

Register of New Fruit and Nut Varieties

Brooks and Olmo

List 36

Edited by James N. Cummins

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ALMOND

Dale E. Kester

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Aldrich.— Discovered in 1973 by Everett and Randall Aldrich as a chance seedling adjacent to a commercial orchard near Hughson, Calif. Plant patent 5320,6 Nov. 1984; assigned to Maryanne, Clarence, and Randall Aldrich. Introd. in 1984. Nut: soft to paper shell; well sealed. Kernel: ovate; width : length ratio = 0.55; slightly plump; medium to small size; somewhat wrinkled; few doubles; resembles Thompson. Matures 2 weeks after Nonpareil. Easy to harvest and to hull. Tree: large; medium-upright. Blooms with Nonpareil; cross-pollinates with Nonpareil, Carmel, Fritz, Monterey, and Price.

Ayles.— A self-fertile, late-blooming, open-pollinated seedling of Tuono. Introd. in 1987 in Zaragoza, Spain, by Antonio Felipe and Rafael Socias i Company, Unidad de Fruticultura. Naturally autogamous due to coincidence of anthers and stigma. Blooms late (mid- to late March in central Spain), 10 to 14 days after Nonpareil and 1 day after Ferragnes. Nut is very hard shelled (30% to 34% kernel). Kernel: heart-shaped (width : length = 0.64), few doubles, medium to large, good commercial quality. Matures in late September. Low sensitivity to late frosts. Tree medium in size, spreading, relatively compact growth, fruit on spurs.

Cruz.— Discovered in 1970 by Irwin H. Bonds as a chance seedling adjacent to a commercial almond orchard near Cressey, Calif. First tests established in 1978. Plant patent 7497, 16 Apr. 1991; assigned to Ruben A. Cruz, Modesto, Calif.; introd. in 1991. Nut: medium size; ovate; softshell (60% kernel); well sealed. Kernel: medium size; somewhat rounded; width : length ratio = 0.71; moderately plump; somewhat wrinkled; few doubles. Ripens 7 to 10 days after Nonpareil; easy to harvest and to hull. Tree: medium size; upright, open; heavy, consistent production. Bloom begins \approx 3 days before Nonpareil and extends for longer period.

Ferragnes.— A very late-blooming, precocious introduction from Sta. Rech. de Arb. Fruit. de la Grande Ferrade, INRA, France. Tested at La Grande Ferrade, Manduel, and Nimes. Introd. in 1969 by Charles Grasselly. Cristomorto \times Ai. Blooms very late (after Texas). Nut: hardshell (shelling percentage = 30 to 43); kernels large, elongated (width : length = 42), brown, somewhat wrinkled, and pubescent. Nuts mature in mid-September, 2 to 3 days after Nonpareil. Self-incompatible. Tree is vigorous, precocious, and productive.

Ferraduel.— Introd. in 1969 by Charles Grasselly, Sta. Rech. de Arb. Fruit. de la Grande Ferrade, to provide cross-pollinizer for Ferragnes. Cristomorto \times Ai. Tested at INRA, La Grande Ferrade, Manduel, and Nimes, France. Similar to Ferragnes. Nut: hardshell (shelling percentage = 28); kernel large, flat, very thin integuments.

Guara.— A frost-tolerant, self-fertile introduction by Antonio Felipe and Rafael Socias i Company, Unidad de Fruticultura, Zaragoza, Spain. Introd. in 1987. Unknown origin; discovered in 1974 in a variety collection under an incorrect name, freed from known viruses, and tested with Ayles and Moncayo. Fruit matures early (first of September). Nut: very hardshelled (32% to 35% kernel); kernel is ovate (width : length ratio \approx 0.59), medium to large, few double kernels, good commercial quality. Naturally autogamous due to coincidence of anthers and stigma. Blooms in mid-March in central Spain,

approximately with Ayles; high density of medium-sized blossoms on spurs. Blossoms have low sensitivity to frost. Tree: medium size and spreading, somewhat compact.

Hashem II.— Discovered in 1976 by Hashem Naroghi as a limb sport in a commercial almond orchard near DeNair, Calif. Plant patent 4845, 11 May 1982; introd. in 1980. Nut: softshell. Kernel: large, long, flat, similar to Nonpareil; few doubles. Blooms with Nonpareil but extends later. Ripens just after Nonpareil. Tree: slightly smaller than Nonpareil; upright; productive. Bears in clusters.

Kochha.— A high-yielding seedling from the cross Greek \times Nonpareil made by P. Spiegel-Roy and J. Kochba in 1967 at Volcani Center, Bet Dagan, Israel. Introd. in 1985. Nut: semi-hard; completely sealed with retention of outer cork; shelling percentage \approx 51; kernel oblong-ovate (width : length = 60), relatively flat, smooth, light-colored; few double kernels; good flavor. Flowering early, before Ne Plus Ultra. Tree: medium size, larger than Ne Plus Ultra; drooping branches; somewhat difficult to train. Bears predominantly on spurs. Consistently higher yielding than other selections of the same series.

Livingston.— Discovered by P.P. Hill, Modesto, Calif., as a chance seedling. Plant patent 4116, 27 Sept. 1977; assigned to Burchell Nursery, Modesto. Introd. in 1977. Nut: paper shell, well sealed; kernel medium size. Blooms 3 days after Nonpareil and matures 8 days after Nonpareil. Tree: medium size, semi-upright, resembles Nonpareil. Easy to harvest.

Lodi.— Discovered by Irwin H. Bonds in 1976 as a chance seedling adjacent to a cultivated orchard near Manteca, Calif. Tests established in 1977. Plant patent 7068, 12 Dec. 1989. Nut: ovate; softshell; well sealed; shelling percentage \approx 60. Kernel: medium to large; somewhat broad; width : length ratio = 0.62; medium thick; few doubles; slightly bitter flavor. Matures \approx 1 week after Nonpareil. Tree: average size; medium shape. Compatible with Marianna 2624 rootstock. Blooms about with Nonpareil.

Monarch.— Introd. by Theodore J. Moschitto, Modesto, Calif., in 1982. Plant patent 4852; 15 May 1982; assigned to Burchell Nursery, Modesto. Nut: semi-hardshell with good seal; kernel large, plump. Blooms 1 day after Nonpareil; matures 7 days after Nonpareil. Tree large and upright, similar to Mission but growth in other tests was smaller.

Moncayo.— A frost-tolerant selection from the Tardive de la Verdere \times Tuono cross, introd. in 1987 by Antonio Felipe and Rafael Socias i Company, Unidad de Fruticultura, Zaragoza. Cross made in 1974. Shell is very hard; shelling percentage = 25 to 28; kernel oblong (width : length = 0.56), medium to large; few doubles; good commercial quality. Blooms in late March, 2 or 3 days after Ayles; profuse blooming on spurs. Low sensitivity to late frosts. Self-compatible; reported to be naturally autogamous due to coincidence of anthers and stigma. Tree: medium to large, spreading to drooping, but easy to train. Fruits mature in mid-September.

Plateau.— Discovered by Leonard D. James, Modesto, Calif., as a chance seedling. Plant patent 4739,9 June 1981; assigned to Burchell Nursery, Modesto. Introd. in 1981. Blooms 2 days after Nonpareil and matures in mid-September, 8 days after Nonpareil. Nut is soft-shelled, well sealed; kernel large. Tree medium size, semi-upright.

Samish.— Originated as a seedling selection from Marcona \times Greek cross made in 1966 at the Volcani Center, Bet Dagan, Israel by P. Spiegel-Roy, Joshua Kochba, and R. Iris. Selected in 1970, introd.

in 1982. Israel patent pending. Nut: semi-hard (41% kernel), completely sealed, light-colored, and smooth. Kernel: uniform, smooth, elongated to somewhat rounded; size medium, but small with heavy crop. Low number of doubles. Adapted to in-shell, kernel, and confectionary trade. Blooms early, before Ne Plus Ultra. Cross-compatible with Ne Plus Ultra and Um el Fahm. Bears predominantly on spurs but some on other shoots. Well adapted to mechanical harvest. Yield has been high. Tree: growth vigorous and large.

Supernova.— A self-compatible radiation mutant produced at Fruit Research Institute, Rome, Italy, by F. Monastra, G. Della Strada, C. Fidighelli, and R. Quarta. A plant of the self-incompatible cultivar Fascinello was subjected to ionizing radiation (Co^{60} , at 3 kR) in 1970. Introduced in 1987. Nut: semi-hardshell (40% kernel), 15% doubles; kernel elliptical-elongated (width : length = 0.54), large, veined. Blooms late. Maturity is moderately early. Tree: average vigor, medium erect, precocious. Susceptible to *Monilia*. High regular production in all areas of central Italy.

Wood Colony.— Discovered by David E. Blickenstaff, Modesto, Calif., as a chance seedling. Plant patent 5583,3 Dec. 1985; assigned to Burchell Nursery, Modesto. Introduced in 1985. Nut: semi-soft with good seal; kernel medium size, plump. Blooms 2 days after Nonpareil, matures 7 days after Nonpareil. High yield potential on small to medium-sized spreading tree. Pollen is in the CIG-4 group.

ALMOND ROOTSTOCKS

Adafuel.— Originated in 1970 as an almond × peach selection from an open-pollinated population of Marcona at E.E. Aula Dei, Zaragoza, Spain. Introduced by R. Cambra in 1990 as an easy-to-root, vigorous hybrid clone for almond and peach. Tests show higher rooting by hardwood cuttings than GF 677. Resistant to *Sphaeroteca pannosa*, *Tranzschelia pruni-spinosa*, and *Coryneum beijerinckii* but susceptible to *Agrobacterium tumefaciens* and *Meloidogyne* species. One-year-old shoots are intensely red; shoots long with little lateral shoot growth. Fruit is intermediate between almond and peach.

APPLE

Roger D. Way and Susan K. Brown
New York State Agricultural Experiment Station, Geneva

Carousel™ (Caudle cv.)—A chance seedling discovered in the Smith-Caudle orchard near Dryden, Wash., in the 1980s. U.S. plant patent applied for. Fruit: attractive bright red stripe over yellow-green ground; round; size medium to large; round to slightly elongated; flesh firm and creamy-white; flavor sweet-tart; eating quality very good. Matures with Rome Beauty. Stores well until late June; not subject to scald. Tree: vigorous, many spurs produced; hardy; precocious and productive.

Charden.-A triploid yellow-skinned apple introduced in France about 1975. Fruit: size large, 70 to 80 mm; skin yellow-green, sometimes with 10% faint pink blush; less russet than Golden Delicious; shape round-conic, less conic than Golden Delicious. Flesh very firm, juicy, yellow; flavor slightly acid, more tart than Golden Delicious, sometimes slightly astringent; eating quality fair to medium good; some resemblance to Mutsu. Tree: vigorous; very productive; large leaves.

Co-op 30.— See Enterprise.

Co-op 32.— See Pristine™.

Co-op 38.— See GoldRush.

Early Thompson.-A good-quality summer apple origin at the U.S. Dept. of Agriculture (USDA) Georgia Mountain Branch Experiment Station, Blairsville, by J.M. Thompson, USDA Agriculture Research Service. Introduced in 1993 jointly by USDA and Univ. of Tennessee. NJ 125355 × NJ 6055; cross made in 1963 by L.F. Hough and Catherine Bailey at Rutgers Univ., New Brunswick, N.J.; selected at Blairsville by J.M. Thompson in 1971. Tested as 634011-96. Not patented. Fruit: firm, attractive; skin 80% bright red on pale-yellow ground; flesh white, fine, juicy. Fruit quality good to very good; flavor mild with good balance. Size medium; heavy thinning required to achieve 68 to 70 mm diam. and to avoid biennial bearing. Ripens in

early summer for pick-your-own and local markets; adapted to Southern highlands. Tree: vigorous; spreading; similar to Rome Beauty in susceptibility to fire blight. Chilling requirement >1200 h.

Elista™.— A natural mutation of Elstar found in the orchard of M. Peter in France in 1983. Differs from the parent variety only in having much more and brighter red-striped skin surface, which permits complete harvest in two pickings. Storage until February if picked early.

Enterprise (Co-op 30).— A high-quality winter apple with multiple disease resistances, origin in West Lafayette, Ind., by a cooperative breeding program consisting of the agricultural experiment stations of Indiana, New Jersey, and Illinois. Introduced in 1993 by J.A. Crosby, J. Janick, P.C. Pecknold, Joseph Goffreda, and S.S. Korban. U.S. plant patent applied for; assigned to Purdue Research Foundation, West Lafayette. Parentage: PRI 1661-2 × PRI 1661-1; pedigree includes McIntosh and Delicious. Tested as PRI 2693-1. Fruit: size medium to large, 70 to 75 mm; skin glossy, very bright, dark red on green-yellow to deep yellow ground; flesh pale yellow to cream-colored; texture medium fine, crisp, breaking; flavor moderately acid. Harvest season 2.5 weeks after Delicious; fruit hangs well on tree. After 6 months in refrigerated storage, excellent texture, mildly acid, slightly spicy, full flavored. Immune to apple scab (*V.gene*); resistant to fire blight and cedar apple rust; moderately tolerant to powdery mildew. Tree: moderate to high vigor; spreading; cropping moderate, annual; bloom late; fruits borne singly on moderate-length spurs.

Galasupreme™ (Davis cv.)—A chance seedling (not a Gala sport) found growing from the root of a Delicious tree in the orchard of Nick Davis, Wenatchee, Wash. Introduced about 1992. U.S. plant patent pending. Fruit: similar in appearance to Gala with yellow ground covered with a red-orange stripe; size medium to large; flesh firm and crisp; resists browning when exposed to air; flavor sweet. Tree: resembles Rome.

Golden Glory™.— A semi-spur limb mutation of Smoothee®, discovered by Dan Simmons in Ohio. Tested as DS-165. Registered but not patented; assigned to Newark Nursery, Hartford, Mich. Fruit: similar to Golden Delicious, except semi-spur and very smooth skin.

GoldRush (Co-op 38).— A high-quality, yellow, winter apple resistant to apple scab and powdery mildew, origin in West Lafayette, Ind., by a cooperative breeding program consisting of the agricultural experiment stations of Indiana, New Jersey, and Illinois. Introduced in 1993 by J.A. Crosby, J. Janick, P.C. Pecknold, Joseph Goffreda, and S.S. Korban. U.S. plant patent applied for; assigned to Purdue Research Foundation, West Lafayette, Ind. Parentage: Golden Delicious × Coop 17 has complex parentage, including Winesap. Tested as PRI 2750-6. Fruit: size medium, typically 65 to 75 mm (requires thinning); larger in warmer areas; skin deep yellow, nonwaxy, thin, conspicuous russeted lenticels. Flesh pale yellow, very firm, medium coarse, crisp, breaking, juicy; flavor tart at harvest, developing very rich, well-balanced flavor after a few weeks in storage. Harvest season 25 days after Delicious; outstanding storage life. Tree: moderately vigorous, semi-spur with strong central leader. Immune to apple scab (*V.gene*); moderately resistant to fire blight; susceptible to cedar apple rust; moderately tolerant to powdery mildew.

Gourmet Golden™ (Keystone).—A chance seedling discovered by Randy Wick in Keystone Orchards, Riverside, Wash. U.S. plant patent 7209, 3 Apr. 1990; propagation rights assigned to North American Tree Co., Portland, Ore. Parentage: probably Delicious × Golden Delicious. Fruit: medium to large; typical Delicious shape; skin smooth in Pacific Northwest, sometimes slightly russeted in the East; attractive pink blush in most areas; flesh cream-colored, firm, crisp. Harvest season just before Rome Beauty; much less subject to bruising. Highly aromatic; very low acid; flavor excellent from controlled-atmosphere storage. Shelf life after storage similar to Delicious. Tree: vigorous; nonspur; upright-spreading.

Griffspur.— See Spur Goldblush.

Hardy Cumberland.— Origin at the U.S. Dept. of Agriculture (USDA) Georgia Mountain Branch Experiment Station, Blairsville. Introduced jointly by the USDA and the Univ. of Tennessee Plateau Experiment Station, Crossville. Not patented. Parentage: Lyons × Detroit Red; cross made at Blacksburg, Va., in 1961. Fruit: large, >70 mm; shape round-oblate; color 80% washed and striped carmine; flesh

cream-colored; flavor balanced aroma and acidity; eating quality excellent; no bitter pit. Harvest season slightly later than Rome Beauty. Tree: 90% the size of Golden Delicious tree; hardy, survived -25F without injury; no serious disease problems.

Jonica™ (Schneica cv.)—A red-fruited mutation of Jonagold, orig. in Germany. U.S. plant patent 7146, issued to Georg Schneider 13 Feb. 1990. Fruit: similar to Jonagold but with deeper overcolor and faded red hue; shape is less oblong than Jonagold; flavor medium sweet.

Keystone.— See Gourmet Golden™.

Northern Lights.— A very hardy midseason variety suitable for the north-central plains. Orig. in Geneva, N.Y.; introd. in 1990 by R.D. Way, S.K. Brown, and K.G. Livermore, New York State Agr. Expt. Sta, Cornell Univ., and by A.A. Boe, North Dakota State Univ., Fargo. Not patented. Haralson × McIntosh; cross made in 1938; selected in 1947; tested as NY 17207. Named because tree is very hardy in North Dakota. Fruit: large, 65 to 75 mm diam.; skin 60% to 100% bright, attractive red, with conspicuous white dots; color pattern striped; shape round-conic; flesh semi-firm, white; flavor subacid to slightly acid; eating quality fair. Harvest season same as McIntosh, late September; storage life 3 months at -0.5C. Tree: very hardy, large, vigorous, productive but somewhat biennial in cropping. Pollen: effective pollinizer when tested on other varieties.

Pristine™ (Co-op 32).— A disease-resistant early apple from the Purdue-Rutgers-Illinois cooperative breeding program. Parentage: Co-op 10 × Camuzat; tested as PRI 2946-1; introd. in 1994 by J. Janick, J.A. Crosby, P.C. Pecknold, Joseph Goffreda, and S.S. Korban. U.S. plant patent applied for; assigned to Purdue Research Foundation, West Lafayette, Ind. Fruit: most resembles Yellow Transparent; size medium, 65 to 70 mm; oblate round to round. Skin thin; pale green-yellow to cream-colored, maturing to deep yellow with moderate orange blush on exposed surface; finish smooth, glossy, with inconspicuous lenticels. Mildly acid, slightly spicy, moderately rich; retains excellent quality and texture for 4 to 6 weeks or more in refrigerated storage. Harvest just after Lodi, late July at West Lafayette; two pickings required. Tree: moderate vigor; round-spreading; semi-spur; limber wood that droops under crop load; moderately productive. Immune to apple scab (*Vf* gene); moderately resistant to fire blight; slightly resistant to cedar apple rust; resistant to powdery mildew.

Rafzubin.— See Rubinette®.

RubINETTE® (Rafzubin cv.)—A high-quality introduction from the Swiss breeding program. Parentage: Golden Delicious × Cox's Orange Pippin. U.S. plant patent 6588, assigned to North American Tree Co., Portland, Ore. Fruit: brilliant red stripe over golden ground, faint russet; long, slender stem; shallow stem cavity; fruit size small. Flavor delicious, very sweet with slight tang, aromatic. Tree: habit very similar to Golden Delicious; moderately susceptible to mildew and moderately resistant to scab.

Ruby Jon.— A limb mutation of Jonee producing fruit with superior red color. Discovered by Bill Jackson in Bowling Green, Ky., in 1986. Not patented; assigned to Summit Sales, Lawrence, Mich.

Runkel.— A chance seedling of unknown parentage discovered in 1940 in Lincoln Park, Mich. U.S. plant patent 3308, 20 Feb. 1973; assigned to Newark Nursery, Hartford, Mich. Fruit: skin fully red, thin, tender, smooth, waxy; flesh yellowish cream-colored; flavor mildly subacid, rich, sweet; eating quality good; long storage life. Tree: vigorous, hardy, very productive, annual bearing.

Sali™ Delicious.— A whole-tree mutation of Delicious discovered in Moxee, Wash., by Kasper Sali. U.S. plant patent 7237, 29 May 1990. Fruit: color solid blush; develops red color earlier than other strains of Delicious; develops sugar ≈ 10 days earlier than other Delicious strains. Tree: standard nonspur growth habit.

Scarlet Spur Delicious.— A very early coloring spur-type sport of Delicious, discovered by William G. Evans. U.S. plant patent 6839, 20 Apr. 1982. Tree: spur growth habit; heavy, annual cropping.

Spur Gala-Go-Red.— See TRECO Red Gala No. 42.

Spur Goldblush™ (Griffspur).— A semi-spur mutant of Stark Blushing Golden™, discovered as a limb sport by R.B. Griffith, Cobden, Ill. U.S. plant patent 7878, 2 June 1992. Fruit: identical to Stark Blushing Golden™—skin golden-red blush on creamy yellow ground; highly russet resistant; crisp; thin-skinned; good sugar : acid

balance; excellent eating quality. Long storage life. SpurGoldblush™ differs from parent in having ≈ 50% greater density of fruiting spurs, wider crotch angles, and greater percent budbreak. Moderately susceptible to scab and fire blight.

Stark® SunCrisp™.— A high-quality, Golden Delicious type orig. from the apple breeding program at Rutgers Univ., New Brunswick, N.J. Golden Delicious × (Cortland × Cox's Orange Pippin). Selected in 1971; tested as NJ 55; introd. in 1992. Plant patent applied for. Fruit: size medium to large, 300 to 400 g; skin very attractive, 40% orange-red blush, sometimes pink, on pale yellow-green ground; shape round-conic, slightly irregular. Flesh: cream-colored, slow to oxidize; very firm, crisp, and juicy; flavor sweet, mildly subacid, aromatic; eating quality excellent. Harvest season 1 week after Delicious. Storage life medium, up to 6 months at -0.5C. Tree: tends to overcrop, thinning required; not disease resistant.

Staybrite Stayman®.— A smooth-skinned mutation of Double Red Stayman. Not patented; assigned to Newark Nursery, Hartford, Mich. Similar to Stayman except mostly full red color, less scarfskin, and less russet. Tree: nonspur, vigorous, productive, triploid.

Sunrise.— A high-quality, late-summer apple of excellent appearance from the breeding program of the Agriculture Canada Research Station, Summerland, B.C. Introd. in 1991 by David Lane and Richard MacDonald. Parentage: 10C-10-19 (= McIntosh × Golden Delicious) × PCF3-120(a chance seedling). Tested as 8C-27-96. U.S. plant patent applied for. Fruit: skin 50% bright, pinkish-red stripes on pale-yellow ground; large, mostly >200 g; shape somewhat irregular, ribbed. In Summerland, quite resistant to sunburn. Flesh firm, crisp, juicy; flavor mild, sweet, low acid, with little aroma. Controlled-atmosphere storage life 2 months. Tree: vigorous, spurry, precocious, productive. Relative tolerance to powdery mildew.

TRECO® Red Gala No.42 (Cooper cv.)—Discovered by Cal Cooper, Brewster, Wash. U.S. plant patent 7396, 18 Dec. 1990; assigned to TRECO, Woodburn, Ore. Tested as Spur Gala-Go-Red. Fruit: similar to Gala except skin color is bright overall red in a muted striped pattern; sweet, firm texture, long storage life.

Waltana.— A mid-late introduction with intermediate chilling requirement. Orig. in California in early 1990s. Not patented. Sold by L.E. Cooke Nursery, Visalia, Calif. Fruit: size medium to large; color thin red striping over greenish ground; shape variable. Flesh: texture crisp; hard; juicy; flavor slightly tart. Harvest season 4 weeks after Delicious; use dessert and cooking. Tree: vigorous, healthy, regularly productive; chilling requirement 900 h.

APPLE ROOTSTOCKS

James N. Cummins

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Geneva 65 (G.65).— A very dwarfing, disease-resistant rootstock introd. in 1991 by J.N. Cummins and H.S. Aldwinckle, New York State Agr. Expt. Sta., Cornell Univ., Geneva. Malling 27 × Beauty Crab cross made in 1974, selected in 1984. Tested as CG.65. Plant patent 8543, 18 Jan. 1994; assigned to Cornell Research Foundation. More dwarfing than Malling 9 EMLA but less dwarfing than M.27. Resistant to crown rot, fire blight, apple scab, and powdery mildew; moderately susceptible to woolly apple aphids. Compatible with all varieties tested: Delicious, Golden Delicious, McIntosh, Northern Spy, Mutsu, Liberty, and Empire. Good anchorage; not brittle; training support required. Burrknots few. Moderately light suckering. Demonstrates some capacity for epigenic change in tissue culture, but no significant increase in burrknot or sucker incidence.

Lizzy.— Market name for P.16.

NAKB 337.— See Malling 9-T337.

Malling9-T337 (NAKB337).— A Dutch selection of Malling 9. In the orchard, tree vigor is intermediate in the Malling 9 range. Leaf medium large; shoots fairly stocky; few side shoots in the stoolbed.

P.16 (Lizzy).— A very dwarfing rootstock introd. by S. Zagaja and A. Czynczyk, Research Inst. for Pomology, Skierniewice, Poland. Malling 9 × Common Antonovka. Induces tree vigor intermediate between M.27 and M.9. Shoots stocky with numerous short spines. Leaves large, dark green, dull. Budbreak very early. Low-temperature

tolerance similar to M.9. Induces very early, heavy production. Burrknobs and suckers rare. Moderately easily propagated in stoolbed. Susceptible to fire blight and woolly apple aphids.

P.60.— A very dwarfing, red-leaved, vegetatively propagated apple rootstock, adapted to northern areas. Introd. in 1991 by S. Zagaja, T. Jakubowski, and A. Przbyla, Skierniewice, Poland. Alnarp 2 × Red-Leaved Paradise (Budagovsky 9); selected from a population of 23 seedlings. Not patented. Under Polish conditions, P.60 is similar to Malling 9 in dwarfing influence. Compared to M.26, P.60 is more prolific in the stoolbed, better rooted, and produces fewer spines; in the orchard, P.60 produces twice as many burrknobs and is similar in winter hardiness. Leaves, fruit flesh, inner bark, and wood are pinkish-red, similar to the pollen parent. P.60 is susceptible to fire blight and woolly apple aphids and moderately susceptible to *Phytophthora*, apple scab, and powdery mildew. Wood is brittle, and trees in the orchard require permanent support.

ASIAN PEARS (NASHI)

Joseph D. Postman and Kim E. Hummer
U.S. Department of Agriculture National Clonal Germplasm
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Chojuro.—Orig. in Kawasaki, Kanagawa Prefecture, Japan, in 1895 by Chojuro Toma. Chance seedling of *Pyrus pyrifolia*. Introd. to U.S. in 1939 by U.S. Dept. of Agriculture. Evaluated at Univ. of California, Davis, beginning in 1955. Fruit: medium, ≈ 66 mm diam., 55 mm long; oblate; skin thick, russeted, green to orange-brown. Flesh white, mildly sweet and bland; firm; coarse; distinctive aroma. Ripens mid-August in Oregon; stores 20 weeks. Tree: medium vigor; spreading. Resistance to an outbreak of scab (*Venturia nashicola*) in 1897, high sugar content, high productivity, and resistance to black spot (*Alternaria kikuchiana*) helped Chojuro become an important variety in Japan.

Duck Pear.— See Ya Li.

Good Water.— See Kosui.

Hosui (English translation = *Much Water*).— Orig. at the Natl. Hort. Res. Sta., Tsukuba, Japan. Cross of Ri-14 (Kikusui × Yakumo) × Yakumo made in 1954; selected in 1963; introd. in 1972 by M. Kajiura, K. Kanato, Y. Machida, M. Maeda, I. Kozaki, T. Tashiro, O. Kishimoto, and K. Seike. Fruit: large, 300 to 350 g; globose to oblate; skin russeted, golden to golden brown, enlarged lenticels. Flesh off-white, sweet, mild, crisp, juicy; finer texture than Chojuro and higher quality; ripens with Chojuro, mid-August in Oregon; stores 4 weeks. Tree: medium to large; vigorous; willowy; productive.

