

# Register of New Fruit and Nut Varieties

## List 42

W.R. Okie,<sup>1</sup> editor

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### Crop Listings

Apricot  
Blackberry and hybrid berries  
Blueberry  
Grape  
Grape rootstock  
Nectarine  
Paw-paw  
Peach  
Pecan  
Plum and plum hybrids  
Prunus rootstock  
Raspberry  
Strawberry  
Tropical fruit  
Avocado  
Kiwifruit

### APRICOT

#### Craig A. Ledbetter

USDA-ARS, Horticultural Crops Research Lab, San Joaquin Valley Agricultural Sciences Center, Parlier, Calif.

**Apache.** A very early season apricot for the fresh market. **Origin:** Fresno, Calif., by USDA, Agricultural Research Service. Selected in 1992 by Craig A. Ledbetter from the progeny of the cross K147-70 x K604-19; tested as P301-105; introduced in 2002. **Fruit:** freestone; solid orange color; firm and fine-textured flesh; responds favorably to limb girdling, very aromatic when tree ripe, fruit ripen during first week of May in Parlier, Calif.; exceptional postharvest life. **Tree:** vigorous and erect growth habit; self-incompatible flowers with an early bloom period; plentiful spurs and easy renewal.

**Nicole.** An early season industrial apricot for the processing markets. **Origin:** Parlier, Calif., by USDA, Agricultural Research Service. Selected in 1992 by Craig A. Ledbetter from open-pollinated seedlings of K102-93; tested as K713-98; introduced in 2003. **Fruit:** below average size for ripening season; freestone; bright orange skin with strong blush on sun-exposed surfaces; high Brix and aroma when ripe; average ripe date during third week of May in Parlier. **Tree:** vigorous and erect growth habit; fruit distributed equally amongst spurs and 1-year-old shoots; prolific bloom of self-incompatible flowers; early to mid flowering period.

<sup>1</sup>Thanks to the crop editors for compiling this information. Individuals with varieties to describe should contact the crop editors directly. Individuals willing to serve as crop editors should contact WRO.

### BLACKBERRY AND HYBRID BERRIES

#### Chad E. Finn

USDA-ARS, Northwest Center for Small Fruit Research, Corvallis, Ore.

#### John R. Clark

Univ. of Arkansas, Fayetteville

**Ouachita.** A thornless, erect, firm-fruited blackberry. **Origin:** University of Arkansas, by John R. Clark and James N. Moore. Navaho x Ark. 1506; cross made in 1990; selected in 1993; tested as Ark. 1905. introduced in 2003. USPPAF. **Fruit:** medium-large, 7 g; firm; blocky and conical; glossy; soluble solids 10% to 11%; seed dry wt 4.5 mg; postharvest evaluations indicate comparable to near comparable to Navaho; even drupelet set; ripens on average 12 June at Clarksville, Ark. between Arapaho and Navaho; **Plant:** erect canes; thornless; productive, exceeding yield of Arapaho and comparable to Apache; moderate vigor; hardiness not well tested but hardy to -17.4 °C; resistant to double blossom/rosette (*Cercospora rubi*); moderately resistant to anthracnose (*Elsinö veneta*).

**Pecos.** A midseason, thornless cultivar. **Origin:** developed by C.D. Fear, Driscoll Strawberry Associates, Inc., in Watsonville, Calif. Navaho x Loch Ness; selected in 1993; USPP13,525 issued 28 Jan. 2003; assigned to Driscoll Strawberry Associates, Inc. **Fruit:** solid black; medium-glossy; medium size (4.5 g), larger than Chester Thornless but smaller than Olallie; firm (firmer than Loch Ness); excellent shipping qualities; soluble solids 10.8%, greater than Chester Thornless; seed dry wt 3.5 mg; similar harvest season to Loch Ness. **Plant:** semi-upright; thornless; lower chill requirement than Navaho; yield less than Olallie.

**Sleeping Beauty.** An early season, large fruited, low-chill cultivar. **Origin:** developed by C.D. Fear, Driscoll Strawberry Associates, Inc., in Watsonville, Calif. Brazos x Hull Thornless; cross made in 1991; selected in 1994; USPP13,758 issued 6 May 2003; assigned to Driscoll Strawberry Associates, Inc. **Fruit:** solid black; glossy; large size (5.1 g), similar to Olallie but larger than Chester Thornless; firm; excellent shipping qualities; long fruiting period; firmer and less acidic than Brazos; soluble solids 10.2%, lower than Olallie but higher than Chester Thornless; seed dry wt 4.1 mg; early ripening but later than Olallie. **Plant:** semi-upright; thorny; low-chill requirement; yield similar or slightly greater than Olallie.

**Zorro.** An early season, low-chill cultivar. **Origin:** developed by C.D. Fear, Driscoll Straw-

berry Associates, Inc., in Watsonville, Calif. By 59.2 x By46.1; cross made in 1991; selected in 1996; USPP13,759 issued 6 May 2003; assigned to Driscoll Strawberry Associates, Inc. **Fruit:** stable postharvest color; medium size (4.2 g), smaller than Olallie but larger than Chester Thornless; firm; soluble solids 9.6%, lower than Chester Thornless; seed dry wt 2.3 mg; long fruiting period; firmer and better shipping quality than Olallie. **Plant:** semi-upright; thorny; low-chill requirement; yield similar or slightly less than Olallie.

### BLUEBERRY

#### Paul Lyrene

Horticultural Sciences Department, University of Florida, Gainesville

**Aurora.** A very late-ripening highbush blueberry (*Vaccinium corymbosum*) cultivar. **Origin:** From the cross Brigitta x Elliott made in 1991 at Grand Junction, Mich. Original seedling selected at Benton Harbor, Mich., in 1997. Tested as MSU 50. Released in 2003. USPPAF. **Berry:** medium-large with small, dry picking scar; excellent powder-blue color; excellent flavor and firmness. Begins to ripen 5 d after Elliott in Michigan. Fruit stores well. **Plant:** vigorous and upright with numerous, moderately branched canes and well-displayed fruit. Plants very winter-hardy.

**Columbus.** A midseason rabbiteye blueberry with exceptionally good fruit quality. **Origin:** From the cross NC 758 x NC 911 (Tifblue x Menditoo). Selected in 1975 by G.J. Galletta and tested as NC 1567. Released in 2002. License required for propagation. **Berry:** large, light-blue, picking scar small and dry, excellent flavor and lacks the gritty, thick-skinned texture of some rabbiteye varieties. Berry stores well. **Plant:** vigorous, semi-upright. Ripens early to midseason compared to other rabbiteye varieties. Requires cross pollination for full fruit set.

**Craven.** An early to early-midseason southern highbush blueberry suitable for mechanical harvest. **Origin:** from the cross NC 1406 (US 74 x Elizabeth) x Pender made by J.R. Ballington. Selected in 1987 at Castle Hayne, N.C. Tested as NC 2910. License required for propagation. **Berry:** small to medium size; good for mechanical harvest; excellent color and scar; good firmness and flavor. Stores well. **Plant:** vigorous, upright, and capable of high yields; leaves show genetic variegation; flowers later than Reveille. Ripens slightly later than Reveille and Bladen and earlier than Pender. Self-fruitful.

**Draper.** An early to midseason highbush blueberry with very high fresh-market quality. **Origin:** from the cross Duke x G751 made in Beltsville, Md. in 1990. Original seedling selected in 1995 at Benton Harbor, Mich. Tested as MSU 24. Released in 2003. USPPAF. **Berry:** medium-large and very regular in size. Small, dry picking scar; excellent color and flavor. Firmness exceptionally good and berry stores well. Berry clusters loose. Ripens about 5 d before Bluecrop in Michigan. **Plant:** vigorous, upright, and productive. Numerous canes, moderately branched. Consistent, high yields in southern Michigan. Good winter hardiness.

**Lenoir.** A midseason southern highbush variety. **Origin:** from the cross NC 1406 (US 74 x Elizabeth) x Pender made by J.R. Ballington. Selected at Castle Hayne, N.C., in 1988. Tested as NC 3115. License required for propagation. **Berry:** medium size with excellent flavor. Good firmness and scar. Berry color similar to Croatan (medium blue). Suitable for machine or hand-harvested fresh fruit. Stores well. **Plant:** vigorous, semi-upright. Capable of high yields, self-unfruitful. Flowers later than Reveille; ripens with Pender, somewhat later than Reveille and Bladen.

**Liberty.** A late-ripening highbush blueberry. **Origin:** from the cross Brigitta x Elliott made in Grand Junction, Mich., in 1991. Original seedling selected in Benton Harbor, Mich., in 1997. Tested as MSU 58. Released in 2003. USPPAF. **Berry:** medium-large with small, dry picking scar; excellent powder-blue color; excellent flavor and firmness. Begins to ripen about 5 d before Elliott in Michigan. Fruit stores well. **Plant:** vigorous and upright with numerous, moderately branched canes and well-displayed fruit. Plants very winter hardy.

**Ochlocknee.** A late-ripening, high-yielding rabbiteye (*Vaccinium ashei*) cultivar. **Origin:** from the cross Tifblue x Menditoo, made in Beltsville, Md. Selected in the mid 1960s at the Coastal Plain Experiment Station, Tifton, Ga. Tested as T105, and released in 2002. USPPAF. **Berry:** large. Similar to Tifblue in stem scar, color, firmness, and flavor. **Plant:** vigorous and upright with moderately narrow crowns. Produces numerous fruiting stems. Flowers late enough to escape most freezes in southern Georgia. Ripens about one week after Tifblue. Chilling requirement 600 to 700 h. Yields substantially more than Tifblue. Easily propagated by softwood cuttings. Requires cross pollination for full yield.

**Pamlico.** A high-yielding, self-fruitful southern highbush blueberry. **Origin:** from the cross NC 1406 (US 74 x Elizabeth) x Pender made by J.R. Ballington. Selected in 1988 at Castle Hayne, N.C. Tested as NC 3201. License required for propagation. **Berry:** small to medium size; excellent color and scar; good firmness and flavor. Good postharvest life. Suitable for mechanical harvest for fresh market. **Plant:** vigorous and upright; has resistance or field tolerance to stem blight (*Botryosphaeria dothidea*); self-fruitful; Flowers after Reveille; early-midseason to midseason ripening; begins ripening after Reveille and Bladen but before Pender.

**Sebring.** A low-chill southern highbush

blueberry. **Origin:** from the cross Sharpblue x O'Neal made at the University of Florida, Gainesville, in 1981. Selected in 1983 and tested in central and northern Florida as FL 87-122. USPP13,683. **Berry:** medium-large, dark blue, good scar, firmness, and flavor. **Plant:** upright and vigorous; flowers in mid-February in northern Florida and ripens from late April to early May. Chill requirement suitable for central and northern Florida (200 to 300 h). Leaves well after mild winters. Only medium resistance to phytophthora root rot (*Phytophthora cinnamomi*). Not self-fruitful.

**Southern Belle.** A southern highbush blueberry with very firm fruit. **Origin:** parents unknown. Seed originated at University of Florida; selected as a superior clone in Homerville, Ga., about 1986. USPP13,931. **Berry:** large, firm, with excellent scar and medium blue color. Berry stores well. **Plant:** very vigorous when healthy and on good soil but quite susceptible to phytophthora root rot. Makes a dense, wide bush but not excessively twiggy. Produces numerous flower buds. Chilling requirement suitable for northern Florida and southern Georgia (400 to 600 h). Capable of high yields on good sites but requires excellent drainage.

**Windsor.** A southern highbush blueberry with large fruit. **Origin:** from the cross FL83-132 x O'Neal made at the University of Florida, Gainesville, in 1984. First selected in 1986 and tested in central and north Florida as FL 88-53. USPP12,783. **Berry:** very large, with good flavor. Medium dark with medium to good firmness. Scar is large and sometimes wet, which can sometimes cause postharvest problems. **Plant:** vigorous with stout stems; between spreading and erect. Chill requirement suitable for northern Florida and southern Georgia (300 to 500 h). Flowers in late February and early March in northern Florida; ripens in late April and early May. Medium to good survival in the field in northern Florida.

## GRAPE

### John R. Clark

*University of Arkansas, Fayetteville*

**14-37-111.** An early ripening, red, unusual shape, seedless table grape. **Origin:** developed by Timothy Bourne, SunView Vineyards of California, Inc., Delano. Parents are unidentified but the female is described as having Hunisa, Emperor, and Thompson Seedless, and the male having Emperor, Thompson Seedless, Muscat of Alexandria, and Calmeria in their backgrounds; cross made in 1993; selected in 1996; USPP14,009; 22 July 2003; assigned to SunView Vineyards of California. **Fruit:** red; medium-large, 4.8 g (natural) to 7.2 g (gibberellic acid treated); ovate; ripens about 1 week after Flame Seedless; neutral, typical vinifera flavor; 25 brix; skin medium-thick and adheres to flesh; berries contain rudimentary seeds which are unnoticeable; crisp; firm. **Cluster:** medium, 359 g (natural) to 1,069 g (gibberellic acid treated); conical; very dense. **Vine:** very productive when spur pruned, up to 49,000 kg-ha<sup>-1</sup>; average vigor.

**Brianna.** A cold hardy, white wine grape.

**Origin:** developed by Elmer Swenson, Osceola, Wis. Kay Gray x E.S. 2-12-13; cross made in 1983; selected in 1989 as table grape, 2001 as wine grape; introduced in 2001; not patented. **Fruit:** greenish gold to gold when fully ripe; medium, averaging 2.5 g; round; flavor balanced with pronounced pineapple; 20 brix; 0.8% titratable acidity; pH 3.4; average harvest date 1 Sept. at Pierce, Neb.; nonslip skin; pulpy; medium thickness; no skin splitting in rainfall. **Cluster:** 100 to 150 g; cylindrical, sometimes winged; tight. **Vine:** very cold hardy, no bud damage at -28 °C in Pierce, Neb.; no reported disease problems. Wine is very pleasant and balanced with pronounced pineapple nose and flavor; good also as a juice grape; high in pectins.

**Ervi.** A red wine grape. **Origin:** developed by M. Zamboni and M. Fregoni, Istituto di Frutti-Viticultura, Università Cattolica Santo Cuore, Piacenza, Italy. Barbera x Croatina; cross made in 1970; selected in 1995; tested as I.F. 108; introduced in 2000; no indication of protection. **Fruit:** dark red-violet; medium, 1.7 g; ripens 15 to 20 Sept., earlier than Barbera; 24 brix; pH 3.2. **Cluster:** medium, 180 g. **Vine:** vigorous; moderately productive. Wine is intensely colored but balanced.

**F.P.C.D.O.V.#1.** An early ripening, red, seedless raisin grape. **Origin:** developed by Alan Asadoorian, Fresno, Calif.; unnamed variety x Ruby Seedless; cross made in 1991; USPP13,607; 25 Feb. 2003; assigned to Denken Farms. **Fruit:** usually red, depending on light exposure; medium, 1.9 g; round to slightly ovoid; early ripening, 3 to 4 weeks earlier than Thompson Seedless; 23.2 brix; neutral flavor; firm and not considered juicy; berries contain average of 2.6 very small seed traces which are inconsequential. **Cluster:** medium to large, 409 g; long-conical, sometimes shouldered, small wings common; loose to well-filled. **Vine:** very vigorous; upright dense and tender form when head-trained and cane-pruned; high yielding; well-suited for dry-on-vine raisin production.

**L'Acadie.** A cold hardy, midseason-ripening, white wine grape. **Origin:** developed by Helen Fisher, Horticultural Research Institute of Ontario, University of Guelph, Vineland Station, Ontario, Canada and Andrew Jamieson, Atlantic Food and Horticultural Research, Centre Agriculture and AgriFood Canada, Kentville, Nova Scotia, Canada; Cascade x Seyve-Villard 14-287; cross made in 1953 by O.A. Brandt, Vineland Station; tested as V53261; no indication of protection. **Fruit:** white; 18.0 brix; 3.2 pH; lower acidity than Seyval. **Vine:** very cold hardy, survival at -31 °C; consistent productivity under short growing season (138 FFD) and low heat unit conditions (964 HU>10 EC). Wines are slightly spicy with a floral aroma but no *V. labrusca* character.

**Malvasia Rosa.** An aromatic, pink wine grape. **Origin:** Bud mutation of Malvasia di Candia; discovered in 1967; evaluated and propagated by M. Fregoni, Istituto di Frutti-Viticultura, Università Cattolica Santo Cuore, Piacenza, Italy. **Fruit:** intense pink; medium to large, 2.2 g; round; 21.0 brix; 3.2 pH; firm skin, medium thickness; contains 1 to 3 seeds of medium size. **Cluster:** medium-large, 300 g; pyramidal, sometimes with wings; medium-loose.

**Vine:** high vigor, similar to original variety; produces 13.2 t·ha<sup>-1</sup> in Piacenza. Wine has pink color and a characteristic muscat aroma.

**Sarah Anne.** A dark-purple, seeded table grape. **Origin:** bud mutation of Kyoho; evaluated and propagated by Hideki Otani, Reedley, Calif.; USPP14,193; 30 Sept. 2003; assigned to Richard Snellenberg and Hideki Otani, Reedley, Calif. **Fruit:** dark-purple; larger than Emperor and Thompson Seedless, 9.9 g; contains 2 to 3 seeds; average weight 0.13 g; oblong, slightly tapered toward stem; ripens with Kyoho; holds well on the vine; 23 to 27 brix range; very fruity and sweet flavor; very juicy, somewhat soft; aromatic; medium skin thickness; no tendency to crack in rainfall; slip skin. **Cluster:** medium, 60 to 90 berries. **Vine:** moderate vigor; very productive; resistant to powdery mildew; spur pruned.

