sheath.**—Characteristics: club-shaped fruit, seeds relatively small, almost square instead of rectangular; ancient landrace from New Guinea. Heiser's The Gourd Book, 1979.

**Peyote Ceremonial.**—Vendor: Native Seeds, Search. Characteristics: small bilobal 2–5" long; from southwestern U.S. 1994.

**Pipe (*Calabash Pipe, South African Calabash Pipe*).**—Characteristics: fruit with a curved gradually tapering neck, making it suitable to use as the curved bowl of a pipe, rind thick. USDA, BPI Circ., 1909.

**Powder Horn (*Courge Poire à Poudre, Powder, Penguin*).**—Vendor: Vilmorin. Characteristics: elongated pear shaped fruit with a distinct and somewhat curved neck at stem end, 12–15" long × 3–5" diameter at widest point near blossom end; original from France. Burr, 1865.

**Pusa Summer Prolific Long.**—Characteristics: fruit 1.5–2' long, eaten immature, an improved cultivar that is prolific. Tindall, 1983.

**Rainy Queen.**—Characteristics: slim, attractive fruit measuring 3.5–5' long. Facciola, 1990.

**Small Gourd of Brazil.**—Characteristics: small bilobal fruit, 3–4" long with very hard rind, the small seeds are almost triangular. Naudin, 1859.

**Small Gourd of Guinea (*Microcarpa*).**—Characteristics: short bilobal fruit with oval seeds. Naudin, 1859.

**Snake, Long Green (*Elongata*).**—Characteristics: club-shaped fruit to 4' long, rind dark green with white streaks or specks; original from Egypt. Naudin, 1859.

**Snake, San Juan.**—Vendor: Native Seeds, Search. Characteristics: thin cylindrical fruit to 3' long which curves when grown on ground; from southwestern U.S. 1994.

**Snake, Wonder.**—Vendor: Gleckler's. Characteristics: club-shaped fruit ≈5' long; from India. 1993.

**Summer King.**—Characteristics: club-shaped fruit 1.5–2' long, rind uniform yellowish green, flesh firm and white, an old bush cultivar. Facciola, 1990.

**Tarahumara Canteen.**—Vendor: Native Seeds, Search. Characteristics: pear-shaped fruit that is quart size; from Chihuahua, Mexico. 1988.

**Tepehuan Canteen.**—Vendor: Native Seeds, Search. Characteristics: tear-drop shaped fruit; from Tepehuan village in Chihuahua, Mexico. 1996.

**Tobacco Box (*Snuff Box*).**—Characteristics: similar to Corsican Flat but smaller and more conical than discoid, sometimes with a slight taper at stem end. Similar: Corsican Flat. Naudin, 1859.

**Trough.**—Characteristics: thick cylindrical fruit measuring 1–1.5' long. Bailey, 1937.

**Trough, Bali Sugar.**—Vendor: Seed Saver's Exchange. Characteristics: thick cylindrical fruit to 18" long × 8" diameter; from Bali, Indonesia. 1996.

**Trough, Sugar.**—Characteristics: similar to Trough but with a more tapering end. Similar: Trough. Bailey, 1937.

**Verma Wonder.**—Characteristics: relatively new cultivar producing many fruits on very small plants; from India. Facciola, 1990.

**Warty, African.**—Vendor: Seed Saver's Exchange. Characteristics: fruit 6" diameter with small protuberances or warts over entire surface. 1996.

**Warty, Hardshell.**—Characteristics: pear shaped fruit covered with small protuberances. American Gourd Society, 1994.

**Yaqui Deer Dance Rattle.**—Vendor: Native Seeds, Search. Characteristics: pear, to short handled, dipper shaped; from Sonora, Mexico. 1994.

**Zucca (*Sheep's Nose*).**—Characteristics: thick cylindrical fruit, 3–4' long × 8–10" diameter, thin rind, eaten immature. Similar: Longissima. 1938.

**Zucca Sicillano.**—Vendor: Siegers. Characteristics: similar to Zucca but smaller, 2–4' long × 3" diameter, eaten immature. Similar: Zucca. 1981.

## GOURD—LUFFA RIDGE

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**Ma Family Luffa.**—Vendor: Seed Saver's Exchange. Parentage: old Chinese heirloom brought to U.S. in 1970. Characteristics: fruit 2' long, 75 days to edible stage, 120 days to maturity. 1998.

**Pusa Nasdhar.**—Characteristics: fruit medium-sized, rind relatively light green; from India. Martin's Vegetables for the Hot, Humid Tropics, 1979.

**Satputia (*Hermaphrodita*).**—Parentage: from India. Characteristics: fruit small, hermaphroditic. Martin's Vegetables for the Hot, Humid Tropics, 1979.

## GOURD—LUFFA SPONGE

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**Ba Leng Gua (*ZWRM 135*).**—Parentage: from China. Characteristics: low yield of sponges.

**Fletcher.**—Breeder: DeCourley, Missouri. Characteristics: high yield of high-quality sponges with 100 × 400-mm size.

**Hollar Luffa (*13204*).**—Vendor: Hollar & Co. Characteristics: moderate to high yield of high-quality sponges with 97 × 428-mm size.

**Leng Si Gua (*ZWRM 133*).**—Parentage: from China. Characteristics: high yield of moderate-quality sponges with 60 × 350-mm size.

**Lockhardt (*Walters 484*).**—Vendor: Lockhardt Seeds. Characteristics: high yield of moderate-quality sponges with 79 × 489-mm size.

**Orol Ledden Luffa.**—Vendor: Orol Ledden & Sons. Characteristics: moderate to high yield of high-quality sponges with 98 × 429-mm size.

**Pang Si Gua (*ZWRM 134*).**—Parentage: from China. Characteristics: moderate yield of moderate-quality sponges with 100 × 430-mm size.

**Peace Luffa.**—Vendor: Peace Seeds. Characteristics: moderate yield of high quality sponges with 85 × 420-mm size, late flowering.

**Pusa Chikni.**—Parentage: from India. Characteristics: attractive fruit, eaten immature. Martin's Vegetables for the Hot, Humid Tropics, 1979.

**Qing Pi Chang (*ZWRM 138*).**—Parentage: from China. Characteristics: high yield of moderate-quality sponges with 65 × 595-mm size.

**Quan Zhou Chang Tiao Gua (*ZWRM 141*).**—Parentage: from China. Characteristics: high yield of moderate, high-quality sponges with 50 × 180-mm size.

**Richters Luffa (*S3795*).**—Vendor: Otto Richter and Sons Ltd. Characteristics: moderate to high yield of high-quality sponges with 98 × 431-mm size.

**Shi Ting Da Quing Pi (*ZWRM 137*).**—Parentage: from China. Characteristics: high yield of moderate quality sponges with 60 × 540-mm size.

**Smooth Short Luffa.**—Vendor: Seed Saver's Exchange. Characteristics: fruit short, cylindrical, eaten immature (at 6" long), 90-day maturity. 1981.

**Sunrise (*Walters 401*).**—Characteristics: moderate to high yield of moderate-quality sponges with 78 × 495-mm size.

**USA Luffa (*Guatemala*).**—Vendor: USA Luffa Inc. Characteristics: moderate to high yield of moderate-quality sponges with 72 × 464-mm size.

