

Sensation® Brand ‘Florida127’ Strawberry¹

Vance M. Whitaker, Craig K. Chandler, and Natalia A. Peres²

Introduction

‘Florida127’ is a strawberry cultivar released from the University of Florida in 2013, the fruit of which are eligible for marketing under the Sensation® brand. This cultivar was originally evaluated as breeding selection FL 09-127. ‘Florida127’ originated from a 2009 cross between WinterStar™ ‘FL 05-107’ (female parent) and unreleased breeding selection FL 02-58 (male parent). It has been tested over several years in field plots at the UF/IFAS Gulf Coast Research and Education Center (GCREC) in Balm, FL, at the Florida Strawberry Growers Association (FSGA) headquarters in Dover, FL, and on several commercial farms. Data from these trials have been used to generate the following information and recommendations to help growers obtain optimum performance of this cultivar in west-central Florida. Comparisons are made to the current industry standard cultivar ‘Florida Radiance’ (Chandler et al. 2009) and also to ‘Strawberry Festival’ (Chandler et al. 2000) for disease resistance.

Fruit and Plant Characteristics

‘Florida127’ is a short-day plant adapted to annual, winter plasticulture growing systems. The plant is moderately compact, robust, and upright with long pedicels, making the fruit easy to harvest (Figure 1). It produces conic to broad-conic fruit that are uniform in shape throughout the season, resulting in few non-marketable fruit. A small internal cavity has been observed in some primary fruits, but rarely in secondary or tertiary fruits.



Figure 1. Plants and fruit of ‘Florida127’ strawberry in February, 2013 in Dover, FL.

Credits: Vance M. Whitaker, UF/IFAS

Fruit size is very large, exceeding that of ‘Florida Radiance’ on average over the course of the season. Fruit firmness is slightly greater than that of ‘Florida Radiance’, with excellent shelf life. The resistance of ‘Florida127’ to water damage is less than that of ‘Florida Radiance’, with some cracking of ripe fruit and/or pale, water-soaked spots observed when standing in water on top of the plastic

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2. Vance Whitaker, assistant professor, Horticultural Sciences Department, UF/IFAS Gulf Coast Research and Education Center; Craig K. Chandler, professor emeritus, Horticultural Sciences Department; and Natalia A. Peres, associate professor, Plant Pathology Department, UF/IFAS GCREC; UF/IFAS Extension, Gainesville, FL 32611.

mulch. While cull fruit due to water damage have been greater for 'Florida127' than for 'Florida Radiance', cull fruit due to small size has been lower, resulting in overall lower cull rates for 'Florida127'.

The external color of the fruit is a bright red that appears lighter than 'Florida Radiance' and does not darken overly late in the season (Figure 2). Since the fruit is firm and develops external color gradually, growers should adjust picking schedules to allow optimum external color development. We estimate that the picking interval should be one day longer for 'Florida127' than for 'Florida Radiance' at most points during the season.



Figure 2. Fruit of 'Florida127' have bright red color and do not darken significantly during hot weather or after storage.

Credits: Vance M. Whitaker, UF/IFAS

The ripe fruit of 'Florida127' have excellent flavor and aroma. Soluble solids contents of 'Florida127' fruit were significantly higher than those of 'Florida Radiance' on six of seven harvest dates tested. Titratable acidity was not significantly different from 'Florida Radiance'.

Field Performance

Early and total season yields of 'Florida127' have been very similar to 'Florida Radiance' in multiple years of testing, in both experimental and on-farm trials. When planted early in the planting period, no overly elongated fruit have been observed, in contrast to 'Florida Radiance' which can produce elongated fruit when planted early in west-central Florida and exposed to hot weather in October and early November. 'Florida127' planted between September 25 and October 1 has performed very well in GCREC field trials. Because this variety is more vegetatively vigorous than 'Florida Radiance', an in-row spacing of 15–16 inches is recommended, especially at early planting dates.

Plant Establishment

This cultivar can be established from bare-root or plug transplants available from certified nurseries. The traditional bare-root transplant practice in west-central Florida uses approximately 10 to 12 days of sprinkler irrigation for 8 to 12 hours/day, depending on air temperature. Growers may elect to reduce irrigation volumes during early October transplanting by using foliar applications of crop protectants based on either kaolin clay or calcium carbonate on the morning of the 8th day after 7 days of sprinkler irrigation. More information on this practice is available at <https://edis.ifas.ufl.edu/hs1376>.

Fertilization and Irrigation

The selection of the right fertilization program should be based on the crop requirement and the natural fertility of the soil. A revision of the fertilization and irrigation practices for strawberries is available at <https://edis.ifas.ufl.edu/cv134>. Field studies and observations suggest that 'Florida127' does not require as much nitrogen (N) fertilization during the first few weeks of establishment and growth as 'Florida Radiance' to produce high early and total yields. This variety also appears to respond more strongly to N application in terms of vegetative growth compared to 'Florida Radiance'. Growers should therefore carefully monitor N fertilization to prevent excessive growth. For this reason, pre-plant N fertilization is not recommended. Previous research has indicated that other Florida cultivars do not require pre-plant N fertilization (see <https://edis.ifas.ufl.edu/hs370>), and it is expected that 'Florida127' will follow the same pattern.