**Serbia.** A very early ripening, dark-blue table grape. **Origin:** developed by L. Avramov, N. Gašić, M. Jovanovic, M. Ružević, M. Puljiz, and R. Rudakovic, Faculty of Agriculture, Zemun, Yugoslavia; open pollination of table variety Ribier (Alfonse Lavalleé); seeds collected in 1959; approved for release 1998; no indication of protection. **Fruit:** dark-blue; large to very large, 5 to 6.5 g; round; flesh crunchy; sugar content 14% to 18%; lower acid than Cardinal. **Cluster:** large, 150 to 400 g; cylindrical or cylindrically conical. **Vine:** vigorous; greater yield than Cardinal; medium sensitive to powdery mildew; some resistance to Botrytis; resistant to low winter temperatures (-15 to -18 °C); cane pruned.

**Sugranineteen.** A late-ripening, red, seedless table grape. **Origin:** developed by David Cain, Sun World International Inc., Bakersfield, Calif.; Sun World Seedling 89345-090-144 x Sun World Seedling 89361-091-364; cross made in 1993, selected in 1996 in Wasco, Kern Co. Calif. USPP14,088; 26 Aug. 2003; assigned to Sun World International. **Fruit:** red-grey; medium to large, 5.6 g; narrow elliptic to elliptic; ripens about 30 d after Thompson Seedless; sugar content 21.0%; thick skin and adheres to flesh; no tendency to crack/split; rudimentary seeds; very juicy and firm; neutral flavor; no tendency to split. **Cluster:** medium to large, 845 g; conical; medium-dense. **Vine:** medium to weak vigor; very productive.

**Sugraseventeen.** A very late-ripening, red, seedless, rain-tolerant table grape. **Origin:** developed by David Cain, Bakersfield, Calif.; Emperor x Ruby Seedless; cross made in 1987, selected in 1990 in Wasco, Kern Co. Calif. USPP13,199; 12 Nov. 2002. **Fruit:** dark-red to violet; small to medium, 3.4 g; round to obtuse ovate; late. Ripens about 60 d after Thompson Seedless; 18.0 brix; thick skin and adheres to flesh; medium-firm; no tendency to crack/split; thick skin; rudimentary seeds of about 10.5 mg/seed fresh weight; firm. **Cluster:** large, 972 g; conical; medium-dense. **Vine:** very vigorous; medium productivity; dense foliage.

**Sugratwenty.** A red, seedless, extremely crispy table grape. **Origin:** developed by David Cain, Sun World International Inc., Bakersfield, Calif.; Christmas Rose x USDA B31-164; cross made in 1989, selected in 1991 in Wasco, Kern Co. Calif. USPP13,448; 7 Jan. 2003; assigned

to Sun World International. **Fruit:** red-grey; medium, 3.6 g; obovate; ripens about 30 d after Thompson Seedless; late; sugar content 21.0%; thin skin and adheres to flesh; no tendency to crack; rudimentary seeds of about 1.3 mg/seed; extremely crisp; firm. **Cluster:** very large, 728 g; cylindrical; very loose. **Vine:** medium vigor; very productive, especially when spur pruned.

**Sugratwentyone.** A large, red, seedless table grape. **Origin:** developed by David Cain, Sun World International Inc., Bakersfield, Calif.; Sun World Breeding Selection 90089-165-268 x Sun World International Breeding Selection 90227-127-008; cross made in 1993, selected in 1995 in Wasco, Kern Co. Calif. USPP13,444; 31 Dec. 2002; assigned to Sun World International. **Fruit:** red-grey; very large, 8.7 g but can attain an average weight of 13.9 g with girdling and gibberellic acid application; round; ripens about 25 d after Thompson Seedless; sugar content 15.0% to 18%; thin skin that adheres to flesh; no tendency to crack; rudimentary seeds of about 2.2 mg/seed; firm. **Cluster:** large, 549 g; conical; medium-dense. **Vine:** weak vigor; productive.

**Sugratwentytwo.** A late-ripening, white, seedless table grape. **Origin:** developed by David Cain, Sun World International Inc., Bakersfield, Calif.; Sun World Breeding Selection 89152-064-236 x Sun World Breeding Selection 89134-202-189; cross made in 1993, selected in 1995 in Wasco, Kern Co. Calif. USPP13,198; 12 Nov. 2002; assigned to Sun World International. **Fruit:** green-yellow; medium, 3.9 g; oblong; ripens about 60 d after Thompson Seedless; sugar content 18.0%; thin skin and adheres to flesh; no tendency to crack; rudimentary seeds of about 3.2 mg/seed; firm. **Cluster:** large, 775 g; conical; loose. **Vine:** vigorous; productive, especially when pruned to short spurs.

**Sugratwentythree.** A black, seedless, large-fruited table grape. **Origin:** developed by David Cain, Sun World International Inc., Bakersfield, Calif.; Sun World Breeding Selection 89339-089-291 x Sun World Breeding Selection 89098-194-167; cross made in 1992, selected in 1995 in Wasco, Kern Co. Calif. USPP13,164; 5 Nov. 2002; assigned to Sun World International. **Fruit:** blue-black; large, 7.3 g; round to ovate; ripens about 12 d after Thompson Seedless; sugar content 18.0%; medium skin and adheres to flesh; no tendency to crack; rudimentary seeds of about 0.4 mg/seed; firm. **Cluster:** medium, 498 g; conical; dense. **Vine:** vigorous; medium to low productivity; dense foliage.

**Thomcord.** A blue-black, Concord-flavored, seedless, table grape. **Origin:** developed by David Ramming and Ronald Tarailo, USDA Horticultural Crops Research Laboratory, Fresno, Calif.; Thompson Seedless x Concord; tested as A29-67; cross made in 1983, selected in 1986 in the San Joaquin Valley of Calif.; not patented. **Fruit:** blue-black; similar in size to Mars and Venus, 3.0 to 3.5 g; sugar content 19% to 21%; Concord flavor, but not as strong as Concord; medium skin and adheres to flesh; medium-soft flesh; rudimentary seeds small, but may be noticeable. **Cluster:** 341 g; conical with a small wing; medium to slightly loose. **Vine:** productive, 13 to 16.5 kg/vine on bilateral-

trained, spur-pruned vines; quadrilateral training with spur pruning is recommended; tolerant but not resistant to powdery mildew.

## GRAPE ROOTSTOCK

**John R. Clark**

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**Georgikan 28.** A lime and drought tolerant rootstock. **Origin:** Keszthely, Hungary, by László Kocsis, Éva Lehoczky, László Bakonyi, László Szabó, and Lajos Szke; 5BB x *Vitis vinifera*; not patented. **Vine:** high cane production; highly lime tolerant; drought tolerant; Ca<sup>2+</sup> concentrations in leaf tissue were higher if scions were grafted onto Georgikon 28 than any other rootstock.

## NECTARINE

**Jerome L. Frecon**

*Rutgers Cooperative Extension, New Brunswick, N.J.*

**Candy Pearl.** White-fleshed clingstone nectarine. **Origin:** LeGrand, California, by L.G. Bradford. Seedling of Red Glen (USPP7,193) x June Pearl (USPP9,360); introduced 21 Oct. 2003 as USPP14,249. **Fruit:** globose, uniformly large, very dark red skin over a strong red with pale orange yellow undercolor. Flesh very firm, crisp, white with a slight amount of red streaking at the stone, clingstone. Flavor sub-acid, sweet, excellent. Ripens in early July in LeGrand, Calif., or about 6 d after Kay Pearl. **Tree:** flowers large, showy, purplish, pink and self-fertile. Leaf glands reniform, 2 to 4 in number, mostly alternate. Tree is medium-sized, spreading, dense, vigorous, productive.

**Diamond Pearl.** White-fleshed, clingstone, nectarine. **Origin:** LeGrand, Calif., by L.G. Bradford. Open pollinated seedling of Candy White (USPP10,924). Introduced 14 Oct. 2003 as USPP14,242. **Fruit:** uniform, globose, medium, very deep red skin over a strong red with moderate orange yellow freckling undercolor. Flesh white, very firm, crisp, clingstone. Flavor subacid, sweet, excellent. Ripens in mid June in LeGrand, Calif., about 6 d earlier than June Pearl. **Tree:** Flowers; large showy, pale purplish-pink. Leaf glands reniform, 2 to 4 alternate. Tree is large, upright, vigorous, productive.

**Earlihoney.** Yellow fleshed, clingstone, sub-acid nectarine. **Origin:** Modesto, Calif., by C.F. Zaiger, L.M. Gardner, G.N. Zaiger and G.G. Zaiger. Originated as a cross of two selected unnamed seedlings. Introduced 2 Mar. 2002 as USPP12,438. **Fruit:** globose, medium to large, Turkish red to cardinal red with small, randomly spaced areas of pale yellow to light yellow under color. Flesh firm, meaty butter yellow to maize yellow, clingstone. Flavor sweet, sub-acid, very good. Ripens early June in Modesto, Calif., or 12 d earlier than Honeykist nectarine. **Tree:** flowers; large, showy, pink to pastel pink. Leaf glands reniform, 1 to 4 alternate. Tree is large, vigorous, upright, productive, Chilling hours about 600.

**Early Pearl.** White-fleshed, clingstone nectarine. **Origin:** LeGrand, Calif., by L.G.

Bradford; Seedling of July Pearl (USPP10,293) x an unnamed nectarine seedling; Introduced on 23 Oct. 2003 as USPP14,248; **Fruit:** globose, uniform, medium. Very dark red over a strong red with slight light orange undercolor; Flesh moderately firm, crisp, white with a slight amount of red, clingstone. Flavor subacid, sweet, very good. Ripens in late May to early June in LeGrand, Calif., or 16 d earlier than June Pearl. **Tree:** flowers large, showy, pale purplish-pink, self-fertile. Leaf glands globose, 1 to 4 alternate. Tree is large, upright, vigorous, productive.

**Giant Pearl.** White-fleshed, subacid, clingstone nectarine. **Origin:** LeGrand, Calif., by L.G. Bradford. Seedling of Summer Bright (USPP7,049) x unnamed selected nectarine seedling. Introduced on 14 Oct. 2003 as USPP14,240. **Fruit:** globose, uniform, very large, dark red smoothly blending to moderate red on occasional pale yellow to light orange yellow undercolor, Flesh very firm, crisp, yellowish-white, clingstone. Flavor subacid, sweet, very good. Ripens early to mid August in LeGrand, Calif., or 10 d later than Fire Pearl. **Tree:** flowers small, nonshowy, light pink toward center with moderate purplish-pink toward the margin, self-fertile. Leaf glands reniform, 2 to 6 mostly alternately positioned. Tree is medium in size, vigorous, spreading and open, productive.

**September Bright.** Yellow-fleshed, clingstone nectarine. **Origin:** LeGrand, Calif., by L.G. Bradford. Seedling of August Red (USPP6,363) nectarine x an unnamed seedling nectarine; Introduce on 14 Jan. 2003 as USPP13,475. **Fruit:** globose to slightly oblate, large, symmetrical, very deep red mottled into strong red with some yellow undercolor. Flesh firm, crisp, brilliant yellow, clingstone. Flavor mildly acidic, sweet, very good. Ripens early September in LeGrand, Calif., or 2 weeks later than August Red. **Tree:** flower non showy, small, moderate purplish-pink, self-fertile. Leaf glands reniform, 2 to 4 alternately positioned. Tree is large, spreading and dense, vigorous, productive.

**Sweet Pearl.** White-fleshed, sub-acid, freestone nectarine. **Origin:** LeGrand, Calif., by L.G. Bradford. Seedling of Red Glen (USPP7,193) x unnamed white fleshed nectarine. Introduced on 21 Jan. 2003 as USPP13,495. **Fruit:** globose, asymmetrical, uniform, large. Very dark red smoothly blending into moderate red with yellowish white undercolor. Flesh firm, crisp, white, freestone. Flavor subacid, sweet, the best flavor. Ripens in early to mid July in LeGrand, Calif., or 7 d earlier than Grand Pearl. **Tree:** flowers large, showy, light purplish-pink, self-fertile. Leaf glands reniform 2 to 6 usually alternate occasionally opposite. Tree is medium size, vigorous, spreading, dense, productive.

**Zee Fire.** Yellow-fleshed, clingstone nectarine. **Origin:** Modesto, Calif., by L.M. Gardner, G.N. Zaiger and G.G. Zaiger. Originated as a cross of two selected unnamed seedlings. Introduced 21 Jan. 2003 as USPP13,501. **Fruit:** globose to slightly concave on one side, large, mostly red with yellow undercolor. Flesh firm, meaty, yellow, clingstone. Flavor good, with good balance between sugar and acid. Ripens in late May in Modesto, Calif., or 6 d earlier than

Mayglo. Tree: flowers large, showy, rich pink, self-fertile. Leaf glands reniform, large, 2 to 3 alternately positioned. Tree is large, vigorous, upright, productive with about 500 h chilling.

## PAWPAW

### Kim E. Hummer

USDA-ARS, National Clonal Germplasm Repository, Corvallis, Ore.

**Aidfievate.** See Rappahannock.

**Levfv.** See Susquehanna.

**Rappahannock™ (Aidfievate).** Large, consistently symmetrical fruit that harvests more easily than most pawpaws. **Origin:** developed by Neal Peterson of Peterson Pawpaws, Harpers Ferry W.Va. Seed was collected from Blandly Experimental Farm, Boyce, Va., BEF-30 open-pollinated, in 1982, selected at Wye Research and Education Center, University of Maryland, Queenstown, in 1994; part of the Pawpaw Foundation multi-state variety trials from 1995-2000; introduced in 2004. Tested as PPF 8-58. USPPAF. **Fruit:** medium, 200 g average and may exceed 280g; with few seeds (5.7% by weight); Fruit shape is symmetrically ovate, not flattened on one side as in most pawpaws; color of ripe fruit typically stands out from foliage, making harvest easier than other cultivars; flesh is bright creamy yellow and texture is very firm, sometimes rubbery; flavor is good, though not as good as that of 'Shenandoah™'; Brix 19%; fruit is often borne in single-fruited clusters but can be in 2-, 3- or many-fruited clusters; yield is good, similar to that of Shenandoah™. **Plant:** very vigorous, horizontal leaf habit. Flower is larger than most. Subject to vigorous growth after pruning; Midseason flowering and midseason ripening, 5 to 14 Sept. in Queenstown, Md. Somewhat resistant to pawpaw decline. Subject to fruit cracking. Named for the Rappahannock River of Virginia.

**Shenandoah™ (Wansewan).** Large, fragrant fruit with smooth, custard textured flesh. **Origin:** developed by Neal Peterson of Peterson Pawpaws, Harpers Ferry, W.Va. Seed was collected from Overleese open pollinated, in 1982; selected at Wye Research and Education Center, University of Maryland, Queenstown, in 1994; part of the Pawpaw Foundation multi-state variety trials from 1995-2000; introduced in 2004. Tested as PPF 1-7-1. USPPAF. **Fruit:** large, 260 g average and may exceed 350 g, with few seeds (5.4% by weight); shape ovoid-ovate with slightly flattened dorsal side. Texture, though soft, is firmer than that of average wild pawpaws; flesh is creamy yellow, smooth and has the texture of custard; flavor is mild, sweet and fruity with an agreeable, lingering aftertaste; Brix 18%; fruit is often borne in single-fruited clusters but can be in 2-, 3-, or many-fruited clusters; yield is good, exceeds that of Overleese. **Plant:** vigorous, responds well to pruning. Midseason flowering and mid- to late-season ripening, 10 to 24 Sept. in Queenstown, Md. Susceptible to pawpaw decline. Named for the Shenandoah River of Virginia. Shenandoah means "daughter of the stars."

**Susquehanna™ (Levfv).** Very large, rich, sweet fruit that handles well. **Origin:** devel-

oped by Neal Peterson of Peterson Pawpaws, Harpers Ferry, W.Va. Seed was collected from Blandly Experimental Farm, Boyce, Va., BEF-53 open pollinated, in 1982; selected at Wye Research and Education Center, University of Maryland, Queenstown, in 1994; part of the Pawpaw Foundation multi-state variety trials from 1995-2000; introduced in 2004. Tested as PPF 11-5. USPPAF. **Fruit:** very large, 300 g average and may exceed 450 g; few seeds (3.3% by weight). Fruit shape is broadly ellipsoidal to nearly spherical. Flesh is creamy orangish-yellow and has a firm, buttery texture, resembling that of Haas avocado; flavor is very sweet, rich and fruity; Brix 26%; fruit is borne not infrequently as single-fruited clusters but more often as 2-, 3-, or many-fruited clusters; has a thick, moderately tough skin and handles better than other pawpaws; yield is moderate, usually less than that of Shenandoah™. **Plant:** vigorous, ornamental tree with landscape potential; responds well to pruning. Petioles are shorter than usual for the species. Adaxial surface of young and mature leaves is distinctly rugose. Midseason flowering and mid- to late season ripening, 12 to 27 Sept. in Queenstown, Md. Susceptible to pawpaw decline. Named for the Susquehanna River that flows from New York, through Pennsylvania into the Chesapeake Bay in Maryland.

**Wansewan.** See Shenandoah.

## PEACH

### Jerome L. Frecon

Rutgers Cooperative Extension, New Brunswick, N.J.

