

# Register of New Fruit and Nut Cultivars

## List 46

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**Crop Listings<sup>a</sup>:** Almond Rootstock, Apple, Apple Rootstock, Apricot and Pubescent-Skinned *Prunophora* Hybrids, Apricot Rootstock, Blackberry, Blueberry, Blue Honeysuckle, Cactus Pear, Citrus, Cranberry, Currant, Elderberry, Gooseberry, Grape, Grape Rootstock, Hazelnut, Kiwifruit, Mango, Nectarine, Paw Paw, Peach, Peach Rootstock, Persian Walnut, Plum, Rambutan, Raspberry, Strawberry

### ALMOND ROOTSTOCK

**Thomas G. Beckman, USDA-ARS Southeastern Fruit and Tree Nut Research Laboratory, Byron, GA**

**Replantpac.** Compatible with almond cultivars. Described under Plum Rootstock.

### APPLE

**James J. Luby and David S. Bedford, Dept. of Horticultural Science, University of Minnesota, St. Paul, MN**

**Achilles.** Limb mutation of Greek cultivar Firiki with greater red overcolor. **Origin:** Pomology Institute (N.A.G.R.E.F.), Naoussa, Greece, by T. Sotiropoulos. Selected 1999; HortScience 45:673–674.

**Burnett cultivar.** Limb mutation of Obrogala having nearly full blush overcolor and maturing two weeks earlier than standard Gala strains. **Origin:** Quincy, WA by P. Burnett. Selected 1999. USPP 21,578; 21 Dec. 2010.

**Campbell Jonathan.** Limb mutation of Robison Jonathan with bolder, contrasting red striping. **Origin:** Waverly, Missouri by J. Campbell. USPP 21,300; 21 Sept. 2010.

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<sup>a</sup>Special thanks to the crop contributors for compiling this information. Individuals with cultivars to describe should contact the crop editors directly.

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**Caufflight.** Limb mutation of Caudle with more intense bright red overcolor. **Origin:** Flightshott Farm, Kent, United Kingdom by S. Glover. USPP 20,942; 27 Apr. 2010.

**CIVNIRED S.** limb mutation of CIVNI with greater extension of bright red overcolor. **Origin:** Laces (South Tyrol), Italy by M. Leis, S. Salvi, F. Tagliani and A. Martinelli. Selected 1999. USPP 21,697; 8 Feb. 2011.

**Daligris.** Whole-tree mutation of Pinova that differs in having smooth light brown to yellow russetting covers the stem cavity and spreads to cheeks, more prominent lenticels, and a red-orange rather than red-pink overcolor, consistently higher sugar content and pronounced anise flavor. **Origin:** Lezigne, France by G. Ligonniere. Selected 1998. USPP 21,722; 22 Feb. 2011.

**Goldlane.** Compact, columnar tree with firm and crisp yellow fruit. **Origin:** Inst. of Experimental Botany, Czech Republic by J. Tupy, O. Louda, and J. Zima. UEB 3138/1 x Bohemia; selected 2003. USPP 21,413; 26 Oct. 2010. **Fruit:** best quality after 3 mo common storage; 6.0 cm height x 7.6 cm diam.; globose to obloid; weak ribbing; crown at calyx end; skin yellow with no overcolor; no bloom or greasiness; flesh very firm, crisp, fine texture with rich flavor and medium aroma; stores for 6 mo in ambient refrigerated storage. **Tree:** columnar habit; spur bearing; *Rvi6* (*V<sub>p</sub>*) resistance to apple scab.

**Jugala.** Whole-tree mutation of Mitchgla Gala with fruit maturing approximately 5 d earlier. **Origin:** Saint Paul D’Espis, France by M. Julien. USPP 21,315; 28 Sept. 2010.

**KAR 4.** Early maturing red apple with apple scab resistance. **Origin:** Agriculture & Agri-Food Canada Kentville Research Station, Kentville, Nova Scotia by C.G. Embree. PaulaRed x Novamac; crossed 1978; tested as S47-20-37. Canada PBR 3,809; 9 Mar. 2010. **Fruit:** small to medium, 5.9 cm axial diam. x 7.4 cm transverse diam.; obloid; absent or weak ribbing; moderate crowning at calyx end; skin moderately glaucous with absent or very weak greasiness, yellow green ground color, moderate area of solid red flush with weakly defined narrow stripes of red overcolor, medium area of russet around stalk attachment, absent or small area of russet on cheeks and around eye basin, medium number of medium sized lenticels; flesh medium firm, cream color, moderate browning. **Tree:** strong vigor; ramified, upright habit, bearing on spurs and long shoots; resistant to apple scab (*Venturia inaequalis*) and moderately resistant to powdery mildew (*Podosphaera leucotricha*).

**KAS 9.** Late-season maturing dark red apple. **Origin:** Agriculture & Agri-Food Canada Kentville Research Station, Kentville, Nova

Scotia by C.G. Embree. NJ32 x NJ191456; crossed 1963; tested as S23-06-52. Canada PBR 3,808; 9 Mar. 2010. **Fruit:** medium, 6.8 cm axial diam. x 8 cm transverse diam.; globose; moderate ribbing; absent or weak crowning at calyx end; skin moderately glaucous with absent or very weak greasiness, yellow ground color, very large area of solid dark purple red flush with weakly defined narrow stripes of dark purple red overcolor, medium area of russet around stalk attachment, many medium sized lenticels; flesh firm, white with pinkish striping, browns slowly. **Tree:** strong vigor; ramified, spreading habit, bearing on spurs and long shoots; susceptible to apple scab.

**Lentz Jonagold.** Limb mutation of Rubinstar Jonagold with earlier and greater red fruit coloration as well as red coloration of the leaf petiole and mid-vein. **Origin:** Honor, MI by W.J. Lentz. selected 2005. USPP 20,590; 22 Dec. 2009.

**LJ-1000.** Whole tree mutation of Honeycrisp with earlier and greater red coloring and higher sugar levels. **Origin:** Quincy, Washington by L.D. Jones. Selected 2005. USPP 22,244; 15 Nov. 2011.

**Moana.** Limb sport mutation of a Nagafu-6 Fuji with nearly complete red blush. **Origin:** Upper Moutere, New Zealand by G. Rowling and A. Rowling. Selected 1996. USPP 21,450; 9 Nov. 2010.

**Moonlight.** A late-maturing cultivar with columnar habit, medium-sized, yellow-green fruits having good storage quality and *Rvi6* (*Vj*) resistance to apple scab. **Origin:** Inst. of Experimental Botany, Czech Republic by J. Tupy, O. Louda, and J. Zima. Goldstar x Telemon; selected 2002. USPP 21,511; 23 Nov. 2010. **Fruit:** size average 7.0 cm axial diam. x 7.8 cm transverse diam.; globose conical to conical shape; skin yellow-green to yellow with a partial red to orange blush; flesh yellow, firm, crisp and juicy with a good sweet/sour balance and very good eating quality. **Tree:** columnar habit; *Rvi6* (*Vj*) resistance to apple scab and tolerance to powdery mildew.

**Nevson.** Midseason cultivar 30 d after Gala. **Origin:** Southern Trees Ltd., Alexandra, New Zealand by J. McLaren. Cala x Hawkes Bay Red Delicious; crossed 1983; selected 1987. Canada PBR 4,169; 2 Sept. 2011. **Fruit:** cylindrical waisted; skin with yellow-green ground color and a light orange-red overcolor; medium-sized; flesh very firm, cream colored. **Tree:** vigor medium with spreading growth habit and bearing on spurs.

**New York 1.** Attractive red fruits that are sweet, juicy and have a crisp texture, ripen early mid-season and store 100–150 d. **Origin:** Cornell University/New York State Agric. Exp. Stat. Geneva, NY, by S.K. Brown and K. Maloney. Honeycrisp x NY752; tested as NY 98804-001. USPP 22,228; 8 Nov. 2011. **Fruit:** 7.3 cm axial diam. x 6.3 cm transverse diam.; medium- to long-conical; flesh similar to Honeycrisp in sweetness, juiciness and crisp texture, but firmer and not prone to bitter pit or soft scald. **Tree:** small to medium size with low vigor and upright habit; precocious, annual bearing on spurs.

**New York 2.** Excellent fruit quality at harvest and after cold storage and precocious bearing. **Origin:** Cornell University/New York State Agric. Exp. Stat., Geneva, NY, by S.K. Brown and K. Maloney. Braeburn x Autumn Crisp; tested as NY92609-463. USPP 22,207; 25 Oct. 2011. **Fruit:** 210 g, 8.2 cm transverse diam. x 7.2 cm axial diam.; globose and symmetrical, medium crowning at calyx end, calyx partially closed; skin ground color yellow, 80% red blush overcolor with scant bloom; ripens mid-late season; flesh white, firm, crisp, juicy, slightly coarse; tart and pleasant mild flavor; stores for at least 3 mo in common storage with no disorders. **Tree:** medium vigor, spreading, spur bearing habit, mid-season bloom, annual cropping and very precocious; moderately susceptible to powdery mildew.

**Odysseus.** Produces high quality fruit with excellent fruit quality, particularly high nutritional value and a flavor more similar to the preferred Firiki. High quality. **Origin:** Pomology Institute

(N.AG.RE.F.), Naoussa, Greece, by T. Sotiropoulos. Mutsu x Firiki; crossed in 2000. HortScience 46:141–142. **Fruit:** medium-large with axial diam. 7.5 cm x transverse diam. 7.3 cm; oblong conical; skin light green with no russetting and small, inconspicuous lenticels; flesh white, aromatic, crisp, and juicy; no bitter pit or external browning; good storage for up to 5 mo. **Tree:** productive; almost no preharvest fruit drop; thinning necessary to avoid biennial bearing; mainly spur-bearing.

**PLBAR B1.** Limb mutation of Cripps Pink with higher color and 2 weeks earlier maturity. **Origin:** Pemberton, Western Australia by D.W. Barnsby. Selected 2002. USPP 21,606; 4 Jan. 2011.

**PLFOG99.** Limb mutation of Cripps Pink with more compact tree type, spur bearing habit and earlier maturity. **Origin:** Kirup, Western Australia by T. Fogliani and D. Fogliani. Selected 1999. USPP 21,555; 7 Dec. 2010.

**PLMAS98.** Limb mutation of Cripps Pink with fruit maturing approximately two weeks earlier. **Origin:** Manjimup, Western Australia by G. Maslin and C. Maslin. Selected 1999. USPP 21,412; 26 Oct. 2010.

**PremA153.** Blush-yellow fruit with excellent flavor and texture. **Origin:** Hawkes Bay, New Zealand by A. White. Tenroy Gala x Braeburn. USPP 21,936; 31 May 2011. **Fruit:** 200 g, 8.5 cm diam. x 9 cm height; globose conical; lacks ribbing, crown at calyx end; closed calyx; skin with yellow ground color and 20% yellow-orange blush overcolor; flesh white, juicy with fine texture, weak aroma. **Tree:** vigorous; semi-upright; late-season blooming.

**Qinyang.** Early ripening with high fruit quality. **Origin:** Northwest A&F University, Yangling, Shaanxi, People's Republic of China by H. Gao, Z. Zhao, Y. Lu, Y. Wan, L. Wang, and J. Yuan. Royal Gala x O.P.; selected 1998; tested as 12-9-53; HortScience 46:660–661. **Fruit:** medium, axial diam. 6.7 cm x transverse 7.9 cm; globose; skin with red stripes to full-red over a greenish-yellow ground color; white, conspicuous, lenticels; slight russetting in stem cavity; flesh slightly yellow, crisp, juicy, and medium firm; aromatic sweet, slightly tart flavor. **Tree:** medium vigor; conical canopy, upright spreading habit; leaves and fruits have higher resistance to ring moth (*Lithocolletis ringoniella*), leafspot (*Alternaria mali*), and powdery mildew than Royal Gala.

**RGLORS.** Limb mutation of Rosy Glow with solid russet, crisper flesh, and sour-sweet flavor with a sweet aftertaste. **Origin:** Migliaro, Ferrara, Italy by G. Mazzoni and M. Leis. Selected 2005. USPP 21,272; 7 Sept. 2010.

**September Sentinel.** Columnar tree with dark-pink flower petals and red blushed fruit ripening in mid season. **Origin:** Agriculture and Agri-Food Canada, Pacific Agri-Food Research Centre, Summerland, BC by D.W. Lane. 8H-09-01 x Coop 27; selected 1989; tested as 11W-61-23. Canada PBR 3,765; 15 Feb. 2010. **Fruit:** medium size; conic with absent or weak ribbing and moderate crowning at calyx end; skin moderately glaucous with absent or very weak greasiness; yellow-green ground color with a large area of solid red flush and weakly defined medium width stripes of medium-red overcolor; absent or small area of russet around stalk attachment; absent or small area of russet on cheeks and around eye basin; few to medium number of medium sized lenticels; flesh firm, cream color **Tree:** medium vigor with columnar habit; spur-bearing.

**Smaragd.** Columnar, late season, with green fruit. **Origin:** Faculty of Agriculture, University of Novi Sad, Serbia by V. Ognjanov. Granny Smith x McIntosh Wijcik; crossed 1993; selected 1999; HortScience 46:952–954. **Fruit:** medium-large with transverse diam. 7.5 cm; flat-globose; skin 100% uniform green with no overcolor; small, usually inconspicuous, lenticels; no russet; flesh is fine, crisp,

juicy and white; mildly acidic, pleasant flavor and fragrant aroma; prone to superficial scald; less susceptible to bitter pit than Granny Smith. **Tree:** low vigor; erect, dense, and compact columnar habit; suitable as a potted tree; precocious; spurbearing; annual cropping; late flowering and ripening.

**WA 2.** Attractive, firm, crisp and juicy bi-colored late- mid-season apple with excellent storage potential. **Origin:** Washington State University Tree Fruit Research and Extension Center, Wenatchee, WA by B. Barritt, and B. Konishi. Splendour x Gala; selected 2001. USPP 21,710; 15 Feb. 2011. HortScience 45:668–669. **Fruit:** medium size, 7.7 cm transverse diam.; round-conic; skin with overcolor 70–90% orange–red to pinkish-red blush with no stripe over a yellow ground color; lenticels large and very conspicuous; stem basin russet and scarf skin observed; flesh yellow-white, firm, crisp and melting; mildly acid with excellent sugar balance and mild, apple-like aroma; rarely exhibits russet, bitter pit, or sunburn **Tree:** upright and spreading with moderate vigor and spur type; very productive and can exhibit alternate bearing; moderate susceptibility to powdery mildew and fire blight (*Erwinia amylovora*).

**WA 5.** Attractive, early mid-season apple with excellent texture. **Origin:** Washington State University Tree Fruit Research and Extension Center, Wenatchee, WA by B. Barritt, B. Konishi, and K. Evans. Splendour x Coop 15; crossed 1994 by S. Mehlenbacher (Oregon State University.); selected 2001. USPP applied for. HortScience 46:958–960. **Fruit:** medium, 7.7 cm transverse diam.; round conical; skin glaucous at harvest with bright orange-red stripe over yellow background; no russet; inconspicuous lenticels; flesh firmer, crisper and juicier than Gala with a higher acid/sugar ratio and mild aroma. **Tree:** open-vase type, upright and spreading with compact habit and light to moderate spur development; very precocious; tendency to alternate bearing; moderate susceptibility to powdery mildew and DNA marker data suggest it carries *Rvi6* (*Vj*) gene for resistance to apple scab.

## APPLE ROOTSTOCK

Gennaro Fazio, USDA-ARS Plant Genetic Resources, Geneva, NY  
Terrence L. Robinson, Cornell University, Geneva, NY

**Geneva® G.210.** See G.210.

**Geneva® G.214.** See G.214.

**Geneva® G.222.** See G.222.

**Geneva® G.890.** See G.890.

**Geneva® G.969.** See G.969.

**G.210 (Geneva® G.210).** A clonal apple rootstock. **Origin:** New York State Agricultural Experiment Station and the USDA-ARS, Geneva, NY, by J.C. Cummins, H.S. Aldwinckle, T.L. Robinson and G. Fazio. Ottawa 3 (*Malus x domestica*) x Robusta 5 (*M. x robusta*); crossed 1975; tested as CG.6210; introd. 2010. USPP applied for. **Plant:** propagated by stool bed layering, unbudded stools have recurved leaves with wavy edges; clonally propagated mother plants in the stool bed produce rootstock liners that are 30 to 50 cm tall with few spines. **Rootstock performance:** grafted tree is semi-freestanding and intended for use with processing or weak scion cultivars; semi-dwarfing, 50–60% of seedling; productive; produces scions similar to scions on M.7 and G.30; higher precociousness to scions than M.7; cumulative yield efficiency similar to M.9; good cold hardiness; resistant to fire blight, *Phytophthora cactorum*, and wooly apple aphid; tolerant to the replant disease complex.

**G.214 (Geneva® G.214).** A clonal apple rootstock. **Origin:** New York State Agricultural Experiment Station and the USDA-ARS,

Geneva, NY, by J.C. Cummins, H.S. Aldwinckle, T.L. Robinson and G. Fazio. Robusta 5 (*M. x robusta*) x Ottawa 3 (*M. x domestica*); crossed 1975; tested as CG.4214; introd. 2010. USPP applied for. **Plant:** propagated by stool bed layering, unbudded stools have recurved, pointed wavy leaves; stool beds have similar productivity to M.9.; stems have few spines; root systems express fine root trait. **Rootstock performance:** young grafted tree needs support; dwarfing, 30–35% of seedling; precocious; productive; similar vigor and precocity to M.9, Nic 29, and M.26, but more productive; good cold hardiness; resistant to fire blight, *Phytophthora* root rot, and wooly apple aphid.

**G.222 (Geneva® G.222).** A clonal apple rootstock. **Origin:** New York State Agricultural Experiment Station and the USDA-ARS, Geneva, NY, by J.C. Cummins, H.S. Aldwinckle, T.L. Robinson and G. Fazio. Robusta 5 (*Malus x robusta*) x Malling 27 (*M. x domestica*); crossed 1975; tested as CG.4222, CG.5222 and CG.5202; introd. 2011. USPP applied for. **Plant:** propagated by stool bed layering, unbudded stools have rounded, deep grey-green leaves; stems have some spines. **Rootstock performance:** young grafted tree needs support; semi-dwarfing, 45–55% of seedling; productive; similar vigor to Malling 7 but more precocious and productive; good cold hardiness; resistant to fire blight (*Erwinia amylovora*), *Phytophthora* root rot (*Phytophthora parasitica*), and wooly apple aphid (*Eriosoma lanigerum*).

**G.890 (Geneva® G.890).** A clonal apple rootstock. **Origin:** New York State Agricultural Experiment Station and the USDA-ARS, Geneva, NY, by J.C. Cummins, H.S. Aldwinckle, T.L. Robinson and G. Fazio. Robusta 5 (*M. x robusta*) x Ottawa 3 (*M. x domestica*); crossed 1976; tested as CG.5890; introd. 2010. USPP applied for. **Plant:** propagated by stool bed layering, unbudded stools have straight, long stems; few spines; recurved, green leaves. **Rootstock performance:** grafted tree is free-standing and intended for processing or weak scion cultivars; semi-dwarfing, 55–65% of seedling; productive; similar vigor to M.7 and MM.106, but more precocious and productive; cumulative yield efficiency similar to M.9; good cold hardiness; resistant to fire blight, *Phytophthora* root rot and wooly apple aphid.

**G.969 (Geneva® G.969).** A clonal apple rootstock. **Origin:** New York State Agricultural Experiment Station and USDA-ARS, Geneva, NY, by J.C. Cummins, H.S. Aldwinckle, T.L. Robinson and G. Fazio. Robusta 5 (*M. x robusta*) x Ottawa 3 (*M. x domestica*); crossed 1976; tested as CG.6969; introd. 2010. USPP applied for. **Plant:** propagated by stool bed layering, unbudded stools have straight long shoots, leaves are slightly recurved. **Rootstock performance:** grafted tree is free standing; semi dwarfing, 45–55% of seedling; productive; similar vigor to M.7, but much more precocious and productive; good cold hardiness; resistant to fire blight, *Phytophthora* root rot and wooly apple aphid.

## APRICOT AND PUBESCENT-SKINNED PRUNOPHORA HYBRIDS

Craig A. Ledbetter, USDA-ARS San Joaquin Valley  
Agricultural Sciences Center, Parlier, CA

### Apricots

**ASFCOT0404.** Orange-fleshed apricot with mildly acidic and sweet taste and having a very long shelf life. **Origin:** Elne, France, by A. Maillard, and L. Maillard. Robada x Toyaco (Tomcot®); selected 2007; tested as 03.16.41 AB. USPP 21,138; 6 Jul. 2010. **Fruit:** round, slightly oblate; 80 g; freestone; fibers generally not observed; flesh orange; skin blush 40% to 70% of surface; texture fine and firm; aroma pronounced; eating quality very good, sweet; kernel bitter. **Tree:** vigorous; semi-spreading to semi-upright; production very good and bearing regular; flowers self-compatible; unknown reaction to *Plum pox virus* (PPV).

**ASFCOT0405.** Orange-fleshed apricot with mildly acidic and sweet taste and having a very long shelf life. **Origin:** Elne, France, by A. Maillard, and L. Maillard. Robada x Toyaco (Tomcot®); selected 2007; tested as 03.16.01 AB. USPP 21,137; 6 Jul. 2010. **Fruit:** round, slightly oblate; 80 g; freestone; fibers generally not observed; flesh orange; skin blush 40% to 60% of surface; texture fine and firm; aroma pronounced; eating quality very good, sweet; kernel bitter. **Tree:** vigorous; semi-spreading to semi-upright; production very good and bearing regular; flowers said to be partially self-compatible; unknown reaction to PPV.

**ASFCOT0406.** Orange-fleshed apricot with mildly acidic and sweet taste and having a very long shelf life. **Origin:** Elne, France, by A. Maillard, and L. Maillard. Couloumine x O.P.; selected 2007; tested as 02.01.121 AB. USPP 21,167; 6 Jul. 2010. **Fruit:** round, slightly oblate; 65–75 g; freestone; fibers generally not observed; flesh orange; skin blush 50% to 60% of surface; texture fine and firm; aroma pronounced; eating quality very good, sweet; kernel bitter. **Tree:** vigorous compared to other commercial apricots; semi-spreading to semi-upright; production very good and bearing regular; flowers self-compatible; unknown reaction to PPV.

**ASFCOT0409.** Orange-fleshed apricot with mildly acidic and sweet taste and having a very long shelf life. **Origin:** Elne, France, by A. Maillard, and L. Maillard. Robada x Toyaco (Tomcot®); selected 2007; tested as 03.16.43 AB. USPP 21,135; 6 Jul. 2010. **Fruit:** round, slightly oblong toward base and apex; 65–75 g; freestone; fibers generally not observed; flesh orange, skin blush 30% to 50% of surface; texture fine and firm; aroma pronounced; eating quality very good, sweet; kernel bitter. **Tree:** vigorous and medium-sized compared to other commercial apricots; semi-upright; production very good; bearing regular; flowers partially self-compatible; unknown reaction to PPV.

**Daniel.** Early season freestone apricot with good productivity, self-fertility and aromatic fruit. **Origin:** State of Israel, Ministry of Agriculture & Rural Development, Agricultural Research Organization, Yizre'el Valley, by D. Holland, I. Bar-ya'akov, K. Hatib, A. Erez, Z. Yablovitz, and R. Korchinsky. Tarog O.P.; crossed 1999; selected 2006. USPP 22,095; 3 Feb. 2011. **Fruit:** round and flattened; 38 g; freestone; fibers moderate, not noticeable or felt; flesh yellow-orange; texture firm; aroma moderate to rich; eating quality very good. **Tree:** vigor good; growth habit upright; production good; flowers self-compatible.

#### Pubescent-Skinned *Prunophora* Hybrids

**Bella Sun.** Vigorous and upright F<sub>1</sub> plumcot bearing yellow-fleshed fruit with good flavor and eating quality. **Origin:** Modesto, CA, by G.N. Zaiger, L.M. Gardner, and G.G. Zaiger. 35EA376 x Poppy; selected 2003. USPP 21,817; 29 Mar. 2011. **Fruit:** globose, slightly flattened at base and apex; 88 g; clingstone; fibers few, small and tender; texture firm and smooth; aroma slight; eating quality very good. **Tree:** vigorous; upright; productive and regular bearing; flowers self-incompatible; chilling requirement 650 h at or below 7 °C.