Kosui (English translation = *Good Water*).— A high-quality, early ripening Japanese pear. Orig. at the Natl. Hort. Res. Sta., Tsukuba, Japan. Kikusui × Wasekozo; cross made in 1941; first fruited in 1947; released in 1959. Fruit: medium size; skin mostly russeted, yellow to golden brown. Flesh: crisp, juicy, very sweet; ripens 2 weeks before Hosui and Chojuro; stores 8 weeks. Tree: medium size; vigorous; spreading; resistant to black spot; moderately resistant to scab.

Much Water.— See Hosui.

New Century.— See Shinseiki.

Nijisseiki (*Twentieth Century*).— The standard against which other Asian pears are compared. Orig. in Matsudo City, Chiba Prefecture, Japan, in 1888 by Kakunosuke Matsudo. Chance seedling; introd. in 1898. Fruit: medium-large, 66 mm diam., 55 mm long; globose-oblate; skin smooth, greenish-yellow to yellow; semi-glossy; inconspicuous lenticels. Flesh: crisp, white, juicy, sweet, bland. Ripens mid-August in Oregon, just after Chojuro; stores 20 weeks. Tree: medium size; upright, becoming spreading; productive. Must thin for good fruit size. Susceptible to black spot.

Shinseiki (English translation = *New Century*).— Orig. at Okayama Prefecture Agriculture Experiment Station, Japan, by Teiji Ishikawa. Nijisseiki × Chojuro. Named and released in 1945. Fruit: medium size; globose to oblate; skin smooth, yellow. Flesh: white, crisp, juicy, bland. Ripens before Nijisseiki; stores 12 weeks. Tree: medium size; dense; spreading; precocious and productive.

Tse Li (*Tsú Li*).— Grown in Shantung Province of northern China for thousands of years. Fruit: large, 75 mm diam., 90 mm long; ovate-

pyriform with no distinct neck; irregular, lumpy. Skin yellow with large prominent tan lenticels. Flesh crisp, juicy, sweet, tract of tartness, distinct aroma. Ripens mid- to late September in Oregon, 4 weeks after Nijisseiki; stores 25 weeks at 0C. Tree: large; upright; cold hardy; very early bloom, requires early blooming pollinizer such as Ya Li. Low chilling, ≈ 350 to 500 h.

Tsú Li.— See Tse Li.

Twentieth Century.— See Nijisseiki.

Ya Li (English translation = *Duck Pear*).— An old variety from northeastern China. Fruit: large, 70 mm diam., 80 mm long; globular-pyriform; neck may be obscure. Skin light green to yellow, clean, waxy, small lenticels, free of russet. Stem curved, often fleshy and off-center. Flesh white, crisp, juicy, sweet, fragrant. Ripens mid- to late September in Oregon; stores 24 weeks. Tree: large; upright; vigorous; blooms very early, requires early pollinizer. Cold hardy. Low chilling requirement, ≈ 350 to 500 h.

AVOCADO

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Iriet.— Orig. and tested at the Akko Experiment Station in western Galilee by E. Lahav, D. Zamet, and S. Gazit. Hass open-pollinated. Plant patent applied for. Fruit: similar to Hass but larger, 300 to 500 g; peel thinner than Hass, thicker than Fuerte; pear-shaped, uniform; skin black, glossy, slightly pebbly; seed round to slightly elongated, 10% to 15% of fruit weight. Flesh green-yellow; buttery texture; excellent nut-like flavor. Storable for 14 days at 5C, 95% RH; softens at room temperature in ≈ 9 days; shelf life 3 to 5 days. Tends to be biennial; season begins in off years in December, in on years in March. Tree: canopy small to medium, slightly weeping form; precocious, fruiting second year after planting. Flowering group B.

CHERRIES

Robert L. Andersen
New York State Agricultural Experiment Station, Geneva

Hartland.— Introd. in 1992 by R.L. Andersen, S.K. Brown, R.D. Way, K.G. Livermore, and D.E. Terry, New York State Agricultural Experiment Station, Geneva. Windsor open-pollinated; selected in 1958; tested as NY 3308. Plant patent pending; assigned to Cornell Research Foundation. Fruit: round; size medium, ≈ 20 to 30 mm diam.; pit round-conic; skin purple; rain-induced cracking tolerance better than Bing. Soluble solids usually 14% to 15%; firmness medium, similar to Sam; flavor good; fruit removal force from peduncle ≈ 490 g at maturity. Tree: moderately vigorous; habit open, very spreading with many lateral branches along apical portions of new growth; slightly drooping form in mature trees. Very precocious and productive. Not self-fertile; pollen compatibility Group VI with Gold; midseason bloom.

Royalton.— Introd. in 1991 by R.L. Andersen, S.K. Brown, R.D. Way, K.G. Livermore, and D.E. Terry, New York State Agricultural Experiment Station, Geneva. NY 1725 open-pollinated; selected in 1975; tested as NY 11390. Plant patent pending; assigned to Cornell Research Foundation. Fruit: round-oblate; large, ≈ 30 × 28 mm; round pit; purple skin. Fruit more tolerant of rain-induced cracking than Bing, but less tolerant than Sam; firmness similar to Ulster and Kristen. Fruit removal force from peduncle ≈ 550 g at maturity. Tree: very vigorous; very upright; slow to begin bearing. Not self-fertile; pollen compatibility Group VIII with Schmidt; early midseason bloom.

Somerset.— Introd. in 1993 by R.L. Andersen, S.K. Brown, R.D. Way, K.G. Livermore, and D.E. Terry, New York State Agricultural Experiment Station, Geneva. Van × Vic; cross made in 1960; tested as NY 4676. Plant patent pending; assigned to Cornell Research Foundation. Fruit: cordate, very symmetrical; ≈ 30 × 27 mm; skin purple with high sheen; pit round-conic with slightly protruding tip. Rain-induced cracking is lower than in Lapins, more than Early Rivers. Strong cherry flavor with good sugar : acid balance; fruit firm with excellent shelf

life. Tree: moderately low vigor; spreading, with many lateral branches; very precocious and productive. Not self-fertile; pollen compatibility Group III, with Bing; blooms early, 1 day before Bing. At Geneva, good orchard tolerances to brown rot and bacterial canker.

Surefire.— A late-blooming tart cherry, introd. in 1993 by R.L. Andersen, S.K. Brown, R.D. Way, K.G. Livermore, and D.E. Terry, New York State Agricultural Experiment Station, Geneva. Borchert Black Sour × NY 6935 (Richmorency × Schattenmorelle); tested as NY 12716. Plant patent pending; assigned to Cornell Research Foundation. Fruit: symmetrical, slightly cordate; ≈ 24 mm diam. × 20 mm long; skin and flesh bright red; pit oblong-conic, small. Strong cherry flavor; firmness similar to Montmorency; slightly more acid than Montmorency. Fruit ripens ≈ 65 days after full bloom. No rain-induced cracking. Tree: medium vigor; semi-upright, with relatively few branches. Cropping on spurs and previous season's growth; self-fruitful; flowers 5 to 7 days after Montmorency.

CHERRY PLUM

D.W. Ramming

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Horticultural Crops Research Laboratory, Fresno, Calif.

Clark Hill Redleaf.—Collected by J.M. Thompson and W. Knight in 1973 or 1974 near Augusta, Ga., at an old homesite on the Georgia side of the Savannah River ≈ 1 km from Clarks Hill Dam. Introd. in 1989. Probably a seedling of an ornamental plum; resembles a redleaf *Prunus cerasifera*. Fruit: 20 to 30 mm, round; skin red with yellow to yellow-red flesh; quality insipid. Tree: vigorous; tolerant to high levels of calcium; tolerant to bacterial spot and bacterial canker; moderate resistance to plum leaf scald. Bloom is later than most Japanese plums; flowers light pink; leaves deep red, fading to purple-green during summer.

CHESTNUT

Joseph D. Norton

Auburn University, Auburn, Alabama

Tommy E. Thompson

U.S. Department of Agriculture-Agricultural Research Service,
Pecan Genetics and Breeding Research, College Station, Texas

AU-Cropper.— Orig. at the Auburn Univ.-U.S. Dept. of Agriculture Hillculture Farm, Auburn, Ala., by J.D. Norton. Evaluated as 35A-4-4. Nuts 11 g, dark chocolate-brown, two or three nuts per burr. Midseason maturity; burr opens well. Tree: Chinese type, high yielding; resistant to chestnut blight.

AU-Homestead.— Orig. at the Auburn Univ.-U.S. Dept. of Agriculture Hillculture Farm, Auburn, Ala., by J.D. Norton. Evaluated as 54-26. Nuts 11.3 g, very dark chocolate-brown, two or three nuts per burr. Late uniform maturity; burr opens fairly well. Tree: Chinese type, high yielding; resistant to chestnut blight.

AU-Leader.— Orig. at the Auburn Univ.-U.S. Dept. of Agriculture Hillculture Farm, Auburn, Ala., by J.D. Norton. Evaluated as 54-13. Nuts 13 g, dark chocolate-brown, two or three nuts per burr. Midseason maturity; burr opens well. Tree: Chinese type, high yielding; resistant to chestnut blight.

AU-17.— Germplasm release orig. at the Auburn Univ.-U.S. Dept. of Agriculture Hillculture Farm, Auburn, Ala., by J.D. Norton. Nuts 13 g, medium brown, two or three nuts per burr. Midseason maturity; burr opens well. Tree: Chinese type, high yielding; resistant to chestnut blight and chestnut gall wasp.

AU-54-60.— Germplasm release orig. at the Auburn Univ.-U.S. Dept. of Agriculture Hillculture Farm, Auburn, Ala., by J.D. Norton. Nuts 13.4 g, dark chocolate-brown, two or three nuts per burr. Midseason maturity; burr opens well. Tree: Chinese type, high yielding; resistant to chestnut blight and chestnut gall wasp.

FILBERT

Shawn A. Mehlenbacher

Oregon State University, Corvallis

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Dundee.— Orig. in Corvallis, Ore., by Harry B. Lagerstedt, U.S. Dept. of Agriculture-Agricultural Research Service. Introd. in 1993. *Corylus colurna* open-pollinated; appears to be *C. colurna* × *C. avellana* hybrid. Selected in 1971; tested as USOR 15-71. Ennis trees grafted to Dundee are vigorous and productive, produce very few suckers, and have smooth unions. Dundee bark is silver-colored and smooth. Propagation is by tie-off layerage with girdling; propagation by semi-hardwood cuttings or simple layerage is less successful. Susceptibility to eastern filbert blight (*Anisogramma anomala*) not determined.

Newberg.— Orig. in Corvallis, Ore., by Harry B. Lagerstedt, U.S. Dept. of Agriculture-Agricultural Research Service. Introd. in 1993. *Corylus colurna* open-pollinated; appears to be *C. colurna* × *C. avellana* hybrid. Selected in 1971; tested as USOR 7-71. Ennis trees grafted to Newberg are vigorous, productive, and produce very few suckers; the rootstock slightly overgrows the scion. Newberg bark is intermediate in appearance between *C. colurna* and *C. avellana*. Propagation is by tie-off layerage with girdling; propagation by semi-hardwood cuttings or simple layerage is less successful. Highly susceptible to eastern filbert blight.

VR 4-31.— Orig. in Corvallis, Ore. Introd. in 1991 by S.A. Mehlenbacher and Maxine M. Thompson, Oregon State Univ., as a pollinizer for Barcelona in areas exposed to eastern filbert blight. Montebello × Gasaway; cross made in 1976; selected in 1987. Nuts: small (1.9 g); round compressed; light brown, pubescent; ripens with Barcelona. Kernel 51% by weight; very fibrous; pellicle not removed with dry heat. Husk slightly shorter than nut, free husking. Immune to eastern filbert blight; intermediate response to big bud mite. Sets many catkins; sheds abundant pollen at same time or slightly later than Daviana. Incompatibility alleles S1 S3.

VR 11-27.— Orig. in Corvallis, Ore. Introd. in 1991 by S.A. Mehlenbacher and Maxine M. Thompson, Oregon State Univ., as a pollinizer for Barcelona and other early flowering varieties in areas exposed to eastern filbert blight. Montebello × Gasaway; cross made in 1976; selected in 1987. Nuts: small (2.3 g); round compressed; light brown, pubescent at apex; ripens with Barcelona. Kernel 46% by weight; very fibrous; pellicle not removed with dry heat. Husk same length as nut, free husking. Immune to eastern filbert blight; moderate resistance to big bud mite. Sets many catkins; sheds abundant pollen at same time or slightly later than Daviana. Incompatibility alleles S1 S3.

VR 20-11.— Orig. in Corvallis, Ore. Introd. in 1991 by S.A. Mehlenbacher and Maxine M. Thompson, Oregon State Univ., as a pollinizer for Barcelona in areas exposed to eastern filbert blight. OSU 10-68 (Barcelona × Compton) × Gasaway; cross made in 1976; selected in 1987. Nuts: small to medium (2.3 g); nearly round; light brown, attractive; ripens with Ennis. Kernel 51% by weight; little fiber on pellicle; pellicle not removed with dry heat. Husk slightly shorter than nut, free husking. Immune to eastern filbert blight; moderately susceptible to big bud mite. Sets many catkins; sheds abundant pollen at same time as Daviana. Incompatibility alleles S2 S3.

VR 23-18.— Orig. in Corvallis, Ore. Introd. in 1991 by S.A. Mehlenbacher and Maxine M. Thompson, Oregon State Univ., as a pollinizer for Barcelona in areas exposed to eastern filbert blight and also for late-flowering varieties. OSU 13-19 (Barcelona × Lansing) × Gasaway; cross made in 1976; selected in 1987. Nuts: small to medium (2.2 g); oval; light brown with stripes and pubescence; ripens with Ennis. Kernel 51% by weight; much fiber on pellicle; pellicle not removed with dry heat. Husk slightly shorter than nut, free husking. Immune to eastern filbert blight; intermediate response to big bud mite. Sets many catkins; sheds abundant pollen over long period starting slightly later than Daviana. Incompatibility alleles S1 S3.

GRAPES

John R. Clark

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Chardonnal.— White wine grape with Chardonnay character. Orig. in Geneva, N.Y., by B.I. Reisch, R.M. Pool, W.B. Robinson, T. Henick-Kling, J.P. Watson, K.H. Kimball, M.H. Martens, G.S. Howell, D.P. Miller, C.E. Edson, and J.R. Morris, New York State Agr. Expt. Sta., Cornell Univ. Introd. in 1990. Plant patent 7860, 5 May 1992; assigned to Cornell Research Foundation. Seyval × Chardonnay; selected in 1960; tested as NY 45010. Berry: amber; medium size, spherical, and seeded. Cluster: shouldered; medium large (200 g); average 1.6 clusters/shoot; cluster thinning occasionally required. Vine: productive; vigorous; moderately winter hardy. Moderately susceptible to powdery mildew, downy mildew, and *Botrytis* bunch rot; foliage is not susceptible to sulfur injury. Produces high-quality wine with Chardonnay character.

Early Fry.— Female, early ripening, bronze muscadine for fresh market. Orig. in Brooks, Ga., by W.G. Ison. Introd. in 1993. Plant patent pending. Sweet Jenny × Ison. Berry: round; large (32 mm); dark bronze; seeded; dry scar. Cluster: 5 to 15 berries/cluster. Vine: productive; very vigorous; tolerant to common diseases. Ripens 1 to 2 weeks earlier than Ison.

Esperanza.— Tropical, multi-use grape for home production. Orig. in Aibonito, Puerto Rico, by Francisco Watlington. Not patented. Native *Vitis caribaea* × Lakemont; selected in 1970; tested as 66H4. Berry: blue-black; seeded; spherical; small to medium size. Cluster: large; well filled. Vine: resistant to powdery and downy mildew. Adapted to tropical climate.

Fry Seedless.— Seedless muscadine for fresh market. Orig. in Brooks, Ga., by W.G. Ison. Introd. in 1990. Plant patent 7296, 14 Aug. 1990; assigned to Ison's Nursery and Vineyards. Farrer × Redgate. Berry: seedless; small to medium (20 mm); pink-red; 20% solids; thin skin; round; pulp melting. Vine: self-fertile; vigorous; low to medium production, erratic in some years; tolerant to common diseases. Fruit ripens midseason.

Late Fry.— Late-ripening, self-fertile, bronze muscadine for fresh market. Orig. in Brooks, Ga., by W.G. Ison. Introd. in 1993. Plant patent pending. Fry × Granny Val. Berry: round; large (30 mm); 20% solids. Cluster: large. Vine: productive; vigorous; tolerant to common diseases. Fruit ripens 1 week later than Granny Val.

Nava.— Large-fruited, seeded table grape for fresh market. Orig. in Bet Dagan, Israel, by P. Spiegel-Roy, R. Asaph, and I. Baron, Inst. of Horticulture, Agricultural Research Organization, The Volcani Center. Dabouki × Alphonse Lavallée (Ribier); selected in 1975; tested as no. 101; introd. in 1988. Patented in Israel. Berry: black; roundish; large (8 g); contains two seeds; some tendency for skin to crack. Cluster: large (500 to 600 g); fairly loose; elongated. Vine: vigorous; adapted to spur pruning; productive. Fruit ripens during similar season as Alphonse Lavallée. Chilling requirement similar to Ribier; susceptibility to mildew less than Ribier.

Odem.— Late-ripening, large-fruited table grape for fresh market. Orig. in Bet Dagan, Israel, by P. Spiegel-Roy, R. Asaph, and I. Baron, Inst. of Horticulture, Agricultural Research Organization, The Volcani Center. Introd. in 1991. Patented in Israel. Zeni × Toufahi; selected in 1975; tested as no. 110. Berry: red; ellipsoidal; large (8 g) with firm skin. Cluster: large (500 g); fairly loose; elongated. Fruit ripens ≈ 14 days after Italia and Dabouki. Vine: productive; adapted to spur pruning; vigorous.

Shani.— Red, noncracking table grape to replace Cardinal for fresh market. Orig. in Bet Dagan, Israel, by P. Spiegel-Roy, R. Asaph, and I. Baron, Inst. of Horticulture, Agricultural Research Organization, The Volcani Center. Introd. in 1981. Patented in Israel. Dabouki × Cardinal; selected in 1974; tested as no. 7. Berry: red; large (7 g); ovoid; less cracking than Cardinal. Cluster: long to very long; large (600 g); shouldered; not compact. Ripening period similar to that of Cardinal. Vine: vigorous; adapted to spur pruning; productive.

Sivan.— Yellow, seeded table grape for fresh market. Orig. in Bet Dagan, Israel, by P. Spiegel-Roy, R. Asaph, I. Baron, and N. Sahar, Inst. of Horticulture, Agricultural Research Organization, The Volcani

Center. Introd. in 1981. Patented in Israel. Dabouki × Cardinal; selected in 1968; tested as no. 42. Berry: yellow; ellipsoidal; medium size (5 g); containing one or two small seeds; skin fairly tough; some tendency for shot berries and sunburn of berries; slight muscat flavor. Cluster: medium size (400 g); not compact; short, conical shape. Fruit ripens at similar time as Queen of Vineyards. Vine: vigorous; adapted to spur pruning; productive.

Sugratwelve.— Seedless, white table grape to replace Superior Seedless. Orig. in Mecca, Calif., by H. Newby, Jr., D. Cain, and K.S. Andrew, Sunworld International. Introd. in 1993. Plant patent 8298, 13 July 1993; assigned to Sunworld International. Mutation of Superior Seedless. Berry: elongated, similar to Thompson Seedless; crisp texture; white; no gibberellic acid needed for sizing. Fruit ripens at similar time as Superior seedless.

Sunbelt.— Even-ripening juice grape for southern areas where Concord is not adapted. Orig. in Clarksville, Ark., by J.N. Moore, J.R. Morris, and J.R. Clark, Univ. of Ark. Introd. in 1993. Plant patent 8511, 21 Dec. 1993. Concord open-pollinated; selected in 1971; tested as Ark. 1335. Berry: blue, large; seeded; round. Cluster: small; even ripening in high-temperature climates. Vine: moderately productive; vigorous; moderately resistant to black rot and anthracnose and highly resistant to powdery mildew and downy mildew. Fruit and vine characteristics are similar to Concord, except that Sunbelt ripens its fruit evenly at high temperatures.

Tara.— Self-fertile, large-fruited bronze muscadine for fresh market and to use as pollinizer. Orig. in Griffin, Ga., by R.P. Lane, Univ. of Ga. Introd. in 1993. Not patented. Summit × Triumph; selected in 1979; tested as GA 33-8-2. Berry: large (11.4 g); bronze; dry stem scar; similar to Fry. Vine: vigorous; productive; tolerant to most diseases affecting muscadines except black rot; escaped cold damage at -15C in 1989. Fruit ripens early in season.

Triumph.— Self-fertile, bronze muscadine for fresh market and for use as pollinizer. Orig. in Griffin, Ga., by R.P. Lane, Univ. of Georgia. Introd. in 1980. Not patented. Fry × Ga. 29-49; cross made by B.O. Fry. Selected in 1971; tested as Ga. 9-6-2. Berry: large (8 g); green to bronze; thin skin; thick pulp, nonmelting; 3.2 seeds; dry scar; 18% solids. Vine: vigorous; hardy; productive; moderate resistance to common diseases.

Valplatinta.— Tropical juice or wine grape. Orig. in Aibonito, Puerto Rico, by Francisco Watlington. Introd. in 1993. Plant patent 8434, 26 Oct. 1993; assigned to the Commonwealth of Puerto Rico. A complex hybrid of *V. caribaea*, *V. vinifera*, and *V. labruscana* × Esperanza. Berry: medium size (2 g); ellipsoidal; dark blue-black with light bloom; 2 or 3 seeds; skin medium thick and highly pigmented; juicy pulp; flavor of slight tartness but sweet; 19% solids. Cluster: long (18 cm); conical; loose; medium size (250 g); 100 berries/cluster; three clusters/cane usually. Vine: medium vigor-performance may vary; medium productivity; moderate to good resistance to powdery mildew and downy mildew; possible resistance to anthracnose. Ripens uniformly with high sugar and acidity in tropical conditions.

GRAPE ROOTSTOCKS

Tampa.— Clonal rootstock to replace Dog Ridge. Orig. in Leesburg, Fla., by J.A. Mortensen and L.H. Stover. Introd. in 1982. Not patented. Fla. 43-47 (*V. aestivalis* ssp. *smalliana* open-pollinated) × Niagara. Selected in 1961; tested as Fla. 48-1-26. Vine: low tendency to sprout from below the graft union; produces very vigorous scions; very compatible. Resistant to Pierce's disease, anthracnose, downy mildew, powdery mildew; drought tolerant; tolerant to nematodes. Fruit: unmarketable; small; purple.

VR 039-16.— Rootstock for sites with grape fanleaf/ *Xiphinema index* complex. Orig. in Davis, Calif., by M.A. Walker, L.A. Lider, A.C. Goheen, and H.P. Olmo, Univ. of California. Introd. in 1991. Plant patent 6166, 3 May 1988; assigned to the Regents of the Univ. of California. Almeria × Male No. 1 (*V. rotundifolia*); cross made in 1948. Vine: sterile; has resistance to phylloxera; shows some resistance to fan leaf virus/ *X. index* complex compared to susceptible rootstocks, but possibly not total resistance. Recommended for use only on sites with the grape fan leaf/ *X. index* complex.

MANGO

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Naomi.— Orig. at Besor Experimental Station, Northwest Negev, Israel, by E. Tomer, C. Degani, and S. Gazit. Palmer open-pollinated. Plant patent pending. Best of 300 seedlings planted in 1976; selected and tested as Besor 16/36. Fruit: \approx 450 g, uniform; oblong, usually with small sinus; ventral shoulder higher than dorsal, apex obtuse or rounded. Skin attractive red; flesh yellow; flavor mild, moderately sweet, with weak, pleasant aroma. Ripens midseason, September on the coastal plain of Israel, 3 to 4 weeks after Haden and Tommy Atkins. Tree: medium vigor; fairly erect growth; productivity significantly higher than many other varieties. Same isozyme phenotype as Palmer except for PGM, for which Palmer is heterozygous (ab) and Naomi homozygous (aa).

NECTARINES

Wayne Sherman

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April Glo.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 7305; 21 Aug. 1990. (Ruby Gold \times peach of unknown parentage) \times (Sunred \times Royal). Fruit: medium; globose with tip and pronounced suture; red to dark red over yellow to yellow-orange ground color; flesh medium firm, light yellow, melting, semi-freestone; matures 10 to 14 days before May Glo. Flowers medium, nonshowy, pink; leaf glands globose. Tree: large; vigorous; upright; productive. Chilling requirement 200 h.

Arctic Glo.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 7884; 16 Jan. 1992. [(Carnival open-pollinated) \times (Fayette open-pollinated)] \times white-fleshed nectarine seedling. Fruit: large; nearly globose; red over pale yellowish-white groundcolor; flesh white with pinkish streaks near pit cavity, firm, meaty, clingstone. Ripens 9 June at Modesto. Flowers large, showy, pink; leaf glands globose. Tree: large; vigorous; upright.

Arctic Queen.— Orig. by C.F. Zaiger, L.M. Gardner, G.N. Zaiger, and G.G. Zaiger, Modesto, Calif. Plant patent 8094; 12 Jan. 1993. Complex origin. Fruit: large; nearly globose; firm; flesh melting, white, freestone with bleeding of red from pit cavity; orange-red over yellowish-white ground color. Ripens late July at Modesto. Flowers large, showy, pink; leaf glands reniform. Tree: large; vigorous; upright; productive.

Arctic Rose.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 7889; 23 June 1992. (Ruby Gold \times Red Wing) o.p.. Fruit: large; globose; medium red over chalk-white ground color leaving mottled red skin; flesh white with pale red streaks from pit cavity, firm, meaty, clingstone. Ripens 1 July at Modesto. Flowers large, showy, pink; leaf glands reniform. Trees: large; vigorous; upright.

Arctic Show.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 7920; 21 July 1992. [(Sun Grand \times Merrill Gem) open-pollinated \times (late nectarine \times Autumn Grand) open-pollinated] \times (Redwing \times nectarine seedling) open-pollinated. Fruit: large; globose; high percentage of red over white to pinkish-white ground color; flesh white with red at cavity, firm, freestone. Ripens 10 days after Autumn Grand. Flowers large, showy, pink; leaf glands primarily globose with some reniform. Tree: large; vigorous; upright.

Big Jim.— Orig. by J.W. Taylor, Dinuba, Calif. Plant patent 8021; 3 Nov. 1992. Assigned to Ito Packing Co., Reedley. (Red Jim \times Summer Grand) open-pollinated. Fruit: large; nearly round; very firm and meaty; flesh yellow, clingstone; 90% shiny red over yellow ground color. Ripens mid-June. Flowers large, showy, pink; leaf glands globose. Tree: large; vigorous; spreading; productive but low percentage of flower buds leads to less than normal fruit thinning.

Big Juan.— Orig. by L.G. and N.G. Bradford, LeGrand, Calif.

Plant patent 8197; 6 Apr. 1993. Red Diamond \times nectarine. Similar to May Diamond but larger in size, has no red in yellow flesh, and ripens 7 days earlier; freestone. Flowers small, pink; leaf glands reniform. Tree: large; vigorous; spreading and dense; productive.

Carlson.— Orig. by H.D. Carlson, Yakima, Wash. Plant patent 7527; 21 May 1991. Chance seedling. Fruit: medium; symmetrical globose; red over yellow-orange skin; flesh yellow, firm, crisp, semi-freestone. Ripens 14 days before Red Gold. Flowers medium, pink; leaf glands reniform. Tree: medium size and vigor; spreading.

Carolina.— Orig. at Agr. Expt. Sta., Univ. of Florida, Gainesville. Bred in 1976, selected in 1979, and tested as Fla. 9-9N by W.B. Sherman. Introduced in Spain by Viveros Orero, S.A. in 1990. Complex parentage of Florida selections. Fruit: medium, round, skin 90% to 100% red blush over yellow ground color; flesh yellow, medium firm, melting, semi-freestone. Ripening \approx 90 days after bloom. Flowers pink, showy; leafglands reniform. Highresistance to bacterial spot. Tree: vigorous; productive. Chilling requirement \approx 325 chill units, blooming with Flordagold.

