

# ORLANDO SEEDLESS



## A Bunch Grape for Florida

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### **Introduction**

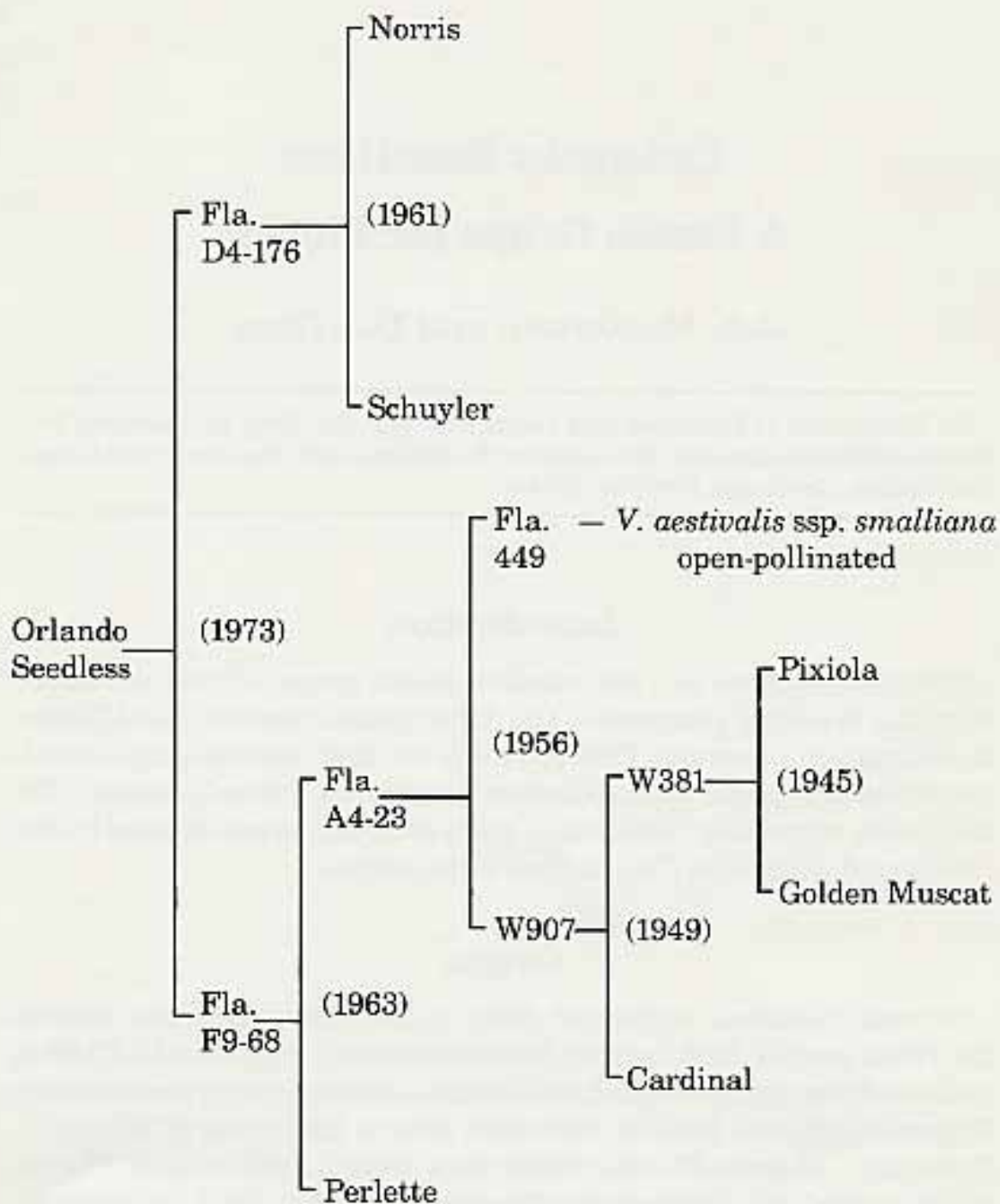
'Orlando Seedless' is a new seedless bunch grape cultivar developed from the breeding program at the Agricultural Research and Education Center in Leesburg. The cultivar is the first seedless grape that is long-lived in Florida. It is productive, resistant to Pierce's disease (PD), and grows vigorously in Florida's vineyards. It was not affected by the recent cold winters in Florida that killed citrus.

### **Origin**

Orlando Seedless originated from a 1973 cross between Florida D4-176 (a purple, high-quality, female selection) and Florida F9-68 (a near-seedless, golden-fruited, self-fertile selection of high productivity) (Figure 1). Florida D4-176 originated from a 1961 cross of 'Norris' × 'Schuyler', whereas Florida F9-68 came from a 1963 cross of Florida A4-23 × 'Perlette'. Orlando Seedless first fruited in 1980, and was propagated in 1981 for testing as Florida BD8-77.