**Xiang Si Gua (*ZWRM 136*).**—Parentage: from China. Characteristics: low yield of moderate-quality sponges with 75 × 315-mm size.

## GOURD—MOMORDICA

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**Coimbatore Long (*Coimbatore Long White*).**—Characteristics: fruit 5–8" long, rind greenish-white to pale cream when mature, prolific; from southern India. Tindall, 1983.

**Hong Kong.**—Vendor: Seed Saver's Exchange. Characteristics: short slightly tapered fruit, top shaped, rind dark green, flesh with rich bitter flavor. 1981.

**Hybrid High Moon.**—Vendor: Gurney's. Characteristics: fruit bigger than most cultivars, rind white to jade green, flesh creamy, mild tasting, vigorous, extra early flowering. 1997.

**Moonshine (*F2*).**—Vendor: Peace Seeds. Characteristics: fruits 6" long weighing up to 1 lb, rind white, needs long growing season. 1990.

**Taiwan Large.**—Vendor: Sunrise. Characteristics: fruit with tapering blossom end, 6–12" long × 2–4" diameter, rind dark green. 1987.

**Thailand.**—Vendor: Evergreen. Characteristics: popular cultivar in Thailand, Vietnam. 1991.

## GOURD—SECHIUM

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**Broad Green.**—Characteristics: large blocky fruit distinctively thickened around the middle, rind green, usually with distinct spines; from Puerto Rico. USDA Bulletin, 1901.

**Long White.**—Characteristics: generally large, oblong pyriform shaped fruit with numerous prominent ridges, rind white and wrinkled, usually with spines; from Puerto Rico. USDA Bulletin, 1901.

**Oval Green.**—Characteristics: large oval-shaped fruit, narrower than Broad Green, with pronounced grooves and ridges, rind green and smooth, without spines; from Puerto Rico. USDA Bulletin, 1901.

**Pointed Green.**—Characteristics: small elongated conical-shaped fruit, grooves relatively shallow, rind deep green with a granular surface, smooth or with a few small spines; from Puerto Rico. USDA Bulletin, 1901.

**Round White.**—Characteristics: small subspherical fruit, rind white and smooth, usually without spines; from Puerto Rico. USDA Bulletin, 1901.

## HERBS—PARSLEY

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**Green Lace (*76-CD-4*).**—Breeder: R. Engle. Vendor: Dessert. Characteristics: freeze tolerant, bright light green. Resistant to frost damage. Similar to Paramount. 1979.

## KALE

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**Premier.**—Breeder: Virginia Agr. Expt. Sta. Characteristics: developed as open-pollinated selection out of Dwarf Siberian, appear-

ance is rape kale type, possibly *B. napus*, smooth, serrated leaves, deep green to blue-green color, long-standing kale, slow to bolt in the spring following fall planting. 1983.

**Squire.**—Breeder: Virginia Agr. Expt. Sta. Characteristics: developed as open-pollinated selection out of Vates kale, short stemmed, Scotch type kale, similar in appearance to Vates, although population is more uniform, very long standing, least likely cultivar to bolt after overwintering. 1990.

**Vates (*Vates Dwarf*, *Blue curled Scotch*, *Dwarf Scotch*).**—Breeder: Virginia Agr. Expt. Sta. Characteristics: hardy, 1–2' tall dwarf Scotch type kale, produces blue-green, finely curled leaves that may spread out 2'. 1950.

## LEEK

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**Albana.**—Breeder: Nunhems. Vendor: Canners. Characteristics: summer and autumn leek, 20–22 cm white stem, high yield.

**Kamush.**—Breeder: Nunhems. Vendor: Nunhems. Characteristics: harvest period September to October, very long white-green stems, stem length ≈50 cm. 1991.

**Porino.**—Breeder: Nunhems. Vendor: Canners. Characteristics: late autumn and winter cropping, high frost resistance, very dark green leaves, 18–20 cm white stem.

**Quickstar.**—Breeder: Nunhems. Vendor: Canners. Characteristics: very uniform green type with strong leaf growth, easy to harvest.

**Rami (NUN 4011).**—Breeder: Nunhems. Vendor: Canners. Characteristics: summer leek, very early, 20–24 cm white stem. Similar: Autumn Giant. 1989.

**Romil (NUN 6015).**—Breeder: Nunhems. Vendor: Canners. Characteristics: suitable for autumn cropping, 22–24 cm white stem. 1989.

**Vriza (NUN 9005).**—Breeder: Nunhems. Vendor: Nunhems. Characteristics: for winter and late winter harvest, dark green foliage. 1993.

**Wesa (NUN 8003).**—Breeder: Nunhems. Vendor: Nunhems. Characteristics: dark-blue erect foliage, shaft length 18 cm, autumn and winter type. 1993.

## LETTUCE

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**Acacia.**—Breeder: Select Seed of California. Vendor: Petoseed. Characteristics: crisphead type, large frame and head, medium leaf thickness, dark green color, flat ribs, black seed. Resistance: bolting, tipburn, pink rib; tolerance to heat and frost. Similar: Empire. 1984.

**Alamo.**—Breeder: Univ. California, Davis. Vendor: USDA and Univ. California, Davis. Parentage: contains PI 91532 a downy mildew resistant *Lactuca serriola* introduction from Russia. Characteristics: crisphead type, larger than Empire and Winterhaven, firm, good color, darker green than Winterhaven, large core, attractive butt, seedstalk is low, white seed, no tipburn observed. Resistance: russet spotting, downy mildew. 1978.

**Alpi.**—Breeder and vendor: Nunhems. Characteristics: cos type, dark green, crispy, upright leaves, firm heads well closed, vigorous, very uniform. 1991.

**Amathus.**—Breeder and vendor: Petoseed. Characteristics: cos type, dark green with large frame, closed heads, good color, slow bolting, white seed. Similar: Parris Island Cos. 1991.

**Andros.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, erect with dark green, blistered leaves. Resistance: downy mildew. Similar: Valmaine. 1988.

**Annie.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, excellent green color and leaf texture, good heading ability. Similar: Early Giant, Vanguard. 1993.

**Anza.**—Breeder: Univ. California, Davis. Vendor: USDA and Univ. California, Davis. Characteristics: crisphead type, head size smaller than 24, firm, good color, large core, flat butt, very low seedstalk, white seed. Resistance: downy mildew, moderately susceptible to russet spotting. 1978.

**Aquarius.**—Breeder and vendor: Sakata. Characteristics: butterhead type, semi-loose head. Similar: Boston. 1990.

**Arizona 90.**—Breeder and vendor: Central Valley Seeds. Characteristics: crisphead type, matures 2–3 days earlier than Winterhaven, large frame and head, leaf thicker than Climax, leaf color darker than Vanguard 75, large slightly pointed butt, very smooth ribs, black seed. Resistance: pink rib, tipburn; tolerance to heat and frost. Similar: Vanguard. 1991.

**Augustus.**—Breeder and vendor: Petoseed. Characteristics: cos type, excellent uniformity, medium green head, large thick slightly savoyed leaves. Resistance: lettuce mosaic virus, tipburn, corky root rot. 1990.

**Autumn Gold.**—Breeder: E.J. Ryder. Vendor: USDA, ARS; Salinas, Calif. Characteristics: crisphead type, Vanguard x Empire, large frame and head, thick, bright green leaves, large rounded butt, better head shape than Empire, less spiraling, fewer pointed butts, tendency to be somewhat ribby, black seed. Resistance: bolting, tipburn, mosaic, tolerance to heat. Similar: Vanguard. 1987.

