

STONE FRUIT

INTRODUCTION

Stone fruit is a generic term used to describe fruits such as peaches, nectarines, plums and cherries, which feature a layer of fleshy, edible pulp (known scientifically as the mesocarp) surrounding a relatively large, hard pit (the “stone”) that shields and protects a seed.

Stone fruit species native to Europe and Asia have been cultivated since prehistoric times. Peaches were introduced to the New World by Spanish explorers in the 1500s, and over the next five centuries a host of stone fruits were brought to North America.

Many stone fruit varieties will not flower and produce fruit until the trees have been exposed to temperatures lower than 45 degrees Fahrenheit for a minimum number of hours. This phenomenon, called a chill requirement, poses production challenges in areas where mild winters are the norm.

Since the mid-1800s, growers have been selecting and cultivating germplasm that required less chilling compared with other specimens. But it's only in the past 60 years that breeders have developed stone fruit varieties commercially viable in Florida.

FROM THE BEGINNING

In 1952, Ralph Sharpe initiated the University of Florida's peach breeding program. His objective was to develop peach and nectarine cultivars that had modest chilling requirements and ripened early, a trait that could bring higher prices for growers and simultaneously minimize post-harvest problems connected to summer rainfall.

One of the program's first successes was 'Flordaprince', a peach that required about 150 chill hours and was released by Wayne Sherman in 1981. In the years that followed, Sherman released another 46 peach and nectarine scion cultivars and one peach rootstock cultivar, 'Flordaguard', which provides good resistance to the peach root-knot nematode.

Florida's peach industry benefitted from this activity but suffered setbacks in the late 1980s from freezes and competition from California. Consequently, stone fruit acreage in Florida fell from about 4,250 acres in 1978 to 1,140 acres in 1992.

In 2004, UF/IFAS commissioned an economic analysis of the commercial potential for peach production in Florida. The results suggested that South Florida could produce 10,000 acres of peaches, harvested between March and May. Consequently, the breeding program was redirected, putting greater emphasis on early ripening cultivars with a chilling requirement of less than 200 hours.

The results have been promising, as South Florida peach production jumped from about 25 acres in 2007 to 1,400 today and an expected 2,000 acres in 2014.

TODAY AND TOMORROW

To better support development of Florida's stone fruit industry, UF/IFAS established a satellite site for germplasm selection and evaluation at the Indian River Research and Education Center in Fort Pierce. This location typically gets about 100 chill hours per year, which allows for efficient selection of peaches suitable for South Florida production.

The program also supports North Florida growers and UF/IFAS international licensees with research programs in two locations farther north, Gainesville, Fla. and Attapulgus, Ga. Work at the Attapulgus site is a cooperative effort between UF/IFAS, the University of Georgia and the U.S. Department of Agriculture.

At present, the focus is on developing peaches with non-melting flesh, for the fresh fruit market.

Since 2004, we have released nine peach cultivars, one nectarine cultivar and two rootstocks. The cultivar that best represents our current focus is 'UFBest' (USPPAF), a yellow-fleshed peach with a chilling requirement below 150 hours. It has good flavor, excellent fruit shape and size, a high percent blush and excellent tree structure.

In the future, we hope to expand our work on white-fleshed peaches, which have received little attention compared with yellow-fleshed varieties. Several white-fleshed selections are currently being evaluated.



Stone Fruit Varieties Released from 2002

Release Date	Cultivar
Peach	
07/01/2002	'Gulfcrest' (USPP14685)
07/01/2002	'Gulfking' (USPP14483)
07/01/2002	'UFBeauty' (USPP14784)
07/01/2002	'UFBlaze' (USPP14898)
07/01/2003	'UFSun' (USPP14764)
07/06/2005	'UFSharp' (USPP22294)
07/20/2006	'FlordaBest' (USPP20294)
07/20/2006	'Gulfcrimson' (USPP20174)
07/29/2008	'UFOne' (USPP21607)
07/08/2009	'UFGlo' (USPP21837)
02/09/2012	'UFBest' (USPPAF)
11/08/2012	'GulfAtlas' (USPPAF)
11/08/2012	'Gulfsnow' (USPPAF)
07/31/2013	'UFGem' (USPPAF)

Peach Rootstock

05/24/2007	'Sharpe'
01/04/2011	'MP-29' (USPP23583)

Nectarine

07/20/2006	'UFRoyal' (USPP20314)
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