

Forage Grasses for Florida's Organic Soils ¹

J. Vendramini, P. Moriel, and L. Wiggins²

The organic soils in south Florida are located south of Lake Okeechobee and encompass about 700,000 acres. The area, also known as the Everglades Agricultural Area (EAA), is primarily under agricultural production of sugarcane, vegetables, row crops, rice, and sod. In the past, the combination of potentially high forage yields on the fertile organic soils and the long grazing season were the basis for one of the highest concentrations of beef cattle and a viable beef cattle industry in Florida. Presently most livestock operations on EAA are small noncommercial herds on improved and unimproved pastures comprising less than 1% of the EAA.

St. Augustinegrass (*Stenotaphrum secundatum*) and limpo-grass (*Hemarthria altissima*) are the two perennial forage grasses recommended for organic soils in south Florida.

St. Augustinegrass

The 'Roselawn' variety of St. Augustinegrass was evaluated at the Everglades Experiment Station, now the Everglades Research and Education Center, and released in 1944. It produces significantly greater forage mass than all other varieties of St. Augustinegrass. St. Augustinegrass has large, flat stems and broad, coarse leaves. It spreads by long, aboveground runners or stolons. It has characteristically

long internodes that grow close to the ground, and it produces top growth that contains 90%–95% leafy tissue, regardless of maturity.

St. Augustinegrass grows well on mineral soils in Florida, but due to its susceptibility to chinch bugs (*Blissus leucopterus*), which thrive on dry, well-drained areas, it is normally not grown on mineral soils for pasture. Because this is especially adapted to moist muck soils and grows practically year long in south Florida, it is considered the most dependable pasture grass for that area. Crabgrass and goose are the most common weeds, and they are controlled by postemergence herbicides when applied according to the herbicide labels. For more information on weed control, please refer to SS-AGR-08, *Weed Management in Pastures and Rangelands* (<http://edis.ifas.ufl.edu/wg006>).

On the organic soils of south Florida, St. Augustinegrass is tolerant to frost and usually remains green throughout the year. A freeze of less than 28°F for several hours will kill the top growth, but the plant will regrow from its base.

St. Augustinegrass is very persistent and tolerates overgrazing. Annual dry matter yield may range from 7 to 8 tons under grazing conditions. Eighty percent of St. Augustinegrass growth occurs from May through October. However,

1. This document is SS-AGR-71, one of a series of the Agronomy Department, UF/IFAS Extension. Original publication date June 1999. Revised July 2011 and December 2019. Visit the EDIS website at <https://edis.ifas.ufl.edu> for the currently supported version of this publication. This publication was originally written by R. Muchovej and F. M. Pate. Revised by I. V. Ezenwa in March 2006 and March 2009 and by J. Vendramini in July 2010.
2. J. Vendramini, professor, Agronomy Department; P. Moriel, assistant professor, Department of Animal Sciences, UF/IFAS Range Cattle Research and Education Center; and L. Wiggins, regional livestock agent, UF/IFAS Extension Hendry County; UF/IFAS Extension, Gainesville, FL 32611.

The use of trade names in this publication is solely for the purpose of providing specific information. UF/IFAS does not guarantee or warranty the products named, and references to them in this publication do not signify our approval to the exclusion of other products of suitable composition. The use of trade names in this publication is solely for the purpose of providing specific information. UF/IFAS does not guarantee or warranty the products named, and references to them in this publication do not signify our approval to the exclusion of other products of suitable composition.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. For more information on obtaining other UF/IFAS Extension publications, contact your county's UF/IFAS Extension office. U.S. Department of Agriculture, UF/IFAS Extension Service, University of Florida, IFAS, Florida A & M University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Nick T. Place, dean for UF/IFAS Extension.

moderate quantities of stockpiled green forage can be carried into the fall and early winter period. Stockpiled forage, along with energy supplementation, will provide adequate nutrition to mature cows. St. Augustinegrass grown on organic soil maintains crude protein levels of 13% and 16%, and TDN levels of 50% and 60% during the winter and summer, respectively.