**Barnburner.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, large frame and head, good heading ability, dark green. Similar: Red Coach 74. 1993.

**Bella Green.**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: leaf type, uniform in growth and maturity, smooth dark leaves, very attractive glossy color, distinctly more vigorous than Dark Green Boston. Similar: Dark Green Boston. 1988.

**Bismark.**—Breeder and vendor: Asgrow. Characteristics: early winter harvest in the desert southwest, good heading ability, improved size and leaf texture. Similar: Early Giant. 1994.

**Blush.**—Breeder: W. Waycott and E.J. Ryder. Vendor: USDA, ARS; Salinas, Calif. Characteristics: crisphead type, mini-size, dull, dark green outer leaves slightly darker than Salinas parent, soft texture, leaf surface blistered, green pigment close to core, creamy yellow interior, tinge of red on the outer leaves, spherical to slightly flattened head, flat butt and ribs, small core, bases of leaves overlap well, black seed. Resistance: less prone to tipburn; susceptible to lettuce mosaic, cucumber mosaic, turnip mosaic, big vein, corky root rot, Sclerotinia. 1992.

**Bonanza.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, large, adapted to early planting periods in the coastal areas of California, gray-green color with round heads, good cap leaf coverage. Resistance: big vein. Similar: Pacific, Salinas. 1991.

**Bronco.**—Breeder and vendor: Coastal. Characteristics: crisphead type, large frame and head, moderate ribs, black seed. Resistance: downy mildew California pathovars 1, 2A, 3; corky root. Similar: Salinas. 1994.

**Bullseye.**—Breeder and vendor: Petoseed. Characteristics: crisphead type, medium green, very firm head, smooth butt. Resistance: tipburn; downy mildew California pathotypes 1, 2, 3. 1990.

**Cabernet Red.**—Breeder and vendor: Asgrow. Characteristics: leaf type, red, excellent texture and dark color, pliable leaves. Resistance: bolting. Similar: Big Red. 1993.

**Calicel.**—Breeder: USDA, Univ. of California, Davis. Characteristics: crisphead type, extremely uniform, medium green, round, firm, solid heads covered with wrapper leaves. Resistance: downy mildew, big vein; susceptible to turnip mosaic. Similar: Great Lakes. 1971.

**Calrey.**—Breeder: Univ. of California, Davis. Vendor: USDA, Univ. California, Davis. Parentage: contains PI 91532 a downy mildew resistant *Lactuca serriola* introduction from Russia. Characteristics: crisphead type, dark glossy green, frame and outer wrapper leaves may be slightly bronze in color, firm, better weight than Calmar, smooth butt, good color, large cores, attractive, low seedstalk, white seed. Resistance: tipburn, downy mildew; susceptible to russet spotting. 1976.

**Calrico.**—Breeder: Univ. of California, Davis. Vendor: USDA, Univ. of California, Davis. Parentage: contains PI 91532 a downy mildew resistant *Lactuca serriola* introduction from Russia. Charac-

teristics: crisphead type, head color medium to dark green, head solidity good, firmer than Calmar, butts have good color, large cores, attractive, seedstalk varies from medium to low, white seed. Resistance: downy mildew, tipburn, russet spotting. 1976.

**Cannon.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, warm season production. Similar: Fairton. 1986.

**Capri.**—Breeder and vendor: Asgrow. Characteristics: cos type, more erect, larger frame than Parris Island Cos. Resistance: lettuce mosaic virus tolerant. Similar: Parris Island Cos. 1988.

**Centennial.**—Breeder: T.W. Whitaker and J.D. McCreight. Vendor: USDA, Agr. Res. Sta., Salinas, Calif. Characteristics: crisphead type, small, uniform maturity, excellent head shape and conformation, excellent internal structure, leaves arranged in a symmetrical, spiral pattern, bolts readily. Resistance: downy mildew, tipburn.

**Cerise.**—Vendor: Johnny's. Characteristics: crisphead type, medium green outer leaves heavily over-laden with a warm, shiny red color.

**Cinnamon Red.**—Breeder and vendor: Harris Moran. Characteristics: butterhead type, blistery leaves. Similar: Mereille de Quatre Saison.

**Classic.**—Breeder: K. Bixby. Vendor: Asgrow. Characteristics: crisphead type, very uniform. Resistance: lettuce mosaic virus. Similar: Empire. 1986.

**Coach Supreme M.T.**—Breeder and vendor: Pybas Vegetable. Characteristics: crisphead type, large frame and head, medium to thick leaves, large butt, smooth ribs, black seed. Resistance: bolting, pink rib, tipburn, big vein; tolerance to heat, frost. Similar: Vanguard. 1993.

**Condor.**—Breeder, vendor: Asgrow. Characteristics: butterhead type, larger size than Dark Green Boston, excellent internal color. Resistance: tipburn. Similar: Esmeralda. 1992.

**Cool Breeze.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, large frame, thick, large, smooth butt, medium ribs, black seed, dark green blistered leaves, well shaped heads, very uniform, large core, good color. Resistance: bolting, tipburn, pink rib, downy mildew pathotype 3; tolerance to frost. Similar: Cool Guard, Vanguard. 1991.

**Coolgreen.**—Vendor: Ferry-Morse. Characteristics: crisphead type, large head size, dark green from top to bottom of the head and well into the core, large core, flat butt. Resistance: downy mildew 3, tipburn. Similar: Vanguard.

**Coolwave.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, 3–4 days earlier than Cool Guard, dark green color, firm, cover leaves for frost protection, very uniform. Similar: Cool Guard, Vanguard. 1990.

**Coronado.**—Breeder: C. Semences. Vendor: Harris Moran. Characteristics: butterhead type, darker green color and better disease and tipburn resistance than Dark Green Boston. Resistance: tipburn. Similar: Dark Green Boston. 1995.

**Cortez.**—Breeder and vendor: Harris Moran. Characteristics: butterhead type, very large frame, dark green leaves. Resistance: downy mildew pathotypes 1, 2, 3. Similar: Tania.

**Dabora.**—Breeder and vendor: Nunhems. Characteristics: butterhead type, suitable in spring and autumn cropping, large size, well closed base, less suitable to side shoot production, medium green leaf color. Resistance: downy mildew. 1991.

**Daybreak.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, dark green color, good head cover, sure heading ability for early Empire class. Similar: Empire. 1994.

**Del Oro.**—Breeder: D. Sousa. Vendor: Petoseed. Characteristics: crisphead type, mid-winter production in desert southwest U.S., large, uniform, dark green color, early to mid-maturity. Resistance: big vein. Similar: Winterhaven.

**Del Rey.**—Breeder: Royal Sluis America. Vendor: Petoseed. Characteristics: crisphead type, large frame and head, thick leaves, medium green, smooth ribs, black seed. Resistance: bolting, tipburn, pink rib, big vein, downy mildew California pathovar 3; tolerance to heat and frost. 1991.

**Del Rio.**—Breeder: D. Sousa. Vendor: Petoseed. Characteristics: crisphead type, large head, excellent uniformity. Resistance: big vein. Similar: Van Mar, Sedona. Adaptation: desert southwest U.S.

