

# Alachua Muscadine Grape



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## Introduction

Alachua is being released by the University of Florida as a mechanically harvestable black muscadine grape (*Vitis rotundifolia* Michx.) with adaptability to Florida soils and climate. It is resistant to Pierce's disease (PD), self-fertile, and productive. Black muscadine cultivars presently used for fresh market have wet picking scar and uneven ripening (Cowart, Jumbo, Nesbitt) or are smaller berried and lower yielding (Albemarle) (Table 1). Alachua has relatively dry picking scar and uniform ripening. Consequently, it requires no ethrel application for abscission at fruit harvest. Fewer fungicide applications than older cultivars are required because of Alachua's disease resistance.

The name is in honor of Alachua County, one of the oldest muscadine grape production areas in Florida and home of the University of Florida.

## Origin

Alachua originated from the grape breeding program at the Central Florida Research and Education Center in Leesburg. Alachua was one of 40 segregants from a 1976 cross between Fry and Southland. Fry is a large bronze muscadine cultivar of excellent texture and flavor and Southland is a medium-sized black self-fertile cultivar with even ripening, disease resistance, and dry picking scar. The original seedling of Alachua was planted in the vineyard in 1977 and first fruited in 1979. It was first selected in 1982 because of its tender pulp and dry picking scar, and was propagated for further trial as Fla. CA9-48.

## Vine and Fruit Characteristics

Alachua has moderate vine vigor, with semi-recumbent growth and 2 to 4.5 cm internodes. Leaves average 8 cm in length and width, and are cordate with large teeth at margins that are bilaterally convex in shape. Lower leaf surfaces are light green, shiny, with occasional hairs along veins but concentrated at vein junctions. Upper surfaces are dark green, shiny, with a slightly rugose appearance on some leaves. Petioles may be shorter or longer than leaf blade midrib, and petiolar sinus is V-shaped. Tendrils are discontinuous along nodes and unbranched. Flowers are self-fertile. Fruit may be found on the 2nd and 3rd or on the 3rd and 4th nodes of the shoot. Clusters are moderately loose, averaging 53 g and 7.4 berries per cluster. Berries are oval, black, and average 7.5 g each. Average ripe date at Leesburg is August 26 (midseason). Lenticels are more prominent on Alachua berries than on Nesbitt. With 3 seeds per berry weighing 8 g per 100 seeds, there is an average flesh:seed ratio of 30:1. This favorable ratio is comparable to that of Nesbitt, which is 29:1. Pulp is more tender than that of Cowart, Jumbo, or Nesbitt and breaks up easily when chewed. Ripening of berries has been unusually uniform for a muscadine, making Alachua desirable for mechanical harvest. The picking scar is relatively dry and solids are higher than other black cultivars, but yields are similar (Table 1). Tests at Leesburg and Fort Pierce confirm Alachua as a cultivar worthy of release to the industry for fresh fruit purposes.

## Disease Resistance

Alachua has been resistant to PD in the 13 growing seasons since the 1977 planting at Leesburg. It is moderately resistant to ripe rot [*Glomerella cingulata* (Atk.) Spaulding & Von Schrenk], bitter rot [*Melanconium fuligineum* (Scrib. & Viala) Cav.], and black rot [*Guignardia bidwellii* (Ell.) Viala and Ravaz]. In common with most muscadine cultivars it is also completely resistant to anthracnose [*Elsinoe ampelina* (de Bary.) Shear] and downy mildew [*Plasmopara viticola* (B & C) Berl. & de T.]. Late season diseases such as angular leaf spot [*Mycosphaerella angulata* (Berk. & Curt.) Sacc.] may occur on Alachua but can be controlled by fungicides. Alachua has resistance to several diseases and may not need a regular preventive spray program with fungicides except in areas of heavy disease pressure.

**Table 1.** Flower type, percentage dry scar and soluble solids, berry size, type of ripening, and average fruit yields for 5 black muscadine cultivars grown for fresh fruit consumption.

Cultivar	Flower <sup>2</sup>	Dry scar (%)	Berry size (g)	Soluble solids (%)	Type of ripening	Yield <sup>3</sup> (t/ha)
Alachua	SF	74.0	7.5	18.0	Even	10.3
Albemarle	SF	82.9	5.8	19.2	Even	8.5
Cowart	SF	15.0	7.2	17.6	Uneven	11.1
Jumbo	F	21.7	10.7	16.1	Uneven	11.8
Nesbitt	SF	31.6	9.8	17.2	Uneven	11.5

<sup>2</sup> SF = self-fertile; F = female, requiring pollinizer.

<sup>3</sup> Yields for 8 years in replicated trial on Cowart and Jumbo; 5 years from nonreplicated vines of Alachua, Albemarle and Nesbitt at Leesburg location.

## Uses and Limitations

Alachua muscadine grape is recommended for fresh fruit consumption. Juices and jellies are another possibility, but wine tests with Alachua indicate inferiority to Noble, the leading muscadine for red wine production. Alachua is especially suited for mechanical harvest because of the relative uniformity of ripening and relatively dry picking scar. Because Alachua is less vigorous than Jumbo it should be spaced closer together in the row to increase yields per acre (e.g., 12 ft. apart instead of 16 or 18 ft. apart in the row). Winter hardiness is good in Florida, but has not been tested in other southern states.

Alachua is adapted to well-drained soils of Florida and on bedded soils in flatwood areas.

## Principal Advantages

The principal advantages of Alachua are disease resistance, moderately high rating for fresh fruit quality (Table 2), self-fertility, high soluble solids, and adaptability to mechanical harvest because of uniform ripening and relatively dry picking scar. Alachua propagates readily from herbaceous cuttings under mist in June and July, and does not require grafting. Alachua is self-fertile and may be planted in commercial block plantings or in dooryard plantings without the need of another cultivar as pollinizer.

**Table 2.** Taste panel ratings of black muscadine grape cultivars at Leesburg, Florida.

Cultivar	Number of years in taste panel	Taste ratings <sup>2</sup>	
		Range	Mean
Nesbitt	5	4.8-6.7	5.56
Albemarle	11	4.5-7.2	5.52
Alachua	4	4.7-6.0	5.48
Cowart	8	4.3-5.7	5.06
Jumbo	11	4.1-5.5	4.73
Southland	6	3.9-5.4	4.64
Noble	3	3.4-5.3	4.03

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

### Availability

Inquiries regarding the availability of Alachua should be directed to Florida Foundation Seed Producers, Inc., P.O. Box 309, Greenwood, Florida 32443. A current list of nurseries selling Florida recommended grape varieties may be obtained from most IFAS County Extension Service Offices.



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**ISSN 0734-8452**