**AgriPeachOne.** White-fleshed, low acid, midseason flat peach. **Origin:** Selma Calif., by George Howard. Open pollinated seedling of N.J. F-2 cultivar (USPP5,123). Introduced on 5 Nov. 2002 as USPP13,175. Assigned to Agri Sun Nursery LLC. **Fruit:** vertically flattened, round, medium to large, mostly dark red with some light red. Flesh white semi-freestone. Flavor very mild and low-acid taste. Ripens in mid-July in Selma 18 to 21 d after N.J. F-2. **Tree:** flower large, showy, very light pink. Leaf glands reniform, opposite. Moderately spreading, very vigorous, large, productive tree. Chilling is believed to be 600 to 1000 h.

**August Princess.** White-fleshed, sub-acid clingstone peach. **Origin:** LeGrand, Calif., by L.G. Bradford. Seedling of August Red (USPP6,363) x White Princess (USPP9,515). Introduced on 27 Aug. 2002 as USPP12,896. **Fruit:** uniform, globose, large; skin is dark red blending into a moderate pink. Flesh firm, crisp, white, clingstone. Flavor sub-acid, sweet, very good. Ripens in late August in LeGrand or about 10 d after White Princess. **Tree:** flowers large, showy, pale purplish pink, self-fertile. Leaf glands opposite, globose. Tree upright and dense, vigorous, large, very productive.

**Avalon Pride.** Yellow-fleshed peach just ahead of Redhaven. **Origin:** chance seedling found in Issaquah, Washington by Margaret Proud in 1980. Assigned to Van Well Nursery. Introduced in 2003, USPPAF. **Fruit:** globose to slightly oblate, medium, dark purplish red

to red. Flesh medium firm, softens first around suture, bright yellow, semi-freestone, some split pitting in cooler areas. Superior eating quality to Early Redhaven and Frost, comparable to Redhaven. Ripens just before Redhaven. Tree: flowers small, nonshowy, salmon pink, self-fertile. No glands. Tree medium size, medium vigor, productive. Chilling hours similar to Redhaven.

**Candy Red.** Yellow-fleshed sub-acid, clingstone peach. **Origin:** LeGrand, Calif., by L.G. Bradford. Seedling of Crown Princess (USPP7,070) x unnamed white fleshed nectarine.

Introduced on 1 Oct. 2002 as USPP13,040. **Fruit:** globose to slightly elongate, large; dark red blending to a darkish red orange. Flesh firm, melting, brilliant yellow, clingstone. Flavor sub-acid, sweet, very good. Ripens early to mid June in Le Grand or about 6 d after Crown Princess. **Tree:** Flowers large, showy, pale purplish pink, self-fertile. Leaf glands opposite, reniform. Tree upright, vigorous, medium in size, medium productivity.

**Ice Princess.** White-fleshed sub-acid freestone peach. **Origin:** LeGrand, Calif., by L.G. Bradford. Seedling of Diamond Princess (USPP12,974) x unnamed white-fleshed peach. Introduced on 17 Sept. 2002 as USPP12,974. **Fruit:** globose to oblate, large; dark red over a moderate pink with some pale yellow freckling toward the apex. Flesh firm, crisp, white freestone. Flavor very good, sub-acid, sweet. Ripens early July in LeGrand. **Tree:** flowers large, showy, dark purplish pink, self-fertile. Leaf glands reniform, alternate. Spreading and dense, large size, vigorous, very productive.

**Ivory Queen.** White-fleshed peach sub-acid clingstone peach. **Origin:** LeGrand, Calif., by L.G. Bradford. Self-pollinated seedling of Ivory Princess (USPP11,205). Introduced on 21 Jan. 2003 as USPP13,496. **Fruit:** globose with slight axial compression, medium, uniform. Very dark red smoothly blending into moderate red. Flesh firm, crisp, yellowish white, clingstone. Flavor very good, sub-acid, sweet. Ripens over 2-week period from mid to late June in LeGrand or 10 d later than Ivory Princess. **Tree:** flowers large, showy, pale purplish pink, self-fertile. Leaf glands globose when immature to reniform when mature, alternate. Upright, medium size, vigorous, very productive.

**PF Lucky 13.** Yellow-fleshed, nonmelting freestone peach. **Origin:** Coloma, Mich., by Paul Friday. Unknown seedling. Introduced in December 2003 as USPP14,384. **Fruit:** globose, large, 60% to 80% red over light yellow. Flesh light yellow with red around pit, very firm, nonmelting, freestone. Flavor excellent. Ripens 5 d after Redhaven in Coloma, Mich. **Tree:** flowers medium, nonshowy, light pink, self-fertile. Leaf glands 1 to 5 usually 2. Spreading tree of medium vigor, very productive.

**PF 35-007.** Yellow-fleshed, nonmelting freestone peach. **Origin:** Coloma, Mich., by Paul Friday. Unknown seedling. Introduced in December 2003 as USPP14,368. **Fruit:** globose, large, 80% red over light yellow. Flesh light pinkish-yellow with red around pit, very firm, nonmelting, freestone. Flavor excellent. Ripens 5 d after Encore peach in Coloma, Mich. **Tree:**

flowers medium, nonshowy, light pink, self-fertile. Leaf glands very small, opposite. Spreading tree of medium vigor, very productive.

**PF 24B.** Yellow-fleshed, nonmelting, freestone peach. **Origin:** Coloma, Mich., by Paul Friday. Unknown seedling. Introduced in December 2003 as USPP14,367. **Fruit:** globose, large, 80% red over light yellow. Flesh light yellow with red around pit, very firm, nonmelting, freestone. Flavor very good. Ripens 24 d after Redhaven in Coloma, Mich. **Tree:** Flowers medium, nonshowy, pink, self-fertile. Leaf glands very small, 2 per leaf. Spreading tree of medium vigor, productive.

**Sierra Snow.** White-fleshed, sub-acid, clingstone peach. **Origin:** Modesto, Calif., by G.N. Zaiger, G.G. Zaiger and L.M. Gardner. Selected seedling from 36EB86 x May Grand (USPP2,794). Introduced 28 Jan. 2003 as USPP13,527. **Fruit:** globose, large, high degree of attractive red skin color. Flesh firm, meaty, white, clingstone. Flavor very good, mild, sweet, sub-acid. Ripens in mid June in Modesto, Calif., or 7 d after Snobrite (USPP8,195). **Tree:** flowers large, showy, reddish pink, self-fertile. Leaf glands reniform. Upright, vigorous, large, productive. Chilling requirement of 800 h.

**Spring Treat.** Yellow-fleshed, very early, low chilling clingstone peach. **Origin:** Modesto, Calif., by C.F. Zaiger, G.N. Zaiger, G.G. Zaiger and L.M. Gardner. Seedling selected from cross of 78EC404 x 65EC70. Introduced 26 Feb. 2002 as USPP12,419. **Fruit:** nearly globose, slightly elongated in suture plane; medium to large for early fruit; maize yellow to sunflower yellow ground color nearly overspread with brownish red to garnet red. Flesh firm, meaty, yellow, clingstone. Flavor good. Ripens in mid to late May in Modesto, Calif. **Tree:** flowers medium, non showy, pale pink to rose pink, self-fertile. Leaf glands reniform. Upright with tendency to spread at fruiting, large, vigorous, productive. Chilling requirement 250 to 300 h.

**Snow Princess.** White-fleshed sub-acid, freestone peach. **Origin:** LeGrand, Calif., by L.G. Bradford. Seedling of Diamond Princess (USPP7,066) x unnamed white-fleshed peach. Introduced on 23 Apr. 2002 as USPP12,570. **Fruit:** globose with slight axial compression, large, moderate red blending into moderate pink with slight orange yellow freckling toward apex. Flesh firm, crisp, yellowish white, freestone. Flavor very good, sweet, sub-acid. Ripens in late July in LeGrand about 3 weeks earlier than White Princess. **Tree:** flowers large, showy, pale purplish pink, self-fertile. Leaf glands usually alternate but occasionally opposite, reniform. Spreading and dense, medium size, vigorous, very productive.

**Sugar Princess.** Yellow-fleshed sub-acid freestone peach. **Origin:** LeGrand, Calif., by L.G. Bradford. Seedling of Diamond Princess (USPP7,066) x unnamed white-fleshed peach. Introduced on 14 Jan. 2003 as USPP13,473. **Fruit:** very slightly asymmetrical and globose, large, dark red over a deep reddish orange with brilliant yellow background color. Flesh firm, tough, vivid yellow, freestone. Flavor sub-acid, mild, good. Ripens in mid-July in LeGrand about 2 weeks later than Diamond Princess. **Tree:** flowers large, showy, light

purplish pink, self-fertile. Leaf glands reniform, alternate. Spreading, medium size, vigorous, very productive.

**Sweet Crest.** Early yellow-fleshed, sub-acid, clingstone peach. **Origin:** Modesto, California by C.F. Zaiger, G.N. Zaiger, G.G. Zaiger, and L.M. Gardner. Seedling selected from 34GA1155 and 36 EB346. Introduced on 27 Aug. 2002 as USPP12,878. **Fruit:** globose to slightly elongated, large, light yellow to yellow ground color, nearly overspread with Turkish red to Cardinal red. Flesh firm, meaty, yellow, clingstone. Flavor very good, mild, sweet, sub-acid. Ripens in late May in Modesto, Calif., or 4 to 5 d after Springcrest. **Tree:** flowers large, showy light pink to pink, self-fertile. Leaf glands reniform. Upright, vigorous, large, productive. Chilling requirement of 900 to 950 h.

## PECAN

**L. J. Grauke and Tommy E. Thompson**  
*USDA-ARS Pecan Breeding & Genetics,  
College Station, Texas*

**Cherryle.** Seedling selection made by Win-cen Williams, Grand Bay, Ala. **Origin:** used by Williams to topwork his orchard of Success and Schley trees in southern Alabama in the 1980s and given his wife's name (pronounced Cherry Lee). A local pecan buyer, impressed by the nut's quality, brought the selection to the attention of William Goff at Auburn University. Evaluated by Goff for pecan scab [*Fusicladosporium effusum* (Winter) Partridge and Morgan-Jones] for several years and currently rated as moderately susceptible (between Desirable and Stuart), and not recommended for unsprayed orchards. Evaluated by R.D. O'Barr at LSU Pecan Research-Extension Station, Shreveport, La., who noted its excellent flavor. **Nut:** oblong elliptic to oblong, round in cross section, with obtuse apex and base; 43 nuts/lb, 55% kernel; kernels with medium dorsal grooves that do not trap packing material, slightly tapered dorsal ridge, shallow basal cleft.

**Edisto.** Seedling selection from the Edisto River drainage, near St. George, in Dorchester County, S.C. **Origin:** the tree grew on topographically high ground within a swamp that was later drained for agriculture, on land that was part of the original homestead of the Knight family, founders of Knightsville. Seed may have been introduced by native Americans or early settlers. The original tree is about 5 ft in diameter and approaches 120 ft in height. Gregg Knight, in his 1980s, noted that nearby trees planted by his grandparents in the late 1870s were in the 2 to 3 ft diameter class. Anthony Fischinger submitted nuts of the tree for evaluation in 1999, and scions were obtained for grafting in the National Clonal Germplasm Repository. **Nut:** ovate with obtuse apex and rounded base; round in cross section; shell smooth, with few markings; 91 nuts/lb, 49% kernel; kernels golden, with broad, triangular dorsal ridge, relatively open dorsal grooves, and a prominent basal cleft and ventral groove.

**Keilers (Stockbauer).** Seedling selection made by Werner G. Keilers from yard tree growing in Travis Heights area of Austin,

Texas, in the early 1980s. **Origin:** Keilers was interested in patenting the selection, but that was not pursued. Graftwood was shared with the USDA-ARS Pecan Station in Brownwood, Texas, in 1983 under the name Keilers. He also shared graftwood with John Haschke of Harwood, Texas, who shared it with Fred Stockbauer of Victoria, Texas. Stockbauer was impressed with nut size and quality of the selection and began propagating it in the early 1990s, and it began to be called Stockbauer. Graftwood of Stockbauer came in 1994 to the pecan collections of the USDA-ARS National Clonal Germplasm Repository, established in 1984 to include collections of the Brownwood station. Analyses using eight microsatellite primers showed the two accessions to be identical. They have indistinguishable nut characters, dichogamy and disease reactions. Keilers was assigned Plant Introduction number (PI) 518067. **Nut:** obovate to elliptic, blocky with obtuse apex and base, often with a slight point at base; prominent thick, dark stripes at apex; round in cross section; 42 nuts/lb, 60% kernel; kernels golden to light brown, with medium, slightly tapered dorsal ridge, relatively narrow dorsal grooves; slight basal cleft; deep, usually open ventral groove. **Tree:** protogynous with midseason pollen shed and early pistillate receptivity. Susceptible (rated 3 on 1 to 5 scale, 5 = most susceptible) to pecan scab [*Fusicladosporium effusum* (Winter) Partridge and Morgan-Jones] and somewhat susceptible (rated 2 on 1 to 4 scale, 4 = most susceptible) to vein spot (*Gnomonia nervisceda* Cole).

**Silverback.** Seedling selection by Howard Gorrell, from tree growing in his yard in Okmulgee, Okla., **Origin:** grown from a volunteer nut that germinated about 1979. Low percent kernel due in part to very thick primary septum (to 3.2 mm) and well developed secondary septum. First propagated in 1989, based on appearance of nuts in 1988 crop and released to nurserymen in 1995. **Nut:** orbicular with truncate apex that is characteristically pinched at suture; rounded base; round to slightly compressed in cross section, appearing almost quadrangular; shell with wide, dark markings at apex; 33 nuts/lb, 50% kernel; kernels cream to golden, with medium broad, slightly triangular dorsal ridge, deep but wide dorsal grooves, and a prominent, wide ventral groove and small basal cleft. **Tree:** protandrous. Rated somewhat resistant (2 on 1 to 5 scale, 5 = most susceptible) to pecan scab under limited observations in College Station, Texas.

**Stockbauer.** See Keilers.

**VC1-68.** Pecan used as a proprietary rootstock by Linwood Nurseries, Turlock, Calif., for planting in southwestern U.S. orchards. **Origin:** seedling selection from Phoenix, Ariz., made by Virgil Cripe in 1968. The name reflects the number 1 selection made by Virgil Cripe (VC) in 1968. **Nut:** oblong with acute apex and asymmetrical, somewhat acute base; flattened in cross section; 48 nuts/lb, 48% kernel; kernels golden, with medium, straight dorsal ridge, relatively deep but open dorsal grooves; basal cleft usually shallow; ventral surface of kernel often cupped, with broad ventral groove. Nuts are large but relatively thick shelled and with a very thick middle septum, resulting in low kernel percent-

age. **Tree:** protandrous with early pollen shed and midseason pistillate receptivity. Extremely susceptible (rated 5 on 1 to 5 scale, 5 = most susceptible) to pecan scab. Nuts germinate well and seedlings are uniform and vigo

## PLUM AND PLUM HYBRIDS

### David W. Ramming

USDA-ARS Horticultural Crops Research Lab, San Joaquin Valley Agricultural Sciences Center, Parlier, Calif.

**Aphrodite.** A firm, large Santa Rosa-like Japanese plum. **Origin:** Fresno, Calif., by Giovanni B. Bubani. Shayna x Santa Rosa made in 1991. Selected in 1994. USPP13,121 issued 22 Oct. 2002. **Fruit:** large, 59 to 66 mm diameter, oval to slightly ovate; skin is red-purple with numerous dots and speckles; flesh, light yellow, firm, flavor like Santa Rosa; cling; ripe the third week of June, few days after Santa Rosa. **Tree:** good vigor, upright to slightly spreading, good and regular production, early blooming.

**Autumn Yummy.** A late-ripening, black-red skin, yellow-red flesh Japanese plum. **Origin:** Le Grand, Calif., by L.G. Bradford. Freedom o.p. Seed collected 1998. USPP14,178 issued 23 Sept. 2003. **Fruit:** large, 68 mm diameter, 179 g, globose to slightly oblate; skin is blackish red; flesh light yellow-orange with abundant red flecking and streaking, very firm, crisp, very good flavor, 17% to 21% SS; cling; ripe second week of September. **Tree:** large, vigorous, upright; very productive, heavy bloom with abundant pollen, self-infertile, midseason blooming, with Blackamber and Angeleno.

**Black Kat.** A late-ripening, complex interspecific hybrid with blue-black, glabrous skin. **Origin:** Modesto, Calif., by Chris F., G.N. and G.G. Zaiger and L.M. Gardner. 73ED135 =(unknown plum x Autumn Giant plum) x 72GC211 =[unknown plum x 46G865 plumcot =(Red Beaut x unknown apricot)]. USPP12,856 issued 13 Aug. 2002. **Fruit:** large, 55 to 60 mm diameter, 145 g, globose; skin is blue-black, glabrous; flesh yellow, firm, 19.9% SS; semi-free; ripe the first week of September, 10 d after Flavorich. **Tree:** medium, vigorous, upright; heavy and regular production, self-infertile, abundant pollen, blooming 4 Mar. in Modesto.

**Black Splendor.** An early-ripening, black skin, red-flesh Japanese plum. **Origin:** Parlier, Calif., by D.W. Ramming, USDA-ARS. K509-78 =[Blackamber o.p.] o.p.] made in 1988. Selected in 1992, tested as K805-12, rel. Jan. 2002. **Fruit:** medium large, 64 mm diameter, 133 g, oblate; skin is blue-black with mahogany shoulders; flesh dark red, firm, medium texture; cling; ripe the first to second week of June, one week after Santa Rosa. **Tree:** average vigor, spreading; productive, self-infertile, very early blooming, 1 week before Red Beaut.

