



### **Cebra (*H. polyrhizus*).**

- Red-fleshed large fruit with thick rind and average flavor.
- Origin: Nicaragua.
- Fruit: oval; large, 468 g; skin and flesh red, rind thick; quality acceptable; 15.75 Brix; 46 days from bloom to harvest in Southern California; harvest from late June to late December or into January.
- Plant: stems intermediate in thickness and length; mature stems grayish green, usually bearing white stripes resembling a zebra pattern, hence the name; areoles have 4-6 spines arranged randomly, 3-7 mm long; segment between areoles slightly convex, 26 mm long. Flowers large, petals white; calyx yellow, with shades of red on the edges; anthers and stigma lobes yellow.
- Tolerance to cold and heat average; grows well in full sun; commercial potential good.



**Rosa (H. polyrhizus).**

- Red-fleshed fruit with average flavor and size, and red, thick rind.
- Origin: Nicaragua.
- Fruit: round; medium, 384 g; short, scattered bracts, resembling a rose when seen from the top; skin and flesh red; rind thinner than in other Nicaraguan cultivars, making this cultivar more susceptible to cracking when fully mature; quality acceptable; 16.05 Brix; 45 days from bloom to harvest in Southern California; harvest late June to late December or January.
- Plant: stems intermediate in thickness and length, grayish green; areoles have 8-9 spines in a random pattern, 4-6 mm long; segment between areoles slightly convex, 27.11 mm long; Flowers large, petals white, calyx yellow, with shades of red on edges, anthers bright yellow, stigma lobes lime green.
- Tolerance to cold and heat average; grows well in full sun; commercial potential good.



**Orejona (*H. polyrhizus*).**

- Red-fleshed fruit with average flavor and size, and numerous long bracts. Origin: Nicaragua.
- Fruit: oblong; medium large, 438 g; flesh red; skin thick, red; quality acceptable, 15.78 Brix; 45 days from bloom to harvest in Southern California; harvest late June to late December.
- Plant: stems thin, relatively short, grayish green; areoles have 6-8 spines in a random pattern, 3-8 mm long; segment between areoles straight to slightly concave, which exposes the spines and makes this cultivar look very spiny; flowers large, petals white, calyx yellow, with shades of red on the edges, anthers and stigma lobes yellow, stigma lobes are lighter than anthers.
- Tolerance to cold and heat average; grows well in full sun; commercial potential low because of spines.



**Lisa (*H. polyrhizus*).**

- Red-fleshed fruit with better than average flavor, large size; most productive of all red-fleshed Nicaraguan cultivars.
- Origin: Nicaragua.
- Fruit: oval; medium large, 465 g; skin red; rind thick, with a smooth, velvety feel, hence the name Lisa “Smooth”; flesh dark red, very firm; quality better than average, 17.02 Brix; 44 days from bloom to harvest in Southern California; harvest late June to late December or January.
- Plant: stems intermediate in thickness and length; mature stems grayish green; areoles have 3-5 spines, 3-7 mm long, usually arranged in a circular pattern; segment between areoles slightly convex, 23mm long; flowers largest of all, petals white, calyx yellow, with shades of red on the edges, anthers and stigma lobes bright yellow.
- Tolerance to cold and heat better than average; commercial potential excellent.



### **Sin Espinas (*H. sp.*)**

- Red-fleshed fruit with glossy, pinkish-red skin and good flavor, suited to home gardens and indoor growing.
- Origin: Nicaragua.
- Fruit: round; medium, 393 g; skin thick, pinkish-red, glossy; flesh very firm, dark red when ripe; quality good; 16.5 Brix; 43 days from bloom to harvest in Southern California; harvest early June to December.
- Plant: stems thin and very light; mature stems brownish green; considered spineless, but has 1-2 very small spines per areole, 0.5-1 mm long; segment between areoles convex, 43 mm long; flowers small, petals white, calyx light yellow, anthers and stigma light yellow.
- Tolerance to cold and heat low; best suited to protected or indoor production.



### **San Ignacio (*H. polyrhizus*).**

- Large, red-fleshed fruit with red skin and average flavor.
- Origin: Nicaragua.
- Fruit: oval; large, 552 g; skin thick and red; flesh red; quality acceptable; 15.6 Brix; 48 days from bloom to harvest in Southern California; harvest late June to late December or January.
- Plant: stems thick, intermediate in length, dark green; areoles have 6-7 spines arranged randomly, 2-6 mm long, 4 of them consistently larger than the rest. Flowers large, petals white, calyx yellow, with shades of red on edges, anthers bright yellow, stigma lime green.
- Tolerance to cold and heat slightly better than average; grows well in full sun; commercial potential good.



