

# 'Florida Beauty' Strawberry<sup>1</sup>

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## Introduction

'Florida Beauty' (PPAF) is a new strawberry cultivar released by the University of Florida and commercialized in 2017. This cultivar was originally evaluated as breeding selection FL 12.121-5. 'Florida Beauty' originated from a 2012 cross between Queensland Australia selection 2010-119 (female parent) and 'Florida Radiance' (male parent). It has been tested over several years in field plots at the UF/IFAS Gulf Coast Research and Education Center (UF/IFAS GCREC) in Wimauma, 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 cultivars 'Florida Radiance' (Chandler et al. 2009) and Sweet Sensation® 'Florida127' (Whitaker et al. 2015) (hereafter referred to as 'Florida127').

## Fruit and Plant Characteristics

'Florida Beauty' is unique for its compact plant habit, low chill requirement, and weak day-neutral flowering habit. This combination of traits makes it ideal for the early planting window in Florida, approximately Sept 20 to Oct 1. When planted during this period, fruit harvest will begin in mid-November and continue until the end of the season.

This cultivar has excellent fruit quality, with flavor often similar to 'Florida127' and sufficient quality to be marketed at retail under the Sweet Sensation® brand. In sensory evaluations at eight harvest dates over three seasons, 'Florida Beauty' exhibited greater sweetness and strawberry flavor ratings than 'Florida Radiance' from all the harvests evaluated and had similar ratings to 'Florida127' on some harvest dates. This is consistent with higher soluble solids for 'Florida Beauty' when compared with 'Florida Radiance' on all harvest dates. The fruit also have excellent shape, excellent rain tolerance, and an even medium-red color (Figure 1).



Figure 1. Plants and fruit of 'Florida Beauty' strawberry at UF/IFAS GCREC in 2016.

Credits: Vance M. Whitaker, UF/IFAS

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## Field Performance

Early and total season yields of ‘Florida Beauty’ have been very similar to ‘Florida Radiance’ for early planting dates around Sept 25. When planted early in the planting period, no overly elongated fruit have been observed in contrast to ‘Florida Radiance’, which can produce elongated fruit in the early season. When planted at later dates around Oct 10, ‘Florida Beauty’ has had lower yields than ‘Florida Radiance’ due to its more compact plant size. Planting dates after Oct 5 are not recommended for this cultivar, unless the grower has enough experience to be able to advance plant growth via higher fertilization and/or other management strategies. The fruit size of ‘Florida Beauty’ is slightly smaller than ‘Florida Radiance’ on average, most noticeably for the smallest fruit of the first cluster. However, fruit size recovers after this period and remains consistently medium-sized until the end of the season.

## Plant Establishment and Management

This cultivar can be established from bare-root or plug transplants available from certified nurseries. At early planting dates, typical in-row plant spacing of 14–15 inches is recommended. On lighter soils and/or at later planting dates, closer spacing (e.g. 12 inches) may be possible because of its relatively compact canopy structure. 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 and wind conditions. Growers are encouraged to reduce overhead irrigation to the minimum period possible without stressing transplants (see Disease Management section).

Because of its weak day-neutral behavior, ‘Florida Beauty’ transplants often arrive in Florida with fully developed flowers and fruit. Thus, after overhead irrigation for establishment is complete, green and ripening fruit may already be developed. These early fruit are not likely to be marketable. Trimming off fruit and blooms at this stage can increase fruit size and yield later in the season.

## Fertilization and Irrigation

The selection of the right fertilization program should be based on the crop requirement and the natural fertility of the soil. Field studies and observations suggest that ‘Florida Beauty’ thrives with a fertilization program similar to ‘Florida Radiance’, in which plant growth is encouraged in the early season with 2–3 lbs N/acre/day

after establishment, gradually tapering to as low as 0.75 lbs N/acre/day. When ‘Florida Beauty’ is planted earlier than other cultivars, fruit loads may be greater than for other cultivars in mid-season, possibly requiring higher N rates to maintain plant health and productivity. Growers should carefully monitor N levels throughout the season. 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 <http://edis.ifas.ufl.edu/pdffiles/HS/HS37000.pdf>), and it is expected that ‘Florida Beauty’ 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 ( $\approx$ 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 suggested 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 soil type, and moisture in the top 6 inches of the beds should be monitored constantly using tensiometers or other moisture sensors. More information on irrigation scheduling is available at <http://edis.ifas.ufl.edu/pdffiles/CV/CV10700.pdf>.

