

## FORAGE SUITABILITY GROUP

### Organic Soils in Depressions and on Flood Plains

**FSG No.: G154XB645FL**

**Major Land Resource Area (MLRA 154):** South-Central Florida Ridge

#### Soil Series List

Due to the large list of map units in this group, please refer to Appendix 1.

Brighton	Okeelanta
Dorovan	Oklawaha
Everglades	Pamlico
Gator	Pamlico deep
Hontoon	Samsula
Kaliga	Shenks
Ledwith	Terra Ceia
Nittaw	Tomoka
Ocoee	Zephyr
Okeechobee	

#### Adapted Species List

The following native forage species are considered adapted to grow on the soils in this group at their natural pH levels. All introduced grasses will need native pH raised to min. 5.5 (unless noted) for best production. Consult with state extension service for current cultivar recommendations

(<http://agronomy.ifas.ufl.edu/foragesofflorida/>).

#### Perennial Species:

##### Grasses

Warm season (Introduced)

- Limpograss (*Hemarthria altissima*)
- St. Augustinegrass (*Stenotaphrum secundatum*, south of I-4 only)

Warm season (Native)

- Maidencane (*Panicum hemitomon*)
- Blue Maidencane (*Amphicarpum muhlenbergianum*)

#### Annual Species:

##### Grasses

Warm season

- Japanese Millet (*Echinochloa esculenta*)

##### Legumes

Warm season

- Aeschynomene (*Aeschynomene americana*)

#### Seasonal and Total Production Estimates

Unless previously drained, soils in this FSG have very few forage species adapted to their seasonal high water table (1 to 2 feet above the soil surface). St. Augustinegrass has proved to be very productive on these organic soils south of I-4.

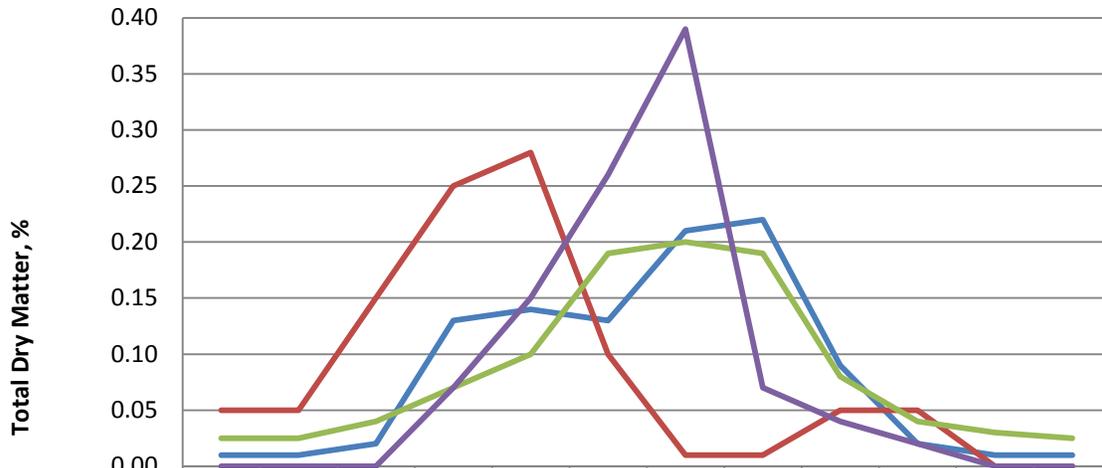
Expected Range in Dry Matter Production and Animal Unit Months (AUM) for Different Forages				
Forage	Range in Dry Matter, lbs/acre		Range in AUM/acre†	
Limpograss (≈400 lb N/acre) <sup>4,6</sup>	8,000	13,000	5.1	8.2
Maidencane <sup>1</sup> #	5,000	6,700	3.2	4.3
Blue Maidencane <sup>1</sup> #	2,100	2,500	1.3	1.6
St. Augustinegrass <sup>2,3</sup>	14,000	16,000	8.9	10.1
Aeschynomene <sup>5</sup>	2,000	3,000	1.3	1.9

†Animal Unit Month based on 50% grazing efficiency and 2.6% intake per day.