### **Mexicana (*H. undatus*).**

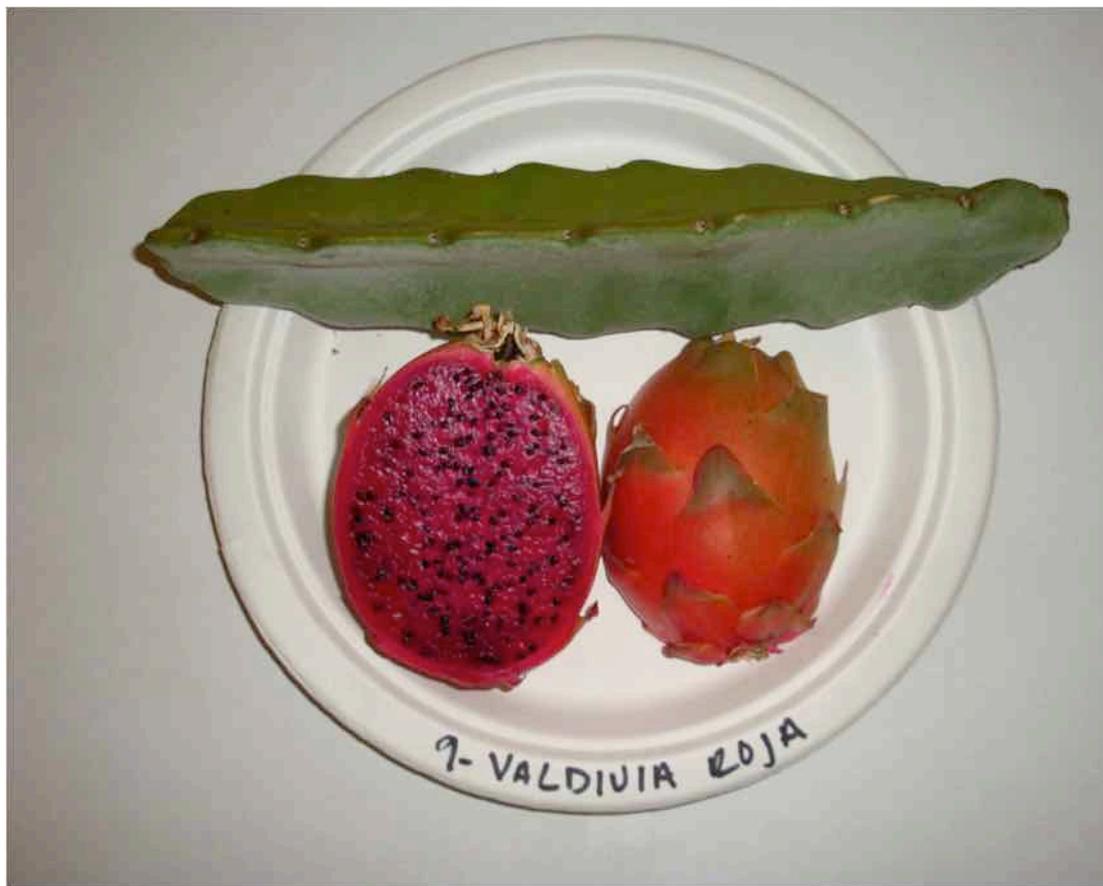
- White-fleshed fruit with pinkish red skin, attractive appearance with long bracts.
- Origin: Mexico, introduced from Nicaragua.
- Fruit: oblong; large, 552 g; skin pinkish red, relatively thin; flesh very firm, white, with numerous small black seeds; quality acceptable for white-fleshed fruit, 14.04 Brix; 40 days from bloom to harvest in Southern California; harvest very compact, mid-July to mid-October.
- Plant: stems thin but wide, relatively long, triangular in shape with 3 distinct ridges; mature stems green, with a brown, hard stripe on the ridges; areoles have 3-5 conic spines, similarly sized and arranged in a triangular pattern, 3-5 mm long; segment between areoles convex, 53.3 mm long; flowers intermediate, petals white, calyx light yellow, anthers and stigma lobes bright yellow.
- Tolerance to cold and heat average; usually struggles in cold, damp conditions; good both for backyard growing and for commercial production.



**Colombiana (Yellow Dragon) (*H. megalanthus*).**

- White-fleshed fruit with yellow skin and exceptional quality, considered the best flavored of all pitahayas.
- Origin: Colombia.
- Fruit: oblong; very small, 160 g, rarely reaching 200 g; skin yellow, flesh translucent white, seeds large; rind thick and spiny, with spines needing to be removed during harvest, and no bracts; pulp firm, extremely sweet, flavor excellent; 21 Brix; 150 to 180 days from bloom to harvest in Southern California; harvest November to February.
- Plant: stems thin and long, triangular, with 3 well-defined ridges, light green; areoles have 1-3 conic spines, 2-3 mm long; segment between areoles slightly concave, 36.27 mm long, giving the stem a “bony” appearance; flowers long and narrow, tubular, petals white, calyx light green; anthers light yellow, stigma lobes lime green.
- Tolerance to cold and heat low; usually struggles in full sun; commercial potential excellent because it fruits in the offseason; protected environment needed.

\*Captions from: Register of New Fruit and Nut Cultivars List 48. HortScience Vol. 51(6) June 2016.