**Crimson Glo.** A brownish-violet speckled skin, red-flesh Japanese plum. **Origin:** Modesto, Calif., by C.F., G.N. and G.G. Zaiger and L.M. Gardner. 46G731 =(Laroda x Queen Ann) x Friar. USPP12,856 issued 13 Aug. 2002. **Fruit:** medium to large, 50 to 54 mm diameter, 116 g, nearly round, slightly elongated; skin is brownish-violet on yellow with speckled pattern; flesh

light red, firm, meaty texture, 15.8% SS; cling; ripe the first to second week of July, 2 weeks before Friar. **Tree:** large, vigorous, upright; heavy and regular production, self-infertile, blooming 22 Feb. in Modesto.

**Crimson Heart.** An early-ripening, complex interspecific hybrid with violet-brown, glabrous skin. **Origin:** Modesto, Calif., by C.F., G.N. and G.G. Zaiger and L.M. Gardner. 59EF110 =(complex hybrid with plum and apricot parents) x 'Plum Parfait' plumcot. USPP12,943 issued 10 Sept. 2002. **Fruit:** large, 57 to 60 mm diameter, 128 g, globose; skin is violet-brown, glabrous; flesh red, firm, 15.5% SS; cling; ripe the fourth week of 7 May to 10 d after Flavorosa. **Tree:** large, vigorous, upright; heavy and regular production, self-infertile, abundant pollen, blooming 19 Feb. in Modesto, 1 week after Flavorosa.

**Danae.** A late, dark purple to burgundy skin, red-flesh Japanese plum. **Origin:** Parlier, Calif., by G. Flagler. Showtime o.p. USPP13,740 issued 29 Apr. 2003. **Fruit:** medium, 55 to 57 mm diameter, globose; skin is dark purple to burgundy; flesh red, firm; free; ripe the first week of September, 3 to 5 d before Angelino. **Tree:** medium, vigorous, upright to spreading; bloom 19 to 20 Feb., anthers sea green.

**Dapple Fire.** An early-ripening, complex interspecific hybrid with reddish brown, glabrous skin. **Origin:** Modesto, Calif., by C.F., G.N. and G.G. Zaiger and L.M. Gardner. 150LB5 =[unknown plum x (Red Beaut o.p. x unknown nectarine)] x 14GD84 =(O'Henry o.p. x (Red Beaut x unknown peach)). USPP12,409 issued 12 Feb. 2002. **Fruit:** large, 57 to 63 mm diameter, 142 g, globose to slightly elongated; skin is reddish brown, glabrous; flesh red, firm, 17.5% SS, very good flavor and eating quality; cling; ripe the first week of July, 2 weeks before Dapple Dandy. **Tree:** large, vigorous, upright; heavy and regular production, self-infertile, blooming 28 Feb. in Modesto, chilling requirement is 750 h at 7 °C.

**Early Danae.** A very early-ripening, purple-skin, yellow-gold flesh Japanese plum. **Origin:** Parlier, Calif., by G. Flagler. Showtime o.p. USPP14,019 issued 29 July 2003. **Fruit:** medium large, 48 to 57 mm diameter, globular; skin is uniform purple; flesh yellow-gold, medium firmness; semi-free; ripe the third week of May, 1 week before Early Beaut and three to four weeks before Showtime. **Tree:** medium, good vigor, upright and spreading; good to very good and regular production, bloom mid to late 19 to 20 Feb., abundant bloom.

**Early Dapple.** An early-ripening, complex interspecific hybrid with a red mottled, glabrous skin. **Origin:** Modesto, Calif., by G.N. and G.G. Zaiger and L.M. Gardner. 369LD348 =(plum x plumcot, parents include Red Beaut) x 352LC74 =(Plum x plumcot x (apricot) x (plum x plumcot)), parents include Patterson apricot and Flavor Supreme plum interspecific. USPP13,530 issued 28 Jan. 2003. **Fruit:** large, 65 mm diameter, 153 g, globose; skin is yellow-red ground overspread with blotched of red to produce a mottled appearance, glabrous; flesh red, firm, good eating quality, 16.4% SS; cling; ripe the third week of June, 8 d before Flavor Supreme or 20 d after Red Beaut. **Tree:**

medium to large, vigorous, upright; heavy and regular production, self-infertile, blooming 28 Feb. in Modesto, chilling requirement is 650 h at 7 °C.

**Flavor Grenade.** An early-ripening, complex interspecific hybrid with yellow, glabrous skin and red blush. **Origin:** Modesto, Calif., by C.F., G.N. and G.G. Zaiger and L.M. Gardner. 7HC244 =(Mariposa x (plumcot =(Red Beaut o.p.) x plumcot =(Red Beaut o.p.)) x Flavor Queen. USPP12,097 issued 18 Sept. 2001. **Fruit:** medium, 63 mm diameter 120 g, slightly elongated; skin is yellow covered with red blush, glabrous; flesh yellow, very firm, crisp, 22% SS, excellent eating quality; semi-free; ripe the first week of August, 15 d after Flavor Queen. **Tree:** large, vigorous, upright; precocious, heavy and regular production, self-infertile, blooming 20 Feb. in Modesto, chilling requirement is 600 h at 7 °C.

**Flavor Jewel.** An early-ripening, complex interspecific hybrid with red, glabrous skin. **Origin:** Modesto, Calif., by G.N. and G.G. Zaiger and L.M. Gardner. Unnamed seedling =(48ED292 =(King David plum o.p.) x plumcot =(Red Beaut x unknown apricot)) x 105GD55 =(hybrid with Friar, Mariposa and Ebony plums as parents) o.p. USPP13,502 issued 21 Jan. 2003. **Fruit:** large, 66 mm diameter, 159 g, cordate; skin is red, glabrous; flesh yellow with red under skin, firm, 18.3% SS; cling; ripe the second week of August, 2 weeks after Friar. **Tree:** large, vigorous, upright; heavy and regular production, self-infertile, blooming 25 Feb. in Modesto, chilling requirement is 800 h at 7 °C.

**Flavor Treat.** A late-ripening, complex interspecific hybrid with garnet red, glabrous skin. **Origin:** Modesto, Calif., by C.F., G.N. and G.G. Zaiger and L.M. Gardner. 82EG355 =(complex hybrid with plum, apricot and peach parents) x 324LF168 =(complex hybrid with plum and apricot parents. USPP12,936 issued 10 Sept. 2002. **Fruit:** large, 69 to 72 mm diameter, 270 g, globose; skin is garnet red, glabrous; flesh light yellow to yellow, firm, 19.6% SS; cling; ripe the first week of September, 3 weeks after Flavor Gem. **Tree:** large, vigorous, upright; heavy and regular production, self-infertile, blooming 27 Feb. in Modesto.

**Jayfree Plum.** A European plum with freestone, nonshattering pit, for fresh market and processing. **Origin:** Geneva, N.Y., by J.P. Watson, Cornell University. Valor x Iroquois. Selected in 1975 and tested as NY66.609.6. USPP13,851 issued 17 June 2003. Assigned to Cornell Research Foundation, Inc. **Fruit:** large, 43 to 48 mm diameter, 48 to 63 mm long, roundly elongated; skin is gray-purple with heavy bloom; flesh yellow-orange, medium firm, 14% SS, produces highly colored processed plum products of excellent quality; free; ripe last week of August. **Tree:** medium, medium vigor, spreading; very productive, precocious, nonshowy flower with abundant pollen, self-fertile, midseason blooming. **Disease:** above avg. tolerance, immune to prune leafcasting mottle physiological disorder, good cold hardiness.

**Kenmore Plum.** A European plum with freestone, nonshattering pit, for fresh-market

and processing. **Origin:** Geneva, N.Y., by J.P. Watson, Cornell University. Standard x Stanley. Selected in 1971 and tested as NY58.900.9. USPP14,020 issued 29 July 2003. Assigned to Cornell Research Foundation, Inc. **Fruit:** large, 40 to 45 mm diameter, 52 to 60 mm long, elongated; skin is gray-purple; flesh yellow, medium juicy, elastic, tough texture, 14% SS, produces highly colored processed plum products of excellent quality; free; ripe first week of September. **Tree:** medium large, vigorous, upright; very productive, nonshowy flower with abundant pollen, self-fertile, mid-late season blooming. **Disease:** above avg. Black knot tolerance, brown rot tolerance of blossom and fruit, european red mite tolerance, immune to prune leafcasting mottle physiological disorder.

**Owen T.** A black-skin, yellow-flesh Japanese plum. **Origin:** Parlier, Calif., by D.W. Ramming, USDA-ARS. K183-69 =(Friar x Queen Rosa) o.p. made in 1983. Selected in 1986, tested as K506-87, rel. Feb. 2002. **Fruit:** large, 74 mm diameter, 200 g, oblate; skin is black with purple shoulders and waxy bloom; flesh light yellow, firm, medium texture; cling; ripe the last week of June to first week of July, 10 d before Friar. **Tree:** average vigor, upright; productive, self-infertile, blooming in midseason, with Blackamber.

**Red Majesty.** An early-ripening, red-skin, yellow-flesh Japanese plum. **Origin:** Le Grand, Calif., by L.G. Bradford. Unnamed red plum o.p. Seed collected 1992 and selected in 1997. USPP13,497 issued 21 Jan. 2003. **Fruit:** large, 64 mm diameter, 132 g, oblate; skin is bright red with numerous small freckles; flesh yellow, spongy texture with good flavor, 14% SS; cling; ripe the third week of June, 8 d before Santa Rosa. **Tree:** medium, vigorous, upright; good and regular production, self-infertile, with abundant pollen, Laroda and Wickson are pollinators.

**Rosy Jewel.** An early European plum. **Origin:** Fresno, Calif., by J.M. Garabedian and M.H. Stewart. Unknown plum o.p. USPP13,052 issued 8 Oct. 2002. **Fruit:** medium to large, 55 to 60 mm diameter, round; skin is dark burgundy; flesh pale green; semi-free; ripe the last week May and first week of June in Fresno. **Tree:** large, medium vigor, upright, good and regular production.

**Royal Treat.** An early-ripening, complex interspecific hybrid with dark magenta, glabrous skin. **Origin:** Modesto, Calif., by G.N. and G.G. Zaiger and L.M. Gardner. 33ED7 =(Laroda x Queen Ann) x unknown plumcot. USPP13,505 issued 21 Jan. 2003. **Fruit:** medium to large, 57 mm diameter, 90 g, globose; skin is dark magenta, glabrous; flesh yellow, firm, 14.8% SS; cling; ripe the second week of June, 30 d before Laroda. **Tree:** large, vigorous, upright; good and regular production, self-infertile, blooming 28 Feb. in Modesto, chilling requirement is 700 h at 7 °C.

**Rubirosa.** A very early-ripening, red-skin, yellow-flesh Japanese plum. **Origin:** Modesto, Calif., by G.N. and G.G. Zaiger and L.M. Gardner. 74LA323 =(unknown origin) x 31GF169 =(Friar, Red Beaut, Burmosa, and Autumn Giant in parentage). USPP13,506 issued 21 Aug. 2003. **Fruit:** medium, 53 mm diameter, 110 g,

globose; skin is red; flesh yellow, firm, 14.7% SS; cling; ripe the first week of June, 1 week after Red Beaut. **Tree:** large, vigorous, upright; good and regular production, self-infertile, abundant pollen, blooming last of February to first of March in Modesto.

**Sierra Rose.** A mid-late ripening, complex interspecific hybrid with brownish violet, glabrous skin. **Origin:** Modesto, Calif., by G.N. and G.G. Zaiger and L.M. Gardner. 326LC131 =(complex hybrid with Friar and Autumn Giant plum and a plumcot seedling parents) x 391LD449 =(Modesto apricot x plumcot) x unknown apricot. USPP13,687 issued 25 Mar. 2003. **Fruit:** large, 64 mm diameter, 198 g, globose; skin is brownish violet speckled pattern, glabrous; flesh yellow, firm, excellent flavor, 16% SS; cling; ripe the second week of August, 20 d after Friar. **Tree:** large, vigorous, upright; good and regular production, self-infertile, blooming 19 Feb. in Modesto, chilling requirement is 600 h at 7 °C.

**Sunlite Nugget.** A very early-ripening, green-skin, yellow-flesh Japanese plum. **Origin:** Del Rey, Calif., by F.T. Matoba. Red Beaut o.p. Selected in 1980. USPP13,376 issued 11 Dec. 2002. **Fruit:** large, 55 mm diameter, round; skin is green; flesh light yellow, high quality, sweet with moderate acidity; cling; ripe the third to fourth week of May, with Red Beaut. **Tree:** medium size, medium vigor, upright to upright-spreading; good and regular production, early blooming, self-infertile, 4 d before Santa Rosa and compatible with Santa Rosa.

**Suplumttwentyfour.** A early to midseason, black-skin, red-flesh Japanese plum. **Origin:** Bakersfield, Calif., by C.D. Fear, B.D. Mowrey and D.W. Cain. Suplumtwelve x 275-136. Crossed in 1988 and selected in 1991. USPP13,395 issued 24 Dec. 2002. Assigned to Sun World International, Inc. **Fruit:** large, 70 mm diameter, 145 g, slightly oblate; skin is black; flesh bright red, smooth crisp texture and juicy, tart flavor, 14% to 15% SS; cling; ripe the middle of June, 5 d before Blackamber. **Tree:** vigorous, semi-upright; very productive with regular production even when cold and damp during bloom.

**Suplumttwentythree.** An early-ripening, black-skin, red-flesh Japanese plum. **Origin:** Bakersfield, Calif., by B.D. Mowrey and D.W. Cain. 91P-001 o.p. Crossed in 1993 and selected in 1996. USPP13,167 issued 5 Nov. 2002. Assigned to Sun World International, Inc. **Fruit:** large, 62 mm diameter, 112 g, oblate; skin is black; flesh red, slightly tart flavor, 15% SS; cling; ripe the first week of June, 2 weeks after Suplumttwentytwo and Flavorosa. **Tree:** medium vigor, semi-upright; good and regular production, midseason blooming.

**Suplumttwentytwo.** A very early-ripening, black skin, red and yellow flesh Japanese plum. **Origin:** Bakersfield, Calif., by B.D. Mowrey and D.W. Cain. Pedigree is 91P-001 o.p. Crossed in 1993 and selected in 1996. USPP13,171 issued 5 Nov. 2002. Assigned to Sun World International, Inc. **Fruit:** large, 60 mm diameter, oblate; skin is black; flesh yellow at pit and red in rest of flesh, smooth crisp texture, mild sweet flavor, 16.5% SS; cling; ripe the third week of May, with Red Beaut. **Tree:** medium vigor,

semi-upright; good and regular production, midseason blooming.

**Tasty Rich.** An early-ripening, complex interspecific hybrid with apricot appearance. **Origin:** Modesto, Calif., by C.F., G.N. and G.G. Zaiger and L.M. Gardner. Unknown apricot x 7HC43 = {87EB90 = (Flaming Gold apricot o.p.) x plumcot = (Red Beaut o.p.) x Royal Zee plum}. USPP12,774 issued 16 Jul. 2002. **Fruit:** medium to large, 49 to 51 mm diameter, 80 g, globose; skin is yellow-orange, pubescent; flesh light yellow-orange, 14.2% SS, excellent flavor and eating quality, flavor like apricot; free; ripe the first week of May, 2 weeks before Honey Rich apricot. **Tree:** large, vigorous, semi-spreading; heavy and regular production, self-infertile, blooming 20 Feb. in Modesto, chilling requirement is 700 h at 7 °C.

**Yummybeaut.** An early-ripening, dark red to purple skin, yellow-flesh Japanese plum. **Origin:** Le Grand, Calif., by L.G. Bradford. Grand Rosa x unnamed plum seedling. Seed collected 1995. USPP13,478 issued 14 Jan. 2003. **Fruit:** medium, 59 mm diameter, 119 g, globose; skin is dark red to purple; flesh yellow, very firm, juicy with excellent flavor, 17% to 19% SS; cling; ripe third week of June. **Tree:** large, vigorous, upright; usually productive, self-infertile, early blooming, Ambra is a pollinator.

**Yummygiant.** A midseason, dark reddish brown skin, yellow-orange flesh Japanese plum. **Origin:** Le Grand, Calif., by L.G. Bradford. Unnamed red plum o.p. Seed collected 1992 and selected in 1997. USPP13,458 issued 7 Jan. 2003. **Fruit:** large, 68 mm diameter, 196 g, round to slightly oblong; skin is deep reddish brown over yellow with moderate freckling; flesh light yellow orange, firm, juicy crisp texture with excellent flavor, 18% SS; cling; ripe the second week of July, 8 d before Fortune. **Tree:** medium, vigorous, spreading; good and regular production, self-infertile, early blooming with abundant pollen, Ambra and Autumn Rosa are pollinators.

**Yummyrosa.** An early-ripening, dark red skin, yellow to red flesh Japanese plum. **Origin:** Le Grand, Calif., by L.G. Bradford. 19P442 = (Black Beaut o.p.) o.p. Seed collected 1993 and selected in 1998. USPP13,476 issued 14 Jan. 2003. **Fruit:** medium, 62 mm diameter, 139 g, globose; skin is dark red with moderate freckling; flesh yellow to red, firm, juicy with excellent flavor, 16% to 18% SS; cling; ripe the last week of June, 2 weeks after Black Beaut. **Tree:** large, vigorous, upright; good and regular production, self-fertile, midseason blooming.

## PRUNUS ROOTSTOCK

### T.G. Beckman

USDA-ARS Southeastern Fruit and Tree Nut Research Lab, Byron, Ga.

