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HS1199

University of Florida Strawberry Cultivars[1]

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The following publication gives basic descriptions and suggested practices for University of Florida strawberry cultivars that are of commercial importance to the Florida strawberry industry. Descriptions are the result of research trials, field observations, and consultation with growers. They are specific to West Central Florida and may not be applicable to other regions where these cultivars are grown.

'Strawberry Festival'

Figure 1. Characteristic fruit of 'Strawberry Festival' strawberry
Credits: IFAS Communication Services

Parentage: 'Rosa Linda' × 'Oso Grande'

Release Year: 2000

Fruit Characteristics: Medium-sized, uniform, broad-conic fruit that fit well in a 1 lb plastic container; deep red external color and medium to dark red internal color; moderately acidic but balanced flavor; very firm with excellent shipping quality; flexible skin is extremely resistant to rain damage.

Plant Characteristics: Moderately vigorous plant; long fruit stems allow for efficient picking.

In-Row Spacing: 15–16 inches

Recommended Planting Period: October 10–20

Yield Pattern: Moderate and steady yields from mid-December through March; fruit size becomes smaller in March, particularly when planted too early.

Fertilization and Irrigation: This cultivar responds very well to relatively high nitrogen (N) rates (> 1 lb/acre per day), and it can resist low N fertility longer than other cultivars, especially shortly after transplanting. This is partially due to its vigorous rooting system. Most growers use between 150 and 175 lb/acre of N during the growing season starting shortly after transplant. A suggested fertilization program would start with injection of 0.5–0.67 lb/acre per day of N from weeks 2 to 4 (establishment phase), increasing gradually to 1 lb/acre per day from weeks 5 to 8 (fast-growing phase), and eventually to 1.25 lb/acre

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per day until early or mid-February. Research has shown that this cultivar does not respond to N rates higher than 1.25 lb/acre per day. Potassium rates during the October to March season range between 150 and 200 lb/acre. Although more research is needed, most growers balance their drip fertilizer formulas using the 1:1.5 N to K ratio from October to January and switch to a 1:1.5 or 1:2 N to K ratio starting in mid-January to aid flower and fruit filling. When the forecast indicates the possibility of prolonged low temperature intervals (e.g., consecutive days below 50°F), it is recommended to ease or eliminate fertilizer injection for the prior 48–72 hours to avoid salt accumulation and probable leaf burn and strawberry dried calyx disorder (SDCD).

A variety of irrigation programs is used in West Central Florida. Large growers irrigate once or twice per day using short irrigation periods (30–45 minutes), depending on the air temperature, whereas medium to small growers may irrigate three to five times per week. Regardless of the irrigation program, watering should last no longer than 1 hour at a time to avoid nutrient leaching below the root zone because of the rapid infiltration of sandy soils in the region. Always use the recommended evapotranspiration rates for the area and crop growth stage to estimate your irrigation needs. More information is available at http://edis.ifas.ufl.edu/pdffiles/CV/CV10700.pdf.

Disease Resistance: Resistant to Phytophthora root rot (caused by *Phytophthora cactorum*); moderately resistant to anthracnose fruit rot (caused by *Colletotrichum acutatum* Simm.) and Botrytis fruit rot (caused by *Botrytis cinerea*); susceptible to angular leaf spot (caused by *Xanthamonas* spp.) and Colletotrichum crown rot (caused by *Colletotrichum gloeosporioides*).

Nursery Considerations: 'Strawberry Festival' produces ample runners in the nursery and is a robust plant that is not prone to damage during handling. Because of its susceptibility to Colletotrichum crown rot, care should be taken to control this disease in the nursery by using disease-free foundation stock.

'Florida Radiance'

Parentage: 'Winter Dawn' × 'FL 99-35'

Release Year: 2008

Figure 2. A characteristic fruit of 'Florida Radiance' strawberry
Credits: IFAS Communication Services

Fruit Characteristics: Large, uniform, conic fruit with glossy appearance; deep red external color and medium red internal color; moderately acidic but balanced flavor; moderately firm with good shipping quality; flexible skin that is moderately resistant to rain damage.

Plant Characteristics: Low to medium vigor with very open canopy; very long fruit stems for excellent picking efficiency.

In-Row Spacing: 12–16 inches

Recommended Planting Period: October 5–15; if planted too early and fall weather is hot, the second flush of fruit may produce elongated fruit that is unmarketable.

Yield Pattern: Yields high both early (late November) and late (March) in the season while maintaining excellent fruit size throughout the entire season.