### **Valdivia Roja (*H. ocamponis*).**

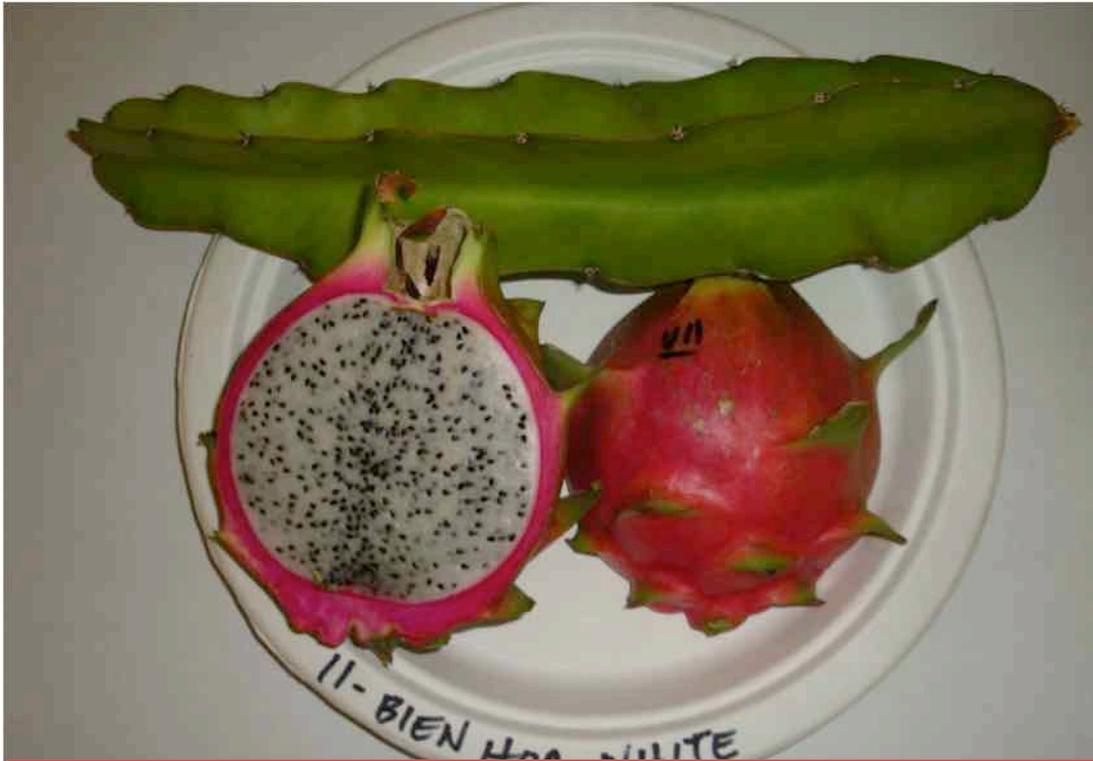
- Red-fleshed fruit with greenish red skin, excellent quality.
- Origin: Jalisco State, Mexico.
- Fruit: oblong; small, 250 g; flesh very firm, red; skin greenish, relatively thin, with very few, short bracts; quality one of the best among red-fleshed cultivars; 17.9 Brix; 40 days from bloom to harvest in Southern California; harvest July to late December or January.
- Plant: stems thick and fleshy, very heavy, with 3 well defined ridges when young, turning rounder as they mature; mature stems grayish because of waxy coating, tend to crack as they get older; areoles have 1-2 spines, 1-2 mm long; flowers large, attractive, petals white, calyx yellowish, with red shades on the edges, anthers and stigma lobes light yellow; very hardy.
- Tolerance to cold and heat high, so plant looks the same all year; grows well in full sun, but commercial potential limited because of inconsistent fruit set.