**Krymsk 1™.** A clonal *Prunus tomentosa* x *P. cerasifera* hybrid rootstock for peach. **Origin:** developed by G. Eremin at the Vavilov Research Institute in Krymsk, Russia. Released in 1996 for testing as VVA-1. **Tree:** Krymsk 1 is easily propagated by softwood and hardwood cuttings. Trees budded to Krymsk 1 are well anchored and more cold and drought tolerant than trees on

peach seedling. Budded tree size is ca 60% of that on peach seedling. Krymsk 1 is not tolerant of drought but is tolerant of heavy, wet soils. Compatible with most apricots, most European plums and some Japanese plums. (Goodfruit Grower 49(10):11; 1998).

**Krymsk 86™.** A clonal *Prunus cerasifera* x *P. persica* hybrid rootstock for peach. **Origin:** developed by G. Eremin at the Vavilov Research Institute in Krymsk, Russia. Released in 1986 for testing as Kuban 86. **Tree:** Krymsk 86 is easily propagated by softwood and hardwood cuttings. Krymsk 86 is nonsuckering and tolerant of calcareous soils. Trees budded to Krymsk 86 are more cold tolerant and precocious than trees on standard peach seedling. Budded tree size is about 80% of that on peach seedling. Krymsk 86 is more tolerant of waterlogging than peach seedling. Compatible with most almonds, apricots, European plums and Japanese plums. (Goodfruit Grower 49(10):11; 1998).

## RASPBERRY

### Hugh Daubeny

Agriculture and Agri-Food Canada, Pacific Agriculture Research Centre, Agassiz, B.C. V0M 1A0

**Alice.** A yellow primocane fruiting red raspberry, the first with *Rubus sumatranus* in its derivation, adapted to cooler regions of Mid-Atlantic States. **Origin:** University of Maryland; Virginia Polytechnic Institute and State University; Rutgers University and University of Wisconsin by H.J. Swartz, H. Stiles, J. Fiola, and B. Smith; (Heritage x *Rubus sumatranus*) x Anne; cross made in 1994; selected 1996; tested as OAY-fl; introduced in 2003; not patented. **Fruit:** smaller than Anne and less cohesive; moderate firmness in cooler regions; excellent flavor; ripens September to October. **Plant:** more productive than Anne; very vigorous; canes branch; moderate primocane production; adapted to a wide range of soil types.

**Brice.** An extremely early ripening primocane fruiting red raspberry. **Origin:** Medway Fruits and Redeve, Otham, Kent, U.K., by D.L. Jennings. Parents include Joan Squire and a complex hybrid involving Joan J., Glen Moy, and Autumn Bliss; cross made 1999; patented U.K. **Fruit:** large; conic; firm; medium red; good flavor; in southern U.K. crops from second week of August to first week of October. **Plant:** sturdy, erect, spine-free canes of medium vigor; well suited to production in tunnels.

**Cascade Delight.** A productive, floricanic fruiting, late-ripening fresh market red raspberry adapted to the Pacific Northwest. **Origin:** Washington State University, Puyallup, by P.P. Moore. Chilliwack x WSU 994; cross made 1989; selected 1992; tested as WSU 1090; introduced in 2003; USPPAF. **Fruit:** very large; long conic; very firm; glossy and slightly redder than Tulameen; releases easily from receptacle. **Plant:** very vigorous with long fruiting laterals which make it unsuitable for machine harvesting. Susceptible to raspberry bushy dwarf virus and to the North American vector of the raspberry mosaic virus complex, the aphid *Amphorophora agathonica*; field

tolerance to root rot caused by *Phytophthora fragariae* var. *rubi*.

**Cascade Nectar.** A very productive, floricanic fruiting red raspberry adapted to the Pacific Northwest. **Origin:** Washington State University, Puyallup, by P.P. Moore. WSU 608 x Tulameen; cross made 1990; selected 1994; tested as WSU 1129; introduced in 2003; USPPAF. **Fruit:** medium size; short conic; soft; light color with bloom; releases easily from receptacle and suitable for machine harvest; especially good for production of raspberry liquor. **Plant:** vigorous. Susceptible to raspberry bushy dwarf virus and to the North American vector of the raspberry mosaic virus complex, the aphid *Amphorophora agathonica*.

**Chemimus.** A productive, multi-purpose floricanic fruiting red raspberry adapted to the Pacific Northwest. **Origin:** Pacific Agriculture Research Centre, Agassiz, B.C. Canada by C. Kempler and H.A. Daubeny; BC 82-5-84 x Tulameen; cross made 1989 by HAD; selected 1992 by HAD; tested as BC 89-33-84; introduced in 2003; propagated under a royalty agreement with Pacific Northwest propagators. **Fruit:** large; conic; firm; glossy medium red; releases easily from receptacle and suitable for machine harvest; flavor similar to Tulameen; good shelf life; some resistance to pre- and postharvest rot caused by *Botrytis cinerea*; suitable for fresh market and processing including IQF. **Plant:** moderately vigorous; adequate numbers of primocanes which are green with red overcast and have red basal spines; floricanes light gray with moderate cracking; strong upright fruit laterals that are shorter than those of Tulameen and Meeker; fruit evenly spaced along laterals very good bud break; adequate winter hardiness in Pacific Northwest. Relatively susceptible to spur blight, cane *Botrytis*; susceptible to raspberry bushy dwarf virus; resistant to the North American vector of the raspberry mosaic virus complex, the aphid *Amphorophora agathonica*; some field tolerance to the root rot caused by *Phytophthora fragariae* var. *rubi*.

**Deborah.** A primocane fruiting red raspberry adapted to the mid-Atlantic region. **Origin:** University of Maryland, Virginia Polytechnic Institute and State University, Rutgers University and University of Wisconsin by H.J. Swatz, H. Stiles, J. Fiola; B. Smith; (Amosh H x NY 817) x Caroline; cross made in 1993; selected 1995; tested as ND-fl; introduced in 2003; not patented. **Fruit:** very large; conic; cohesive; soft at high temperatures; good flavor; ripens September to October. **Plant:** moderately productive; vigorous; moderate cold hardiness if spring cropped. Less susceptible to yellow rust than Heritage.

**Esquimalt.** A very late ripening fresh market floricanic fruiting red raspberry adapted to the Pacific Northwest. **Origin:** Pacific Agriculture Research Centre, Agassiz, B.C., Canada by C. Kempler and H.A. Daubeny; Comox x Glen Ample; cross made 1989 by HAD; selected 1992 by HAD; tested as BC 89-2-89; introduced in 2003; propagated under a royalty agreement with Pacific Northwest propagators. **Fruit:** very large with thick drupelets; light to medium red and slightly dull; pleasant flavor; drupelets can break when picked prematurely from receptacle;



not suitable for machine harvest; ripens 5 to 7 d later than Tulameen. **Plant:** very vigorous with upright habit; abundant long and thick primocanes that are light green color with no spines; floricanes gray brown color with silvery shine; very little cracking; short very upright, strongly attached fruit laterals with well spaced fruit; winter hardy in coastal Pacific Northwest. Relatively susceptible to spur blight and to cane *Botrytis*; resistant to anthracnose; susceptible to raspberry bushy dwarf; resistant to the North American vector of the raspberry mosaic virus complex, the aphid, *Amphorophora agathonica*; relatively susceptible in the field to root rot caused by *Phytophthora fragariae* var. *rubi*.

**Fertodi aranyfurt.** A large, yellow floricanes- fruiting red raspberry. **Origin:** Fertod Research Institute of Fruit Growing, Sarrod, Hungry by L. Kollanyi; [(Malling Exploit x Mitra) x (St. Walfried x Yellow Antrwerp)]; selected 1983; introduced in 2001. **Fruit:** large; medium firm yellow turns to orange when over ripe; sweet flavor; early to midseason ripening. **Plant:** vigorous; moderately productive. Moderately susceptible to leaf spot.

**Fertodi karmin (Marla).** A high yielding, spur blight resistant floricanes fruiting red raspberry. **Origin:** Fertod Research Institute of Fruit Growing, Sarrod, Hungry by L. Kollanyi; Canby x F. 6210/120; cross made 1971; selected 1976; tested as F. 6348/47; introduced in 2000. **Fruit:** medium to large; conic; light red; good sweet flavor; early ripening; suited to fresh market. **Plant:** vigorous upright canes.

**Fertodi rubina.** A high yielding floricanes fruiting raspberry. **Origin:** Fertod Research Institute of Fruit Growing, Sarrod, Hungry by L. Kollanyi; F. 9322/64 x Citadel; cross made 1988; selected 1993. **Fruit:** large; conic, firm; dark red; suitable for processing and acceptable for fresh market; mid- to late-season ripening. **Plant:** vigorous with abundant primocanes. Resistant to leaf spot; moderately susceptible cane diseases.

**Fertodi Venus.** A multi-purpose floricanes fruiting red raspberry. **Origin:** Fertod Research Institute of Fruit Growing, Sarrod, Hungry by L. Kollanyi; F. 6266/9 x Glen Moy; cross made 1989; selected 1994. **Fruit:** very large; conic; red; good flavor; excellent for both fresh market and processing; very early with short season. **Plant:** productive; moderately vigorous; sturdy upright canes. Susceptible to cane blight.

**Fertodi zenit.** A floricanes fruiting red raspberry with cane disease resistance. **Origin:** Fertod Research Institute of Fruit Growing, Sarrod, Hungry by L. Kollanyi; Fertodi zamatos x Malling Delight; cross made 1989; selected 1994. **Fruit:** large; truncate-conic; firm; bright red; good flavor; early to mid season ripening; suited to fresh market and to processing. **Plant:** productive; vigorous.

**Himbo-Top (Rafzaqu).** A primocane fruiting red raspberry with very large fruit and suited to production under tunnels. **Origin:** Promo-Fruit AG, Landstrasse 42, Switzerland by P. Hauenstein; Autumn Bliss x Himbo Queen. Head license and UK rights held by Meiosis Ltd. **Fruit:** very large; cone shape; bright light red does not darken; firm; releases easily from receptacle; at lower elevations in

Switzerland starts to ripen in early August, 6 to 8 d after Autumn Bliss; season lasts 6 to 8 week and under tunnels until late October. **Plant:** productive; strong and very vigorous canes; fewer primocanes that Autumn Bliss. Similar reaction to *Phytophthora*-induced root rot as Autumn Bliss.

**Kaituna.** A high yielding floricanes fruiting red raspberry adapted to New Zealand. **Origin:** HortResearch Centre, Motueka N.Z., by H. Hall; SCRI 8216B6 x SCRI 795N10; cross made 1986 at Scottish Crop Research Institute by D.L Jennings; seedlings grown in N.Z.; selected 1989 by H. Hall; tested as 86107P2.7; patented. **Fruit:** conic; firm; light color; good flavor; fresh market; somewhat difficult to remove from receptacle. **Plant:** vigorous; semi upright canes that are genetically spineless.

**Marla.** See Fertodi karmin.

**Motueka.** A high yielding floricanes fruiting red raspberry adapted to New Zealand. **Origin:** HortResearch Centre. Motueka N.Z., by H. Hall; F29 (Marcy x Malling Delight) x B257 (open pollinated selection from Scottish Crops Research Institute); cross made 1989; tested as HR57; patented. **Fruit:** medium size; moderately firm; bright medium red; excellent flavor; releases easily from receptacle and adapted to machine harvest; excellent for processing; mid season ripening. **Plant:** moderately vigorous; upright canes that are genetically spineless; short internode length and large leaves give plant leafy appearance. Despite high inoculum levels has remained free of raspberry bushy dwarf virus in field in New Zealand for >10 years.

**Octavia.** A very late ripening floricanes fruiting fresh market red raspberry adapted to the U.K. **Origin:** Horticultural Research International-East Malling, by Victoria Knight; Glen Ample x EM 5928/114; cross made 1992; selected 1996; tested as 6512/50; introduced in 2002; European Union PBR. **Fruit:** medium to large, relatively uniform size; blunt conic to round; firm and cohesive; fairly good color; good flavor; releases easily from receptacle; good shelf life with greater firmness and less post harvest rot than Tulameen and with drupelets maintaining uniform color; ripens 10 to 14 d later than Tulameen and Glen Ample and season overlaps primocane fruiting varieties. **Plant:** higher yielding than Tulameen and the same as Glen Ample; vigorous new canes, reasonably good habit; crops to base of cane; laterals fairly upright; moderately leafy with fruit slightly clumped at lateral tip; spines on new canes are not objectionable. Moderately resistant to cane *Botrytis* and to cane spot; susceptible to spur blight. resistant to strains 1 to 4 of the European vector of the raspberry mosaic virus complex, the aphid *Amphorophora idaei*; susceptible to a resistant-breaking isolate of raspberry bushy dwarf virus but slow to become infected; has not been tested for raspberry rot rot caused by *Phytophthora fragariae* var. *rubi*.

**Pequot.** A very cold-hardy raspberry. **Origin:** Developed by Jim Fruth of Brambleberry Farm, Pequot Lakes, Minn., by purchasing about 40 L of black raspberry fruit from a zone 5 farmers market, freezing the still-wet extracted seeds at -34 °C, and planting the seed. Selected from a group of 30 seedlings that survived the

following spring. **Fruit:** Berry size similar to Latham Red Raspberry. Bears in July and fruiting season is about three weeks. **Plant:** Hardy in USDA zone 3. Has borne a crop after -42 °C. Berries firm; shippable; remain intact after 10 to 14 d when held between 1 and 6 °C. Resistant to most *Rubus* diseases. Responds well to foliar feeding. Tissue cultured plants available starting in Fall 2004, from Hartmann Plant Co., Lacota, Mich.

**Rafzaqu.** See Himbo-Top.

**Tadmor.** A high yielding, multi-purpose floricanes fruiting red raspberry adapted to New Zealand. **Origin:** HortResearch Centre, Motueka, N.Z., by H. Hall. Waimea x Lewis; cross made 1990; tested as HR59; patented. **Fruit:** large size maintained throughout season; firm; light to medium red; releases almost as easily from receptacle as Skeena and is suitable for machine harvest; late ripening; suitable for fresh market and for processing. **Plant:** vigorous; basal spines on canes which are not quite as upright as Skeena. Appears to escape raspberry bushy dwarf virus.

**Waimea.** A floricanes fruiting processing red raspberry, the first with *Rubus pileatus* in its derivation, adapted to New Zealand.; **Origin:** HortResearch, Nelson Research Centre, Motueka, N.Z., by H. Hall; SCRI 795B10 x SCRI 82224D4; cross made 1986 at the Scottish Crop Research Institute by D.L. Jennings; seedlings grown in N.Z.; selected in 1989 by H. Hall; tested as 86105N4.4; patented. **Fruit:** medium size; releases easily from receptacle; good quality for processing. **Plant:** medium-strong genetically spineless canes. Has remained free of raspberry bushy dwarf virus in New Zealand and in British Columbia where it has been trialed.

## STRAWBERRY

### Chad Finn

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**Adria.** A June bearing cultivar adapted to nonfumigated chalky soil in Italy. **Origin:** Ancona (Marche region), Italy, from the public breeding activity of the Italian National Project Frutticoltura, mainly financed by the Ministry of Agriculture, and coordinated by W. Faedi-Istituto Sperimentale per la Frutticoltura B Forlì Section. Granda x Miss; cross made in 1994; selected at Ancona in 1995 by B. Mezzetti and G. Murri (DiBiAGA-Univ. Polit. Marche, Italy); tested as AN94.153.51; introduced in 2003 (CPVO application No. 2003/1797). **Fruit:** medium large; regular conic shape with blunt or rounded tip; yellow, medium-size, achenes; bright red color; red firm flesh; medium quality and nutritional value. **Plant:** short-day type; medium crown number; medium strong vigor; high uniformity and productivity; late blooming and harvesting time (+ 1 day Idea) in the central-north climatic conditions.

**Alisal.** A short-day cultivar with fruit of medium red color and conic shape that is adapted to summer production along the central coast of California. **Origin:** B.D. Mowrey, J.F. Coss, L.T. Kodama, J.I. Espejo, Jr., and

T.M. Sjulín, Driscoll Strawberry Associates, Inc., Watsonville, Calif. R2 x Key Largo; selected in 1994 in Monterey County, Calif.; USPP11,639 issued 21 Nov. 2000; assigned to Driscoll Strawberry Associates, Inc. **Fruit:** large; mostly conic shape, most similar to Commander, but slightly smaller, redder and more variable in shape; internal color is pale red, similar to Commander; flavor is slightly better than Commander. **Plant:** more vigorous and upright than Commander, with denser foliage. Production volume is similar to Commander but has greater late-season yield. Plants are moderately resistant to powdery mildew but susceptible to verticillium wilt (*Verticillium dahliae*) and bacterial angular leafspot disease (*Xanthomonas fragariae*).

**Bish.** A productive, midseason, short-day cultivar adapted to plasticulture from the mid-South and southern Appalachians to the mid-Atlantic regions of the eastern US. **Origin:** North Carolina State University, Raleigh, by J.R. Ballington. FL 87-210 x Delmarvel; cross made in 1994; selected in 1995; tested as NCR 95-08; rel. in 2002; USPPAF. **Fruit:** midseason, season very similar to Camarosa; shape blunt-conic (on primaries) to conic; yield similar to Chandler and Camarosa; fruit size similar to Chandler; equal to or better than Chandler for all fruit characteristics except flesh color; flavor better than Camarosa, and equal to or better than the latter cultivar for attractiveness, symmetry and skin color; flesh color, fruit firmness and skin toughness satisfactory, but not equal to Camarosa. **Plant:** short-day; vigorous; prolific runner producer in nurseries; adapted to plasticulture. Resistant to anthracnose fruit rot (*Colletotrichum acutatum*).