Chiyodared.— Orig. by M. Yoshida, H. Kyotani, M. Yamaguchi, T. Kozono, T. Nishida, Y. Ishizawa, K. Kanato, and K. Nishimura of Japan. Plant patent 81 16, 26 Jan. 1993. Assigned to Fruit Tree Res. Sta., Tsukuba. Hiratsukared \times Nectared 5; first fruited in 1976 from seedling no. N-45-10; selected as Tsukuba no. 76 in 1980. Fruit: medium; round to elliptic; medium firm; flesh yellow, melting, clingstone; solid deep red over yellow ground color. Ripens early season in mid-July at Tsukuba, \approx 2 weeks before Hiratsukared. Flowers large, pink. Tree: medium vigor; spreading.

Desert Delight.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 7891; 23 June 1992. (Ruby Gold open-pollinated) \times May Glo. Fruit: medium; globose; flesh light yellow, firm, clingstone. Ripens early in subtropical climates such as Palm Desert, Calif. Flowers large, showy, pink; leaf glands globose. Tree: large; vigorous; upright. Chilling requirement 200 h.

Diamond Jewel.— Orig. by N.G. and L.G. Bradford, LeGrand, Calif. Plant patent 7050; 24 Oct. 1989. Red Diamond \times unnamed seedling. Fruit: large; round; dark red over entire surface; flesh brilliant yellow to pit, extremely firm, crisp, clingstone. Ripens 22 days before Red Diamond. Flowers small, moderate pink; leaf glands reniform. Tree: medium size and vigor; semi-spreading.

Diamond Jim.— Orig. by J.W. Taylor, Dinuba, Calif. Plant patent 6471; 20 Dec. 1988. Assigned to Ito Packing Co., Reedley, Calif. Red Jim \times May Glo. Fruit: uniform and large; nearly round; reddish-purple skin; flesh yellow with red throughout but more intense at pit and suture, firm, meaty, clingstone. Ripens 10 days before May Grand. Flowers large, showy, red anthers; leaf glands reniform. Tree: large; vigorous; spreading; very productive.

Earliglo.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 7402; 25 Dec. 1990. (Ruby Gold \times peach of unknown parentage) \times May Glo. Fruit: medium; globose; red over yellow ground color; flesh yellow, firm, meaty, clingstone; maturing 5 days before May Glo. Tree: large; vigorous; upright; productive. Chilling requirement 200 h.

Early Red Jim.— Orig. by J.W. Taylor, Reedley, Calif. Plant patent 7186; 13 Mar. 1990. Assigned to Ito Packing Co., Reedley. Red Jim \times May Grand. Fruit: large; round but compressed at base; high percentage of dark red over yellow skin; flesh very firm, meaty, clingstone. Ripens 20 July at Reedley. Flowers large, showy, pink, red anthers; leaf glands reniform. Tree: large; vigorous; spreading.

Eastern Glo.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 7890; 23 June 1992. (Red Grand \times Crimson Gold) open-pollinated. Fruit: large; firm; nearly globose; excellent flavor; high percentage of red over yellow ground; flesh yellow, melting, clingstone. Ripens 7 days after Crimson Gold. Flowers pink; leaf glands reniform. Tree: large; vigorous; upright; productive. More resistant than Red Grand to bacterial spot.

Flaming Red.— Orig. by G.T. Nakagawa, Fresno, Calif. Plant patent 5480; 28 May 1985. Entire tree mutant of Flamekist. Similar to parent, but ripens 12 days later.

Gransun.— Orig. by J.L. and L. Jackson of Kingsburg, Calif. Plant patent 8255; 15 June 1993. Assigned to Kings Gate Ranch, Kingsburg. Sport of May Grand, ripens \approx 2 weeks earlier.

How Red (*Sunectnineteen*).— Orig. by J.H. Weinberger, Fresno, Calif. Plant patent 8336; 10 Aug. 1993. Assigned to SunWorld, Indio, Calif. Sunecteight open-pollinated. Fruit: large; oblong; melting, yellow-orange flesh, clingstone. Ripens in late July, \approx 2 weeks before Red Jim. Flowers large, red-purple; leaf glands globose. Tree: medium size and vigor; semi-upright; productive. Isoenzyme patterns for MDH are unique and present in \approx 2% of all peach and nectarine varieties (see patent description).

Jolly Red Giant.— Orig. by C.F. Zaiger, L.M. Gardner, G.N. Zaiger, and G.G. Zaiger, Modesto, Calif. Plant patent 7947; 18 Aug. 1992. (Ruby Gold \times [Flame Kist \times (Red Grand \times Royal Gold peach)]) open-pollinated. Fruit: very large; firm; nearly globose; excellent flavor; attractive red skin over golden-yellow ground color; flesh yellow, melting, freestone. Ripens with Red Grand. Flowers large, showy, and pink; leaf glands reniform. Tree: large; vigorous; upright; very productive.

July Red.— Orig. by N.G. Bradford, LeGrand, Calif. Plant patent 5663; 18 Feb. 1986. [(Red Free \times Autumn Gold) \times Red Diamond] open-pollinated. Resembles Red Grand, but ripens 3 days later, has larger fruit, brighter solid red color, more attractive and globose form, and firmer flesh equaling that of Red Diamond. Melting flesh; clingstone.

June Brite.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 6078; 5 Jan. 1988. (Early Sun Grand \times Zee Gold) open-pollinated. Fruit: large; nearly globose; high percentage of red over yellow ground color; flesh yellow, firm, meaty, clingstone. Ripens 3 days before Zee Gold. Flowers large, showy, pink; leaf glands reniform. Tree: medium; upright; vigorous; productive.

Kism Grand.— Orig. by N.G. Bradford, LeGrand, Calif. Plant patent 5666; 18 Feb. 1986. Red Free \times Sparkling Red. Fruit: large; globose; attractive red blush over yellow skin; flesh yellow, firm, melting clingstone ripening 5 days before Late LeGrand. Flowers large, pink; leaf glands reniform. Tree: vigorous; spreading; very productive.

Late Red Jim.— Orig. by J.W. Taylor, Reedley, Calif. Plant patent 7176; 6 Mar. 1990. Assigned to Ito Packing Co., Reedley. Red Jim \times May Grand. Fruit: very large; round; high percentage of dark red over yellow skin; flesh yellow with much red streaking at pit into flesh, very firm, meaty, clingstone. Ripens mid-August at Reedley. Flowers large, showy, pink, red anthers; leaf glands reniform. Tree: large; vigorous; spreading.

Late Red Jim II.— Orig. by J.W. Tos, Hanford, Calif. Plant patent 7505; 23 Apr. 1991. Assigned to Tos Farms, Hanford. Bud mutation of Red Jim ripening 3 weeks after Red Jim.

May Glo.— Orig. C.F. Zaiger, Modesto, Calif. Plant patent 5245; 12 June 1984. (Fayette \times May Grand) open-pollinated. Fruit: medium; globose; firm; high percentage of red over yellow ground color; flesh yellow, firm, melting, semi-clingstone; ripens 3 days before ArmKing. Flowers large, showy, pink; leaf glands reniform. Tree: large; vigorous; spreading; productive. Chilling requirement 300 h.

May Jim.— Orig. by J.W. Taylor, Dinuba, Calif. Plant patent 8084; 5 Jan. 1993. Assigned to Ito Packing Co., Reedling. (Red Jim \times May Glo) open-pollinated. Fruit: medium; round; firm; melting; flesh yellow, clingstone, solid light red over greenish-yellow ground color. Ripens late May at Reedley. Flowers large, showy, light pink; leaf glands reniform. Tree: large; vigorous; upright; productive.

May Kist.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 7976; 15 Sept. 1992. (May Grand \times Ruby Gold) \times Armking mutation. Fruit: medium; nearly globose; firm; good flavor; medium red over yellow ground; flesh pale yellow, melting, clingstone. Ripens 3 weeks before May Grand. Flowers nonshowy, pink; leaf glands globose. Tree: large; vigorous; upright; productive.

May Lion.— Orig. by D.M. and L.M. Serimian, Selma, Calif. Plant patent 6542; 17 Jan. 1989. ArmKing \times Summer Grand. Fruit: large; uniformly broad ovate with variable but dark red-purple suture; high percentage of red over yellow skin; flesh firm, melting, semi-clingstone. Ripens 18 May in central part of San Joaquin Valley. Flowers small, light pink; leaf glands mostly reniform but some globose. Tree: medium size and vigor; upright; very productive.

Mike's Grand.— Orig. by R. Peters and E. Wuhl, Fresno, Calif. Plant patent 5587; 3 Dec. 1985. Bud sport of Early Sungrand. Similar to May Grand, but fruit has more yellow flesh, skin is less bright, fruit has flatter configuration and ripens 2 or 3 days later.

Olympia.— Orig. by W.D. Krause, Squaw Valley, Calif. Plant patent 6248; 16 Aug. 1988. Royal Giant open-pollinated. Fruit: medium large; uniform globose; bright red over yellow skin; flesh yellow, uniformly firm, clingstone. Ripens 7 days after Red Jim. Flowers large, showy, pink; leaf glands reniform. Tree: medium to large; very productive; half hardy-not for cold winter areas.

P-R Red.— Orig. by P. Ricchiuti, Clovis, Calif. Plant patent 6488; 27 Dec. 1988. Bud sport of September Grand, ripens 5 to 7 days later.

Red Delight.— Orig. by C.F. Zaiger, Modesto, Calif. Plant patent 6024; 29 Sept. 1987. (May Grand \times Red Grand open-pollinated) open-pollinated. Fruit: large; globose; high percentage of red blush over bright yellow ground color; flesh yellow, very firm, meaty, clingstone; ripens 6 days before May Grand. Flowers large, showy; leaf glands reniform. Tree: large; vigorous; productive.

Red Fred.— Orig. by F.K. Nagare, Reedley, Calif. Plant patent 7821; 10 Mar. 1992. Bud mutation of Early May Grand, ripens 7 days after May Grand with semi-freestone fruit of superior firmness, color, and shape.

Red Glen.— Orig. by N.G. and L.G. Bradford, LeGrand, Calif. Plant patent 7193; 13 Mar. 1990. Red Diamond \times unnamed seedling. Fruit: large; globose; very dark red over deep red background; flesh brilliant yellow with strong red next to stone, very firm, very crisp, clingstone, stays firm 3 weeks on tree after first picking stage. Ripens 28 July at LeGrand. Flowers small, moderate pink; leaf glands reniform. Tree: large; vigorous; hardy; very productive.

Red Glo.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 7828; 17 Mar. 1992. (Ruby Gold \times low-chill peach) \times (Sun Red \times June Glo). Fruit: large; globose; attractive red over dark-yellow to light-orange ground color; flesh yellow, firm, meaty, clingstone. Ripens 1 month before Sun Red. Tree: large; vigorous; productive; chilling requirement 250 h.

Red Jewel.— Orig. by L.G. and N.G. Bradford, LeGrand, Calif. Plant patent 8013; 27 Oct. 1992. (RedDiamond \times Autumn Free) open-pollinated. Fruit: large; slightly oblong; very firm; very good flavor; 100% dark red over vivid reddish-orange ground color. Flesh, brilliant yellow, melting, freestone with sweet kernel. Ripens in early July, 65 days before Autumn Free. Flowers small, pink; leaf glands reniform. Tree: large; vigorous; spreading and dense; very productive.

Red Sunset.— Orig. by N.G. Bradford, LeGrand, Calif. Plant patent 6982; 15 Aug. 1989. (Dwarf seedling \times May Grand) open-pollinated. Fruit: medium; slightly oblong with protruding suture area. Flesh yellow with pink at cavity, soft, melting, freestone. Ripens 8 days after May Grand. Flowers large, pink; leaf glands reniform. Tree: genetic dwarf; average size.

Royal Giant.— Orig. by C.F. Zaiger, Modesto, Calif. Plant patent 4107; 20 Sept. 1977. (Red Grand \times late nectarine seedling) open-pollinated. Fruit: very large; globose; high percentage of red over yellow ground color, coloring 2 to 3 weeks before ripening; flesh yellow, firm, clingstone. Ripens with Late Le Grande. Flowers large, showy, pink; leaf glands reniform. Tree: large; vigorous; upright; very productive-large crops of large-sized fruits.

Royal Glo.— Orig. by C.F. Zaiger, L.M. Gardner, G.N. Zaiger, and G.G. Zaiger, Modesto, Calif. Plant patent 8281; 29 June 1993. [(Dwarf nectarine \times Ruby Gold) open-pollinated] \times May Glo. Fruit: large; globose; firm, meaty, yellow flesh, clingstone; high percentage of attractive red over yellow ground color. Ripens 6 days after May Glo. Flowers large, showy, pink; leaf glands reniform. Tree: large; vigorous; upright; productive. Chilling requirement 450 h.

Ruby Diamond.— Orig. by L.G. and N.G. Bradford, LeGrand, Calif. Plant patent 7918; 21 July 1992. Red Diamond \times unnamed nectarine seedling. Fruit: large; very symmetrical; globose; deep red over entire surface; flesh bright orange-yellow with moderate red streaking near pit, very firm, tough, crisp, freestone. Ripens 6 days after Red Diamond. Flowers large, light pink; leaf glands reniform. Tree: large; vigorous; spreading; hardy; very productive.

Scarlet Red.— Orig. by N.G. Bradford, LeGrand, Calif. Plant patent 5665; 18 Feb. 1986. (Red Free \times Autumn Gold) \times Rio Del Ray.

Most nearly resembles Regal Grant, but ripens 2 days earlier and has brighter red skin and more flesh firmness. Fruit: globose; firm, crisp; clingstone; flesh yellow with red next to stone. Flowers large, pink; leaf glands reniform. Tree: large; vigorous; hardy; very productive.

September Red.— Orig. by N.G. and L.G. Bradford, LeGrand, Calif. Plant patent 5664; 18 Feb. 1986. (Red Free × Tom Grand) × Sparkling Red. Fruit: medium; globose; rose-beige blush over yellow ground color; flesh yellow, firm, crisp, clingstone with red next to stone throughout. Ripens 5 days later than September Grand. Flowers very late, large size, pink; leaf glands reniform. Tree: medium size; very productive; dense.

Sparkling June.— Orig. by N.G. Bradford, LeGrand, Calif. Plant patent 6981; 15 Aug. 1989. (Red Diamond × Early Sun Grand) open-pollinated. Fruit: medium; uniform globose; 95% deep red over yellow ground color; flesh yellow, extremely firm, crisp, melting, freestone. Ripens 14 days before Early Sun Grand. Flowers large, pink; leaf glands reniform. Tree: medium size; spreading.

Sparkling May.— Orig. by N.G. and L.G. Bradford, LeGrand, Calif. Plant patent 6675; 14 Mar. 1989. Red Diamond × Aurora Grand. Fruit: uniform medium size; slightly oblong; full red blush; flesh light yellow, very firm, melting, freestone. Ripens 29 days before Red Diamond, 3 days before Aurora Grand. Flowers small, moderate pink; leaf glands reniform. Tree: medium size; vigorous; spreading; productive.

Sparkling Red.— Orig. by F.W. Anderson, Merced, Calif. Plant patent 4314; 10 Oct. 1978. Assigned to Burchell Nursery, Modesto, Calif. Summer Grand × May Grand. Fruit: medium large; globose; mottled and streaked red over golden glow yellow; flesh yellow, firm, melting with red next to freestone. Ripens a few days after LeGrand, which the fruit strikingly resembles. Flowers large; reniform leaf glands. Tree: medium; vigorous; productive.

Spring Bright.— Orig. by N.G. and L.G. Bradford, LeGrand, Calif. Plant patent 7507; 23 Apr. 1991. May Diamond × unnamed seedling. Fruit: large; oval; high percentage of deep red over light orange-yellow; flesh vivid yellow with deep pink at pit, very sweet, extremely firm, crisp, clingstone. Ripens 16 days after May Diamond. Flowers large, light pink; leaf glands globose. Tree: large; spreading; hardy; very productive.

Star Brite.— Orig. by R. Peters and E. Wuhl, Fresno, Calif. Plant patent 5586; 3 Dec. 1985. Bud sport of Early Sungrand. Similar to May Grand, but fruits are larger, redder, more pointed, and ripen 5 days earlier. [Star Brite is distinct from Star Bright (plant patent 4927, 9 Nov. 1982) introd. by John Weinberger, Fresno, in 1982.]

Summer Fire.— Orig. by N.G. and L.G. Bradford, LeGrand, Calif. Plant patent 7506; 23 Apr. 1991. Red Diamond × unnamed seedling. Fruit: large; uniform; oval; mostly dark red over orange background; flesh light yellow with strong red mottling toward the stone, extremely firm, crisp, clingstone. Ripens 9 days after Summer Bright. Flowers small, moderate pink, leaf glands reniform. Tree: large; vigorous; spreading; productive.

Summer Lion.— Orig. by D.M. and L.M. Serimian, Selma, Calif. Plant patent 6543; 17 Jan. 1989. Red Lion × May Grand. Fruit: very large; uniform and slightly asymmetrical; 85% to 95% bright red with dark-red streaks on shoulder over yellow skin; firm, melting clingstone. Ripens 1 July in central part of San Joaquin Valley. Flowers large, showy; leaf glands reniform. Tree: average size and vigor; semi-spreading.

Summer Lion Two.— Orig. by D.M. and L.M. Serimian, Selma, Calif. Plant patent 6544; 17 Jan. 1989. May Grand × Red Lion. Fruit: very large; uniform; nearly globose; 90% red blush over yellow ground color; flesh amber-yellow with red at pit cavity, crisp, firm, melting, freestone. Ripens 10 July in central part of San Joaquin Valley. Flowers large, showy, pink; leaf glands predominately reniform with some globose. Tree: average size; vigorous; upright.

Summer Lion Three.— Orig. by D.M. and L.M. Serimian, Selma, Calif. Plant patent 6541; 17 Jan. 1989. May Grand × Red Lion. Fruit: very large; moderately asymmetrical ovate; 80% to 95% red with dark-red mottling over yellow skin; flesh yellow-amber with dark red at pit, crisp but melting, freestone. Ripens 15 days earlier than Red Lion. Flowers large, showy, pink; leaf glands reniform. Tree: moderate in size and vigor; upright.

Sunblaze.— Orig. at Agr. Expt. Sta., Univ. of Florida, Gainesville,

from a 1977 cross; introd. in 1990 by W.B. Sherman, P.M. Lyrene, and F.G. Gmitter. Complex parentage of Florida selections. Selected in 1979 and tested as Fla. 9-15N. Fruit: medium; slightly oval; skin 90% to 100% red blush over yellow ground color; flesh yellow, firm, melting, freestone. Ripens with Sunred, ≈ 90 days from bloom. Flowers small, deep pink, nonshowy; leaf glands reniform. High resistance to bacterial spot. Tree: vigorous; productive. Chilling requirement ≈ 250 chill units.

Sunbob.— Orig. at Agr. Expt. Sta., Univ. of Florida, Gainesville. Introduced in New South Wales, Australia, in 1989. Parentage unknown. Fruit: medium large, long ovate; attractive 60% to 80% bright red over bright-yellow ground color; skin tough and very waxy. Flesh yellow, firm, melting, freestone. Ripens 100 days after bloom. Flowers large, showy, light pink; leaf glands reniform. Chilling requirement ≈ 200 chill units.

Sunburst.— Orig. by C.J. Riano, Dinuba, Calif. Plant patent 7364; 23 Oct. 1990. Parentage unknown. Fruit: medium to large; asymmetrical; deep red over yellow skin; flesh yellow, firm, crisp, clingstone, ripens 5 weeks after Sun Grand. Flowers medium to large, pink; leaf glands reniform with some globose types. Tree: average size; vigorous; highly productive.

Sunectnineten.— See How Red.

Sunsnow.— Orig. at Agr. Expt. Sta., Univ. of Florida, Gainesville. Bred in 1981, selected in 1985, and tested as 83-5NW. Introduced in Spain by Viveros Orero, S.A. in 1990. Complex parentage of Florida selections. Fruit: medium size; slightly oval; skin 70% red blush with a moderate amount of sugar speckles; flesh white, firm, melting, semi-freestone. Ripens ≈ 90 days after bloom. Flowers large, light pink, showy; leaf glands reniform. Very resistant to bacterial spot. Tree: vigorous; productive. Chilling requirement ≈ 250 chill units.

SunWright.— Orig. at Agr. Expt. Sta., Univ. of Florida, Gainesville. Bred in 1979, selected in 1981 by W.B. Sherman, and tested as Fla. 81-17N. Introduced in New South Wales, Australia, in 1991. Complex parentage of Florida selections. Fruit: medium small; round; skin 90% red blush over yellow ground color; flesh yellow, medium firm, melting, semi-clingstone. Ripens ≈ 78 days after bloom. Flowers pink, showy; leaf glands reniform. Highly resistant to bacterial spot. Tree: vigorous; productive. Chilling requirement ≈ 200 chill units.

Supreme Red.— Orig. by F. Paganelli, Wapato, Wash. Plant patent 4639, 3 Feb. 1981. Bud mutation of Red Gold, similar in all respects except ripens 2 or 3 days earlier.

Western Red.— Orig. by L.G. and N.G. Bradford, Le Grand, Calif. Plant patent 8196; 6 Apr. 1993. Red Diamond × May Diamond. Fruit: large; globose; firm; excellent flavor; crisp; yellow flesh; freestone; very dark red over deep reddish-orange background color. Ripens 7 to 10 days before August Red. Flowers small, pink, leaf glands reniform. Tree: large; vigorous; upright and dense; very productive.

Zee Glo.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 6408; 22 Nov. 1988. [Red Grand open-pollinated × (Sun Grand × Merrill Gem)] open-pollinated. Fruit: large; slightly elongated; high percentage of red over yellow skin; flesh orange-yellow, firm, clingstone. Ripens 4 days before Late Le Grand. Flowers large, showy, pink; leaf glands reniform. Tree: large; vigorous; upright; productive.

Zee Grand.— Orig. by C.F. Zaiger, L.M. Gardner, G.N. Zaiger, and G.G. Zaiger, Modesto, Calif. Plant patent 7475; 19 Mar. 1991. (Red Grand × Royal Gold) open-pollinated. Fruit: medium large; globose; overspread with red on bright-yellow ground color; flesh yellow, firm, meaty, clingstone. Ripens 3 days before May Grand. Flowers large, showy, pink; leaf glands reniform. Tree: large; vigorous; upright; productive.

ORNAMENTAL NECTARINES

Leprechaun.— Orig. at Univ. of Arkansas, selected in 1983, tested as Ark. 327, and released by J.N. Moore, R.C. Rom, S.A. Brown, and G.L. Klingaman. Patent pending. [(Flowery dwarf × unnamed nectarine) F₂ × Ark. 164] selfed. Fruit: small; firm; good flavor, freestone, ripens with Loring peach. Flowers pink and showy. Ornamental brachytic dwarf with bright-green leaves. Plants susceptible to damage from peach-tree borer.

White Glory.— A white-flowering, weeping ornamental. Orig. at Agr. Expt. Sta., North Carolina; selected by F.E. Correll in early 1960s; and introduced in 1985 by D.J. Werner, P.R. Fantz, and J.C. Raulson for ornamental qualities. S-37 open-pollinated. Fruit: small, subglobose; flesh white, melting, subject to skin cracking, freestone, ripens with Elberta. Flowers large, showy, subsessile, pure white, numerous, single to sparsely semi-double. Leaves larger than for most standard cultivars. Fruit set is minimal. Tree: vigorous; extremely weeping (pendant), suggest grafting 6 to 7 feet above ground. Chill requirement \approx 900 h.

PEACH

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Amber Crest (*Supechfour*).— Orig. by J.H. Weinberger, Fresno, Calif. Plant patent 5503; 2 July 1985. Assigned to Superior Farming Co., Bakersfield, Calif. Flavorcrest \times Springcrest. Fruit: medium large, globose, very symmetrical; more red blush than Flavorcrest, over bright-yellow ground color with short pubescence; flesh yellow, firm, melting, freestone. Ripens 3 days before Flavorcrest. Flowers pink, showy; leaf glands globose. Tree: large and productive.

Autumn Lady.— Orig. by G. Merrill, Red Bluff, Calif. Plant patent 4398; 20 Mar. 1979. Autumn Gem open-pollinated. Fruit: large; slightly unsymmetrical; spotted with short red stripes on yellowish-green ground color; flesh yellow, firm, melting, freestone with red pit cavity. Ripens mid-October at Red Bluff. Flowers large, showy, pink; leaf glands reniform. Tree: medium vigor and very productive.

Autumn Rose.— Orig. by R.D. Richards, Bakersfield, Calif. Plant patent 7990; 29 Sept. 1992. Bud mutation of Autumn Gem, which it strongly resembles, but ripens 4 weeks later.

Carolina Belle.— Orig. at Agr. Expt. Sta., North Carolina. Bred by J.R. Ballington in 1975, selected in 1980, tested as NCT1333, and introduced in 1987 by D.J. Werner, J.R. Ballington, and D.F. Ritchie. Biscoe \times Starlite. Fruit: large; round; skin 50% to 70% red over cream-white ground color; flesh white, medium firm, melting, freestone. Ripens 7 to 10 days after Redhaven. Flowers nonshowy; leaf glands reniform. Tree: growth habit similar to Redhaven; moderate resistance to bacterial spot. Chilling requirement 750 h.

Clyde Wilson.— Orig. by W.J. Wilson, Fort Valley, Ga. Plant patent 4916; 2 Nov. 1982. Assigned to Bountiful Ridge Nursery, Princess Anne, Md. Bud sport of Loring. Similar to Loring in tree and fruit characters except ripening begins at end of Loring harvest.

Compact Flavorette.— Orig. by C.F. Zaiger, L.M. Gardner, G.N. Zaiger, and G.G. Zaiger, Modesto, Calif. Plant patent 8071; 22 Dec. 1992. (Unknown \times Amparo) open-pollinated. Fruit: large; globose; very firm; attractive red skin color over yellow with moderate short pubescence; flesh yellow, melting, freestone. Ripens just after mid-July at Modesto. Flowers large, showy, pink; leaf glands reniform. Tree: semi-dwarf, \approx 60% of normal size; nonvigorous; upright; productive. Chilling requirement 450 h.

Contender.— Orig. at Agr. Expt. Sta., North Carolina. Bred by F.E. Correll in 1974, selected in 1977, tested as NCT 544, and introduced in 1988 by D.J. Werner, J.R. Ballington, and D.F. Ritchie. Winblo \times complex parentage of North Carolina selections. Fruit: large; round; skin 70% bright red over yellow ground color; flesh yellow and resistant to browning, firm, melting, freestone. Ripens 21 days after Redhaven. Flowers nonshowy; leaf glands reniform. Tree: superior flower bud hardiness; large number of flower buds; moderate resistance to bacterial spot; more vigorous than Redhaven but similar growth habit. Chilling requirement 1050 h.

Crimson Lady.— Orig. by L. G. and N. G. Bradford, LeGrand, Calif. Plant patent 7953; Aug. 25, 1992. (Red Diamond \times unknown) \times (Springcrest \times unknown). Fruit: large; round; very uniform; very firm; dark red blush smoothly blended into dark yellowish-pink ground color with very short, scant pubescence; flesh brilliant yellow, nonmelting, clingstone. Ripens in early June \approx 28 days before Red Diamond. Fruits store on the tree 10 to 14 days. Flowers large, pale pink; leaf glands globose. Tree: large; vigorous; very productive.

Delmass.— Orig. by J.D. Masso, Solvang, Calif. Plant patent 6122;

8 Mar. 1988. Unknown parentage. Fruit: large; very firm; suborbicular; flesh white, melting, freestone, ripening in late July through August. Flowers small, pale orange; leaf glands reniform.

