

FORAGE SUITABILITY GROUP

Loamy and Clayey Soils on Strongly Sloping to Steep Side Slopes of Mesic Uplands

FSG No.: G133AA313FL

Major Land Resource Area (MLRA 133A):

Southern Coastal Plain

Map Unit List

Cowarts-Nankin complex, 15 to 45 percent slopes
Cowarts-Nankin complex, 8 to 15 percent slopes
Faceville loamy fine sand, 8 to 12 percent slopes
Faceville loamy fine sand, 8 to 12 percent slopes, eroded
Faceville sandy loam, 8 to 12 percent slopes
Nankin sandy loam, 8 to 12 percent slopes, eroded
Orangeburg fine sandy loam, 8 to 12 percent slopes
Orangeburg loamy sand, 8 to 12 percent slopes
Orangeburg sandy loam, 8 to 12 percent slopes, eroded
Shubuta fine sandy loam, 5 to 12 percent slopes

Adapted Species List

The native forage species listed are considered adapted to grow on the soils in this group at their natural pH levels. All introduced grass and legume species will need native pH raised to min. 5.5 (unless noted) for best production. All forages listed are adapted to dryland conditions. Consult with state extension service for current cultivar recommendations (<http://agronomy.ifas.ufl.edu/foragesofflorida/>).

Perennial Species:

Grasses

Warm season (Introduced)

- Bahiagrass (*Paspalum notatum*, pH 5.0 – 6.5)
- Bermudagrass (*Cynodon dactylon*)

Warm season (Native)

- Big Bluestem (*Andropogon gerardii*)
- Chalky Bluestem (*Andropogon virginicus* var. *glaucus*)
- Splitbeard Bluestem (*Andropogon ternarius*)
- Yellow Indiangrass (*Sorghastrum nutans*)
- Lopsided Indiangrass (*Sorghastrum secundum*)
- Switchgrass (*Panicum virgatum*)
- Eastern Gamagrass (*Tripsacum dactyloides*)

Legumes

Warm season

- Rhizoma Perennial Peanut (*Arachis glabrata*, pH 5.8-7.0)

Annual Species:

Annual species are not recommended due to erosion hazard associated with steep slope.

Seasonal and Total Production Estimates

Forage production should be similar to FSG G133AA311FL because the surface texture and seasonal high water table are similar, but strong slopes (predominantly 8-30 percent) will reduce rainfall infiltration and increase surface runoff compared to FSG G133AA311FL. Thus forage yields should more consistently be at the lower end of the range listed for FSG G133AA311FL. Irrigation is not recommended for these soils due to steep slopes, decreased water infiltration, and increased soil erosion potential. Although not recommended due to erosion concerns, when no-till or overseeding existing sod is an option, see annual species list and discussions in FSG G133AA311FL.