**Leah Cot.** Orange-skinned interspecific with high Brix, heavy aroma and apricot-textured flesh. **Origin:** Modesto, CA, by G.N. Zaiger, L.M. Gardner, and G.G. Zaiger. selected 2003. USPP 21,863; 12 Apr. 2011. **Fruit:** slightly elongated; 91 g; freestone; fibers few, small and tender; comparable firmness to commercial apricot; eating quality very good. **Tree:** vigorous; semi-spreading; productive and regular bearing; flowers self-compatible; chilling requirement 850 h at or below 7 °C.

**Sweetcot II.** Early season red-skinned F<sub>1</sub> plumcot with melting orange-yellow flesh and very good eating quality. **Origin:** Le Grand, CA, by L.G. Bradford. selected 2002. USPP 21,937; 31 May 2011. **Fruit:** globose; 110 g; freestone; fibers abundant, fine and tender;

medium firmness with melting texture; aroma slight; eating quality very good. **Tree:** vigor moderate; spreading and dense; productivity moderate with adequate pollinator; flowers self-incompatible.

#### APRICOT ROOTSTOCK

**Thomas G. Beckman, USDA-ARS Southeastern Fruit and Tree Nut Research Laboratory, Byron, GA**

**Replantpac.** Compatible with some apricot cultivars. Described under Plum Rootstock.

#### BLACKBERRY

**John R. Clark and Sandra M. Sleezer, Department of Horticulture, University of Arkansas, Fayetteville, AR**

**Chad E. Finn, USDA-ARS, Horticultural Crops Research Laboratory, Corvallis, OR**

**Asterina®.** See Fruloche.

**DriscollBlackTwo.** A spineless semi-upright blackberry. **Origin:** Driscoll Strawberry Associates, Inc., Watsonville, CA, by G.R. Sills, S.B. Moyles, and A.M. Pabon. BH936-6 x Driscoll Cowles; selected 2004; patented 2011; USPP 22,002; 5 July 2011. **Fruit:** medium; ovate; SS 11.6%; late to very late harvest season. **Plant:** semi-upright; thornless; high fruit productivity; partially self-fruitful.

**Fruloche (Asterina®).** Thornless upright blackberry. **Origin:** Meiosis, Ltd. by P. Hauenstein in Switzerland. Loch Ness x Chester Thornless. **Fruit:** very large, shiny; excellent aroma, no sour taste when not fully ripe; ripens from mid-July with a very long cropping period; suitable for pick-your-own marketing, and home gardens. **Plant:** upright; thornless; very healthy; no particular susceptibility to pests or diseases.

**HJ-6.** Thorny, large, high-quality, trailing blackberry. **Origin:** Plant Sciences, Inc. by H.A. Johnson in Santa Cruz, Co., CA. Eaton x Obsidian; crossed 2005; selected 2007; tested as Z26.6; intro. 2010. **Fruit:** consistently large with good flavor, high production and maturity for fresh shipment in June and some production through July; flavor and color good. **Plant:** strong, trailing with canes large in diameter and noticeably red; leaves and leaflets large; shows no susceptibility to rusts or downy or powdery mildews in Santa Cruz Co.

**Nettleton Creamy White.** A thorny upright white blackberry. **Origin:** Corona, CA by S.E. Nettleton and J.R. Nettleton. Spontaneous mutation of wild blackberry. USPP 20,234; 25 Aug. 2009. **Fruit:** medium, 1.6 to 1.9 cm diameter; white; blooms end of May beginning of June in southern Illinois; starts ripening at the end of the latter half of June in southern Illinois. **Plant:** upright; thorny; bright green canes and leaves.

**Onyx.** Thorny trailing blackberry with firm, uniformly shaped and sized high quality fruit that ripen in the late trailing blackberry season and that are suited especially for the fresh market. **Origin:** USDA-ARS, Corvallis, OR, by C.E. Finn, B.C. Strik, B.M. Yorgey, and R.R. Martin. OSC 1466 x ORUS 1117-11; crossed 1994; selected 1997; tested as ORUS 1523-4; intro. 2011. USPP 22,358; 20 Dec. 2011. **Fruit:** medium, 6.1 g; uniform, conic; dark black; attractive; glossy; very firm; good texture comparable to Marion; excellent flavor; SS 12.7%; pH 3.5; titratable acidity 11.1 g·L<sup>-1</sup> as citric; ships well in wholesale fresh market chain; ripens later than Marion in late season for trailing types. **Plant:** trailing; thorny; vigorous; medium yield, comparable to Marion; medium-long fruiting laterals; machine harvests easily; not particularly susceptible to septoria leaf spot (*Mycosphaerella rubi*) and purple blotch (*Septocytia ruborum*); hardiness not well tested but survived -8 °C in Oregon when Marion was severely damaged.

## BLUE HONEYSUCKLE

**Kim E. Hummer, USDA ARS National Clonal Germplasm Repository, Corvallis, OR**

**Robert H. Bors, Department of Plant Sciences, University of Saskatchewan, Saskatoon, Canada**

**Borealis.** Great tasting, large-fruited blue honeysuckle. **Origin:** University of Saskatchewan, by R.H. Bors. Kiev#8 (Blue Velvet™) x Tomichka (Blue Belle™); tested as 9-94; introd. 2007. Canada PBR applied for. **Fruit:** twice as large as other genotypes available in Canada; early to mid-season ripening; slightly flattened with a cylindrical-boxy shape; wider than most Russian cultivars; flavor sweet-tart and highly rated; delicate and soft; ripe berries can persist on bushes for a month or longer. **Plant:** 1.5 m tall; spreading but dense canopy that hides fruit from birds; not suited to machine harvesting; recommended for home gardeners; resistant to powdery and downy mildew, and sunscald; named for its northern climate adaptation.

**Tundra.** Flavorful, large-fruited, non-bleeding, blue honeysuckle. **Origin:** University of Saskatchewan, by R.H. Bors. Kiev#8 (Blue Velvet™) x Tomichka (Blue Belle™); tested as 9-84; introd. 2007. Canada PBR applied for. **Fruit:** about 50% larger than genotypes available in Canada; early to mid-season ripening but can hang for several weeks after ripening; yield above average; firm; wider than most Russian cultivars; recommended for commercial production; flavor sweet-tangy; non-bleeding stem end allows for individually quick-frozen processing; more delicate and larger than sibling Borealis. **Plant:** to 1.5 m tall; open-spreading canopy; resistant to powdery, downy mildew, and sunscald; northern climate adapted.

## BLUEBERRY

**Mark K. Ehlenfeldt, USDA-ARS, Genetic Improvement of Fruits and Vegetables Laboratory, Beltsville, MD**

**A-257 (Ka-Bluey™).** A mid-early season blueberry with distinct flavor suitable for home gardens. **Origin:** Univ. of Arkansas, by J.R. Clark, J.N. Moore, and A.D. Draper. US 73 x G-526; selected 1988; tested as A-257; introd. 2005. **Fruit:** med. to med.-small, 1.4 g; medium-dark; flavor very distinct, often described as “peach like”; good scar; crisp texture; ripens 27 May in Clarksville, AR; **Plant:** selected in low organic matter, non-amended soil and has good vigor in mineral soils; upright to slightly spreading growth habit; early blooming, 3 Mar. early bloom and 50% bloom 4 Apr. (Bluecrop 11 Apr.); believed to be self-pollinating; chilling requirement not fully determined but estimated to be 500–800 h; no diseases observed in Arkansas.

**Augusta.** Late-season northern highbush blueberry; not to be confused with *V. angustifolium* cultivar of same name released in 1975. **Origin:** Research Institute for Fruit Growing Pitesti, Romania by P. Mladin. Berkeley x Blue-ray; crossed 1982; selected 1995; tested as 82-2-55/3; introd. 1999. **Fruit:** large; light-blue; round-flattened shape; good dessert quality, medium firmness; small, dry pedicel scar. **Plant:** vigorous; upright; high-yielding; resistant to anthracnose (*Gleosporium fructigenum*) and fire blight (*Erwinia amylovora*); moderately resistant to *Phomopsis* spp. and *Septoria albopunctata*.

**Azur.** A medium- to late-ripening northern highbush blueberry. **Origin:** Research Institute for Fruit Growing Pitesti, Romania by P. Mladin. Berkeley x Blue-ray; crossed 1983; selected 1996; tested as 83-2-4/2; introd. 1998. **Fruit:** large, light-blue, good flavor and shelf-life. **Plant:** vigorous, upright, productive, resistant to anthracnose, fire blight and *Phomopsis* spp.; moderately resistant to *S. albopunctata*.

**Blue Bayou.** An early-mid season ripening highbush blueberry with a potential second crop late in the summer. **Origin:** New Zealand

Institute for Plant and Food Research, Ltd., Ruakura Research Centre, Hamilton, New Zealand, by N. Patel. Reka x Island Blue; crossed 1990; selected 1998; tested as F126; introd. 2007; USPP 21,721 (as F126), 22 Feb. 2011; NZ PVR 3001; 24 June 2011. **Fruit:** small, 1.3 g; round; sweet; light-blue with heavy bloom; good firmness. **Plant:** good vigor; upright growth; medium- to low-chill; early to mid-season flowering and cropping; medium to high yields; suitable for machine harvesting.

**Blue Dawn™.** See Takahe.

**Blue Magic™.** See Whitu.

**Blue Moon.** A highbush blueberry with large, firm fruit, suitable for outdoor and indoor production. **Origin:** New Zealand Institute for Plant and Food Research, Ltd, Ruakura Research Centre, Hamilton, New Zealand, by N. Patel. Nui x B7-8-1; crossed 1988; selected 1996; tested as RH34 introd. 2007; USPP 21,736, 1 Mar. 2011; NZ PVR 3000; 24 June 2011. **Fruit:** large, 2.8 to 3.5 g; oblate; light blue; excellent firmness and flavor even under extreme heat. **Plant:** medium vigor; semi-upright growth; medium- to low-chill; flowering and production contemporary to Nui; medium production; appears suitable for tunnel and glasshouse production as well as outdoors.

**Compact.** A mid-season ripening northern highbush blueberry. **Origin:** Research Institute for Fruit Growing Pitesti, Romania, by P. Mladin. Spartan O.P.; crossed 1989; selected 1996; tested as 89-3/19; introd. 2002; **Fruit:** large to medium; blue; flattened shape; medium pedicel scar; medium firm; compact clusters. **Plant:** medium vigor; upright; high yielding; resistant to anthracnose and fire blight; moderately resistant to *Phomopsis* spp. and *S. albopunctata*.

**Delicia.** A mid-season ripening northern highbush blueberry with excellent flavor. **Origin:** Research Institute for Fruit Growing by P. Mladin. Spartan O.P.; crossed 1988; selected 1996; tested as 88-4/57; introduced 2001. **Fruit:** large; light-blue; very flavorful and firm; high in acids; small, dry pedicel scar. **Plant:** medium vigor; spreading; precocious; high yielding; resistant to anthracnose and fire blight; moderately resistant to *Phomopsis* spp. and *S. albopunctata*.

**Dolce Blue.** A rabbiteye blueberry with early to mid-season production. **Origin:** New Zealand Institute for Plant and Food Research, Ltd., Ruakura Research Centre, Hamilton, New Zealand, by N. Patel. Centurion x Rahi; crossed 1996; tested as D122; introduced 2011; NZ PVR applied for. **Fruit:** medium to small, 1.6 g; oblate to round; attractive bloom; good firmness; sweet with little acidity. **Plant:** semi-upright; medium vigor; medium yield; medium to abundant leafing; flowers and crops with Rahi and Sky Blue; fruiting clusters are generally medium sized and loosely arranged on long fruiting bunches; propagation by softwood cuttings.

**Earlibirdblue.** A garden and landscape southern highbush blueberry suited to Texas conditions. **Origin:** USDA-ARS, Poplarville, MS, USDA-ARS Beltsville, MD, and Stephen F. Austin State University, Nacadoches, TX by S. Stringer, A. Draper, J. Spiers, and D. Creech. G 144 x US 75; crossed 1977; selected 1979; tested as MS 108; introd. 2011. **Fruit:** medium; good color and flavor when allowed to hang for several days after turning blue; skin may tear at the base of the pedicel, making this cultivar unsuitable for shipping. **Plant:** moderately vigorous with a relatively short stature, 1.5–2 m; spreading growth habit; attractive, dense, green foliage; consistent productivity; easy to prune and easily integrated into the home landscape; ripens 4–8 weeks earlier than many rabbiteye blueberry cultivars; flowers develop and bloom sufficiently late to avoid most frost damage; chilling requirement ~500 h; propagation from softwood or hardwood cuttings.

**FL 01-173 (Meadowlark™).** Early season southern highbush blueberry with upright plant habit. **Origin:** Univ. of Florida, by

P.M. Lyrene. FL 84-33 x FL 98-133; crossed 1998; selected 2001; tested as FL 01-173; introd. 2009; USPP 21,553; 7 Dec. 2010. **Fruit:** large; medium-blue; good picking scar and firmness; flavor mild; very open clusters with long pedicel and peduncles; suitable for mechanical harvest for fresh market. **Plant:** vigorous; very upright growth habit; early spring leafing; propagates readily from softwood; cross-pollination required; chilling requirement ~300 h.

**FL 02-40 (Kestrel™).** Very-low-chill, early season southern highbush blueberry. **Origin:** Univ. of Florida, by P.M. Lyrene. FL 95-54 x FL 97-125; crossed 1999; selected 2002; tested as FL 02-40; introd. 2009; USPP 21,719; 22 Feb. 2011. **Fruit:** large; light-blue; aromatic when mature; good firmness and scar. **Plant:** vigorous; upright-spreading; prolific early leafing; propagates readily from softwood; cross-pollination required; chilling requirement 150–200 h.

**FL 96-43 (Flicker™).** Vigorous, early season southern highbush blueberry. **Origin:** Univ. of Florida, by P.M. Lyrene. FL 93-51 x FL 93-46; crossed 1993; selected 1996; tested as FL 96-43; introd. 2009; USPP 21,554; 7 Dec. 2004. **Fruit:** large, light-blue, in loose clusters; excellent small picking scar; high firmness; flavor good; fruit holds well on the bush. **Plant:** very vigorous; upright-spreading; good field survival; propagates readily from softwood cuttings; cross-pollination required; chilling requirement ~200 h.

**Flicker™.** See FL 96-43.

**Hortblue Demure.** A *V. simulatum* selection, suitable for the ornamental home-garden market. **Origin:** New Zealand Institute for Plant and Food Research, Ltd., Ruakura Research Centre, Hamilton, New Zealand, by N. Patel. Open-pollinated seedling from *V. simulatum*; selected 1997; tested as D104; introd. 2005. **Fruit:** very small; medium bloom and scar; flavor good; fruit has a high concentration of anthocyanins; **Plant:** bushy; low chilling requirement; flowers 2–3 times per year August to April in New Zealand; main crop is in December in New Zealand and a second crop generally occurs late in the summer; similar to Hortblue Onyx, but a smaller and more compact bush.

**Hortblue Onyx (Smoothie™).** A *V. simulatum* selection suitable for the ornamental market. **Origin:** New Zealand Institute for Plant and Food Research, Ltd., Ruakura Research Centre, Hamilton, New Zealand, by N. Patel. *V. simulatum* O.P.; selected 1998; tested as D105; introd. 2003; NZ PVR 2727; 3 Sept. 2008. **Fruit:** very small; medium bloom and scar; flavor good; fruit has a high concentration of anthocyanins; **Plant:** bushy; low-chilling requirement; flowers 2–3 times per year, August to April in Waikato, New Zealand; first flowering is about a month earlier than Hortblue Petite, and contemporary with Northland and Hortblue Poppins; the main crop is in December in New Zealand and a second crop generally occurs late in the summer.

**Huron.** An early ripening northern highbush blueberry with very high fresh market quality and long storage life. **Origin:** Michigan State University by J. Hancock. G 344 x MU 6566; crossed 1991; selected 1997; tested as MSU 47; released 2010; USPP 21,777; 15 Mar. 2011. **Fruit:** moderately large; small, dry picking scar; color light-blue; excellent firmness and superior flavor, if allowed to fully ripen. **Plant:** vigorous, upright, productive; first harvest falls between ‘Duke’ and ‘Bluecrop’.

**Island Blue.** A southern highbush blueberry with early production. **Origin:** New Zealand Institute for Plant and Food Research, Ltd., Ruakura Research Centre, Hamilton, New Zealand, by N. Patel. 1376 x NJUS 83; selected 1995; tested as B8-2-25; introd. 2002; NZ PVR 2726; 3 Sept. 2008. **Fruit:** medium, 1.4 to 1.8 g; good color, bloom, firmness, stem scar and flavor; soluble solids and titratable acidity are comparable to Misty. **Plant:** vigorous upright growth, with a good balance between shoots and fruit; early flowering,

contemporary to O’Neal; no noticeable susceptibility to cold damage; early production contemporary to Misty, Marimba and O’Neal; high yields; suitable for fresh and processed market.

**Ka-Bluey™.** See A-257.

**Kestrel™.** See FL 02-40.

**Kilauea.** An ‘ōhelo berry, (*V. reticulatum*) selected for ornamental and edible berry production **Origin:** USDA-ARS, Hilo, HI by F. Zee. From native collected seed; selected 2006; tested as N06-7; introd. 2008. **Fruit:** medium ~1.2 g; round, orange to salmon, frequently with orange spots; relatively low sugar, ~5.5% Brix with acidity similar to Bluecrop. **Plant:** up to 50 cm; more compact and spreading growth than Red Button ‘ōhelo; responds well to pruning and readily trained into a compact symmetrical canopy; small, light-green leaves ~17 x 13 mm; short internodes, ~3 mm; in cool environments, young buds and shoots are bright crimson; multiple flower buds are produced at leaf axis; crimson calyx and white-fringed pink corolla; propagation by tissue culture or softwood cuttings.

**Lax.** An early to mid-season ripening northern highbush blueberry. **Origin:** Research Institute for Fruit Growing Pitesti, Romania by P. Mladin. Spartan O.P.; crossed 1988; selected 1998; tested as 88-3/7; introd. 2002. **Fruit:** medium; blue; round; moderate flavor; high in vitamin C; loose cluster is easy to pick. **Plant:** vigorous; upright habit; high yielding; compact ripening, needing only 2–3 picks; resistant to *Phomopsis* spp., anthracnose, and fire blight; moderately resistant to *S. albopunctata*.

**Meadowlark™.** See FL 01-173.

**Ono (Tasty Blue™).** A rabbiteye blueberry with a light-green, dense canopy. **Origin:** New Zealand Institute for Plant and Food Research, Ltd., Ruakura Research Centre, Hamilton, New Zealand, by N. Patel. Premier O.P.; selected 1989; tested as 4-25; introd. 1996; NZ PVR 1136; 22 Aug. 1996. **Fruit:** medium-large; smooth texture; minimal small seeds; medium-flat calyx; medium pedicel scar; fruiting season is medium to late; medium yield. **Plants:** upright; vigorous; dense canopy of light-green foliage.

**Pearl.** An early ripening southern highbush blueberry with excellent fruit quality. **Origin:** USDA-ARS Poplarville, MS, by S.J. Stringer, J.M. Spiers, D.A. Marshall, and A.D. Draper. Bluecrisp x Magnolia; crossed 1997; selected 1999; tested as MS 812; introd. 2010. **Fruit:** large; early ripening; light blue; firm; flavor excellent; small picking scars. **Plant:** vigorous; productive; dark green foliage; moderately spreading growth habit and narrow crowns; excellent survival in southern Mississippi; chilling requirement ~400–450 h; propagation by softwood or hardwood cuttings.

**Prod.** A midseason northern highbush blueberry. **Origin:** Research Institute for Fruit Growing Pitesti, Romania by P. Mladin. Patriot O.P.; crossed 1989; selected 1992; tested as E-4/45; introd. 2008. **Fruit:** medium; light-blue; flattened shape; balanced flavor and acidity; small, dry pedicel scar; firm, good postharvest shelf life. **Plant:** medium vigor; large; spreading; heavy yielding; resistant to *Phomopsis* spp., anthracnose, and fire blight; moderately resistant to *S. albopunctata*.

**Razz.** A midseason northern highbush blueberry with raspberry overtones for culinary, pick-your-own, and home use. **Origin:** USDA-ARS, Chatsworth, NJ, by F.V. Coville and M.K. Ehlenfeldt. GM-37 x CU-5; crossed 1934; selected 1941; tested as 11-104; introd. 2011. **Fruit:** medium to large; medium-blue; flavor excellent with remarkable raspberry overtones; acceptable scar; acceptable firmness; continues to soften after picking, making it unsuitable for commercial harvest or shipping. **Plant:** vigorous, upright and less willowy than Bluecrop; good productivity; similar to Bluecrop in susceptibility to

anthracnose; very good resistance to mummy berry blight (*Monilinia vaccinii-corymbosi*) and, average resistance to fruit infection.

**Red Button.** An 'ōhelo berry (*V. reticulatum*) selected for ornamental traits and prolific berry production **Origin:** USDA-ARS, Hilo, HI by F. Zee. From native collected seed; selected 2006; tested as N06-9; introd. 2008. **Fruit:** medium, ~13 x 11 mm; round; light orange-yellow with red speckles; low sugars, ~5% Brix with acidity similar to Bluecrop. **Plant:** up to 50 cm; more upright growth than Kilauea 'ōhelo; responds well to pruning and training, and can be shaped into a compact symmetrical canopy; ovate leaflets ~25 x 21 mm; internodes ~3 mm; emerging buds are bright crimson, and expand into shiny, leathery, green leaves with a red margin; multiple flower buds emerge from the leaf axils and have red-purple calyx tips with a white margin, dark red fused sepals from budding through flowering; propagation by tissue culture or softwood.

**Safir.** An early ripening, high yielding northern highbush blueberry with good adaptation. **Origin:** Research Institute for Fruit Growing, Pitesti, Romania by G. Mladin and P. Mladin. Pemberton x Bluegray; crossed 1983; selected 1992; tested as 83-4-21/5; introd. 1998; **Fruit:** large; flavor superior to Weymouth. **Plant:** medium vigor; upright; medium yield; resistant to anthracnose, fire blight, and *Phomopsis* spp.; moderately resistant to *S. albopunctata*.

**Simultan.** An early ripening northern highbush blueberry. **Origin:** Research Institute for Fruit Growing, Pitesti by P. Mladin. Spartan O.P.; crossed 1988; selected 1996; tested as 88-3/35; introd. 2001. **Fruit:** outstanding quality; light blue; small, dry pedicel scar; excellent firmness and flavor; loose cluster; prolonged shelf-life; high in vitamin C. **Plant:** vigorous, upright; productive; concentrated ripening, 1–3 pickings; resistant to anthracnose and fire blight; moderately resistant to *Phomopsis* spp. and *S. albopunctata*.

**Sky Blue.** A rabbiteye blueberry with mid-season production. **Origin:** New Zealand Institute for Plant and Food Research, Ltd., Ruakura Research Centre, Hamilton, New Zealand, by N. Patel. Centurion x Rahi; crossed 1996; selected 2000; tested as F110; introd. 2007; 22 Feb. 2011; NZ PVR 3003; 24 June 2011. **Fruit:** large; oblate; attractive bloom; good firmness and excellent flavor. **Plant:** medium stature; semi-upright habit; flowering and cropping contemporary with Rahi; medium to high yield; no noticeable susceptibility to cold damage or main fungal diseases; propagation by softwood.

**Smoothie™.** See Hortblue Onyx.

**Southern Splendour.** An early season southern highbush blueberry with highly desirable flavor, very good firmness, and a shortened fruit development period. **Origin:** University of Georgia, College of Agricultural and Environmental Sciences and Agricultural Experiment Station by D.S. NeSmith. Reveille x Palmetto; crossed 1997; selected 2001; tested as TH-664; introd. 2010. USPP applied for. **Fruit:** medium- to medium-large, 1.5–1.9 g; medium to light-blue; small, dry picking scar; excellent flavor and firmness; short fruit development period; suitable for machine harvest. **Plant:** vigorous; semi-upright habit with a narrow crown; should be managed to prevent overcropping and to maintain fruit size; chill requirement ~450–500 h; propagates easily by softwood cuttings.