**Cal Giant 3 (Galante).** An exceptionally well flavored short-day cultivar that expresses good soilborne disease tolerance and is adapted to various international locations. **Origin:** D.W. Small. California Giant, Inc., Watsonville, Calif. C1 x NWFV; cross made in 1993; selected in 1995; USPP12,403 issued 12 Feb. 2002; assigned to California Giant, Inc. Registered as Galante in Europe and Israel. **Fruit:** uniformly medium conic; very well sized; very high gloss; good interior color; fair to good firmness; pollinates well in inclement weather; produces a very good early crop with a strong ever-bearing tendency that allows for continued production through the summer and into the fall. **Plant:** short-day with a strong day-neutral tendency; vigorous; semi-erect and open. Slightly susceptible to powdery mildew in high nitrogen environments; good Colletotrichum resistance; good botrytis resistance; good angular leaf spot resistance; good resistance to phytophthora crown rot (*Phytophthora cactorum*).

**Cal Giant 4 (Gloria).** A short-day cultivar that expresses extraordinary tolerance to foliar, fruit, and soilborne diseases; as well as producing very well shaped fruit; maintains good fruit size throughout the entire season; adapted well to various international locations. **Origin:** D.W. Small. California Giant, Inc., Watsonville, Calif. A41 x Seascap; cross made in 1994; selected in 1996; USPP12,423 issued 26 February 2002; assigned to California Giant, Inc. Registered as Gloria in Europe and Israel. **Fruit:** medium

to long conic; very uniformly shaped; very uniformly sized within the hand and from hand to hand; darker exterior and interior color than Cal Giant 3; medium firmness; pollinates well in inclement weather; produces a good early crop and a strong ever-bearing tendency that allows for very good late season production; flavor is acceptable but less complete than Cal Giant 3. **Plant:** a short-day with a strong everbearing tendency; semi-erect and more compact and dense than Cal Giant 3; displays extraordinary tolerance to fruit, foliar, and soilborne diseases. Extraordinary tolerance to verticillium wilt, *Phytophthora sp.*, *Rhizoctonia*, and *Pythium*. Exceptional tolerance to powdery mildew, *Colletotrichum*, and angular leaf spot. Somewhat tolerant to *Botrytis cinerea*. Impervious to two-spot spider mite (*Tetranychus urticae*) and European red mite.

**Cal Giant 5 (Galexia).** An exceptionally firm yet succulent cultivar with very good flavor and disease tolerance that is proving adapted to many locations internationally. **Origin:** D.W. Small. California Giant, Inc., Watsonville, Calif. F39.1 x F15.1; cross made in 1997; selected in 1999; USPPAF 10/274216 in 2002; assigned to California Giant, Inc. Registered as Galexia in Europe and Israel. **Fruit:** exceptionally firm and well-sized with good continuing size within the hand and from hand to hand; orange red color with good interior color saturation; very succulent with very good flavor; good rain tolerance, pollinating well in inclement weather and displaying good disease tolerance, very strong early crop and a strong ever-bearing tendency allows for very good late season production. **Plant:** short-day with a strong day-neutral tendency; more compact than Cal Giant 4 with very aggressive side-crown development; displays good disease tolerance to various soilborne, foliar, and fruit diseases, specifically *Botrytis cinerea*, *Phytophthora sp.*, *Colletotrichum*; powdery mildew, and angular leaf spot. Displays good tolerance to two-spot spider mites.

**Camino Real.** A short day cultivar similar to Camarosa and Gaviota. **Origin:** developed by D.V. Shaw and K.D. Larson. Univ. of California, Wolfskill Experimental Orchard, near Winters. Cal. 89.230-7 x Cal. 90-253-3; cross made in 1994; selected in 1995; tested as Cal 94.3-11 and later as C213. USPP13,079 issued 15 Oct. 2002; assigned to the Regents of the University of California. **Fruit:** larger than Camarosa; similar firmness to Camarosa; darker internal and external color than Camarosas; very good flavor; excellent appearance; rounded or symmetrical conic; should be suited for fresh market and processing. **Plant:** smaller, more compact, more open, more erect, and less vigorous than Camarosa. Greater yield than Camarosa. Production pattern similar to Camarosa although begins fruiting somewhat later. Moderately susceptible to common leaf spot (*Ramularia tulasnei*) and somewhat sensitive to powdery mildew (*Sphaerotheca macularis*); quite resistant to verticillium wilt and phytophthora crown rot, and relatively resistant to anthracnose crown rot. When treated properly, it has tolerance to two-spotted spider mites equal or greater than Gaviota.

**Canterbury.** A short-day cultivar with fruit of orange-red color, conic to chordate shape and high flavor that is adapted to late-winter through spring production along the south coast of California. **Origin:** A.Q. Amorao, A. Solis, Jr., and T.M. Sjulín, Driscoll Strawberry Associates, Inc., Watsonville, Calif. 9A264 x Balboa; selected in 1996 in Ventura County, Calif. USPP12,577 issued 23 Apr. 2002; assigned to Driscoll Strawberry Associates, Inc. **Fruit:** large; conic to chordate shape, most similar to Coronado; lighter external skin color and redder flesh color than Coronado; flavor is mildly aromatic, much sweeter and less acidic than Coronado. **Plant:** more vigorous and upright than Coronado, with denser foliage; shorter inflorescence length than Coronado. Production is less than Coronado and slightly earlier. Moderately resistant to powdery mildew but susceptible to verticillium wilt and bacterial angular leafspot disease.

**Clancy.** A new late season strawberry with large firm fruit adapted to the northeast and central U.S. and southeast and central Canada. **Origin:** developed by C.A. Weber, J.C. Sanford, and K.E. Maloney at Cornell University-NY-SAES, Geneva, N.Y. MDUS 4774 x MDUS 5199; selected in 1989; tested as NYUS304B. **Fruit:** round-conic; dark red color; good flavor; firm flesh with good texture and eating quality; suitable for direct retail and wholesale; 2 to 3 d later harvest than Jewel; firmness and bruising ratings were equal to Jewel after 6 d at 1 °C. Yields were similar to Jewel with larger fruit-13.1 g vs. 11.7 g average over the entire harvest season. **Plant:** short day/June-bearing type; vigorous, upright growth with dark green leaves; fruiting trusses are stiff and upright, holding fruit off the ground until ripening. Cold hardy to at least -25°C with straw mulch.

**Colima.** A productive, day neutral cultivar with excellent color that grows well in the Coastal area in the northern production area of California. **Origin:** developed by B. Crandall; Watsonville, Calif. Selva x Douglas; cross made in 1991; selected in 1992; USPP13,081 issued 15 Oct. 2002; assigned to Beach Street Farms, LLC. **Fruit:** shiny; deep red color with yellow to brown achenes; blocky and somewhat ridged; larger than Selva early but variable through the season; firm; good flavor; slightly earlier production pattern than Selva; continues production through early October in coastal California; fresh market production. **Plant:** vigorous day-neutral; fairly large plant; produces many runners at high elevation nursery locations; high tolerance to two spotted spider mites (*Tetranychs urticae*) but susceptible to powdery mildew (*Sphaerotheca macularis*) and anthracnose (*Colletotrichum acutatum*).

**Demetra.** A June bearing cultivar adapted to southern Italy environments. **Origin:** Metaponto (Matera B Basilicata region), Italy, from the public breeding activity of the Italian National Project Frutticoltura, mainly financed by the Ministry of Agriculture, and coordinated by W. Faedi-Istituto Sperimentale per la Frutticoltura B Forlì Section. Tudla H Irvine; cross made in 1991; selected at Metaponto in 1993 by P. Arcuti (Az. Pantanello B Matera), W. Faedi (ISF-Forlì), S. Recupero (ISF-Caserta) and P.

Rosati (DiBiAGA-Univ. Polit. Marche, Italy); tested as MT 91.214.2; introduced in 2003. **Fruit:** large and firm; elongated shape; shape not always regular in particular in the first part of picking or using cold stored frigo plants; very glossy red color; good and slightly aromatic flavor. **Plant:** short day type, producing fruit in very early season; intermediate vigor; small crown number and high yield; well adapted to winter planting technique in the South of Italy using fresh plants (plug or bare roots plant). Tolerant to soilborne pathogens and susceptible to *Colletotrichum acutatum*, *Alternaria alternata*, *Mycosphaerella fragariae* and *Xanthomonas fragariae*.

**Driscoll El Capitan.** A short-day cultivar with fruit of dark red color, chordate shape and high flavor that is adapted to late-winter through spring production along the southern coast of California. **Origin:** A.Q. Amorao, A. Solis, Jr., and M. Ferguson, Driscoll Strawberry Associates, Inc., Watsonville, Calif. San Miguel x 12A71; selected in 1996 in Ventura County, Calif. USPP14,005 issued 22 July 2003; assigned to Driscoll Strawberry Associates, Inc. **Fruit:** large; dark red; chordate shape; most similar to San Miguel, but with lighter flesh color; flavor is similar to but somewhat sweeter than San Miguel. **Plant:** more vigorous than San Miguel, but has a similar open plant habit of globose shape; slightly shorter inflorescence length than San Miguel. Production is greater than San Miguel with earlier initial fruiting. Moderately resistant to powdery mildew but susceptible to verticillium wilt and bacterial angular leafspot disease.

**Driscoll Venice.** A short-day cultivar with fruit of orange-red color, chordate shape and high flavor that is adapted to late-winter through spring production along the south coast of California. **Origin:** A.Q. Amorao, A. Solis, Jr., and M. Ferguson, Driscoll Strawberry Associates, Inc., Watsonville, Calif. Ana Maria x Balboa; selected in 1996 in Ventura County, Calif. USPP14,062 issued 12 Aug. 2003; assigned to Driscoll Strawberry Associates, Inc. **Fruit:** large; chordate shape; most similar to Coronado but with somewhat lighter skin and flesh color; flavor is aromatic, much sweeter and less acidic than Coronado. **Plant:** globose shaped and similar to Coronado, but with denser foliage. Production is greater than Coronado and earlier. Moderately resistant to powdery mildew but susceptible to verticillium wilt and bacterial angular leafspot disease.

**Earlibrite.** A short-day cultivar that can produce high early season yields of flavorful fruit in west central Florida and other areas with mild winter climates. **Origin:** University of Florida, Dover, Fla., by C.K. Chandler, D.E. Legard, C.A. Sims, and T.E. Crocker. Rosa Linda x FL 90-38; cross made in 1993; selected in 1994; tested as FL 93-100; released in 2000. USPP13,061 issued 12 May 2000. **Fruit:** large; primary fruit globose conic or asymmetrical and secondary fruit conic to wedge shaped; medium firm; external color a bright red; internal color a pale red. **Plant:** short-day; compact; susceptible to botrytis fruit rot.

**Flamenco.** A productive day-neutral cultivar with excellent fruit quality, adapted to northern

Europe. **Origin:** D.W. Simpson; HRI East Malling, U.K. EvitaxEMR77, complex pedigree includes Evita, Selva, Tioga, Gorella and Gento; cross made in 1994; selected in 1995; tested as EMR154; introduced in 2002. **Fruit:** very regular conical shape; glossy with orange-red color; firm with sweet flavor and juicy texture; excellent shelf life; medium-large size and low percentage waste; season from July to October but most productive from September onwards. **Plant:** day-neutral; more vigorous than Everest with semi-erect habit; good runner production; good yield, similar to Everest, provided tunnels are used for protection in autumn. Suitable for fresh market, PYO and catering trade. Resistant to *Verticillium dahliae*, moderately resistant to *Sphaerotheca macularis*; susceptible to *Colletotrichum acutatum*.

**Galante.** See Cal Giant 3.

**Galexia.** See Cal Giant 5.

**GemStar.** A short-day cultivar that produces more consistently shaped fruit than Chandler on a vigorous, anthracnose crown rot tolerant plant in the southeastern US. **Origin:** P.P.C. Chang; Naples, Fla. B2 x A3, selected in 1997-98 season in Naples, Fla.; tested as JP2; USPP12,377 issued 29 Jan. 2002. **Fruit:** very large, larger than Chandler; lighter internal and external color than Chandler; good flavor; early ripening than Chandler; attractive; very glossy; small calyx; moderate firmness. **Plant:** short-day, very vigorous. Yield similar or greater than Chandler but more early season fruit than Chandler. Tolerant to anthracnose crown rot.

**Gloria.** See Cal Giant 4.

**Harmonie.** A light red glossy attractive fruit, firm, strawberry that keeps very well for several days, making it suitable for shipping. **Origin:** S. Khanizadeh, M. Deschênes, A. Levasseur, O. Carisse, J. DeEll, J.P. Privé and A. Sullivan. Agriculture and Agri-Foods Canada, St-Jean-sur-Richelieu and Association des producteurs de fraises et framboises du Québec. Yamaska x Joliette; tested as APF9323-3; introduced in 2003. **Fruit:** medium to large; conic to globose-conic; shiny; orange-red to red and it varies a bit from side to side; flesh is 80% to 100% orange-red to medium red and it is fairly firm; medium sweet; medium to medium-strong acidity; late ripening. **Plant:** hardy; medium vigor; average runner production; flat to flat globose habit; medium-dark green foliage; flowers are medium size, held on short to medium length peduncles of medium thickness that becomes arched as the fruits mature. Good for fresh markets and PYO, shipping. Moderately susceptible to leaf spot (*Mycosphaerella fragariae*), susceptible to leaf scorch (*Diplocarpon earliana*).

**Irma.** A day-neutral cultivar adapted to the Po Valley environmental conditions (Verona area). **Origin:** in Verona (Veneto Region), Italy, from the breeding activity, mainly financed by the Verona Province and Strawberry Growers Association Aposcaligera, and coordinated by W. Faedi-Istituto Sperimentale per la Frutticoltura B Forlì Section. Don x 89.33.1 (pedigree includes Marmolada, Addie, and Earliglow); cross made in 1995; selected in 1997 in Verona by W. Faedi, G. Baruzzi (ISF-Forlì), G. Baroni, L. Ballini (ISF B Verona), and F. Zenti (Coop. ApoScaligera B Verona); tested as VR

95.42.03; introduced in 2003 (CPVO application nE 2003/1828). **Fruit:** large and firm in fall; medium-firm in spring with a conic elongated shape; very tough skin and bright red color; flavor and taste are good in fall, medium in spring and summer. **Plant:** day neutral type; performs well with summer planting, like traditional Junebearing cultivars and also with spring planting aimed for summer-fall production like day-neutral cultivars in Northern mountain areas; well adapted to the traditional fall culture in the Verona area; medium-high vigor; tolerant to *Colletotrichum acutatum*, *Sphaerotheca macularis*, soilborne pathogens and leaf spot; susceptible to *Alternaria alternata* and *Xanthomonas fragariae*.

**L'Amour.** A new midseason strawberry with excellent fruit quality adapted to the northeastern and central U.S. and southeastern and central Canada. **Origin:** developed by C.A. Weber, J.C. Sanford, and K.E. Maloney at Cornell University-NYSAES, Geneva, N.Y. NYUS256 x Cavendish; selected in 1996; tested as NY1829. **Fruit:** bright red and firm but not hard; excellent eating quality and flavor; very attractive; large; long conic; large upright calyx. Fruit does not darken in storage. Firmness and bruising ratings superior to Honeoye after 6 d at 1 °C. 2 to 3 d later harvest than Honeoye. Yields similar to Honeoye with larger fruit—11.9 g vs. 11.6 g average over the entire harvest season. Suitable for direct retail and wholesale. **Plant:** short day/June-bearing type; vigorous spreading; fills in matted row well. Cold hardy to at least -25 °C with straw mulch.

**La Clé Des Champs.** A vigorous and productive midseason cultivar with large, firm and shiny berries, bred for eastern central Canada and northern climates. **Origin:** S. Khanizadeh, M. Deschênes, A. Levasseur, O. Carisse, J. DeEll, J.P. Privé and A. Sullivan. Agriculture and Agri-Foods Canada, St-Jean-sur-Richelieu, Quebec. SJ89244-6E x SJ8518-11; tested as LL9324-24; introduced in 2003. **Fruit:** primary fruit are large to very large; mainly conic shape but sometimes wedge; calyx segments are raised to very raised; secondary fruit are medium-large to large; conic; neck varies from slightly raised to very raised; calyx segments are reflexed to very reflexed; medium to hard to hull(cap) and the achenes are inserted slightly below to below the surface; glossy, medium red external color with a tendency to be bicolor (paler on one side than the other); flesh is medium red throughout and firm; flavor is pleasant with medium acidity and sugar; good shelf life; ripening 1 to 2 d after Kent. **Plant:** hardy; very vigorous; high runner production; upright to globose habit; medium green foliage; inflorescences are beneath to level with the foliage; flowers are large, held on long length peduncles of medium thickness that becomes arched as the fruit mature. Good for fresh markets and shipping. Susceptible to leaf scorch and leaf blight (*Phomopsis obscurans*).

**Madeira.** A short-day cultivar with fruit of dark red color and conic shape that is adapted to winter production in central Florida. **Origin:** K.L. Gilford and B.D. Mowrey, Driscoll Strawberry Associates, Inc., Watsonville, Calif. 7C171 x 21Y13; selected in 1997 in Hillsborough County, Fla. USPP14,109 issued 26 Aug.

