SUGARCANE

Introduction

Sugarcane has been a vital crop in Florida since 1572, when it was first grown by the Spanish founders of St. Augustine. Sugarcane production in South Florida burgeoned from 50,000 acres in 1960 to more than 220,000 acres in 1964 when political change in Cuba spurred repeal of U.S. domestic production and acreage restrictions. Today, Florida produces about 400,000 acres of sugarcane yearly at an estimated value of $750 million. Florida contributes 50 percent of the nation's cane sugar and 25 percent of all U.S.-produced sugar (cane and beet). Always valuable, this crop has become increasingly important in recent years for its bioenergy production potential.

From the Beginning

In 1920, USDA established the Canal Point sugarcane field station near Lake Okeechobee to develop new cultivars. The next year, the Florida legislature established the University of Florida Everglades Research and Education Center in Belle Glade to study how to grow sugarcane in the organic "sawgrass muck" soils in the Everglades Agricultural Area. In 1930, UF, USDA, and the Florida Sugar Cane League (formerly the U.S. Sugar Corporation) formed a collaborative breeding agreement that has continued to the present. Early UF/IFAS breeding strategies crossed high-yielding canes with disease-resistant canes. Efforts to breed varieties for use in high-nitrogen organic soils paid off in the 1930s with the introduction of an early-maturing cultivar, and another that provided a 50 percent greater sugar yield than earlier cultivars. Over the years, UF/IFAS continued to produce cultivars, refining for ratooning (regrowth) ability, sucrose content, high tonnage, and resistance to rust. Today, Canal Point-created sugarcane clones generate more than $675 million in annual revenue for Florida producers.

Today and Tomorrow

Today's sugarcane breeding program selects for disease resistance (particularly for brown and orange rust, smut, leaf scald, and sugarcane mosaic virus), sucrose yield and concentration, ratooning ability, and suitability for muck or sand soils. It takes 7–10 years to release a sugarcane variety because clones must be tested in several locations over many years.

Sugarcane growers in the Everglades Agricultural Area remain an integral part of the breeding process, voting on which clones to advance. Germplasm development is a high priority for growers because disease pressures inevitably cause yield declines in existing clones. Grower preferences ensured that recently released clones 'CP00-1101', 'CP96-1252', and 'CP01-1372' were principal varieties on the Florida sugarcane census. These clones occupied 19,000, 15,000, and 7,000 acres of production, respectively.

Average sugar yields in Florida have increased by 1.6 tons per acre in the last 34 years of the breeding program. The program will always face new challenges from emerging diseases and from the breakdown of disease resistance in existing cultivars. For example, after orange rust disease first appeared in Florida in 2007, molecular breeding techniques to identify resistant genes became an important focus for the breeding program.

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Sugarcane Varieties Released from 2002	
Release Date	**Cultivar**
4/25/2003	'CP 94-1100'
4/25/2003	'CP 94-1340'
4/25/2003	'CP 89-2376'
2/25/2004	'CP 96-1252'
2/25/2004	'CP 96-1602'
7/21/2004	'CP 97-1777'
9/1/2004	'CP 88-1165'
10/10/2004	'CP 97-1989'
10/18/2004	'CP 97-1944'
8/3/2005	'CP 98-1029'
11/19/2007	'CP 00-1446'
11/19/2007	'CP 00-2180'
11/21/2007	'CP 00-1101'
10/21/2008	'CP 01-1372'
10/21/2008	'CPCL 97-2730'
11/9/2009	'CPCL 99-4455'
2/18/2011	'CP 03-1912'
2/18/2011	'CPCL 00-4111'
8/19/2011	'CPCL 95-2287'
8/19/2011	'CPCL 02-0926'
8/19/2011	'CPCL 02-1295'
8/19/2011	'CP 04-1566'
8/19/2011	'CP 04-1844'
8/19/2011	'CP 04-1935'

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