**Summer Sunset™.** See T-885.

**Sunset Blue.** A highbush blueberry with high yield, early-mid season production. **Origin:** New Zealand Institute for Plant and Food Research, Ltd., Ruakura Research Centre, Hamilton, New Zealand, by N. Patel. Reka x B7-8-1; crossed 1988; selected 1996; tested as RH11; introd. 2007; USPP 21,761, 8 Mar. 2011; NZ PVR 3002; 24 June 2011. **Fruit:** medium to large, ~2.2 g; oblate; light-blue with heavy bloom; good firmness. **Plant:** good vigor; upright

growth; medium to low chilling requirement; productive; early to mid-season flowering and cropping, intermediate to O'Neal and Reka; plant has shown tolerance to foliar rust infection (*Naohideomyces vaccinii*).

**Sweetheart.** An early season highbush blueberry with concentrated ripening. **Origin:** USDA-ARS, Chatsworth, NJ by M.K. Ehlenfeldt. TH 275 x G 567; crossed 1996; selected 1999; tested as ARS 99-88, introd. 2010. **Fruit:** medium- to medium-large, ~1.6 g; early; concentrated ripening; very good firmness; superior flavor that is retained in storage. **Plant:** vigorous upright bush; good productivity; cold hardiness and flowering time similar to Bluecrop; flower buds round and fist-like similar to Ozarkblue; flowers and fruits to a small degree on new growth in mild autumns; should be managed to prevent overcropping and to maintain fruit size.

**T-885 (Summer Sunset™).** Complex hexaploid blueberry hybrid useful as an attractive ornamental while also producing edible fruit. **Origin:** University of Georgia Agricultural Experiment Station and USDA-ARS, Chatsworth, NJ by D.S. NeSmith and M.K. Ehlenfeldt. Climax x US 1056; crossed 2002; selected 2005; tested as T-885, introd. 2010; USPP applied for. **Fruit:** medium, 14–16 mm; produces an abundance of multi-colored berries as they ripen, progressing from yellow-green, to orange-red, to red, to red-purple, to black when fully ripe; slightly tart when first ripe, gradually sweetening as they hang; ripens contemporary with early-ripening rabbiteye cultivars. **Plant:** vigorous; reaching 1.2 m tall x ~0.6 m wide; attractive, green, non-glaucous foliage; moderate crop; chilling requirement ~500–550 h; USDA hardiness zones 6b–9a; propagates easily by softwood cuttings.

**Takahe (Blue Dawn™).** A vigorous rabbiteye blueberry. **Origin:** New Zealand Institute for Plant and Food Research, Ltd., Ruakura Research Centre, Hamilton, New Zealand, by N. Patel. Premier x O.P.; selected 1992; tested as B26; introd. 1999; NZ PVR 1753. **Fruit:** small-medium in loose clusters; good flavor and firmness. **Plant:** vigorous growth; distinctive red/green foliage; late flowering; selected for use in landscaping.

**Tasty Blue™.** See Ono.

**Velluto Blue.** A rabbiteye blueberry with early to mid-season production. **Origin:** New Zealand Institute for Plant and Food Research, Ltd., Ruakura Research Centre, Hamilton, New Zealand, by N. Patel and J. Scalzo. Maru x Briteblue; selected 2000; tested as F128; introd. 2011; NZ PVR applied for. **Fruit:** large; oblate; attractive bloom; good firmness; good balance between acidity and sugar; little grittiness. **Plant:** upright habit; vigorous; flowering and cropping contemporary with Rahi and Sky Blue; high yield; no noticeable susceptibility to cold damage and main fungal diseases; propagation by softwood cuttings.

**Vital.** A midseason northern highbush blueberry. **Origin:** Research Institute for Fruit Growing, Pitesti, Romania by P. Mladin. Spartan O.P.; crossed 1989; selected 1992; tested as E-3/85; introd. 2008. **Fruit:** large, round; blue-violet; slight aroma; flavor good; medium dessert quality; medium scar; medium firmness. **Plant:** medium vigor; upright; productive; concentrated ripening, 2–3 pickings; resistant to anthracnose; moderately resistant to *S. albopunctata*, *Phomopsis* spp., and *E. amylovora*.

**Whitu (Blue Magic™).** A rabbiteye blueberry with medium-late fruiting season and heavy yield. **Origin:** New Zealand Institute for Plant and Food Research, Ltd., Ruakura Research Centre, Hamilton, New Zealand, by N. Patel. Premier O.P.; selected 1989; tested as C34; introd. 1996; NZ PVR 1137; 22 Aug. 1996. **Fruit:** medium to small; round, with medium-dry pedicel scar. **Plant:** medium vigor; spreading habit; medium-late fruit season, contemporary to Rahi and Delite; distinctive, long, purple-color stage during fruit maturation period.

## CACTUS PEAR

Peter Felker, D'Arrigo Bros. Co. of California, Salinas, CA

**DAR 1-12-19.** *Opuntia ficus indica* with red fruit for fresh consumption. **Origin:** D'Arrigo Bros. Co., of California, Salinas, CA by P. Felker and R.A. Bunch. Parents were spineless red- and spiny green-fruited cultivars vaguely described in the patent. USPP 21,760; 8 Mar. 2011. **Fruit:** peel red; flesh reddish-pink; pulp firmness high, 1.5 kg·cm<sup>-2</sup>; Brix high, 14.8°; pulp ratio high, 59%; fruit size small, 125 g. **Plant:** cladodes narrow, obovate; occasionally 7 mm long spines occur on the margins and flat surfaces of the cladodes; in Salinas Valley, CA, fruits ripen September–March.

**DAR 1-21-27.** *O. ficus indica* with purple fruit for fresh consumption. **Origin:** D'Arrigo Bros. Co., of California, Salinas, CA by P. Felker and R.A. Bunch. Parents were spineless purple- and green-fruited cultivars vaguely described in the patent. USPP 21,834; 5 Apr. 2011. **Fruit:** peel purple; flesh purple with a whitish center, distinct from other purple-fruited cultivars; pulp firmness high, 1.4 kg; Brix high, 14.9°; pulp ratio low, 48%; fruit size low, 136 g. **Plant:** cladodes broad, ovate, bluish, with few spines; in Salinas Valley, CA, fruits ripen September–March.

**DAR 1-27-24.** *O. ficus indica* with orange fruit for fresh consumption. **Origin:** D'Arrigo Bros. Co., of California, Salinas, CA by P. Felker and R.A. Bunch. Parents were spiny orange- and spineless green-fruited cultivars vaguely described in the patent. USPP 22,077; 16 Aug. 2011. **Fruit:** peel orange; flesh orange; pulp firmness high, 1.4 kg; Brix moderately high, 13.3°; pulp ratio high, 55%; fruit size large, 191 g. **Plant:** cladodes medium, elliptic; occasionally 10 mm long spines arise from the areoles; in Salinas Valley, CA, fruits ripen September–March.

**DAR 1-29-21.** *O. ficus indica* with green fruit for fresh consumption. **Origin:** D'Arrigo Bros. Co., of California, Salinas, CA by P. Felker and R.A. Bunch. Parents were spiny-green and spineless-green-fruited cultivars vaguely described in the patent. USPP 21,964; 7 Jun. 2011. **Fruit:** peel green; flesh green; pulp firmness high, 1.3 kg; Brix moderately high, 14.6°; pulp ratio low, 50%; fruit size moderate, 150 g. **Plant:** cladodes medium, elliptic; occasionally 8 mm long spines arise from the margins and flat surfaces of the cladodes; in Salinas Valley, CA, fruits ripen September–March.

## CITRUS

Ed W. Stover, USDA-ARS US Horticultural Research Laboratory, Ft. Pierce, FL

Jude W. Grosser, Univ. of Florida, Citrus Research and Education Center, Lake Alfred, FL

**N7-3 (Valenfresh™).** Late-maturing seedless sweet orange for fresh market or processing. **Origin:** University of Florida–Institute of and Food and Agricultural Sciences–Citrus Research and Education Center, Lake Alfred, FL, by J.W. Grosser, F.G. Gmitter Jr. and W.S. Castle. Somaclone (protoclone) of Valencia sweet orange; planted 1991; selected 2002; introd. 2009. USPP 21,224; 24 Aug. 2010. **Fruit:** round; typical Valencia sweet orange quality; rind slightly thicker than Valencia; seedless (only an occasional seed); ripens mid-March in central Florida, slightly later than standard Valencia, and holds quality into June. **Tree:** typical of Valencia sweet orange with moderate vigor.

**SF14W-62 (Valquarius™).** Early-maturing (midseason) processing sweet orange. **Origin:** University of Florida–Institute of and Food and Agricultural Sciences–Citrus Research and Education Center, by J.W. Grosser, F.G. Gmitter Jr., and W.S. Castle. Somaclone (protoclone) of Valencia sweet orange; planted 1991; selected 2003; introd. 2009. USPP 21,535; 30 Nov. 2010. **Fruit:** round; typical Valencia

sweet orange quality; ripens mid-January to early February in central Florida, 4–8 weeks earlier than standard Valencia. **Tree:** upright and vigorous; more persistent thorns than traditional Valencia; tends to bear more terminal fruit.

**Valenfresh™.** See N73.

**Valquarius™.** See SF14W-62.

## CRANBERRY

Nicholi Vorsa, Department of Plant Biology and Pathology, Rutgers University, New Brunswick, NJ

**BG.** Early mid-season cultivar with high yield potential. **Origin:** Tomah, WI by E. J. Grygleski. Beckwith x Grygleski #1; crossed 1996; introd. 2011. **Fruit:** medium to large; selection made for high yield potential; total anthocyanins (TAc) average 12 points higher than Stevens. **Plant:** vigorous; winter hardy.

**CNJ95-20-20 (Scarlet Knight™).** Early season cultivar with very early color development with exceptionally high fruit anthocyanin content. **Origin:** Rutgers University, New Jersey Agricultural Experiment Station, Chatsworth, NJ by N. Vorsa and J. Johnson-Cicalese. Stevens x NJS98-37 (Franklin x Ben Lear) crossed 1995; selected 2000; introd. 2010. USPP applied for. **Fruit:** large, over 2 g in NJ; ovate to very widely elliptic to occasionally elliptical, with rounded to moderately oblique pedicel end; total TAc is typically 3 to 7 times greater than Stevens; waxy bloom around calyx, otherwise with slight scattered waxy bloom on lower (calyx) half. **Plant:** stolons and uprights moderately coarse; vigorous stolon production.

**Scarlet Knight™.** See CNJ95-20-20.

## CURRENT

Danny L. Barney, USDA-ARS, Arctic and Subarctic Plant Gene Bank, Palmer, AK

**Blackcomb.** Late-flowering, high-yielding black currant. **Origin:** McGinnis Berry Crops, Courtenay, B. C., Canada, by R. McGinnis. Ojebyn x Titania; Canada Plant Breeders Rights applied for. **Fruit:** 20% larger than Titania; yields in B.C. more than 50% higher than Titania and Ben Alder. **Plant:** vigorous; flowering late mid-season; better tolerance to late spring frost than Titania; high levels of field resistance to powdery mildew (*Podosphaera mors-uvae*, formerly *Sphaerotheca mors-uvae*), and white pine blister rust (*Cronartium ribicola*); well-suited to machine harvest.

**Ores.** Midseason black currant. **Origin:** Fruit Breeding Dept., Research Institute of Horticulture, Skierniewice, Poland, by S. Pluta and E. Zurawicz. (Ojebyn x S24) x Ceres; crossed 1990; selected 1997; tested as PC-36; introd. 2001 EU PVR 19,040; 15 Apr. 2007. **Fruit:** medium; short to medium strigs; firm; high levels of acid, juice color, and vitamin C; good for juice processing, concentrate, and freezing. **Plant:** medium; spreading habit under weight of fruit; productive; produces adequate numbers of basal shoots; flowers and ripens midseason, similar to Ben Lomond; winter hardy; resistant to powdery mildew and white pine blister rust; highly resistant to black currant gall mite (*Cecidophyopsis ribis*); moderately susceptible to leaf spot (*Drepanopeziza ribis*); for commercial plantings; machine harvest recommended.

**Ruben.** Midseason black currant. **Origin:** Fruit Breeding Dept., Research Institute of Horticulture, Skierniewice, Poland, by S. Pluta and E. Zurawicz; Beloruskaya Sladkaya x Ben Lomond; crossed 1990; selected 1997; tested as 83 x 80/1 and PC-166; introd. 2001; EU PVR 19,039; 22 Jan. 2007. **Fruit:** medium to large; short to medium strigs; very firm; high levels of acid, juice color, and vitamin C;

good for juice processing, concentrate, and freezing. **Plant:** medium; semi-upright, spreading under the weight of fruit; very productive; produces adequate numbers of basal shoots; flowers late; ripens midseason, similar to Ben Lomond; winter hardy; resistant to powdery mildew and white pine blister rust; moderately susceptible to leaf spot; susceptible to gall mite; for commercial plantings; machine harvest recommended.

**Tahsis.** High-yielding, large-fruited black currant. **Origin:** McGinnis Berry Crops, Courtenay, B.C., Canada, by R. McGinnis. Beloruskaya Sladkaya x Titania. **Fruit:** very large. **Plant:** spreading; flowers late midseason; tolerates late frost; field immunity to white pine blister rust and resistance to powdery mildew; for hand harvest and U-pick; displays fruit well.

**Tines.** Early ripening black currant. **Origin:** Fruit Breeding Dept., Research Institute of Horticulture, Skierniewice, Poland by S. Pluta and E. Zurawicz. Titania x Ben Nevis; crossed 1990; selected 1997; tested as PC-106; introd. 2001 EU PVR 19,038; 22 Jan. 2007. **Fruit:** large; short to medium strigs; firm; high acid concentrations; moderate levels of juice color and vitamin C; good for juice processing, concentrate, and freezing. **Plant:** medium; spreading; productive; produces adequate numbers of basal shoots; flowers and ripens early, 5–6 d before Ben Lomond; winter hardy; resistant to powdery mildew; susceptible to leaf spot, white pine blister rust and black currant gall mite; for commercial plantings; machine harvest recommended.

**Whistler.** High-yielding black currant. **Origin:** McGinnis Berry Crops, Courtenay, B.C., Canada by R. McGinnis. Ben Tirran x Beloruskaya Sladkaya; Canada Plant Breeders Rights applied for. **Fruit:** high yields; small to medium, 0.8 g; high-quality; yields in B.C. more than 50% greater than Titania and Ben Alder; juice quality excellent. **Plant:** slightly spreading; medium vigor; fair field resistance to powdery mildew; good resistance to white pine blister rust; flowers late midseason; good tolerance to late spring frost; machine harvest recommended.

## ELDERBERRY

**Patrick L. Byers, Greene County Extension Office, University of Missouri Extension, Springfield, MO**

**Bob Gordon.** Consistent yielding elderberry adapted to the mid-western US. **Origin:** University of Missouri/Missouri State University, by P.L. Byers and A.L. Thomas. Selected from wild bushes of *Sambucus canadensis* in 1999; tested as Gordon B; introd. 2011. **Fruit:** medium to large, 86 mg; skin dark; high quality; TSS 11.6 °Brix; TA (malic) 0.65 g/100 mL; pH 4.7. **Cyme:** ripens uniformly; resistant to shattering; decumbent position when ripe; 87 g; abundant florets that are easily removed for use. **Plant:** medium size, 1.5–2.2 m; spreading to upright growth habit; budbreak, bloom time and harvest time similar to Adams 2; higher yields than Adams 2 under Midwestern conditions; consistent production.

**Vintage Germplasm.** Elderberry adapted to Great Lakes region and upper midwestern US, intended for use in streambank/shoreline stabilization and for wildlife food/shelter. **Origin:** USDA-NRCS, East Lansing, MI, by G. Hartman. Selected from wild bushes of *S. canadensis* in 1998; tested as 9084126; introd. 2011. **Fruit:** abundant production; flower clusters medium to large, fragrant. **Plant:** tall, 2.2–3.5 m; spreading to upright growth habit.

**Wyldeewood.** High yielding, later-ripening elderberry adapted to the midwestern US. **Origin:** University of Missouri/Missouri State University, by P.L. Byers and A.L. Thomas. Selected from wild bushes of *S. canadensis* in 1995; tested as Brush Hills 1; introd. 2010. **Fruit:** medium to large, 52–111 mg; skin dark; high quality; TSS 9.8 °Brix; TA (malic) 0.69 g/100 mL; pH 4.7. **Cyme:** ripens uniformly;

resistant to shattering; upright position when ripe; 83 g; secondary cymes commonly form below main cymes; abundant florets that are easily removed for use. **Plant:** medium to tall, to 2.2 m; spreading to upright growth habit; budbreak and bloom time later than Adams 2; harvest time 14–26 d later than Adams 2; higher yields than Adams 2 under Midwestern conditions.

## GOOSEBERRY

**Danny L. Barney, USDA-ARS, Arctic and Subarctic Plant Gene Bank, Palmer, AK**

**Hinsel.** Mid-season red European gooseberry. **Origin:** Fruit Breeding Dept., Research Institute of Horticulture, Skierniewice, Poland; by S. Pluta and E. Zurawicz. Hinnonmaki Rot x self-pollinated; selfed 1990; selected 1997; tested as AGR-48; introd. 2004; EU PVR S161; 18 Feb. 2008. **Fruit:** bright red; medium, 3.0 g; globose; smooth; good quality; for fresh market, processing, and freezing. **Plant:** growth medium to strong; mostly upright with spreading branches; moderately numerous shoots with thorns; productive; flowers and ripens midseason, similar to Whitesmith; resistant to powdery mildew; moderately susceptible to leaf spot; for home gardens and commercial plantings; machine harvestability unknown.

**Resika.** Mid-season yellow European gooseberry. **Origin:** Fruit Breeding Dept., Research Institute of Horticulture, Skierniewice, Poland by S. Pluta and E. Zurawicz. Resistentia x Karpaty; crossed 1990; selected 1997; tested as AGR-15; introd. 2004; EU PVR S160; 18 Feb. 2008. **Fruit:** yellow; medium, 3.0 g; globose; smooth; good quality for fresh market, processing, and freezing. **Plant:** growth is medium to strong; upright; moderately numerous shoots with thorns; productive; flowers and ripens midseason, similar to Whitesmith; resistant to powdery mildew; moderately susceptible to leaf spot; for home gardens and commercial plantings; machine harvestability unknown.

## GRAPE

**Christopher L. Owens, USDA-ARS, Grape Genetics Research Unit, Geneva, NY**

**By George.** Late, black-fruited, pistillate wine grape with heat tolerance and fungal disease resistance. **Origin:** Oklahoma City, OK by G.E. Girouard. Ruby Cabernet x *V. aestivalis* JG#3 (wild selection by J. Grinstead, Rolla, MO); crossed 1992; selected 2003; tested as GEG 92-1. **Fruit:** black; ripens late October–early November in Oklahoma; thick-skinned; very high acid (up to 1.4 g/100 mL @ 21 °Brix); no foxiness. **Cluster:** 80–100 berries; loose; conical. **Vine:** vigorous; resistant to bunch rots; late budbreak; heat tolerant; moderate winter hardiness.

**Cabernet Diane.** A black-fruited wine grape. **Origin:** Carrollton, IL, by L.W. Dressel. Cabernet Sauvignon x Norton; crossed 2001. USPP 20,914; 6 Apr. 2010. **Fruit:** black; round; 2–5 g. **Cluster:** triangular; 90–150 g; well-filled. **Vine:** productive; more cold hardy than Cabernet Sauvignon.

**Cabernet Dore.** A white-fruited wine grape. **Origin:** Carrollton, IL, by L.W. Dressel. Cabernet Sauvignon x Norton; crossed 2001. USPP 20,915; 6 Apr. 2010. **Fruit:** light yellow; round; 2–5 g. **Cluster:** triangular to round; 90–150 g; well-filled. **Vine:** productive; more cold hardy than Cabernet Sauvignon.

**Cerason.** An interspecific, black-fruited wine grape with fungal disease resistance. **Origin:** Mendel University, Brno, Czech Republic, by V. Kraus and M. Michlovsky. Merlan (Merlot x Seibel 13666) x Fratava (Lemberger x Saint Laurent); crossed 1985; introd. 2008. **Fruit:** black; 1.6 g; late-ripening; titratable acidity higher than that of Lemberger. **Cluster:** 265 g. **Vine:** 3.3 kg/vine yield; partial resistance

to downy mildew (*Plasmopara viticola*), powdery mildew (*Erysiphe necator*) and grey mold (*Botrytis cinerea*), not as resistant as Seibel 13666.

**Crimson Cabernet.** A black-fruited wine grape. **Origin:** Carrollton, IL, by L.W. Dressel. Cabernet Sauvignon x Norton; crossed 2001. USPP 20,913; 6 Apr. 2010. **Fruit:** black; round; 2–5 g. **Cluster:** conical; 90–150 g; well-filled. **Vine:** productive; more cold hardy than Cabernet Sauvignon.

**Doonuri.** A black-fruited table grape. **Origin:** Yeungnam University and National Institute of Horticultural & Herbal Crop Science, Korea by H.K. Yun, J.H. Noh, K.S. Park, and S.H. Kim. Schuyler x Campbell's Early; tested as Wonkyo RA-20; crossed 1982; selected 2001; introd. 2006. **Fruit:** black; round to slightly ovate; 5.1 g; aroma similar to Campbell's Early with pronounced foxy flavor; mid-season. **Cluster:** medium, 285 to 385 g; conical, occasionally shouldered; tightly filled. **Vine:** vigorous; hardy to –20 °C; resistant to grey mold, moderately resistant to anthracnose (*Elsinoe ampelina*) and downy mildew.

**Fay Rouge.** A high-yielding, mid-season red winegrape. **Origin:** Ceres, CA, by F. Triplett. F1-2 x T793-20 (Grenache x Ravat Noir); tested as F101-4; introd. 2010. **Fruit:** blue-black; oval; small-medium, 1.8 g; tough skins; 23.1° Brix; 0.9 g/100 mL79 titratable acidity; pH 3.7; wine medium-bodied, good color and mouth feel; aroma of fresh red and dark fruits with some herabaceousness, similar to Cabernet Sauvignon or Ruby Cabernet. **Cluster:** medium, 213 g; conical, slightly shouldered; loose to well-filled. **Vine:** shoots semi-erect and trailing; very fruitful; 24.3 kg yield.

**IFG 68-175 (Sweet Celebration™).** A red-fruited mid-season, seedless table grape with naturally large berries. **Origin:** International Fruit Genetics, LLC, Bakersfield, CA, by D. Cain. Redglobe x Princess; crossed 2001; selected 2003. USPP 21,644; 24 Jan. 2011. **Fruit:** red; round to oval; 7.0 g; rudimentary seeds. **Cluster:** 797 g; conical; dense, requires thinning with gibberellic acid. **Vine:** vigorous.

**Pixie.** A dwarf grapevine that produces inflorescences in preference to tendrils. **Origin:** USDA-ARS, Geneva, NY, and University of California, Davis, by P. Cousins and D. Tricoli; resulted from selection of somatic embryos derived from the L1 cell layer of a Pinot Meunier grapevine; originally planted in 2005. **Fruit:** black; seeded. **Cluster:** perfect and self-fertile. **Vine:** shortened internodes; produces inflorescences in preference to tendrils.

**Plymouth.** Late, black-fruited, self-fertile wine grape with heat tolerance and fungal disease resistance. **Origin:** Oklahoma City, OK by G.E. Girouard. Merlot x *V. aestivalis* JG#3 (wild selection by J. Grinstead, Rolla, MO); crossed 1993; selected 2003; tested as GEG 93-30. **Fruit:** black; ripens late October–early November in Oklahoma; thick-skinned; high acid; no foxiness. **Cluster:** 80–100 berries; loose until veraison; conical. **Vine:** vigorous; resistant to bunch rots; late budbreak; heat tolerant; moderate winter-hardiness.

**Scout.** A grape that precociously flowers and re-blooms on latent lateral branches. **Origin:** USDA-ARS, Geneva, NY, by P. Cousins. Rubired x *Vitis* species; original vine planted in 2008. **Fruit:** black; seeded. **Cluster:** staminate, but occasionally sets a few berries **Vine:** flowering can be continuous on actively growing vines due to prompt lateral branch flowering and it is typical to observe flower buds and flowers in bloom on a single vine; does not require a chilling period for flowering when greenhouse grown; when used as a pollen parent in crosses with other cultivars, seedlings may begin blooming as low as the 10<sup>th</sup> node above the cotyledons and bloom continuously without requiring a chilling period.