Fertilization and Irrigation: This cultivar has shown excellent response to N rates up to 1.0 lb/acre per day. Higher rates likely will not result in higher yields and may cause excessive foliar growth and other problems, such as soft fruit. Shortly after transplant, this cultivar is very sensitive to the lack of N in the soil, unlike 'Strawberry Festival'. Thus, growers should provide significant rates of N (e.g., 0.5–0.75 lb/acre per day) through the drip tape as soon as possible to promote transplant root development. Irrigation scheduling is very similar to that recommended for 'Strawberry Festival'.

Disease Resistance: Moderately resistant to anthracnose fruit rot, Botrytis fruit rot, and Colletotrichum crown rot; moderately susceptible to angular leaf spot, with symptoms particularly noticeable on the calyx; highly susceptible to Phytophthora root rot.

Mefenoxam, the active ingredient in Ridomil Gold®, is highly effective against *Phytophthora cactorum* and should be injected through the drip tape as soon as plants are established. Two applications may be needed to treat an infected crop. Products containing potassium phosphite or potassium salts of phosphorous acid and the related aluminum derivatives are alternatives that should generally be applied as foliar sprays, although some are also labeled for drip application.

Nursery Considerations: 'Florida Radiance' produces many runners in the nursery but must be handled very carefully since the petioles and root system are not robust and are prone to damage. It is recommended that water and nitrogen applications be reduced at the end of the season to allow the plants to "harden off." Because of the susceptibility of this cultivar to Phytophthora root rot, poorly drained areas of the nursery should be avoided.

Winterstar('FL 05-107')

Figure 3. Plants and fruit of Winterstar™ 'FL 05-107' strawberry (U.S. Patent Pending)
Credits: José Jon Garcia Allen

Parentage: 'Florida Radiance' × 'Earlibrite'

Release Year: 2011

Fruit Characteristics: Large, very uniform, conic to broad-conic fruit with glossy appearance; bright red external color that does not become overly dark at the end of the season and medium to light red internal color; low-acid flavor gives a perception of greater sweetness; firm with shipping quality nearly comparable to 'Strawberry Festival'; skin particularly tough late in the season; moderately resistant to rain damage.

Plant Characteristics: Moderately vigorous plant that is also compact, allowing for higher-density plantings; medium-long fruit stems.

In-Row Spacing: 14–15 inches

Recommended Planting Dates: October 1–15; does not produce elongated fruit when planted early.

Yield Pattern: High early yield comparable to 'Florida Radiance' and moderate to high late-season yields.

Fertilization and Irrigation: See suggested practices for 'Florida Radiance'.

Disease Resistance: Moderately resistant to anthracnose fruit rot and susceptible to Botrytis fruit rot; moderately susceptible to angular leaf spot; susceptible to Phytophthora root rot, though not quite as severely affected as 'Florida Radiance'; take precautions against *Phytophthora cactorum* as recommended for 'Florida Radiance'.

Nursery Considerations: Winterstar™ strawberry produces runners in the nursery at rates similar to 'Florida Radiance'. The foliage is more robust, however, and less prone to breakage. Nursery growers are highly encouraged to take the same precautions against *Phytophthora cactorum* infestation as they would for 'Florida Radiance'.

Other Important Notes: Because of its low-acid flavor profile, it is recommended that Winterstar™ be allowed to ripen fully (100% red) before picking for the development of optimal flavor. This should be possible in most commercial situations because the fruit of this variety do not become overly dark when allowed to fully ripen and also remain firm even when allowed to become fully red.

Minor Cultivars

Three other cultivars developed by the University of Florida are utilized on small scales as of 2011 but have utility for certain niche markets.

'Sweet Charlie'

Released in 1992, 'Sweet Charlie' was once grown on a large commercial scale. Because of its soft fruit, it did not remain a commercial cultivar, but its low acid and high early yields make it a local favorite for U-pick operations.

'Winter Dawn'

Released in 2005, 'Winter Dawn' is known for its incredibly early yields. However, suboptimal flavor and decreasing fruit size over the course of the season have caused this cultivar to decline in favor of 'Florida Radiance', which has comparable early yields.

'Florida Elyana'

Released in 2008, 'Florida Elyana' has extremely large and firm fruit with high sugar content. It has a compact plant and can be spaced tightly. This cultivar is also very resistant to Colletotrichum root rot, anthracnose fruit rot, and Botrytis fruit rot. This cultivar is susceptible to rain damage and is recommended for production under protective structures, such as greenhouses or high tunnels.

Resources

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