Delta.— Orig. by Idlewild Expt. Sta., Clinton, La. Selected in 1969 by P.L. Hawthorn, tested as L-9-A47-33, and released by C.E. Johnson in 1992. [LeGold \times (Redskin \times Cardinal)] open-pollinated. Fruit: large; elliptical; 40% to 50% red blush over yellow ground color; flesh yellow, nonmelting, clingstone. Ripens at end of June Gold harvest, about 1 June. Flowers showy; leaf glands reniform. Self-sterile. Trees: vigorous; moderate resistance to bacterial spot. Chilling requirement 550 h.

Dr. Davis.— Orig. by L.D. Davis, Davis, Calif. Plant patent 4861; 29 June 1982; assigned to Regents of Univ. of California, Berkeley. Hybrid of L.D. Davis selections D25-9E \times G40-5E. Fruit: firm; large; globose; yellow skin over golden yellow flesh; flesh nonmelting, clingstone, brown stone. Ripens late, 1 day before Carolyn. Medium-short pubescence. Flowers pink, medium, nonshowy; leaf glands reniform. Tree: medium size and vigor; very productive.

Earli Rio.— Orig. in 1961 by D.A. Diebold, Kelso, Mo. Plant patent 4171; 27 Dec. 1977. Assigned to Stark Brothers Nursery and Orchards Co., Louisiana, Mo.; bud mutation of Rio Oso Gem. Fruit: identical to Rio Oso Gem except ripens 17 or 18 days earlier. \approx 8 days earlier than Early Rio Oso Gem. Tree: more vigorous with smaller flowers than Rio Oso Gem.

Early Elegant Lady.— Orig. by M.D. Lewis, Reedley, Calif. Plant patent 7 169; 27 Feb. 1990. Apparently full tree mutation of Elegant Lady ripening 7 days earlier.

Early Loring.— Orig. by F. Beyer, Paducah, Ky. Plant patent 4170; 27 Dec. 1977. Assigned to Stark Brothers Nursery and Orchards Co., Louisiana, Mo.; bud mutation of Loring. Tree and fruit similar to Loring except fruit ripens 10 to 14 days earlier with more intense red blush.

Elegant Lady.— Orig. by G. Merrill, Red Bluff, Calif. Plant patent 4399; 20 Mar. 1979. Early O'Henry \times July Lady. Fruit: medium large; globose; blushed red over yellow skin; flesh yellow, firm, melting, freestone with bright red at pit cavity, ripens late July at Red Bluff. Flowers large, nonshowy; leaf glands reniform. Tree: medium vigor and productive.

Ernie's Choice.— Orig. in New Brunswick by L.F. Hough and C.H. Bailey, New Jersey Agr. Expt. Sta.; distributed for testing in 1973 by E. Christ as NJ 275; introduced in 1990 by J.C. Goffreda, A.M. Voordeckers, and J.L. Frecon. Parentage unknown. Fruit: large; globose to ovate-round; attractive 65% mottled red blush on a bright-yellow ground color; flesh yellow, firm, melting, freestone. Ripens 10 days after Redhaven, 21 days before Rio Oso Gem. Flowers large, showy, light pink, small calyx cup; blooms 3 days before Redhaven; leaf glands globose. Leaves and fruit similar to Redhaven in bacterial spot susceptibility. Tree: vigorous; spreading; productive.

Eva's Pride.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 7751, 17 Dec. 1991. [Red Grand open-pollinated \times Desert Gold] open-pollinated. Fruit: large; globose; firm; red blush over yellow ground color with moderate pubescence; flesh yellow, melting, clingstone. Ripens in mid-June at Modesto. Flowers large, showy, pink; leaf glands reniform. Tree: large; vigorous; productive.

Fancy Lady.— Orig. by W.K. Mizuno and W.T. Mizuno, Reedley, Calif. Plant patent 7023; 12 Sept. 1989. Bud mutation of Sparkle, ripening 1 month earlier with more red color and more symmetrical shape.

Flameprince.— Orig. at U.S. Dept. of Agriculture Southeastern Fruit and Tree Nut Res. Lab., Byron, Ga.; selected in 1983; tested as BY81P584; and released by W.R. Okie in 1993. Complex parentage; sibling of Summerprince. Fruit: large; round; 70% bright red over an attractive golden-yellow ground with short pubescence; flesh yellow with some red in the pit cavity, very firm, melting, freestone, excellent eating quality and texture. Ripens with O'Henry at Byron, 2 weeks after Elberta. Flowers large, showy, pink; leaf glands reniform. Tree: vigorous; productive; moderately resistant to bacterial spot. Chilling requirement 850 h.

Flavor Queen.— Orig. by J.F. Doyle, Clovis, Calif. Plant patent 6759; 25 Apr. 1989. Either Redtop or Regina \times Snowflake. Fruit:

medium; uniform; nearly globose; attractive 60% to 80% red blush with streaking and mottling over bright-yellow ground color; flesh firm, crisp, melting, semi-clingstone. Ripens with Gemfree. Flowers large, nonshowy; leaf glands predominately reniform. Tree: average size and vigor; productive.

FlordaMex.— Orig. at Agr. Expt. Sta., Univ. of Florida, Monticello, by W.B. Sherman and R.H. Sharpe. Redglobe × EarliGrande. Selected in 1983; tested as Fla. M3-4; named in Mexico in 1987. Fruit: medium; nearly round; skin 70% red blush with dark-red stripes; flesh yellow, firm, melting, semi-clingstone. Ripens ≈ 7.5 days after bloom, 5 days after Flordaking. Flowers nonshowy; leaf glands globose. Moderately resistant to bacterial leaf spot and powdery mildew. Chilling requirement ≈ 450 chill units.

Florda Mex 1.— Orig. at Agr. Expt. Sta., Univ. of Florida, Monticello, by W.B. Sherman and R.H. Sharpe. Harken × EarliGrande. Selected in 1982; tested as M2-9; named in Mexico in 1989. Fruit: medium large; skin 50% red blush; flesh yellow, firm, melting, semi-freestone. Ripens ≈ 95 days after bloom. Flowers showy; leaf glands reniform. Highly resistant to bacterial leaf spot and powdery mildew. Chilling requirement 450 chill units.

Forestgold.— Orig. at Agr. Expt. Sta., Univ. of Florida, Gainesville, by W.B. Sherman and R.H. Sharpe. Selected in 1977; tested as Fla. 7-11; named in New South Wales, Australia, in 1991. (Sunnyside × Flordawon) open-pollinated. Fruit: medium large; nearly round with slight uneven suture and small point; skin 50% red blush over yellow ground color; flesh yellow, firm, melting, freestone. Ripens ≈ 95 days after bloom, ≈ 5 to 7 days after Flordagold. Flowers showy, medium pink; leaf glands reniform. Moderately susceptible to bacterial leaf spot. Chilling requirement 350 chill units.

Freestone.— Orig. by D.L. Armstrong, Orange, Calif. Plant patent 4865; 13 July 1982. Assigned to Armstrong Nurseries, Ontario, Calif. Rio Oso Gem × Redwing. Fruit: medium large; slightly unsymmetrical globose; moderate red over greenish-yellow ground color; flesh white, firm, freestone. Ripens in mid- to late August with a strong brown stone. Flowers small and nonshowy; leaf glands reniform. Tree: medium size with round shape.

Gala.— Orig. at Louisiana Agr. Expt. Sta., Calhoun. Selected by J.C. Taylor in 1977, tested as L72-3-8, and jointly released by C.E. Johnson with the U.S. Dept. of Agriculture Southeastern Fruit and Tree Nut Res. Lab., Byron, Ga. Harvester open-pollinated. Fruit: large; round; 70% bright red over yellow ground color; short pubescence; flesh yellow, melting, freestone. Ripens 34 days before Elberta. Flowers small, nonshowy; leaf glands reniform. Moderate resistance to bacterial spot. Trees: vigorous and productive. Chilling requirement 750 h.

Glory.— Orig. at Louisiana Agr. Expt. Sta., Calhoun; selected in 1977, tested as L73-1-32, and released by C.E. Johnson in 1992. LaPremiere × (Redglobe × Cardinal). Fruit: nearly round; 50% attractive red blush over golden-yellow ground color with short pubescence; flesh deep yellow with red near pit, melting, firm, freestone. Ripens 5 to 7 days before Elberta. Flowers showy, rose-colored; leaf glands globose. Trees: moderately high resistance to bacterial spot. Chilling requirement 800 h.

Golden Blaze.— Orig. in the Victoria Dept. of Agr. Res. Sta., Tatura, Victoria, Australia. Bred by A. Czerkaskyj, selected in 1984, tested as T241, and introduced in 1991 by L.G. Issell and P.H. Jerie. Babygold 7 × Oom Sarel. Fruit: medium large; nearly round with slightly uneven suture and small point; skin 40% to 60% scarlet maroon blush in streaks over golden ground color; medium pubescence; flesh light orange with light red at pit surface, moderately fine texture, firm, nonmelting, clingstone with good separation of flesh and pit when twisted. Ripens 6 days after Redhaven. Flowers showy and medium pink; leaf glands round to reniform. Tree: medium vigor; relatively upright; productive. International rights licensed to Australia Nursery Fruit Improvement Co. (ANFIC).

Golden Charm.— Orig. in the Victoria Dept. of Agr. Res. Sta., Tatura, Victoria, Australia. Bred by A. Czerkaskyj in 1973, selected in 1985, tested as T244, and introduced in 1991 by L.G. Issell and P.H. Jerie. Golden Queen × Babygold 5. Fruit: medium large; oblique with an uneven suture and a moderate point; skin 40% light-maroon blush over a golden ground color. Flesh yellow to orange with slight red at

the pit surface, firm, nonmelting, clingstone with good separation of flesh and pit when twisted, sweet flavor. Ripens 30 days after Redhaven. Flowers nonshowy; leaf glands round to reniform. Tree: medium vigor; moderately upright; productive. Chilling requirements similar to Golden Queen. International rights licensed to Australia Nursery Fruit Improvement Co.

Golden Crest (Supechthree).— Orig. by J.H. Weinberger, Fresno, Calif. Plant patent 4903; 26 Oct. 1982. Assigned to Superior Farming Co., Bakersfield, Calif. Flavorcrest × Springcrest. Fruit: medium; globose; medium light red over yellow ground color; flesh yellow, firm, melting, semi-freestone, ripens 7 days after Springcrest. Flowers large, showy, and pink; leaf glands globose. Tree: medium size and vigor; productive.

Golden Lady.— Orig. by G. Merrill, Red Bluff, Calif. Plant patent 4295; 29 Aug. 1978. Parentage unknown. Fruit: medium to large; firm; nearly globose; red blush over yellow; flesh firm, melting, yellow, semi-freestone. Ripens with Merrill Gem Free: few split pits. Flowers pink, nonshowy; leaf glands reniform. Tree: medium vigor; very productive.

Golden Sun.— Orig. in the Victoria Dept. of Agr. Res. Sta., Tatura, Victoria, Australia. Bred by A. Czerkaskyj and selected in 1985, tested as T242, and introduced in 1991 by P.H. Jerie and L.G. Issell. Fruit: medium; round; skin slight red blush on yellow-orange ground color; flesh yellow to orange, strong sweet flavor, firm, nonmelting, clingstone. Ripens 11 days after Redhaven. Flowers showy. International rights licensed to Australia Nursery Fruit Improvement Co.

Ito Red.— Orig. by J.W. Taylor, Dinuba, Calif. Plant patent 7248; 19 June 1990. Assigned to Ito Packing Co., Reedley, Calif. Red Jim × late peach. Fruit: large; round; mottled rose blush over yellow ground color with very short pubescence; flesh yellow with red flecks and dark red at pit, melting, semi-clingstone. Ripens late August to early September. Flowers with Red Jim, large, pink, showy, anthers red; leaf glands small reniform but some globose. Tree: large; vigorous; productive.

Jefferson Sun.— Orig. by R.H. Metzler, Del Ray, Calif. Plant patent 7003; 29 Aug. 1989. Assigned to Metzler Investments and Metropolitan Life Insurance Co., Del Ray. Bud sport of Berenda Sun. Similar to parent but ripens 3 to 4 weeks earlier.

Jerseydawn.— Orig. in 1965 in New Brunswick by L.F. Hough and C.H. Bailey, New Jersey Agr. Expt. Sta. Selected in 1968, tested as NJ 246, and introduced in 1984 by S.A. Mehlenbacher, L.F. Hough, and C.H. Bailey. Solo × (Jerseyland × Mayflower). Fruit: medium; round; skin 40% to 70% red blush on a dull-yellow ground color; flesh yellow, firm, melting, semi-freestone; few split pits. Ripens 10 to 14 days before Redhaven. Flowers large, showy, pink; blooms 1 to 3 days after Elberta; leaf glands reniform. Leaves and fruit resistant to bacterial spot. Tree: medium vigor; productive.

La Pecher.— Orig. by Louisiana Agr. Expt. Sta. at Baton Rouge in 1971. Selected in 1973 by P.L. Hawthorn, tested as L71-A72-23, and released by J.E. Boudreaux et al. in 1984. La Feliciano open-pollinated. Fruit: medium large; round; 85% bright red over medium yellow; flesh yellow with red flecks throughout, firm, melting, semi-freestone. Ripens 9 days before Harvester. Flowers numerous, nonshowy, light pink with rose margins; leaf glands reniform. Good resistance to bacterial spot. Tree: vigorous; highly productive. Chilling requirement 450 h.

La White.— Orig. by Louisiana Agr. Expt. Sta. at Baton Rouge in 1971. Selected in 1973 by P.L. Hawthorn, tested as L71-A64-42W, and released by J.E. Boudreaux et al. in 1984. Nectar o.p.. Fruit: medium large; round; 75% bright red overcolor; flesh white with red flecks throughout, firm, melting, semi-freestone. Ripens 27 days before Elberta. Flowers numerous, nonshowy, light pink with rose margins; leaf glands reniform. Tree: vigorous and productive. Chilling requirement 650 h.

Last Chance Number One.— Orig. by J.W. Sprague, Lancaster, Calif. Plant patent 6119; 1 Mar. 1988. Bud sport of Last Chance, blooms and ripens later; very small leaves.

Legend.— Orig. at North Carolina Agr. Expt. Sta. Bred by F.E. Correll in 1974, selected in 1977, tested as NCT 516, and introduced in 1991 by D.J. Werner. Winblo × complex parentage of North Carolina selections. Fruit: large; round; skin dull red over yellow

ground color; flesh yellow, very firm, melting, freestone. Ripens 7 to 10 days after Emery. Flowers nonshowy; leaf glands reniform. Tree: moderate resistance to bacterial spot; very bud hardy; high number of flower buds. Chilling requirement 950 to 1000 h.

May Pride.— Orig. by C.F. Zaiger, C.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 7775; 28 Jan. 1992. [(Red Grand × Desert Gold) F.] × (Ruby Gold × unknown low-chill peach). Fruit: medium; firm; attractive red skin; fresh yellow, melting, clingstone. Flowers large, showy; leaf glands globose. Tree: large; vigorous; upright; productive. Chilling requirement 250 h.

Ray Crest.— Orig. by R. Goosen, Dinoba, Calif. Plant patent 5388; 15 Jan. 1985. Bud sport of Springcrest ripening 7 days earlier, but otherwise resembling Springcrest.

Red Jack.— Orig. by C.F. Zaiger, L.M. Gardner, C.N. Zaiger, and G.G. Zaiger, Modesto, Calif. Plant patent 7194; 13 Mar. 1990. [(Ruby Gold × peach) F.] × [(Sunred × Royal April) F.]. Fruit: medium; globose; very firm; high percentage of red over yellow ground color with moderately heavy pubescence; flesh yellow, melting, semi-clingstone, ripens 20 May at Modesto. Flowers medium, pink, nonshowy; predominantly globose leaf glands but some reniform. Tree: large; vigorous; productive. Chilling requirement 150 h.

Rich Sun.— Orig. by T.O. Chamberlin, Sr., Visalia, Calif. Plant patent 7829; 17 Mar. 1992. Assigned to Metropolitan Life Insurance Co., Overland, Kan. Unknown parentage. Fruit: large; round; dark-red blush over faint yellow ground color with medium pubescence; flesh yellow, melting, freestone, ripens 7 days before Ryan's Sun. Flowers large, showy, pink; leaf glands reniform. Tree: upright; productive.

Rich Lady.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 7290, 7 Aug. 1990. Amparo open-pollinated. Fruit: large; globose; red over golden yellow with moderately heavy pubescence; flesh yellow, very firm, melting, semi-clingstone, ripens 17 days before Amparo. Flowers large, light pink, showy; leaf glands reniform. Tree: large; vigorous.

Rich May.— Orig. by C.F. Zaiger, L.M. Gardner, G.N. Zaiger, and G.G. Zaiger, Modesto, Calif. Plant patent 7432; 29 Jan. 1991. [(May Grand open-pollinated × peach) × Sam Houston open-pollinated] × (Tasty Gold × May Crest). Fruit: large; nearly globose; firm; liquid red blush over yellow ground color with moderate pubescence; flesh yellow, melting, semi-clingstone. Ripens 5 days before May Crest. Flowers large, showy, pink; leaf glands reniform. Tree: large; vigorous; productive.

Rizzi.— Orig. in 1973 at Univ. of California, Davis; propagation license assigned to Univ. of California Regents. Selected in 1978 by R. Fenton; tested as 19,2-72; and released in 1993 by T.M. Gradziel, W. Beres, J. Doyle, and C. Weeks. Everts open-pollinated. Fruit: large; globose; 20% to 60% red blush over yellow-orange with moderate pubescence; flesh uniform yellow throughout, nonmelting, clingstone with a smaller than average, light-brown pit. Ripens late season with Ross and Dr. Davis. Fruits have potential for extended storage beyond existing processing cultivars. Flowers small, nonshowy; leaf glands bright orange and reniform. Tree: vigorous; slightly upright.

Royal Lady.— Orig. by F.J. Janzen, Reedley, Calif. Plant patent 8211; 27 Apr. 1993. Bud sport of Elegant Lady, ripens 2 weeks later.

Ruby May.— Orig. by J.S. Takeda, Orosi, Calif. Plant patent 7170; 27 Feb. 1990. Bud mutation of Springcrest, ripens earlier, about 3 to 10 May at Orosi.

Salem.— Orig. by C.W. Haines, Elmer, N.J. Plant patent 6267; 30 Aug. 1988; assigned to Adams County Nursery, Aspers, Pa. Unknown parentage. Fruit: large; globose; high percentage of red blush; moderate pubescence; flesh yellow, melting, semi-freestone. Ripens 5 to 10 days before Loring. Flowers pink, nonshowy; leaf glands reniform. Tree: large; spreading; vigorous; very productive.

Snow Diamond.— Orig. by Mitchell, Rose, and Vernon Langford, Woodlake, Calif. Plant patent 7336; 25 Sept. 1990; assigned to Plum-Cot, Inc. Unknown parentage. Fruit: large; globose; dark red over pale-yellow ground color with very short pubescence; flesh white, melting, freestone. Ripens late July at Fresco, Calif. Flower large, light pink; leaf glands globose. Tree: large; vigorous; very productive.

Snow Giant.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 8085; 5 Jan. 1993. (Unknown nectarine seedling × Royal Gold) × {(O'Henry open-

pollinated) × [(May Grand nectarine) open-pollinated × Sam Houston]). Fruit: large; nearly globose; firm; attractive red skin color over yellowish-white ground color with moderate pubescence; flesh white, melting, freestone. Ripens 1 month after Giant Babcock in the late maturity season. Flowers large, showy, pink; leaf glands globose. Tree: large; vigorous; upright; productive.

Snowbrite.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 8195; 6 Apr. 1993. [(O'Henry × Giant Babcock) × (May Grand nectarine × Sam Houston)] open-pollinated. Fruit: large; globose; very firm; attractive red skin coloring 6 or 7 days before maturity over yellowish-white ground color with moderate pubescence; flesh white, melting, freestone. Ripens 34 days before Giant Babcock. Flowers large, showy, pink; reniform leaf glands. Tree: large; vigorous; upright; productive.

Sprague.— Orig. by J.W. Sprague, Ontario, Calif. Plant patent 7337; 25 Sept. 1990. Bud sport of Last Chance Number One. Dwarf tree. Distinctive in its short bushy tree shape with small-diameter branches; tree height rarely exceeds 5 feet.

Spring Lady.— Orig. by G. Merrill, Red Bluff, Calif. Plant patent 4661; 3 Mar. 1981. Unknown parentage. Fruit: medium; very firm; globose; blushed mottled red over yellow skin; flesh yellow, freestone, melting, beige stone, ripening 5 or 6 days after Springcrest. Flowers pink, medium; leaf glands reniform. Tree: large and vigorous.

Starcrest.— Orig. by P. Chapus and H. Veauvy in France. Plant patent 6387; 8 Nov. 1988. Assigned G.I.E. Star Fruits, Vedene, France. Bud mutation of Springcrest, matures 15 days before Springcrest.

Summerprince.— Orig. at U.S. Dept. of Agriculture Southeastern Fruit and Tree Nut Res. Lab., Byron, Ga. Summercrest cross of complex parentage; selected in 1983, tested as BY81P512, and released by W.R. Okie in 1992. Fruit: medium large; very round; 80% bright red on attractive yellow with very short pubescence; flesh yellow with red at pit cavity, firm, melting, semi-clingstone, good texture, and high flavor. Ripens 14 days before Redhaven. Flowers large, showy, pink; blooms with Redglobe; leaf glands reniform. Tree: vigorous; productive; moderate resistance to bacterial spot. Chilling requirement 850 h.

Summer Sweet.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 8070, 22 Dec. 1992. Complex parentage. Fruit: large; globose; very firm; attractivered skin color over yellowish-white ground color with short pubescence; flesh white, melting, freestone. Ripens early July at Modesto. Flowers large, showy, pink; leaf glands reniform. Tree: large; upright; vigorous; productive.

Supechfour.— See Amber Crest.

Supechthree.— See Golden Crest.

Sweet Gem.— Orig. by C.F. Zaiger, G.N. Zaiger, L.M. Gardner, and G.G. Zaiger, Modesto, Calif. Plant patent 7952; 25 Aug. 1992. [(May Grand × peach) × (Sam Houston open-pollinated)] open-pollinated. Fruit: large; very firm; nearly globose; attractive red blush over bright-yellow ground color, with moderately short pubescence; flesh yellow, clingstone. Ripens early mid-June at Modesto. Fruit stores on tree 10 to 14 days. Flowers large, showy, pink; leaf glands reniform. Tree: large; vigorous; upright; productive.

TexRoyal.— Orig. at New Jersey Agr. Expt. Sta., Cream Ridge. Complex parentage of New Jersey selections × Early Amber. Bred and selected in 1975 by H.H. Bowen, Texas Agr. Expt. Sta., Yoakum; tested as Y18-101; introduced in 1990 by D.H. Byrne and T.A. Bacon. Fruit: medium large; round with slight suture and tip; rich red ground color over yellow ground color; flesh yellow, firm, melting, freestone. Ripens with Juneprince, 10 days after June Gold. Flowers small, nonshowy, pink; leaf glands globose. Tree: vigorous; productive; intermediate spreading; moderate resistance to bacterial leaf spot. Chilling requirement 600 chill units. Superior fruit set and yield; tolerant to reduced chilling.

Tra-zee.— Orig. by C.F. Zaiger, L.M. Gardner, G.N. Zaiger, and G.G. Zaiger, Modesto, Calif. Plant patent 6347; 25 Oct. 1988. Late-ripening nectarine × late-ripening peach from O'Henry open-pollinated. Fruit: large; globose; light-red blush over bright-yellow ground color; flesh dark yellow with intense red at pit, ultra firm, melting, freestone. Ripens 21 days after O'Henry. Flowers large, pink,

showy; leaf glands reniform. Tree: large; vigorous; productive.

Tucker's.— Orig. by J.H. Tucker, Kingsburg, Calif. Plant patent 8237; 25 May 1993. Chance seedling. Fruit: medium size; oblate; very firm; 50% red blush over golden-yellow ground color with light pubescence; flesh yellow, melting, freestone. Ripens late October and hangs well on the tree into November, substantially after the last commercial variety is harvested. Flowers large, showy, pink; leaf glands mixed globose and reniform. Tree: medium; open; vigorous.

ROOTSTOCKS FOR PEACHES AND NECTARINES

Flordaguard.— A seed-propagated, nematode-resistant rootstock orig. at Agr. Expt. Sta., Univ. of Florida, Gainesville, and introduced in 1990 by W.B. Sherman, P.M. Lyrene, and R.H. Sharpe. Complex parentage of Florida selections tracing to *P. davidiana* and Okinawa. Selected in 1976 and tested as Fla. 14-11. Percentage of seed germination high; peach and nectarine buds show very satisfactory growth; resistant to root-knot nematode *Meloidogyne javanica* and *M. incognita* races 1 and 3. Tree: blooms with Flordagold and requires ≈ 300 chill units; long whippy growth; high flower bud set. Leaves: homozygous for red-leaf; reniform petiolar glands. Flowers deep pink and showy. Fruit: flesh yellow; deep red at cavity and on pits; freestone; ripens ≈ 130 days from bloom.

ORNAMENTAL PEACHES

Bonfire.— Dwarf red-leaved ornamental orig. at Univ. of Arkansas from 1984 seed, selected in 1988, tested as Ark. 84186-T3, and released in 1992 by J.N. Moore, R.C. Rom, S.A. Brown, and G.L. Klingaman. Tsukuba no. 2 open-pollinated. Plant patent pending. Fruit: round; small; poor eating quality. Flowers double, showy, pink. Ornamental brachytic dwarf with dark-red leaves holding color late in summer with good resistance to bacterial spot. Trees susceptible to peach-tree borer.

Crimson Cascade.— A weeping, red-leaved ornamental orig. at Univ. of Arkansas from 1978 seed. Selected in 1981 and released in 1992 by J.N. Moore, R.C. Rom, S.A. Brown, and G.L. Klingaman. (Unnamed New Jersey selection × Rutgers Redleaf) selfed. Fruit: small, poor eating quality. Flowers double, showy, dark red. Leaves dark red fading to greenish-red by midsummer. Extreme weeping growth habit; vigorous.

Jerseypink.— A double-flowered ornamental orig. at New Jersey Agr. Expt. Sta., New Brunswick. Selected in 1985 by A.M. Voordeckers, tested as NJ 308, and introduced in 1990 by J.C. Geffreda, A.M. Voordeckers, and S.A. Mehlenbacher for ornamental qualities. Complex parentage of New Jersey selections. Fruit: medium; oblong-round; 40% to 50% scarlet-red blush over a greenish-yellow ground color; flesh yellow, nonmelting, clingstone. Flowers numerous, large, showy, rich pink, extra petals (double); late blooming; leaf glands reniform. Trees: tolerant to bacterial spot, vigorous, moderately spreading, slightly productive.

Pink Cascade.— Double-flowered, weeping ornamental orig. at Univ. of Arkansas from 1978 seed, selected in 1981, and released in 1992 by J.N. Moore, R.C. Rom, S.A. Brown, and G.L. Klingaman. (Unnamed New Jersey selection × Rutgers Redleaf) selfed. Fruit: small, poor eating quality. Flowers double, showy, pink. Leaves dark red fading to greenish-red by midsummer. Ornamental with extreme weeping growth habit; vigorous.

PEARS

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Elliot.— Orig. at Univ. of California, Davis, by Kay Ryugo; released in 1988. Elliot #4 × Vermont Beauty; cross made in 1964. Plant patent 6452, 6 Dec. 1988. Fruit: 50 to 60 mm diam.; shape pyriform to conical, similar to Cornice; skin yellow-green, 50% russeted. Buttery texture; flavor similar to Bosc; soluble solids to 18%.

Ripens 2 to 4 weeks after Bartlett; stores 16 weeks at 0C. Tree: upright habit; no fireblight during 20 years of observation, apparently resistant.