**Desert Green.**—Breeder and vendor: Ferry-Morse. Characteris-

tics: crisphead type, large frame and head, dark green, flat to slightly rounded butt, dark green close to core. Resistance: downy mildew pathotype 3. Similar: Merit, RC-74, Honcho.

**Desert Pak.**—Breeder: Brinker-Orsetti. Vendor: Brinker. Characteristics: crisphead type, large head, medium cover, early maturing. Similar: Winterhaven. 1991.

**Desert Storm.**—Breeder and vendor: Harris Moran. Characteristics: crisphead type, large frame and head, dark green glossy leaves. Resistance: lettuce mosaic virus, downy mildew pathotype 3; tolerance to heat. Similar: El Toro.

**Diamond.**—Breeder and vendor: Coastal. Characteristics: crisphead type, medium to large frame and head, smooth ribs, tan seed. Resistance: downy mildew California pathovars 1, 2A, 3. Similar: Salinas. 1994.

**Diplomat.**—Breeder: Bruce Church. Vendor: Petoseed. Characteristics: crisphead type, large frame and head, thick, dark green leaves. Resistance: pink rib, tipburn, bolting; tolerance to heat, frost. Similar: Empire. 1979.

**Don Daniel.**—Breeder and vendor: Central Valley Seeds. Parentage Vanguard 75. Characteristics: crisphead type, matures 4 to 6 days earlier than Vanmax types, medium to large frame, large round to flat head, leaf thickness same as Winterhaven, medium green, very impressive butt, ribs smooth with wide petioles, black seed. Resistance: bolting, tipburn, mosaic, big vein, downy mildew California pathovars 1, 2, 3. Similar: Vanguard. 1991.

**Don Juan.**—Breeder and vendor: Harris Moran. Characteristics: crisphead type. Resistance: lettuce mosaic virus. Similar: Salinas. 1989.

**Dynasty.**—Breeder: Haruo Sakamoto. Vendor: Ferry-Morse. Characteristics: crisphead type. Resistance: downy mildew races 7, 8. Similar: Calmar, Montemar. 1985.

**Elegante.**—Breeder and vendor: Central Valley Seeds. Characteristics: crisphead type, matures 3–4 days earlier than Winterhaven, large frame, medium to large round head, leaf thickness same as Winterset, medium green color, extremely large core, smooth white ribs, white seed. Resistance: tolerance to frost. Similar: Vanguard, Winterhaven. 1992.

**Empire 2000.**—Breeder and vendor: Petoseed. Characteristics: crisphead type, medium frame, very firm, fairly large core. Resistance: tipburn. 1990.

**Enduro.**—Breeder and vendor: Asgrow. Characteristics: leaf type, frilled, blistered leaves, darker green, slower bolting, shorter stem, more prostrate than Waldmanns Green. Similar: Waldmanns Green. 1989.

**Epic.**—Breeder and vendor: Sakata. Characteristics: dark green leaves. Similar: Ontano. 1992.

**Fallgreen.**—Breeder: Central Valley Seeds. Vendor: Ferry-Morse. Characteristics: crisphead type, medium frame and butt, medium round head, medium thick leaves, smooth ribs. Resistance: bolting, big vein, tipburn, pink rib; tolerance to frost. 1990.

**Fame.**—Breeder: K. Bixby. Vendor: Asgrow. Characteristics: crisphead type, earlier than Empire. Resistance: lettuce mosaic virus. Similar: Empire. 1986.

**Fanfare.**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: leaf type, attractive large frame, loose leaves, earlier maturity, improved deep green color compared to Waldmanns Green. Resistance: downy mildew. Similar: Waldmanns Green. 1988.

**Floresta (Tenerife in EEC).**—Breeder: K. Bixby. Vendor: Asgrow. Characteristics: erect plant. Resistance: lettuce mosaic virus. Similar: Brasil 221. Adaptation: Tropics. 1986.

**Floriscrisp 1265.**—Breeder: V.L. Guzman and G.L. Raleigh. Vendor: Florida Agr. Expt. Sta. Characteristics: crisphead type, slightly pointed head, compact, medium green wrapper leaves, creamy-green interior, black seed. Resistance: bolting, thermodormancy. 1982.

**Floriscrisp 1366.**—Breeder: V.L. Guzman and G.L. Raleigh. Vendor: Florida Agr. Expt. Sta. Characteristics: crisphead type, slightly larger than Floriscrisp 1265, slightly pointed head, compact, medium green wrapper leaves, creamy green interior, black seed. Resistance: premature bolting, thermodormancy. 1982.

**Fortuna.**—Breeder and vendor: Synergene. Characteristics: crisphead type, vigorous, large frame and head, thick crisp leaves, dark

glossy green, moderately well-covered head, ribby, large butt, wide shoulders on the butt, excess fertilizer and water may promote ribbiness and reduce firmness, dark brown seed. Resistance: tipburn, bolting in proper time slot; tolerance to frost. Similar: Great Lakes. 1989.

**Garnet.**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: leaf type, red leaves, color intermediate between Prizehead and Red Sails, white seed. Similar: Red Sails, Prizehead. 1988.

**Gemini.**—Breeder and vendor: Sakata. Characteristics: crisphead type, Ithaca x Salinas, compact head and plant, deep serrated leaf margins, green wrapper color, short core, sweet taste. Similar: Unique. 1990.

**Gemstone.**—Breeder and vendor: ARCO/Dessert Seed Co. Characteristics: leaf type, dark green Savoy, loose leaf. 1981.

**Gilaben.**—Breeder and vendor: Ferry-Morse. Characteristics: crisphead type, large frame and head, medium thick dark green leaves, smooth ribs, medium butt, black seed. Resistance: bolting, tipburn, pink rib; tolerance to heat, frost. Similar: Vanguard. 1991.

**Glacier.**—Breeder: E.J. Ryder and W. Waycott. Vendor: USDA, ARS; Salinas, Calif. Characteristics: crisphead type, dull, dark green outer leaves slightly paler than Salinas, green color extends close to the core, leaf margins mildly undulate, moderately dentate, strongly ruffled, texture soft, surface crinkled or blistered, outer leaves broader than long, creamy yellow interior, heads firm to hard, butt and ribs flat, black seed. Resistance: corky root; susceptible to bolting, lettuce mosaic virus and big vein. 1991.

**Grand Teton.**—Breeder and vendor: Asgrow. Characteristics: cos type, large, dark color, heavy weight. Similar: Pyramid Cos. 1994.

**Grandstand.**—Breeder and vendor: Brinker. Characteristics: crisphead type, large, fall season. Resistance: downy mildew races 1, 3. Similar: Salinas.

**Green Beauty.**—Breeder and vendor: Asgrow. Characteristics: butterhead type, large, dark color, loose heading. Similar: Genecrop Boston. 1994.

**Green Bowl.**—Breeder: K. Bixby. Vendor: Asgrow. Characteristics: leaf type, darker green than Salad Bowl. Similar: Salad Bowl. 1987.

**Green Lake.**—Breeder: Dr. Luis Sequeira. Vendor: Wisconsin Agr. Expt. Sta., Madison, Wis. Characteristics: crisphead type, uniform, large heads, well covered, smooth ribs, flexible bottom leaves. Resistance: bolting, tipburn, rib blight. 1978.

