

INTRODUCTION

Citrus fruit is Florida's signature crop, supporting a multi-billion-dollar industry with approximately 500,000 acres. Almost 90 percent of oranges grown in Florida are processed into juice, but the state also produces fresh citrus. Citrus is the most important agricultural commodity grown in Florida, with a rich history in the state and its culture. Spanish explorers introduced citrus trees near St. Augustine in the 1500s. Just after the Civil War, the citrus industry reached a production milestone of 100 million boxes and eventually peaked at a production of 250 million boxes in the early 2000s. Production has declined in recent years because of urbanization and devastating disease outbreaks, including huanglongbing (a.k.a. HLB or citrus greening) and citrus canker. But the Florida citrus industry still thrives south of Interstate 4, with 8,000 Florida growers responsible for more than 75,000 jobs.

FROM THE BEGINNING

The UF/IFAS citrus-breeding program began in the mid-1980s to develop scions and rootstocks that resist disease and withstand cold. Key discoveries included a hybridization program to develop seedless, triploid, fresh-fruit varieties adapted to the Florida environment and tree-size-controlling, disease-resistant rootstocks that allowed high-density planting and early production. Since 1991, UF/IFAS plant breeders have also been developing cold-hardy cultivars for North Florida, using a nonedible citrus called *Poncirus trifoliata* as the donor species for the cold-resistant trait. Cold-hardiness breeding efforts have incorporated commercial quality, a genetically controlled seedless trait, and cold resistance into the current generation of selections.

TODAY AND TOMORROW

The UF/IFAS citrus-breeding program is focused on breeding improved sweet oranges, fresh citrus, and rootstocks, while developing cultivars resistant to diseases threatening the industry.

The fresh-fruit breeding program has been developing easy-to-peel tangerine varieties with different maturity dates; grapefruit and pummelo varieties with a range of maturity dates and canker resistance, as well as low-content of phytochemicals responsible for the grapefruit-drug interaction; and seedless lime and lemon selections with improved quality, disease resistance, and cold-hardiness. These will provide new marketing opportunities for Florida growers.

The program has also been developing improved rootstocks for Florida with the goal of generating rootstocks that will allow sustainable and profitable production in various growing regions of the state. Rootstocks will need to have wide soil adaptation, cold hardiness, tree-size control, salinity tolerance, and disease and nematode resistance. The program has recently released its first rootstocks, including some semi-dwarf rootstocks with early production and improved disease resistance that can be used in emerging Advanced Citrus Production Systems.

The survival and long-term viability of the Florida citrus industry are being challenged because of the statewide spread of HLB. In response, the UF/IFAS citrus breeding program is sharply focused on providing genetic solutions to this disease by studying rootstock and scion performance from the many field trials established throughout the state. Already, some experimental rootstocks appear to be conferring significantly greater tolerance to HLB than those that are currently commercially available.

Information on released UF scion and rootstock varieties can be found by visiting <http://ffsp.net/varieties/citrus> and <http://nvdmc.org>.



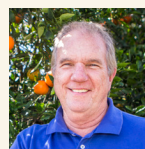
CITRUS VARIETIES RELEASED SINCE 2006

Release Date	Cultivars
Rootstocks	
07/30/13	'UFR-2', 'UFR-3', 'UFR-4', 'UFR-16', 'UFR-17' (USPPAF for all)
07/30/13	'UFR-1' (USPP27,277), 'UFR-5' (USPP27,298), 'UFR-6' (USPP27,276), 'UFR-15' (USPP27,275)
Sweet Orange	
04/19/09	Valquarius® 'SF14W-62' (USPP21,535), 'N7-3' (USPP21,224)
01/25/11	'B9-65' (USPP27,144)
12/16/12	'OLL-8' (USPP26,087)
01/24/13	'N13-32' (USPP27,145), 'UF 11-1-24' (USPPAF)
08/08/14	'OLL-4' (US PPAF)
12/01/15	'Florida EV2' (USPPAF), 'Florida EV1' (USPPAF)
Mandarin	
04/13/06	Sugar Belle® 'LB8-9' (USPP21,356)
01/25/11	'N40W-6-3' (USPPAF), '411', '900', '950' (USPP23,359)
07/26/13	'C4-15-19' (USPP26,086)
01/07/15	'UFSunrise', 'UFDawn', 'UFGlow' (USPPAF)
02/12/15	'Bingo' (USPPAF)
06/01/15	'711'
Grapefruit	
01/25/11	'5-1-99-5' (USPP25,151)
12/16/12	'5-1-99-2', 'C2-5-12'
12/20/12	'914' (USPP26,177)
10/30/13	'N2-28'
Navel	
06/01/15	'RBB 7-34' (USPPAF)

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