

# STRAWBERRY

## INTRODUCTION

Florida's strawberry crop currently covers 10,500 acres with an annual farm-gate value of \$350 million. UF/IFAS strawberry cultivars are planted on approximately 9,000 of those acres. Florida is the major winter supplier of strawberry fruit to the eastern U.S. and is the nation's second leading supplier behind California. As of 2017, UF/IFAS strawberry cultivars are grown in 36 countries and on every continent except Antarctica.

## FROM THE BEGINNING

The UF/IFAS strawberry breeding program began in 1948 under the direction of plant pathologist Albert Brooks at a Florida Agricultural Experiment Station (FAES) Center near Plant City, Fla. The first cultivar, 'Florida Ninety', was released in 1952 and became the dominant variety grown in Florida. At the time, it was known for its high yields and moderately high degree of resistance to crown rot. Subsequent breeding efforts were sporadic until 1968 when Charlie Howard began a systematic process for crossing and selection at the Gulf Coast Research and Education Center that continues to this day. 'FloridaBelle' was released in 1975, followed by 'Dover' in 1979. Both varieties showed improved yield and resistance to crown rot, but they suffered from fruit-quality problems. 'Sweet Charlie', released in 1992, produced higher yields from December through February than any other available variety, and it was the only Central Florida variety that was resistant to anthracnose fruit rot.

The release of 'Strawberry Festival' in 2000 was monumental because it combined steady yield with broad disease resistance, attractive shape and color, excellent firmness, and improved shelf life. It quickly rose to dominance, comprising at least 50 percent of Florida acreage by 2005 and is largely credited with the expansion of the Florida strawberry industry in that decade.

## TODAY AND TOMORROW

The UF/IFAS strawberry breeding program employs traditional cross-pollination techniques and field selection using a strategy called recurrent selection, where new seedlings are rapidly evaluated and the best are used as parents for the next generation. Growers are interested in varieties that are resistant to multiple diseases, provide early and consistent yield, and have plants with long stems to make harvesting easier. Marketers and wholesalers want uniformly shaped fruit of sufficient size with attractive color. Consumers also value these traits but especially prize flavor, a trait receiving increased attention in the breeding program because recent research is uncovering how certain volatile natural compounds affect the perception of flavor.

'Florida Radiance' was released in 2008 and replaced 'Strawberry Festival' as the leading strawberry cultivar in Florida by 2012. Known as 'Florida Fortuna' outside of the United States, it has expanded internationally as well. In 2017, it comprised approximately 55 percent of the Spanish strawberry industry. Sweet Sensation® brand 'Florida127', released in 2013, combines a sweet flavor and fruity aroma with excellent fruit size and shelf life. It accounted for 15 percent of the Florida industry in 2016 and is expected to grow to 25 percent in 2017.

*Future UF/IFAS strawberry breeding program efforts will continue to enhance earliness, color, shape, size, yield, and flavor, as well as resistance to root and crown diseases.*



## STRAWBERRY VARIETIES RELEASED SINCE 2006

Release Date	Cultivars
04/28/08	Florida Radiance/Florida Fortuna (USPP20,363)
04/28/08	Florida Elyana (USPP21,317)
04/13/11	Winterstar™ 'FL 05-107' (USPP23,042)
05/19/13	Sweet Sensation® 'Florida127' (USPP25,574)
08/24/16	'Florida Beauty' (USPPAF)

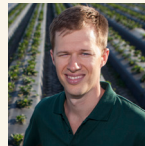
## HIGH IMPACT RELEASES

**'Sweet Charlie' (1992):** This short-day cultivar was the first patented strawberry variety released by UF/IFAS. Its early yields and excellent flavor made it a very popular cultivar in Florida and in other strawberry-producing regions around the world.

**'Strawberry Festival', USPP14,739 (2000):** The attractive and firm fruit of this variety have been key characteristics that allow its fruit to be shipped longer distances with lower likelihood of rejection. It is also a sturdy plant that is easy to harvest. It enabled Florida strawberry growers to increase their acreage throughout the 2000s, and it has also been widely planted in other strawberry producing regions around the world.

**'Florida Radiance', USPP20,363 (2008):** This variety has been widely successful due to its early season yields. Prices during the early part of the Florida production window are typically higher than they are later in the season, which has made this variety the most popular variety currently grown in Florida. It has also performed well in other strawberry producing regions around the world (where it is called 'Florida Fortuna'). It is now the most popular variety grown in southern Spain.

### FACULTY RESEARCH CONTACTS:



Vance M. Whitaker, Associate Professor  
Strawberry Breeding and Genetics  
Gulf Coast Research and Education Center  
813-633-4136 · vwhitaker@ufl.edu



Seonghee Lee, Assistant Professor  
Strawberry Molecular Genetics and Genomics  
Gulf Coast Research and Education Center  
813-633-4151 · seonghee105@ufl.edu