**Green Pak.**—Breeder and vendor: Central Valley Seeds. Characteristics: crisphead type, matures 5–7 days earlier than Desert Queen or Empire, small to medium frame and head, very thick dark green leaves, butt similar to Empire, smooth ribs, white seed. Resistance: high heat, tipburn, bolting, frost, pink rib; tolerance to whitefly. Similar: Empire. 1992.

**Huron.**—Breeder: Brinker-Orsetti. Vendor: Brinker. Characteristics: crisphead type, early, large, dark green color. Similar: Vanmax, Empire. 1993.

**Ice Cube.**—Breeder: W. Waycott and E.J. Ryder. Vendor: USDA, ARS; Salinas, Calif. Characteristics: crisphead type, mini-sized, dull, dark green outer leaves slightly darker than Salinas parent, green pigment close to core, creamy yellow interior, black seed, head spherical to slightly flattened, flat butt and ribs, small core, bases of leaves overlap well, soft texture, leaf surface blistered. Resistance: tipburn; susceptible to lettuce mosaic, cucumber mosaic, turnip mosaic, big vein viruses, corky root rot, Sclerotinia. 1992.

**Impact.**—Breeder and vendor: Petoseed. Characteristics: dark green color, uniform, vigorous root system. Resistance: downy mildew pathotypes 1, 2, 3, 4. Similar: Bounty. 1992.

**Inland.**—Breeder and vendor: Petoseed. Characteristics: crisphead type, large frame, dark green, uniform. Resistance: bolting, heat. Similar: Empire. 1992.

**Jacqueline.**—Breeder: D. Holmes. Vendor: Petoseed. Characteristics: butterhead type, red. Resistance: lettuce mosaic virus, downy mildew. Similar: Esmeralda.

**Jessica.**—Breeder and vendor: Asgrow. Characteristics: butterhead type, summer crop, light green, very uniform. Resistance: bolting, lettuce mosaic virus. Similar: Floresta. Adaptation: Brazil. 1990.

**Kofa.**—Breeder and vendor: Synergene. Characteristics: crisphead type, large frame and head, heads well rounded and protected against

frost by spiraling wrapper leaves, thick soft leaves, dark dull to glossy green, core relatively small, large butt, smooth ribs, dark brown seed. Resistance: tipburn; tolerance to frost. Similar: Vanguard. 1989.

**La Jolla.**—Breeder and vendor: Synergene. Characteristics: crisphead type, uniform, upright growth, moderate to large frame, large head, medium soft leaves, large butt, smooth ribs, Merit time slot in desert southwest United States, white seed. Resistance: bolting, pink rib, tipburn; tolerance to heat, frost. Similar: Calmar. 1986.

**Laguna.**—Breeder: Univ. of California, Davis. Vendor: USDA, Univ. of California, Davis. Characteristics: crisphead type, head is smaller than 24, firm, good butt appearance, good color, very large cores, low seedstalk, black seed. Resistance: downy mildew; susceptible to russet spotting. 1978.

**Legacy.**—Breeder and vendor: Takii. Characteristics: crisphead type. Similar: Salinas. 1992.

**Little Caesar.**—Vendor: Burpee.

**Little Leprechaun.**—Breeder and vendor: ARCO/Dessert Seed Co. 1983.

**Lobjoits.**—Breeder and vendor: Nunhems. Characteristics: cos type, good dark green, upright leaves. Resistance: tipburn. 1991.

**Lucy Brown.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, excellent heading ability, Empire slot in desert southwest United States, firm, good green color, smooth butt. Similar: Empire. 1993.

**Marksmen US.**—Breeder and vendor: Petoseed. Characteristics: crisphead type, large frame, dark green color. Resistance: downy mildew pathotypes 1, 2, 3, 4. Similar: El Toro. 1993.

**Marquis.**—Breeder and vendor: Asgrow. Characteristics: cos type, thick, dark green blistered leaves, good flavor. Resistance: lettuce mosaic virus, Bidens mottle virus, corky root rot, tipburn, thermodormancy. Similar: Parris Island Cos. 1991.

**Merit 88.**—Breeder: USDA. Vendor: Petoseed. Characteristics: crisphead type, large frame and head, medium leaf thickness, dark green leaves, ribs similar to Merit, black seed. Resistance: pink rib, tipburn, bolting, big vein. Resistance: tolerance to heat, frost. Similar: Merit.

**Meritmore.**—Breeder: Orsetti. Vendor: Orsetti. Characteristics: crisphead type, medium to large frame, head and butt, green leaves, tan seed. Resistance: bolting, tipburn, downy mildew California pathovar 1, big vein; tolerance to heat, frost. Similar: Merit. 1994.

**Misty Day.**—Breeder: E.J. Ryder and W. Waycott. Vendor: USDA, ARS; Salinas, Calif. Characteristics: crisphead type, dull, dark green outer leaves slightly more pale than Salinas, green color extends close to the core, leaf margins mildly undulate, moderately dentate, strongly ruffled, texture soft, surface crinkled or blistered, outer leaves broader than long, interior creamy yellow, heads firm to hard, flat ribs and butt, black seed. Resistance: corky root; susceptible to bolting induced by high temperature, lettuce mosaic virus, big vein. 1991.

**Mojave.**—Breeder and vendor: Harris Moran. Characteristics: crisphead type, very large frame, highly uniform, slow bolting, very dark dull green leaves. Resistance: lettuce mosaic virus, downy mildew pathotype 3. Similar: var. Vanguard.

**Mor 109.**—Breeder: Select Seed of California. Vendor: Petoseed. Characteristics: crisphead type, large frame and head, thick dark green leaves, black seed. Resistance: pink rib, tipburn, bolting, downy mildew California pathovar 3; tolerance to heat, frost. Similar: Vanguard. 1985.

**Mt. Signal.**—Breeder: Brinker-Orsetti. Vendor: Brinker. Characteristics: crisphead type, large size, minimal cover. Similar: Vanmax. 1990.

**Murietta MT.**—Breeder and vendor: Ferry-Morse. Characteristics: crisphead type, attractive shape and butt appearance, excellent processed color and texture. Resistance: tipburn, downy mildew pathotype 3. Similar: Vanguard.

**Mustang.**—Breeder and vendor: Coastal. Characteristics: crisphead type, medium to large frame and head, smooth ribs, black seed. Resistance: downy mildew California pathovars 1, 2A, 3; big vein. 1994.

**Nevada.**—Vendor: Vilmorin. Characteristics: broad shiny leaves, crunchy texture, bright medium green. Resistance: mildew R11, lettuce mosaic virus. Similar: Salvina, Masaida. 1991.

**New Dominion.**—Breeder: Quali-Sel. Vendor: Synergene. Characteristics: crisphead type, large frame and head, thick dull dark green and crisp leaves, large butt, mid-winter harvest in desert southwest U.S., dark brown seed. Resistance: bolting, tipburn; tolerance to frost. Similar: Vanguard. 1993.

**Niner.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, good heading ability, good dark green color, late Empire and early Merit slot in the desert southwest U.S., and Empire slot in the San Joaquin Valley, Calif. Similar: Merit. 1994.