**Bien Hoa Red (*H. guatemalensis*).**

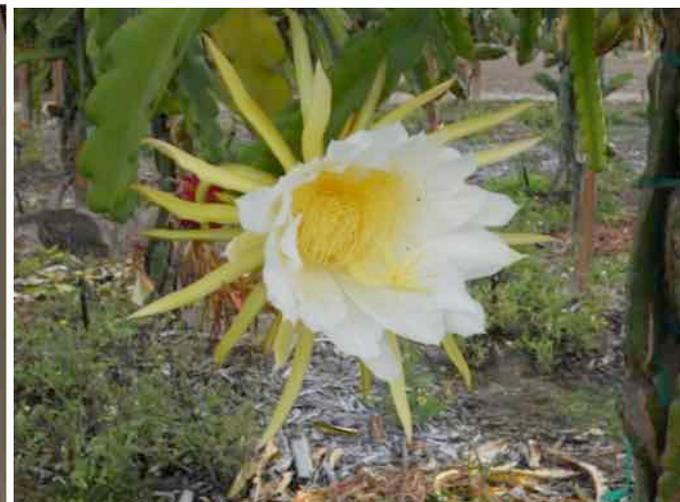
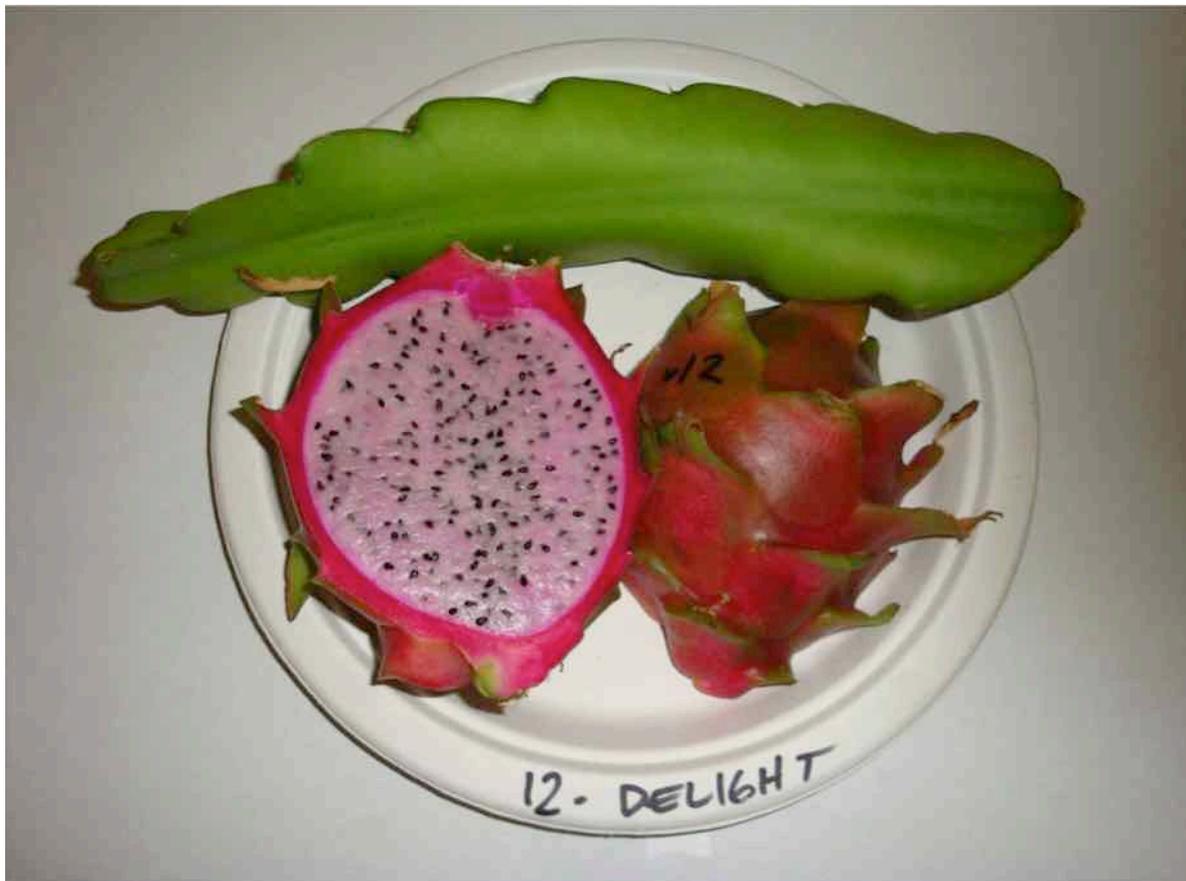
- Very flavorful fruit with fuchsia colored flesh and reddish green skin.
- Origin: Guatemala.
- Fruit: round; medium, 360 g, ideal for market; skin greenish-red; flesh fuchsia colored, pulp very juicy, lacks firmness; rind thin, with scattered compact bracts; quality exceptional; 18.9 Brix; 43 days from bloom to harvest in Southern California; harvest June to November.
- Plant: stems triangular, with 3 well-defined ridges, relatively thin and short, mature stems dark green and brittle, producing numerous shoots; pruning essential; areoles have 1-2 spines on average, 1-5 mm long; segment between areoles quite convex, 36.45 mm long; flowers small, petals white, calyx yellowish green, anthers and stigma lobes yellow.
- Tolerance to cold and hot weather average; struggles in full sun; lack of cold hardiness limits commercial potential or requires protected environments.

\*Captions from: Register of New Fruit and Nut Cultivars List 48. HortScience Vol. 51(6) June 2016.