### **Characteristics**

The vines of Orlando Seedless are moderately vigorous when self rooted, but are more vigorous when grafted on Tampa rootstock. Bud-break is early, a week after 'Stover'. Leaves are shaped like Perlette, one of the grandparents, with heavier tomentum on the lower surface. Growth habit is erect. Wood matures evenly to a brown color and thus escapes early winter freeze damage. Flowers are self-fertile, requiring no pollinizer cultivar for fruit set. Fruit color is light green, with evenly ripening berries maturing approximately July 1 at Leesburg. Clusters



**Figure 1. Parentage of Orlando Seedless grape (date of crosses in parentheses).**

weigh an average of 139 g and are shouldered with tapering tips (Table 1). Usually there are two clusters per shoot, and yields average 4 tons per acre (9 MT/ha). Berries weigh an average 1.4 g each, smaller than desired. For this reason, management practices that increase berry size (e.g. sprays with gibberellic acid) are required. Orlando Seedless has fleshy, edible seed traces that normally are chewable, but occasionally are gritty and objectionable. Proper sprays with gibberellin usually eliminate gritty seed traces in addition to increasing berry size.

**Table 1. Characteristics of Orlando Seedless compared with four other PD-resistant bunch grapes.**

Cultivar	Yield (t/a) <sup>z</sup>	Bunch wt(g)	Berry wt(g)	Date ripe	Sol. solids (%)	Taste panel rating <sup>y</sup>	Color
Orlando Seedless	4.1	139	1.4	7/1	22	5.8	Light Green
Lake Emerald	5.1	184	1.8	7/30	20	4.8	Green
Stover	4.6	117	2.3	7/10	18	5.1	Light Green
Suwannee	5.0	113	3.0	7/7	16	4.3	Light Green
Conquistador	4.4	118	2.5	7/18	17	6.1	Purple

<sup>z</sup> t/a = tons per acre; multiply by 2.24 for metric tons per hectare.

<sup>y</sup> Ratings: 0 = poor; 2 = fair; 5 = good; 8 = very good; 10 = excellent.

### Disease Resistance

After more than 11 years in the test vineyard at Leesburg, the original seedling of Orlando Seedless continues to be free of PD symptoms. A few of the grafted vines from the original seedling have shown leaf symptoms but have recovered normal growth. This is the first seedless cultivar of bunch grape with known resistance to PD. Resistance to powdery and downy mildew also appear to be characteristic of Orlando Seedless. However, because of susceptibility to anthracnose and *Isariopsis* leaf blight, a thorough preventive spray program with fungicides is required for good control.

Fruit of Orlando Seedless from vines inadequately irrigated during extended hot, dry weather may develop cracked and rotted berries if there is frequent rain during ripening. With regular rainfall or adequate irrigation during sizing, the berry cracking and rotting have been minimal.

### Uses and Limitations

Orlando Seedless is recommended for limited commercial trial as a fresh fruit cultivar, as well as for dooryard use. The 1984 fresh fruit taste panel rated Orlando Seedless high on taste (good to very good by most tasters), and it is expected to have good fresh market acceptability. Its use as a wine cultivar has not been adequately tested, but this could be an alternative to fresh marketing. Orlando Seedless vines have been tested at two locations in Florida and one location in south Texas and have performed well. The cultivar deserves testing in all areas where Pierce's disease is limiting.

## Special Management Practices

Orlando Seedless can grow reasonably well without grafting, but tests indicate that grafting on Tampa rootstock increases vigor and yields. The common practice in producing California table grapes is to girdle vines and/or apply gibberellin in order to increase size and marketability of seedless cultivar fruit. Tests at Leesburg indicate that a single application of 150 ppm shortly after bloom will increase berry size and yield of Orlando Seedless and also eliminate the tendency for the formation of gritty seed traces. Gibberellin can be obtained in fertilizer stores as a 3.91% liquid concentrate called Pro-Gibb. Follow directions carefully in mixing (e.g., amount in table to obtain 30 ppm should be multiplied by 5 in order to obtain the desired 150 ppm). Limited tests with girdling the trunk of Orlando Seedless vines indicate similar increases in berry size. A narrow ring of bark  $\frac{3}{16}$  inch (4.8 mm) wide is completely removed after bloom. Cluster thinning before full bloom will tend to increase berry size when an excessive number of flower clusters appear on a vine. Berry thinning of remaining clusters by removing the long tip of the cluster also tends to increase berry size.

## Principal Advantages

The principal advantages of Orlando Seedless are seedlessness, resistance to PD, very good flavor, large attractive bunches, early ripening, and vigorous vines that are long-lived in Florida.

## Availability

Inquiries regarding availability of Orlando Seedless should be directed to Florida Foundation Seed Producers, Inc., P.O. Box 309, Greenwood, Florida 32443. Limited supplies of cuttings and budwood may be obtained during the dormant season (December through February) from the Agricultural Research and Education Center, P.O. Box 388, Leesburg, Florida 32749-0388. A list of nurseries may also be obtained from AREC Leesburg.

Mention of brand names does not constitute a guarantee by IFAS of said product, nor does it imply its approval to the exclusion of other producers or vendors of the same chemical compound.



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ISSN 0734-8452