

# Strawberry variety trail in High Tunnel and Field Production Systems

West Florida Research and Education Center – Jay, FL



## Authors:

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Two experiments containing plots of 20 strawberry plants, twin rows spaced at 10 inches between rows and 14 inches between the plants, were established on October 9<sup>th</sup> at the West Florida Research and Education Center (WFREC) in Jay, FL. One of the experiments was conducted in a high tunnel while the other was in the field. Experimental plots for both trials were arranged in a randomized complete block design with five replications. Strawberry bare root plants were transplanted into raised beds covered with 1 mm thick black polyethylene mulch rows on 5 foot centers spacing in the high tunnel and 7 foot row center in the field. 30-30-30 lb/acre N- P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O was applied preplant. Petiole sap tests were taken at various times to determine if nitrogen and potassium levels were in range of University of Florida IFAS recommendations ([Plant Petiole Sap-Testing For Vegetable Crops](#)). Total fertilizer application for the season was 180-30-30 lb/acre N- P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O in the high tunnel and 205-30-30 lb/acre N- P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O in the field. At establishment overhead irrigation ran for 5 minutes at 15 minute intervals during the day for two weeks. A 30% shade cloth was placed on the high tunnel for the first 1.5 months because of unseasonably warm temperatures.

Weekly fungicide treatments began a week after planting and continued through the duration of the trial. The fungicide treatment schedule used is from the [SE Regional Strawberry Integrated Management Guide](#) focused on Gray Mold (*Botrytis cinerea*) with some activity on Anthracnose (*Colletotrichum acutatum*). Anthracnose was detected and affected fruit quality as well as Angular Leaf Spot (*Xanthomonas fragariae*) which may have been present on transplants at planting. Spider mites warranted control on both sites with horticultural oil and the miticide/insecticide Portal XLO (a.i. Fenpyroximate).

Harvest began in the high tunnel on February 8, 2016 and continued through May 6, 2016. Harvest began in the field on February 11, 2016 and continued through May 6, 2016. Both sites were harvested one to two times weekly depending on production and labor availability. Berries were picked once  $\frac{3}{4}$  of the berry was pink/red. After harvest all plots were weighted and graded. Berries were graded as marketable or unmarketable with fresh market sales in mind. Berries were considered unmarketable if there was insect damage, disease damage, they were over ripe, or had a diameter of less than  $\frac{3}{4}$  inch.

Thanks to Nichino America for donating Portal XLO.

**Table 1. High Tunnel Strawberry Variety trial – Jay, FL 2016.**

	<b>Total Weight</b>	<b>Marketable<sup>y</sup></b>	<b>Unmarketable</b>
<b>‘Camarosa’</b>	13.517 a <sup>z</sup>	7.797 ab	5.675 ab
<b>‘Chandler’</b>	10.404 a	3.431 c	7.129 a
<b>‘Festival’</b>	12.611 a	8.233 a	4.366 bc
<b>‘Sensation’</b>	7.181 a	5.178 bc	2.185 d
<b>‘Radiance’</b>	8.654 a	5.766 abc	3.053 cd
<b>‘Winterstar’</b>	12.752 a	8.250 a	4.652 bc

<sup>z</sup> Means followed by same letter or symbol do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

<sup>y</sup> Grades were determined as marketable or unmarketable with fresh market sales in mind. Berries were considered unmarketable if there was insect damage, disease, they were over ripe, or had a diameter of less than  $\frac{3}{4}$  inch.

**Table 2. Field Strawberry Variety trial – Jay, FL 2016.**

	<b>Total Weight</b>	<b>Marketable<sup>y</sup></b>	<b>Unmarketable</b>
<b>‘Camarosa’</b>	7.800 bc <sup>z</sup>	3.173 b	4.627 b
<b>‘Chandler’</b>	11.745 a	3.859 b	7.913 a
<b>‘Festival’</b>	8.330 bc	3.747 b	4.575 b
<b>‘Sensation’</b>	7.166 c	4.182 ab	3.006 b
<b>‘Radiance’</b>	6.407 c	3.397 b	3.019 b
<b>‘Winterstar’</b>	10.050 ab	5.252 a	4.788 b

<sup>z</sup> Means followed by same letter or symbol do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

<sup>y</sup> Grades were determined as marketable or unmarketable with fresh market sales in mind. Berries were considered unmarketable if there was insect damage, disease, they were over ripe, or had a diameter of less than ¾ inch.