**Pacific.**—Breeder: E.J. Ryder and Bert J. Robinson. Vendor: USDA, ARS; Salinas, Calif. Characteristics: crisphead type, dull, medium-dark green leaves, leaf margins similar to Salinas, interior creamy yellow, heads firm to hard at maturity and rounded, well-covered, occasionally spiraled, butt is flat with broad-based overlapping leaves and large core, ribs less flat than Salinas, black seed. Resistance: big vein, downy mildew pathotype 1; susceptible to downy mildew pathotypes 2 and 3, lettuce mosaic and rib discoloration associated with high temperatures. Similar: Salinas. 1981.

**Paleta.**—Breeder and vendor: Nunhems. Characteristics: dark green, well closed base. Resistance: bolting. 1992.

**Palmaro.**—Breeder and vendor: Nunhems. Characteristics: autumn and winter production. Resistance: mildew, tolerant to lettuce mosaic virus. 1992.

**Palmetto.**—Breeder: Select Seed of California. Vendor: Petoseed. Characteristics: crisphead type, large frame and head, thick dark green leaves, black seed. Resistance: pink rib, bolting, tipburn, downy mildew California pathovar 3; tolerance to heat, frost. Similar: Vanguard. 1985.

**Paradise.**—Breeder and vendor: Sakata. Characteristics: crisphead type. Similar: Salinas 88. 1994.

**Patriot.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, medium size for summer harvest in coastal California, medium dark green, frame larger than Warrior. Resistance: downy mildew pathotypes 1, 2, 3. Similar: Salinas, Warrior. 1991.

**Plato.**—Breeder and vendor: Petoseed. Characteristics: cos type, medium green head, savoyed leaves, crisp, upright, impeccable quality. Resistance: bolting, lettuce mosaic virus, tipburn. 1989.

**Presidio.**—Breeder and vendor: Asgrow. Characteristics: cos type, dark green blistered leaves, plant upright and compact with open heart, thick leaves. Resistance: corky root rot, lettuce mosaic virus, Bidens mottle virus, bolting. Similar: Parris Island. Adaptation: most lettuce growing areas. 1991.

**Primetime.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, large frame and head, thick dark green leaves, large butt, medium ribs, black seed. Resistance: pink rib, tipburn, bolting, tolerance to frost. Similar: Vanguard. 1993.

**Prizeleaf.**—Vendor: Burpee. Characteristics: leaf type.

**Pybas No. 251 M.T.**—Breeder and vendor: Pybas Vegetable. Characteristics: crisphead type, large frame and head, medium leaf thickness, medium to dark green color, medium to large butt, slightly ribby, black seed. Resistance: bolting, pink rib, tipburn, big vein, downy mildew California pathovar 3; tolerance to heat and frost. Similar: Vanguard. 1992.

**Quechan.**—Breeder and vendor: Shamrock. Characteristics: crisphead type, large frame, heads larger than Empire, smooth ribs. Resistance: bolting, pink rib, tipburn; tolerance to heat and frost. Similar to Empire.

**Ramona.**—Breeder: Univ. of California, Davis. Vendor: USDA, and Univ. of California, Davis. Characteristics: crisphead type, firm, butt appearance good, seedstalk low, white seed. Resistance: tipburn symptoms vary between none, less than a trace. 1978.

**Red Embers.**—Vendor: Brinker. Characteristics: cos type, deep red color. Resistance: bolting. Similar: Deep Red. 1988.

**Red Sceptre.**—Breeder and vendor: Asgrow. Characteristics: leaf type, bright red tinge to outer leaf area. Resistance: bolting. Similar: Prizehead. 1987.

**Red Vogue.**—Breeder and vendor: Sakata. Characteristics: butterhead type, red. Similar: Butter Red Leaf. 1990.

**Redondo.**—Breeder and vendor: Synergene. Characteristics: crisphead type, moderate, large frame and head, excellent size and texture for wrap or bulk harvest, thick crisp dark glossy green wide

wrapper leaves, smooth ribs, small core, white seed. Resistance: bolting, tipburn; tolerance to heat. Similar: Vanguard-Empire. 1992.

**Rico.**—Breeder and vendor: Synergene. Characteristics: crisphead type, large to very large frame, large head, thick crisp dark green leaves, medium large butt, smooth ribs, white seed, early plantings, excess fertilizer and water may promote extra large, wild, poorly headed plants, holds well under very cold, wet conditions and repeated frosts. Resistance: bolting, downy mildew California pathovar 1, frost; tolerance to heat. 1989.

**Rio Verde.**—Breeder and vendor: Shamrock. Characteristics: crisphead type, medium to large frame and head, leaf color darker than Empire, smooth ribs and butt. 1995.

**Rita.**—Breeder: Univ. of California, Davis. Vendor: USDA, and Univ. of California, Davis. Characteristics: crisphead type, medium green, leaf margins of wrapper leaves have a smooth cabbage-like appearance, head size is 24, solid, good butt, smooth, large cores, low seedstalk. Resistance: possibly tipburn, probably contains PI 91532, downy mildew resistant *Lactuca serriola* introduction from Russia. 1978.

**Romulus.**—Breeder and vendor: Petoseed. Characteristics: cos type, medium green color, slightly savoyed leaves, good yields. Resistance: lettuce mosaic virus, corky root rot. 1989.

**Rosalita.**—Vendor: Johnny's. Characteristics: cos type, deep red on inner exposed leaf surfaces, green outer base, early maturity, spring, fall, and winter crops. Similar: Rouge D Hiver.

**RS 0254.**—Breeder: Royal Sluis America. Vendor: Petoseed. Characteristics: crisphead type, very large frame and head, thick dark green leaves, smooth ribs, black seed. Resistance: pink rib, tipburn, big vein, downy mildew California pathovar 3, frost; tolerance to heat. Similar: Vanguard. 1994.

**RS 0319.**—Breeder: Royal Sluis America. Vendor: Petoseed. Characteristics: crisphead type, large frame and head, thick dark green leaves, smooth ribs, black seed. Resistance: bolting, pink rib, tipburn, big vein, downy mildew California pathovar 3, frost; tolerance to heat. Similar: Vanguard. 1994.

**Saguaro.**—Breeder and vendor: Harris Moran. Characteristics: cos type, very large frame. Resistance: lettuce mosaic virus, corky root rot. Similar: Parris Island Cos.

**Salad Bibb.**—Breeder: Dr. Hasib S. Humaydan. Vendor: Harris. Characteristics: butterhead type. Resistance: lettuce mosaic virus, broad bean wilt virus, downy mildew. Similar: Summer Bibb. 1985.

**Salinas.**—Breeder: E.J. Ryder. Vendor: USDA, ARS; Salinas, Calif. Characteristics: crisphead type, dull green outer leaves, leaf margins scalloped or wavy, texture soft, creamy interior, firm to hard at maturity, spherical, slightly bald on top, adequately covered, bottom slightly flattened with flat ribs, leaves broad at base, core diameter medium to large, black seed. Resistance: tipburn; susceptible to downy mildew V8, lettuce mosaic, western yellows, and turnip mosaic viruses; Sclerotinia; sensitive to ethylene, russet spotting and pink rib. 1975.

**Salinas 88.**—Breeder: E.J. Ryder. Vendor: USDA, ARS; Salinas, Calif. Characteristics: crisphead type, dull, dark green outer leaves, heads firm to hard at maturity and well rounded, green pigmentation extends close to core, interior creamy yellow, flat butt and ribs, large core, leaf surface slightly crinkled, outer leaves are broader than long, black seed. Resistance: tipburn, tolerance to lettuce mosaic virus; susceptible to big vein and corky root. Similar: Salinas. 1988.