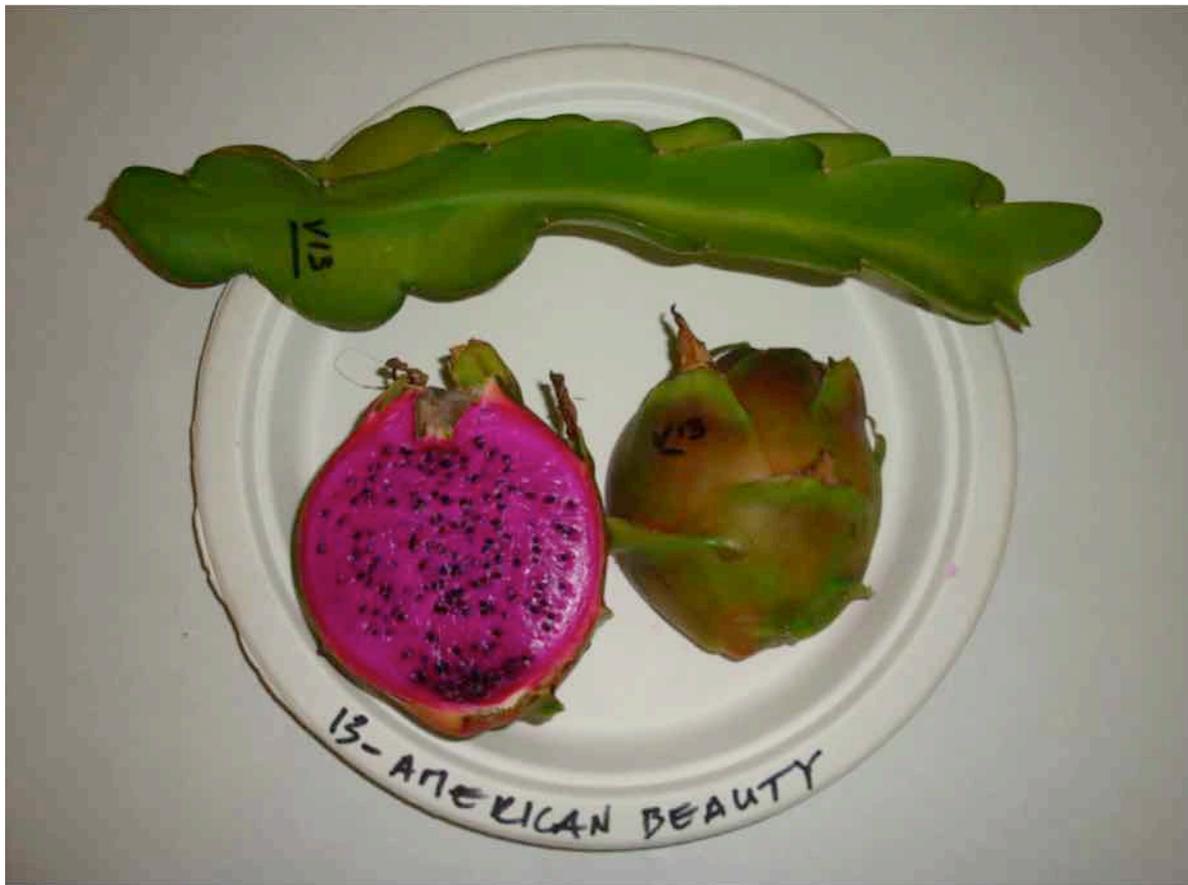
**Bien HoaWhite (*H. undatus*).**

- White-fleshed fruit with pinkish red skin and long bracts.
- Origin: Bien Hoa Farms, Fallbrook, CA.
- Fruit: oblong; intermediate size, 388 g; skin relatively thin, pinkish-red; flesh very firm, white, with numerous small, black seeds; quality poor; 11.85 Brix; 40 d from bloom to harvest in Southern California; harvest time short, from mid-July to mid-October.
- Plant: stems thin but wide, relatively long, triangular, with 3 distinct ridges, when mature, green, with a brown, hard stripe on the ridges; areoles have 3-5 spines with conic shape, similarly sized and arranged in a triangular pattern, 3-5 mm long; segment between areoles convex, 53.3 mm long; flowers intermediate, petals white, calyx light yellow, anthers and stigma bright Yellow.
- Tolerance to cold and heat low; does not do well in full sun; good for backyard growing in warm areas, but little potential for commercial production.