Because St. Augustinegrass does not produce commercial quantities of viable seed, it is most commonly planted vegetatively with stem pieces or plugs. St. Augustinegrass should be planted in the summer months when soil moisture is adequate. Land to be established with St. Augustinegrass should be well prepared prior to planting in order to minimize weed competition. Once a St. Augustinegrass pasture is established, if weeds are present, they may require control by herbicide or mowing.

St. Augustinegrass does not make a good quality hay. It is difficult to cure it because of its leafy characteristic, especially on organic soils, which are generally moist or wet when St. Augustinegrass produces its highest forage yields.

St. Augustinegrass is a suitable forage for cow-calf production because of its persistence, high yields, and relatively uniform quality throughout the year. St. Augustinegrass will stock two to three yearling steers per acre throughout the year with average gains of about one pound per steer daily, or 750–1,100 pounds per acre without supplementation. Daily stocking would vary from a high of about four steers per acre in July and August to a low of about three yearlings per acre in January. With this stocking rate, and five pounds of straight millrun blackstrap molasses supplement per cow daily from December through March, an 80%–90% weaned calf crop and 500–550 pound calf weaning weights are usually obtained.



Figure 1. Leaf and stem detail of St. Augustinegrass.
Credits: C. G. Chambliss, UF/IFAS



Figure 2. Cattle grazing St. Augustinegrass in south Florida.
Credits: C. G. Chambliss, UF/IFAS

Limpogress

Floralta limpogress is currently the commonly grown variety in Florida. It is the most persistent limpogress under grazing and is best adapted to wet soils. Floralta is highly digestible, but the accumulated growth is low in protein. More information on limpogress may be obtained from Sollenberger et al. (2006).

There are no forage production or animal grazing data available for Floralta grown on organic soils. Pastures and cattle would be managed similarly to that prescribed for mineral soils, as described in EDIS document SS-AGR-320 (*Limpogress [Hemarthria altissima] Overview and Management*; <http://edis.ifas.ufl.edu/ag330>), and higher dry matter yields are more likely on organic soils than is currently obtained on mineral soils. Stocking rates for Floralta limpogress on organic soils would be similar to those of St. Augustinegrass discussed above.

Selected References for Additional Information

Haines, C. E., H. L. Chapman, Jr., R. J. Allen, Jr., and R. W. Kidder. 1965. *Roselawn St. Augustinegrass as a Perennial Pasture Forage for Organic Soils of South Florida*. Fla. Agri. Expt. Sta. Bul. 689.

Newman, Y., J. Vendramini, L. E. Sollenberger, and K. Quesenberry. 2009. *Limpogress (Hemarthria altissima): Overview and Management*. SS-AGR-320. Gainesville: University of Florida Institute of Food and Agricultural Sciences. <http://edis.ifas.ufl.edu/ag330>

Pate, F. M., R. J. Allen, Jr., and J. R. Crockett. 1980. *Fertilization of Roselawn St. Augustinegrass Pasture on Organic Soil*. Fla. Agri. Expt. Sta. Bul. 811.

Pate, F. M., and W. E. Kunkle. 1989. *Molasses-Based Feeds and Their Use as Supplements for Brood Cows*. Fla. Agri. Expt. Sta. Circ. S-365.

Quesenberry, K.H., and Q.R. Ocumpaugh. 1980. "Crude protein, IVOMD, and yield of stockpiled limpoglass." *Agron. J.* 72:1021–1024.

Ruelke, O.C., K.H. Quesenberry, and W.R. Ocumpaugh. 1978. "Planting techniques effects on establishment, ground cover, production and digestion of *Hemarthria altissima* (Poir) Stpf et C.E. Hubb." *Proc. Soil Crops Sci. Soc. FL.* 38: 40–42.