Gourmet.— A high-quality, cold-hardy dessert pear, resistant to fire blight. Orig. at South Dakota State Univ., Brookings, by R.M. Peterson and J.R. Waples; released in 1988. Not patented. South Dakota F15 × Ewart; cross made in 1954. Background includes *Pyrus ussuriensis* and *P. pyrifolia*, as well as *P. communis*. Tested as South Dakota 69-S-1 and South Dakota 55-8-22. Fruit: 56 to 74 mm diam., 60 to 76 mm long; turbinate; skin green-yellow with numerous russet dots; thick skin. Flesh firm, yellow, coarse, crisp, and juicy like Asian pear; European pear flavor. Ripens third week of September at Brookings. Tree: upright; medium vigor; moderately productive.

Harrow Sweet.— A high-quality, late-season pear for the fresh market, selected for precocity, productivity, cold hardiness, and fire blight resistance. Orig. at Agriculture Canada Research Station, Harrow, Ont., by D.M. Hunter, P. Pinsonneault, Frank Kappel, H.A. Quamme, W.G. Bonn, and R.E.C. Layne. Bartlett × Purdue 80-51. Cross made in 1965 by R.E.C. Layne; selected by H.A. Quamme in 1980; tested as HW-609. Fruit: medium to large; pyriform; skin yellow with red blush; some russetting of lenticels. Flesh white, sweet, juicy, flavorful; stores 10 weeks at 10C. Tree: medium size; upright to spreading; productive. Fire blight resistance similar to Harrow Delight. Pollen cross-compatible with Bartlett. Graft compatible on quince.

Hood.— A low-chilling, fire-blight-resistant pear that can be grown where warm climate precludes culture of higher quality varieties. Origin unknown, probably from Florida. Asian × European hybrid that has been grown successfully in Florida and southern California. Fruit: large (240 to 280 g); skin smooth, yellow-green; flesh white, firm/buttery texture, mild flavor; susceptible to core breakdown. Ripens mid-July in northern Florida. Tree: upright-spreading; requires 160 to 260 h chilling. Highly resistant to fire blight; moderately resistant to *Fabrea maculata* leaf spot. Hood is parent of Flordahome.

Orcas.— A fall pear suitable for fresh consumption, canning, and drying. Discovered on Orcas Island, Wash., by Joseph C. Long in 1966. Roadside seedling of unknown parentage. Fruit: medium to large, 65 to 80 mm diam.; elongated, with broad base, slightly lumpy; short stem; skin yellow with green dots and red-orange blush. Flesh creamy white, juicy, mild flavor, small core. Ripens 2 days after Bartlett in western Washington; stores 11 weeks at 1C. Tree: upright, becoming spreading; blooms 5 days after Bartlett; partially self-fruitful; pollen cross-compatible with Bartlett.

Potomac.— A fire-blight-resistant midseason pear with good fruit quality. Released in 1993 jointly by R.L. Bell and T. van der Zwet, U.S. Dept. of Agriculture, Appalachian Fruit Research Station, Kearneysville, W. Va., and The Ohio State Univ. Moonglow × Beurre d' Anjou; cross made by H.J. Brooks in Beltsville, Md., in 1961; tested as U.S. 62537-048. Not patented. Fruit: medium size, 65 mm diam.; ovate-pyriform; skin light green, glossy. Flesh moderately fine, buttery with some small grit under skin; flavor subacid and mild, similar to Anjou. Ripens 2 weeks after Bartlett; stores for 8 weeks or less. Tree: medium size; precocity and productivity similar to Anjou; fire blight resistance greater than Seckel.

Rescue.— An attractive, early ripening, large-fruited pear suitable for canning and fresh use. Orig. near Vancouver, B.C., by a Mr. Abrey. *Pyrus communis* type of unknown parentage. K. Nomura rescued scans from the original tree in 1976 before it was destroyed, after death of its owner. Fruit: large to very large, 75 to 85 mm diam., often 110 mm long; pyriform, symmetrical, with wide base and small core; short, fleshy stem. Skin bright yellow with orange-red blush; flesh cream-colored, smooth, melting, juicy, and mild, similar to Clapp Favorite. Ripens 6 days before Bartlett; stores ≈ 12 weeks at 1C. Tree: upright; moderately vigorous; few branches and spurs. Annual bearer; pollen cross-compatible with Bartlett; blooms ≈ 3 days after Bartlett.

Rosemarie.— The first pear cultivar bred in the Republic of South Africa. Released in 1990 by P.R. Jolly, J.D. Stadler, P.F. Louw, W.J.C. Smith, T.R. Visagie, and P.C. Fourie, Stellenbosch. Bon Rouge (a red-skinned Bartlett) × Forelle; cross made in 1974 by N. Hurter, P. Louw, and C. Smith at Simondium, Cape Province. Red-leaved seedlings were selected from the progeny and planted in Bien Donne in 1977.

Tested as selection OR8-25-38. Propagation restricted by South African plant breeder's rights. Fruit: small to medium; skin yellow with bright orange-red blush, very attractive; shape similar to Bartlett; early ripening. Tree: vigorous; semi-spreading.

Summercrisp.— An early season pear with good resistance to fire blight; among the hardiest tested at Univ. of Minnesota. Originally received by Univ. of Minnesota Fruit Breeding Farm, Excelsior, in 1933 from John Gaspard, Caledonia, Minn. Released in 1987 by J.J. Luby, D.S. Bedford, E.E. Hoover, S.T. Munson, W.H. Gray, D.K. Wildung, and C. Stushnoff. Parentage unknown; ancestry includes *P. ussuriensis* and *P. communis*. Tested as Gaspard #5 and N33201. Not patented. Fruit: pyriform; 60 to 80 mm diam., 80 to 100 mm long; skin green with red blush and prominent red lenticels. Flesh crisp, juicy, mild flavor. Stores for 6 weeks under refrigeration; develops internal browning when allowed to ripen before storage. Not suitable for canning. Tree: medium size; conical shape; blooms with Patten and Parker; requires cross-pollination.

PECAN

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Houma.— Orig. in Brownwood, Texas, by Agricultural Research Service, U.S. Dept. of Agriculture. Desirable × Curtis; cross made in 1958 by L.D. Romberg; tested as 58-4-61. Selected and tested by T.E. Thompson, E.F. Young, Jr., R.D. O'Barr, and R.S. Sanderlin; introduced to be grown throughout the southern U.S. pecan belt. Nut shape elliptical, with obtuse apex and base; average nut weight 8.2 g, with 55% kernel; light kernel color; excellent keeping quality. Nut maturity date similar to Desirable, about 4 Oct. at Baton Rouge. Tree: precocious and prolific; outstanding leaf and nut scabresistance. Protandrous, with early midseason pollen shed and midseason receptivity, similar to Desirable.

Oconee.— Orig. in Brownwood, Texas, by Agricultural Research Service, U.S. Dept. of Agriculture. Schley × Barton; cross made by L.D. Romberg in 1956; tested as 56-7-72. Selected and tested by T.E. Thompson, E.F. Young, Jr., R.E. Worley, R.D. O'Barr, and R.S. Sanderlin; introduced to be grown throughout the southern U.S. pecan belt. Nut: elliptical shape with obtuse apex and base, ≈ 9.7 g/nut, 56% kernel, average kernel color. Nut matures with Cheyenne, about 21 Oct. at Tifton, Ga. Good precocity and yield potential; moderate scab resistance. fair resistance to downy spot and vein spot. Protandrous, with early midseason pollen shed and mid- to late-season pistil receptivity, similar to Desirable.

Osage.— Orig. in Brownwood, Texas, by Agricultural Research Service, U.S. Dept. of Agriculture. Major × Evers; cross made by L.D. Romberg in 1948; selected and tested by T.E. Thompson and E.F. Young, Jr., as 48-15-3; introduced to be grown in the northern U.S. pecan production area. Nut: oval elliptical with obtuse apex and acute base, ≈ 5.3 g/nut, 54% kernel. Nut matures very early, about 11 Sept. at Brownwood, Texas. Tree: good precocity and yield potential; high scab resistance, good resistance to downy spot and vein spot. Protandrous, with early midseason pollen shed and mid- to late-season receptivity, similar to Pawnee, Major, and Perque.

Pawnee.— Orig. in Brownwood, Texas, by Agricultural Research Service, U.S. Dept. of Agriculture. Mohawk × Starking Hardy Giant; cross made by L.D. Romberg in 1963; selected and tested by T.E. Thompson and R.E. Hunter as 63-16-125; introduced to be grown throughout the U.S. pecan belt. Nut: flattened elliptical shape with acute apex and rounded base, ≈ 8.4 g/nut, 57.4% kernel, average kernel color. Nut matures 1 or 2 weeks earlier than Mohawk, latter half of September at Brownwood. Tree: vigorous; upright; strong limb connections; precocity and production medium, with some tendency to biennial bearing. Medium susceptibility to scab, fair resistance to downy spot, outstanding resistance to yellow aphids. Protandrous, with early to midseason pollen shed and mid- to late-season receptivity, similar to Cheyenne.

PISTACHIO

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Pontikis.— Orig. and tested at Dept. of Pomology, Agricultural College of Athens, Botanikos, Greece, by C.A. Pontikis. Aegenes open-pollinated. Fruit: large (25 × 16 mm); kernel weight 55% of fruit weight; oblong-ovate, with strong curing in dorsal suture near fruit stem; kernel oblong-ovate. External color yellow, with pink tint over one-third of surface; seedcoat purple over two-thirds of surface. Split-shell 90% to 98% every year, which is one-third higher than Aegenes. Percentage of blank nuts ≈ 5% to 10%, same as Aegenes. Tree: medium size; semi-upright; ≈ 5 × 6 m when grafted on *Pistacia terebinthus* seedling. Productivity same as Aegenes: 7.4 kg dry nuts per tree at 7 years, 16.2 at 11 years; biennial; flowering mid-April at Athens; fruit ripens 10 to 15 Sept. Pollination by male *P. vera* clones C and D. Adaptation to other growing regions unknown.

PLUM

D.W. Ramming

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Black Jack.— Orig. in Modesto, Calif., by Floyd, Gary, and Grant Zaiger and Leith Gardner. Friar open-pollinated. Introd. in 1984. Plant patent 7896, 30 June 1992. Fruit: large, 67 mm diam.; globose; skin blue; flesh yellow; semi-clingstone, nearly free; matures in mid- to late June in California. Tree: vigorous, upright; heavy producer; self-incompatible.

Blue Giant.— Orig. in Modesto, Calif., by Floyd, Gary, and Grant Zaiger and Leith Gardner. Laroda × Queen Ann. Introd. in 1988. Plant patent 6764, 25 Apr. 1989; assigned to Zaiger's Genetics Inc. Fruit: very large, 63 to 70 mm diam.; globose; skin blue; flesh yellow; clingstone; matures late June to early July in California. Tree: moderate vigor; semi-upright; very productive; self-incompatible.

Castleton.— Orig. in Geneva, N.Y., by R.L. Andersen, J.P. Watson, and K.G. Livermore. Valor × Iroquois; cross made in 1966; tested as NY 66.609.4; introd. in 1993. Plant patent pending; assigned to Cornell Research Foundation. Fruit: 36 mm cheek to cheek, 38 mm at broad point of suture and 46 mm long; similar to Stanley in size but more round; skin dark purple with little waxy bloom, colors early. Ripens 2 to 4 days before Richards Early Italian. Excellent fresh fruit and processing quality. Nonfragmenting stone, which "pits" well in needle-type pitters; stone dimensions 25 × 17 × 9 mm, compared to Stanley's at 30 × 14 × 8 mm; suture cracks infrequent compared to Stanley. Tree: medium vigor, spreading; intermediate number of laterals; less prone to produce secondary lateral branches than Stanley; heavily spurred. Partially self-fertile; pollinized by Longjohn, Polly, and Stanley; consistently heavy yields.

Emperor.— Orig. in Parlier, Calif., by J.F. Doyle and T.M. DeJong. Open-pollinated seedling of U.C. selection 11,15-27 [= open-pollinated seedling of U.C. selection 15-16 (= Burton × Yakima)]; cross made in 1985; tested as KAC5-6-38. Plant patent 8188, 30 Mar. 1993. Fruit: uniform; very large, 55 mm diam., 71 mm long; oblong to oval; skin dark blue with waxy gray bloom; amber flesh; heat tolerant. Excellent fresh fruit; pit cling to semi-cling, 37-40 × 19 to 21 × 12-15 mm. Tree: very vigorous; large; upright to upright-spreading; very productive, regular bearer. Not highly self-fertile; successfully pollinized by French Prune; blooms 1 to 3 days before French Prune. Should be propagated on plum rootstock, preferably Marianna, not on peach.

Gar-red.— Orig. at Fresno, Calif., by J.M. Garabedian. Chance seedling of unknown parentage. Plant patent 7076, 19 Dec. 1989. Fruit: large, 64 mm wide, 59 mm long; globose; skin pink; flesh light pink; semi-freestone; matures mid-August in Fresno. Tree: vigorous; upright; productive.

Golden Globe.— Orig. in Modesto, Calif., by Floyd, Gary, and Grant Zaiger and Leith Gardner. Larodax Queen Ann. Introd. in 1990.

Plant patent 7474, 19 Mar. 1991; assigned to Zaiger's Genetics Inc. Fruit: large, 63 mm diam., 63 mm long; globose; skin yellow; flesh yellow; clingstone; matures late July to early August in California. Tree: vigorous; upright; productive; self-incompatible.

Longjohn.— Orig. in Geneva, N.Y., by R.L. Andersen, J.P. Watson, and K.G. Livermore, New York State Agr. Expt. Sta. Iroquois × CA4A33L; selected in 1971; tested as NY 66.601.1; introd. in 1993. Plant patent pending; assigned to Cornell Research Foundation. Fruit: large, 37.5 mm cheek to cheek, 40 mm at broadest point of suture, and 65 mm long; distinctive shape, pointed on both ends; skin dark purple-blue covered by waxy bloom. Flesh amber, smooth texture, similar in firmness to Stanley; freestone with excellent fresh and processed flavor and texture, sweet and aromatic. Ripens with Stanley, but larger and better quality. Tree: vigorous, moderately upright, with weeping laterals. Precocious and productive; consistent cropping; slightly self-fertile; effectively pollinized by Stanley, Polly, and Castleton.

Polly.— Orig. in Geneva, N.Y., by R.L. Andersen, J.P. Watson, and K.G. Livermore, New York State Agr. Expt. Sta. Oneida open-pollinated; selected in 1977; tested as NY 65.363.1; introd. in 1993. Plant patent pending; assigned to Cornell Research Foundation. Fruit: large, kidney-shaped, flat (cheek to cheek dimensions less than across suture), 40 mm cheek to cheek, 50 mm at broad point of suture, 60 mm long. Skin purple-red with green ground color until fully ripe; flesh amber-green, medium firm, good retention of adequate firmness in storage; flavor mild, fruity. Ripens with Stanley. Tree: vigorous; spreading; self-thins, causing consistent cropping with large fruit. Self-fertile; pollinates most other European plums.

Ranch 9-Golden.— Orig. at Fresno, Calif., by J.M. Garabedian. Chance seedling of unknown parentage. Plant patent 5912, 24 Mar. 1987. Fruit: small to medium, 52 mm wide, 47 mm long; broadly oval to oblate; skin very dark purplish-red; flesh light yellow; clingstone; matures September in Fresno. Tree: vigorous; upright; productive.

Rancho Cinco.— Orig. at Fresno, Calif., by J.M. Garabedian. Chance seedling of unknown parentage. Plant patent 7075, 19 Dec. 1989. Fruit: medium to large, 54 mm wide, 60 mm long; oblong; skin dark red; flesh dark red; semi-freestone; matures early to mid-August in Fresno. Tree: vigorous; upright; productive.

Rancho Ocho.— Orig. at Fresno, Calif., by J.M. Garabedian. Chance seedling of unknown parentage. Plant patent 7082, 25 Dec. 1989. Fruit: large, 57 mm wide, 55 mm long; globose; skin dark red; flesh light red; semi-freestone; matures late June in Fresno. Tree: vigorous; upright; productive.

Red Nugget.— Orig. in Del Rey, Calif., by Frank T. Matoba. Red Beaut open-pollinated. Selected in 1985. Plant patent 7765, 14 Jan. 1992. Japanese type. Fruit: round to ovate, small, uniform, 44 to 46 mm diam. Skin medium red; flesh semi-cling; quality good. Ripens ≈ 10 days before Red Beaut. Tree: medium; upright; productive.

Rose Zee.— Orig. in Modesto, Calif., by Floyd, Gary, and Grant Zaiger and Leith Gardner. Spring Beaut × Nubiana. Introd. in 1984. Plant patent 5287, 2 Oct. 1984. Fruit: medium size, 57 mm diam., 38 mm long; oblate; skin red; flesh yellow; clingstone. Matures in late May and early June in California. Tree: vigorous; upright; heavy production; self-incompatible.

Victory.— Orig. in Vineland, Ont., Canada, by G. Tehrani and W. Lay, Hort. Res. Inst. of Ontario. Vision × Valor. Cross made in 1972; selected in 1980; tested as V72331; introd. in 1992. Fruit: large, 62 mm long, 52 mm wide; 59 g; heart-shaped. Skin violet-blue with waxy bloom to black without waxy bloom. Flesh greenish-yellow, firm, juicy, fair to good flavor, semi-clingstone, medium ovate pit. Ripens with Bluebell, 4 or 5 days after Stanley. Tree: similar to Stanley; self-incompatible; Italian, Stanley, Verity, Vision, and Voyageur are suitable pollinizers.

PLUMCOT

D.W. Ramming

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Flavor Queen.— Orig. in Modesto, Calif., by Floyd, Gary, and Grant Zaiger and Leith Gardner. Introd. in 1990. Plant patent 7420, 15

Jan. 1991; assigned to Zaiger's Genetics Inc. Fruit: large; globose; skin yellow; flesh yellow; high Brix. Matures late July in California. Tree: vigorous; semi-upright; productive; self incompatible.

RASPBERRIES

**Hugh Daubeny and Susan Wahlgren
Agriculture Canada Research Station, Vancouver, B.C.**

Anita.— Orig. in Chapingo, Mexico, by J. Rodriguez at the Colegio de Postgraduados. Malling Exploit open-pollinated; selected in 1979; introd. in 1989. Fruit: medium to large size; symmetrical, conic; medium firm; light red, slightly less glossy than Malling Exploit; earlier season than Malling Exploit because of earlier budbreak. Plant: good yield; moderate vigor; easily propagated; estimated chilling requirement 250 units, probably the lowest requirement of any red raspberry variety.

Balder.— Orig. in Aas-NLH, Norway, by G. Redalen, Agricultural Univ. of Norway. Norma × Malling Jewel; cross made in 1975; selected in 1980; tested as H 4-10-07; introd. in 1988. Fruit: medium size; dark, dull red color; relatively soft; medium sweet; high acidity; separates readily from the receptacle; early, relatively concentrated season; processing use. Plant: out-yielded standard varieties in Norway; primocanes numerous, erect, and vigorous, with dark-purple spines largely restricted to the basal portions, slightly waxy and glabrous; floricanes erect and vigorous, light brownish gray; large leaves may hide fruit, making hand harvest difficult; susceptible to cane spot; very winter hardy.

Beskid.— Orig. in Brzezna, Poland, by J. Danek and Z. Pasiut, Experiment Station of the Research Institute of Pomology and Floriculture. EM 3650/3 × EM 2747/78; tested as 80083; introd. in 1991. Fruit: medium to large; conic with blunt tip; firm with small, closely adhered drupelets; shiny red; late ripening with prolonged season; low susceptibility to botrytis rot; fresh-market and processing use. Plant: high yielding; vigorous with a medium number of slightly spreading primocanes; primocanes pubescent, ash green; floricanes brown, slightly waxed, covered with rudimental spines; fruiting laterals long, strongly attached, with numerous fruit uniformly dispersed from the top to about three-fourths of length; moderately susceptible to cane botrytis and spur blight; low susceptibility to the raspberry beetle; has both genes A, and A., conferring resistance to all known strains of the European aphid vector of the raspberry mosaic virus complex; winter hardy.

Brabant.— See Rusilva.

Dinkum.— Introd. by G. McGregor, Victoria Dept. of Agriculture, Toolangi, Victoria, Australia, in 1992. Autumn Bliss × Glen Moy; cross made in 1983 by D.L. Jennings at the Scottish Crop Research Institute; selected by G. McGregor in 1985; tested as A83-31-G5. Fruit: medium size; firm with medium-size drupelets; medium-dark red, slightly more glossy than Autumn Bliss; excellent flavor; easy to harvest; production on primocanes. Overwintered floricanes produce early summer fruit on lower portion of canes; some resistance to postharvest botrytis fruit rot. Ripens as much as 19 days earlier than Heritage, at the same time to 3 days later than Autumn Bliss; fresh-market use. Plant: yield similar to Autumn Bliss but usually with more condensed ripening season and higher yield at each harvest; upright primocanes with relatively short fruiting laterals; probably susceptible to root rot.

Fallbrook.— Orig. in Brooks, Alberta, by S. Mahadeva, Alberta Special Crops and Horticulture Research Center. Selected from a population of open-pollinated seedlings from E.M. Meader, New Hampshire; introd. in 1984. Fruit: slightly smaller than Boyne; bright red; sweet flavor; ripens as early as late July and continues into mid-September, depending on season; home-garden use in southern Alberta. Plant: primocane fruiting; canes are semi-erect.

Fertodi zamatos.— Orig. in Hungary by L. Kollanyi, M. German, and M. Kovacs, Research Station Fertod. Fertodi Hungaria × Canby; selected in 1971; tested as F.4; introd. in 1986. Fruit: medium to large size; bright red, attractive; firm; flavor good; mid- to late season, 4 to 6 days after Canby; processing use. Plant: very tall; hardy; productive.

Gaia.— Orig. in East Malling, England, by V.H. Knight and E.

Keep, Horticulture Research International. From the cross of two East Malling selections of complex parentage; represents the sixth backcross from the Cumberland black raspberry (*Rubus occidentalis*); cross made in 1974; tested as EM 3655/48; introd. in 1992; entered for Plant Varieties Rights. Fruit: large; firm; dark red; round-conic, slightly irregular in shape; easily removed from receptacle; later ripening than Leo and slightly earlier than 'Malling' Augusta; good flavor fresh and in jam; canned and frozen products superior to Glen Clova but not as well-flavored as Leo. Plant: relatively high yielding; vigorous; good habit with tall, erect canes; well-presented fruit on moderately ascending lateral; less spiny than Leo or 'Malling' Augusta; relatively resistant to cane botrytis and spur blight; moderately susceptible to cane spot, cane blight, and crown gall; may have some resistance to root rot. Has gene A₁₀ conferring resistance to the four known strains of the European aphid vector of the raspberry mosaic complex; resistant to the common strain of raspberry bushy dwarf virus.

Gina.— Orig. in Chapingo, Mexico, by J. Rodriguez at the Colegio de Postgraduados. Malling Exploit open-pollinated; selected in 1979; intro. in 1989. Fruit: medium to large size, comparable to Malling Exploit; red; medium firm; symmetrical and conic; does not crumble when handled; earlier ripening than Malling Exploit. Plant: high yield; medium vigor; short internodes; has an estimated chilling requirement of 500 units.

Glencoe.— Orig. in Invergowrie, Scotland, by D.L. Jennings and R.J. McNicol, Scottish Horticultural Research Institute. A derivative of the Munger black raspberry (*Rubus occidentalis*) crossed with Glen Prosen; tested as SCRI 53-14-6; introd. in 1989. Fruit: medium size; round-conic; dull, purple; very firm; intense flavor; easy to pick; midseason ripening; good shelf life; specialized processing, fresh-market and home-garden uses. Plant: yield similar to Glen Clova in southern parts of Britain; vigorous, primocanes semi-erect, spine-free, and produced in moderate numbers; floricanes deep purple with conspicuous waxy bloom; fruiting laterals medium length and stiff; no exceptional susceptibilities identified, resistant to verticillium wilt; not adapted to cold spring weather.

Glen Garry.— Orig. in Invergowrie, Scotland, by D.L. Jennings and R.J. McNicol, Scottish Horticultural Research Institute. Malling Delight × SCRI 7331/1 (SCRI 703/36 × Glen Prosen); cross made in 1975; tested as SCRI 7518E6; introd. in 1990. Fruit: very large size due to presence of gene L₁, which might be unstable; conic; firm; slightly pale color; excellent flavor; fresh-market use. Plant: high yielding; early to midseason; spine-free; moderate vigor; long but strong fruiting laterals. Plants not containing gene L₁ can be identified in vegetative stage by smaller stipules and less-serrated leaves. Carries gene A, conferring resistance to two strains of the European aphid vector of the raspberry mosaic virus complex; susceptible to raspberry bushy dwarf virus by graft inoculation and probably by natural infection.

Glen Lyon.— Orig. in Invergowrie, Scotland, by D.L. Jennings and R.J. McNicol, Scottish Horticultural Research Institute. SCRI 7331/1 (SCRI 703/36 × Glen Prosen) × SCRI 7256/1 [SCRI 6820/35 (sib of Glen Prosen) × Haida]; cross made in 1975; tested as SCRI 7515C5; introd. in 1991. Fruit: medium to large; bright, glossy medium red; firm; easily removed from receptacle; early to midseason ripening; low sugar content; distinct acid flavor; good shelf life; fresh-market and processing uses. Plant: establishes rapidly, enabling it to produce higher initial yield than Glen Clova, otherwise yield similar to Glen Clova; easily managed growth habit; spine-free; moderate vigor; easy to harvest due to relatively short height and good fruit visibility; resistant to cane botrytis in Scotland, but susceptible in British Columbia; resistant to spur blight and leaf spot virus; has gene A1 conferring resistance to two strains of the European aphid vector of the raspberry mosaic virus complex; susceptible to raspberry bushy dwarf virus by natural infection.

Goldie (Graton Gold).— Orig. in Sonoma County, Calif., in 1987. Yellow-fruited, primocane-fruiting sport of Heritage. Plant patent applied for; assigned to Nourse Farms, South Deerfield, Mass. Fruit: similar fruit firmness, flavor, and overall performance to Heritage; unique gold color is deeper yellow than other yellow-fruited raspberries. Plant: fruiting habit similar to Heritage; primocane production is more abundant than Heritage.

Graton Gold.— See Goldie.

Hollim.— Orig. in Watsonville, Calif., by S. Wilhelm. Sweetbriar × Reiter E4720; introd. in 1992. Plant patent 8027, 10 Nov. 1992; assigned to Sweetbriar Development. Fruit: medium size; light red, glossy; separates easily from receptacle. Floricane production about 1 May, primocane production about 20 July in central coastal California. Plant: moderate vigor with production equally split between primocane and floricane crop; some resistance to powdery mildew and late leaf rust.

Joe Mello.— Orig. in Watsonville, Calif., by S. Wilhelm. Reiter 323 × Chilcotin; selected in 1983; introd. in 1988. Plant patent 6493; assigned to Sweetbriar Co. Fruit: medium size, 2.5 to 4 g; very attractive, bright red with slight darkening after harvest. Plant: primocane fruiting; medium vigor; sturdy, erect canes.

Julia.— Orig. in East Malling, England, by V.H. Knight, Horticulture Research International. Result of cross of an East Malling selection of complex parentage and a sib of Glen Prosen, fourth backcross from the Cumberland black raspberry (*Rubus occidentalis*); cross made in 1976; tested as EM 4301/9; introd. in 1992. Entered for Plant Varieties Rights. Fruit: large; uniform shape; moderately firm; medium red, slightly dull; easily removed from receptacle; midseason ripening; canned and frozen qualities superior to Glen Clova; produces good-flavored jam. Plant: high yielding; moderate number of long, fairly erect canes; canes moderately spiny; long laterals tend to droop but are well attached; resistant to cane botrytis, spur blight, and cane spot; moderately resistant to cane blight; susceptible to root rot; has gene A₁₀ conferring resistance to the four known strains of the European aphid vector of the raspberry mosaic virus complex; susceptible to raspberry bushy dwarf virus.