### **Delight (*Hylocereus* sp.).**

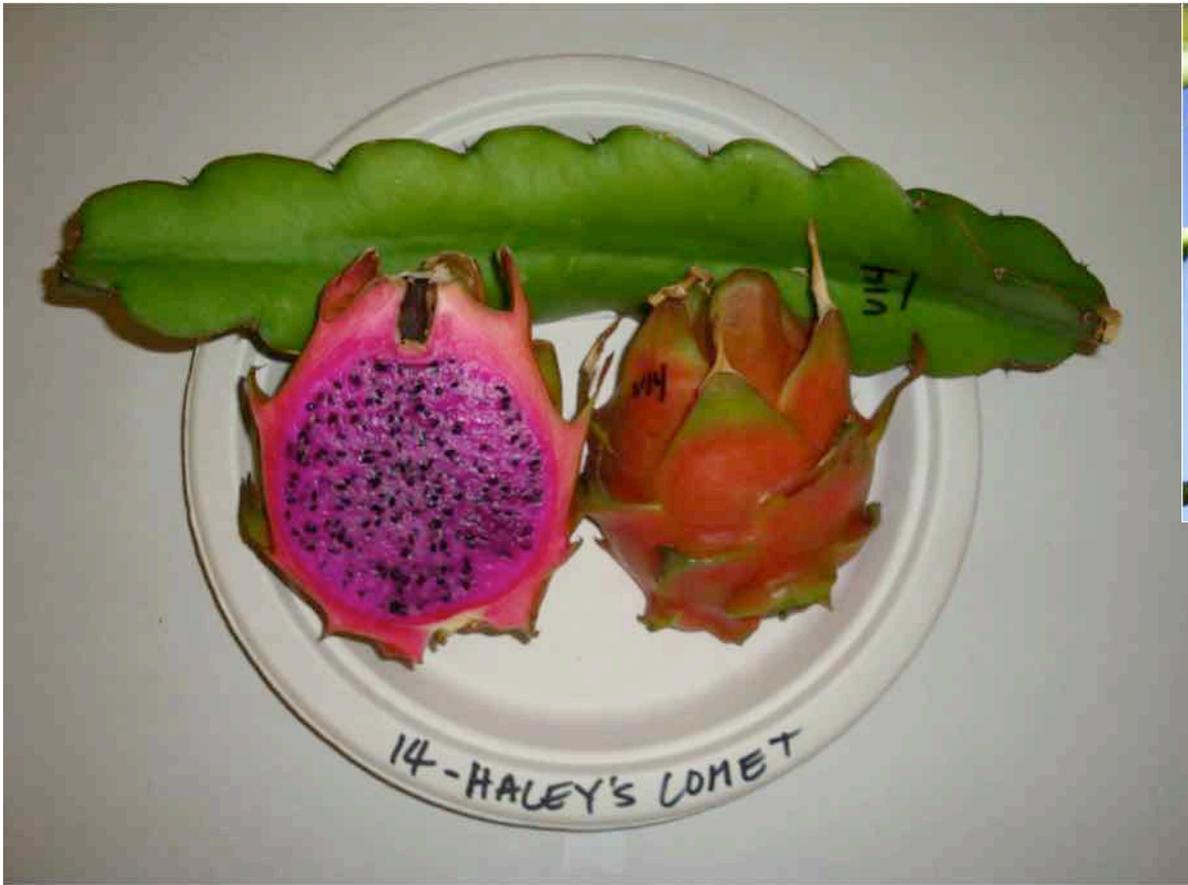
- Pinkish-white- or light-pink-fleshed fruit with excellent flavor, well suited for backyard cultivation.
- Origin: bred and selected by Paul Thomson in San Diego County, early 1980s. Fruit: oval; medium, 371 g, ideal for marketing; quality excellent; flesh light pink or pinkish-white, seeds small; rind greenish red, of intermediate thickness; bracts short, scattered; 18.08 Brix; 41 days from bloom to harvest in Southern California; harvest late June to mid-December.
- Plant: very vigorous, stems triangular, with 3 well defined ridges; stems intermediate in thickness and length, very straight, green when mature; areoles have 1-3 thin spines, 1-3 mm long; segment between areoles convex, 43.3 mm long; flowers intermediate, petals white, calyx yellowish, anthers and stigma lobes yellow.
- Tolerance to cold and heat slightly better than average; does relatively well in full sun; commercial potential good.



**American Beauty (*Hylocereus guatemalensis*).**

- Very flavorful fruit with fuchsia-colored flesh and reddish green skin. Thin rind and soft pulp make it susceptible to bruising; suitable for local marketing.
- Origin: Parentage unknown; introduced from Guatemala to Florida, and then to California. Fruit: round; medium, 380 g, ideal for market; skin greenish-red; flesh fuchsia-colored; quality exceptional, pulp very juicy, lacking firmness; rind thin, with scattered compact bracts; 18.51 Brix; 43 days from bloom to harvest in Southern California; harvest June to November.
- Plant: stems triangular, with 3 well defined ridges, relatively thin and short; mature stems dark green and brittle, producing numerous shoots; pruning essential; areoles have 1-2 spines, 1-5 mm long; segment between areoles quite convex, 36.45 mm long; flowers small, petals white, calyx yellowish green; anthers and stigma lobes yellow.
- Tolerance to cold and heat average; usually struggles in full sun; commercial potential excellent if grown in a protected environment.

\*Captions from: Register of New Fruit and Nut Cultivars List 48. HortScience Vol. 51(6) June 2016.



**Halley's Comet (Hylocereus sp.).**

- Pink-fleshed fruit with excellent flavor; closely related to Physical Graffiti, but not as vigorous or productive.
- Origin: Paul Thomson, San Diego County, CA, early 1980s.
- Fruit: round; large, 482 g; flesh hot pink, seeds small; rind bright red, relatively thin, with an intermediate number of bracts; quality very good, 16.7 Brix; rated high in sensory evaluations; 38 days from bloom to harvest in Southern California; harvest July through December.
- Plant: stems intermediate in thickness, with 3 well defined ridges; stems relatively straight when mature, dark green; areoles have 1-3 spines, 2-4 mm long; segment between areoles convex, 53.6 mm long; flowers intermediate, petals white, calyx yellowish green, anthers and stigma lobes yellow.
- Tolerance to cold and heat good; grows well in full sun; commercial potential good.

\*Captions from: Register of New Fruit and Nut Cultivars List 48. HortScience Vol. 51(6) June 2016.



