FORAGE

UF IFAS
UNIVERSITY of FLORIDA

INTRODUCTION

The UF/IFAS forage breeding program is the oldest cultivar-development program at UF/IFAS. Both cool- and warm-season legumes and grasses are vital parts of the Florida landscape, including bahiagrass, bermudagrass, limpograss, perennial peanut, clovers, and other species. Because a wide variety of plant species is used for forage production in Florida, this breeding program has focused on a number of major forage crop plants, with an emphasis on adapting and improving non-native plants that have great potential.

FROM THE BEGINNING

UF/IFAS research in forages began in the earliest days of the Florida Agricultural Experiment Station (FAES). The station released its first forage grass variety in 1892 and first forage legume variety in 1896. By 1915, FAES had tested nearly 1,700 plants as potential new varieties. In the 1940s, 'Pangola' digitgrass, 'Pensacola' bahiagrass, and 'Argentine' bahiagrass were important early forage releases that helped build Florida's beef-cattle industry. Currently, the dominant pasture grass used by the beef-cattle industry in Florida is 'Pensacola' bahiagrass, estimated to be produced on more than 70 percent of Florida pastures.

Throughout its history, the UF/IFAS forage breeding program has released many cool-season varieties, notably 'Osceola' white clover (1977), 'Cherokee' red clover (1990), 'Southern Belle' red clover (2002), and many commercially popular, annual ryegrass cultivars. During the 1970s and '80s, a group of UF/IFAS scientists across the state developed a four-phase, coordinated scheme to breed, evaluate under clipping and grazing defoliation, and release new cultivars. They increased forage improvement research throughout the state by actively testing and breeding new plant introductions from around the world. Three grass cultivars from these efforts – 'Florico' stargrass, 'Florona' stargrass, and 'Floralta' limpograss – are estimated to be grown on more than 600,000 acres in Central and South Florida. These grasses have shortened, and sometimes eliminated, the winter forage gap for beef-cattle producers in these areas. In 2002, UF/IFAS began a program that resulted in the release of 'UF-Riata' in 2007, an improved bahiagrass cultivar with superior early-spring and late-fall productivity.

TODAY AND TOMORROW

Recently, the UF/IFAS forage breeding program has focused on improving annual ryegrass, red and white clover and alfalfa, rhizoma perennial peanut, bermudagrass, and bahiagrass. Today, more than 30,000 acres of perennial peanut have been established from UF/IFAS cultivar releases throughout the southern U.S.

Traditional breeding, as well as modern molecular genetic DNA-sequencing techniques, are being employed to improve the efficiency of these breeding programs.

Currently, 12 tetraploid apomictic hybrids are being evaluated for seed production with the goal of releasing a new tetraploid bahiagrass cultivar that has superior spring and fall forage production to replace the cultivar 'Argentine'. Recent clover releases that are becoming popular commercially include 'Barduro', a medium-maturity red clover; 'FL24D', an early maturity 2,4-D tolerant red clover; 'Ocoee', a root knot nematode-resistant white clover. Earlyploid, 'FL PE 2X', and 'FL Red 4X LATE' are three recent annual ryegrass releases. 'Kenhy' and 'GibTuck' limpograss cultivars are becoming established on significant Florida acreage for use by the beef-cattle industry. Forage-type triticale and oat cultivars have also been released from these programs and have been widely grown throughout the southeastern U.S. for winter grazing and silage. Current efforts on final testing of a new Florida-adapted alfalfa and a new early-season, high-quality bermudagrass are ongoing in the UF/IFAS forage breeding program.

2019 UPDATE

FORAGE VARIETIES RELEASED SINCE 2006	
Release Date	**Cultivars**
Bahiagrass	
10/25/07	'UF-Riata' (US PVP 200800057)
Clover	
01/26/06	Ocoee 'UFWC5' (US PVP 201000002)
07/13/09	'Barduro' (US PVP 201100126)
09/02/14	'FL24D' (US PVP201500006)
Limpograss	
4/28/14	'GibTuck' (Hybrid 10); 'Kenhy' (Hybrid 4F)
Perennial Peanut	
07/29/08	'UF-Tito'; 'UF-Peace'; 'Arblick'
08/06/08	'Ecoturf'
Annual Ryegrass	
10/04/06	Chuckwagon, FL1995 (4X), Angus I, Grazer Nova, Winter Hawk, Ocala
08/14/10	Earlyploid 'MAR Early 4X' (US PVP 201000584)
07/11/14	'FL PE 2X' Diploid 'FL RED 4X Late' Tetraploid

HIGH IMPACT RELEASES

Osceola (1977): This ladino-type, white clover variety has been widely grown over the past four decades due to its superior persistence and high forage yields.

Florigraze (1981): This perennial peanut variety has been widely planted in Florida over the past three decades due to its high yield, quality, persistence, disease resistance, and drought tolerance.

Big Daddy (1996): This vigorous, tetraploid annual ryegrass variety has been widely planted as a forage over the past two decades. It has excellent crown- and stem-rust resistance and produces excellent yields with outstanding regrowth.

Jumbo, US PVP 200000196 (1999): This tetraploid annual ryegrass variety has been widely planted around the world due to its excellent rust resistance, great cold tolerance, and high forage yields.

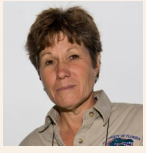
Prine (2001): This late-maturing, tetraploid annual ryegrass variety has been widely planted in the southern U.S. over the past decade due to its excellent disease resistance and high forage yields.

Fria (2004): This late-maturing, diploid annual ryegrass variety has been widely planted over the past decade. It has excellent forage yields and cold tolerance that helps with fall establishment and winter survival throughout the transition zone and further north in the U.S.

Ocoee (2006): This ladino-type, white-clover variety has been widely grown over the past decade due to its resistance to the southern root knot nematode, a pest that causes decline in clover stands.

UF-Riata (2007): This bahiagrass variety was released due to its improved forage growth during short daylengths and the cool season, which allows grazing longer into the fall and earlier in the spring.

FACULTY RESEARCH CONTACTS:



Ann Blount, Professor
Forage Breeding & Genetics
North Florida Research and Education Center
850-875-7125 · paspalum@ufl.edu

Kevin E. Kenworthy, Professor
Turfgrass Breeding and Genetics
Agronomy Department
352-392-6189 · kenworth@ufl.edu

Esteban Rios, Assistant Professor
Forage Breeding & Genetics
Agronomy Department
352-392-6189 · estebanrios@ufl.edu