Lawrence.— Orig. in Watsonville, Calif., by S. Wilhelm. Sweetbriar × Reiter 239; introd. in 1992. Plant patent 8022, 3 Nov. 1992; assigned to Sweetbriar Development. Fruit: medium to large size; sweet, relatively low acid flavor; separates easily from receptacle. Primocane production begins about 1 Aug., floricane production about 15 May in central coastal California. Plant: vigorous; produces about one-third of total crop on primocanes; some resistance to powdery mildew and late leaf rust.

Leo.— Orig. in East Malling, England, by E. Keep and J.H. Parker, Horticulture Research International. Fourth backcross derivative of the Cumberland black raspberry (*Rubus occidentalis*); pedigree includes red raspberries Malling Landmark, Lloyd George, Pyne's Royal, Norfolk Giant, and Burnetholm; cross made in 1964; selected in 1969; tested as EM 1312/19; introd. in 1977. Plant Variety Rights held jointly by Horticulture Research International and National Seed Development Organization. Fruit: large; almost round; rather pubescent; late ripening; excellent fresh flavor; suitable for processing. Plant: relatively high yielding; moderate number of very tall canes; rather spreading habit; long, strong fruiting laterals; relatively resistant to cane botrytis and spur blight; has genes A₁ and A₁₀ conferring resistance to the four known races of the European aphid vector of the raspberry mosaic virus complex; susceptible to raspberry bushy dwarf virus by graft inoculation.

'Malling' Augusta.— Orig. in East Malling, England, by E. Keep and V.H. Knight, Horticulture Research International. Third backcross derivative of *Rubus cockburnianus* × 'Malling' Joy; cross made in 1974; tested as EM 3650/6; introd. in 1989. Plant Variety Rights held by Horticulture Research International. Fruit: medium to large; firm; oval to conic; dark red, slightly dull; easily removed from receptacle; moderate acid flavor; late fresh-market use. Plant: moderate yield; moderate number of tall, rather spreading canes; deeply pigmented; glabrous with medium-sized spines; long, very floriferous laterals; fruit well presented; occasionally produces floriferous basal laterals that tend to ripen later than other laterals; somewhat susceptible to cane botrytis and to spur blight; some resistance to cane spot; has gene A₁₀ conferring resistance to the four known races of the European aphid virus vector of the raspberry mosaic virus complex; appears to have natural resistance to infection from the common strain of raspberry bushy dwarf virus but becomes infected by graft inoculation.

'Malling' Joy.— Orig. in East Malling, England, by E. Keep, V.H. Knight, and J.H. Parker, Horticulture Research International. Parents

are of complex origin; each is from a fourth backcross derivative of the Cumberland black raspberry (*Rubus occidentalis*) and also has Malling Promise, Malling Landmark, Burnetholm, Pyne's Royal, Lloyd George, and Norfolk Giant in its ancestry; cross made in 1968; selected in 1973; tested as EM 2467/123; introd. in 1980. Plant Variety Rights held jointly by Horticulture Research International and National Seed Development Organization. Fruit: large, blunt conic, very firm; slightly dark and pubescent; fairly easily removed from receptacle; late ripening, up to 2 days earlier than Leo; good, slightly acid fresh flavor; postharvest susceptibility to fruit rots similar to Glen Clova and Malling Jewel; good quality for fresh market and jam-making. Plant: very high yield due to large fruit size and high number of fruit per lateral; tall canes, rather spreading; laterals very long, strong, and well attached, held horizontally; spiny; fruit well exposed; has genes A, and A₁₀, conferring resistance to the four known strains of the European aphid vector of the raspberry mosaic virus complex; susceptible to raspberry bushy dwarf virus by graft inoculation and probably by natural infection.

Norna.— Orig. at the Njos Research Station, Norway. Preussen × Lloyd George; cross made in 1944; introd. in 1964. Fruit: large; round; dark red; medium bright; medium firm; well exposed and easy to harvest; large drupelets; suited for preserving; flavor mild, not sweet; early to medium-early ripening. Plant: moderate number of canes; erect; very vigorous; easy to manage; canes dull, not waxy, some pubescence; moderate number of spines; susceptible to cane botrytis; winter hardy.

OAC Regal.— Orig. in Vineland, Ontario, by L. Ricketson, Ontario Ministry of Agriculture and Food. Latham × Milton: cross made in 1968; tested as GU 74; introd. in 1991 by J.A. Sullivan, Dept. of Horticultural Science, Univ. of Guelph, Ontario. Fruit: medium size, larger than Boyne; medium red; medium firm; conic; separates readily from receptacle; season 4 or 5 days later than Boyne; fresh-market use. Plant: high yielding; upright habit; numerous, vigorous primocanes with purple overlay; relatively few spines; floricanes susceptible to anthracnose; winter hardy in Ontario and the Montreal area of Quebec.

OAC Regency.— Orig. in Vineland, Ontario, by L. Ricketson, Ontario Ministry of Agriculture and Food. Introd. in 1991 by J.A. Sullivan, Dept. of Horticultural Science, Univ. of Guelph, Ontario. Creston × Muskoka; cross made in 1968; tested as GU 75. Fruit: medium size, larger and firmer than Boyne; conic; separates readily from receptacle; season 1 or 2 days later than Boyne; fresh-market use. Plant: more productive than OAC Regal and Boyne; moderate number of vigorous primocanes; relatively few spines; susceptible to cane disease; very winter hardy in Ontario and the Montreal area of Quebec.

Polana.— Orig. in Brzezna, Poland, by Jan Danek and Zofia Pasiut, Experiment Station of the Research Institute of Pomology and Floriculture. Heritage × Zeva Herbsternte; tested as 81221; introd. in 1991. Fruit: medium size; compact, wide-conic; ripens earlier than Heritage; aromatic and tasty but quality deteriorates in late season. Plant: primocane fruiting; more productive than Heritage; canes numerous, uniform medium height, erect, covered with wax, pubescent; spines scarce; primocane fruit borne on laterals distributed from the tip to mid-cane; some fruit also produced from laterals on the lower part of the canes in summer cropping season. Low to medium susceptibility to diseases and pests; in laboratory tests showed some resistance to the European aphid vector of the raspberry mosaic virus complex.

Redbrook.— Orig. in Brooks, Alberta, by S. Mahadeva, Alberta Special Crops and Horticultural Research Center. Chief × Boyne; tested as BR14; introd. in 1984. Fruit: large, bright red; sweet, with typical raspberry flavor. Plant: high yield on sturdy canes; as hardy as or harder than Boyne.

Red River.— Orig. in Morden, Manitoba, by C. Davidson, Agriculture Canada Research Station (Fall Red × primocane-fruiting type derived from *Rubus strigosus* from Cheyenne, Wyo.) × (Fall Red × Boyne); cross made in 1968; selected in 1978; tested as MRS#8008; introd. in 1993. Propagated under a royalty agreement by Jefferies Nurseries, Portage la Prairie, Manitoba. Fruit: intermediate size maintained during main part of harvest season; glossy medium red; hemispherical; good drupelet coherence; high soluble solids; low pH; sweet and tart, excellent flavor; earlier ripening than either Redwing or

Heritage; fresh-market use. Plant: primocane-fruiting; short, stout canes with sparse short spines; trellis support may be required to support heavy fruit loads; moderate production of canes; susceptible to anthracnose but can be controlled by an annual mowing system; winter hardy, suitable for harsh prairie climate.

Rucami.— Orig. by Rudolf Bauer at the Max-Planck-Institute, Koln. Introd. in 1979 by Ahrens and Sieberz, D-5200 Siegburg-Seligenthal. '4a' × Andenken an Paul Camenzind; cross made in 1960; selected in 1976 in Breitbrunn/Chiemsee. Fruit: large; oval-conic with large drupelets; medium to dark red; medium firm; aromatic flavor with high acidity; ripens midseason; fresh-market and deep-freezing use. Plant: moderately productive; vigorous; thick spiny canes with long, strong fruiting laterals; primocanes numerous. Resistant to the most common race of the European aphid vector of the raspberry mosaic virus complex and to cane and root diseases; somewhat susceptible to wet and windy weather so needs windbreak.

Rucanta.— See Rutrago.

Rumilo.— See Rumiloba.

Rumiloba (Rumilo).— Orig. by Rudolf Bauer at the Max-Planck-Institute, Koln; introd. in 1985 by Haberli, CH-9315 Neukirch-Egnach. Promiloy [Malling Promise × (Lloyd George × Preussen)] × '4a'; cross made in 1960, selected in 1976 in Breitbrunn/Chiemsee. Fruit: large; broad oval-conic; drupelets numerous, large; attractive medium red; easy to harvest; very aromatic flavor; late ripening season; moderately susceptible to preharvest botrytis rot; good shelf life; fresh-market and freezing use. Plant: medium to high yield; very vigorous; upright habit; moderately spiny; number of primocanes relatively high. Resistant to the most common race of the European aphid vector of the raspberry mosaic virus complex, and to cane and root diseases.

Rusilva (Brabant).— Orig. by Rudolf Bauer at the Max-Planck-Institute, Koln; introd. in 1987 by Haberli, CH-9315 Neukirch-Egnach. Gelay [Geneva 17861 × (Lloyd George × Preussen)] × '4a'; cross made in 1960; selected in 1976 in Breitbrunn/Chiemsee. Fruit: round; light to medium red; firm; rather sour; aromatic; ripens midseason; well displayed on the plant and easy to pick; moderately susceptible to preharvest botrytis rot; suitable for machine harvest; fresh-market use. Plant: high yielding; moderate vigor; nearly spine-free; thin canes with long to medium length laterals; primocanes numerous. Resistant to the most common race of the European aphid vector of the raspberry mosaic virus complex, and to cane and root diseases; tends to develop blossoms and fruit in late autumn.

Rutrago (Rucanta).— Orig. by Rudolf Bauer at the Max-Planck-Institute, Koln; introd. in 1979 by Ahrens and Sieberz, D-5200 Siegburg-Seligenthal. '4a' × Tragilo [Geneva 16134 × (Lloyd George × Preussen)]; cross made in 1960; selected in 1976 in Breitbrunn/Chiemsee. Fruit: medium size; round conic; firm; medium-red color; very aromatic with high sugar and acid components; late ripening season; easy to pick; fresh-market and freezing uses. Plant: high yielding; vigorous; very strong, erect-growing canes; medium length to long basal laterals; medium number of spiny primocanes. Resistant to the most common race of the European aphid vector of the raspberry mosaic virus complex, and to cane and root diseases.

Tulameen.— Orig. in Vancouver, B.C., by Hugh Daubeny and Angela Anderson, Agriculture Canada Research Station. Nootka × Glen Prosen; cross made in 1980; selected in 1983; tested as BC 80-28-53; introd. in 1989. Fruit: very large; long-conic; medium red, glossy; firm; drupelets numerous; separates readily from receptacle and can be machine-harvested; starts to ripen with Meeker but has a longer season that overlaps early primocane-fruiting cultivars. Relatively susceptible to preharvest botrytis rot, some resistance to postharvest rot; good flavor; fresh-market and processing uses, including individual quick freeze. Plant: very high yield; vigorous; fairly upright habit; primocanes reasonably numerous, nonpubescent, green with an irregularly distributed purple overlay that is more concentrated at the base; sharp, purple spines largely restricted to basal portions; floricanes sturdy, fairly upright, grayish-yellow with general basal cracking; fruiting laterals strongly attached, relatively long, with fruits well spaced. Long pedicels aid in giving excellent exposure for hand-harvesting. Susceptible to spur blight, moderately susceptible to cane botrytis and cane spot; some resistance to root rot and to natural infection by raspberry bushy dwarf virus; resistant to the common

strain of the North American aphid vector of the raspberry mosaic virus and to powdery mildew; winter hardy in the Pacific Northwest.

Vene.— Orig. in Stjordal, Norway, by R. Nestby, Kvithamar Research Station. Veten × Newburgh; crossed in 1970; selected in 1975; introd. in 1987. Fruit: small; round; glossy; dark red; softer than Veten but with little tendency to crumble; ripens early. Some resistance to preharvest botrytis rot; local fresh-market and processing uses. Plant: young primocanes green, pubescent; mature primocanes very spiny. Some resistance to cane botrytis; moderately susceptible to spur blight; relatively winter hardy.

Veten.— Orig. in Njos, Norway, State Experiment Station. Asker × Lloyd George; introd. in 1961. Fruit: large; conic; dark red, medium bright to dull; large drupelets, not crumbly; early to midseason ripening; acidic flavor; processing use. Plant: high yielding; medium number of erect canes with moderate growth; canes dull, not waxy, light green with a little red in autumn and red-brown in winter; cane tips not pubescent; spines few, except on young canes; easy to manage; moderately winter hardy; susceptible to cane botrytis.

Zenith.— Orig. in Arnslev, Denmark, by A. Thuesen, Research Centre for Horticulture. Pyne's Royal × Spangsbjerg 1307/49; tested as Spangsbjerg 2051/67; introd. in 1985. Fruit: medium size; medium to dark red, relatively glossy; short conic; soft to moderately firm; easily removed from the receptacle; no tendency to crumble; fairly late ripening with a long season; fresh and processing uses. Plant: primocanes numerous; canes erect, very long, relatively large diameter; density of spines sparse to medium; fruiting laterals long.

SAPODILLA

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Tikal.— An early season selection introd. at Tropical Research and Education Center, Univ. of Florida, Homestead, in 1987. Grown from open-pollinated seed collected in Mexico in 1949. Selected by C.W. Campbell, S.E. Malo, and J. Popenoe. Fruit: large, 80 to 325 g, averaging 120 g; skin light brown, smooth texture. Flesh light tan, smooth texture, excellent flavor. Fruit is less susceptible to Caribbean fruit fly than are seedlings. Season from late December to March. Tree: medium vigor, forming full canopy to make a large tree; regularly productive. Tree is well adapted to warm subtropical climate; tolerant to periods of drought; requires adequate water to crop well.

SASKATOONS

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N.B. This is the first attempt to give comprehensive standardized descriptions of all saskatoon cultivars extant. Saskatoons belong to *Amelanchier alnifolia* Nutt., also known as the Western serviceberry or juneberry, unless otherwise noted. Similar-quality fruit from selections of closely related and naturally hybridizing species are treated as saskatoons here, in the scientific literature, and in commerce. Cultivars are self-fertile unless otherwise noted. We include all fruit cultivars that we consider to have been validly introduced, and exclude those distributed for testing but not introduced, and all local selections never tested anywhere else. 'Altaglow', an ornamental, is included because it has been a part of several publications on fruit cultivars. Other ornamentals are excluded. Cultivar descriptions are based on published data, the authors' unpublished research data, and comments by originators or their successors. The data were limited, however—especially comparative data from equal-age bushes, and modifications may be required as more data become available. U.S. Dept. of Agriculture hardiness zones are used.

The Dept. of Horticultural Science, Univ. of Saskatchewan, is the

International Registration Authority for *Amelanchier* cultivars.

Altaglow.— An ornamental especially valuable for fall leaf display. Orig. in Red Deer River Valley, Alberta (51°N), by A. Griffin before 1923. Wild plant transplanted to Alberta Horticultural Research Station, Brooks. Initial selection and distribution for testing, 1928. Tested at Agriculture Canada Research Station, Beaverlodge (BRS), Alberta, as Brooks White. Selected as an ornamental by J.A. Wallace, BRS, 1946. Introd. by P.D. Hargrave, Brooks, 1964. Berries up to 16 mm diam., nearly spherical, white, easily bruised; typically five to nine per cluster, clusters tight, even ripening, very uneven in size; flavor sweet but bland. Self-sterile. Shrub multistemmed, to 7 m; initially upright, retaining exceptionally tall and erect habit and 3-m spread at maturity; moderate to good suckering close to crown, crown expands indefinitely; crown long-lived, 40+ years; hardy to zone 1. Poor producer, introduced as an ornamental for its habit in large landscapes, for the oddity of its white berries, but mainly for its splendid fall foliage colors.

Bluff.— Orig. near Buffalo Lake, Sexsmith, Alberta (55°N) by Peter Student: wild clump discovered on his farm in 1946. Selected in 1980 from wild suckers, transplanted in 1975 by J.G.N. Davidson and K.T. (Student) Davidson, introd. in 1990. Berries up to 13 mm diam., nearly spherical, blue-black with light bloom; typically seven to 13 per cluster; cluster tight, even size, and exceptionally even ripening; good, well-balanced flavor, moderately tangy, good fresh. Holds its flavor when cooked better than other cultivars; seeds relatively few and small. Shrub multistemmed, to 5 m high; initially upright, tends to retain tall, erect habit, 2.5-m spread at maturity unless pruned; moderate to good suckering close to crown. Hardy to zone 1; crown long-lived, original clump 50+ years. May have some resistance to leaf diseases. A good domestic cultivar currently being evaluated for orchard use.

Buffalo.— Orig. near Buffalo Lake, Sexsmith, Alberta (55°N) by Arsen Student: wild clump discovered on his farm in 1925. Selected in 1980 from wild suckers transplanted in 1975 by J.G.N. Davidson and K.T. (Student) Davidson, and introd. in 1990. Berries up to 14 mm diam., obovate to nearly spherical, blue-black with slight bloom; typically seven to 13 per cluster, cluster fairly loose; fairly even ripening; excellent flavor with very good balance between tanginess and sweetness, best fresh but also cooks, cans, and jams well. Shrub multistemmed, to 4 m high; initially upright to spreading at maturity, 5-m spread. Moderate suckering near crown, crown expands similarly to Pembina. Hardy to zone 1; crown long-lived, original clump 70+ years. A good domestic cultivar, currently being evaluated for orchard use.

Forestburg.— A relatively drought-tolerant cultivar for the central prairies. Orig. near Forestburg, Alberta (52°30'N). Wild plant discovered by A. Nixon on his farm. Transplanted to Agriculture Canada Research Station, Beaverlodge (BRS), in 1948; tested as B.E.F. 0003. Selected by J.A. Wallace, BRS, and introd. in 1963. Berries up to 16 mm diam., nearly spherical, blue-black with bloom; typically seven to 11 per cluster, clusters very tight, fairly even ripening, later than Smoky; flavor mild, quite sweet, juicy; pH 4.2. Shrub multistemmed, to 4 m high; initially upright to arching-spreading and 5-m spread at maturity. Moderate to light suckering near crown, crown expands slowly, crown long-lived, 40+ years; hardy to zone 2. Susceptible to powdery mildew. Heavy producer of large fruits.

Honeywood.— Very precocious and productive. Orig. near Parkside, Saskatchewan (53°N), by A.J. Porter. Seedling selection from wild plant discovered by Porter @1955 near his Honeywood Nursery, and introduced by him in 1973. Flowers 4 to 8 days later than most other cultivars, and ripens somewhat later also. Berries up to 16 mm diam., basally flattened to spherical, blue-black with little bloom; typically nine to 15 per cluster, cluster fairly tight, fairly even ripening; excellent full and tangy flavor; pH 3.7-3.9; seeds relatively large. Shrub multistemmed, to 5 m high, initially upright to arching-spreading and 4-m spread at maturity. Sparse suckering near crown, crown expands relatively slowly, similar to Pembina. Hardy to zone 2. Moderately resistant to powdery mildew; may have some resistance to leaf spot. Hectarage limited due to low rate of suckering.

Martin.— Orig. in Langham, Saskatchewan (52°N), by D. Martin, Martin Nursery. Seedling selection from Thiessen for large berry size

and more uniform ripening; introd. by D. Martin in 1990. Similar to Thiessen except for larger average berry size and more uniform ripening. Good domestic cultivar currently being tested for orchard use.

Moonlake.— Orig. near Saskatoon, Saskatchewan (52°N), by G. Krahn, Lakeshore Tree Farms. Wild plant discovered by Moon Lake, near Saskatoon; introd. by G. Krahn in 1974. Berries up to 16 mm diam., obovate to nearly spherical, blue-black with light bloom; typically six to 10 per cluster, cluster open; flavor relatively mild and sweet, good; pH 3.9. Shrub multistemmed, suckering moderate, to 3 m high; initially upright to arching-spreading and 3-m spread at maturity. Moderately resistant to powdery mildew. Productivity moderate; domestic cultivar, currently being evaluated for orchard use.

Nelson.— Orig. near Bradwell, Saskatchewan (52°N); wild plant discovered by S.H. Nelson in 1974. Tested at the university. Introduced by R. St. Pierre, Univ. of Saskatchewan, Saskatoon, in 1992. Flowers 3 to 7 days later than most other cultivars. Berries up to 13 mm diam., nearly spherical, blue-black with little bloom, few seeds; typically six to 12 per cluster, cluster compact; ripening somewhat uneven; good tangy flavor. Shrub multistemmed, compact, to 1.5 m high; suckering moderate; possibly some resistance to saskatoon-juniper rusts (*Gymnosporangium* spp.). Productive bush, but not yet tested for orchard use.

Northline.— Orig. near Beaverlodge, Alberta (55°N), by J.A. Wallace. Introduced in 1965 by J.A. Wallace, Beaverlodge Nursery. Wild plant discovered by J.A. Wallace on the north property line of the research station, but introduced privately; selected in 1958 by J.A. Wallace. Berries up to 16 mm diam., obovate to nearly spherical, blue-black with bloom; typically seven to 13 per cluster, fairly even ripening; excellent full flavor, similar in quality to Pembina, fairly sweet; pH 3.8-3.9. Shrub multistemmed, to 4 m high; initially upright to arching-spreading and 6-m spread at maturity; suckering quite freely near crown, crown expands indefinitely. Hardy to zone 1 (Yukon); crown long-lived, 50+ years. Foliage moderately susceptible to powdery mildew, berries more resistant. Very productive, exceeds Smoky at some locations. Occupies a rising proportion of commercial hectareage in Canada, the third largest in 1993.

Parkhill.— Orig. in Michigan. Wild plant selection. Introduced by Parkhill Nursery, Bismarck, N.D. (47°N), 1974. Species uncertain, possibly *A. sanguinea* (Pursh.) DC. Berries up to 13 mm diam.; obovate to nearly spherical, blue-black with bloom; typically seven to 11 per cluster, cluster fairly open; fairly even ripening; flavor mild and relatively bland; pH 4.1. Shrub multistemmed, to 1.5 m high; initially upright to spreading and 2.5-m spread at maturity; low to moderate suckering, crown expands slowly. Hardy to zone 2. Susceptible to powdery mildew. Inferior to other cultivars in both taste and productivity in the Canadian prairies.

Pembina.— The full-flavor standard against which other cultivars were judged at Beaverlodge. Orig. near Barrhead, Alberta (54°N), by J.A. Wallace, Agriculture Canada, Beaverlodge, Alb., and introd. in 1952. Wild plant discovered in Pembina River Valley by J.A. Wallace @ 1928; tested as Barrhead No. 1 and as B.E.F. 3501; reselected 1950. Berries up to 14 mm diam., obovate to nearly spherical, blue-black with bloom, typically nine to 13 per cluster, fairly even ripening; excellent full tangy flavor, fairly sweet; pH 4.1. Shrub multistemmed, to 5 m high; initially upright to upright-spreading and 5-m spread at maturity; moderate to sparse suckering near crown, crown expands more slowly than Smoky. Hardy to zone 1 (Yukon); crown long-lived, 70+ years. More susceptible to root aphids than Smoky. Berries moderately resistant to powdery mildew, but leaves moderately susceptible. Nearly as productive as Smoky, as widely but much less extensively grown because of slow suckering.

Regent.— Orig. near Regent, N.D. (46°N). Open-pollinated seedling introd. in 1977 by J. Candrian. Farmer Seed and Nursery Co., Faribault, Minn. Berries up to 13 mm diam., ovoid to nearly spherical, blue-black with bloom; typically seven to 11 per cluster, cluster loose and open; flavor somewhat plum-like, mild, sweet, and somewhat bland; pH 4.1-4.5; relatively few and small seeds. Shrub multistemmed, to 2 m high; initially upright to ≈ 2-m spread at maturity; suckering low to moderate, hardy to zone 3, marginal in 2; precociously fruitful; some resistance to leaf spot. Foliage moderately resistant to powdery mil-

dew, but berries less so. It is also used as an ornamental, having attractive fall foliage colors.

Smoky.— The dominant commercial saskatoon cultivar. Orig. near Beaverlodge, Alberta (55°N), by W.D. Albright. Introd. in 1952 by J.A. Wallace, Agriculture Canada, Beaverlodge, Alb. Wild plant discovered on the Beaverlodge Research Station (in the Smoky River drainage basin), transplanted 1918; tested as Selection no. 9 (1928), and B.E.F. 3502 (1935), reselected 1950. Berries up to 14 mm diam., spherical, blue-black with bloom, typically seven to 11 per cluster, relatively uneven ripening; good, mild flavor, sweetest cultivar with highest sugar : acid ratio so far; pH 4.14.5; relatively large and many seeds. Shrub multistemmed, to 4.5 m high; initially upright to arching-spreading and 6-m spread at maturity; freely suckering near crown, crown expands indefinitely. Hardy to zone 1 and to Yukon; crown long-lived, 70+ years. Moderately resistant to root aphids. Berries moderately resistant to powdery mildew, but leaves moderately susceptible. Most productive commercial cultivar so far, yielding up to 6000 kg·ha⁻¹. The cultivar that enabled commercial production to start in the prairies; in 1990 it occupied ≈ 85% of the hectareage in Canada.

Success.-By far the oldest surviving saskatoon cultivar. Orig. in Pennsylvania mountains (≈ 41°N). Selection made before 1868 from seedlings of wild plants. Acquired in 1873 by H.E. Van Deman, Kansas, and introduced by him in 1878. Van Deman had sold more than 10,000 plants by 1888. Species uncertain, probably *A. canadensis* (L.) Medic., but possibly *A. sanguinea* (Pursh.) DC. Berries up to 14 mm diam., obovate to nearly spherical, blue-black with bloom; typically seven to 11 per cluster, cluster loose, ripens slowly, berries held firmly; flavor good but mild, somewhat apple-like, quite sweet; pH 4.0; seeds relatively large. Shrub multistemmed, to 2 m high; initially upright to upright-spreading and 2-m spread at maturity; moderate suckering near crown. Hardy to zone 3, marginal in 2. Susceptible to powdery mildew. In one study, it made the best fruit leather of nine cultivars.

Thiessen.— Orig. west of Hepburn, Saskatchewan (52°N), near the North Saskatchewan River. Wild plant discovered in 1906 by Maria Loewen and transplanted to her parent's farm near Debenham. Years later she married I. Thiessen, and it was removed to their farm near Langham. Obtained from this farm and introduced by G. Krahn (Lakeshore Tree Farms, Saskatoon), 1976. Flowers a few days earlier than other cultivars. Berries up to 17 mm diam., nearly spherical, blue-black with slight bloom; typically six to 12 per cluster, cluster fairly loose, uneven ripening; excellent mild flavor, fresh and juicy. Shrub multistemmed, to 5 m high, initially upright, but tends to sprawl from an early age, eventually becoming a large bush with up to 6-m spread at maturity; moderate to good suckering near crown, crown expands indefinitely, crown long-lived, 70+ years. Hardy to zone 2. Moderately resistant to powdery mildew. It has the largest fruit of any cultivar so far. In the central Canadian prairies, it is as productive as or more so than Smoky, but does not flourish in the northern prairies. It is also the most uneven ripening, i.e., it has the longest harvesting period. It is much favored for U-pick orchards and disfavored for machine harvesting. It had the second largest commercial hectareage in Canada in 1993.

STRAWBERRIES

Hugh Daubeney

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Anaheim.— Orig. at Univ. of California, South Coast Research and Extension Center, near Irvine, by V. Voth and R.S. Bringham. Irvine × Cal 85.92-602; cross made in 1988; selected in 1989; tested as Cal 88.66-610; introd. in 1992. U.S. plant patent pending. Compared to Chandler, fruit slightly smaller; firmer; external color lighter, more orange, and less glossy; internal color lighter; less aromatic. Achenes yellow to light red and slightly extruded; very good flavor; fresh-market, processing, and home-garden uses. Plant: short-day type producing fruit over an extended period in arid, subtropical climates; production pattern similar to Chandler, except Anaheim is somewhat later in cool Mediterranean climates, such as central California, and yield is slightly less. More vigorous and more erect habit than Chan-

dlar; moderately resistant to common leaf spot and powdery mildew; equal or greater tolerance to two-spotted spider mite than Chandler; tolerant to viruses occurring in California.