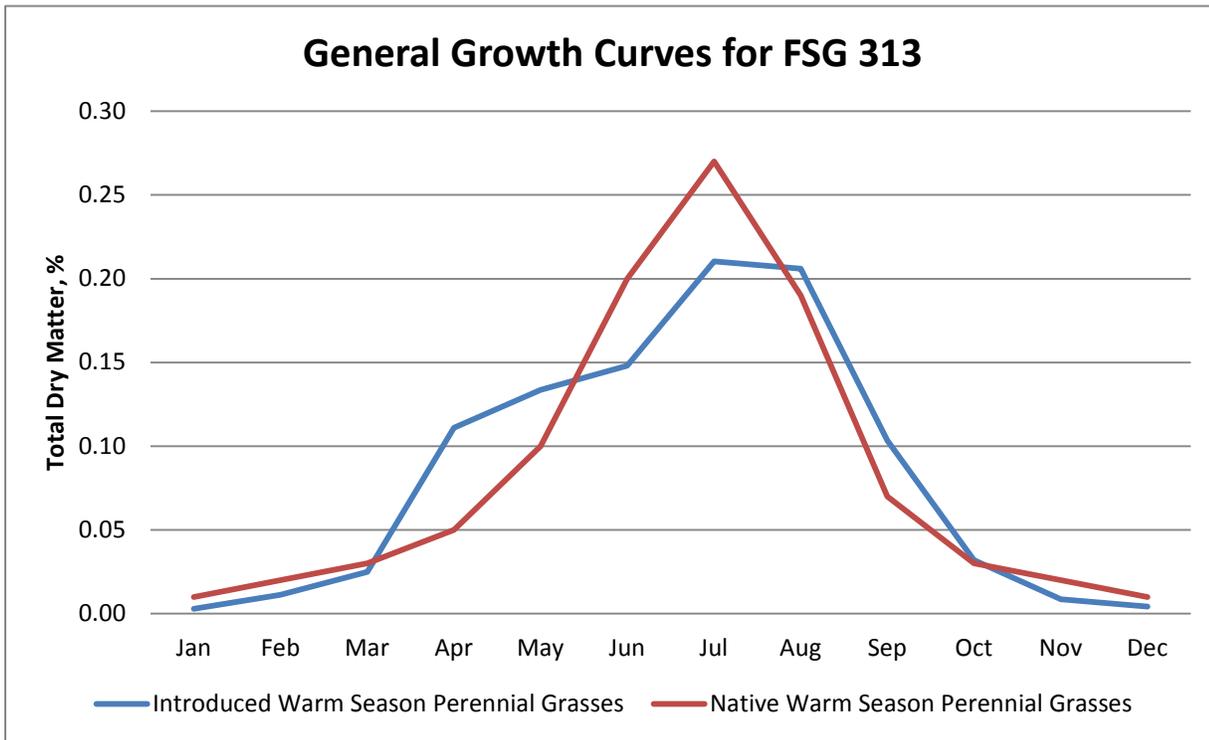
Expected Range in Dry Matter Production and Animal Unit Months (AUM) for Different Forages†				
Forage	Range in Dry matter, lbs/acre		Range in AUM/acre‡	
Bahiagrass, Argentine (100-200 lb N/A) ^{2,3,4} #	3,300	8,200	2.1	5.3
Bahiagrass, Pensacola (100-200 lb N/A) ^{2,3,4}	3,100	7,600	2.0	4.9
Bahiagrass, Tifton 9 (100-200 lb N/A) ^{2,3,4}	5,100	8,600	3.3	5.5
Bermudagrass, Tifton 85 (100-200 lb N/A) ^{2,3,4}	4,700	8,800	3.0	5.6
Bermudagrass, Florakirk (100-200 lb N/A) ^{1,2,3,4}	4,900	8,400	3.1	5.4
Bermudagrass, Coastal (100-200 lb N/A) ^{2,3,4,5}	2,700	8,100	1.7	5.2
Eastern Gamagrass, Pete (100-300 lb N/A) ^{2,3,4}	3,000	5,000	1.9	3.2
Big Bluestem (100-300 lb N/acre) ^{2,3,4}	650	1,350	0.4	0.9
Rhizoma Perennial Peanut ¹	2600	4250	1.7	2.7

†Production data based on 25% reduction from FSG G133AA311 due to slope.

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

#Superscript numbers refer to references.

Production Curves:



Dry Matter Production Distribution by Month												
Forage	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Introduced Warm Season Perennial Grasses												
Bahiagrass (Pensacola)		0.01	0.03	0.14	0.14	0.17	0.19	0.17	0.14	0.03		
Bahiagrass (Argentine)		0.01	0.04	0.08	0.09	0.18	0.25	0.22	0.11	0.02		
Bermudagrass (Tifton 85)		0.02	0.02	0.13	0.15	0.13	0.21	0.22	0.08	0.03	0.01	0.00
Bermudagrass (Coastal)	0.01	0.01	0.02	0.13	0.14	0.13	0.21	0.22	0.09	0.02	0.01	0.01
Native Warm Season Perennial Grasses												
Native Warm Season Grasses (Generic)	0.01	0.02	0.03	0.05	0.1	0.2	0.27	0.19	0.07	0.03	0.02	0.01
Eastern Gamagrass	0.01	0.02	0.04	0.16	0.18	0.2	0.16	0.13	0.06	0.02	0.01	0.01
Switchgrass	0.01	0.02	0.03	0.07	0.15	0.19	0.2	0.19	0.09	0.03	0.01	0.01
Legumes or Legume/Grass Combinations												
Rhizoma Perennial Peanut			0.05	0.15	0.14	0.15	0.20	0.18	0.14			
White clover/Argentine Bahiagrass	0.01	0.02	0.07	0.14	0.17	0.21	0.18	0.12	0.09	0.02		

Physiographic Features

Dominantly very deep, strongly sloping to very steep, well drained soils formed in loamy and clayey marine deposits. These soils occur on back slopes of marine terraces. Diagnostic subsurface horizon is an argillic horizon above 20 inches. The organic matter content of the surface layer is dominantly very low to medium. Unless limed, the reaction in the surface layer ranges from extremely acid to slightly acid.