**Southern Cross.** Late, black-fruited, self-fertile wine grape with heat tolerance and fungal disease resistance. **Origin:** Oklahoma City,

OK by G.E. Girouard. Merlot x *V. aestivalis* JG#3 (wild selection by J. Grinstead, Rolla, MO); crossed 1993; selected 2003; tested as GEG 93-27. **Fruit:** black; ripens late October–early November in Oklahoma; thick-skinned; high acid, no foxiness. **Cluster:** 80–100 berries; conical. **Vine:** vigorous; resistant to bunch rots; late bud-break; heat tolerant; moderate winter hardiness.

**Sugrathirtysix.** A red-skinned, seedless table grape. **Origin:** Sun World International, LLC, Bakersfield, CA, by T. Bacon and M. Striem. 97001-198-219 x 93018-070-024; crossed 2001; selected 2005. USPP 22,078; 16 Aug. 2011. **Fruit:** red; round; 3.6 g; mild muscat aroma; rudimentary seeds. **Cluster:** 350 g; cylindrical. **Vine:** medium vigor; very productive, 12 kg yield.

**Sweet Celebration™** see IFG 68-175.

**Tankeumchu.** A black-fruited seeded table grape. **Origin:** Yeungnam University and National Institute of Horticultural & Herbal Crop Science, Korea by J.H. Noh, K.S. Park, H.K. Yun, Y.Y. Hur, S.J. Park, S.H. Kim, S.M. Jung, and H.C. Lee. Tano Red x Super Hamburg; tested as Wonkyo Ra-19; crossed 1987; selected 1995; introd.2007. **Fruit:** black; round to ovate; 7.0 g; skin medium thickness, adheres to flesh. **Clusters:** large, 367–499 g; cylindrical with small shoulders; tight. **Vine:** high vigor, hardy to –15 °C; moderately resistant to downy mildew and anthracnose.

**Valjohn.** Late, black-fruited, self-fertile wine grape with heat tolerance and fungal disease resistance. **Origin:** Oklahoma City, OK by G.E. Girouard. Cabernet Franc x *V. aestivalis* JG#3 (wild selection by J. Grinstead, Rolla, MO); crossed 1993; selected 2003; tested as GEG 93-36. **Fruit:** black; ripens late October–early November in Oklahoma; thick-skinned; high acid; no foxiness. **Cluster:** 80–100 berries; loose until veraison; conical. **Vine:** vigorous; resistant to bunch rots; late bud-break; heat tolerant; moderate winter hardiness.

**Victoria Red.** A red, seeded table grape. **Origin:** University of Arkansas, Texas A&M University, and Tarkington Vineyard, by J.N. Moore, J.R. Clark, J. Kamas, L. Stein, F. Tarkington, and M. Tarkington. Ark. 1123 x Exotic; tested as Ark. 1475; crossed 1971; selected 1974; introd. 2010. **Fruit:** bright red; large; oblong to round; seeded; crisp; tender skin; resists cracking; neutral flavor. **Cluster:** 335–477 g; conical to cylindrical; loose. **Vine:** survives in regions with prevalent Pierce's Disease; hardy to USDA hardiness zone 7b.

**Zinthiana.** A black-fruited wine grape. **Origin:** Carrollton, IL, by L.W. Dressel. Zinfandel x Cynthiana; crossed 2001. USPP 20,889; 20 Mar. 2010. **Fruit:** black; round; 2–5 g. **Cluster:** 200–300 g; conical; well-filled. **Vine:** productive; more cold hardy than Cabernet Sauvignon.

## GRAPE ROOTSTOCK

**Christopher L. Owens, USDA-ARS, Grape Genetics Research Unit, Geneva, NY**

**Kingfisher.** A root-knot nematode resistant grapevine rootstock. **Origin:** USDA-ARS, Geneva, NY, by P. Cousins. *Vitis* hybrid rootstock selection 4-12A x *Vitis riparia*; original vine was planted in 2002; introd. 2010. **Plant:** 100% success rate of rooting dormant cuttings. **Rootstock performance:** resistant to root-knot nematode (*Meloidogyne incognita*); fruit to pruning weight ratio of 6.5.

**Matador.** A root-knot nematode resistant grapevine rootstock. **Origin:** USDA-ARS, Geneva, NY, by P. Cousins. 101-14 Mgt x *Vitis* hybrid rootstock selection 3-1A; original vine planted 2002; released 2010. **Plant:** 73% success rate of rooting dormant cuttings. **Rootstock performance:** resistant to root-knot nematode; fruit to pruning weight ratio of 9.4.

**Minotaur.** A root-knot nematode resistant grapevine rootstock. **Origin:** USDA-ARS, Geneva, NY, by P. Cousins. 101-14 Mgt x *Vitis* hybrid rootstock selection 3-1A; original vine planted 2002; released 2010. **Plant:** 92% success rate of rooting dormant cuttings. **Rootstock performance:** resistant to root-knot nematode; fruit to pruning weight ratio of 8.8.

## HAZELNUT

**Shawn A. Mehlenbacher, Oregon State University, Corvallis, OR**

**Arutela.** Hazelnut for blanched-kernel market. **Origin:** Statiunea de Cercetare Dezvoltare pentru Pomicultura Valcea, Romania, by E. Turcu and I. Botu. Hall's Giant (Merveille de Bollwiller) x Tonda Gentile delle Langhe; crossed 1979; selected 1996; tested as H2-248-79; introd. 2005. **Nut:** early maturity with Tonda Gentile delle Langhe; round; small, 2.2 g; 51% kernel by weight; medium-brown; husk 70% longer than nut; pellicle completely removed by dry heat. **Tree:** vigorous; upright; moderate suckering; female and male anthesis early; cold-hardy; incompatibility alleles S<sub>2</sub>S<sub>7</sub>.

**Cozia.** Hazelnut for in-shell market. **Origin:** Statiunea de Cercetare Dezvoltare pentru Pomicultura Valcea, Romania, by I. Botu, E. Turcu, and E. Ioachim. Hall's Giant x pollen mixture; crossed 1978; selected 1982; tested as H2-125-79; introd. 1987. **Nut:** large, 4.0 g; round; 48% kernel by weight; easy pellicle removal; matures with Ennis. **Tree:** medium vigor; upright; early flowering; incompatibility alleles not determined.

**Eta.** Hazelnut pollenizer. **Origin:** Oregon State University, Corvallis, OR, by S.A. Mehlenbacher, D.C. Smith, and R.L. McCluskey. OSU 581.039 x OSU 553.090; crossed 1999; selected 2007; tested as 984.075; introd. 2009. **Nut:** small to medium, 2.8 g; 48% kernel by weight; light-brown with stripes; attractive; pellicle has much fiber, 70% of fiber removed by dry heat; husk 50% longer than nut and slit on the side; 95% fall free at maturity; maturity 5 d before Barcelona; flavor and texture good. **Tree:** intermediate vigor; globose habit; moderately productive; moderate catkin set; high pollen viability; pollen shed very late; very high resistance to eastern filbert blight (*Anisogramma anomala*); intermediate response to bud mites (*Phytoptus avellanae* and *Cecidophyopsis vermiformis*); incompatibility alleles S<sub>11</sub>S<sub>26</sub>.

**Feriale.** Hazelnut for in-shell market. **Origin:** INRA Bordeaux by E. Germain. Imperiale de Trebizonde x Butler; crossed 1979; selected 1988; tested as H295-15; introd. 2004. UPOV grant number 13,029; 20 July 2005. **Nut:** very large, 4.1 g; 43.5% kernel by weight; pellicle has little fiber; pellicle removal with dry heat 90%; husk slightly longer than nut; free-husking; few blank nuts; matures 4 d before Barcelona. **Tree:** semi-erect; moderate vigor; somewhat weeping; precocious; high-yielding; resistant to bud mites; incompatibility alleles not determined.

**Ferwiller.** Hazelnut pollenizer. **Origin:** INRA Bordeaux, France, by E. Germain. Hall's Giant (syn. Merveille de Bollwiller) x Tonda Romana; crossed 1980; selected 1993; tested as H380-7; introd. 2004. UPOV grant number 13,030; 20 July 2005. **Nut:** medium 2.5 g; 47% kernel by weight; pellicle has little fiber; pellicle removal with dry heat 95%; husk equal in length to the nut; free-husking; very few blank nuts; matures late; one week after Barcelona. **Tree:** semi-erect; moderately vigorous to vigorous; precocious; resistant to bud mites; incompatibility alleles not determined.

**Jefferson.** Hazelnut for the in-shell market. **Origin:** Oregon State University, Corvallis, OR, by S.A. Mehlenbacher, D.C. Smith, and R.L. McCluskey. OSU 252.146 x OSU 414.062; crossed 1993; selected 2000; tested as OSU 703.007; introd. 2009. **Nut:** large, 3.7 g; light brown; attractive; 45% kernel by weight; pellicle has moderate fiber; 60% of pellicle removed by dry heat; husk 50% longer than nut;

about 70% free-husking; flavor and texture very good; few defects; occasional split shells at apical end; matures 0–3 d after Barcelona. **Tree:** moderately vigorous 65% of Barcelona; upright habit; productive; very high level of resistance to eastern filbert blight; resistant to big bud mites; incompatibility alleles S<sub>1</sub>S<sub>3</sub>.

**Natval.** Hazelnut for in-shell and kernel markets. **Origin:** Statiunea de Cercetare Dezvoltare pentru Pomicultura Valcea, Romania, by M. Botu, I. Botu, G. Achim, and E. Turcu. Valcea 22 x Ennis. Valcea 22 is a clone of Turkish cv. Kargalak (Syn. Imperiale de Trebizonde); crossed 1987; selected 1994; tested as H125-44-88; introd. 2010. **Nut:** medium, 2.4 g; round; 50% kernel by weight; easy pellicle removal; matures 15 d after Tonda Gentile delle Langhe. **Tree:** medium vigor; semi-spreading; medium flowering; incompatibility alleles not determined.

**Primval.** Hazelnut for in-shell and kernel markets. **Origin:** Statiunea de Cercetare Dezvoltare pentru Pomicultura Valcea, Romania, by I. Botu, M. Botu, G. Achim, E. Turcu, and S. Preda. Hall's Giant x pollen mixture; crossed 1978; selected 1988; tested as H2-292-79; introd. 2010. **Nut:** medium, 2.5 g; round; 50% kernel by weight; easy pellicle removal; matures 15 d after Tonda Gentile delle Langhe. **Tree:** medium vigor; semi-spreading; medium flowering; incompatibility alleles S<sub>10</sub>S<sub>7</sub>.

**Red Dragon.** Ornamental cultivar. **Origin:** Oregon State University, Corvallis, OR, by S.A. Mehlenbacher and D.C. Smith. OSU 487.055 x OSU 367.039; crossed 1997; selected 2003; introd. 2008; tested as OSU 897.078. USPP 20,694; 2 Feb. 2010. **Nut:** small; slightly long; compressed; husk equal in length to nut, free-husking; matures late. **Tree:** contorted shoots; young leaves purple, fading to green as they age; resistant to eastern filbert blight; intermediate susceptibility to bud mites; incompatibility alleles S<sub>6</sub>S<sub>26</sub>.

**Romavel.** Hazelnut for in-shell and kernel markets. **Origin:** Statiunea de Cercetare Dezvoltare pentru Pomicultura Valcea, Romania, by E. Turcu, I. Botu, and E. Ioachim. Hall's Giant x pollen mixture; crossed 1978; selected 1984; tested as H2-158-79; introd. 1991. **Nut:** medium, 2.9 g; round; 49% kernel by weight; easy pellicle removal; matures 10 d after Tonda Gentile delle Langhe. **Tree:** medium vigor; semi-erect; later flowering; incompatibility alleles: S<sub>10</sub>S<sub>7</sub>.

**Theta.** Hazelnut pollenizer. **Origin:** Oregon State University, Corvallis, OR, by S.A. Mehlenbacher, D.C. Smith, and R.L. McCluskey. (Cutleaf x Contorta) x Delta; crossed 1999; selected 2007; tested as OSU 1001.008; introd. 2009. **Nut:** small, 2.3 g; 51% kernel by weight; medium-brown shells; pellicle has moderate fiber; 80% of fiber removed by dry heat; husk equal in length to nut; free-husking; flavor and texture very good; few nut and kernel defects; matures 3 d after Barcelona. **Tree:** vigorous and upright; moderately productive; catkins abundant; high pollen viability; pollen sheds very late in season; very high resistance to eastern filbert blight; moderate resistance to bud mites; incompatibility alleles S<sub>5</sub>S<sub>15</sub>.

**Tonda Pacifica.** Hazelnut for the blanched-kernel market. **Origin:** Oregon State University, Corvallis, OR, by S.A. Mehlenbacher, D.C. Smith, R.L. McCluskey, and M.M. Thompson. Tonda Gentile delle Langhe x (Barcelona x Extra Ghiaghli); crossed 1981; selected 1990; tested as OSU 228.084; introd. 2010. USPP applied for. **Nut:** small, 2.2 g; 46% kernel by weight; pellicle has little fiber; 90% of pellicle removed by dry heat; husk 75–100% longer than nut and slit on side; free-husking; flavor and texture excellent; few nut and kernel defects; nuts mature 7–10 d before Barcelona. **Tree:** moderately vigorous; 77% of size of Barcelona; globose; productive; susceptible to eastern filbert blight, moderately susceptible to big bud mites; pollen shed very early; female receptivity early; incompatibility alleles S<sub>1</sub>S<sub>2</sub>.

**Uriase de Valcea.** Hazelnut for in-shell market. **Origin:** Statiunea de Cercetare Dezvoltare pentru Pomicultura Valcea, Romania, by

E. Turcu, I. Botu, and S. Preda. Ennis x Purple Filbert; crossed 1986; selected 1992; tested as H147-7-87; introd. 2002. **Nut:** very large, 4.8 g; ovoid; 49% kernel by weight; easy pellicle removal; good flavor; matures 8 d before Ennis. **Tree:** low to medium vigor; upright; female and male anthesis late; incompatibility alleles S<sub>11</sub>S<sub>20</sub>.

**Valcea 22.** Hazelnut for in-shell market. **Origin:** Statiunea de Cercetare Dezvoltare pentru Pomicultura Valcea, Romania, by I. Botu, I. Boboce, E. Turcu, E. Ioachim, and C. Catusanu. clone of Imperiale de Trebizonde (syn. Kargalak, Karidaty, Furlulak); tested as CI 8/22; introd. 1980. **Nut:** large, 3.9 g; oblate; 49% kernel by weight; pellicle has little fiber; husk much longer than nut and slit on side; matures 12 d before Ennis. **Tree:** low vigor; spreading; somewhat pendulous; produces many suckers; precocious and high-yielding; resistant to bud mites; early flowering; incompatibility alleles: S<sub>2</sub>S<sub>10</sub>.

**Yamhill.** Hazelnut cultivar for kernel market. **Origin:** Oregon State University, Corvallis, OR, by S.A. Mehlenbacher, D.C. Smith, and R. McCluskey. OSU 296.082 x VR 8-32; crossed 1990; selected 1999; tested as OSU 542.102; introd. 2008. **Nut:** small, 2.3 g; 49% kernel by weight; pellicle has little fiber; half of pellicle removed with dry heat; husk equal in length to nut; free-husking; few blank nuts, doubles, and moldy kernels; matures early, 7–10 d before Barcelona. **Tree:** spreading with flat top, high nut yield; flowering early, with Barcelona; resistant to eastern filbert blight; highly resistant to bud mites; incompatibility alleles S<sub>8</sub>S<sub>26</sub>.

## KIWIFRUIT

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**79-2.** See Lushanxiang.

**97-4.** See White.

**134.16.** See Belén.

**Ac 171.76.** See Soreli.

**Apple Sensation.** See Ganmi No 2.

**Belén (134.16).** Male *Actinidia chinensis* selected as pollenizer for Jintao and Soreli. **Origin:** Università degli Studi di Udine, Italy, by R. Testolin. Zaoxian (79-05, F.T.-79-5) x O.P.; crossed 1993; selected 2000–2001; introd. 2001; EU PVR No 23,148; 7 July 2008. **Vine:** flowering synchronized with that of Jintao and Soreli; pollen viability good; seed setting and fruit sizing good; tetraploid.

**Boverlig 02.** See Earligreen®.

**Bruce.** Male *A. chinensis* selected as pollenizer for Hort16A. **Origin:** The Horticulture and Food Research Institute of New Zealand Ltd., Te Puke, New Zealand, by R.G. Lowe and B. Hofstee. Hort16A x CK39\_16; crossed 1995; selected 2000; introd. 2007; NZ PVR 2,740; 14 Jan. 2009. **Vine:** flowering well synchronized with that of Hort16A; effective pollenizer; fruit produced larger than with other pollenizers; pollen production and viability good; diploid.

**C6.** See Jintao.

**Chuhong (Panda™ Forest Red Kiwi).** Female *A. chinensis* grown in Shaanxi, China with green flesh and a circle of red flesh around

a central core. **Origin:** Hunan Horticultural Research Institute, Changsha, Hunan. Selected in 1994 from the wild, Xupu County, Hunan; tested as Redcore-1; introd. 2005. Registered by Hunan Provincial Plant Registration Authority, Sept. 2004. **Fruit:** long, ellipsoidal, marked beak at stylar end; medium, 80 g; skin dark green, essentially hairless; flesh green with circle of red flesh around central white core; sweet, 16.5 °Brix; red coloration more intense in fruit grown at higher altitudes; storage life moderate. **Vine:** vigorous; precocious; most fruit as singles; budbreak mid March; flowering late April to early May; harvested late September in Shaanxi.

**CK02.** See Sparkler.

**CK03.** See Meteor.

**CONVI (Green Light®, CONVI97001, Green Star).** Mutation of Hayward Clone K (*A. deliciosa*) with earlier maturation. **Origin:** CO.N.VI. DI Spada Renato e Sergio S.S., Brisighella, Italy, selected by G. Zuccherelli, Cesena, approx. 1992; EU PVR No 24,923; 4 May 2009. **Fruit:** similar to Hayward, perhaps less acid; harvested 30–40 d before Hayward. **Vine:** very vigorous; productive; flowers about same time as Hayward.

**CONVI97001.** See CONVI.

**Cuixiang (Ximi No 9).** Female *A. deliciosa* with green flesh. **Origin:** Xi'an Kiwifruit Institute, Shaanxi, China and Agricultural Experimental Station of Zhouzhi County, Shaanxi, China. Selected in 1998 from the wild, Qinling Mountains, Jiuyu Village, Louguan, China; registered by Shaanxi Fruit Registration Committee, Mar. 2008. **Fruit:** ovoid, protruding at stylar end; medium, 92 g; skin yellowish brown; hairs sparse, brown, stiff, readily shed; flesh green, juicy, good flavor, vitamin C 100–185 mg·100 g<sup>-1</sup> fresh wt.; core small. **Vine:** precocious; highly productive; robust; budbreak mid March; flowers late April to early May; harvested early September in Zhouzhi.

**Cuiyu (Liangmei No 1).** Female *A. chinensis* with green flesh. **Origin:** Hunan Horticultural Research Institute, Changsha, Hunan, China. Selected from the wild, Longzhuangwan, Xupu County, Hunan, China, 1994; tested as Liangmei No 1; released by Hunan Provincial Committee for Crop Variety Registration, September 2001. **Fruit:** ovoid, 90 g; skin greenish brown, hairs short, downy, easily shed; flesh green, good flavor, 14.5–17.3 °Brix; vitamin C 95–145 mg·100 g<sup>-1</sup> fresh wt.; stores well. **Vine:** vigor moderate; productive; precocious; most flowers as singles; tolerant of adverse conditions and disease; budbreak mid March; flowers late April to early May; harvested early October in, Changsha, Hunan; tetraploid.

**Earligold.** See Hort16A.

**Earligreen® (Boverlig 02).** Bud mutation of Hayward selected for early maturation. **Origin:** selected near Verona, Italy by A.A. Bovo. EU PVR 26,756; 22 Feb. 2010. **Fruit:** similar to Hayward. **Vine:** vigor perhaps less than Hayward; fruit harvested 40–50 d earlier; maturation on vine uneven; shelf-life short.

**Elizabeth.** See Lushanxiang.

**Emihoutao No 1 (Jinkui, Jinshui II-16-11).** Female *A. deliciosa* with green flesh that is grown mainly in Jiangxi, Fujian, Hubei, Shanghai and Anhui, China. **Origin:** Fruit and Tea Institute, Hubei Academy of Agricultural Science, Wuhan, Hubei, China. Zhuxi-2 (wild 1980 selection from Jianzhong Village, Hubei Province) x O.P.; selected 1986; tested as Jinshui II-16-11; registered by Hubei Provincial Crop Registration Committee, 1993. **Fruit:** similar to those of Hayward; wider towards stylar end; some fruit abnormal shape; 100 g; skin brown; hairs stiff, dense, easily shed; flesh green, juicy; sweet, 18–21 °Brix; vitamin C up to 240 mg·100 g<sup>-1</sup> fresh wt.; core small; storage life long. **Vine:** very vigorous; productive;

tolerant of environmental stresses such as drought, waterlogging, cold; more resistant to pests; budbreak early-mid March; flowers late April early May; harvested late October early November; hexaploid.

**First Emperor.** See Lushanxiang.

**FT 79-3.** See Ganmi No 3.

**FT 79-5.** See Ganmi No 1.

**FY 79-1.** See Ganmi No 2.

**Ganmi No 1 (Zaoxian No 1, FT-79-5).** Female *A. chinensis* with yellow flesh that is grown mainly in Jiangxi, Zhejiang, and Anhui, China. **Origin:** Institute of Horticulture, Jiangxi Academy of Agricultural Science, Nanchang, China. Selected 1979 from the wild at Laoshiwo, on border between Fengxin and Xiushui Counties, north-western Jiangxi, China; originally named FT-79-5; tested as Zaoxian 1985, registered as Ganmi No 1 by Jiangxi Provincial Cultivar Registration Committee, 1992. **Fruit:** medium-large, 85 g; cylindrical; skin green-brown to pale brown; hairs soft, dense, easily shed; flesh greenish-yellow to yellow, juicy; flavor good, 12–17 °Brix; vitamin C 75–100 mg·100 g<sup>-1</sup> fresh wt; core small; storage life medium. **Vine:** vigorous; productive; fruiting mainly on spur and short shoots; less tolerant of stress, particularly wind, requires good shelter, drainage and water supply; fruit drop can occur; budbreak mid March; flowers mid-late April; fruit mature very early, late August–early September, China; tetraploid.

**Ganmi No 2 (Kuimi, FY 79-1, Apple Sensation, Kamitsu, Turandot).** Female *A. chinensis* with yellow flesh planted mainly in Zhejiang and Anhui, China. **Origin:** Institute of Horticulture, Jiangxi Academy of Agricultural Science, Nanchang, China. Selected in 1979 from the wild, Huangtianwo Village, Jiangxi, China; originally named FY 79-1; named Kuimi in 1985; registered as Ganmi No 2 by Jiangxi Provincial Cultivar Registration Committee, 1992. **Fruit:** 100 g; distinctively apple-shaped; skin green-brown to dark brown; hairs fine, easily shed; flesh yellow-green to yellow, juicy, 13–16 °Brix; vitamin C 120–150 mg·100 g<sup>-1</sup> fresh wt.; storage and shelf life short. **Vine:** vigor moderate; highly productive, many flowers on short shoots or spurs; precocious; budbreak mid-late March; flowers late April; harvested mid-September in China; tetraploid.

**Ganmi No. 3 (Jinfeng, FT 79-3).** Female *A. chinensis* with yellow flesh and suited for canning and as fresh fruit. **Origin:** Institute of Horticulture, Jiangxi Academy of Agricultural Science, Nanchang, China. Selected from the wild in 1979 from Hongshitou Village, Jiangxi, China; originally named FT 79-3; named Jinfeng in 1985 when tested; renamed when registered as Ganmi No. 3, 1992, by Jiangxi Provincial Cultivar Registration Committee. **Fruit:** large, uniform, 80–90 g; ellipsoidal; skin yellow-brown or dark brown; hairs short, fine, dense, readily shed; flesh yellow, juicy, 12–15 °Brix, vitamin C 95 mg·100 g<sup>-1</sup> fresh wt.; core small. **Vine:** very vigorous; adaptable and tolerant to unfavorable conditions; productive with fruit mainly on longer shoots; budbreak early March; flowering late April; harvested mid–late October in China; tetraploid.