#Superscript numbers refer to references.

#Dry matter estimated based on the assumption air dried yield in reference had ≈16% moisture.

### Growth Curves and Dry Matter Distribution for FSG 645



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
— Limpograss	0.01	0.01	0.02	0.13	0.14	0.13	0.21	0.22	0.09	0.02	0.01	0.01
— Maidencane	0.05	0.05	0.15	0.25	0.28	0.1	0.01	0.01	0.05	0.05	0	0
— St. Augustine	0.03	0.03	0.04	0.07	0.10	0.19	0.20	0.19	0.08	0.04	0.03	0.03
— Japanese Millet	0	0	0	0.07	0.15	0.26	0.39	0.07	0.04	0.02	0	0

## Physiographic Features

Dominantly very deep, nearly level, very poorly drained soils formed in organic material or organic material over sandy, loamy, or clayey marine deposits or alluvial deposits. These soils are on flats or depressions of flood plains or in depressions of marine terraces. Diagnostic subsurface horizons are absent. The organic matter content of the surface layer is dominantly very high. Unless limed, the reaction in the surface layer ranges from extremely acid to slightly alkaline.

## Climatic Features

**Freeze-free period (>28° F 9 years in 10 at least):**  
 averages 316 d (range 278-365 d)

**Length of growing season (>32° F 9 years in 10 at least):** averages 285 d (range 243-365 d)

**Annual minimum temperature (° F in month of January):**  
 average 50.2 (range 45.2-59.2)

**USDA Plant Hardiness Zone:**  
 9a (20-25° F, Ocala)  
 9b (25-30° F, Orlando)

**Mean annual precipitation (inches):**  
 averages 51.09 (range 47.70-67.03)

## Soil Properties

**Percent Slope:** 0 to 2 percent

**Surface Texture:** Muck, mucky peat

**Sand Content of Surface Layer:** Less than 5 percent

**Clay Content of Surface Layer:** Less than 5 percent

**Organic Matter Content of Surface Layer:** 20 to 90 percent

**Cation Exchange Capacity of Surface Layer (meq/100g):**  
 58.9 to 195.1

**Effective Cation Exchange Capacity of Surface Layer (meq/100g):** 6.2 to 92.1

**Bulk Density of Surface Layer (g/cc):** 0.15 to 1.05

**Saturated Hydraulic Conductivity of Surface Layer:**  
 Moderate to rapid

**Soil Reaction of Surface Layer:** 3.5 to 7.8

**Available Water Capacity (0 to 30 inches):** 2 to 14.4 inch per inch

**Depth to Sandy or Loamy Material:** Dominantly greater than 16 inches, but ranges to 5 inches

**Depth to Bedrock:** Dominantly greater than 80 inches. A few members have bedrock at less than 80 inches

**Drainage Class (Agronomic):** Very poorly

**Depth to Seasonal High Water Table (during wet periods):** 1 to 2 feet above the surface

**Flooding:** If flooded, frequent or occasional with brief to very long duration

**Ponding:** If ponded, long or very long duration

## Monthly precipitation (inches) and temperature (°F):

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Precip avg</b>	3.04	2.89	3.69	2.40	3.52	6.86	7.17	7.36	6.22	2.79	2.38	2.47
<b>Avg Min</b>	48.1	49.6	54.4	58.5	65.0	70.7	72.3	72.5	71.0	61.0	56.6	51.0
<b>Avg Temp</b>	60.0	61.5	66.4	68.6	76.6	80.8	81.8	81.8	80.4	74.2	67.5	61.5
<b>Avg Max</b>	70.8	72.9	77.9	82.4	87.7	90.6	91.7	91.4	89.5	84.0	77.9	72.2