**Salverde.**—Breeder: Dr. G. Emery. Vendor: Ferry-Morse. Characteristics: crisphead type, slightly larger head, tighter wrappers and more serrated leaf margins than Salinas. Resistance: downy mildew. Similar: Salinas. 1988.

**Sangria.**—Vendor: Vilmorin. Characteristics: butterhead type, first butterhead resistant to bolting, cropping spring, summer, and autumn, intensive red color in spring, brownish red in summer, heavy heads 450–650 g well shaped, no offshoots. Resistance: bolting, Bremia R11, lettuce mosaic virus. Similar: Merveille des 4 Saisons. 1987.

**Sea Green.**—Breeder: E.J. Ryder. Vendor: USDA-ARS; Salinas, Calif. Characteristics: crisphead type, dull green leaves, interior is creamy, heads firm and well formed, core diameter medium to large, low to medium stem. Resistance: big vein; susceptible to downy

mildew, lettuce mosaic and Sclerotinia. 1981.

**Sedona.**—Breeder: Royal Sluis America. Vendor: Petoseed. Characteristics: crisphead type, large frame and head, thick dark green leaves, smooth ribs, black seed. Resistance: bolting, pink rib, tipburn; tolerance to heat and frost; susceptible to big vein; downy mildew California pathovar 3. Similar: Vanguard. 1991.

**Shilo.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, mid-winter desert conditions in California and Arizona, large head and frame with excellent dark green color. Similar: Kofa. 1993.

**Shogun.**—Breeder: Haruo Sakamoto. Vendor: Ferry-Morse. Characteristics: crisphead type, slightly gray-green color, soft leaves, good wrappers. Resistance: downy mildew, common strain). Similar: Calmar. 1983.

**Sierra.**—Vendor: Vilmorin. Characteristics: type-batavia, red, cropping in spring, summer and autumn, upright form and large size. Resistance: bolting, *Bremia* R11, tipburn. Similar: Rossia, Canasta. 1988.

**Signal.**—Breeder: T.W. Whitaker and J.D. McCreight. Vendor: USDA, Agr. Res. Sta., Salinas, Calif. Characteristics: cos type, leaves upright, cap over the head rather than remaining open, head tapered slightly towards the butt, results in a “blocky” appearance, sweet flavor, firm, uniform. 1980.

**Simpson Elite.**—Breeder and vendor: Petoseed. Characteristics: leaf type, bright yellow green looseleaf, excellent uniformity and leaf quality. Resistance: bolting. Similar: Black Seeded Simpson. 1993.

**Skyline.**—Breeder and vendor: Asgrow. Characteristics: crisphead type. Resistance: bolting. Similar: Ithaca 989. Adaptation: northeast U.S, Canada. 1993.

**Snowbird.**—Breeder and vendor: Ferry-Morse. Characteristics: crisphead type, large frame and head, medium thick dark olive green leaves, large butt, slightly ribby, black seed. Resistance: slight bolting, pink rib, tipburn, big vein, downy mildew California pathovar 3; tolerance to frost. Similar: Vanguard. 1988.

**Sonora.**—Breeder and vendor: Harris Moran. Characteristics: crisphead type, very large frame, dark green glossy leaves. Resistance: bolting, lettuce mosaic virus, downy mildew pathotype 2. Similar: Vanguard.

**Spartan Lakes.**—Breeder: Michigan St. Agr. Expt. Sta. Vendor: Michigan Agr. Expt. Sta., Michigan State Univ., East Lansing. Characteristics: crisphead type, early maturity, small size, dark green color, strong butt structure. Resistance: bolting. Adaptation: Michigan mucklands. 1968.

**Sudia.**—Vendor: Vilmorin. Characteristics: semi-early cropping in spring, summer, and autumn, dark green matte foliage very thick and dimpled, semi-long heads 400 g. Similar: Sucrine, Sudel, Bella. 1984.

**Sumatra.**—Breeder and vendor: Asgrow. Characteristics: cos type, light green color, very large, well-closed heads, early maturity. Resistance: bolting, cold tolerant. Similar: Bionda Collosse. 1990.

**Summertime.**—Breeder: J.R. Baggett. Vendor: Oregon Agr. Expt. Sta. Characteristics: crisphead type, slow to become bitter in summer. Resistance: bolting, tipburn, brown rib. Similar: Ithaca. 1989.

**Sundowner.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, dark green color, excellent heading ability, smooth butt. Resistance: bolting. Similar: Empire. 1993.

**Super 59.**—Breeder and vendor: Ferry-Morse. Characteristics: crisphead type, medium frame, head, and ribs, medium thick dark forest green leaves, large butt, white seed. Resistance: bolting, pink rib, tipburn; tolerance to heat and frost. Similar: Great Lakes 659. 1972.

**Sweet Gem.**—Breeder and vendor: Asgrow. Characteristics: dark green color, compact plant, excellent taste. Resistance: bolting. Similar: Little Gem. 1994.

**Sweetie B.S.**—Breeder and vendor: ARCO/Dessert Seed Co. Characteristics: semi-cos type leaf. 1981.

**TAMU Valrio.**—Breeder: T.W. Whitaker and P.W. Leeper. Vendor: Texas Agr. Expt. Sta., Texas A & M Univ. Weslaco, Texas. Characteristics: crisphead type, well colored, leaves have straight flat ribs, flat butt. Resistance: downy mildew; tolerance to cold. 1968.

**TAMU Valtemp.**—Breeder: T.W. Whitaker and P.W. Leeper. Vendor: Texas Agr. Expt. Sta., Texas A & M Univ. Weslaco, Texas.

Characteristics: crisphead type, adapted to early season planting in high temperatures, exceptionally good head color and quality, uniform head size and maturity, dark green, shorter stems, heads closer to ground, flat butt, good color, ribs straight and flat. Resistance: bolting, downy mildew; tolerance to cold. 1968.

**Target.**—Breeder and vendor: Petoseed. Characteristics: crisphead type, excellent color, very firm medium green head, smooth butt. Resistance: downy mildew California pathotypes 1, 2. Similar: Salinas. 1990.

**Thompson.**—Breeder: E.J. Ryder. Vendor: USDA, ARS; Salinas, Calif. Characteristics: crisphead type, medium dark green outer leaves, leaf margins dentate and texture is crisp, interior light cream, nearly white, heads firm to hard at maturity and well-covered, occasionally spiraled, butt is usually flat, occasionally rounded, leaves broad at base, ribs usually flat occasionally raised, core medium to large, white seed. Resistance: big vein; susceptible to downy mildew, tipburn, lettuce mosaic and Sclerotinia. 1981.

**Tiara.**—Breeder and vendor: Asgrow. Characteristics: leaf type, blistered, frilled, looseleaf, dark green leaves, erect. Resistance: tipburn, slow bolting. Similar: Waldmanns Green. 1989.

**Tiber.**—Breeder: USDA, Agr. Res. Sta., Salinas, Calif. Vendor: USDA, Agr. Res. Sta. Characteristics: crisphead type, large to very large size, head firm to hard, dull, dark green outer leaves, leaf margins slightly incised, indented and undulate, soft texture, leaf surface moderate crinkle, interior creamy yellow, well rounded, flat butt and ribs, large core, low to medium stem, black seed. Resistance: tipburn.