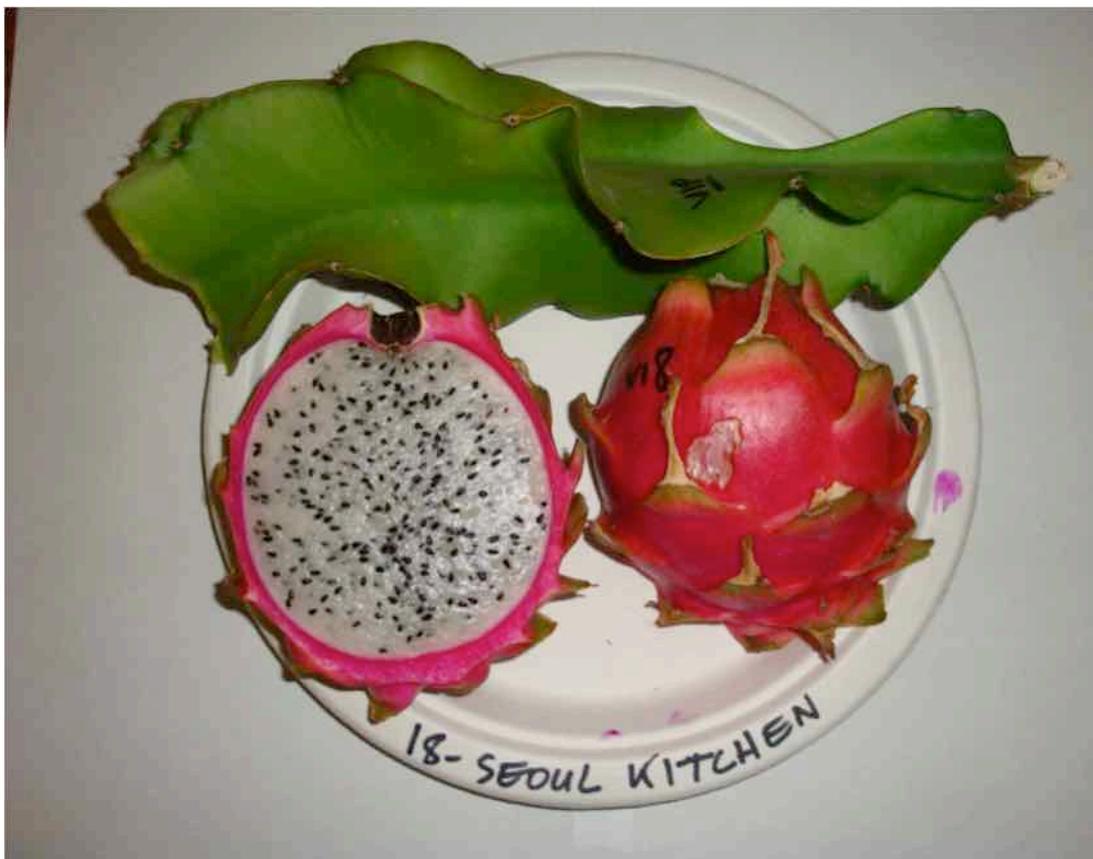
### **Physical Graffiti (*Hylocereus* sp.).**

- Vigorous, very productive, pink-fleshed fruit with excellent flavor, most preferred and widely planted in Southern California.
- Origin: Paul Thomson, San Diego County, CA, early 1980s.
- Fruit: oblong; medium, 374 g; flesh hot pink, seeds small; rind bright red, relatively thin, with few bracts; quality excellent, 17.93 Brix, rated highest in sensory evaluation; 40 days from bloom to harvest in Southern California; harvest July to December.
- Plant: very vigorous; stems thick, short, curvy, dark green, with 3 well-defined ridges; canopy management critical to keep this plant productive and to prevent overcrowding; areoles with 1-3 conic spines 1-3 mm long; segment between areoles convex, 46.5 mm long; flowers long and narrow, tubular, petals white, calyx light green, anthers light yellow, stigma lobes lime green.
- Tolerance to cold and heat good; grows very well in full sun; commercial potential excellent.