## Climate Station Locations (averages from 1971 to 2000; see Appendix 2)

## FSG Documentation

### Inventory Data References:

1. ----- . 1987. Range management for important native grasses of Florida. Gainesville, FL, USA: US Department of Agriculture, Natural Resources Conservation Service. 168 p.
2. Enzenwa, I. V., R.M. Muchovej, F.M. Pate, and J. Vendramini. 2011. Forage grasses for florida's organic soils. Gainesville, FL, USA: University of Florida, Institute of Food and Agricultural Sciences. SS-AGR-71. Available at: <http://edis.ifas.ufl.edu/pdffiles/AA/AA25500.pdf>. Accessed 19 December 2012.
3. 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. Gainesville, FL, USA: University of Florida, Institute of Food and Agricultural Sciences, Agriculture Experiment Station. Bulletin 689. 19 p.
4. Kalmbacher, R.S., P.H. Everett, F.G. Martin, K.H. Quesenberry, E.M. Hodges, O.C. Ruelke, and S.C. Schank. 1987. Yield and persistence of perennial grasses at Immokalee, Florida: 1981 to 1984. Gainesville, FL, USA: University of Florida, Institute of Food and Agricultural Sciences, Agriculture Experiment Station. Bulletin 865. Available at: <http://ufdc.ufl.edu/UF00027614/00001?search=kalmbacher>. Accessed 17 December 2012.
5. Mislevy, P., R.S. Kalmbacher, and F.G. Martin. 1981. Cutting management of the tropical legume American jointvetch. Agronomy Journal 73:771-775 Available at: <https://www.agronomy.org/publications/aj/abstracts/73/5/AJ0730050771>. Accessed 17 December 2012.
6. Newman Y.C., A. Agyin-Birikorang, M.B. Adjei, J.M. Silveira, J.M.B. Vendramini, J.E. Rechcigl, and L.E. Soltenberger. 2009. Nitrogen fertilization effect on phosphorus remediation potential of three perennial warm-season forages. Agronomy Journal 101:1243-1248. Available at: <https://www.soils.org/publications/aj/pdfs/101/5/1243>. Accessed 19 December 2012.

State Correlation: (NA)

### Forage Suitability Group Approval:



Greg Hendricks, State Resource Conservationist



Tom Weber, State Soil Scientist

<b>Appendix 1: Map Unit List*</b>	
Brighton muck, depressional	Okeelanta muck, frequently flooded
Dorovan muck†	Okeelanta-Lauderhill-Terra Ceia mucks
Everglades muck	Okeelanta-Terra Ceia association (FL053, FL101)‡
Everglades muck, depressional	Oklawaha muck
Everglades muck, frequently flooded	Pamlico muck
Gator muck	Pamlico muck, deep
Gator muck, frequently flooded	Pamlico muck, frequently flooded
Hontoon muck	Samsula muck
Hontoon muck, depressional	Shenks muck
Kaliga muck	Terra Ceia muck
Ledwith muck	Terra Ceia muck, frequently flooded
Nittaw muck, frequently flooded	Terra Ceia-Okeelanta association, very frequently flooded (FL017)
Ocoee mucky peat	Tomoka muck
Okeechobee muck	Tomoka muck, depressional
Okeelanta muck	Zephyr muck

**\*Some members of this group have been artificially drained.**

**†Note: Some members do not identify flooding or depressional in the map unit name but are subject to flooding or ponding. In these cases, please refer to the water features data on the Web Soil Survey or Soil Data Mart.**

**‡Note: Some members do not have muck in the name, but have muck on the surface. Information in parenthesis refers to county or soil survey code where map unit occurs.**

<b>Appendix 2: Climate Station Locations</b>		
<b>COOP ID (FL=08)</b>	<b>Location</b>	<b>County</b>
945	Bradenton	Manatee
6414	Ocala	Marion
6628	Orlando Intl. Air.	Orange
7851	St. Leo	Pasco
7886	St. Petersburg	Pinellas
8824	Tarpon Springs	Pinellas
478	Bartow	Polk
4707	Lake Alfred Exp Stn	Polk
4797	Lakeland	Polk
5973	Mountain Lake	Polk
9707	Winter Haven	Polk
1978	Crescent City	Putnam
2915	Federal Point	Putnam
6753	Palatka	Putnam
7982	Sanford Orlando	Seminole
1163	Bushnell	Sumter
2229	Deland	Volusia