**Green Light®.** See CONVI

**Green Star.** See CONVI.

**Guichang (Qianzi 82-3).** Female *A. deliciosa* with green flesh. **Origin:** Fruit Research Institute, Guizhou, China. Selected 1982 from the wild, Ziyun County, Guizhou, China; tested as Qianzi 82-3. **Fruit:** 85 g; long, cylindrical; skin brown; hairs long, grey-brown, stiff; flesh light green, juicy, 12–16 °Brix; vitamin C 110 mg·100 g<sup>-1</sup> fresh wt. **Vine:** vigorous; precocious; high yielding; adaptable; tolerant of environmental stress; budbreak mid March; flowering late April–May; harvested October in China.

**Guihai No. 4.** Female *A. chinensis*, with green-yellow flesh that is grown mainly in Guangxi, China. **Origin:** Guangxi Institute of Botany, Guangxi Academy of Sciences, Guilin, Guangxi, China. Selected in 1980 from the wild, Longtang Village, Guangxi, China; registered by Guangxi Provincial Cultivar Registration Committee, 1996. **Fruit:** 80 g; long, cylindrical; skin yellow-brown; hairs fine, downy; flesh green-yellow, juicy; 15–19 °Brix; vitamin C low, 55 mg·100 g<sup>-1</sup> fresh wt. **Vine:** vigor moderate; highly productive; no tendency towards biennial bearing; tolerant of warm conditions; budbreak early March; flowering early April; harvested early-mid-September in China; diploid.

**Hongyang (Red Sun, RS1).** Female *A. chinensis*, with yellow flesh around a red core that is grown mainly in Sichuan, Shaanxi, and Henan, China. **Origin:** Sichuan Provincial Natural Resources Research Institute, Chengdu, Sichuan, China and Agriculture Bureau, Cangxi County, Sichuan, China. O. P. seed from the wild, Henan, China; selected 1990; introd. 1994; registered 1997 by the Sichuan Provincial Crop Cultivar Registration Committee, USPP and NZ PVR applied for (under denomination RS1). **Fruit:** small, 60–70 g; obovoid, stylar end deeply depressed; skin dark green or greenish-brown; hairs, fine, downy, readily shed; flesh green-yellow to yellow, circle of red around white core; production of anthocyanins inhibited by high temperatures and drought; texture fine; sweet, 16–20 °Brix; vitamin C mg·100 g<sup>-1</sup> fresh wt. **Vine:** vigor weak; disease susceptible; precocious; productivity high with high flower production and fruit set; vulnerable to heat and drought; budbreak early March; flowering mid April; harvested early September in China; diploid.

**Hort16A (ZESPRI® GOLD, Earligold).** Female *A. chinensis* with yellow flesh. **Origin:** New Zealand Department of Scientific and Industrial Research/The Horticulture and Food Research Institute of New Zealand Ltd., Auckland and Te Puke, New Zealand. CK01\_01\_01\_01 x CK15\_01 (both derived from seed accessions from the wild in China); crossed by M.A. McNeillage 1987; selected in 1991 by R.G. Lowe and H.D. Marsh; introd. 1995. NZ PVR 1056; 14 Nov. 1995. **Fruit:** 95–100 g; ovoid, tapering towards stylar end, prominent beak; skin green-brown to brown, hairs soft, silky, easily shed; flesh yellow-green to bright yellow depending on harvest time; core small; flavor strongly aromatic, “tropical”, sweet, approx. 16 °Brix; vitamin C 110 mg·100 g<sup>-1</sup> fresh wt.; storage life moderate. **Vine:** vigor moderate, vegetative growth continues late in season, long growth period for fruit; productive; budburst mid August; flowering mid October; harvested April/May in Te Puke, New Zealand; diploid.

**Huamei No 2.** See Yumihoutao No 2.

**Huayou (Panda™ Golden Kiwi).** Female, fruit flesh yellow or light green, described as hybrid between *A. chinensis* and *A. deliciosa* but closer in appearance to *A. chinensis*. **Origin:** Zhouzhi Huayou Kiwifruit Industrial Association, Zhouzhi, Shaanxi, China; O.P. seed from factory producing kiwifruit wine; by B.-R. He tested by Shaanxi Rural Science and Technology Development Center, Xi'an, Shaanxi and Zhouzhi Kiwifruit Experiment Station, Zhouzhi, Shaanxi, China; registered/named by Shaanxi Provincial Crop Cultivar Registration Committee, No 021-M05-2006; Jan. 2007. **Fruit:** 90 g; ellipsoidal, very pronounced beak at stylar end; skin brown or yellow; brown, hairs, sparse, downy; flesh light green to yellow; sweet, 17.4 °Brix; vitamin C 160 mg·100 g<sup>-1</sup> fresh wt.; storage life good. **Vine:** vigorous; reportedly resistant to bacterial canker (*Pseudomonas syringae* pv. *actinidiae* Van Hall); budbreak mid March; flowering late April early May; harvested mid September in China.

**Jinfeng.** See Ganmi No. 3.

**Jingold™.** See Jintao.

**Jinkui.** See Emihoutao No 1.

**Jinshui II-16-11.** See Emihoutao No1.

**Jintao (C6, WIB-C6, Jingold™).** Female *A. chinensis* with yellow flesh. **Origin:** Wuhan Institute of Botany, Chinese Academy of Sciences, Wuhan, Hubei, China. Selected in 1981 as Wuzhi 81-1 from the wild, Wuning County, Jiangxi, China; tested as Wuzhi No 6 in China and as C6 in Europe 1998–2001; introd. 2001. EU PVR 23,147 as Jintao; 7 July 2008; protected by National Forestry Cultivar Registration Committee; S-SV-AC-018-2005; 2005. **Fruit:** 90 g; mainly borne as singles; long, cylindrical, round in cross section; regular in shape and size; skin yellow; brown hairs, short, thick, downy, readily shed; flesh green-yellow to orange-yellow; juicy; sweet, 15–16 °Brix, vitamin C 180–250 mg·100 g<sup>-1</sup> fresh wt.; core small, soft; storage and shelf life long, better than many *A. chinensis* cultivars; fruit of young vines prone to cracking if water supplies fluctuate. **Vine:** moderately vigorous; precocious; highly productive; budbreak early-mid March; flowering late April to early May; harvested early October in Italy; tetraploid.

**Jinxiang.** Female *A. deliciosa* with green flesh. **Origin:** Horticulture Station, Fruit Research Institute, Yangling, Shaanxi and Shaanxi Ocean Fruit and Food Development Co. and Huifeng Ecology Agriculture & Forestry Science & Technology Co., Ltd., Shaanxi, China. Selected 1995 from nursery seedlings (unstated origin); tested as 95-1; registered as Jinxiang by Shaanxi Provincial Fruit Registration Committee; Mar. 2004. **Fruit:** 90 g; ellipsoidal, uniform, stylar end deeply depressed; skin yellow-brown; hairs, yellow, stiff; flesh, green, juicy, good texture, sweet flavor, 14 °Brix, vitamin C 70 mg·100 g<sup>-1</sup> fresh wt.; core small; storage medium. **Vine:** vigorous; adaptable, tolerant of calcareous soils; most flowers as singles; budbreak mid March; flowers early-mid May; harvested mid September in Shaanxi.

**Jinyan.** Female interspecific hybrid (*A. eriantha* x *A. chinensis*) with yellow flesh. **Origin:** Wuhan Botanical Garden, Chinese Academy of Sciences, Hubei, China. *A. eriantha* x *A. chinensis*; crossed 1984; tested as M3; registered 2006; National Forestry Cultivar Registration Committee National Cultivar No. S-SV-AE-019-2010; 2010. **Fruit:** large, 100 g; cylindrical, slightly sunken at stylar end; skin thick, yellow-brown with small red spots; hairs, fine, sparse; flesh brilliant yellow; juicy; aromatic; sweet, 16 °Brix; high mineral content; vitamin C 110 mg·100 g<sup>-1</sup> fresh wt.; core small, soft; storage life similar to Hayward. **Vine:** vigorous; precocious; high productivity; tolerant of adverse conditions; no tendency towards biennial bearing; budbreak mid March; flowering late April to early May; harvested late October to early November in China; long growth period for fruit; tetraploid.

**Kamitsu.** See Ganmi No 2.

**Kuimi.** See Ganmi No 2.

**Liangmei No 1.** See Cuiyu.

**Lushanxiang (79-2, Elizabeth, First Emperor, Yellow Joy).** Female *A. chinensis* with yellow flesh that is grown mainly in Fujian and Jiangxi, China. **Origin:** Lushan Botanical Garden, Jiangxi and Chinese Academy of Sciences, Jiangxi, China. Selected in 1979 from the wild, Pingyuan Village, Luoxi, Jiangxi; named when registered in 1985. **Fruit:** uniform, 90 g; cylindrical; handsome appearance; skin brownish yellow; hairs soft, short, easily shed; flesh yellow, juicy, sweet, 16 °Brix, aromatic, high vitamin C 165 mg·100 g<sup>-1</sup> fresh wt.; storage and shelf life short. **Vine:** vigor medium; precocious; highly productive; budbreak early March; flowering late April early May; harvested late September, China; tetraploid.

**Megakiwi™.** See Tsechelis.

**Meteor (CK03).** Male *A. chinensis* selected as pollenizer for Hort16A. **Origin:** The Horticulture and Food Research Institute of New Zealand Ltd., Te Puke, New Zealand by R.G. Lowe. Selected in 1994 from wild seed accession from Wanli, Meiling, Jiangxi; introd.

1997. New Zealand PVR 1226; 14 May 1997. **Vine:** flowering starts shortly before Hort16A; very floriferous; red blotches on some petals; diploid.

**Miliang No. 1.** Female *A. deliciosa* with green flesh planted mainly in Guizhou, Hunan, Zhejiang, and Fujian, China. **Origin:** Department of Biology, Jishou University, Hunan, China. Selected in 1983 from the wild near Miliang Village, Hunan; named and registered in 1989 by Hunan Provincial Cultivar Registration Committee. **Fruit:** uniform, 90 g; long, cylindrical, stylar end slightly protruding; skin dark brown; hairs long, stiff; flesh yellow-green; juicy; sweet, 15–19 °Brix; vitamin C high 140–200 mg·100 g<sup>-1</sup> fresh wt.; storage life medium. **Vine:** very vigorous; adaptable, tolerant of environmental stress; high yields; budbreak early March; flowering late April; harvested mid October in China; hexaploid.

**Moshan No. 4.** Male *A. chinensis* pollenizer that is widely planted in China. **Origin:** Wuhan Institute of Botany, Chinese Academy of Sciences, Hubei. Selected in 1984 from the wild in Wuning County, Jiangxi Province; named 2006 (S-SV-AC-016-2006). **Vine:** growth habit compact; vigor medium; resistant to pests and diseases; flowering period very extended; floriferous, 4–5 flowers per cyme; pollen production high; pollen viability and germinability high; flowering mid April to early May; Wuhan, China, coinciding with most tetraploid *A. chinensis* and early *A. deliciosa* female cultivars; diploid.

**Panda™ Forest Red Kiwi.** See Chuhong.

**Panda™ Golden Kiwi.** See Huayou.

**Qianzi 82-3.** See Guichang.

**Qinmei.** Female *A. deliciosa* with green flesh and is most widely planted cultivar in China, mainly Shaanxi, Henan, and Guizhou provinces. **Origin:** Shaanxi Provincial Fruit Research Institute, Yangling, Shaanxi, China and Zhouzhi *Actinidia* Research Station, Shaanxi, China. Selected in 1979 from the wild, Jiuyu, Shaanxi; originally tested as Zhouzhi 111; registered 1986. **Fruit:** large, 100 g; ovoid, distinctive beak at distal end; skin greenish-brown, rough; hairs stiff, yellow-brown; sepals persistent; flesh light green; fine texture; juicy; 14–17 °Brix; vitamin C high 190–240 mg·100 g<sup>-1</sup> fresh wt.; storage life medium. **Vine:** robust; drought tolerant; adaptable; very productive, mainly single fruit on short shoots; budbreak early-mid March; flowering late April early May; harvested late September early October in; China; hexaploid.

**Red Sun.** See Hongyang.

**RS1.** See Hongyang.

**Sanuki Gold.** Female *A. chinensis* with yellow flesh that is grown in Japan. **Origin:** Kagawa Agricultural Experiment Station, Sakaide, Japan by T. Fukuda, T. Katagiri, and K. Suezawa. Ganmi No 2 x FCM; crossed 1990; tested as APC-40; introd. 2003. Japanese PVR No 12,984; 23 Mar. 2005. **Fruit:** very large, 160–180 g; squat, wider at stylar end; skin brown; hairs soft, sparse, persistent; flesh bright yellow, 16–18 °Brix; storage life short. **Vine:** vigorous; productive; flowering early-mid May; harvested early-mid October in Japan.

**Soreli (Ac 171.76).** Female, fruit flesh yellow, *A. chinensis*. **Origin:** Università degli Studi di Udine, Italy by R. Testolin and G. Cipriani. A137 x A134.41 (descended from Ganmi No 1); crossed 1997; tested from 2002; selected 2005; introd. 2008. EU PVR applied for; USPP 21,552; 7 Dec. 2010. **Fruit:** large, > 100 g; oblong; skin brilliant brown; hairs sparse, fine, persistent; flesh intense yellow; flavor good; storage life medium. **Vine:** highly productive; flowers mainly singles; budbreak late March in Italy; requires less winter chilling than Hayward; flowers 1 week before Hayward; fruit harvested approx. 1 mo before Hayward; tetraploid.

**Sparkler (CK02).** Male *A. chinensis* selected as pollinizer for Hort16A. **Origin:** The Horticulture and Food Research Institute of New Zealand Ltd., Te Puke, New Zealand by R.G. Lowe. Seed accession from the wild, unknown provenance; selected 1994; introd. 1997. New Zealand PVR 1,225; 14 May 1997. **Vine:** flowering starts shortly after Hort16A; very floriferous; no red on petals; diploid.

**Summerfaenza.** Male *A. deliciosa* selected as pollinizer for Summerkiwi 3373. **Origin:** V. Ossani, Faenza, Ravenna, Italy. Hayward x ML 2 (fruiting male); crossed 1986; selected Dal Pane Vivai, Castelbolognese, Ravenna, Italy; introd. 2000. EU PVR 17,333; 20 Nov. 2006. **Vine:** flowers with Summerkiwi 3373 and before Hayward.

**Summerkiwk®.** See Summerkiwi 3373.

**Summerkiwi 3373 (Summerkiwi®).** Female *A. deliciosa* with green flesh and that is early maturing. **Origin:** V. Ossani, Faenza, Ravenna, Italy. Hayward x ML 2 (fruiting male); crossed 1986; selected Dal Pane Vivai, Castelbolognese, Ravenna, Italy; introd. 2000; EU PVR 16,914; 27 Feb. 2006. **Fruit:** 108 g; similar to Hayward in appearance, shape, hairiness, but more cylindrical; slight beak at stylar end; core softer and flavor less acidic than Hayward. **Vine:** vigor moderate; flowers single; flowers shortly before Hayward in Italy; fruit harvested about 7 weeks before Hayward; hexaploid.

**Tschelidis.** Female *A. deliciosa* with green flesh fruit, *A. deliciosa*, selected for size of fruit, marketed as Megakiwi™, grown mainly in Greece. **Origin:** approx. Tschelidis, Episkopi, Anthemion, Greece. Hayward O.P.; crossed 1991; selected 1994. EU PVR; 23,290 (as T 1910); 21 July 2008. **Fruit:** large, >160 g, approx. 50% heavier than Hayward; oblong, slightly depressed at stylar end; uniform, few misshapen; skin brown, hairy; flesh green. **Vine:** more vigorous than Hayward; budbreak, flowering, fruit maturation slightly ahead of Hayward.

**Turandot.** See Ganmi No 2.

**White (97-4).** Female *A. eriantha* with dark green flesh and particularly large, peelable fruit with high vitamin C content. **Origin:** Institute of Horticulture, Zhejiang Academy of Agricultural Science, Hangzhou, China. Selected in 1997 from the wild near Wenzhou, Zhejiang; tested as #97-4; named in 2005. PVR No. CNA20050673.0; 10 June 2008. **Fruit:** 90 g, much bigger than from most wild vines; long, cylindrical; skin green-brown, readily peelable; hairs dense, long, white; flesh dark green, not juicy; vitamin C very high 600 mg·100 g<sup>-1</sup> fresh wt.; storage life medium. **Vine:** vigorous; tolerant of adverse conditions; fruit harvested late October in China, 2 weeks after Bruno; diploid.

**WIB-C6.** See Jintao.

**Wuzhi 81-36.** See Wuzhi No. 3.

**Wuzhi No 3 (Wuzhi 81-36).** Female *A. chinensis* with green flesh that is grown mainly in Hubei and northern Guangdong. **Origin:** Wuhan Institute of Botany, Chinese Academy of Sciences, Hubei, China. Selected in 1981 from the wild, Louxi, Wuning County, Jiangxi; originally tested as Wuzhi 81-36; extensively tested as Wuzhi 3; released 1989; registered 2007, S-SV-AC-017-2007 by National Forestry Cultivar Registration Committee. **Fruit:** 85 g; ellipsoidal; skin dark green; hairs, soft, sparse, readily shed; flesh bright green; juicy; aromatic; 12–15 °Brix; vitamin C high, 275–300 mg·100 g<sup>-1</sup> fresh wt. **Vine:** very vigorous and productive; no tendency to biennial bearing; tolerant of adverse conditions; well adapted to warmer climates; fruit quality better at high altitudes; budbreak mid March; flowering late April; harvested late August early September in China; tetraploid.

**Ximi No 9.** See Cuixiang.

**Xuxiang.** Female *A. deliciosa* with green flesh grown mainly in northern Jiangsu, Shandong and Henan provinces and around Shanghai. **Origin:** Xuzhou Fruit Farm, Jiangsu, China. Hayward O.P.; introd. 1975 from Beijing Botanical Garden, Chinese Academy of Sciences; tested as Xuzhou 75-4; registered Nov. 1990. **Fruit:** 75 g; oblong, cylindrical; skin thin, yellowish-green, easily peeled; hairs stiff, yellow-brown; flesh green, 14 °Brix, vitamin C 100–120 mg·100 g<sup>-1</sup> fresh wt.; storage life medium. **Vine:** vigor moderate; precocious; fruit thinning required; budbreak mid March; flowering late April to early May; harvested late October in China; hexaploid.

**Yate (Zhouzhi No 1).** Female *A. deliciosa* with green flesh. **Origin:** Shaanxi Fruit Research Institute, Yangling, Shaanxi, China. Selected from the wild, Qinling Mountains, Hu County, Shaanxi, 1983; officially registered 1993. **Fruit:** large, 120 g; cylindrical; skin brown; hairs stiff; flesh green, vitamin C high, 190 mg·100 g<sup>-1</sup> fresh wt., core small; storage life good. **Vine:** growth habit compact, internodes short; well adapted to high density plantings; precocious; very productive; fruit mature late October; about 3 weeks after Qinmei; hexaploid.

**Yellow Joy.** See Lushanxiang.

**Yumihoutao No 2 (Huamei No 2).** Female *A. deliciosa* with green flesh. **Origin:** Xixia Kiwifruit Research Institute, Henan, China, by S-L. Li, Z.-Q. Cao, and X.-L. Wang. Selected in 1989 from the wild, Wafang, Shimen Village, Henan; tested as 86-5-1; evaluated as Huamei No 2 by the Department of Science and Technology, Henan Province, June 1999; registered as Yumihoutao No 2 by Henan Province Forestry Cultivar Registration Committee, October 2000. **Fruit:** large, 110 g; skin yellowish brown; hairs long, dense, persistent; flesh light green; juicy; 9.4–14.6 °Brix, vitamin C 165 mg·100 g<sup>-1</sup> fresh wt. **Vine:** vigorous; precocious; productive; cold resistant; disease resistant; drought tolerant; budbreak late March; flowering early May; harvest early-mid September in Xixia; hexaploid.

**Zaoxian No 1.** See Ganmi No 1.

**ZESPRI® GOLD.** See Hort16A.

**Zhouzhi No 1.** See Yate.

## MANGO

**Richard J. Campbell, Fairchild Tropical Botanic Garden, Coral Gables, FL**

**Coconut Cream.** Semi-dwarf tree, 0.5 kg yellow mango with a pink blush. **Origin:** Zill High Performance Plants, Boynton Beach, FL, by G. Zill. Edward x Gary; crossed 2000; tested as C-20; introd. 2011. USPP applied for. **Fruit:** oblong; 454 g; yellow ground color with pink blush; flavor of coconut cream; Brix often 20°+; aroma weak, pleasant. **Tree:** semi-dwarf, 3 to 4.5 m; leaves large, light green; yield moderate; ripens midseason in Florida, June and July; disease tolerance of bloom and fruit excellent.

## NECTARINE

**Ksenija Gasic, Department of Environmental Horticulture, Clemson University, Clemson, SC**

**W.R. Okie, USDA-ARS, Southeastern Fruit and Tree Nut Research Laboratory, Byron, GA**

**Ambra®.** Yellow-fleshed, melting, clingstone nectarine. **Origin:** Universities of Bologna and Milan, Italy, by D. Bassi. Stark RedGold x Mayfire; tested as BO 85151169; introd. 1995. **Fruit:** large, 160 g; round-oblong, symmetrical to slightly asymmetrical; red blush

covering 75–80% of yellow ground color; flesh yellow; firm, melting; clingstone with no red near pit; mild flavor; ripens in early July, 11 d before Redhaven in Bologna. **Tree:** vigorous, upright-spreading, highly productive; flowers showy, self-fertile; medium chilling requirement; leaf glands reniform.

**Burnecttwentyfour.** Yellow-fleshed, melting clingstone nectarine. **Origin:** The Burchell Nursery Inc., Oakdale CA, by J.K. Slaughter and T.H. Gerdts. Mayglo O.P.; tested as E45.013; USPP 21,724; 22 Feb. 2011. **Fruit:** large; uniform; round to oblate; medium-red to dark-red blush covering 85–95% of light yellow ground color; flesh yellow-orange; firm, dense, melting, sweet, acidic, slightly astringent; ripens 27 May to 5 June, 7–10 d before Mayglo in San Joaquin Valley, CA. **Tree:** medium-large; vigorous; upright; productive; flowers showy; self-fertile; 350 h chilling requirement; leaf glands small, globose.

**Giant Bright.** Yellow-fleshed, clingstone nectarine. **Origin:** Le Grand CA by L.G. Bradford. Western Pride x August Fire; USPP 21,927; 24 May 2011. **Fruit:** very large; uniform; globose; dark-red overcolor smoothly blending into reddish-orange ground color with little to moderate yellow-orange freckling towards apex; flesh brilliant yellow with red streaking next to stone; firm; juicy; acidic and sweet; ripens 14–24 July in San Joaquin Valley, CA. **Tree:** medium; spreading; dense; flowers small; chilling requirement 650 h; leaf glands large, reniform.

**Hortarine 1.** Yellow-fleshed, clingstone nectarine. **Origin:** The New Zealand Institute for Plant and Food Research Ltd., New Zealand, by M. Malone. Peacharine O.P.; USPP 20,528; 8 Dec. 2009. **Fruit:** small to medium; round; strongly pointed; dark-red overcolor covering 50% of yellow ground color; flesh yellow with no anthocyanin present; firm, non-melting, strong aromatic flavor; ripens late-season mid-February in Hawke's Bay, New Zealand. **Tree:** low-medium vigor; open and spread; flowers showy; large, self-fertile; chilling requirement 800 h; leaf glands reniform.

**May Bright.** Yellow-fleshed, clingstone nectarine. **Origin:** Le Grand, CA by L.G. Bradford. (Early Diamond x May Fire) x (unknown low-chill peach O.P.); USPP 21,928; 24 May 2011. **Fruit:** medium to large; uniform; ovate; dark red overcolor covering reddish-orange ground color with light orange-yellow freckling toward the apex; flesh yellow with no red, very firm, melting; ripens May 24–June 4 in San Joaquin Valley, CA. **Tree:** medium; moderately vigorous; vase type; very productive; flowers showy; self-fertile; chilling requirement 400 h; leaf glands globose.

