

Tropical Fruit



Examining carambola trees

FAES tropical fruit breeding began in 1930 with the establishment of the Homestead Subtropical Experiment Station, now called the Tropical Research and Education Center (TREC). S.J. Lynch, H.S. Wolfe, G.D. Ruehle and L.R. Toy introduced germplasm of numerous tropical crops for testing and evaluation. Their efforts, along with those of subsequent TREC scientists during the 1940s and 1950s, resulted in superior guava, sapodilla, and loquat varieties with improved fruit yield and quality. Later scientists C.W. Campbell, Simon Malo, and J. Popenoe continued to introduce, evaluate and select superior tropical fruit. These efforts lead to the release of **Cariflora** papaya and the **Homestead** guava, which are

major varieties grown in south Florida today. The **Golden Star** carambola is now used as a main source of rootstocks for high-pH, calcareous soils. The **Ruehle** avocado, released in 1962, remains a commercial variety today. Cariflora papaya has been identified as one of the most papaya-ringspot-tolerant varieties ever produced and it has been used throughout the world (e.g., Taiwan, Thailand, Latin America, Hawaii) to further the development of superior papaya-ringspot-resistant varieties. From the mid-1950s to the 1970s, researchers released a number of superior Tahiti lime selections. In addition, TREC introduced the **Mauritius** lychee from South Africa in 1952, the **Magaña** mamey sapote from El Salvador in 1961, and the **Mysore** raspberry from India in 1948. Currently, Mauritius lychee is the major lychee and Magaña the second most important mamey sapote variety grown in Florida. Several superior sapodilla varieties grown

commercially today were released by TREC.

Today, the tropical fruit program includes breeding for superior passion fruit and carambola varieties and evaluating open-pollinated seedling material of mamey sapote and carambola. A molecular genetics project for papaya seeks to develop resistance to ringspot virus, to improve cold tolerance, and to select for superior insect and disease resistance and superior fruit quality and yields. There are ongoing projects to perfect the use of tissue culture and molecular genetics to aid selection for improved resistance to sunblotch viroid, anthracnose fruit resistance, and phytophthora root-rot rootstocks in avocado, for fruit anthracnose resistance in avocado and mango, and for cold tolerance in papaya, and to evaluate and select superior rootstock germplasm from open-pollinated West Indian type avocados for phytophthora root-rot-resistant rootstock.

Florida tropical fruit industry acreage has fluctuated during the past 70 years due to natural disasters, foreign competition and changes in the U.S. demographics. Today, there are about 16,000 acres in cultivation, with an economic impact of over \$137 million annually.

FAES Tropical Fruit Varieties Selected or Bred at TREC, Homestead

Tropical Fruit	Variety	Date of Release	Tropical Fruit	Variety	Date of Release
Guava	Redland	1941	Black sapote	Merida	1988
	Supreme, Ruby	1946	Canistel	Oro, Trompo	2001
	Homestead	1989	Barbados cherry	Florida Sweet	1956
Sapodilla	Prolific	1941	Avocado	Ruehle	1962
	Brown Sugar	1945	Loquat	Wolfe	1965
	Tikal	1959	Carambola	Golden Star	1965
White sapote	Dade	1943	Lime	10 Tahiti lime selections	1975
Mamey sapote	Copan, Mayapan, Tazumal	1980	Papaya	Cariflora	1986