'La Sweet' Peach

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'La Sweet' is a unique, white flesh, subacid peach [*Prunus persica* (L.) Batsch.] for fresh-market use maturing ≈15 d before 'La Feliciania' (Hawthorne et al., 1980) at Clinton, La. This is the 22nd peach released from Louisiana State Univ. AgCenter fruit breeding program. The peach breeding project was initiated in the 1940s to develop cultivars adapted to the lower and Gulf South region. Fruits of this selection are freestone with melting white flesh suitable for local sales.

Origin

'La Sweet' first fruited at the Idlewild Research Station in 1973 and was tested as

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L9-A54-13W. This selection was evaluated at Idlewild and Calhoun Research Stations in Clinton and Calhoun, La., respectively. Additional evaluations were made at grower locations in southern Louisiana and research stations in Georgia. The original tree was selected by P.L. Hawthorne (professor emeritus) from a group of seedlings derived from a 1969 cross of 'Wildrose' and L3-109-90. The complete pedigree of this selection is presented in Figure 1.

Description and Performance

Trees of 'La Sweet' were grown in a research orchard at the Idlewild Research Station, Clinton, La. [lat. 30°49'N08"NN and long. 90°58'N40"NW]. Annual evaluations were made on the original tree and on trees budded to 'Lovell' rootstock. Fruit characteristics and tree data were obtained from trees growing in two tree plots replicated three times in an orchard alongside elite selections and recommended cultivars. Trees in the orchard were trained to an open-center form. Recommended cultural practices and nutrients were applied to the entire orchard according

to extension service recommendations. 'La Sweet' was grown in orchards alongside cultivars that are susceptible to bacterial spot caused by *Xanthomonas campestris* pv. *pruni* (Smith) Dye. Five uniformly ripe fruit samples were taken in 1999 and 2000 to determine pH, percent soluble solids, and titratable acids for 'La Sweet' along with three other cultivars (Table 1). Five fruits were peeled and macerated before samples were taken. A bench-type refractometer was used to determine soluble solids. Titratable acids were determined by titrating a 10-mL sample of puree to a pH of 8.1 with 0.1 N sodium hydroxide.

Full bloom dates averaged 14 Mar. for 'La Sweet' compared to 1 Mar. for 'La Feliciania' and 18 Mar. for 'La White' (Table 2). Blossoms are large, showy, and self-fertile. Fruit set is heavy in years with adequate chilling and lack of late spring frost. The fruit development period for this selection averaged 116 ± 7 d over a 14-year period.

When properly thinned to 15 cm apart, 'La Sweet' produces 65- to 70-mm-diameter fruit (125–225 g) with mostly white flesh and some red flesh near the suture and pit areas (Fig. 2). Fruit shape is oval with non-prominent sutures and slight point. The primary surface color is white with ≈70% bright red over-color. Fruit are semi-freestone and firmer than 'La White', which it resembles. Comparative ratings of the fruit characteristics of 'La Sweet' were made over a 14-year period. 'La Sweet' consistently scored as well or better than other recommended cultivars in the same season with respect to size, firmness, and overall quality. The pH of the fruit is relatively high compared to standard cultivars (Table 1). The sugar to total acids ratio of this selection is significantly higher than most cultivars, giving the fruit a very sweet flavor. Processing trials using this cultivar indicated that this selection maintained a bright white, attractive, firm texture through processing. The relatively high pH value would pose a problem in home canning, but would not be a concern for commercial processors (Wilson and Boudreaux, 1986).

Tree and foliage characteristics. Trees are vigorous and productive. No tendencies toward excessive sun scald or cold damage have been noted. Cold requirement to break dormancy is estimated at 600 h at 7.2 °C or below. Leaves have slightly serrated margins with two to four reniform-shaped petiolar glands. Disease ratings for bacterial spot were made annually. In years when the susceptible cultivars were

O.P. = Open Pollinated

Fig. 1. Pedigree of 'La Sweet' peach.

Table 1. Comparison of 'La Sweet' with standard cultivars, 1999–2000.

Selection	pH		% SS ^a		% TA ^b		SS/TA	
	1999	2000	1999	2000	1999	2000	1999	2000
Hawthorne	4.1 b ^c	3.9 b	14.6 a	16.1 a	0.60 a	0.76 a	24.3 b	21.2 b
Dixiland	4.3 b	3.7 b	18.1 a	19.1 a	0.71 a	0.94 a	25.4 b	20.3 b
La Sweet	5.2 a	4.9 a	19.6 a	16.7 a	0.23 b	0.41 b	85.2 a	40.7 a
La White	6.2 a	4.7 a	20.9 a	16.0 a	0.22 b	0.32 b	95.0 a	50.1 a

^a% Soluble solids (SS) were determined by bench-type refractometer. Readings were higher than expected partially due to an extended drought during the growing season.

^b% Titratable acid (TA) was determined by titrating a 10-mL sample to an endpoint pH 8.1.

^cMeans followed by the same letter within a column are not significantly different according to Duncan's test ($P \leq 0.05$).

Table 2. Comparison of bloom dates and estimated chill hours of 'La Sweet' to 'La Feliciania' and 'La White' cultivars, 1990–2000.

Selection	Date of full bloom ^a	Estimated chill hours required ^b
La Feliciania	60 ^a ± 5.5	550
La Sweet	73 ± 7.4	600
La White	77 ± 7.1	650

^aDates of full bloom are mean dates over the same 10-year period for all cultivars.

^bNumber of hours below 7 °C during dormancy for the years 1990–2000.

^cJulian calendar dates.

Fig. 2. Fruit of 'La Sweet' peach.

completely defoliated, 'La Sweet' exhibited slight to moderate defoliation.

Recommendations. 'La Sweet' will not replace any existing cultivar in production, but provide a cultivar that will ripen ≈ 5 to 7 d before 'La White', another low acid, white flesh peach of similar size and shape (Boudreaux, et al., 1984). 'La Sweet' is slightly larger and has firmer flesh than 'La White'. The subacid characteristic would present a marketing opportunity offering a very sweet tasting fruit that is quite different from traditional peach cultivars.

Availability

The LSU AgCenter does not have nursery trees of this cultivar available. Commercial nurseries will be furnished with bud wood on a first-come basis for the production of nursery trees.

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