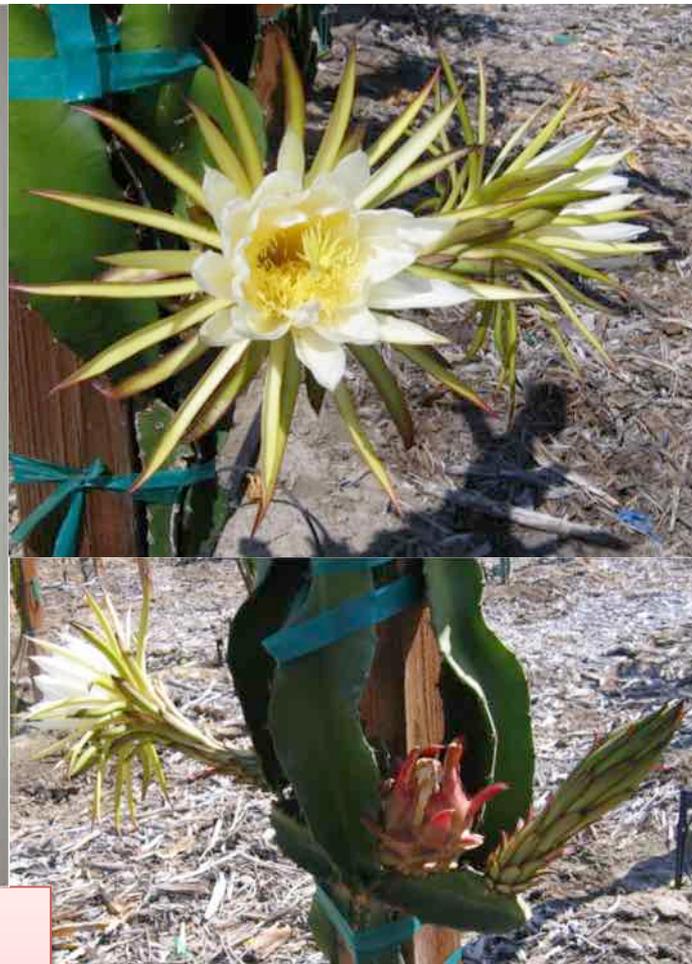
### **Vietnamese Giant (*H. undatus*).**

- Attractive white-fleshed fruit with pinkish red skin and long bracts.
- Origin: Florida.
- Fruit: oval; medium, 338 g; skin pinkish red, relatively thin; flesh very firm, white; seeds numerous, small, black; quality excellent for white-fleshed cultivars; 15.6 Brix; 40 days from bloom to harvest in Southern California; harvest very compact, mid-July to mid-October.
- Plant: stems thin and intermediate in width and length, triangular, with 3 distinct ridges; mature stems green, with a brown, hard edge on the ridges; areoles have 4-6 spines, randomly arranged, 1-3 mm long; segment between areoles convex, 50.3 mm long; flowers intermediate, petals white, calyx light yellow, anthers and stigma bright yellow.
- Tolerance to cold and heat average; usually struggles in cold, damp conditions; potential for backyard growing and commercial production good.



### Seoul Kitchen (*H. undatus*).

- White-fleshed, pinkish-red-skinned fruit with large fruit of marginal quality; vigorous, strong and prolific bloomer with longer fruiting season than other white fleshed cultivars.
- Origin: Florida, similar to George.
- Fruit: round; large, 518 g; flesh firm, white; skin thick, pinkish red, with numerous short, compact bracts; quality marginal; 12.18 Brix; 41 days from bloom to harvest in Southern California; harvest mid-July to December.
- Plant: stems thick and short; mature stems grayish green, with a striped pattern that resembles zebra stripes; stems have clusters of spines arranged in a circular pattern, 4-6 spines per cluster, 3-7 mm long; flowers long and narrow, tubular, petals white, calyx light green, anthers light yellow, stigma lobes lime green.
- Tolerance to cold and heat higher than average; usually grows well in full sun; limited potential for commercial production, but valuable as a pollinizer.



**Armando (*H. polyrhizus/costaricensis*).**

- Red-fleshed, medium-sized fruit with red skin, good quality.
- Origin: collected by R. Lobo in Las Manos, near border of Honduras and Nicaragua.
- Fruit: round; medium, 390 g; quality acceptable; flesh very firm, red; skin purplish-red, intermediate in thickness, with numerous bracts; 16.11 Brix; 41 days from bloom to harvest in Southern California; harvest mid-June to January.
- Plant: stems thick and short, with 3 well-defined ridges, dark green spiny; areoles have 4-6 spines, arranged in a circular pattern, 3-8 mm long; flowers intermediate, petals white; calyx yellowish, with shades of red on the edges, anthers and stigma lobes yellow.
- Tolerant to cold and heat; grows well in full sun; commercial potential good.



**El Grullo**



**El Grullo (*H. ocamponis*).**

- Large, red-fleshed fruit with greenish red skin, excellent quality, thick and heavy plants, and great tolerance to heat and cold.
- Origin: unnamed selection collected by R. Lobo in El Grullo, Jalisco State, Mexico.
- Fruit: oval; large, 489 g; quality acceptable; flesh dark red; rind purplish-red, thick and hard with numerous compact bracts; 18.11 Brix; 40 days from bloom to harvest in Southern California; harvest mid-July to December.
- Plant: stems thick, heavy, fleshy and long, exceeding 2 m in length when fully grown; young shoots lime green, triangular, with well-defined ridges; mature stems turn grayish and fill in the section between the ridges, becoming almost a solid triangle; spines very numerous and long, each areole having 8-13 needle-like spines randomly arranged, 3 to 14 mm long; flowers large and narrow, tubular, petals white, calyx yellowish red, anthers and stigma lobes light yellow.
- Tolerance to cold and heat exceptional; grows well in full sun, maintaining the same appearance year-round.

\*Captions from: Register of New Fruit and Nut Cultivars List 48. HortScience Vol. 51(6) June 2016.