2003; assigned to Driscoll Strawberry Associates, Inc. **Fruit:** large; mostly conic shape; most similar to Biscayne but darker red and more variable shaped; calyces on secondary fruit are smaller than those on Biscayne; internal color is medium red, similar to Biscayne; slightly less acidic and less flavorful than Biscayne. **Plant:** slightly taller and narrower than Biscayne but overall of similar, flat globose habit. Production volume is similar to Biscayne but earlier. Moderately resistant to verticillium wilt but susceptible to powdery mildew and bacterial angular leafspot disease.

**Marathon.** A short-day cultivar with fruit of orange-red color and chordate shape that is adapted to winter production in central Florida. **Origin:** K.L. Gilford, B.D. Mowrey, J. Campos-Garcia, T. M. Sjulín and L.T. Kodama, Driscoll Strawberry Associates, Inc., Watsonville, Calif. Key Largo x L3; selected in 1994 in Hillsborough County, Fla. USPP12,817 issued 30 July 2002; assigned to Driscoll Strawberry Associates, Inc. **Fruit:** large to very large; mostly chordate shape, similar to Biscayne, but larger, lighter red and more variably shaped; primary fruit in December are suitable for long-stem marketing; internal color is light red, much lighter than Biscayne; similar in acidity but lower in sugars and less flavorful than Biscayne. **Plant:** similar, flat globose habit to Biscayne. Production is earlier and of greater total volume than Biscayne. Susceptible to powdery mildew, verticillium wilt and bacterial angular leafspot disease.

**Ovation.** A very late-season, productive, large-fruited, June-bearing strawberry adapted to the mid-Atlantic and neighboring regions. **Origin:** G.J. Galletta, J. Maas, J. Enns, S. Hokanson, and K. Lewers; USDA-ARS, Beltsville, Md. Lateglow x Etna; cross made 1989, selected as resistant to red stele in 1990; selected for quality in 1991; tested as B440; released in 2003. **Fruit:** fruiting season is exceptionally late; firm; glossy; bright red to orange-red; slightly tender skin; red-orange flesh with a white ring surrounding a slight core at the proximal end; flavor is mild, slightly acidic, and aromatic. **Plant:** vigorous and propagates well. Resistant to most of the stem and leaf diseases, but moderately susceptible to powdery mildew. In Maryland field evaluations Ovation has shown no susceptibility to anthracnose crown and fruit rot, and in greenhouse evaluations has shown mid-range resistance to *Colletotrichum acutatum* crown rot.

**Pinnacle.** A productive, large fruited, short-day cultivar with an open plant habit adapted to the Pacific Northwest of North America and suited to fresh and processing applications. **Origin:** C.E. Finn, B. Yorgey, B.C. Strik, and P.P. Moore; USDA-ARS, Corvallis, Ore. Laguna x ORUS 1267-250; cross made in 1994; sel in 1996; tested as ORUS 1826-2; rel. in 2002. **Fruit:** early midseason ripening; large to very large, much larger than Totem; very attractive although a portion of the primary fruit can be rough; bright red internal and external color; can be picked with or without calyx; very good fresh flavor; good processing characteristics including flavor; better fresh market characteristics than most processing types. **Plant:** short-day; moderate vigor; moderate runner

production; very open with visible fruit. Yield similar to Totem.

**Queen Elisa.** A June bearing cultivar adapted to the Po Valley environmental conditions, producing fruit of high organoleptic quality. **Origin:** in Cesena (Po Valley), Italy, from the public breeding activity of the Italian National Project Frutticoltura, mainly financed by the Ministry of Agriculture, and coordinated by W. Faedi-Istituto Sperimentale per la Frutticoltura B Forlì Section. Miss x USB 35 (breeding line from the USDA-ARS, Beltsville); cross made in 1994; selected in 1996 by W. Faedi, G. Baruzzi (ISF-Forlì) and P. Lucchi (CRPV B Cesena); tested as 94.568.2; introduced in 2003 (CPVO application nE 2003/1550). **Fruit:** very regular conical or conic-rounded shape; very bright red; very firm skin and flesh; good flavor (high sugar-acid balance) and aroma. **Plant:** short day type producing fruit in early season with a similar cropping season to Miss; medium vigor; good resistance to *Colletotrichum acutatum*, *Alternaria alternata*, *Sphaerotheca macularis*; tolerant to soilborne pathogens; susceptible to leaf spot and *Xanthomonas fragariae*.

**Rubea.** A June bearing cultivar adapted to southern Italy environments. **Origin:** Marsala (Sicily region), Italy, from the public breeding activity of the Italian National Project Frutticoltura, mainly financed by the Ministry of Agriculture, and coordinated by W. Faedi-Istituto Sperimentale per la Frutticoltura B Forlì Section. Irvine x 86.51.13; cross made in 1991; selected at Marsala in 1993 by F. D'Anna (ACEP, Palermo University, Italy) and W. Faedi (ISF-Forlì); tested as PA 91.201.5; introduced in 2003. **Fruit:** large, with conic, regular shape; very glossy and bright red; firm skin and flesh; medium and slightly aromatic flavor. **Plant:** short day type, producing fruit in early season; very high yield; high vigor; medium-high crown number; tolerant to soilborne pathogens *Sphaerotheca macularis* and *Mycosphaerella fragariae*; susceptible to *Colletotrichum acutatum*, *Alternaria alternata* and *Xanthomonas fragariae*.

**Ruby.** A short-day cultivar that produces large fruit in a season similar to Camarosa in central and south Florida. **Origin:** P.P.C Chang; Naples, Fla. B1 x Selva. sel in 1997-98 season in Naples, Fla.; tested as JP1; USPP12,283 issued 18 Dec. 2001. **Fruit:** conic to long-conic shape; larger size, lighter color, and sweeter than Camarosa; similar shape and firmness to Camarosa; juicy; glossy; attractive; long pedicel. **Plant:** short-day; low chilling; open, prostrate plant habit; vigorous. Ripening season is later than Sweet Charlie but earlier than Camarosa. Yield of Ruby is less than Sweet Charlie but higher than Camarosa. Susceptible to powdery mildew; less susceptible to anthracnose than Selva.

**St-Jean d'Orléans.** An early midseason cultivar with resistance to leaf diseases and which has a long shelf life adapted for eastern central Canada and climates similar to Quebec conditions. **Origin:** S. Khanizadeh, M. Deschênes, A. Levasseur, O. Carisse, J. DeEll, D. Buszard, A. Gosselin and L. Gauthier, Agriculture and Agri-Food Canada, St-Jean-sur-Richelieu, Quebec, McGill University and

Les Fraises de l'Île d'Orléans Inc., Île d'Orléans, Quebec. Tested as FIO9623-43; introduced in 2003. **Fruit:** globose-conic and sometimes short wedged; glossy; red color at maturity; band without achenes is medium; calyx segments slightly reflexed; insertion is level with fruit; hard to hull; achenes are level with surface; flesh is firm, medium red; medium sweetness and acidity; good shelf life; early midseason ripening. **Plant:** hardy; medium vigor; slightly above average runner production; flat habit; medium to slightly darker green foliage; flowers are medium size, held on short length peduncles of medium thickness that becomes arched as the fruits mature. Good for fresh markets. Fairly resistant to leaf spot and leaf scorch.

**Saint-Laurent d'Orléans.** A late ripening cultivar that is resistant to leaf diseases and has a long shelf life, adapted for eastern central Canada and climates similar to Quebec conditions. **Origin:** S. Khanizadeh, M. Deschênes, A. Levasseur, O. Carisse, J. DeEll, D. Buszard, A. Gosselin and L. Gauthier, Agriculture and Agri-Food Canada, St-Jean-sur-Richelieu, Quebec, McGill University and Les Fraises de l'Île d'Orléans Inc., Île d'Orléans, Quebec. L'Acadie x (SJ8916-1 x P. Panda), tested as FIO9624-11, introduced in 2003. **Fruit:** conic to globose-conic; glossy; red color at maturity; band without achenes is medium; calyx segments are almost clasping to slightly reflexed; insertion is level to slightly above fruit; hard to hull; achenes are below to level with surface; flesh is firm, medium to dark red; slightly aromatic; medium sweetness; above medium acidity; good shelf life; early midseason ripening. **Plant:** hardy; medium vigor; average runner production; flat-globose habit; medium green foliage; flowers are medium size, held on medium length peduncles of medium thickness that becomes arched as the fruits mature. Good for fresh markets and shipping. Fairly resistant to leaf spot and leaf scorch.

**San Juan.** A short-day cultivar with fruit of large size, dark red color, high flavor and conic to chordate shape that is adapted to summer production along the central coast of California. **Origin:** B.D. Mowrey, L.T. Kodama, J.F. Coss, J.I. Espejo, Jr., and T.M. Sjulín, Driscoll Strawberry Associates, Inc., Watsonville, Calif. Lido x 33X257; selected in 1996 in Monterey County, Calif. USPP12,899 issued 3 Sept. 2002; assigned to Driscoll Strawberry Associates, Inc. **Fruit:** large; conic to chordate shape; most similar to Lido but larger and redder; internal color is red interspersed with white; aromatic flavor judged slightly superior to Lido, with greater acidity. **Plant:** similar in habit and size to Commander with darker green foliage. Production volume is similar to Commander but is slightly later with greater late-season yield. Susceptible to powdery mildew, verticillium wilt and bacterial angular leafspot disease.

**Serenity.** A productive, late-season, short-day cultivar adapted to eastern Canada. **Origin:** University of Guelph-Simcoe (formerly the Hort. Res. Inst. of Ontario), Simcoe, Ontario, Canada by A. Dale. 137A84 x Chandler; cross made in 1991, selected in 1993; tested as 32R11; released in 2003; Canadian Plant Breeder's Rights applied for. **Fruit:** late-season, about 1 d

later than Bounty and Scotland in Simcoe; very large; bright; average red external and internal color; tender skin; excellent fresh flavor. **Plant:** short-day; runners well; yielded consistently in trials throughout Ontario; vigorous; winter hardy. Moderately resistant to leaf scorch and powdery mildew.

**Sonora.** A fully everbearing cultivar with fruit of medium to large size, dark red color and conic shape that is adapted to summer production along the central coast of California. **Origin:** B.D. Mowrey, L.T. Kodama, J.F. Coss, J.I. Espejo, Jr., and T.M. Sjulín, Driscoll Strawberry Associates, Inc., Watsonville, Calif. 33X257 x L2; selected in 1996 in Monterey County, Calif. USPP13,386 issued 17 Dec. 2002; assigned to Driscoll Strawberry Associates, Inc. **Fruit:** medium to large; conic shape; most similar to Commander but of smaller average fruit size, greater length to width ratio, darker red external color and uniform red flesh color; flavor is similar to Commander, with somewhat greater acidity. **Plant:** similar in habit and size to Commander but with greater numbers of crowns per plant, and a denser, darker green canopy. Production volume is similar to Commander but with greater late-season yield. Moderately resistant to verticillium wilt but susceptible to powdery mildew and bacterial angular leafspot disease.

**Strawberry Festival.** A productive short-day cultivar adapted to west central Florida and other areas with mild winter climates. **Origin:** University of Florida, Dover, Fla., by C.K. Chandler, D.E. Legard, C.A. Sims, and T.E. Crocker. Rosa Linda x Oso Grande; cross made in 1995; selected in 1996; tested as FL 95-41; released in 2000. USPPAF. **Fruit:** easy to harvest; firm; medium size; uniform color development; external color a deep red; internal color a bright red; conic to wedge shaped; low cull rate; large showy calyx. **Plant:** short-day; prolific runner producer; susceptible to anthracnose fruit rot; very susceptible to angular leafspot.

**Sveva.** A June bearing cultivar adapted to nonfumigated chalky soil in Italy. **Origin:** Ancona (Marche region), Italy, from the public breeding activity of the Italian National Project Frutticoltura, mainly financed by the Ministry of Agriculture, and coordinated by W. Faedi—Istituto Sperimentale per la Frutticoltura B Forlì Section. EM 483 x 87.734.3; cross made in 1993; selected at Ancona in 1996 by P. Rosati\*, B. Mezzetti and G. Murri (DiBiAGA-Univ. Polit. Marche, Italy); tested as AN93.371.58; introduced in 2003 (CPVO application No. 2003/1797). **Fruit:** medium large; long conic shape with hollow tip; medium large calyx; red, medium-size achenes; red skin color and red medium firm flesh; medium quality with higher acidity and higher nutritional value. **Plant:** short-day type; high crown number; strong vigor; high uniformity and productivity; very late blooming and harvesting time (+ 7 d Idea) under central-north climatic conditions.

**Tillamook.** A very productive, large fruited, short-day cultivar with an open plant habit adapted to the Pacific Northwest of North America and suited to fresh and processing applications. **Origin:** C.E. Finn, B. Yorgey, B.C. Strik, and P.P. Moore; USDA—ARS, Corvallis

Ore. Cuesta x Puget Reliance; cross made in 1994; sel in 1996; tested as ORUS 1816-2; rel. in 2002. **Fruit:** early midseason ripening; large to very large, much larger than Totem; very attractive; glossy; bright red internal and external color; very good processing quality, similar to Totem; very good fresh flavor; can be picked with or without calyx; better fresh market characteristics than most processing types. **Plant:** short-day; moderate vigor; moderate runner production; very open with visible fruit. Yield similar to or greater than Totem. More durable in the field with virus pressure than Pinnacle.

**Treasure.** A short day, high yielding cultivar with high yields of early-season fruit in central and south Florida. **Origin:** P.P.C Chang; Naples, Fla. A3 x Oso Grande; sel in 1997–98 season in Naples, Fla.; tested as JP3; USPP12,414 issued 19 Feb. 2002. **Fruit:** conic; darker red and sweeter than Camarosa and Sweet Charlie; larger than Sweet Charlie but smaller than Camarosa; firm; glossy; attractive ripens earlier than Camarosa but later than Sweet Charlie. **Plant:** globose; medium to open density; vigorous but; smaller plant than Camarosa. Moderately tolerant to rain cracking. Relatively tolerant to botrytis fruit rot when compared to Sweet Charlie and Camarosa.

**US4808.** A germplasm release that exhibits a high degree of resistance to bacterial angular leaf spot disease caused by *Xanthomonas fragariae*. **Origin:** developed by J.L. Maas, T.C. Gouin, S.C. Hokanson, and J.S. Hartung, USDA—ARS, Beltsville, Md. Selected from a wild population of *Fragaria virginiana* collected in Minnesota in 1986; tested as SG-89. **Fruit and Plant:** Clone appears typical of native populations in terms of morphology, runnering, flowering responses, and fruit development. High degree of resistance to infection by highly virulent strains (Xf3, Xf6, 1425, and ATCC 33239) of *X. fragariae*. The type of resistance exhibited is hyposensitive in that inoculated tissues do not rapidly develop into necrotic areas and bacteria do not spread from inoculated tissues into healthy tissues. Not tested or selected for resistance to other disease. In a cross with highly susceptible cultivar, transmitted resistance to 8% to 12% of its progeny.

**US4809.** A germplasm release that exhibits a high degree of resistance to bacterial angular leaf spot disease caused by *Xanthomonas fragariae*. **Origin:** developed by J.L. Maas, T.C. Gouin, S.C. Hokanson, and J.S. Hartung, USDA—ARS, Beltsville, Md. Earliglow x SG-26 (*F. virginiana*); cross made in 1979; selected in 1980; tested as 80-4-38. **Fruit and Plant:** Clone appears typical of native populations in terms of morphology, runnering, flowering responses, and fruit development however, fruit is notably larger than most wild clones of *F. virginiana*. High degree of resistance to infection by highly virulent strains (Xf3, Xf6, 1425, and ATCC 33239) of *X. fragariae*. The type of resistance exhibited is hyposensitive in that inoculated tissues do not rapidly develop into necrotic areas and bacteria do not spread from inoculated tissues into healthy tissues. In a cross with highly susceptible cultivar, transmitted resistance to 4% to 18% of its progeny.

**Ventana.** A short-day (June bearing) cultivar similar to Camarosa but producing greater quantities of early-season fruit. **Origin:** developed by K.D. Larson and D.V. Shaw. Univ. of California, South Coast Research and Extension Center, Irvine. Cal. 93-170-606 x Cal. 92.35-601; cross made in 1996 selected in 1997; tested as Cal 96.42-601 and later as C216. USPP13,469 issued 14 Jan. 2003; assigned to the Regents of the University of California. **Fruit:** symmetrical conic, very large (31.1 g); similar or greater firmness greater than Gaviota but less than Camarosa; bright red internal and external color but lighter than Camarosa; good fresh flavor; lower percentage cull fruit than Camarosa. **Plant:** large and vigorous, similar to Camarosa; more open than plants of Camarosa. Fruiting pattern similar to Camarosa although it produces more early season fruit than Camarosa. Moderately susceptible to common leaf spot and verticillium wilt; quite resistant to phytophthora crown rot and relatively resistant to powdery mildew. Some tolerance to two-spotted spider-mites equal or greater than Camarosa.

**Ventura.** A fully everbearing cultivar with fruit of large size, dark red color and conic shape that is adapted to autumn and early winter production along the south coast of California. **Origin:** A.Q. Amorao, A. Solis, Jr., and T.M. Sjulín, Driscoll Strawberry Associates, Inc., Watsonville, Calif. Mr. P x R1; selected in 1992 in Ventura County, Calif. USPP12,436 issued 5 Mar. 2002; assigned to Driscoll Strawberry Associates, Inc. **Fruit:** large; conic shape; most similar to Montalvo, a full sibling, but with redder external color, greater variation in color and more uniform fruit shape; flavor is similar to Montalvo. **Plant:** globose habit similar to Montalvo but less vigorous. Production volume is of similar timing but greater overall than Montalvo. Susceptible to powdery mildew, verticillium wilt and bacterial angular leafspot disease.