Production of this cultivar in west-central Florida, where deep, sandy soils with low organic matter are the norm, requires careful management of irrigation scheduling. In most cases, drip irrigation longer than a 1 hour/day (≈ 25 gal/acre/min or 1500 gal/acre/hour) with one drip tape per bed results in nutrient leaching. During the early stages of growth in October and early November, when day temperatures are above 70°F and plants do not have a fully developed root system, it is convenient to provide one or two irrigation cycles per day totaling no more than 30 min/day (750 gal/acre). This amount would vary depending on the nature of each season, and moisture on the top 6 inches of the beds should be monitored constantly using a tensiometer or other moisture sensor. More information on irrigation scheduling is available at <https://edis.ifas.ufl.edu/cv107>.

Disease Management

'Florida127' is considered highly resistant to anthracnose fruit rot (caused by *Colletotrichum acutatum*), similar to 'Florida Radiance' (Seijo et al. 2011). More information about anthracnose can be found at <https://edis.ifas.ufl.edu/pp130>. 'Florida127' may be more susceptible to Botrytis fruit rot than is 'Florida Radiance' based on observations of grower trials, though in GCREC trials the two varieties did not differ significantly for Botrytis incidence. Plant size is key for Botrytis management, with overgrown plants trapping moisture and humidity that promote disease. Therefore careful monitoring of N fertilization, particularly early in the season and on soils with higher organic matter, is crucial.

Fungicide applications for the control of Botrytis fruit rot should target the peak bloom periods. Captevate/Elevate, Fontelis, Switch, and Thiram are currently the only effective fungicides for control of Botrytis fruit rot in Florida. High levels of fungicide resistance have been observed for other products such as Topsin, Pristine, and Scala. To avoid an increase in fungicide resistance levels, the number of fungicide sprays should be reduced and products with different modes of action should be rotated or tank-mixed. A web-based disease advisory system to aid growers on timing of fungicide applications for control of anthracnose and Botrytis fruit rots is available at <http://agroclimate.org/tools/strawberry/>. Following spray recommendations by the Strawberry Advisory System should help growers to reduce the number of fungicide applications without compromising disease control or yields. More information on the system is available at <https://edis.ifas.ufl.edu/ae450>.

Early indications from naturally infected trials indicate that 'Florida127' is more susceptible to *Podosphaera aphanis* (causal agent of powdery mildew) than are other Florida varieties. Early control at the first sign of foliar symptoms is recommended. Quintec and Torino are the most effective fungicides for control of powdery mildew. Cabrio, Abound, and Procure also are effective, and should be rotated in a program.

Based on inoculated trials, 'Florida127' is highly susceptible to crown and root rots caused by *Phytophthora cactorum*. Thus fruit growers are strongly encouraged to take the same precautions against *P. cactorum* infection as they would when growing 'Florida Radiance'. Metalaxyl, the active ingredient in Ridomil Gold®, is highly effective 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 phosphorus acid are alternatives that generally should be applied as foliar sprays, although some are also labeled for drip application. Members of this group are not curative, and multiple applications may be needed beginning immediately after the plants are established.

Early season plant collapse also can be caused by *Colletotrichum gloeosporioides* (causal agent of Colletotrichum crown rot) and *Macrophomina phaseolina* (causal agent of charcoal rot); symptoms are virtually indistinguishable from those of *Phytophthora* crown rot. Inoculated trials indicate that 'Florida127' is more resistant to Colletotrichum crown rot than is 'Florida Radiance' (Seijo et al. 2014) and has similar resistance to charcoal rot. To identify the causal agent of plant wilt and collapse, growers are encouraged to submit a sample to the UF Plant Diagnostic Lab at GCREC, where the pathogen will be isolated and identified and control recommendations will be provided.

For Nursery Growers

'Florida127' strawberry produces runners in the nursery at rates similar to 'Florida Radiance.' The foliage is more robust, however, and less prone to breakage. At high elevation nurseries in California and in Canadian nurseries, plants have established well and produced robust runners with large crowns and upright foliage. Nursery growers are strongly encouraged to take similar precautions against *Phytophthora cactorum* infestation as they would for 'Florida Radiance.'

Summary

'Florida127' is a promising new cultivar for west-central Florida growers due to its early yield, robust plant habit, and excellent fruit size and eating quality. Based on research trials at the UF/IFAS GCREC and in commercial fields, the following management recommendations can be made:

- Growers are encouraged to experiment with early planting dates for this variety, as it has performed very well at early planting dates in experimental trials.
- Due to a lighter external fruit color compared to other cultivars, harvest schedules must be adjusted to allow optimum color development.
- The primary disease susceptibilities of this variety that will require the most management include Botrytis fruit rot, Phytophthora root rot, and powdery mildew. Resistance to other fungal diseases is considered moderate to high.

- Carefully monitoring N fertilization and avoiding overwatering will be keys to managing plant size, which is important in Botrytis management in Florida.

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