'ValleGrande': An Early Maturing, Low-chilling Peach for Subtropical Climates

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'ValleGrande' is a low-chilling (200 chilling units), high-yielding, good-quality, early maturing (mid-April), semi-freestone peach cultivar. It is adapted to subtropical climatic areas and is suitable for commercial, U-pick, and home plantings in the Lower Rio Grande Valley and other parts of southern Texas.

In most years, 'ValleGrande' matures the 3rd week of April in the Lower Rio Grande Valley. This is 1 week after 'EarliGrande', the earliest-maturing peach cultivar. Maturity of 'ValleGrande' follows 'EarliGrande' (Bowen, 1980) and 'Flordaprince' (Sherman et al., 1982) and precedes 'TropicBeauty' (Rouse and Sherman, 1989) in late April and 'TropicSweet' (Rouse and Sherman, 1987) and 'FloridaGrande' (Rouse et al., 1985) in May. 'ValleGrande' complements other peach cultivars adapted to subtropical climates similar to south Texas by filling an opening in the marketing season not filled by the other cultivars.

Origin

'ValleGrande' is a bud mutation from the cultivar 'EarliGrande' that was released in 1980 by The Texas Agricultural Experiment Station, Texas A&M Univ. In 1983 'ValleGrande' was given the number RGV-83-1 after it was observed as a budded tree of 'EarliGrande' that had later-maturing and larger fruit with more external red blush than 'EarliGrande'. The parentage of 'ValleGrande' is shown in Fig. 1. The low-chilling genes come from 'Jewel' and 'Early Amber'.

Description and performance

Flowers of 'ValleGrande' are self-fertile, large, pink, and nonshowy. Pollen is bright yellow and abundant. Bloom normally occurs in late January to early February in the Lower Rio Grande Valley. Flower bud set is

moderate, and early thinning to 15 or 20 cm apart is necessary to obtain fruit 6 to 7 cm in diameter.

Largest fruit (Fig. 2) range from 6.4 to 7.0 cm in diameter and weigh 120 g at commercial harvest. However, the bulk of the fruit for commercial harvest has ranged from 5.7 to 6.4 cm in diameter.

Fruit has yellow, fine-textured and, in our judgment, good-flavored flesh, is slightly red next to the pit, and has little to no protrusion at the apex. We rate the flesh moderately firm and resistant to browning on cut sur-

faces. The pit is free from the flesh when fruit is soft ripe and is classified as semifree. Fruit surface varies in red blush from 60% to 75% of the area and has medium pubescence. The suture is smooth. Fruit ripens ≈80 days from bloom in the Lower Rio Grande Valley.

The trees are vigorous and spreading, and respond readily to pruning to the vase system with open centers. Trees set a moderate number of flower buds and require extensive fruit thinning in the absence of spring frost. When properly managed, trees produce heavy crops of large-sized fruit for maturity early in the season. Leaf glands are globose. The trees are susceptible to rust [*Tranzschelia discolor* (F. Chl.) Tranz and Litn.] and have not been evaluated for resistance to bacterial spot [*Xanthomonas campestris* pv. *pruni* (Smith) Dye] but we assume it to be moderately tolerant, as is 'EarliGrande'.

'ValleGrande' trees require about 200 chilling units. A chilling unit is the maximum amount of chilling that can be satisfied in 1 hour at an optimum temperature. The optimum temperature for chilling in low-chill peach cultivars may be as high as 13C (Gurdian and Biggs, 1964). Trees will set and mature a full crop with slightly fewer than the required chilling units, but flowering and foliation may be delayed from 5 to 10 days.

Tree vigor, fruit production, and fruit

Table 1. Performance of 'ValleGrande' and comparable peach cultivars fruited at Weslaco, Texas (1983-88).

Cultivar	Chilling units ¹	Days from full bloom to ripe	Flower type	Flower bud set ²	Leaf glands	Bacterial spot resistance
EarliGrande	200	73-77	Nonshowy	6	Globose	10
Flordaprince	150	78-83	Showy	7	Reniform	4
ValleGrande	200	80-85	Nonshowy	6	Globose	10
TropicBeauty	150	85-94	Showy	10	Reniform	6
TropicSweet	175	90-100	Showy	10	Reniform	6
FloridaGrande	100	100-105	Showy	9	Reniform	9

¹According to relative order and time of bloom.

²Rated on a scale of 1 to 10, where 10 is most desirable.

Fig. 1. Pedigree of 'ValleGrande' peach.

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Table 2. Mean fruit and flesh ratings of 'ValleGrande' and comparable peach cultivars at Weslaco, Texas (1983-88).

Cultivar	Fruit ^x					Flesh ^{x,y}		
	Blush (%)	Shape ^y	Firm ^y	Weight (g)	Stone freeness	Taste	Texture	Browning
EarliGrande	40	7	6	90	Semifree	7	7	8
Flordaprince	80	9	8	80	Semifree	8	7	7
ValleGrande	65	8	8	120	Semifree	8	7	9
TropicBeauty	80	10	10	100	Semifree	8	8	10
TropicSweet	75	9	9	110	Free	9	9	9
FlordaGrande	60	8	8	100	Free	8	8	8

^xAll cultivars have yellow peel and flesh.

^yRated on a scale of 1 to 10, where 10 is most desirable.

Fig. 2. Fruit of 'ValleGrande' peach.

quality of 'ValleGrande' have been high in the Lower Rio Grande Valley. Comparative performance and description of this cultivar

and 'EarliGrande', 'Flordaprince', 'TropicBeauty', 'TropicSweet', and 'FlordaGrande' are given in Tables 1 and 2.

Availability

Limited quantities of budwood for 'ValleGrande' may be obtained from The Texas Agricultural Experiment Station, Weslaco, Texas 78596. Trees should be available from major fruit tree nurseries in the winter of 1990-1991.

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