**Rebus 028®.** Yellow-fleshed, slow-melting nectarine. **Origin:** Universities of Bologna and Milan, Italy, by D. Bassi. Big Top x May Fire; tested as BO 96003028; introd. 2010. **Fruit:** 160 g; round; bright red overcolor covering 90–100% yellow ground color, very little russetting, no cracking; flesh yellow with some anthocyanins; very firm, slow-melting (as Big Top nectarine), hangs well; clingstone, red near pit; very good flavor (low-acid type), aromatic; ripens in second half of June, 16 d before Redhaven, in Bologna. **Tree:** regular; medium vigor; very productive; needs heavy thinning; flowers showy, self-fertile; medium chilling requirement; leaf glands globose.

**Rebus 038®.** Yellow-fleshed, melting, low-acid nectarine. **Origin:** Universities of Bologna and Milan, Italy, by D. Bassi. Spring Red x Big Top; tested as BO 96028038; introd. 2010. **Fruit:** large, 200 g; slightly oblate; bright red overcolor covering 90–100% yellow ground color, very little russetting, no cracking; flesh yellow with some anthocyanins; very firm, slow-melting (as Big Top nectarine), hangs well; clingstone, red near pit; very good flavor (low-acid type), aromatic; ripens mid July, 5 d after Redhaven in Bologna. **Tree:** regular; medium vigor; very productive; flowers showy, self-fertile; medium chilling requirement; leaf glands reniform.

**Rebus 195®.** Yellow-fleshed, melting, semi-freestone nectarine. **Origin:** Universities of Bologna and Milan, Italy, by D. Bassi. Spring Red x Big Top; tested as BO 96028195; introd. 2010. **Fruit:** large, 200 g; slightly elongated; bright red blush covering 90–100% yellow ground color, very little russetting, no cracking; flesh yellow with some anthocyanins; very firm, slow-melting (as Big Top nectarine); hangs well; semi-freestone, red near pit; very good flavor (low-acid type), aromatic; ripens second half of July, 12 d after Redhaven in Bologna. **Tree:** regular; medium vigor; very productive; flowers showy, self-fertile; medium chilling requirement; leaf glands reniform.

## PAW PAW

**Kirk W. Pomper, Sheri B. Crabtree, and Jeremiah D. Lowe,**  
**College of Agriculture, Food Science, and Sustainable Systems,**  
**Kentucky State University, Frankfort, KY**

**KSU 8-2 (KSU-Atwood™).** Medium, fragrant pawpaw, with smooth, custard-textured flesh. **Origin:** Kentucky State University, Frankfort, KY, by K.W. Pomper., S.B. Crabtree, and J.D. Dove. Selected from population from O.P. seed collected by R. Neal Peterson in 1990 from a seedling tree at the Wye Research and Education Center (Queenstown, MD) which in turn originated from O.P. seed from BEF-49 (unknown origin) growing at the Blandy Experimental Farm (Boyce, VA); tested as MD90W062-3; introd. 2010. **Fruit:** 140 g, as large as 355 g; fleshy; percent seed 8% by weight; unique mango-banana-pineapple-like flavor, sweet, 27 °Brix; texture medium-firm, creamy, smooth; flesh color yellow to orange; overall fruit quality and quantity excellent. **Plant:** high yielding, 15–33 kg/tree; vigorous with strong natural right-angled scaffold branching, responds well to pruning; fruit thinning can increase fruit size.

**KSU-Atwood™.** See KSU 8-2.

## PEACH

**Ksenija Gasic, Department of Environmental Horticulture,**  
**Clemson University, Clemson, SC**

**William R. Okie, USDA-ARS, Southeastern Fruit and Tree Nut**  
**Research Laboratory, Byron, GA**

**ASFPBF0492.** White-fleshed, melting, semi-clingstone peach. **Origin:** S.A.R.L. Argo Selection Fruits, Elne, France, by A. Maillard and L. Maillard. Maillardou (yellow nectarine) x Flataugust (white flat peach); tested as 03.24.43 PBPL; USPP 21,143; 6 July 2010. **Fruit:** large; homogeneous; round; luminous pink-red blush covers 100% of the fruit; flesh white with a star-shaped red pigmentation into and around the stone cavity; firm, very dense, crunchy, melting, juicy; semi-sweet, balanced taste; ripens 27 July–7 Aug., 4 d earlier than Maillardflat in Elne. **Tree:** large, vigorous; semi-spread to semi-upright; very productive; flowers medium, showy, self-fertile; adapted to areas with 350–1200 h chilling requirement; leaf glands small, reniform.

**Bolero.** Yellow-fleshed, melting, freestone peach resistant to bacterial spot. **Origin:** Universities of Bologna and Milan, Italy, by D. Bassi. Cresthaven x Flamecrest; tested as BO 78007001; introd. 1995. **Fruit:** very large, 180–200 g; round, uniform; red blush covering 30–40% of yellow ground color; flesh yellow, firm, melting; freestone with red near pit; good flavor; ripens in late Aug., 32 d after Redhaven in Bologna. **Tree:** moderate vigorous spreading, highly productive; flowers non-showy, self-fertile; leaves and fruit resistant to bacterial spot (*Xanthomonas arboricola* pv. *Pruni*); medium chilling requirement; leaf glands reniform.

**Bonia.** Yellow, non-melting, clingstone peach. **Origin:** Universities of Bologna and Milan, Italy, by D. Bassi. Parentage unknown; tested

as BO 85084002; introd. 2002. **Fruit:** large, 170 g; round, symmetrical to slightly asymmetrical; no blush on yellow ground color; flesh yellow; firm, non-melting; clingstone, with no red near pit; good flavor; ripens in early July, 11 d before Redhaven in Bologna. **Tree:** vigorous upright-spreading, highly productive; flowers showy, self-fertile; medium chilling requirement; leaf glands reniform.

**Bordò.** Yellow-fleshed, melting, clingstone, early ripening peach. **Origin:** Universities of Bologna and Milan, Italy, by D. Bassi. Rich Lady x Maycrest; tested as BO 96025004; introd. 2008. **Fruit:** large, 150–170 g; round; red blush covering 90–100% over yellow ground color; flesh yellow, very firm, melting; clingstone, with red near pit; very good flavor, aromatic; ripens in late June, about 5 d after Maycrest in Bologna. **Tree:** medium-vigorous, spreading-upright, productive; flowers showy, self-fertile; medium chilling requirement; leaf glands reniform.

**Borgia.** Yellow-fleshed, non-melting, very early ripening peach for fresh market. **Origin:** Universities of Bologna and Milan, Italy, by D. Bassi. Maycrest O.P.; tested as BO 85139003; introd. 1994. **Fruit:** small, 65–70 g; round, symmetrical to slightly asymmetrical; red blush covering 50–70% over yellow ground color; flesh yellow; firm, non-melting; clingstone, with red near pit; good flavor; ripens in mid May, about 20 d before Maycrest in Bologna. **Tree:** medium-vigorous, spreading, highly productive; flowers showy, self-fertile; medium chilling requirement; leaf glands globose.

**Burpeachtwentyfour.** White-fleshed, clingstone peach. **Origin:** The Burchell Nursery Inc., Oakdale, CA, by J.K. Slaughter and T.H. Gerdt. Queencrest x unknown white flesh flat peach; tested as J47.083; USPP 21,737; 1 Mar. 2011. **Fruit:** large; uniform; round; red blush covering 80–90% of yellow ground color; flesh white; firm, juicy, non-melting; sweet; low acidity; ripens 16–23 May in San Joaquin Valley, CA. **Tree:** large, vigorous; upright; productive; flowers showy; self-fertile; chilling requirement 650 h; leaf glands small, reniform.

**Flatpretty.** Yellow-fleshed, semi-clingstone flat peach. **Origin:** S.A.R.L. Argo Selection Fruits, Elne, France, by A. Maillard and L. Maillard. Maillarflat O.P.; tested as 01.10.64 PBPL; USPP 21,389; 19 Oct. 2010. **Fruit:** medium; flat, rounded; bright red overcolor covers 80–90% of yellow-orange ground color; flesh white with slight red pigmentation near the stone; very firm, very dense; juicy; semi-sweet; ripens 30 June–11 July in Elne. **Tree:** medium-large; vigorous; semi-spread to semi-upright; very productive; flowers very large, showy, self-fertile; adapted to areas with 350–1200 h chilling requirement; leaf glands medium, reniform.

**FlatQueen.** White-fleshed, melting, semi-freestone flat peach. **Origin:** S.A.R.L. Argo Selection Fruits, Elne, France, by A. Maillard and L. Maillard. Maillarflat O.P.; tested as 01.24.88 PBPL; USPP 20,750; 16 Feb. 2010. **Fruit:** medium; uniform; flat, rounded; thick skin tenacious to the flesh; orange-red homogenous blush covers 80% of surface over yellow-orange ground color; flesh white with slight red pigmentation close to the stone; very firm, very dense, juicy; semi sweet; ripens 25 Aug.–4 Sep., 27 d after Maillarflat in Elne. **Tree:** medium to large; moderately vigorous; half-standing; semi-spreading; very productive; winter hardy; spring frost resistant; flowers large, showy, self-fertile; adapted to areas with 350–1200 h chilling requirement; leaf glands medium-large, reniform.

**Juliepretty.** Yellow-fleshed, very firm, clingstone peach with long shelf life. **Origin:** S.A.R.L. Argo Selection Fruits, Elne, France, by L. Maillard and A. Maillard. Maillargood O.P.; tested as 02.04.55 PJ; USPP 20,611; 29 Dec. 2009. **Fruit:** large; flat, uniform, round; red overcolor over 80–90% of orange-yellow ground color; flesh yellow with slight red pigmentation star-shaped around the stone; very firm, balanced taste, juicy; ripens 16–25 Aug., same time as O'Henry in Elne; long shelf life. **Tree:** medium to large; moderately vigorous;

half-standing semi-spreading; winter hardy; spring frost resistant; flowers showy, self-fertile; chilling requirement 550 h; leaf glands reniform.

**KV00398.** Yellow-fleshed, melting, freestone peach. **Origin:** USDA-ARS, AFRS Kearneysville, WV, by R. Scorza and W.R. Okie. BY96P3480 O.P. [Blazeprince x BY90P2932 (F3 of Flavortop x Fla WL-1)]; USPP 21,378; 12 Oct. 2010. **Fruit:** large; uniform; red overcolor covering 80% of yellow-orange ground color; flesh yellow; firm, melting; sweet, mildly acid; ripens early August in Kearneysville. **Tree:** large; vigorous; spreading; medium-dense; flowers showy, self-fertile; leaf glands reniform.

**KV981175.** Yellow-fleshed, melting, freestone peach. **Origin:** USDA-ARS, AFRS Kearneysville, WV, by R. Scorza. Bounty x Crimson Rocket; USPP 21,379; 12 Oct. 2010. **Fruit:** large; uniform; red-purple overcolor covering 80% of yellow ground color; flesh yellow-orange with small amount of red around stone; firm, melting; freestone; sweet with good balance of acidity; ripens mid August in Kearneysville. **Tree:** vigorous; upright; medium-dense to dense; productive; flowers showy, self-fertile; leaf glands reniform.

**Lucrezia.** Yellow-fleshed, melting, freestone, very early ripening peach. **Origin:** Universities of Bologna and Milan, Italy, by D. Bassi. Maycrest O.P.; tested as BO 85139004; introd. 1994. **Fruit:** small, 65–70 g; round, symmetrical to slightly asymmetrical; red blush covering 50–70% over yellow ground color; flesh yellow, medium firm, melting; freestone; good flavor; ripens in mid May, about 23 d before Maycrest in Bologna. **Tree:** medium; vigorous; spreading; highly productive; flowers showy, self-fertile; medium chilling requirement; leaf glands globose.

**Moscato Largo.** Yellow, firm, mid-chilling requirement, freestone peach. **Origin:** Ministry of Agriculture & National Agricultural Research Institute of Uruguay INIA, by R. De Lucca, R. Zeballos, J. Soria, and J. Pisano. Parentage involved Pavia Manteca, Pavia Moscatel, EarliGrande and Flordaking; introd. 2012; PVR applied for. **Fruit:** medium to large; long-shaped; 60% red overcolor, attractive, short to medium fuzz, resembling Elberta; flesh firm, very good flavor and aroma; no tendency to cracking; ripens 30 Jan. – 5 Feb., 46 d after Flavorcrest in Las Brujas. **Tree:** medium vigor; spreading; productive; flowers showy; chilling requirement 1050 h (Utah model); medium sensitivity to bacterial spot.

**Nadia.** Yellow-fleshed, melting, freestone peach, resistant to brown rot. **Origin:** Universities of Bologna and Milan, Italy, by D. Bassi. Suncrest x IF 7030087; tested as BO 82015079; introd. 1993. **Fruit:** very large, 200 g; round; red blush covering 60% of yellow ground color; flesh yellow; firm, melting; freestone with red near pit; very good flavor; ripens late August, about 40 d after Redhaven in Bologna. **Tree:** medium; vigorous; spreading; productive; flowers showy, self-fertile; fruit resistant to brown rot (*Monilinia laxa* spp.); medium chilling requirement; leaf glands reniform.

**Rosella.** White-fleshed, melting, clingstone, very early ripening peach. **Origin:** Universities of Bologna and Milan, Italy, by D. Bassi. Rubiette x Spring Lady; tested as BO 88036030; introd. 2002. **Fruit:** small, 75–80 g; round, symmetrical to slightly asymmetrical; red blush covering 80% of white ground color; flesh white; firm, melting; clingstone, with no red near pit; good flavor; ripens late May, about 15 d before Maycrest in Bologna. **Tree:** medium vigor; semi-spreading, highly productive; flowers showy, self-fertile; medium chilling requirement; leaf glands globose.

**Rubia.** White-fleshed, melting peach. **Origin:** Universities of Bologna and Milan, Italy, by D. Bassi. (Redtop x Paola Cavicchi Precoco) x Firered; tested as BO 90004061; introd. 2002. **Fruit:** large, 200 g; round, symmetrical to slightly asymmetrical; red blush covering 65–70% over white ground color; flesh white; firm, melting;

freestone, with red near pit; good flavor, aromatic; ripens late July, about 8 d after Redhaven in Bologna. **Tree:** vigorous, semi-spreading, highly productive; flowers showy, self-fertile; medium chilling requirement; leaf glands globose.

**Rubisco.** White-fleshed, melting freestone peach. **Origin:** Universities of Bologna and Milan, Italy, by D. Bassi. (Redtop x Paola Cavicchi Precoce) x Firered; tested as BO 90004057; introd. 2002. **Fruit:** large, 200 g; round, symmetrical to slightly asymmetrical; red blush covering 40–50% of white ground color; flesh white; firm, melting; freestone, with red near pit; good flavor, aromatic; ripens in mid August, about 35 d after Redhaven in Bologna. **Tree:** vigorous, semi-spreading, highly productive; flowers showy, self-fertile; medium chilling requirement; leaf glands reniform.

**Sauzee Pride.** Yellow-fleshed, freestone flat peach. **Origin:** Modesto, CA by G.N. Zaiger, L.M. Gardner, and G.G. Zaiger. 207LF85 x 505-13 (peento peach); tested as 55ZA18; USPP 20,639; 12 Jan. 2010. **Fruit:** large; flat; orange-red blush; flesh yellow; firm; mild, sweet, sub-acid; ripens 16–22 July in Modesto, CA. **Tree:** vigorous; upright; productive; flowers large to extra large, showy, self-fertile; chilling requirement 750 h; leaf glands reniform.

**Soleada.** Yellow-fleshed, melting, freestone peach with fruit resistant to brown rot and bacterial spot. **Origin:** Universities of Bologna and Milan, Italy, by D. Bassi. Cresthaven x self; tested as BO 84025024; introd. 2002. **Fruit:** very large (200 g); round; red blush covering 40–50% over yellow ground color; flesh yellow; firm, melting, freestone with no red near pit; very good flavor; resistant to brown rot and bacterial spot; ripens in mid August, about 30 d after Redhaven in Bologna. **Tree:** medium vigor; spreading; productive; flowers non-showy, self-fertile; medium chilling; leaf glands reniform.

**Sunnirich.** Yellow-fleshed, clingstone, low-acid peach. **Origin:** Modesto, CA by G.N. Zaiger, L.M. Gardner, and G.G. Zaiger. 178LE186 x 11GA102; USPP 21,567; 14 Dec. 2010. **Fruit:** large; globose; yellow-orange ground color; flesh yellow; firm; mild, sweet; low-acid; ripens 1–8 July in Modesto. **Tree:** large; vigorous; upright; flowers large, showy, self-fertile; chilling requirement 900 h; leaf glands medium, reniform.

**Sweetlove.** White-fleshed, melting, clingstone peach with long shelf life. **Origin:** S.A.R.L. Argo Selection Fruits, Elne, France, by A. Maillard and L. Maillard. Maillardinette x Maillarmagie; tested as 03.28.21 PB; USPP 21,144; 6 July 2010. **Fruit:** large to very large; uniform, round; homogenous and luminous purple-red blush covers 80–90% of the red ground color; flesh white with red pigmentation around the stone; very firm, very dense, crunchy, melting; semi-sweet; ripens very evenly, homogenously, slowly; long shelf life; ripens 29 June–9 July, 4 weeks later than Nectarprima in Elne. **Tree:** large; moderately vigorous; very productive; flowers small, non-showy, self-fertile; chilling requirement 650 h; leaf glands medium, globose.

**Sweetmoon.** White-fleshed, clingstone peach with long shelf life. **Origin:** S.A.R.L. Argo Selection Fruits, Elne, France, by A. Maillard and L. Maillard. Maillardinette x Maillarmagie; tested as 03.28.16 PB; USPP 21,158; 13 July 2010. **Fruit:** large-very large; uniform, round; homogenous and luminous purple-red blush covers 80–90% of the red ground color; flesh white with very intense, star-shaped red pigmentation in the stone cavity; very firm, very dense, crunchy, melting; juicy; semi-sweet; ripens very evenly, homogenously, slowly; long shelf life; grouped maturity, only 2 harvests in 12 d; ripens 30 July–10 Aug., 5–6 d after Merdame. **Tree:** large; medium vigor; semi-spreading, semi-upright; very productive; flowers small-medium, non-showy, self-fertile; adapted to areas with 350–1200 h chilling requirement; leaf glands small, reniform.

**Sweetprim.** White-fleshed, melting, clingstone peach with long shelf life. **Origin:** S.A.R.L. Argo Selection Fruits, Elne, France,

by A. Maillard and L. Maillard. Nectarprima x Nectarmagie; tested as 4N.09.21 PB; USPP 21,157; 13 July 2010. **Fruit:** large-very large; uniform, round; homogenous and luminous purple-red blush covers 80–90% of red ground color; flesh white with red pigmentation around the stone; very firm, very dense, crunchy, melting; very juicy; semi-sweet; ripens very evenly, homogenously, slowly; long shelf life; grouped maturity, only 2 harvests in 10 d; ripens 13–20 June in Elne. **Tree:** large; very vigorous; semi-spreading to semi-upright; very productive; flowers medium-large, showy, self-fertile; adapted to areas with 350–1200 h chilling requirement; leaf glands medium, globose.

**Sweetstar.** White-fleshed, melting, clingstone peach with long shelf life. **Origin:** S.A.R.L. Argo Selection Fruits, Elne, France, by A. Maillard and L. Maillard. ASF 9805 O.P. [Julie x Zaitabo]; tested as 02.09.94 PB; USPP 21,145; 6 July 2010. **Fruit:** large-very large; uniform, round; homogenous and luminous purple-red blush covers 80–90% of red ground color; flesh white with red pigmentation around the stone; very firm, very dense, crunchy, melting; semi-sweet; ripens very evenly, homogenously, slowly; long shelf life; grouped maturity, only 2 harvests in 10 d; ripens 7–16 Aug., 2–3 d after Nectarexquise in Elne. **Tree:** large; very vigorous; semi-spreading to semi-upright; very productive; flowers medium-large, showy, self-fertile; adapted to areas with 350–1200 h chilling requirement; leaf glands medium, reniform.

**UF ONE.** Yellow-fleshed, melting, semi-clingstone peach. **Origin:** University of Florida, Gainesville and Florida Foundation Seed Producers Inc., Greenwood, FL, by J. Chaparro and W.B. Sherman. Fla. 90-50cn O.P.; tested as Fla. 97-30c; USPP 21,607; 4 Jan. 2011. **Fruit:** large; uniform, slightly oval; bright red blush covers 40% of yellow ground color; flesh yellow with no red at the pit; firm, juicy, melting when fully ripe; moderately sweet, slightly acid; ripens early May, 8 d after UFBeauty at Gainesville. **Tree:** medium; moderately vigorous; semi-spreading; very productive; high leaf and fruit resistance to bacterial spot; flowers showy, self-fertile; chilling requirement 150 h; leaf glands globose.

**UFGlo.** White-fleshed, non-melting, clingstone peach. **Origin:** University of Florida, Gainesville and Florida Foundation Seed Producers Inc., Greenwood, FL, by J. Chaparro and W.B. Sherman. Fla. 97-47cn x bulked pollen from three unselected white-fleshed non-melting peaches; USPP 21,837; 5 Apr. 2011. **Fruit:** medium-large; uniform, round; red blush covers 70–90% of cream ground color; flesh white with no red around the pit; firm, non-melting, juicy; moderately sweet, slightly acid; ripens 11–18 May, 10–14 day before UFSharp at Gainesville. **Tree:** medium; moderately vigorous; semi-spreading; flowers showy, self-fertile; chilling requirement 400 h; leaf glands reniform.

## PEACH ROOTSTOCK

**Thomas G. Beckman, USDA-ARS Southeastern Fruit and Tree Nut Research Laboratory, Byron, GA**

**MP-29.** A clonal plum x peach interspecific hybrid rootstock for peach. **Origin:** USDA-ARS, Byron, GA, and University of Florida by T.G. Beckman, J.X. Chaparro, and W.B. Sherman. Edible Sloe plum x SL0014 peach rootstock selection; selected 1995; tested as MP-29; introd. 2011. USPP applied for. **Plant:** readily propagated via softwood or hardwood cuttings and tissue culture; unbudded tree has moderate vigor, semi-spreading form; leaves are red with morphology intermediate between the plum and peach parents; flowers rare and incomplete, reproductively sterile; vegetative budbreak coincides with peach cultivars requiring ca. 750 h of chilling below 7 °C at Byron. **Rootstock performance:** significantly lower vigor than trees budded on peach seedling rootstocks, ca. 70% the size of trees on Guardian; yield efficiency equal to or better than trees on Guardian; fruit size similar to trees on Guardian; significantly more resistant to Armillaria (*A. tabescens*) root rot than Sharpe plum

rootstock or typical peach seedling rootstocks such as Guardian; resistance to Peach Tree Short Life similar to that of Guardian; resistant to several species of root-knot nematodes including *Meloidogyne incognita* and *M. floridensis*; tests of graft compatibility with other *Prunus* species have been initiated.

**Replantpac.** Compatible with peach. Described under Plum Rootstock.

## PERSIAN WALNUT

**Charles A. Leslie, Walnut Improvement Program, University of California, Davis, CA**

**Fredrick.** A walnut that harvests shortly after Payne with high yield and less blight. **Origin:** Stockton, CA, by F. Minazzoli. Payne O.P.; selected 1980; introd. 2002. USPP 14,236; 14 Oct. 2003. **Nut:** 11.4 g; smooth, ovate; light color; 54% kernel, suitable for use in-shell; **Kernel:** 6.6 g; easily removed in halves; mostly extra light color. **Tree:** vigor high; moderately upright structure; bears on terminals; protandrous; yield high; harvests 1 week after Payne; less blight (*Xanthomonas arboricola* pv. *juglandis*) than Payne.

**Ivanhoe.** A very early harvesting walnut with extra-light kernel color. **Origin:** University of California-Davis, by G. McGranahan and C. Leslie. UC67-13 x Chico; crossed 1995; selected 2001; tested as UC95-011-14; introd. 2010. USPP 21,718; 22 Feb. 2011. **Nut:** 13.5 g; smooth, oval; 57% kernel; seals sometimes weak. **Kernel:** 7.7 g; easily removed in halves; high proportion of extra-light color. **Tree:** vigor moderate to low; bears on terminals and laterals; precocious; protogynous; yield high; harvest date very early, similar to Serr and 1 mo before Chandler; susceptible to blight.