Climatic Features

Freeze-free period (>28° F 9 years in 10 at least):
 averages 255 d (range 243-273 d)

Length of growing season (>32° F 9 years in 10 at least): averages 224 d (range 205-247 d)

Annual minimum temperature (° F in month of January):
 averages 38.2 (range 36.7-39.7)

USDA Plant Hardiness Zone:
 8b (15-20° F, Tallahassee)

Mean annual precipitation (inches):
 averages 62.14 (range 53.18-69.48)

Group Soil Properties (Statewide)

Percent Slope: Dominantly 8 to 12 percent, but ranges up to 60 percent

Surface Texture: Dominantly loamy sand, loamy fine sand, sandy loam or fine sandy loam. A few members are loam or clay.

Sand Content of Surface Layer: 30 to 86 percent

Clay Content of Surface Layer: 5 to 40 percent

Organic Matter Content of Surface Layer: 0.5 to 4 percent

Cation Exchange Capacity of Surface Layer (meq/100g):
 1.0 to 9.8

Effective Cation Exchange Capacity of Surface Layer (meq/100g): 0.2 to 5.7

Bulk Density of Surface Layer (g/cc): 1.38 to 1.65

Saturated Hydraulic Conductivity of Surface Layer:
 Moderate to rapid

Soil Reaction of Surface Layer: 3.5 to 6.5 (unless limed)

Available Water Capacity (0 to 30 inches): 0.3 to 0.8 inch per inch

Depth to Finer Textured Material: Less than 20 inches

Depth to Bedrock: Greater than 80 inches. A few members have bedrock at less than 80 inches.

Drainage Class (Agronomic): Well

Depth to Seasonal High Water Table (during wet periods): Greater than 6 feet

Flooding: None

Ponding: None

Monthly precipitation (inches) and temperature (F):

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Precip avg	4.80	6.37	3.78	4.45	6.36	7.04	6.32	5.24	3.31	4.16	4.09	4.80
Avg Min	38.2	40.8	46.9	99.8	60.8	67.8	70.7	70.3	66.4	54.6	46.5	41.3
Avg Temp	51.6	54.9	61.2	67.0	74.4	80.2	82.1	81.8	78.7	69.9	61.5	54.4
Avg Max	62.2	66.1	72.5	78.7	85.3	90.1	91.5	91.0	88.0	80.3	71.9	64.5

Climate Station Locations (averages from 1971 to 2000; see Appendix 1)

FSG Documentation

Inventory Data References:

1. Dunavin, L.S. 1996. Fertility Trials with Florakirk Bermudagrass and Chicory and Harvest Date Trial with Florigraze Rhizoma Peanut. Univ. Florida, IFAS, Agric. Exp. Stn., WFREC Res. Rep. WF96-4.
2. -----, and D.W. Gorbet. 2000. Variety and Other Trials of Several Forage Grasses and Legumes, Temperate Corn and Grain Sorghum. Univ. Florida, IFAS, Florida Agric. Exp. Stn., WFREC Res. Rep. WF00-03.
3. -----, 2001. Variety and Other Trials of Several Forage Grasses and Legumes, Temperate Corn and Grain Sorghum. Univ. Florida, IFAS, Agric. Exp. Stn., WFREC Res. Rep. WF01-03.
4. -----, 2002. Variety and Other Trials of Several Forage Grasses and Legumes and Grain Sorghum. Univ. Florida, IFAS, Florida Agric. Exp. Stn., WFREC Res. Rep. WF02-03.
5. Rhoads, F.M., and R.L. Stanley, Jr. 1989. Coastal Bermudagrass Yield, Soil-pH, and Ammonium Sulfate-Nitrate Rates. Univ. Florida, IFAS, Florida Agric. Exp. Stn., NFREC-Quincy Res. Rep. 89-9.

State Correlation: Pending

Forage Suitability Group Approval:



Rosalind Moore, Acting State Resource Conservationist



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Appendix 1: Climate Station Locations		
COOP ID (FL=08)	Location	County
1544	Chipley	Washington
1986	Crestview	Okaloosa
2220	De Funiak Springs	Walton
3230	Fountain	Bay
5275	Madison	Madison
5793	Milton Exp. Stn.	Santa Rosa
5879	Monticello	Jefferson
6240	Niceville	Okaloosa
7429	Quincy	Gadsden
8758	Tallahassee Mun. Air.	Leon