**Time.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, dark green, blistered leaves, medium size frame, good heading ability, flat butt provides excellent boxy appearance. Similar: Honcho 2. 1993.

**Top Gun.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, medium to large, spring harvest in California coastal areas, medium to dark green color. Resistance: downy mildew pathotypes 1, 2, 2. Similar: Salinas. 1991.

**Tortuga.**—Breeder and vendor: Asgrow. Characteristics: cos type, medium green, shiny color, heads upright nicely formed, well closed. 1990.

**Trendsetter.**—Breeder and vendor: Asgrow. Characteristics: crisphead type for late Empire to early Merit planting slot, dark green, smooth butt appearance. Similar: Empire. 1993.

**Tres Equis.**—Breeder and vendor: Synergene. Characteristics: crisphead type, large frame, moderate large head, thick moderately crisp dark dull to glossy green leaves, small butt, small core, smooth ribs, dark brown seed. Resistance: bolting, tipburn, pink rib; tolerance to heat. Similar: Vanguard. 1992.

**Trinidad.**—Breeder: K. Bixby. Vendor: Asgrow. Characteristics: butterhead type, blonde leaves, medium size heads. Resistance: downy mildew. Similar: Joric Le. Adaptation: Northern Mediterranean region. 1987.

**Two Stars.**—Breeder and vendor: Brinker. Characteristics: leaf type, darker green, more uniform, larger size than Waldmanns Green. Similar: Waldmanns Green.

**Ultra Green.**—Breeder and vendor: Brinker. Characteristics: leaf type, dark green color, uniform. Resistance: tipburn. Similar: Waldmanns Green.

**Valcos.**—Breeder: Mr. Paul Leeper. Vendor: Texas Agr. Expt. Sta., Weslaco. Characteristics: cos type, center leaves are bright yellow, dark green outer leaves, heads cap well, compact, straight ribs. Resistance: bolting, tipburn; downy mildew race 5, 6.

**Valprize.**—Breeder: Mr. Paul Leeper. Vendor: Texas Agr. Expt. Sta., Weslaco. Characteristics: butterhead type, dark green color, large head and stem, straight, flat ribs, excellent butt appearance. Resistance: premature bolting, tipburn; downy mildew race 5, 6.

**Valta.**—Breeder: K. Bixby. Vendor: Asgrow. Characteristics: cos type, small, compact. Resistance: lettuce mosaic virus. Similar: Parris Island Cos. 1987.

**Vancrisp.**—Breeder: Quali-Sel. Vendor: Petoseed. Characteristics: crisphead type, large frame and head, thick dark green leaves, smooth ribs, black seed, small core and butt. Resistance: pink rib, tipburn, downy mildew California pathovar 3; tolerance to heat and frost; susceptible to big vein. Similar: Vanguard. 1986.

**Vanguard 75.**—Breeder: E.J. Ryder. Vendor: USDA–ARS, Salinas, Calif. Characteristics: crisphead type, large frame leaves tend to enclose the head, large, thick dull green leaves, broad flat butt, occasionally slightly pointed, smooth flat ribs, black seed, used widely for late spring harvest in desert southwestern United States since late 1970s; first variety with lettuce mosaic virus resistance. Resistance: bolting; tipburn; lettuce mosaic virus; tolerance to heat and frost. Similar: Vanguard. 1975.

**Vega.**—Breeder: Univ. of California, Davis. Vendor: USDA, Univ. of California, Davis. Characteristics: crisphead type, firm, good weight, smooth butt, large cores, attractive, low seedstalk, white seed. Resistance: susceptible to russet spotting, tipburn; contains PI 91532, downy mildew resistant *Lactuca serriola* introduction from Russia. 1978.

**Vista.**—Vendor: Vilmorin. Characteristics: cropping in spring, summer, and autumn, shiny medium green foliage, round heads, good shelf life, good clean underside without off-shoots. Resistance: *Bremia* R8, R11; tipburn, lettuce mosaic virus. Similar: Dolly. 1985.

**Vista Verde.**—Breeder and vendor: Central Valley Seeds. Characteristics: crisphead type, very large frame and head, medium thick dark green leaves, medium pointed butt, narrow leaf petioles, high rib, black seed. Resistance: bolting, pink rib; tolerance to frost; not tolerance to heat. Similar: Vanguard. 1990.

**Vulcan.**—Breeder and vendor: Sakata. Characteristics: leaf type, dark red color with light green contrast. Similar: Standard Red Leaf. 1989.

**Warrior.**—Breeder and vendor: Asgrow. Characteristics: crisphead type, medium size for mid-summer harvest in coastal California areas, medium dark green, good head coverage. Resistance: downy mildew; pathotypes 1, 2, 3. Similar: Salinas. 1991.

**Western Red.**—Breeder and vendor: Brinker. Characteristics: leaf type, dark red. Similar: Deep Red, Red Leaf, Prizehead. 1989.

**Westland.**—Breeder: Brinker-Orsetti. Vendor: Brinker. Charac-

teristics: crisphead type, large head, dark green during winter growing season. Resistance: lettuce mosaic virus. Similar: Vanguard. 1994.

**Winter Supreme.**—Breeder: Bruce Church. Vendor: Petoseed. Characteristics: crisphead type, very large frame and head, thick dark green leaves, black seed. Resistance: bolting, pink rib; moderate to tipburn, rusty rib, downy mildew California pathovar 3; tolerance to frost; susceptible to big vein. Similar: Climax. 1978.

**Winterhaven.**—Breeder: Harnish-Brinker/Marvins Seeds. Vendor: Petoseed. Characteristics: crisphead type, large frame and head, thick dark green leaves, smooth ribs, black seed. Resistance: pink rib, tipburn, downy mildew California pathovar 3; tolerance to heat, frost; susceptible to big vein. Similar: Vanguard. 1974.

**Winterhaven Select.**—Breeder and vendor: Shamrock. Characteristics: crisphead type, uniform maturity, vigorous growth, large frame and head, dark dull green leaves, good texture, smooth ribs. Resistance: downy mildew California pathovar 3; tolerance to frost. Similar: Vanguard. 1995.

**Winterhaven, BOS.**—Breeder: Brinker-Orsetti. Vendor: Orsetti. Characteristics: crisphead type, large frame and head, dull dark green leaves, medium large butt size, black seed. Resistance: bolting, tipburn; tolerance to heat, frost. Similar: Winterhaven. 1986.

**Winterset.**—Breeder: E.J. Ryder. Vendor: USDA–ARS, Salinas, Calif. Characteristics: crisphead type, large frame and head, thick dull green leaves, large flat butt, slightly ribby, white seed. Resistance: tipburn, lettuce mosaic virus, limited downy mildew; tolerance to frost. Similar: Vanguard. 1984.

**Yuma.**—Breeder: Harris Moran. Vendor: Harris Moran. Characteristics: crisphead type, large frame and head, dark green leaves, large butt. Resistance: fair to tipburn. 1985.

**Zesty.**—Breeder: Ken Bixby. Vendor: Asgrow. Characteristics: cos type, dark green. Resistance: lettuce mosaic virus, downy mildew. Similar: Valmaine. 1987.