

FORAGE

Introduction

Forages are the oldest plant breeding and cultivar development program in the UF/IFAS system. Forages have always been important crops in Florida, supporting and fueling the state's livestock industry since it developed after World War II. Many different plants are used for forages in Florida, including bahiagrass, bermudagrass, limpograss, and other cool-season and warm-season grasses and legumes. Both cool-season and warm-season legumes and grasses are vital parts of the Florida landscape. Cool-season forage varieties play a critical role for livestock in winter, decreasing the requirement for supplements, as most warm-season species decline rapidly in the winter, especially in North Florida. Because of the wide variety of plant species used for forages in Florida, the UF/IFAS Agronomy plant breeding program has focused on a number of major forage crop plants, with an emphasis on adapting and improving plants not native to Florida.

From the Beginning

UF/IFAS research in forages began in the earliest days of the Florida Agricultural Experiment Station. The station released its first forage grass variety in 1892 and its first forage legume variety in 1896. By 1915, the station had tested and evaluated nearly 1,700 plants as potential new varieties. 'Pangola' digitgrass, 'Pensacola' bahiagrass (1943), and 'Argentine' bahiagrass (1945) were important early releases that helped build Florida's beef cattle industry.

Throughout its history, the UF/IFAS forage breeding program has released many cool-season varieties, including 'Osceola' white clover (1977), 'Cherokee' (US PVP 9200166) red clover (1990), and 'Southern Belle' red clover (2002), as well as various annual ryegrasses, such as 'Florida 80' (1982) and 'Jumbo' (US PVP 200000196) (1997). UF/IFAS scientists have also introduced several warm-season grasses and legumes to Florida that are native to South America, Southeast Asia, and Africa. The dominant pasture grass used by the beef cattle industry in Florida is 'Pensacola' bahiagrass, estimated to be produced on 60 percent of Florida pastures.

During the 1970s and 1980s, UF/IFAS scientists increased forage improvement research throughout the state by actively testing and evaluating new plant introductions from around the world and by breeding and selecting new cultivars. Cultivars from these efforts include 'Florida Carpon Desmodium' (1979), 'Florigraze' (1981) and 'Arbrook' rhizoma peanut (1984), 'Floralta' limpograss (1984), and 'Florico' and 'Florona' stargrass (1988). These three grasses—'Florico', 'Florona', and 'Floralta'—are estimated to be grown on more than 600,000 acres in Central and South Florida. These grasses have shortened the winter forage gap for beef cattle producers by two months and eliminated the gap in some years. During this time a group of scientists located at Gainesville and at various UF/IFAS Research and Education Centers around the state developed a four-phase coordinated scheme for breeding, evaluation under clipping and grazing defoliation, and release of new cultivars. This team approach continues today, with breeders in Gainesville and the North Florida REC in Marianna cooperating with forage agronomists at the Range Cattle REC in Ona, the

North Florida REC in Marianna, and the Forage Evaluation Field Lab in Gainesville to breed and select new cultivars with improved nutritive value and persistence under grazing.

Today and Tomorrow

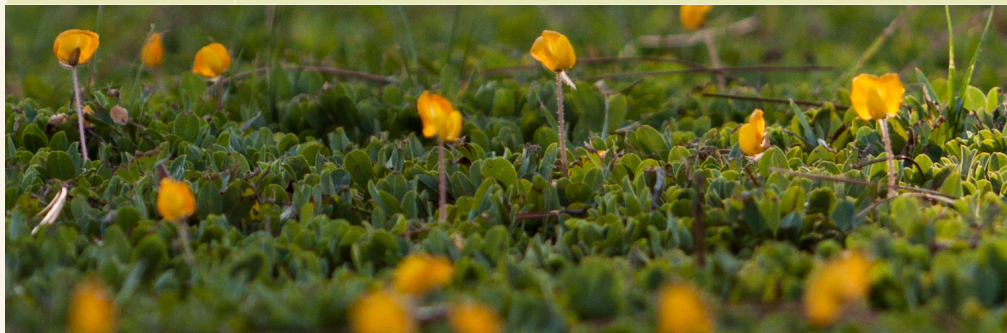
Since 2002, the UF/IFAS Agronomy forage plant breeding program has focused on a smaller number of both cool-season and warm-season grasses and legumes. One UF/IFAS program has conducted research on cool-season species, including red, white, and crimson clover and rhizoma perennial peanut. Other research has focused on annual ryegrass and bahiagrass. These programs released a mid-dormant red clover cultivar, 'Barduro' (US PVP 201100126) (2009), which had a significant impact on cool-season pasture production throughout the southeastern United States, and the white clover cultivar, 'Ocoee' 'UFWC5' (US PVP 201000002) (2006), which was the only North American white clover with significant levels of root-knot nematode resistance. In 2006, the program released a number of ryegrass cultivars, including 'Ocala', 'Angus I', and four numbered lines, followed in 2010 by Earlyploid 'MAR Early 4X' (US PVP 201000584). Future annual ryegrass research will focus on enhancing disease resistance, maturity dates, quality, and hay yields.

Recently, the UF/IFAS Agronomy plant breeding program has focused on rhizoma peanut and bahiagrass breeding and selection. Two new rhizoma peanut cultivars, 'UF-Tito' and 'UF-Peace', were distributed to the Perennial Peanut Producers Association in March 2011, and these cultivars are rapidly moving into commercial use. Today more than 30,000 acres are established with various perennial peanut cultivars, mainly in North Florida. In 2002, UF/IFAS began a program of relay breeding for enhanced early spring and late fall productivity in a diploid "Pensacola-type" bahiagrass. As a result of that research, in 2007 UF/IFAS released 'UF-Riata' (US PVP 200800057), an improved bahiagrass cultivar with superior early spring and late fall productivity. Also, UF/IFAS is currently evaluating 12 tetraploid apomictic hybrids for seed production, with the goal of releasing a new tetraploid bahiagrass cultivar that has superior spring and fall forage production and will replace the cultivar 'Argentine'.



Forage Varieties Released from 2002

Release Date	Cultivar
Bahiagrass	
10/25/07	'UF-Riata' (US PVP 200800057)
Clover	
4/9/02	'Southern Belle'
1/26/06	Ocoee 'UFWC5' (US PVP 201000002)
7/13/09	'Barduro' (US PVP 201100126)
Perennial Peanut	
7/29/08	'UF-Tito'
7/29/08	'UF-Peace'
7/29/08	'Arblick'
8/6/08	'Ecoturf'
Annual Ryegrass	
10/15/02	'Striker'
10/15/02	'Attain'
10/15/02	'Beefbuilder III'
7/1/04	'T-Rex'
7/1/04	'Thunder'
7/1/04	'Grits'
7/1/04	'Florida 98'
11/30/04	'Bruiser'
11/30/04	'Fria'
11/30/04	'Stockaid'
11/30/04	'Big Boss'
10/4/06	'Chuckwagon'
10/4/06	'FL1995 (4X)'
10/4/06	'Angus I'
10/4/06	'Grazer Nova'
10/4/06	'Winter Hawk'
10/4/06	'Ocala'
8/14/10	Earlyploid 'MAR Early 4X' (US PVP 201000584)



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