Annapolis.— Orig. in Kentville, Nova Scotia, by D.L. Craig, A.R. Jamieson, K.A. Sanford, and N.L. Nickerson, Agriculture Canada Research Station. K74-5 (Micmac × Raritan) × Earliglow; cross made in 1977; selected by D.L. Craig in 1978; tested as K78-6; introd. in 1984. Fruit: large primaries, medium-size secondaries; medium firm; light to medium-red external and internal color; primaries conic, secondaries globose to globose-conic; primaries have reflexed calyx, secondaries and later have repressed calyx; calyx moderately difficult to remove; early flowering and ripening; fresh-market use. Plant: vigorous; abundant but not excessive runners; small crowns; medium-length scapes. Susceptible to powdery mildew; moderately resistant to verticillium wilt; highly resistant to races A-4, A-6, and A-7 of the red stele causal organism, *Phytophthora fragariae*; moderate yield where red stele is not present and high yield where it is; winter hardy in Atlantic Canada.

Athena.— Orig. near Comacchio (Ferrara), Italy, by M. Leis and D. Masacchi, Consorzio Italiano Vivaisti. Cross made in 1985; plant patent 37-NV/X9; introd. in 1989. Flower: abundant pollen production. Fruit: large; firm; bright red external and red internal color; elongated conic and slightly flattened; good flavor. Ripens 2 days after Parajo; good shelf life; fresh-market use. Plant: medium vigor; upright habit; withstands sudden temperature changes; resistant to common diseases; adapted to southern Italy.

Blomidon.— Orig. in Kentville, Nova Scotia, by D.L. Craig, A.R. Jamieson, and K.A. Sanford, Agriculture Canada Research Station. K72-4 × [Micmac × (Guardman × Tioga)]; cross made in 1975; selected by D.L. Craig in 1976; tested as K76-3; introd. in 1984. Fruit: large to very large primaries and medium-size secondaries; firm; glossy medium- to deep red external color except white under calyx; medium-red internal color with white fibro-vascular bundles; globose conic to short wedge shape; calyx moderately difficult to remove; tart flavor. Ripens mid- to late season; fresh-market use. Plant: moderate to high yielding; vigorous; abundant but not excessive runners; medium-length scapes; moderately resistant to susceptible to powdery mildew and to verticillium wilt; moderately resistant to botrytis fruit rot and to A-6, the most common race of the red stele causal organism, *Phytophthora fragariae*, in Atlantic Canada; susceptible to June yellows.

Bountiful.— Orig. in Corvallis, Ore., by F.J. Lawrence, M.M. Stahler, P.P. Moore, L.W. Martin, G.W. Varseveld, and W.A. Sheets. Linn × Totem; selected in 1972; tested as ORUS 4688; introd. in 1993 jointly by U.S. Dept. of Agriculture-Agricultural Research Service, Oregon State Univ., and Washington State Univ. Fruit: same size or slightly smaller than Totem; firm; conic; uniform bright red external and internal color; nonreflexed calyx easy to remove; late season with concentrated ripening; higher susceptibility to preharvest botrytis fruit rot than Totem; processing use. Plant: high yielding; vigorous; abundant runners; low spreading habit; some flowers exposed above leaf canopy. Probably as tolerant as Totem to the aphid-borne virus complex in the Pacific Northwest; relatively resistant to powdery mildew; more susceptible than Totem to a composite of races of the red stele causal organism.

Calypso.— Orig. in East Malling, England, by D. Simpson, Horticulture Research International. Rapella × Selva; selected in 1986; tested as EMR 28; introd. in 1992. Fruit: firm; primaries can be irregular; good flavor; quality better than standard Rapella; day-neutral with similar season as Rapella; fresh-market use. Plant: smaller than Rapella; abundant runners; moderately resistant to verticillium wilt; susceptible to powdery mildew, but symptoms largely confined to leaves, seldom found on fruit; susceptible to two-spotted spider mite.

Camarosa.— Orig. at Univ. of California, South Coast Research and Extension Center, near Irvine, by V. Voth and R.S. Bringhurst. Douglas × Cal 85.218-605; cross made in 1988; selected in 1989; tested as Cal 88.24-603; introd. in 1992. U.S. plant patent pending. Fruit: larger and firmer than Chandler; very flat conic; external color similar to Chandler, glossy; internal color darker than Chandler; achenes light to dark red, even with surface or slightly indented; very

good flavor, less aromatic than Chandler; fresh-market, processing, and home-garden uses. Plant: short-day type. producing fruit over an extended period in arid, subtropical climates; production pattern similar to Chandler, but produces more early season fruit; high yielding; more vigorous than Chandler. Moderately susceptible to common leaf spot; relatively resistant to powdery mildew; equal or greater tolerance to two-spotted mite than Chandler; tolerant to viruses occurring in California.

Capitola.— Orig. at Univ. of California. Wolfskill Experimental Orchards, near Davis, by R.S. Bringhurst and V. Voth. Cal 75.121-101 × Parker; cross made in 1983; selected in 1984; tested as Cal 83.93-6 and later as CN 93; introd. in 1991. U.S. plant patent 7615, 6 Aug. 1991. Fruit: as large or larger than Selva but less firm; external and internal color similar to Chandler; symmetrical medium conic; achenes bright yellow to slightly red; pleasant subacid flavor as good as or better than Selva; fresh-market and processing uses. Plant: more strongly day-neutral than Selva but not as strongly as Hecker; both mother and daughter plants tend to flower and fruit; vigorous; runner production equal or better than Selva; scape more erect than Selva. Quite susceptible to common leaf spot; moderately susceptible to two-spotted spider mite; very tolerant to viruses occurring in California, including mild yellow edge.

Carlsbad.— Grig. at Univ. of California, South Coast Research and Extension Center, near Irvine, by V. Voth and R.S. Bringhurst. Irvine × Cal x5.218-605; cross made in 1988; selected in 1989; tested as Cal 88.70-613; introd. in 1992. U.S. plant patent pending. Fruit: large; firmer than Chandler; very flat conic primary, blocky conic secondary; less glossy, with lighter external and internal color than Chandler; achenes yellow to dark red and even to or slightly extruded from the fruit surface. Very good flavor, somewhat less aromatic than Chandler; fresh-market, processing, and home-garden uses. Plant: short day, produces fruit over an extended period for arid, subtropical climates; production pattern similar to Chandler but produces greater quantities of early season fruit: more vigorous than Chandler. Moderately resistant to common leaf spot and powdery mildew; equal or greater tolerance to two-spotted mite than Chandler; tolerant to viruses occurring in California.

Chambly.— Orig. in L' Acadie, Que., by S. Khanizadeh, D. Buszard, M. Lareau, and D. Bagnara, Agriculture Canada, Research Station, St-Jean-sur-Richelieu, and Dept. of Plant Science, Macdonald College, Ste.-Anne-de-Bellevue, Que. Sparkle × Honeoye; cross made in 1982; selected in 1984; tested as SJ84187-3; introd. in 1990. Fruit: medium size; firm; conic shape with white, raised neck; glossy, deep red external and solid red internal color; reflexed calyx relatively difficult to remove; flavor similar to Bounty and Sparkle; fresh-market and processing uses. Plant: high yielding; low vigor with sparse appearance; scapes long and thick, erect during flowering, semi-erect as fruit matures. Probably resistant to powdery mildew, leaf scorch, and leaf blight; resistant to some races of the red stele causal organism; high level of winter hardiness; partially tolerant to herbicide terbacil.

Glare.— Orig. in Ames, Iowa, by E.L. Denison, Iowa State Univ. Iowa 3-7165 (Spotlight × Sunrise) × Iowa 3145 (Surecrop × Sunrise); cross made in 1977; tested as Iowa 7-75065; introd. in 1989. Fruit: large; firm; concentrated midseason ripening; calyx slightly reflexed. Plant: vigorous; fairly numerous runners; petioles sturdy, medium thick; crown solid with seven to nine fruit buds each.

Cornwallis.— Orig. in Kentville, Nova Scotia, by D.L. Craig, A.R. Jamieson, K.A. Sanford, and N.L. Nickerson. Agriculture Canada Research Station. Earliglow × Kent; cross made in 1977; selected by D.L. Craig in 1978; tested as K78-6; introd. in 1984. Fruit: medium size; medium firm; uniform; deep red external and internal color; short conic; calyx slightly reflexed, easy to medium-difficult to remove; good flavor; fresh-market and processing use. Plant: vigorous; abundant but not excessive runners: long scape becomes prostrate as fruit matures. Moderately resistant to powdery mildew and to verticillium wilt; highly resistant to races A-4, A-6, and A-7 of the red stele causal organism, *Phytophthora fragariae*; moderate yield where red stele is not present and high yield where it is present; hardy in Atlantic Canada.

Crimson King.— Orig. by Marion Hagerstrom, Monticello, Minn. Unknown origin with Fairfax in derivation; introd. in 1984. U.S. plant patent 4413. assigned to Stark Bros., Louisiana, Mo. Fruit: large; soft

to medium firm; oval; glossy red external color and uniform red internal color; semi-sweet flavor; early ripening; home-garden and pick-your-own uses. Plant: very vigorous; very winter hardy; relatively susceptible to leaf spot and leaf scorch.

Cuesta.— Orig. at Univ. of California, Wolfskill Experimental Orchards, near Davis, by R.S. Bringhurst and V. Voth. Seascape × Cal 83.252 (Fern × Parker); cross made in 1987; selected in 1988; tested as Cal 87.109-3; introd. in 1992. U.S. plant patent pending. Fruit: larger than Chandler; firmness similar to Chandler; long conic; compared to Chandler, external color slightly darker and less glossy and internal color darker; achenes light to dark red, even with surface or slightly indented. Very good flavor, slightly less aromatic than Chandler; fresh-market, processing, and home-garden uses. Plant: short-day type producing fruit over an extended period in arid, subtropical climates; production pattern similar to Chandler, except it produces larger and more late-season fruit; higher yield than Chandler; more erect and open habit than Chandler. Moderately susceptible to common leaf spot and powdery mildew; tolerant to two-spotted spider mite; tolerant to viruses occurring in California.

Donna.— Orig. at the Turner & Growers Mangere Research Station near Auckland, New Zealand, by I.K. Lewis and M.W. Hall. Fern seedling × Douglas; cross made in 1984; selected in 1985; tested as 84-1-38 and later as T-30; introd. in 1993. Flower: self-fertile, with ample pollen production throughout the season and, consequently, little chance of malformed fruit. Fruit: size similar to Tioga but varies as the season advances; very firm; glossy; external color slightly darker than Tioga, internal color similar with lighter ring around the core; medium cordate; solid to slightly hollow; achenes bright yellow, position slightly raised above surface; good flavor; late and off-season production for fresh-market use. Plant: strongly day-neutral, similar to Hecker and Brighton; low chilling requirement; thick peduncles remain semi-erect until fruit ripens; runner production less than Selva.

Enzed Levin (Orion).— Orig. at the Turner & Growers Mangere Research Station near Auckland, New Zealand, by I.K. Lewis and M.W. Hall. 84-1-38 × 84-8-443 (these selections involve Hecker, Parajo, Fern, and Douglas in their derivations); cross made in 1986; selected in 1987; tested as 86-19-25 and later as T-42; introd. in 1993. Flower: self-fertile; usually ample pollen production, except in early part of season or after prolonged low light intensity conditions—therefore, possibility of some malformed fruit. Fruit: large; firm; glossy; external and internal color lighter than Tioga, with lighter ring in the core region; long, smooth conic with primaries frequently wedged; some hollow centers; achenes bright yellow, at surface or slightly indented; early season; very good flavor; good shelf life; fresh-market use. Plant: short-day type; peduncles semi-erect until fruit ripens; very good runner production.

Evita.— Orig. in Faversham, Kent, England, by Peter Vinson, Commercial Fruit Plants, Brooker Farm, New Church, Romney Marsh, Kent. Chandler × (Gorella × Brighton); cross made in 1988; selected in 1989 by Peter Vinson and Simon Warren; tested as 89-A24; introd. in 1993; owned by Commercial Fruit Plants. Fruit: large to medium size; conic to wedge shape; firm; glossy; medium-red external and uniform red internal color; achenes level with surface; large, reflexed calyx; flavor good with slight acidity. Day-neutral with ripening season from July to October in southeastern England; fresh-market use. Plant: high yielding; open habit; few runners produced; flowers above canopy and fruit well displayed; some resistance to powdery mildew.

Gerida.— Orig. in Neukirch, Switzerland, by G. Spiegler, Haberli AG, a private nursery. Elsanta × Elvira; cross made in 1983; introd. in 1990; registered for Plant Variety Rights in most European countries. Fruit: large to medium; firm; conic, very regular shape; glossy, bright red. Excellent flavor; extended shelf life; relatively late ripening season; easy to harvest; fresh-market use. Plant: high yielding; vigorous, open habit, less erect than Elsanta; inflorescence beneath the leaf canopy. Some resistance to powdery mildew; high resistance to crown rot; can be grown on heavier soils.

Governor Simcoe.— Orig. in Vineland Station, Ontario, by C.L. Ricketson. Holiday × Guardian; cross made in 1972; selected in 1974; tested as V7236R-3; introd. in 1985 by A. Dale, Hort. Res. Inst. of Ontario. Fruit: large; firm; bright, medium-red exterior and pale

interior color; moderately sweet and aromatic flavor. Ripens mid- to late season; good shelf life; fresh-market use. Plant: high yielding; vigorous; abundant runners but not excessive; grows best on warm, sandy soil. Moderately susceptible to verticillium wilt and leaf scorch; susceptible to powdery mildew.

Hera.— Orig. near Comacchio (Ferrara), Italy, by M. Leis and D. Musacchi, Consorzio Italiano Vivaisti. Cross made in 1984; introd. in 1989. Italian plant patent 37-NV/89. Flower: abundant pollen production. Fruit: large; firm; bright red external and internal color; regular, conic; good flavor. Ripening season 4 days before Parajo; excellent shelf life; adapted to shipping. Plant: medium vigor with upright growth habit; scape upright with fruit above leaf canopy; adapted to southern Italy.

Irvine.— Orig. at Univ. of California, South Coast Research and Extension Center, near Irvine, by V. Voth and R.S. Bringhurst. Douglas × Muir; cross made in 1982; selected in 1983; tested as Cal 82.14-603 and later as CN14; introd. in 1988. U.S. plant patent 7172, 2 Feb. 1990. Fruit: size usually less than Selva, variable; very firm; medium conic but can be flat or wedge-shaped and may have hollow center; bright red, lighter than Selva; flavor usually better than Selva; fresh-market use. Plant: more strongly day-neutral than Selva; lower chilling requirement than Selva; much more erect growth habit than Selva. Probably susceptible to verticillium wilt. Moderately susceptible to common leaf spot; quite susceptible to anthracnose and to two-spotted spider mite; tolerant to viruses occurring in California.

Laguna.— Orig. at Univ. of California, South Coast Research and Extension Center, near Irvine, by V. Voth and R.S. Bringhurst. Irvine × Cal 85.92-602; cross made in 1988; selected in 1989; tested as Cal 88.66-616; introd. in 1992. U.S. plant patent pending. Fruit: size similar to Chandler; firmer than Chandler; symmetrical, conic; compared to Chandler, external color lighter, more orange, and less glossy, and internal color lighter; achenes yellow to light red and slightly indented; very good flavor, slightly less aromatic than Chandler; fresh-market, processing, and home-garden uses. Plant: short-day type producing fruit over an extended period in arid, subtropical climates; production pattern similar to Chandler, but production persists later in season in cool Mediterranean climates; adapted to central California, as well as southern California; plant larger, more erect and vigorous than Chandler. Moderately resistant to common leaf spot and powdery mildew; equal or greater tolerance to two-spotted spider mite than Chandler; tolerant to viruses occurring in California.

Lincoln.— Orig. at the Turners & Growers Mangere Research Station near Auckland, New Zealand, by I.K. Lewis and M.W. Hall. Donna × 85.24-1 (derived from Cruz, Parajo, Douglas, and Holiday); cross made in 1987; selected in 1988; tested as 87-2-129 and later as T-69; introd. in 1993. Flower: self-fertile, with ample pollen throughout season and, consequently, little chance of malformed fruit. Fruit: large; as firm as Chandler; glossy; external and internal color slightly darker than Parajo; bright yellow achenes at surface or slightly indented; conic; solid, seldom hollow. Midseason ripening; excellent flavor; fresh-market and processing uses. Plant: weak day-neutral with lower chilling requirement than Selva; yields comparable to Chandler; semi-erect habit; peduncles remain semi-erect until fruit ripens; runner production comparable to Selva.

Marmolada.— Orig. near Comacchio (Ferrara), Italy, by M. Leis and D. Musacchi, Consorzio Italiano Vivaisti. Cross made in 1985; Gorella × Salvi 15 or selection no. 8 (possibly the Driscoll variety, Heidi); introd. in 1989. Italian plant patent 36-NV/89. Fruit: large; very firm; attractive; bright red external and internal color; uniform trunk conic shape; midseason ripening with long harvest period; sweet flavor. Moderately resistant to rhizoctonia and anthracnose rots; tolerant to botrytis rot; excellent shelf life; fresh-market use. Plant: very high yielding; compact; abundant runners; erect scape; tolerant to angular leaf spot and verticillium wilt; adapted to northern Italy.

Melody.— Orig. in Invergowrie, Scotland, by R.J. McNicol, Scottish Horticultural Research Institute. SCRI 66M1 (highly red-stee-resistant third generation derivative of *Fragaria virginia*) × Senga Sengana; cross made by H.J. Gooding at Auchincruive in 1971; tested as SCRI71WC64; introd. in 1992; entered for Plant Breeders' Rights. Fruit: small to medium size; firm; easy calyx removal; good external and internal color; ripens midseason; processing use. Plant: yield same

or slightly better than Cambridge Favourite; runners well. Highly field resistant to red stele; moderately resistant to verticillium wilt in laboratory tests.

Mrak.— Orig. at Univ. of California, Wolfskill Experimental Orchards, near Davis, by R.S. Bringhurst and V. Voth. Cal 69.141-101 × Aiko; cross made in 1975; selected in 1976; tested as Cal 75.34-105 and later as CN 27; introd. in 1987. U.S. plant patent 6579, 31 Jan. 1989. Fruit: compared to Fern, smaller and less intense red, with similar firmness; glossy; symmetrical, medium to long conic; slightly hollow center; flavor not quite as good as Fern; fresh-market use. Plant: strongly day-neutral with relatively high chilling requirement; low-growing and smaller than Fern; runner production good; yield comparable to Fern. Susceptible to powdery mildew and common leaf spot; resistant to verticillium wilt; less susceptible to two-spotted spider mite than Fern; tolerant to viruses occurring in California.

Muir.— Orig. at Univ. of California, Wolfskill Experimental Orchards, near Davis, by R.S. Bringhurst and V. Voth. Cal 70.3-117×Cal 71.98-605; cross made in 1975; selected in 1976; tested as Cal 75.7-105 and later as CN 17; introd. in 1987. U.S. plant patent 6558. Fruit: almost as large as Selva but less firm; bright red exterior; medium to long conic, slightly bulbous, somewhat flat to wedge shape; center may be hollow; flavor as good as or better than Selva; more seedy than Selva; fresh-market use. Plant: more strongly day-neutral than Selva; higher chilling requirement than short-day types; more erect habit than Selva; very good runner production; productivity similar to Selva. Moderately susceptible to common leaf spot; highly susceptible to verticillium wilt; less susceptible to two-spotted spider mite than Selva; tolerant to viruses occurring in California.

Oka.— Orig. in L' Acadie, Que., by S. Khanizadeh, M. Lareau, D. Buszard, and D. Bagnara, Agriculture Canada Research Station, St-Jeanne-sur-Richelieu, Que., and Dept. of Plant Science, Macdonald College, Ste.-Anne-de-Bellevue, Que. K75-13 (K71-8 × Micmac) × Honeoye; cross made in 1982; selected in 1983; tested as SJ83184-3; introd. in 1992; plant patent pending. Fruit: large; wedge shape; moderately firm; moderately glossy; medium-red external and light-red internal color. Flavor similar to Chambly; midseason ripening; fresh-market use. Plant: high yielding; low vigor with many runners; peduncles erect during flowering, semi-erect as fruit matures. Probably resistant to powdery mildew and leaf scorch; some susceptibility to leaf spot; resistant to some races of the red stele causal organism; high level of winter hardiness; partially tolerant to herbicide terbacil.

Orion.— See Enzed Levin.

Oso Grande.— Orig. at Univ. of California, Wolf&ill Experimental Orchards, near Davis, by R.S. Bringhurst and V. Voth. Parker × Cal 77.3-603; cross made in 1981; selected in 1982; tested as Cal 81.43-605; introd. in 1987; U.S. plant patent 6578, 31 Jan. 1989. Fruit: very large; firmer than Chandler but not as firm as Parker; bright red exterior and lighter interior than Chandler; blocky to wedge shape, medium conic; center may be hollow; very good, mildly subacid flavor; fresh-market and processing uses. Plant: short-day type producing fruit over an extended period in arid, subtropical climates; production pattern similar to Chandler; yield as much or more than Chandler; very good runner production. Susceptible to common leaf spot; susceptibility to two-spotted mite similar to Chandler; tolerant to viruses occurring in California.

Pandora.— Orig. in East Malling, England, by D. Simpson at Horticulture Research International. (Von Humboldt × Redstar) × Met-ton Dawn; cross made in 1979; introd. in 1989. Flower: pistillate; requires pollinizer; midseason- and late-flowering varieties must be used; no more than four to six rows of Pandora should be planted to one row of pollinizer variety. Fruit: large; relatively firm; regular conic shape; attractive, glossy, orange-red external color; pleasant flavor with succulent, juicy texture. Fresh-market use; in southeastern England, Pandora has unique late fruiting season providing a good fresh-market overlap with day-neutral and everbearing varieties. Moderately resistant to preharvest botrytis rot. Plant: high yielding; very vigorous; moderately resistant to verticillium wilt; highly resistant to powdery mildew; susceptible to leaf spot.

Pegasus.— Orig. in East Malling, England, by D. Simpson at Horticulture Research International. Redgauntlet × Gorella; tested as ES 608; introd. in 1990. Fruit: large; regular conic; softer than Elsanta;

glossy; midseason ripening; can become dark; fresh-market use. Plant: yield similar to Elsanta; moderately resistant to verticillium wilt.

Providence.— Orig. in Long Ashton, England, by D. Wilson. Introd in 1984; Gorella × ES 318 (Cambridge Favourite × NY 844). Fruit: medium size; firm; bright red exterior and mid-red interior; conic; calyx very easily removed; flavor superior to Cambridge Favourite; ripens midseason; excellent shelf life, about twice that of Cambridge Favourite; fresh-market use; excellent jam product. Plant: vigorous; erect growth habit; fruit moderately well displayed on medium-length scapes.

Redcrest.— Orig. in Corvallis, Ore., by F.J. Lawrence; released jointly by U.S. Dept. of Agriculture-Agricultural Research Service, Oregon State Univ., and Washington State Univ. Linn × Totem; selected in 1976; tested as ORUS 4930; introd. in 1990. Fruit: slightly smaller than Totem; very firm but not tough; uniform conic; bright, uniform red external and internal color; calyx easy to remove; late, concentrated ripening season; acidic flavor; processing use. Plant: relatively high yielding; fairly vigorous. Moderately susceptible to powdery mildew and leaf blight; intermediate level of field resistance to red stele; less tolerant than Totem and Benton and more tolerant than Hood to the aphid-borne virus complex in the Pacific Northwest.

Redgem.— Orig. in Corvallis, Ore., by F.J. Lawrence, M.M. Stahler, P.P. Moore, L.W. Martin, G.W. Varseveld, and W.A. Sheets; released jointly by U.S. Dept. of Agriculture-Agricultural Research Service, Oregon State Univ., and Washington State Univ. Benton × ORUS 3596 (Earlibelle × ORUS 2853); selected in 1972; tested as ORUS 4459; introd. in 1993. Fruit: smaller and less firm than Totem; uniform, blunt conic; bright, uniform red external and light-red internal color; calyx nonreflexed and easy to remove; mid-late ripening season; slightly more susceptible to preharvest botrytis rot than Totem; good flavor; local fresh-market and processing, especially individual quick-frozen, uses; suited to machine harvesting. Plant: yield similar to Totem or slightly less; vigorous; abundant runners; peduncle moderately erect; flowers remain in canopy. Moderately susceptible to powdery mildew; resistance to red stele similar to Totem; some tolerance to the aphid-borne virus complex in the Pacific Northwest.

Rhapsody.— Orig. in Invergowrie, Scotland, by R.J. McNicol, Scottish Crop Research Institute. SCRI 61G51 (derived from Talisman and Cambridge Vigour) × Cambridge Favourite; cross made in 1969 by H.J. Gooding, Auchincruive, Scotland; tested as SCRI 69EW30; introd. in 1987; entered for Plant Breeders' Rights. Fruit: large to medium size; conic; glossy red external color with tendency for tip to remain white, and red internal color; calyx removal moderately difficult; late midseason ripening; fresh-market use. Plant: consistently higher yielding than Cambridge Favourite; medium to strong vigor; erect growth; pale-green crinkled foliage with interveinal lighter green areas; moderate runner production. Field-resistant to red stele; moderately resistant to verticillium wilt.

Scotland.— Orig. in Vineland Station, Ontario, by CL. Ricketson. Guardian × V6747R-6 (Veestar × NY 844); cross made in 1972; selected in 1974; tested as V7251-1; introd. in 1991 by A. Dale, Hort. Res. Inst. of Ontario. Fruit: large; very firm; bright, medium-pale external and pale internal color; flavor moderately acidic; ripens as late as Bounty; can be decapped more effectively than Midway on CML decapper; can be machine-harvested; processing use. Plant: moderately productive; vigorous; adequate runner production; resistant to leaf scorch.

Seascape.— Orig. at Univ. of California, Wolfskill Experimental Orchards, near Davis, by R.S. Bringhurst and V. Voth. Cross made in 1983; selected in 1984; tested as Cal 83.49-1 and later as advanced selection CN 49; introd in 1991. U.S. plant patent 7614,6 Aug. 1991. Fruit: usually as large or larger than Selva and almost as firm; medium to occasionally long conic; bright red external and internal color; achenes bright yellow to slightly reddish, and flush to slightly exerted from surface; good flavor, superior to Selva; fresh-market, processing, and home-garden uses. Plant: compared to Selva, somewhat less strongly day-neutral; less productive; slightly lower chilling requirement; equal or better runner production; similarly erect habit. Moderately susceptible to common leaf spot; somewhat susceptible to two-spotted spider mite; tolerant to viruses occurring in California.

Secord.— Orig. in Vineland Station, Ontario, by C.L. Ricketson.

Guardian × Holiday; cross made in 1972; selected in 1974; tested as V7236-3; introd. in 1985 by A. Dale, Hort. Res. Inst. of Ontario. Fruit: large; firm; bright, medium-red external and relatively pale internal color; flavor moderately sweet, aromatic; ripens midseason; fresh-market use. Plant: high yielding; moderately vigorous; moderate runner production; resistant to verticillium wilt.

Selkirk.— Orig. in Vineland Station, Ontario, by C.L. Ricketson. Earlible × Holiday; cross made in 1972; selected in 1974; tested as V7210-5; introd. in 1991 by A. Dale, Hon. Res. Inst. of Ontario. Fruit: moderately large to large; very firm; very bright, medium-red external and moderately pale internal color; flavor moderately sweet; ripens early to midseason; processing use, especially as frozen product. Plant: moderate yield; vigorous; adequate runner production. Moderately resistant to leaf spot; susceptible to leaf scorch and verticillium wilt; very susceptible to powdery mildew.