## PLUM

**David W. Ramming, USDA-ARS, Crop Diseases, Pests and Genetics, San Joaquin Valley Agricultural Sciences Center, Parlier, CA**

**August Majesty.** A mid-season, dark-purplish red skin, light greenish-yellow flesh, Japanese plum. **Origin:** Le Grand, CA, by L.G. Bradford. Unknown plum x unknown plum; crossed 2001; selected 2005. USPP 20,833; 16 Mar. 2010. **Fruit:** large, 73 mm diameter, 210 g; round; skin dark-purplish red, glabrous; flesh light greenish-yellow; SS 18%; freestone; ripens 14–24 Aug. **Tree:** medium; vigorous; upright; moderately productive, regular producer; self-infertile; anthers orange over brilliant yellow; petals white; blooms 27 Feb.–8 Mar. in Le Grand, CA, with Santa Rosa.

**Black Garabedian.** An early, dark red skin, yellow flesh, Japanese plum. **Origin:** Fresno, CA, by S. Arias. Santa Rosa x El Dorado. USPP 21,557; 7 Dec. 2010. **Fruit:** medium, 68 mm diameter; round; skin dark red, glabrous; flesh yellow, semi-freestone; ripens 3–14 June, 7–10 d before Santa Rosa. **Tree:** medium; upright; productive, regular producer; anthers nugget bronze yellow; petals white; blooms 10–28 Feb. in Fresno, CA; pollinators Showtime and Santa Rosa.

**Blackred IV.** An early to mid-season, dark-blackish red skin, red to orange flesh, interspecific plum. **Origin:** Le Grand, CA, by L.G. Bradford. Purple Majesty x unknown apricot and interspecific plum-apricot pollen; crossed 2001; selected 2004. USPP 20,832; 16 Mar. 2010. **Fruit:** medium to large, 70 mm diameter, 147 g; oblate; skin dark blackish-red, glabrous; flesh red to orange; SS 17%; clingstone; ripens 26 June–5 July **Tree:** medium; moderately vigorous; spreading; medium-productive, regular producer; self-infertile; anthers yellow; petals white; blooms 22 Feb.–1 Mar. in Le Grand, CA, 1 d after Ambra.

**Blackred VIII.** A mid-season, blackish-red skin, red to orange flesh, interspecific plum. **Origin:** Le Grand, CA, by L.G. Bradford. 19P442 x unknown apricot and interspecific plum-apricot pollen; crossed 2001; selected 2004. USPP 20,863; 23 Mar. 2010. **Fruit:** large, 73 mm diameter, 193 g; oblate; skin blackish-red, glabrous; flesh red to orange; SS 20–24%; clingstone; ripens 23 Aug.–8 Sep. **Tree:** medium; moderately vigorous; upright; very productive, regular producer; self-infertile; anthers light orange-yellow; petals white; blooms 22 Feb.–2 Mar. in Le Grand, CA, with Ambra.

**Blackred XI.** A late-season, black skin, red flesh, interspecific plum. **Origin:** Le Grand, CA, by L.G. Bradford. 42P1156 x unknown apricot and interspecific plum-apricot pollen; crossed 2003; selected 2006. USPP 21,938; 31 May 2011. **Fruit:** large, 70 mm diameter, 173 g; round; skin black, glabrous; flesh red; SS 23%; clingstone; ripens 7–21 Sep., 14 d before Blackred XII. **Tree:** medium; vigorous; upright; very productive, regular producer; self-infertile; anthers orange-yellow; petals white; blooms 22 Feb.–2 Mar. in Le Grand, CA, 4 d before Santa Rosa.

**Blackred XII.** A late-ripening, black skin, red to orange flesh, interspecific plum. **Origin:** Le Grand, CA, by L.G. Bradford. 42P1156 x unknown apricot and interspecific plum-apricot pollen; crossed 2003; selected 2006. USPP 20,892; 30 Mar. 2010. **Fruit:** medium-large, 67 mm diameter, 147 g; round; skin black, glabrous; flesh red to orange; SS 23%; clingstone; ripens 27 Sep.–10 Oct., 30 d after Plumsweet V. **Tree:** medium to large; moderately vigorous; upright; medium productive, regular producer; self-infertile; anthers orange-yellow; petals white; blooms 3–11 Mar. in Le Grand, CA, 4 d after Santa Rosa.

**Fallette.** A very late-ripening, red skin, yellow flesh, Japanese plum. **Origin:** Modesto, CA, by G.N. Zaiger, L.M. Gardner, and G.G. Zaiger. 297LC176 O.P.; selected 1993. USPP 20,972; 4 May 2010. **Fruit:** large, 62 mm diameter, 168 g; round to slightly elongated; skin red, glabrous; flesh yellow; SS 17.2%; clingstone; ripens 28 Oct.–5 Nov. **Tree:** large; vigorous; upright; productive, regular producer; self-infertile; anthers yellow; petals white; blooms 26 Feb.–7 Mar. in Modesto, CA; chilling requirement 900 h.

**Plumred III.** An early ripening, very dark red skin, dark red flesh, interspecific plum. **Origin:** Le Grand, CA, by L.G. Bradford. Purple Majesty x unknown apricot and interspecific plum-apricot pollen; crossed 2001; selected 2004. USPP 20,864; 23 Mar. 2010. **Fruit:** large, 70 mm diameter, 181 g; oblate; skin very dark red, glabrous; flesh dark red; SS 19%; semi-freestone; ripens 20–30 June **Tree:** medium; moderately vigorous; spreading; very productive, regular producer; self-infertile; anthers deep orange-yellow; petals white; blooms 24 Feb.–2 Mar. in Le Grand, CA, 3 d before Santa Rosa.

**Plumcandy V.** A mid-season, reddish-brown skin, orange-yellow flesh, interspecific plum. **Origin:** Le Grand, CA, by L.G. Bradford. Yummygem x unknown apricot and interspecific plum-apricot pollen; crossed 2001; selected 2004. USPP 20,834; 16 Mar. 2010. **Fruit:** small, 62 mm diameter, 122 g; ovate to round; skin reddish-brown, glabrous; flesh orange-yellow; SS 26–30%; clingstone; ripens 5–25 July, 25 d after Yummygem. **Tree:** large; vigorous; spreading; moderately productive, regular producer; self-infertile; anthers orange over brilliant yellow; petals white; blooms 21–28 Feb. in Le Grand, CA, with Ambra.

**Plumred VI.** A mid-season, full red skin, red flesh, interspecific plum. **Origin:** Le Grand, CA, by L.G. Bradford. Fortune x unknown apricot and interspecific plum-apricot pollen; crossed 2000; selected 2003. USPP 21,051; 8 June 2010. **Fruit:** large, 67 mm diameter, 187 g; round; skin full red, glabrous; flesh red; SS 20%; clingstone; ripens 21 July–5 Aug., 7 d after Fortune. **Tree:** medium; moderately vigorous; spreading; very productive, regular producer; self-infertile; anthers yellow; petals white; blooms 1–8 Mar. in Le Grand, CA, 6 d after Santa Rosa.

**Suplumforty.** A mid-season, dark purple skin, red flesh, Japanese plum. **Origin:** Sun World International, LLC, Bakersfield, CA, by T. Bacon. Suplumtwentyfour x unknown plum; crossed 2002; selected 2004; tested as PL453RB. USPP 21,864; 12 Apr. 2011. **Fruit:** large, 66 mm diameter, 150 g; round; skin dark-purple, glabrous; flesh red; SS 16%; semi-free; ripens 1–15 July, 7 d after Blackamber. **Tree:** medium; moderately vigorous; semi-upright; very productive, regular producer; anthers grey-orange; petals white; blooms 26 Feb.–1 Mar. in Wasco, CA.

**Suplumthirtynine.** A very late ripening, purple skin, amber flesh, Japanese plum. **Origin:** Sun World International, LLC, Bakersfield, CA, by D.W. Cain and T. Bacon. 91P-024 x 92P-023; crossed 1998; selected 2002; tested as PL186YB. USPP 21,865; 12 Apr. 2011. **Fruit:** large, 64 mm diameter, 160 g; round; skin purple, glabrous; flesh amber; SS 20%; semi-free to freestone; ripens 10 Sep.–5 Oct., three weeks after Suplumsix. **Tree:** medium; moderately vigorous; semi-upright; very productive, regular producer; anthers grey-orange; petals white; blooms 1–6 Mar. in Wasco, CA.

**Sweet Majesty.** A late-ripening, dark-purple skin, yellow flesh, Japanese plum. **Origin:** Le Grand, CA, by L.G. Bradford. Purple Majesty x September Yummy; crossed 2003; selected 2006. USPP 20,865; 23 Mar. 2010. **Fruit:** medium, 64 mm diameter, 147 g; round; skin dark-purple, glabrous; flesh yellow; SS 20%; clingstone; ripens 28 Aug.–10 Sep., 10 d before Angeleno. **Tree:** medium; moderately vigorous; upright; very productive, regular producer; self-infertile; anthers orange-yellow; petals white; blooms 1–7 Mar. in Le Grand, CA, 2 d after Santa Rosa.

## PLUM ROOTSTOCK

**Thomas G. Beckman, USDA-ARS Southeastern Fruit and Tree Nut Research Laboratory, Byron, GA**

**Replantpac (Rootpac® R).** A clonal plum x almond hybrid rootstock for Japanese plum. **Origin:** Agromillora Catalana, Barcelona, Spain, by J. Pinochet. *Prunus cerasifera* x *P. amygdalus* (both parents of unknown origin); selected 1994; tested as PAC 941; introd. 2010; USPP 21,556; 7 Dec. 2010. **Plant:** propagated with difficulty via hardwood cuttings, propagated easily via tissue culture; unbudded tree is vigorous with semi-weeping form; flowers showy, typically lacking pistils, reproductively sterile; chilling requirement 500–600 h comparable to Marianna 2624 or Myro 29C; petiolar glands absent. **Rootstock performance:** vigor, yield and fruit size similar to plum trees on Marianna 4001 or Marianna 2624; yield efficiency similar to plum trees on Marianna 2624 but superior to trees on Marianna 4001; tolerant of calcareous soils; similar or better waterlogging tolerance than peach x *P. davidiana*, almond x peach or peach rootstocks; similar or less waterlogging tolerance than plum rootstocks; resistant to root-knot nematode (*Meloidogyne javanica*); variable host response to different lesion nematode populations (*Pratylenchus vulnus*), resistant to *Rosellinia necatrix* root fungus.

**Rootpac® R.** See Replantpac.

## RAMBUTAN

**Ricardo J. Goenaga, USDA-ARS, Tropical Agriculture Research Station, Mayaguez, PR**

**Benjai.** A selection from Indonesia. **Origin:** Indonesia. **Fruit:** 35 g; pulp 17 g; seed 2.2 g; rind 15.6 g; 21.2 °Brix; skin red; season November–January and August–October. **Tree:** 5,840–13,168 kg-ha<sup>-1</sup> yield; resistant to soil acidity.

**Gula Batu.** A selection from Malaysia. **Origin:** Malaysia. **Fruit:** 34 g; pulp 16 g; seed 1.8 g; rind 16.6 g; 19.6 °Brix; skin red; season

November–January and August–October. **Tree:** 6,710–14,026 kg-ha<sup>-1</sup> yield; tolerant to stem canker (*Dolabra nepheliae*).

**Jitlee.** A selection from Singapore. **Origin:** Singapore. **Fruit:** 35 g; pulp 16 g; seed 2.3 g; rind 15.7 g; 21.5 °Brix; skin red; season November–January and August–October. **Tree:** 4,930 to 15,171 kg-ha<sup>-1</sup> yield; resistant to soil acidity.

**R-134.** A selection from Malaysia. **Origin:** Malaysia. **Fruit:** 35 g; pulp 16.5 g; seed 2.3 g; rind 15.9 g; 21.4 °Brix; skin red; season November–January and August–October. **Tree:** 5,482 to 15,171 kg-ha<sup>-1</sup> yield; resistant to soil acidity.

**R-156Y.** A selection from Malaysia. **Origin:** Malaysia. **Fruit:** 44 g; pulp 26.3 g; seed 2.5 g; rind 15.1 g; 20.3 °Brix; skin yellow; season November–January and August–October. **Tree:** 2,055 to 9,520 kg-ha<sup>-1</sup>.

**R-162.** A selection from Malaysia. **Origin:** Malaysia. **Fruit:** 35 g; pulp 16.8 g; seed 2.3 g; rind 15.9 g; 21.5 °Brix; skin red; season, November–January and August–October. **Tree:** 6,863 to 15,906 kg-ha<sup>-1</sup> yield; resistant to soil acidity.

**R-167.** A selection from Malaysia. **Origin:** Malaysia. **Fruit:** 34.5 g; pulp 16.3 g; seed 2.3 g; rind 15.6 g; 21.3 °Brix; skin red; season November–January and August–October. **Tree:** 4,955 to 15,104 kg-ha<sup>-1</sup> yield.

**Rongren.** A selection from Thailand. **Origin:** Thailand. **Fruit:** 35.2 g; pulp 18.7 g; seed 1.9 g; rind 14.5 g; 21.2 °Brix; skin red; season November–January and August–October. **Tree:** 4,744 to 13,978 kg-ha<sup>-1</sup> yield.

## RASPBERRY

**Patrick P. Moore, Horticulture and Landscape Architecture Department, Washington State University, Puyallup, WA**

**Chaim Kempler, Agriculture and Agri-Food Canada, Pacific Agri-Food Research Center, Agassiz, B.C., Canada**

**Cascade Gold.** A high-yielding, yellow floricane-fruiting raspberry for fresh market. **Origin:** Washington State University, by P.P. Moore, B.H. Barritt, T.M. Sjulín, J.A. Robbins, and W. Hoashi-Erhardt. Malling Delight x parent unknown; crossed 1979; selected 1983; tested as WSU 991; introd. 2010. **Fruit:** light yellow to gold; large; longer than wide; firm; excellent flavor with a balance between sweetness and tart; early-season ripening, with Willamette; easily removed from receptacle at a yellow stage; **Plant:** vigorous; resistant to common strain of *Raspberry bushy dwarf virus* (RBDV); susceptible to North American large raspberry aphid (*Amphorophora agathonica*); susceptible to root rot (*Phytophthora rubi*).

**Crimson Giant.** A late-season, primocane-fruiting red raspberry for fresh production suitable for protected cultivation in cool climates as well as winter production in warm climates. **Origin:** New York State Agricultural Experiment Station, Geneva and Cornell University, Ithaca, NY, by C.A. Weber. Titan x NY950; crossed 1996; selected 1999; tested as NY99-45; introd. 2011. USPP applied for. **Fruit:** bright red; very large; wide-conical; firm; moderate flavor; ripens 30 d after Heritage; detaches easily from receptacle, good shelf-life. **Plant:** moderate sucker production; sturdy upright canes; fruit produced on upper 3<sup>rd</sup> of canes; highly pigmented primocanes.

**Dolomia.** A mid-late season, primocane-fruiting red raspberry producing high yields of good quality fruit suited to fresh and frozen market with two crops each year. **Origin:** Sant'Orsola Cooperative, Vigolo Vattaro, Italy; introd. 2007. EU PVR applied for. **Fruit:** bright red; medium to large; shape comparable to Tulameen; good

flavor; good firmness; suited to hand picking. **Plant:** upright canes; strong vigor.

**Glen Cally.** A high-yielding floricanefruiting red raspberry, with high tolerance to *Phytophthora* root rot, for processing. **Origin:** James Hutton Institute, Invergowrie, Scotland, by S.N. Jennings.SCRI 9422C-4 x SCRI 9434B-1; crossed 1999; selected 2002; tested as SCRI 99111A1; introd. 2008. EU PVR 30309; 6 Jun. 2011. **Fruit:** medium-red; medium, 4 g; round; mid-season ripening, with Glen Ample; flavor has raspberry aroma but slightly tart; firm fruit is easily removed from receptacle; recommended for machine harvesting for processing. **Plant:** vigorous cane, spine-free, upright; gene *A<sub>10</sub>* gives resistance to biotypes one through four of the European large raspberry aphid (*A. idaei*); susceptible to RBDV; very high field tolerance to root rot.

**Glen Ericht.** A productive floricanefruiting red raspberry, with high tolerance to *Phytophthora* root rot, for processing. **Origin:** James Hutton Institute, Invergowrie, Scotland, by S.N. Jennings. SCRI 9422C-4 x SCRI 9434B-1; crossed 1999; selected 2002; tested as SCRI 99111B2; introd. 2008. EU PVR 30310; 6 Jun. 2011. **Fruit:** medium red; medium, 4.5 g; round-conical; good raspberry aroma but very tart; mid-season ripening, with Glen Ample; easily removed from receptacle; recommended for machine harvesting; high proportion of firm fruit suitable for individually quick frozen (IQF); more productive than Glen Ample. **Plant:** good vigor; spine-free; fruit well presented on strong laterals; gene *A<sub>10</sub>* gives resistance to biotypes one through four of the European large raspberry aphid; slow to infect with RBDV; very high field tolerance to root rot.

**Lagorai.** A mid-late season, floricanefruiting red raspberry producing high yields of good quality fruit suited to fresh market. **Origin:** Sant'Orsola Cooperative, Val di Cembra, Italy; by A. Telch. Crossed 2003; selected 2005; tested as T44; introd. 2007. EU PVR applied for. **Fruit:** bright red; large; shape comparable to Tulameen; good flavor; good firmness; good shelf-life; suited to hand picking. **Plant:** upright canes; very strong vigor; adapted to medium-high winter chilling requirement environments such as north Italy; very high productivity.

**Pacific Deluxe.** A high-yielding, mid-season, primocanefruiting red raspberry suited for fresh market. **Origin:** Pacific Berry Breeding LLC, Salinas, CA, by M. Aguas, T. Am Rhein and J. Lopez-Medina. 401 (proprietary) x 433 (proprietary); selected 2005; introd. 2009. USPP 21,074; 22 June 2010. **Fruit:** bright; large; broad-conic; uniform drupelets; firm; high gloss; slightly acid, medium soluble solids; detaches easily from receptacle; excellent postharvest performance, darkens slightly after cooling. **Plant:** medium vigor; compact growth habit; low spine density; balanced crop on primocanes and floricanes; very good field tolerance to *P. rubi*; low susceptibility to cane and leaf diseases; adapted to low-chilling requirement environments.

**Vajolet.** An early, floricanefruiting red raspberry producing high yields of good quality fruit suited to fresh market. **Origin:** Sant'Orsola, Val di Cembra Cooperative, Italy; by A. Telch. Crossed 2003; selected 2005; tested as T33; introd. 2009. EU PVR applied for. **Fruit:** bright red; large; shape comparable to Tulameen; good flavor; medium firmness; good shelf-life; suited to hand picking. **Plant:** upright canes; very strong vigor; adapted to low chilling requirement environments such as south Italy; very high productivity.

**Vintage.** A high-yielding, glossy, bright-colored, primocanefruiting raspberry for fresh market with excellent flavor. **Origin:** USDA-ARS, Corvallis, OR, by C.E. Finn, B.C. Strik, and R.R. Martin. Isabel O.P.; crossed 2001; selected 2004; tested as ORUS 2786-5; introd. 2011. USPP applied for. **Fruit:** bright red; large; round; glossy; mid-season ripening, ~14 d before Heritage; flavor excellent, SS 12.2%; titratable acidity low, 12.8% citric acid; easily removed

from receptacle; yield similar or higher than Heritage. **Plant:** primocanes late emerging; vigorous but less vigorous than Heritage; canes per hill slightly fewer or similar to Heritage; prickles less dense and half the size of those for Heritage; susceptible to RBDV and root rot.

## STRAWBERRY

**Kim S. Lewers, USDA-ARS, Genetic Improvement of Fruits and Vegetables Laboratory, Beltsville, MD**

**Donna.** Partially remontant strawberry adapted to low-tunnel protected cultivation. **Origin:** Le Barp, France, by A. Pierron-Darbonne. 98.05.17 x 98.16.34. USPP 20,648; 19 Jan. 2010. **Fruit:** glossy red, Royal Horticultural Society (R.H.S.). 43A-43B; medium, 20–21 g; uniform conical to wedged-shaped; flesh firm, orange-red, R.H.S. 34A-34C; 7.2% Brix; mid-sized reflexed calyx; achenes level with surface; early. **Plant:** medium to strong vigor, high stolon number, 15–20 stolons/plant; moderate to high yield, 1,160 g/plant; flat-globose, medium density foliage; flowers level to above foliage, semi-erect fruiting trusses; tolerant to powdery mildew (*Sphaerotheca macularis*).

**DrisStrawEight.** Partially remontant strawberry adapted to south-central coastal California. **Origin:** Driscoll Strawberry Associates, Inc., Watsonville, CA, by M.D. Ferguson. Driscoll Ojai x Driscoll Agoura; selected 2005. USPP 20,735; 9 Feb. 2010. **Fruit:** red, R.H.S. 45B; large, 26.5 g; uniform conical to almost cylindrical; flesh firm, red and white, R.H.S. 41B and R.H.S. 155A; somewhat sweet, moderately tart; large reflexed calyx; achenes below surface; early. **Plant:** medium vigor, two crowns/plant, medium stolon number, 44 daughter plants; moderate yield, 529 g/plant; globose, medium-density foliage; flowers above foliage, prostrate fruiting trusses; moderately resistant to two-spotted spider mite (*Tetranychus urticae*), powdery mildew, and Strawberry mottle virus (SMV); moderately susceptible to botrytis fruit rot (*Botrytis cinerea*) and angular leaf spot (*Xanthomonas fragariae*); susceptible to lygus bug (*Lygus hesperus*) and verticillium wilt (*Verticillium dahliae*); moderately tolerant of high temperature, high pH, high soil salt levels, and water logging.

**DrisStrawEleven.** Fully everbearing strawberry adapted to central and southern coastal California. **Origin:** Driscoll Strawberry Associates, Inc., Watsonville, CA, by B.D. Mowrey, J.F. Coss, M.P. Madesko, P.J. Stewart, M.P. Wilson, and M.D. Ferguson. 122J81 x 111H69; selected 2004; USPP 20,731; 9 Feb. 2010. **Fruit:** glossy dark red, R.H.S. 46A; medium, 24.5 g; uniform conical; flesh firm, red and white, R.H.S. 44B and R.H.S. 155C; sweet, moderately tart; large spreading calyx; achenes level with surface; early-mid. **Plant:** very vigorous, three crowns/plant, medium stolon number, 42 daughter plants; high yield, 1,400 g/plant; upright, open to medium density; flowers below foliage, semi-erect fruiting trusses; moderately resistant to SMV; moderately susceptible to botrytis fruit rot and angular leaf spot; susceptible to two-spotted spider mite, powdery mildew and verticillium wilt.

**DrisStrawFifteen.** Fully everbearing strawberry adapted to central coastal California. **Origin:** Driscoll Strawberry Associates, Inc., Watsonville, CA, by P.J. Stewart, M.P. Madesko, J.F. Coss, and B.D. Mowrey. Driscoll Lanai x 38J181; selected 2004; USPP 21,762; 8 Mar. 2011. **Fruit:** dark red, R.H.S. 46A; medium, 21.6 g; conical; flesh firm, dark red and white, R.H.S. 46B and R.H.S. 155B; sweet, moderately tart; spreading calyx of variable size; achenes below surface; early-mid. **Plant:** medium vigor, two crowns/plant, very stoloniferous, 40 daughter plants; high yield, 1,513 g/plant; flat-globose, open; flowers below foliage, prostrate fruiting trusses; moderately resistant to two-spotted spider mite; moderately susceptible to powdery mildew and botrytis fruit rot; moderately tolerant of rain on fruit.

**DrisStrawFourteen.** Partially everbearing strawberry adapted to central coastal California. **Origin:** Driscoll Strawberry Associates, Inc., Watsonville, CA, by P.J. Stewart, M.P. Madesko, J.F. Coss, and B.D. Mowrey. 159K312 x 128K296; selected 2005; USPP 22,040; 26 July 2011. **Fruit:** dark red, R.H.S. 46B; medium, 29.1 g; uniform conical; flesh red and white, R.H.S. 41A and R.H.S. 155C; somewhat sweet, moderately tart; medium to large reflexed calyx; achene insertion varies from above to below surface; early-mid. **Plant:** medium vigor, three crowns/plant, medium stolon number, over 30 daughter plants; high yield, 1,463 g/plant; globose, medium density foliage; flowers level with foliage, prostrate fruiting trusses; moderately resistant to botrytis fruit rot, powdery mildew and verticillium wilt; tolerant of rain on fruit.