**Whitney.** A very strong day neutral cultivar with uniform, conic fruit suitable for summer and fall production systems in California. **Origin:** developed by B. Crandall, Watsonville, Calif; 89530-506 x 89542-504 (two breeding lines developed by B. Crandall). cross made in 1992; selected in 1993; USPP12,440 issued 5 Mar. 2002 assigned to VPP Corp. **Fruit:** late fruiting; strong day neutral; orange-red with a light interior color; conic; large initially but becomes smaller and very uniform later in the season; large amount of fruit is produced in summer and fall production systems; fresh market. **Plant:** vigorous; extremely thick crowns, petioles and runners; crowns split fairly rapidly after planting; moderate plant size; susceptible to powdery mildew and anthracnose.

## TROPICAL FRUIT—AVOCADO

**Robert J. Knight, Jr.**

*University of Florida, Tropical Research and Education Center, Homestead*

**Lamb/Hass.** An avocado similar to Hass. **Origin:** Camarillo California, May 1985; seedling of Gwen open-pollinated. **Fruit:** pear-shaped with a distinctive flat top or “shoulder”;

black, mostly indistinguishable from Hass, ranging from 280 to 320 g in weight, with skin thicker than that of Hass and often breaking when peeled back from flesh although peel separation is clean; overall flesh quality is good. **Tree:** more upright than Hass but can be strongly influenced by pruning; tender as to cold susceptibility, floral type A. (Proc. World Avocado Congress III: 114-118; 1998, Tel Aviv).

**Sir Prize.** A California cultivar similar to Hass in color and shape. **Origin:** open-pollinated seedling of a Hass seedling planted in April 1986 at Camarillo, Calif., and first tested in 1991. **Fruit:** pear-shaped with a distinctive ridge along one side, black and larger than 'Hass', averaging above 350 g on young trees; skin thinner than Hass, pliable and easily separated from the flesh; flesh color similar to Hass, with few fibers, seed small, averaging 10% to 12% of fruit weight; flesh quality excellent. **Tree:** upright but can be influenced by pruning; leaves without anise scent, but classified primarily as of Mexican race; floral type B. (Proc. World Avocado Congress III: 114-118; 1998, Tel Aviv).

### TROPICAL FRUIT-KIWIFRUIT

**Jintao.** A selection of *Actinidia chinensis*, a member of the family Actinidiaceae. **Origin:** Wuhan Institute of Botany, Hubei, China, from a wild vine collected in 1981 in Wuning County, Jiangxi Province, southeastern China. **Fruit:** uniformly long and cylindrical, averaging 6.3 to 7.5 cm long by 3.7 to 4.2 cm diameter, weighing 65 to 120g, averaging 85g; skin almost hairless, light brown-colored; flesh greenish-yellow at harvest, tending to become yellow and orange-yellow during postharvest period, tender, juicy and sweet with a pleasant-tasting sugar-acid content, averaging 18% T.S.S., 7.8% total sugar, 2.1% acids and 150 mg vitamin C/100 g fresh fruit; about 350 seeds per fruit. **Vine:** moderately vigorous, productive, yielding 45,000 to 58,000 kg·ha<sup>-1</sup>; heat tolerant. [HortScience 37(7):1135-1136; 2002].

### INDEX OF VARIETIES DESCRIBED

(*synonyms in italics*)

14shelf life37-111 GRAPE  
 Adi AVOCADO (addendum)  
 Adria STRAWBERRY  
 AgriPeachOne PEACH  
 Aidfievate PAWPAW  
 Alice RASPBERRY  
 Aliceblue BLUEBERRY (addendum)  
 Alisal STRAWBERRY  
 Apache APRICOT  
 Aphrodite PLUM  
 August Princess PEACH  
 Aurora BLUEBERRY  
 Autumn Yummy PLUM  
 Avalon Pride PEACH  
 Beckyblue BLUEBERRY (addendum)  
 Bish STRAWBERRY  
 Black Kat PLUM  
 Black Splendor PLUM  
 Brianna GRAPE  
 Brice RASPBERRY  
 Brigitta BLUEBERRY (addendum)  
 Briteblue BLUEBERRY (addendum)  
 Cal Giant 3 STRAWBERRY

Cal Giant 4 STRAWBERRY  
 Cal Giant 5 STRAWBERRY  
 Camino Real STRAWBERRY  
 Candy Pearl NECTARINE  
 Candy Red PEACH  
 Canterbury STRAWBERRY  
 Cascade Delight RASPBERRY  
 Cascade Nectar RASPBERRY  
 Chemaimus RASPBERRY  
 Cherrylee PECAN  
 Clancy STRAWBERRY  
 Colima STRAWBERRY  
 Columbus BLUEBERRY  
 Craven BLUEBERRY  
 Crimson Glo PLUM  
 Crimson Heart PLUM  
 Danae PLUM  
 Dapple Fire PLUM  
 Deborah RASPBERRY  
 Delite BLUEBERRY (addendum)  
 Demetra STRAWBERRY  
 Diamond Pearl NECTARINE  
 Draper BLUEBERRY  
 Driscoll El Capitan STRAWBERRY  
 Driscoll Venice STRAWBERRY  
 Earlibrite STRAWBERRY  
 Earlihoney NECTARINE  
 Early Danae PLUM  
 Early Dapple PLUM  
 Early Pearl NECTARINE  
 Edisto PECAN  
 Ervi GRAPE  
 Esquimalt RASPBERRY  
 F.P.C.D.O.V.#1 GRAPE  
 Fertodi aranyfurt RASPBERRY  
 Fertodi karmin RASPBERRY  
 Fertodi rubina RASPBERRY  
 Fertodi Venus RASPBERRY  
 Fertodi zenit RASPBERRY  
 Flamenco STRAWBERRY  
 Flavor Grenade PLUM  
 Flavor Jewel PLUM  
 Flavor Treat PLUM  
 Galante STRAWBERRY  
 Galexia STRAWBERRY  
 Gem Star STRAWBERRY  
 Georgikan 28 GRAPE ROOTSTOCKS  
 Giant Pearl NECTARINE  
 Gil AVOCADO (addendum)  
 Gloria STRAWBERRY  
 Gulfroze PLUM (addendum)  
 Harmonie STRAWBERRY  
 Himbo-Top RASPBERRY  
 Ice Princess PEACH  
 Irma STRAWBERRY  
 Ivory Queen PEACH  
 Jayfree Plum PLUM  
 Jintao TROPICAL FRUIT-KIWIFRUIT  
 Jupiter GRAPE (addendum)  
 Kaituna RASPBERRY  
 Keilers PECAN  
 Kenmore Plum PLUM  
 Krymsk 1 PRUNUS ROOTSTOCK  
 Krymsk 86 PRUNUS ROOTSTOCK  
 L'Amour STRAWBERRY  
 La Clé Des Champs STRAWBERRY  
 Lamb/Hass TROPICAL FRUIT-AVOCADO  
 Lenoir BLUEBERRY  
 Levfiv PAWPAW  
 Liberty BLUEBERRY  
 L'Acadie GRAPE

Madeira STRAWBERRY  
 Malvasia Rosa GRAPE  
 Marathon STRAWBERRY  
 Marla RASPBERRY  
 Millennia BLUEBERRY (addendum)  
 Motueka RASPBERRY  
 Nicole APRICOT  
 Ochlockonee BLUEBERRY  
 Octavia RASPBERRY  
 Orléans STRAWBERRY (addendum)  
 Ouachita BLACKBERRY  
 Ovation STRAWBERRY  
 Owen T PLUM  
 Ozarkblue BLUEBERRY (addendum)  
 Pamlico BLUEBERRY  
 Pecos BLACKBERRY  
 Pequot RASPBERRY  
 PF 24B PEACH  
 PF 35-007 PEACH  
 PF Lucky 13 PEACH  
 Pinnacle STRAWBERRY  
 Puru BLUEBERRY (addendum)  
 Queen Elisa STRAWBERRY  
 Rafzaqu RASPBERRY  
 Rappahannock PAWPAW  
 Red Majesty PLUM  
 Reka BLUEBERRY (addendum)  
 Rosy Jewel PLUM  
 Royal Treat PLUM  
 Rubea STRAWBERRY  
 Rubirosa PLUM  
 Ruby STRAWBERRY  
 Saint-Laurent d'Orléans STRAWBERRY  
 Sampson BLUEBERRY (addendum)  
 San Juan STRAWBERRY  
 Sarah Anne GRAPE  
 Sebring BLUEBERRY  
 September Bright NECTARINE  
 Serbia GRAPE  
 Serenity STRAWBERRY  
 Shenandoah PAWPAW  
 Sierra Rose PLUM  
 Sierra Snow PEACH  
 Silverback PECAN  
 Sir Prize TROPICAL FRUIT-AVOCADO  
 Sleeping Beauty BLACKBERRY  
 Snow Princess PEACH  
 Sonora STRAWBERRY  
 Southern Belle BLUEBERRY  
 Southmoon BLUEBERRY (addendum)  
 Spring Treat PEACH  
 St-Jean d'Orléans STRAWBERRY  
 Star BLUEBERRY (addendum)  
 Stockbauer PECAN  
 Strawberry Festival STRAWBERRY  
 Sugar Princess PEACH  
 Sugranineteen GRAPE  
 Sugraseventeen GRAPE  
 Sugratwenty GRAPE  
 Sugratwentyone GRAPE  
 Sugratwentythree GRAPE  
 Sugratwentytwo GRAPE  
 Sunlite Nugget PLUM  
 Suplumttwentyfour PLUM  
 Suplumttwentythree PLUM  
 Suplumttwentytwo PLUM  
 Susquehanna PAWPAW  
 Sutter PLUM (addendum)  
 Sveva STRAWBERRY  
 Sweet Crest PEACH  
 Sweet Pearl NECTARINE

Tadmor RASPBERRY  
 Tasty Rich PLUM  
 Thomcord GRAPE  
 Tillamook STRAWBERRY  
 Treasure STRAWBERRY  
 Tulare Giant PLUM (addendum)  
 US 4808 STRAWBERRY  
 US 4809 STRAWBERRY  
 USPP2,794 Sierra Snow PEACH  
 USPP5,123 AgriPeachOne PEACH  
 USPP6,363 September Bright NECTARINE  
 USPP7,049 Giant Pearl NECTARINE  
 USPP7,193 Candy Pearl NECTARINE  
 USPP10,293 Early Pearl NECTARINE  
 USPP10,924 Diamond Pearl NECTARINE  
 USPP11,639 Alisal STRAWBERRY  
 USPP12,097 Flavor Grenade PLUM  
 USPP12,283 Ruby STRAWBERRY  
 USPP12,377 Gem Star STRAWBERRY  
 USPP12,409 Dapple Fire PLUM  
 USPP12,414 Treasure STRAWBERRY  
 USPP12,419 Spring Treat PEACH  
 USPP12,423 Cal Giant 4 STRAWBERRY  
 USPP12,436 Ventura STRAWBERRY  
 USPP12,440 Whitney STRAWBERRY  
 USPP12,577 Canterbury STRAWBERRY  
 USPP12,630 Jintao TROPICAL FRUIT-KIWI  
 USPP12,774 Tasty Rich PLUM  
 USPP12,783 Windsor BLUEBERRY  
 USPP12,817 Marathon STRAWBERRY  
 USPP12,856 Black Kat PLUM  
 USPP12,856 Crimson Glo PLUM  
 USPP12,878 Sweet Crest PEACH  
 USPP12,899 San Juan STRAWBERRY  
 USPP12,936 Flavor Treat PLUM  
 USPP12,943 Crimson Heart PLUM  
 USPP12,403 Cal Giant 3 STRAWBERRY  
 USPP13,052 Rosy Jewel PLUM  
 USPP13,061 Earlibrite STRAWBERRY  
 USPP13,079 Camino Real STRAWBERRY  
 USPP13,081 Colima STRAWBERRY  
 USPP13,121 Aphrodite PLUM  
 USPP13,164 Sugratwentythree GRAPE  
 USPP13,167 Suplumttwentythree PLUM  
 USPP13,171 Suplumttwentytwo PLUM  
 USPP13,198 Sugratwentytwo GRAPE  
 USPP13,199 Sugraseventeen GRAPE  
 USPP13,376 Sunlite Nugget PLUM  
 USPP13,386 Sonora STRAWBERRY  
 USPP13,395 Suplumttwentyfour PLUM  
 USPP13,444 Sugratwentyone GRAPE  
 USPP13,448 Sugratwenty GRAPE  
 USPP13,458 Yummygiant PLUM  
 USPP13,469 Ventana STRAWBERRY  
 USPP13,476 Yummyrosa PLUM

USPP13,478 Yummybeaut PLUM  
 USPP13,497 Red Majesty PLUM  
 USPP13,502 Flavor Jewel PLUM  
 USPP13,505 Royal Treat PLUM  
 USPP13,506 Rubirosa PLUM  
 USPP13,525 Pecos BLACKBERRY  
 USPP13,530 Early Dapple PLUM  
 USPP13,607 F.P.C.D.O.V.#1 GRAPE  
 USPP13,683 Sebring BLUEBERRY  
 USPP13,687 Sierra Rose PLUM  
 USPP13,740 Danae PLUM  
 USPP13,758 Sleeping Beauty BLACKBERRY  
 USPP13,759 Zorro BLACKBERRY  
 USPP13,851 Jayfree Plum PLUM  
 USPP13,931 Southern Belle BLUEBERRY  
 USPP14,005 Driscoll El Capitan STRAWBERRY  
 USPP14,009 14-37-111 GRAPE  
 USPP14,019 Early Danae PLUM  
 USPP14,020 Kenmore Plum PLUM  
 USPP14,062 Driscoll Venice STRAWBERRY  
 USPP14,088 Sugranineteen GRAPE  
 USPP14,109 Madeira STRAWBERRY  
 USPP14,178 Autumn Yummy PLUM  
 USPP14,193 Sarah Anne GRAPE  
 USPP14,367 PF 24B PEACH  
 USPP14,368 PF 35-007 PEACH  
 USPP14,384 PF Lucky 13 PEACH  
 VC-168 PECAN  
 Ventana STRAWBERRY  
 Ventura STRAWBERRY  
 Waimea RASPBERRY  
 Wansevwan PAWPAW  
 Whitney STRAWBERRY  
 Windsor BLUEBERRY  
 Yummybeaut PLUM  
 Yummygiant PLUM  
 Yummyrosa PLUM  
 Zee Fire NECTARINE  
 Zorro BLACKBERRY

#### ADDENDA AND REVISIONS TO PREVIOUS LISTS

AVOCADO  
**Adi.**—Added citation: HortScience 22(11):1237; 1992.  
**Gil.**—Added citation: HortScience 30(1):158; 1995.  
 BLUEBERRY  
**Aliceblue.** Released in 1977. (3<sup>rd</sup> ed. of book)  
**Beckyblue.** Released in 1977. (3<sup>rd</sup> ed. of book)  
**Bluecrisp.**—USPP11,033 issued. (List 39)  
**Brigitta.** Listing says “as of 1966 Brigitta was the most important blueberry variety developed

in Australia.” The date should have been 1996. (3<sup>rd</sup> ed. of book)

**Briteblue.** The variety Callaway was misspelled. (3<sup>rd</sup> ed. of book)

**Delite.** T-14 became Bluebelle. Since it was already Bluebelle as of the date the book was written, it should have been called Bluebelle, not T-14, in the Delite pedigree. (3<sup>rd</sup> ed. of book)

**Millennia.** USPP12,816 issued. (List 41)

**Ozarkblue.** USPP10,035 issued. (List 38)

**Puru.** USPP6,701 issued. (List 38)

**Reka.** The “tested as” section should read: “tested as E 118-7-17”. Also Reka has the USPP6,700. (List 38)

**Sampson.** Was tested as NC 2675. (List 39)

**Santa Fe.**—USPP10,788 issued. (List 39)

**Southmoon.** USPP9,834 issued. (List 38)

**Star.** Released in 1995. USPP10,675 issued. (List 38)

#### GRAPE

**Jupiter.** USPP13,309 issued 3 Dec. 2002 to University of Arkansas. (List 40).  
 PLUM

**Gulfrose.** USPP12,833 issued. (List 41)

**Sutter.** USPP12,398 issued. (List 41)

**Tulare Giant.** USPP12,224 issued. (List 41)  
 STRAWBERRY

**Orléans.** Originally released and described as L'Authentique Orléans. (List 41)

#### WALNUT AND BUTTERNUT

An on-line database of over 750 clones of Juglans species has been made available on-line at [http://www.agriculture.purdue.edu/fnr/HTIRC/Juglans\\_005.htm](http://www.agriculture.purdue.edu/fnr/HTIRC/Juglans_005.htm) by Keith Woeste, Hardwood Tree Improvement and Regeneration Center, Purdue University.

#### PREVIOUS LISTS

List 41 in HortScience 37(2):251–272 (2002).  
 List 40 in HortScience 35(5):812–826 (2000).  
 List 39 in HortScience 34(2):181–205 (1999).  
 List 38 in HortScience 32(5):785–805 (1997).  
 List 37 in HortScience 30(6):1135–1150 (1995).

List 36 in HortScience 29(9):942–969 (1994).  
 List 35 and earlier lists are included in *The Brooks and Olmo Register of Fruit & Nut Varieties, 3rd ed.* (1997), ASHS Press. This book also contains a few previously undescribed varieties which later appeared in Lists 36–41.

#### MASTER INDEX

A complete index of varieties in Lists 36–41 will be available at the American Pomological Society web site (<http://hortweb.cas.psu.edu/aps/>).