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UF UNIVERSITY of FLORIDA
IFAS Extension

HS 1152

Commercial Fresh Market, Wine, Juice, and Jelly Grape Cultivars for Florida, 2012[1]

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Commercial grape production requires cultivars that have high yield and quality and are also adapted to Florida's unique soils, weather, insects, and disease pressures. Other desired cultivar characteristics depend upon type of market and use. Fresh-fruit markets require a large-sized grape with high sugar content, a pleasing taste, an attractive, thin skin, and a dry scar-end, so the grapes will have a minimum of one week of shelf life (1). Wine, juice and jelly cultivars require consistently high yields. For muscadine cultivars to be economically viable, commercial yields should be at least eight tons/acre. Berries must have a minimum of 14 °Brix at harvest and a favorable sugar:acid ratio (1). Color stability and the ability to maintain a good taste in the finished product are also requirements for grape juice or wine.

Southern bunch grapes (*Vitis* sp. hybrids) have been breed for resistance to Pierce's disease. Pierce's disease is caused by a bacterium, *Xylella fastidiosa*. Most southern bunch grapes require a spray program for fungal dicom(3), especially during wet growing seasons. Perhaps the most serious disease of bunch grapes is anthracnose (*Elsinoe ampelina* [deBary] Shear). One advantage of bunch grapes is that they are all self fruitful and do not require pollinizer rows planted next to them.

Muscadine grapes (*Vitis rotundifolia*) may not require any or may only need an occasional fungicidal spray, depending on the rainfall during the growing season and the disease problem (4). The disadvantage of muscadine grapes is

Figure 1. Muscadine grapes (assorted cultivars) after harvest at North Florida Research and Education Center, Suwannee Valley, Live Oak, FL, on Grape Field Day, August 2006.

that many of the large-fruited cultivars are pistillate, or female, and require self-fruitful companion rows in order to pollenize flowers sufficiently for commercial berry yields (1). Self-fruitful cultivars may often yield 40-50 percent more berries than female ones. However, many female cultivars tend to have larger berries, which is important for the commercial fresh-fruit market.

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Grape root borer is the main insect pest for both bunch and muscadine grapes. Other minor insects might become problems, depending upon the season. Detailed insect-management information can be obtained from the reference EDIS publication (5).

Cultivars for processing are listed in Tables 1 and 2. All cultivars are self fruitful. Bunch weights are listed for bunch grapes only. A large bunch grape berry would be equivalent to a small muscadine grape berry.

Cultivars recommended by UF/IFAS for the fresh markets are listed in Table 3. The type of pollination is identified for each cultivar to help the producer plan the vineyard rows. Rows of self-fruitful cultivars can be planted next to rows of female cultivars to increase berry yield.

Fresh-market muscadine cultivars recommended for trial plantings are listed in Table 4. Limited trial plantings are recommended before expanding acreage to determine whether those cultivars are adapted to the grower's location. Additional cultivar information can be obtained from the reference EDIS publication (1).

A successful fresh-market cultivar also must have high consumer preference. 'Fry', the cultivar standard for the fresh-market industry, along with recommended cultivars, 'Tara' and 'Southern Home', were compared to berries from trial plantings of 'Ison' and 'Nesbitt' in a controlled consumer-panel test (2). The ratings ranged from 1, the lowest, to 9, the highest. Results of that test are presented in Table 3. 'Ison' and 'Nesbitt' were rated higher than 'Fry', but the difference was not statistically significant. 'Tara' and 'Southern Home' were rated significantly lower than 'Fry'. Consumer ratings of berry color, sweetness, and flavor were indicators of the overall cultivar-preference score.

Commercial producers for the fresh market might consider consumer preferences before expanding their plantings of any cultivar. Data in Table 5 show that two trial cultivars, 'Ison' and 'Nesbitt', were significantly preferred by consumers over 'Tara' and 'Southern Home'.

References:

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Table 1. Commercial wine cultivars

Grape Type	Color	Cultivar	Type	Berry size	Berry weight (grams)	Bunch weight (grams)
Bunch	Purple	Conquistador	†SF	Small-medium	2.5	‡118
	Light Green	Stover	SF	Small-medium	2.3	117
		Blanc du Bois	SF	Medium	2.9	133
		Suwannee	SF	Medium	3.0	113
		Lake Emerald	SF	Small	1.8	184
Muscadine	Black	Alachua	SF	Medium	6.5	---
		Noble	SF	Small	4.0	---
	Bronze	Carlos	SF	Medium	5.0	---
		Welder	SF	Small	4.2	---

†SF = self fruitful. ‡Applies only to bunch grapes.

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Table 2. Commercial juice and jelly cultivars

Grape Type	Color	Cultivar	Type	Berry size	Berry Weight (grams)	Bunch weight (grams)
Bunch	Purple	Conquistador	†SF	Small-medium	2.5	‡118
		Blue Lake	SF	Small	2.0	122
	Light Green	Suwannee	SF	Medium	3.0	113
		Lake Emerald	SF	Small	1.8	184
Muscadine	Black	Alachua	SF	Medium	6.5	---
		Noble	SF	Small	4.0	---
	Bronze	Carlos	SF	Medium	5.6	---
		Welder	SF	Small	4.2	---

†SF = Self-fruitful pollination.
‡Applies only to bunch grapes.

Table 3. Muscadine cultivars recommended for commercial fresh market

Color	Cultivar	Type	Berry size	Berry weight (grams)
Black	Black Beauty	†F	Very large	12.5
	Black Fry	F	LargeMedium	12.5
	Southern Home	SF		6.5
Dark purple	Polyanna	SF	Medium-large	9.5
	Supreme	F	Very large	15.0
	Farrer	F	Large	12.5
Bronze	Fry	F	Very large	12.7
	Granny Val	SF	Large	12.5
	Pineapple	SF	Medium-large	10.0
	Summit	F	Medium-large	10.0
	Sweet Jenny	F	Very large	15.0
	Tara	SF	Medium-large	10.0
	Pam	F	Very large	15.0

†SF = self fruitful, F = female.

Table 4. Fresh-market muscadine cultivars for planting on a trial basis

Color	Cultivar	Type	Berry size	Berry weight (grams)
Black	African Queen	†F	Medium-large	11.5
	Ison	SF	Medium-large	11.5
	Nesbitt	SF	Medium-large	11.5
Purple	Creek	SF	Small	3.0
Red	Big Red	F	Large	12.5
Pink	Darlene	F	Very large	15.0
Bronze	Doreen	SF	Small-medium	5.0
	Early Fry	F	Large	12.5
	Florida Fry	SF	Medium-large	11.5
	Golden Isles	SF	Small-medium	6.5

†SF = self fruitful, F = female.

Table 5. Sensory evaluation results of selected standard and trial fresh-market muscadine grape cultivars

Cultivar	Fruit Color	Color	Sweetness	Sourness	Flavor	Firmness	Overall preference
Ison	Black	*6.6a	5.7a	4.8a	5.9a	5.7b	6.3a
Nesbitt	Black	6.4ab	6.2a	4.8a	5.8a	5.2bc	5.9a
Fry	Bronze	5.9b	5.8a	5.0a	5.8a	5.6b	5.8a
Tara	Bronze	5.1c	4.5b	4.3a	4.8b	4.7c	4.9b
Southern Home	Black	4.8c	4.8b	4.3a	4.8b	6.3a	4.9b

*Means separation in columns by Duncan's multiple range test, at 95 percent confidence level. Means followed by the same letter are not significantly different. Subjects balanced for age and gender. Total consumer panel number (n) = 75.