Seneca.— Orig. in Geneva, N.Y., by K. Maloney, D.K. Ourecky, J.D. Reich, and J.C. Sanford, New York State Agr. Expt. Sta. NY 1261 (Redcoat × NY 844) × Holiday; cross made in 1974; selected in 1976; tested as NY 1529; introd. in 1992. Plant patent applied for; assigned to Cornell Research Foundation. Fruit: large; blunt primaries and globose secondaries; very firm; medium-red external and light-red translucent internal color; pleasant aromatic flavor; late midseason ripening; fresh market and processing for jam and freezing. Plant: high yield; good vigor; abundant runners; susceptible to red stele, black root rot, and verticillium wilt; winter hardy in northeastern United States.

Settler.— Orig. in Vineland Station, Ontario, by C.L. Ricketson. Guardian × Holiday; cross made in 1972; selected in 1974; tested as V7236-3; introd. in 1986 by A. Dale, Hort. Res. Inst. of Ontario. Fruit: large; flesh firm but skin weak; bright, medium-red external and pale internal color; flavor moderately sweet and aromatic; early to midseason ripening; local fresh-market use. Plant: high yielding; good vigor. Moderately resistant to verticillium wilt and leaf scorch; susceptible to powdery mildew; more widely adapted than Governor Simcoe.

Shuswap.— Orig. in Vancouver, B.C., by H.A. Daubeny, P.P. Moore, T.M. Sjulín, F.J. Lawrence, and B.H. Barritt, Agriculture Canada Research Station. Holiday × WSU 1651 [Olympus × OR-US 3965 (Earlibelle × Hood)]; cross made in 1976 by B.H. Barritt; selected in 1977 by H.A. Daubeny; tested as BC 76-7-20; introd. in 1991. Fruit: large; firm; globose conic; glossy; well-maintained, light-red external and light- to pale-red internal color; smooth surface with distinctive white area around reflexed calyx; yellow achenes at surface or slightly sunken; calyx relatively difficult to remove; mild, subacid flavor, sweeter under higher temperatures and light intensities; midseason ripening; some resistance to both pre- and postharvest botrytis rots; has prolonged shelf life for fresh-market use. Plant: high yielding; vigorous; abundant runners; flowers at or below the leaf canopy with erect to semi-erect peduncles; winter hardiness level similar to Totem and less than Sumas. Relatively tolerant to aphid-borne virus complex in the Pacific Northwest; slightly susceptible to leaf spot and powdery mildew; some tolerance to two-spotted spider mite; appears susceptible to most races of the red stele causal organism.

St. Williams.— Orig. in Vineland Station, Ontario, by C.L. Ricketson. Guardsman × V6747R-6 (Veestar × NY 844); cross made in 1972; selected in 1974; tested as V7261-3; introd. in 1991 by A. Dale, Hort. Res. Inst. of Ontario. Fruit: moderately large; very firm flesh and firm skin; bright, medium-red external and red internal color; flavor moderately sweet; ripens mid- to late season; processing use, particularly as frozen product. Plant: high yielding; vigorous; adequate runners. Resistant to leaf scorch, leaf spot, and powdery mildew; moderately resistant to verticillium wilt.

Sunset.— Orig. at the Univ. of California, Wolfskill Experimental Orchards, near Davis, by R.S. Bringhurst and V. Voth. Cal 75.121-101 × Cal 81.16-604 (Cal 71.98-605 × Chandler); cross made in 1985; selected in 1986; tested as 85.22-1; introd. in 1992. U.S. plant patent pending. Fruit: larger but less firm than Selva; flat conic to heart-shaped; both external and internal color similar to Selva but more glossy; achenes vary from yellow to light red, slightly indented; flavor substantially better than Selva; fresh-market, processing, and home-garden use. Plant: moderate to weak day-neutral, somewhat comparable to Selva; production pattern is slightly later than Selva; often higher yielding than Selva; more vigorous and erect than Selva.

Moderately susceptible to common leaf spot; highly susceptible to powdery mildew; less susceptible to two-spotted spider mite than Selva; tolerant to viruses occurring in California.

Tango.— Orig. in East Malling, England, by D. Simpson, Horticulture Research International. Rapella × Selva; selected in 1986; introd. in 1993. Fruit: firmer than Rapella; shape and appearance good; flavor acidic; fresh-market use. Plant: high yielding; strongly day-neutral with heaviest production in late July and first half of August in southeastern England; very few runners. Resistant to verticillium wilt and some races of the red stele causal organism; susceptible to powdery mildew and two-spotted spider mite.

Yolo.— Orig. at Univ. of California, Wolfskill Experimental Orchards, near Davis, by R.S. Bringhurst and V. Voth. Cal 69.141-101 × Cal 71.98-605; cross made in 1975; selected in 1976; tested as Cal 75.54-115 and later as CN 75; introd. in 1987. Fruit: size comparable to Fern and smaller than Selva; less firm than Selva and firmer than Fern; less red and more orange than Fern, glossy; symmetrical, medium to short conic with occasional wedge; centers may be somewhat hollow; good flavor, comparable or superior to Fern; fresh-market use. Plant: strongly day-neutral with high chilling requirement; compact habit; yield similar to Fern. Relatively resistant to powdery mildew; resistant to verticillium wilt; moderately susceptible to common leaf spot; relatively susceptible to two-spotted spider mite; tolerant to viruses occurring in California.

WALNUT

Gale McGranahan

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Tulare.— Orig. at Davis, Calif., by H.I. Forde, G.H. McGranahan, R.G. Snyder, G.S. Sibbett, W. Reil, J. Hasey, and D.E. Ramos. Tehama × Serr; cross made in 1966; introd. in 1992 for use in hedgerow or high-density plantings. Upright growth habit; moderate vigor; good male/female bloom overlap. Precocious and productive; almost all terminals and 75% of lateral shoots are fruitful. Nuts: midseason maturity, similar to Hartley; almost round; 13.3 g/nut, 53.3% kernel, 75% light kernels.

PATENTED VARIETIES

3308	Runkel apple	20 Feb. 1973
4107	Royal Giant nectarine	20 Sept. 1977
4116	Livingston almond	27 Sept. 1977
4170	Early Loring peach	27 Dec. 1977
4171	Earli Rio peach	27 Dec. 1977
4295	Golden Lady peach	29 Aug. 1978
4314	Sparkling Red nectarine	10 Oct. 1978
4398	Autumn Lady peach	20 Mar. 1979
4399	Elegant Lady peach	20 Mar. 1979
4413	Crimson King strawberry	
4639	Supreme Red nectarine	3 Feb. 1981
4661	Spring Lady peach	3 Mar. 1981
4739	Plateau almond	9 June 1981
4845	Hashem II almond	11 May 1982
4852	Monarch almond	25 May 1982
4861	Dr. Davis peach	29 June 1982
4865	Freestone peach	13 July 1982
4903	Golden Crest peach	26 Oct. 1982
4916	Clyde Wilson peach	2 Nov. 1982
5245	May Glo nectarine	12 June 1984
5287	Rose Zee plum	2 Oct. 1984
5320	Aldrich almond	6 Nov. 1984
5388	Ray Crest peach	15 Jan. 1985
5480	Flaming Red nectarine	28 May 1985
5503	Amber Crest peach	2 July 1985
5583	Wood Colony almond	3 Dec. 1985

5586	Star Brite nectarine	3 Dec. 1985	7396	TRECO Red Gala No. 42 apple	18 Dec. 1990
5587	Mike's Grand nectarine	3 Dec. 1985	7402	Earliglo nectarine	25 Dec. 1990
5663	July Red nectarine	18 Feb. 1986	7420	Flavor Queen plumcot	15 Jan. 1991
5664	September Red nectarine	18 Feb. 1986	7432	Rich May peach	29 Jan. 1991
5665	Scarlet Red nectarine	18 Feb. 1986	7474	Golden Globe plum	19 Mar. 1991
5666	Kism Grand nectarine	18 Feb. 1986	7475	Zee Grand nectarine	19 Mar. 1991
5680	Mars grape (List 35)	4 Mar. 1986	7497	Cruz almond	16 Apr. 1991
5912	Ranch 9-Golden plum	24 Mar. 1987	7505	Late Red Jim II nectarine	23 Apr. 1991
6024	Red Delight nectarine	29 Sept. 1987	7506	Summer Fire nectarine	23 Apr. 1991
6078	June Brite nectarine	5 Jan. 1988	7507	Spring Bright nectarine	23 Apr. 1991
6119	Last Chance Number One peach	1 Mar. 1988	7526	Hillwell apple (List 35)	21 May 1991
6122	Delmass peach	8 Mar. 1988	7527	Carlson nectarine	21 May 1991
6148	Daliguy Jonagold apple (List 35)	1988	7532	Sugar Lady peach (List 35)	28 May 1991
6166	VR 039- 16 grape rootstock	3 May 1988	7590	Rubinstar apple (List 35)	16 July 1991
6248	Olympia nectarine	16 Aug. 1988	7591	Sugar Pop grape (List 35)	16 July 1991
6267	Salem peach	30 Aug. 1988	7592	Black Beauty grape (List 35)	16 July 1991
6347	Tra-zee peach	25 Oct. 1988	7614	Seascape strawberry	6 Aug. 1991
6387	Starcrest peach	8 Nov. 1988	7615	Capitola strawberry	6 Aug. 1991
6408	Zee Glo nectarine	22 Nov. 1988	7625	Graton Gold raspberry	20 Aug. 1991
6452	Elliot pear	6 Dec. 1988	7707	Pam grape (List 35)	12 Nov. 1991
6471	Diamond Jim nectarine	20 Dec. 1988	7751	Eva's Pride peach	17 Dec. 1991
6488	P-R Red peach	27 Dec. 1988	7765	Red Nugget plum	14 Jan. 1992
6493	Joe Mello raspberry		7775	May Pride peach	28 Jan. 1992
6541	Summer Lion Three nectarine	17 Jan. 1989	7820	Royal Empire apple (List 35)	10 Mar. 1992
6542	May Lion nectarine	17 Jan. 1989	7821	Red Fred nectarine	10 Mar. 1992
6543	Summer Lion nectarine	17 Jan. 1989	7827	October Sun plum (List 35)	Mar. 1992
6544	Summer Lion Two nectarine	17 Jan. 1989	7828	Red Glo nectarine	17 Mar. 1992
6558	Muir strawberry		7829	Red Sun peach	17 Mar. 1992
6578	Oso Grande strawberry		7860	Chardonel grape	5 May 1992
6579	Mrak strawberry		7878	Spur Gold Blush apple	2 June 1992
6588	RubINETTE® apple	7 Feb. 1989	7884	Arctic Glo nectarine	16 Jan. 1992
6675	Sparkling May nectarine	14 Mar. 1989	7889	Arctic Rose nectarine	23 June 1992
6759	Flavor Queen peach	25 Apr. 1989	7890	Eastern Glo nectarine	23 June 1992
6764	Blue Giant plum	25 Apr. 1989	7891	Desert Delight nectarine	23 June 1992
6839	Scarlet Spur Delicious apple	20 Apr. 1982	7896	Black Jack plum	30 June 1992
6981	Sparkling June nectarine	15 Aug. 1989	7918	Ruby Diamond nectarine	21 July 1992
6982	Red Sunset nectarine	15 Aug. 1989	7920	Arctic Show nectarine	21 July 1992
7003	Jefferson Sun peach	29 Aug. 1989	7947	Jolly Red Giant nectarine	18 Aug. 1992
7023	Fancy Lady peach	12 Sept. 1989	7952	Sweet Gem peach	25 Aug. 1992
7034	Tomcot apricot (List 35)	19 Sept. 1989	7953	Crimson Lady peach	25 Aug. 1992
7035	Goldstrike apricot (List 35)	19 Sept. 1989	7976	May Kist nectarine	15 Sept. 1992
7045	Goldbar apricot (List 35)	10 Oct. 1989	7990	Autumn Rose peach	29 Sept. 1992
7050	Diamond Jewel nectarine	24 Oct. 1989	8013	Red Jewel nectarine	27 Oct. 1992
7068	Lodi almond	12 Dec. 1989	8021	Big Jim nectarine	3 Nov. 1992
7075	Rancho Cinco plum	19 Dec. 1989	8022	Lawrence raspberry	3 Nov. 1992
7076	Gar-red plum	19 Dec. 1989	8027	Hollins raspberry	10 Nov. 1992
7082	Rancho Ocho plum	25 Dec. 1989	8070	Summer Sweet peach	22 Dec. 1992
7118	Empress apple (List 35)	23 Jan. 1990	8071	Compact Flavorette peach	22 Dec. 1992
7146	Jonica™ apple	13 Feb. 1990	8084	May Jim nectarine	5 Jan. 1993
7169	Early Elegant Lady peach	27 Feb. 1990	8085	Snow Giant peach	5 Jan. 1993
7170	Ruby May peach	27 Feb. 1990	8094	Snow Queen nectarine	12 Jan. 1993
7172	Irvine strawberry	27 Feb. 1990	8116	Chiyodared nectarine	26 Jan. 1993
7176	Late Red Jim nectarine	6 Mar. 1990	8187	Dulcet apple (List 35)	1993
7186	Early Red Jim nectarine	13 Mar. 1990	8188	Emperor plum	30 Mar. 1993
7193	Red Glen nectarine	13 Mar. 1990	8195	Snowbrite peach	6 Apr. 1993
7194	Red Jack peach	13 Mar. 1990	8196	Western Red nectarine	6 Apr. 1993
7197	Honeycrisp apple (List 35)	20 Mar. 1990	8197	Big Juan nectarine	6 Apr. 1993
7209	Gourmet Golden™ apple	3 Apr. 1990	8211	Royal Lady peach	27 Apr. 1993
7237	Sali™ Red Delicious apple	29 May 1990	8237	Tucker's peach	25 May 1993
7248	Ito Red peach	19 June 1990	8255	Gransun nectarine	15 June 1993
7266	Pineapple grape (List 35)	10 July 1990	8281	Royal Glo nectarine	29 June 1993
7267	Supreme grape (List 35)	10 July 1990	8298	Sugratwelve	13 July 1993
7268	Janebell grape (List 35)	10 July 1990	8336	How Red nectarine	10 Aug. 1993
7290	Rich Lady peach	7 Aug. 1990	8434	Valplatinta	26 Oct. 1993
7295	African Queen grape (List 35)	14 Aug. 1990	8511	Sunbelt grape	21 Dec. 1993
7296	Fry Seedless grape	4 Apr. 1990	8543	Geneva 65 apple rootstock	18 Jan. 1994
7305	April Glo nectarine	21 Aug. 1990	Pending	Anaheim strawberry	
7314	Darlene grape (List 35)	4 Sept. 1990	Pending	Bonfire ornamental peach	
7336	Snow Diamond peach	25 Sept. 1990	Pending	Camarosa strawberry	
7337	Sprague peach	25 Sept. 1990	Pending	Carlsbad strawberry	
7364	Sunburst nectarine	23 Oct. 1990	Pending	Carousel™ apple	

Pending Castleton plum
 Pending Cuesta strawberry
 Pending Early Fry grape
 Pending Enterprise apple
 Pending Galasupreme™ apple
 Pending Goldie raspberry
 Pending GoldRush apple
 Pending Hartland cherry
 Pending Iriet avocado
 Pending Laguna strawberry
 Pending Late Fry grape
 Pending Leprechaun ornamental nectarine
 Pending Longjohn plum
 Pending Naomi mango
 Pending Polly plum
 Pending Pristiner™ apple
 Pending Royalton cherry
 Pending Seneca strawberry
 Pending Somerset cherry
 Pending Stark SunCrisp apple
 Pending Sunrise apple
 Pending Sunset strawberry

INDEX OF VARIETIES DESCRIBED
 (Synonyms in italics)

Adafuel almond rootstock
 Aldrich almond
 Altaglow saskatoon
 Amber Crest peach
 Anaheim strawberry
 Anita red raspberry
 Annapolis strawberry
 April Glo nectarine
 Arctic Glo nectarine
 Arctic Queen nectarine
 Arctic Rose nectarine
 Arctic Show nectarine
 Athena strawberry
 AU-17 chestnut (germplasm)
 AU-54-60 chestnut (germplasm)
 AU-Cropper chestnut
 AU-Homestead chestnut
 AU-Leader chestnut
 Autumn Lady peach
 Autumn Rose peach
 Ayles almond
 Balder red raspberry
 Beskid red raspberry
 Big Jim nectarine
 Big Juan nectarine
 Black Jack plum
 Blomidon strawberry
 Blue Giant plum
 Bluff saskatoon
 Bonfire ornamental peach
 Bountiful strawberry
Brabant red raspberry
 Buffalo saskatoon
 Calypso strawberry
 Camarosa strawberry
 Capitola strawberry
 Carlsbad strawberry
 Carlson nectarine
 Carolina nectarine
 Carolina Belle peach
 Carousel™ apple
 Castleton plum
Cepiland apple rootstock
 Chambly strawberry
 Charden apple

Chardonel grape
 Chiyodared nectarine
 Chojuro Asian pear
 Clare strawberry
 Clark Hill Redleaf cherry plum
 Clyde Wilson peach
 Compact Flavorette peach
 Contender peach
Co-op 30 apple
Co-op 32 apple
Co-op 38 apple
 Cornwallis strawberry
 Crimson Cascade ornamental peach
 Crimson King strawberry
 Crimson Lady peach
 Cruz almond
 Cuesta strawberry
 Delmass peach
 Delta peach
 Desert Delight nectarine
 Diamond Jewel nectarine
 Diamond Jim nectarine
 Dinkum red raspberry
 Donna strawberry
 Dr. Davis peach
Duck Pear Asian pear
 Dundee filbert
 Earliglo nectarine
 Earli Rio peach
 Early Elegant Lady peach
 Early Fry grape
 Early Loring peach
 Early Red Jim nectarine
 Early Thompson apple
 Eastern Glo nectarine
 Elegant Lady peach
 Elista apple
 Elliot pear
 Emperor plum
 Enterprise apple
 Enzed Levin strawberry
 Ernie's Choice peach
 Esperanza grape
 Eva's Pride peach
 Evita strawberry
 Fallbrook red raspberry
 Fancy Lady peach
 Ferraduel almond
 Ferragnes almond
 Fertodi zamatos red raspberry
 Flameprince peach
 Flaming Red nectarine
 Flavor Queen peach
 Flavor Queen plumcot
 Flordaguard peach rootstock
 FlordaMex peach
 FlordaMex 1 peach
 Forestburg saskatoon
 Forestgold peach
 Freestone peach
 Fry Seedless grape
 G.65 apple rootstock
 Gaia hybrid raspberry
 Gala peach
 Galasupreme apple
 Gar-red plum
 Geneva 65 apple rootstock
 Gerida strawberry
 Gina red raspberry
 Glen Garry raspberry
 Glen Lyon red raspberry

Glencoe purple raspberry
 Glory peach
 Golden Blaze peach
 Golden Charm peach
 Golden Crest peach
 Golden Globe plum
 Golden Glory™ apple
 Golden Lady peach
 Golden Sun peach
 Goldie raspberry
 GoldRush apple
Good Water Asian pear
 Gourmet Golden™ apple
 Gourmet pear
 Governor Simcoe strawberry
 Gransun nectarine
Graton Gold raspberry
Griffspur apple
 Guara almond
 Hardy Cumberland apple
 Harrow Sweet pear
 Hartland cherry
 Hashem II almond
 Hera strawberry
 Hollins red raspberry
 Honeywood saskatoon
 Hood pear
 Hosui Asian pear
 Houma pecan
 How Red nectarine
 Iriet avocado
 Irvine strawberry
 Ito Red peach
 Jefferson Sun peach
 Jerseydawn peach
 Jerseypink ornamental peach
 Joe Mello red raspberry
 Jolly Red Giant nectarine
 Jonica™ apple
 Julia hybrid raspberry
 July Red nectarine
 June Brite nectarine
Keystone apple
 Kism Grand nectarine
 Kochba almond
 Kosui Asian pear
 La Pecher peach
 La White peach
 Laguna strawberry
Lancep apple rootstock
 Last Chance Number One peach
 Late Fry grape
 Late Red Jim nectarine
 Late Red Jim II nectarine
 Lawrence raspberry
 Legend peach
 Leo hybrid raspberry
 Leprechaun ornamental nectarine
 Lincoln strawberry
 Livingston almond
Lizzy apple rootstock
 Lodi almond
 Longjohn plum
 Malling 9-T337 apple rootstock
 Malling Augusta hybrid raspberry
 Malling Joy hybrid raspberry
 Marmolada strawberry
 Martin saskatoon
 May Glo nectarine
 May Jim nectarine
 May Kist nectarine

May Lion nectarine
 May Pride peach
 Melody strawberry
 Mike's Grand nectarine
 Monarch almond
 Moncayo almond
 Moonlake saskatoon
 Mrak strawberry
Much Water Asian pear
 Muir strawberry
NAKB 337 apple rootstock
 Naomi mango
 Nava grape
 Nelson saskatoon
New Century Asian pear
 Newberg filbert
 Nijisseiki Asian pear
 Norna red raspberry
 Northern Lights apple
 Northline saskatoon
 OAC Regal red raspberry
 OAC Regency red raspberry
 Oconee pecan
 October Sun plum (addendum)
 Odem grape
 Oka strawberry
 Olympia nectarine
 Orcas pear
Orion strawberry
 Osage pecan
 Oso Grande strawberry
 P. 16 apple rootstock
 P.60 apple rootstock
 P-R Red nectarine
 Pandora strawberry
 Parkhill saskatoon
 Pawnee pecan
 Pegasus strawberry
 Pembina saskatoon
 Pink Cascade ornamental peach
 Plateau almond
 Polana red raspberry
 Polly plum
 Pontikis pistachio
 Potomac pear
 Pristine apple
 Providence strawberry
 Ranch 9-Golden plum
 Rancho Cinco plum
 Rancho Ocho plum
Rafzubin apple
 Ray Crest peach
 Red Delight nectarine
 Red Fred nectarine
 Red Glen nectarine
 Red Glo nectarine
 Red Jack peach
 Red Jewel nectarine
 Red Nugget plum
 Red River red raspberry
 Red Sun peach
 Red Sunset nectarine
 Redbrook red raspberry
 Redcrest strawberry
 Redgem strawberry
 Regent saskatoon
 Rescue pear
 Rhapsody strawberry
 Rich Lady peach
 Rich May peach
 Rizzi peach

Rose Zee plum
 Rosemarie pear
 Royal Giant nectarine
 Royal Glo nectarine
 Royal Lady peach
 Royalton cherry
 Rubinette® apple
 Ruby Diamond nectarine
 Ruby Jon apple
 Ruby May peach
 Rucami raspberry
Rucanta red raspberry
Rumilo red raspberry
 Rumiloba red raspberry
 Runkel apple
 Rusilva red raspberry
 Rutrago red raspberry
 Salem peach
 Sali™ Delicious apple
 Samish almond
 Scarlet Red nectarine
 Scarlet Spur Delicious apple
 Scotland strawberry
 Seascape strawberry
 Secord strawberry
 Selkirk strawberry
 Seneca strawberry
 September Red nectarine
 Settler strawberry
 Shani grape
 Shinseiki Asian pear
 Shuswap strawberry
 Sivan grape
 Smoky saskatoon
 Snow Diamond peach
 Snow Giant peach
 Snowbrite peach
 Somerset cherry
 Sparkling June nectarine
 Sparkling May nectarine
 Sparkling Red nectarine
 Spraque peach
 Spring Bright nectarine
 Spring Lady peach
Spur Gala-Go-Red apple
 Spur Goldblush™ apple
 St. Williams strawberry
 Star Brite nectarine
 Star-crest peach
 Stark SunCrisp™ apple
Stark UltraEarli™ apple (addendum)
 Staybrite Stayman® apple
 Success saskatoon
 Sugratwelve grape
 Summer Fire nectarine
 Summer Lion nectarine
 Summer Lion Three nectarine
 Summer Lion Two nectarine
 Summer Sweet peach
 Summercrisp pear
 Summerprince peach
 Sunbelt grape
 Sunblaze nectarine
 Sunbob nectarine
 Sunburst nectarine
Sunectnineteen nectarine
 Sunrise apple
 Sunset strawberry
 Sunsnow nectarine
 SunWright nectarine
 Supernova almond

Supechfour peach
Supechthree peach
 Supreme Red nectarine
 Surefire cherry
 Sweet Gem peach
 Tampa grape rootstock
 Tango strawberry
 Tara grape
 TexRoyal peach
 Thiessen saskatoon
 Tikal sapodilla
 Tra-zee peach
 TRECO Red Gala No. 42 apple
 Triumph grape
 Tse Li Asian pear
Tsú Li Asian pear
 Tucker's peach
 Tulameen red raspberry
 Tulare walnut
Twentieth Century Asian pear
 Valplatinta grape
 Vene red raspberry
 Veten red raspberry
 Victory plum
 VR 039-16 grape rootstock
 VR 4-31 filbert (pollinizer)
 VR 11-27 filbert (pollinizer)
 VR 20-11 filbert (pollinizer)
 VR 23-18 filbert (pollinizer)
 Waltana apple
 Western Red nectarine
 White Glory nectarine
 Wood Colony almond
 Ya Li Asian pear
 Yolo strawberry
 Zee Glo nectarine
 Zee Grand nectarine
 Zenith raspberry

ADDENDA AND REVISIONS TO PREVIOUS LISTS

APPLE

Daliguy Jonagold.— Described in List 35. Plant patent 6148, 1988.

Dulcet.— Described in List 35. Plant patent 8187, 1993.

Empress.— Described in List 35. Plant patent 7118, 23 Jan. 1990.

Haralred.— Described in List 35. Original assignment by L. Lantz was to J.V. Bailey Nursery Co., St. Paul, Minn., which has licensed a number of nurseries to propagate.

Hillwell.— Described in List 35. Plant patent 7526, 21 May 1991.

Honeycrisp.— Described in List 35. Plant patent 7197, 20 Mar. 1990.

Jonasty ®.— Synonym for Daliguy Jonagold, described in List 35. This red mutant of Jonagold was obtained by irradiation.

Royal Empire.— Described in List 35. Plant patent 7820, 10 Mar. 1992.

Rubinstar.— Described in List 35. Plant patent 7590, 16 July 1991 by Joachim Lichtenauer.

Stark®EmeraldSpire™.— Market name for Tuscan, described in List 35.

Stark®ScarletSpire™.— Market name for Trajan, described in List 35.

Stark®UltraEarli™.— Market name for senshu, described in List 35.

Stark®Ultraspire™.— Market name for Telamon, described in List 35.

Swiss Gourmet™.— Described in List 35. Original assignment of North American rights was made to North American Tree Co., Portland, Ore., which has licensed a number of nurseries to propagate the variety.

APPLE ROOTSTOCKS

Last Minute.— Market name adopted for P.22, described in List 35.

APRICOTS

Goldbar.— Described in List 35. Plant patent 7045, 10 Oct. 1989.

Goldstrike.— Described in List 35. Plant patent 7035, 19 Sept. 1989.

Tomcot.— Described in List 35. Plant patent 7034, 19 Sept. 1989.

GRAPES

African Queen.— Described in List 35. Plant patent 7295, 14 Aug. 1990.

Black Beauty.— Described in List 35. Plant patent 7592, 16 July 1991.

Blush Seedless.— Described in List 32. Plant patent 4856, 8 June 1982.

Darlene.— Described in List 35. Plant patent 7314, 4 Sept. 1990.

Janebell.— Described in List 35. Plant patent 7268, 10 July 1990.

Mars.— Described in List 35. Plant patent 5680, 4 Mar. 1986.

Pam.— Described in List 35. Plant patent 7707, 12 Nov. 1991.

Pineapple.— Described in List 35. Plant patent 7266, 10 July 1990.

Sugar Pop.— Described in List 35. Plant patent 7591, 16 July 1991.

Supreme.— Described in List 35. Plant patent 7267, 10 July 1990.

PEACHES

Floridagrande.— Described in Reg. 2 greenbook; name spelled incorrectly.

Sugar Lady.— Described in List 35. Plant patent 7532, 28 May 1991.

PLUM

October Sun.— Described in List 35. Plant patent 7827.