**DrisStrawNine.** Fully everbearing strawberry adapted to central coastal California. **Origin:** Driscoll Strawberry Associates, Inc., Watsonville, CA, by B.D. Mowrey, P.J. Stewart, M.P. Madesko, and J.F. Coss. 94J283 x 112H25; selected 2004; USPP 20,733; 23 Feb. 2010. **Fruit:** dark red, R.H.S. 46A; medium, 23.1 g; uniform conical; flesh firm, red and white, R.H.S. 46B and R.H.S. 155D; somewhat sweet, moderately tart; large spreading calyx; achenes level with surface; early-mid. **Plant:** weak vigor, three crowns/plant, medium stolon number, 35 daughter plants; high yield, 1,505 g/plant; upright, medium density foliage; flowers above foliage, semi-erect fruiting trusses; moderately resistant to SMV; moderately susceptible to two-spotted spider mite, powdery mildew, and angular leaf spot; susceptible to botrytis fruit rot and verticillium wilt.

**DrisStrawSeven.** Short-day strawberry adapted to winter production in Florida. **Origin:** Driscoll Strawberry Associates, Inc., Watsonville, CA, by K.L. Gilford, B.D. Mowrey, P.J. Stewart, E.J. Pullen, and J. Rodriguez-Alcazar. 77G1 x Driscoll Camarillo; selected 2003. USPP 20,922; 6 Apr. 2010. **Fruit:** glossy dark red, R.H.S. 46A; large, 26.7 g; uniform conical; flesh red, R.H.S. 40B; sweet, mildly acidic; medium to large, spreading calyx; achenes level with surface; mid-season. **Plant:** medium vigor, three crowns/plant, very stoloniferous, 55 daughter plants; moderate yield, 402 g/plant; flat-globose, medium density foliage; flowers above foliage, erect to semi-erect fruiting trusses; resistant to powdery mildew, susceptible to angular leaf spot.

**DrisStrawSeventeen.** Fully everbearing strawberry adapted to southern coastal California. **Origin:** Driscoll Strawberry Associates, Inc., Watsonville, CA, by M.D. Ferguson. 13H377 x 119J176; selected 2006. USPP 22,218; 1 Nov. 2011. **Fruit:** glossy dark red, R.H.S. 46B; very large, 28.4 g; uniform wedge-shaped; flesh orange-red and white, R.H.S. 30A and R.H.S. 155D; somewhat sweet, moderately tart; mid-sized reflexed calyx; achenes level with surface; mid-season. **Plant:** very vigorous, three crowns/plant, few stolons, 34 daughter plants; low to moderate yield, 486 g/plant; globose to upright, dense foliage; flowers below foliage, prostrate fruiting trusses; moderately resistant to two-spotted spider mite, cyclamen mite (*Tarsonemus pallidus*), strawberry foliar nematode (*Aphelenchoides fragariae*), root lesion nematode (*Pratylenchus penetrans*), stem eelworm (*Ditylenchus dipsac*), strawberry blossom weevil (*Anthonomus rubi*), aphids (*Aphis* spp.), and lygus bug; moderately susceptible to botrytis fruit rot and powdery mildew; moderately tolerant of wind.

**DrisStrawSix.** Short-day strawberry adapted to winter production in Florida. **Origin:** Driscoll Strawberry Associates, Inc., Watsonville, CA, by K.L. Gilford, P.J. Stewart, and E.J. Pullen. 74G14 x 6F-158; selected 2002. USPP 20,701; 2 Feb. 2010. **Fruit:** glossy red, R.H.S. 46B; medium to large, 29.9 g; uniform conical; flesh red, R.H.S. 43B; sweet, moderately tart; large spreading to reflexed calyx; achenes level with surface; early. **Plant:** medium to strong vigor, four crowns/plant, very stoloniferous, 50 daughter plants; moderate yield, 568 g/plant; flat-globose, medium density foliage; flowers above foliage, prostrate fruiting trusses; susceptible to angular leaf spot.

**DrisStrawSixteen.** Short-day strawberry adapted to winter production in Spain. **Origin:** Driscoll Strawberry Associates, Inc., Watsonville, CA, by M.D. Ferguson. El Dorado x 12J277; selected 2004; USPP 22,247; 15 Nov. 2011. **Fruit:** red, R.H.S. 45A; very large, 39 g; conical and variable; flesh red, R.H.S. 45C; somewhat sweet, moderately tart; large spreading calyx; achenes level with surface; mid-season. **Plant:** very vigorous, three crowns/plant, few stolons, 25–30 daughter plants; high yield, 900 g/plant; globose, medium density foliage; flowers above foliage, erect fruiting trusses; moderately susceptible to botrytis fruit rot and powdery mildew.

**DrisStrawTen.** Fully everbearing strawberry adapted to central coastal California. **Origin:** Driscoll Strawberry Associates, Inc., Watsonville, CA, by B.D. Mowrey, P.J. Stewart, M.P. Madesko, and J.F. Coss. 94J283 x 112H25; selected in Monterey, CA, 2004; USPP 20,775; 10 Feb. 2010. **Fruit:** dark red, R.H.S. 45A; medium, 23.1 g; uniform conical; flesh red and light red, R.H.S. 43B and R.H.S. 49D; somewhat sweet, moderately tart; mid-sized spreading calyx; achenes level with surface; early-mid. **Plant:** medium to weak vigor, three crowns/plant, medium stolon number, 35 daughter plants; high yield, 1,769 g/plant; globose, medium to dense foliage; flowers above foliage, erect fruiting trusses; moderately resistant to powdery mildew, verticillium wilt and SMV; moderately susceptible to two-spotted spider mite and angular leaf spot; susceptible to botrytis fruit rot.

**DrisStrawThirteen.** Partially everbearing strawberry adapted to southern coastal California. **Origin:** Driscoll Strawberry Associates, Inc., Watsonville, CA, by M.D. Ferguson and T.C. Moran. 2K297 x Driscoll Ojai; selected 2005; USPP 21,559; 7 Dec. 2010. **Fruit:** dark red, R.H.S. 46A; large, 28.7 g; uniform conical to bi-conical; flesh somewhat soft, dark red and white, R.H.S. 45A and R.H.S. 155D; sweet, moderately tart; large reflexed calyx; achenes level with surface; mid-season. **Plant:** very vigorous, three crowns/plant, medium stolon number, over 50 daughter plants; moderate yield, 474 g/plant; globose, medium density foliage; flowers level to above foliage, prostrate fruiting trusses; resistant to powdery mildew; moderately resistant to lygus bug and SMV; moderately susceptible to botrytis fruit rot, verticillium wilt, and angular leaf spot; tolerant of drought, high temperatures, wind, high pH, high salt levels, and water logging.

**DrisStrawTwelve.** Partially remontant strawberry adapted to winter production in Florida. **Origin:** Driscoll Strawberry Associates, Inc., Watsonville, CA, by K.L. Gilford, E.J. Pullen, B.D. Mowrey, and P.J. Stewart. Driscoll Sanibel x Driscoll Bonaire; selected 2004; USPP 21,538; 30 Nov. 2010. **Fruit:** dark purple-red, R.H.S. 185A; very large, 39 g; uniform conical to almost cylindrical; flesh firm, red and white, R.H.S. 42B and R.H.S. 155B; somewhat sweet, mild; large spreading to reflexed calyx; achenes below surface; early-mid. **Plant:** medium to strong vigor, three crowns/plant, medium stolon number, 30 daughter plants; moderate to high yield, 604 g/plant; flat, medium to dense foliage; flowers below foliage, prostrate fruiting trusses; moderately resistant to botrytis fruit rot, powdery mildew, and angular leaf spot; tolerant of high temperatures.

**Glory.** Fully everbearing strawberry adapted to south-central coastal California. **Origin:** Plant Sciences, Inc., Watsonville, CA by S.M. Ackerman, S.D. Nelson, and M.D. Nelson. PS-1269 x PS-2286; crossed 1997; selected 1999; USPP 20,308, 15 Sept. 2009. **Fruit:** red to orange-red, Munsell 7.5R 3/12 to 4/10; medium, 21.4 g; variable shape from cylindrical, conical, cordiform to wedged; flesh red, Munsell 7.5R 4/10 to 4/12; good flavor, 8.4% Brix; large spreading to reflexed calyx; achenes level to below surface; early-mid. **Plant:** medium vigor, medium stolon number, 8.3 stolons/plant; low to moderate yield, 511 g/plant; globose, open to medium density; flowers level with foliage, prostrate fruiting trusses; moderately susceptible to two-spotted spider mite, flower thrips (*Frankliniella* spp.), powdery mildew, botrytis fruit rot, and angular leaf spot; susceptible to lygus bug.

**Herriot.** Short day strawberry adapted to perennial matted row production in temperate climates. **Origin:** New York State Agricultural Experiment Station–Geneva, NY and Cornell University, by C.A. Weber. NYUS299 x Winona; crossed 1997; selected 1999; tested as NY99-21; introd. 2011. USPP applied for. **Fruit:** large; wide conical; firmness moderate; bright red; flavor good; mid-season, ripens with Jewel. **Plant:** vigorous and spreading; high runner production; productive; resistant to powdery mildew, tolerant of replant diseases.

**Laurel.** Short-day strawberry adapted to eastern Canada. **Origin:** Agriculture and Agri-Food Canada, Atlantic Food and Horticulture Research Centre, Kentville, Nova Scotia by A.R. Jamieson. Allstar x Cavendish; crossed 1991; selected 1993; tested as K93-20; introd. 2012. **Fruit:** medium-red surface and interior; medium to large, 15 g; broader than long, short conic, cordate, or globose; achenes slightly below fruit surface; firm; fresh flavor very good, sweet, aromatic; mid-season, ripens with Kent about 3 d before Jewel. **Plant:** high vigor; medium to high runner numbers; medium yields in matted rows; resistant to red stele root rot (*Phytophthora fragariae*); moderately susceptible to powdery mildew and botrytis fruit rot.

**Marvel.** Fully everbearing strawberry adapted to south-central coastal California. **Origin:** Plant Sciences, Inc., Watsonville, CA, and Berry R&D, Inc., Watsonville, CA by S.M. Ackerman, S.D. Nelson, and M.D. Nelson. PS-1269 x PS-2280; crossed 2001; selected 2003; USPP 20,307; 15 Sept. 2009. **Fruit:** glossy red, Munsell 7.5R 3/8 to 4/10; medium to large, 23.5 g; conic to cylindrical; flesh red, Munsell 7.5R 3/12 to 4/12; good flavor, 8.6% Brix; large spreading calyx; achenes level to above surface; mid-season. **Plant:** medium to strong vigor, medium stolon number, 7.7 stolons/plant; low to moderate yield, 615–618 g/plant; globose, medium to dense foliage; flowers level with foliage, prostrate fruiting trusses; moderately susceptible to two-spotted spider mite, flower thrips, powdery mildew, botrytis fruit rot, and angular leaf spot; susceptible to lygus bug.

**NY99-15 (Purple Wonder™).** Short-day strawberry adapted to perennial matted row production in temperate climates and potted production. **Origin:** New York State Agricultural Experiment Station, Geneva, NY and Cornell University, Ithaca, NY, by C.A. Weber. NYUS299 x NY1674; crossed 1997; selected 1999; tested as NY99-15; introd. 2011. USPP applied for. **Fruit:** dark burgundy-purple; medium; conical; flesh moderately firm, dark burgundy-purple; very good flavor; early midseason, ripens between Honeoye and Jewel. **Plant:** low runner production; upright habit; moderate productivity; resistant to powdery mildew.

**Pircinque.** Short-day strawberry adapted to southern European areas. **Origin:** CRA-FRF, Unità di Ricerca per la Frutticoltura, Forlì and Società Piraccini Secondo S.r.l., Cesena, Italy, by W. Faedi and G. Baruzzi. Nora x Ventana; crossed 2004; selected 2006; introd. 2010, CPVO No 20100648; 16 Mar. 2010. **Fruit:** glossy red; large, 30.6 g, larger than Sabrosa-Candonga®; uniform conical, flesh firm, medium-red; sweet; achenes level with surface; early harvest, beginning in late January in Metaponto area, 10–15% production by late March. **Plant:** very vigorous; freezer yield greater than Sabrosa-Candonga®, commercial quality similar to Sabrosa-Candonga® under southern Italian conditions; inflorescences level with foliage; long petioles; easy fruit picking; low winter chilling requirement; moderately tolerant to soil borne pathogens; susceptible to botrytis fruit rot and powdery mildew.

**Portola.** Day-neutral strawberry adapted to central and southern California. **Origin:** University of California, by D.V. Shaw, and K.D. Larson. Cal 97.93-7 x Cal 97.209-1; crossed 2001; tested as Cal 1.206-5 and CN224; selected 2002. USPP 20,552; 15 Dec. 2009. **Fruit:** glossy red-orange, Munsell 2.5R 4/10; large, 32 g; very uniform medium-short conical; flesh firm, light red-orange, Munsell 5R 6/11; very mild flavor; large spreading to reflexed calyx; achenes

level to below surface; early. **Plant:** medium to strong vigor, very stoloniferous, 32/plant; extremely high yield, 3,336 g/plant; globose, medium to dense foliage; flowers level to above foliage, prostrate fruiting trusses; resistant to phytophthora crown rot (*Phytophthora cactorum*) and common leaf spot (*Ramularia tulasnei*); moderately resistant to powdery mildew, anthracnose crown rot, and verticillium wilt; tolerant of two-spotted spider mite.

**Prestige.** Partially everbearing strawberry adapted to central coastal California. **Origin:** Plant Sciences, Inc., Watsonville, CA, and Berry R&D, Inc., Watsonville, CA by S.M. Ackerman, S.D. Nelson, and M.D. Nelson. PS-1269 x PS-3523; crossed 2000; selected 2002; USPP 20,077; 9 June 2009. **Fruit:** glossy red, Munsell 7.5R 3/10 to 4/10; medium, 23.8 g; uniform conical; flesh firm, red, Munsell 7.5R 4/10 to 4/12; very good flavor, 9.5% Brix; large spreading calyx; achenes level with surface; mid-season. **Plant:** medium to strong vigor, 6.5 crowns/plant, few stolons, 2.1/plant; high yield, 1,403 g/plant; globose, medium density foliage; flowers level with foliage, prostrate fruiting trusses; moderately susceptible to two-spotted spider mite, flower thrips, powdery mildew, botrytis fruit rot, and angular leaf spot.

**Puget Crimson.** Short-day strawberry adapted to the Pacific Northwest. **Origin:** Washington State University by P.P. Moore and W. Hoashi-Erhardt. Schwartz x Valley Red; crossed 2003; selected 2005; tested as WSU 2833; introd. 2010. USPP applied for. **Fruit:** red; large; conical to wedge-shaped; longer than wide; flesh red, excellent flavor similar to Schwartz; reflexed calyx; achenes level with or below fruit surface; late-ripening with Schwartz and Firecracker. **Plant:** vigorous, many stolons forming dense matted row; yield greater than or similar to Tillamook under western Washington conditions; erect, dense foliage; flowers at or beneath canopy; susceptible to powdery mildew and moderately susceptible to leaf scorch (*Diplocarpon earlianum*).

**Purple Wonder™.** See NY99-15.

**Reliance.** Partially everbearing strawberry adapted to central coastal California. **Origin:** Plant Sciences, Inc., Watsonville, CA, and Berry R&D, Inc., Watsonville, CA by S.M. Ackerman, S.D. Nelson, and M.D. Nelson. PS-592 x PS-1269, crossed 2000; selected 2002; USPP 21,415; 26 Oct. 2010. **Fruit:** red to dark red, R.H.S. 46A; large to very large, 27.4 g; uniform conical; flesh red, R.H.S. 44A; good flavor, 8.8% Brix; mid-sized spreading to reflexed calyx; achenes level with surface; mid-season. **Plant:** medium vigor, 3.5 crowns/plant, few stolons, 1.1/plant; high yield, 1,646 g/plant; globose, medium density foliage; flowers below foliage, prostrate fruiting trusses; moderately resistant to flower thrips; moderately susceptible to two-spotted spider mite, powdery mildew, and botrytis fruit rot; susceptible to angular leaf spot.

**Rotemi.** Partially remontant strawberry adapted to winter production in low tunnels on the Hod Hasharon, Sharon coastal plain, Israel. **Origin:** Hod Hasharon, Israel, by E. Yosef and A. Meizles. EF 14 x EF 7; crossed 2005; USPP 20,970; 4 May 2010. **Fruit:** red, R.H.S. 44B; very large, 30 g; uniform conical; flesh firm, red, R.H.S. 44B, orange-red, R.H.S. 34A, and white, R.H.S. 155D; good flavor, 7.9% Brix, mild acidity; mid-sized reflexed calyx; achenes level with surface; early. **Plant:** medium vigor, very stoloniferous in summer, 100–800/plant, but few in winter production; moderate to high yield, 1,000 g/plant; flat globose, medium density foliage; flowers above foliage, semi-erect fruiting trusses; tolerant of powdery mildew.

**Shaked.** Partially remontant strawberry adapted to winter production in low tunnels on the Hod Hasharon, Sharon coastal plain, Israel. **Origin:** E. Yosef, Hod HaSharon, Il, by E. Yosef and A. Meizles. EF 14 x EF 33, crossed 2005; selected in Hod Hasharon, Il; USPP 20,995, 18 May 2010. **Fruit:** glossy dark red, R.H.S. 46B; medium size, 25 g; uniform conical; flesh red and white, R.H.S. 46B-43A and

R.H.S. 155B, excellent flavor, 7.5%–9.5% Brix, mild acidity; mid-sized reflexed calyx; achenes above surface; mid-season. **Plant:** medium vigor, very stoloniferous in summer, 100–1000 per plant, fewer in winter production; moderate to high yield, 850 g/plant; flat globose, medium density foliage; flowers above foliage, semi-erect to prostrate fruiting trusses; moderately tolerant of powdery mildew.

**Summer Dawn.** Short-day strawberry adapted to eastern Canada that is primarily suited for the fresh market. Previously released as V151, and described in List 44.

**Summer Evening.** Short-day strawberry adapted to eastern Canada that is primarily suited for the fresh market. **Origin:** University of Guelph–Simcoe Research Station, Simcoe, Ontario, Canada; by A. Dale. Idea x 128T99; crossed 1996; selected 1998; tested as 108Y79; introd. 2012. **Fruit:** very bright, medium-red skin; medium-red flesh; large; firm flesh and skin; excellent fresh flavor; very late, 1–2 d later than Serenity. **Plant:** vigorous; high yields with 2–3 inflorescences per crown; runners well; hardy; moderately resistant to leaf scorch; susceptible to anthracnose.

**Summer Rose.** Short-day strawberry adapted to eastern Canada that is primarily suited for the fresh market. **Origin:** University of Guelph–Simcoe Research Station, Simcoe, Ontario, Canada by A. Dale. 137A84 x Chandler; crossed 1991; selected 1993; tested as 32R14; introd. 2009. **Fruit:** very bright, pale to medium-red skin; medium-red flesh; very large; firm skin; excellent fresh flavor; late season similar to Serenity. **Plant:** vigorous; produces one inflorescence per crown with all fruit marketable; moderate yields which were consistent in trials throughout Ontario; runners well; hardy; susceptible to anthracnose.

**Summer Ruby.** Short-day strawberry adapted to eastern Canada that is primarily suited for the fresh market. **Origin:** University of Guelph–Simcoe Research Station, Simcoe, Ontario, Canada by A. Dale and A. Sullivan. 57K104 x 572I16; crossed 1993; selected 1995; tested as 2V55; introd. 2011. **Fruit:** very bright, medium-red skin; medium-red flesh; large; moderately-firm flesh; firm skin; good fresh flavor; mid-season, similar to Kent. **Plant:** vigorous; yielded well in trials in Ontario; runners well; hardy; susceptible to anthracnose.

**Sweet Bliss.** Short-day strawberry particularly well adapted to the North America's Pacific Northwest with outstanding fruit quality suited to fresh or processing markets. **Origin:** USDA-ARS, Corvallis, OR, by C.E. Finn, C. Kempler, P.P. Moore, B.C. Strik, B.M. Yorgey, R.R. Martin, and G.J. Galletta. B 753 x ORUS 1735-1; crossed 1998; selected 2000; tested as ORUS 2180-1; introd. 2011. **Fruit:** glossy, bright red skin; solid red flesh; attractive reflexed calyx; medium, 13–20 g; uniform conic; firm; Brix similar to Totem with lower pH and higher titratable acidity; sweet and outstanding flavor; visible and easily harvested; picks easily with caps on or off; midseason with Totem and Tillamook. **Plant:** medium vigor; high yield, greater than Totem; upright and open habit; *P. cactorum* can kill some plants at some locations but have not seen fruit symptoms; tolerant to typical Northwest viruses.

**Valley Sunset.** Short-day strawberry adapted to eastern Canada. **Origin:** Agriculture and Agri-Food Canada, Atlantic Food and Horticulture Research Centre, Kentville, Nova Scotia by A.R. Jamieson. K94-15 x K95-24; crossed 1998; selected 1999; tested as K99-28; introd. 2009. Canada Plant Breeders Rights 3484; 14 May 2009. **Fruit:** orange-red; large, 24 g; wedged to cordate; broader than long, flesh medium firm, light orange-red; fresh flavor good, medium sweetness and acidity; achenes level with fruit surface; late season, ripens with or just before Ovation. **Plant:** medium vigor; moderate runner numbers; productive in matted rows; susceptible to red stele root rot (*P. fragariae*), powdery mildew, and botrytis fruit rot.

**Winter Dawn.** Short-day strawberry adapted to winter production in Florida. **Origin:** Florida State Agricultural Experiment Station, University of Florida, by C.K. Chandler. FL 93-103 x FL 95-316; selected 1997–1998 season; USPP 21,558; 7 Dec. 2010. **Fruit:** glossy deep red, Pantone® 1807C; medium to large, 18.2 g; variable asymmetrical shape conic, wedged or oval; flesh orange-red and white, Pantone® 1795C; aromatic, slightly tart; mid-sized attractive calyx; achenes level to above surface; early. **Plant:** relatively small, stoloniferous in winter nursery but few stolons in production; moderate to high yield, 570–635 g/plant; globose, medium to dense foliage; flowers below foliage, prostrate fruiting trusses; moderately resistant to botrytis fruit rot and anthracnose fruit rot.

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## **ADDENDA**

### **GRAPE**

Majesty. USPP 21,965; 7 June 2011 (List 45).

### **GRAPE ROOTSTOCK**

9365-85 (UCD GRN-4™). USPP 21,358; 5 Oct. 2010 (List 45).

### **PEACH ROOTSTOCK**

Greenpac. USPP 21,792 issued 22 Mar. 2011 (List 45).

### **RASPBERRY**

Adele red raspberry. USPP 20,733. 23 Feb. 2010 (List 45).

Autumn Treasure red raspberry. USPP 20,769. 23 Feb. 2010 (List 45).

Awaroa red raspberry. USPP 20,746. 9 Feb. 2010 (List 45).

Bethan red raspberry listed in the Register of New Fruit and Nut Cultivars, List 45, had been retracted as the information was incorrectly published.

Grandeur red raspberry. USPP 20,459. 10 Feb. 2009 (List 45).

Korere red raspberry. USPP 20,772. 23 Feb. 2010 (List 45).

Korpiko red raspberry. USPP 20,771. 23 Feb. 2010 (List 45).

Rudyberry red raspberry should be Rudi red raspberry. Canadian PBR 4,114. 17 Aug. 2011 (List 45).

Sugana red raspberry. USPP 21,357. 5 Oct. 2010 (List 45).

Wakefield red raspberry. USPP 21,185. 10 Aug. 2010 (List 45).

Ukee red raspberry. Canada PBR 4,115. 17 Aug. 2011 (List 45).

### **STRAWBERRY**

Cristal. USPP 20,447; 3 Nov. 2009 (List 45).

Tamir. USPP 20,647; 19 Jan. 2010 (List 44).