## Disease Management

‘Florida Beauty’ is considered moderately susceptible to anthracnose fruit rot (caused by *Colletotrichum acutatum*), as compared to ‘Florida Radiance’, which is considered moderately resistant (Seijo et al. 2011) (Table 1). More information about anthracnose can be found at <http://edis.ifas.ufl.edu/pdffiles/PP/PP13000.pdf>.

Table 1. Disease resistance profile of ‘Florida Beauty’ compared to ‘Florida Radiance’ (R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible).

Disease	FL Radiance	FL Beauty
Anthracnose fruit rot	MR	MS
Angular leaf spot	MS	MS
Botrytis fruit rot	MS	MS
Charcoal rot	MR	MR
Colletotrichum crown rot	MS	S
Phytophthora root rot	S	MR
Powdery mildew	MR	MS

‘Florida Beauty’ appears to have similar susceptibility to Botrytis fruit rot (caused by *Botrytis cinerea*) compared to

'Florida Radiance'. Fungicide applications for the control of Botrytis fruit rot should target the peak bloom periods. Switch, Kenja, and Luna are currently the most effective fungicides for control of Botrytis fruit rot in Florida. High levels of fungicide resistance have been observed for other products including Topsin, Pristine, and Scala. To avoid an increase in fungicide resistance levels, use multi-site fungicides such as Thiram and Captan. The number of systemic 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/sas/fl>. 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 <http://edis.ifas.ufl.edu/pdffiles/AE/AE45000.pdf>.

Early indications from naturally infected trials indicate that 'Florida Beauty' is susceptible to *Podosphaera aphanis* (powdery mildew) similar to 'Florida127'. Early control at the first sign of foliar symptoms is recommended. Quintec and Torino are currently the most effective fungicides for control of powdery mildew. Sulphur materials are also effective and help to manage an increase in fungicide resistance levels. DMI fungicides such as Procure and Mettle are also moderately effective, and may be rotated in a program.

Based on trials with inoculated plants, 'Florida Beauty' is moderately resistant to crown and root rots caused by *Phytophthora cactorum*. Thus, fruit growers are not encouraged to use mefenoxam, the active ingredient in Ridomil Gold®, but rather to save this product for susceptible cultivars. On the other hand, products containing potassium phosphite or potassium salts of phosphorus acid can be applied as foliar sprays, although some are also labeled for drip application if infection is suspected.

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), especially at early planting dates. Because 'Florida Beauty' appears to be more susceptible to Colletotrichum crown rot compared to other cultivars, growers are strongly encouraged to apply Captan immediately after plant establishment and continue throughout the season. To identify the causal agent of plant wilt and collapse, growers are encouraged to submit a sample to the UF Plant

Diagnostic Lab at UF/IFAS GCREC, where the pathogen will be isolated and identified and control recommendations provided.

## For Nursery Growers

'Florida Beauty' produces runners in the nursery at rates slightly lower than 'Florida Radiance' but higher than 'Florida127'. The foliage is more robust than 'Florida Radiance' and less prone to breakage. Because of its day-neutral flowering habit, blooms must be trimmed. Nursery growers are strongly encouraged to prevent infections of *Colletotrichum* with regular sprays of Captan and to prevent powdery mildew infections with regular sprays of sulfur products.

## Summary

'Florida Beauty' is a promising new cultivar for early planting dates in west-central Florida. Based on research trials at the UF/IFAS GCREC and in commercial fields, the following recommendations can be made:

1. Growers are encouraged to experiment with early planting dates and are not encouraged to plant after Oct 5 without previous experience growing the cultivar. When planted early, this cultivar should complement the yield curves of the current commercial standard cultivars. At early planting dates, a 14" in-row spacing is recommended; closer spacing may be possible with later transplanting.
2. In the first week after establishment, consider trimming blooms and fruit that are already developed to promote better fruit size later in the season and reduce stress on transplants.
3. Because of its excellent fruit quality, 'Florida Beauty' should have sufficient quality for retail marketing under the Sweet Sensation® brand. It is distinguished from 'Florida127' by its smaller size, medium-red color, and excellent rain tolerance.
4. The primary disease susceptibilities of this cultivar that will require the most intensive management include diseases caused by *Colletotrichum* and powdery mildew. Consider well-drained field sites that are less humid to reduce Colletotrichum crown rot incidence, reduce overhead water for establishment when possible, and begin applying Captan immediately after transplant establishment.

## References

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