

FORAGE SUITABILITY GROUP

Sandy Soils on Rises and Knolls of Mesic Uplands

FSG No.: G133AA131FL

Major Land Resource Area (MLRA 133A):

Southern Coastal Plain

Map Unit List

Albany loamy sand
Albany loamy sand, 0 to 5 percent slopes
Albany sand
Albany sand, 0 to 5 percent slopes
Albany-Pactolus loamy sands, 0 to 5 percent slopes
Chipley and Hurricane soils, 0 to 5 percent slopes
Chipley fine sand, 0 to 2 percent slopes
Chipley fine sand, 0 to 5 percent slopes
Chipley sand
Chipley sand, 0 to 5 percent slopes
Chipley sand, 5 to 8 percent slopes
Chipley-Albany-Hurricane complex, 0 to 5 percent slopes
Hurricane and Chipley soils, 0 to 3 percent slopes
Hurricane sand
Hurricane sand, 0 to 5 percent slopes
Lutterloh fine sand, 0 to 5 percent slopes
Mandarin sand
Mandarin sand, 0 to 3 percent slopes
Pactolus loamy sand, 0 to 5 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 the pH level 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 or germplasm 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*)
- Yellow Indiangrass (*Sorghastrum nutans*)
- Lopsided Indiangrass (*Sorghastrum secundum*)
- Switchgrass (*Panicum virgatum*)

Legumes

Warm season

- Rhizoma Perennial Peanut (*Arachis glabrata*, pH 5.8-7.0; additional management required for high water table)

Annual Species:

Grasses

Warm season

- Browntop Millet (*Urochloa ramosa*; =*Panicum ramosum*)
- Pearl Millet (*Pennisetum glaucum*)
- Sorghum (*Sorghum bicolor*; includes forage sorghum, sudangrass, and their hybrids)

Cool season

- Ryegrass, annual (*Lolium perenne* ssp. *multiflorum*; =*L. multiflorum*)
- Oat (*Avena sativa*)
- Rye (*Secale cereale*)
- Wheat (*Triticum aestivum*)
- Triticale (x *Triticosecale*)

Legumes

Warm season

- Alyceclover (*Alysicarpus vaginalis*)
- Hairy Indigo (*Indigofera hirsuta*)
- Cowpea (*Vigna unguiculata*)

Seasonal and Total Production Estimates

Seasonal and total forage production may be limited during low rainfall periods due to deep sandy soils in this group. Surface and subsurface texture is predominantly sandy. Soils in this group have moderate water holding capacity and a seasonal high water table ranging from 1 - 3 foot during wet periods. Total production of all forage species is expected to be higher than FSG G133AA111FL due to increased available water during the growing season, but lower than FSG G133AA141FL due to lower water availability at other times of the year.

Production of cool season forage planted in a prepared seedbed is usually at the middle to lower end of the pro-

duction range due to droughty nature of the soils in this FSG. Generally cool season forages will only produce sufficient winter grazing in years with average and above average rainfall (El Niño winters) for specialized management uses such as creep grazing, early weaning, or purebred operations. Overseeding annual ryegrass on a bahiagrass pasture is not recommended for this FSG, due to excessive competition from bahiagrass for soil moisture and substantial moisture requirement from ryegrass. If irrigation is used, see FSG G133AA331FL species list and production information although yields will be at the lower end of the range listed.

Initial growth of perennial warm season grasses and legumes or establishment of warm season annual grasses or legumes may be delayed in the spring due to low rainfall. Often production of perennial species also dips during the April/May dry period. Once normal summer rainfall begins, plant production should resume. Annual legumes such as hairy indigo or alyceclover can be oversown on bahiagrass stands although fertilization (no N fertilizer) and grazing management needs to favor legume establishment and persistence. Additional lime may be needed to maintain a pH of 5.5 to 6.0.

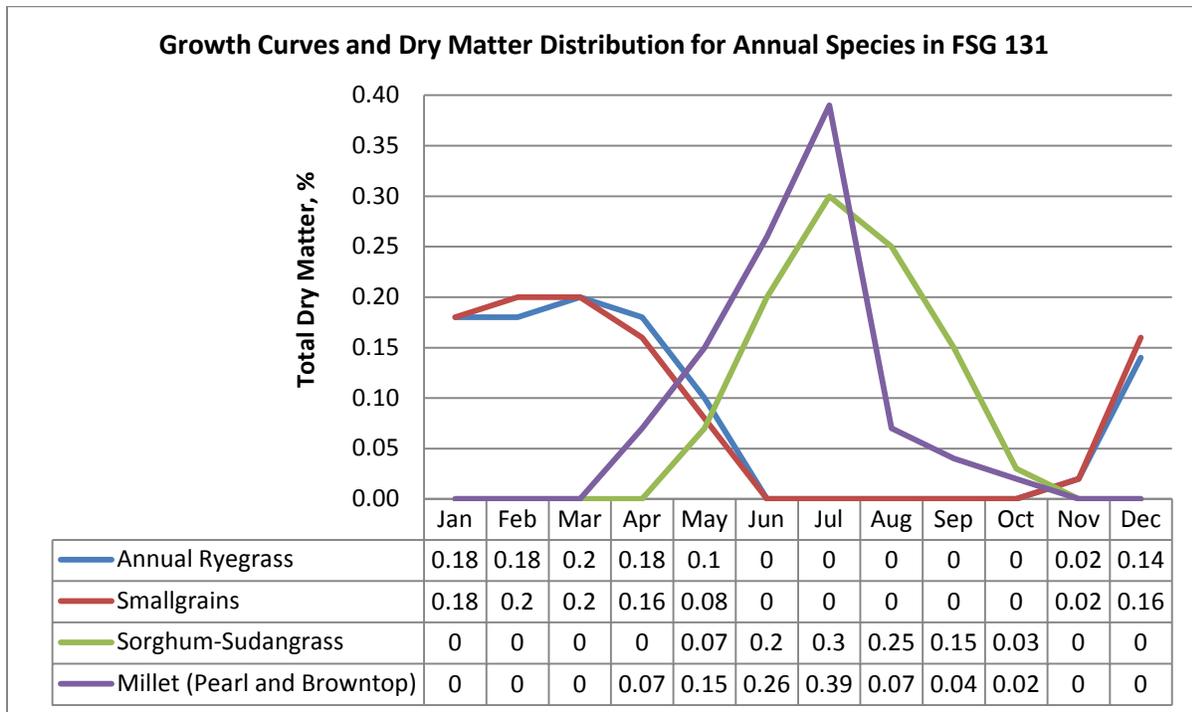
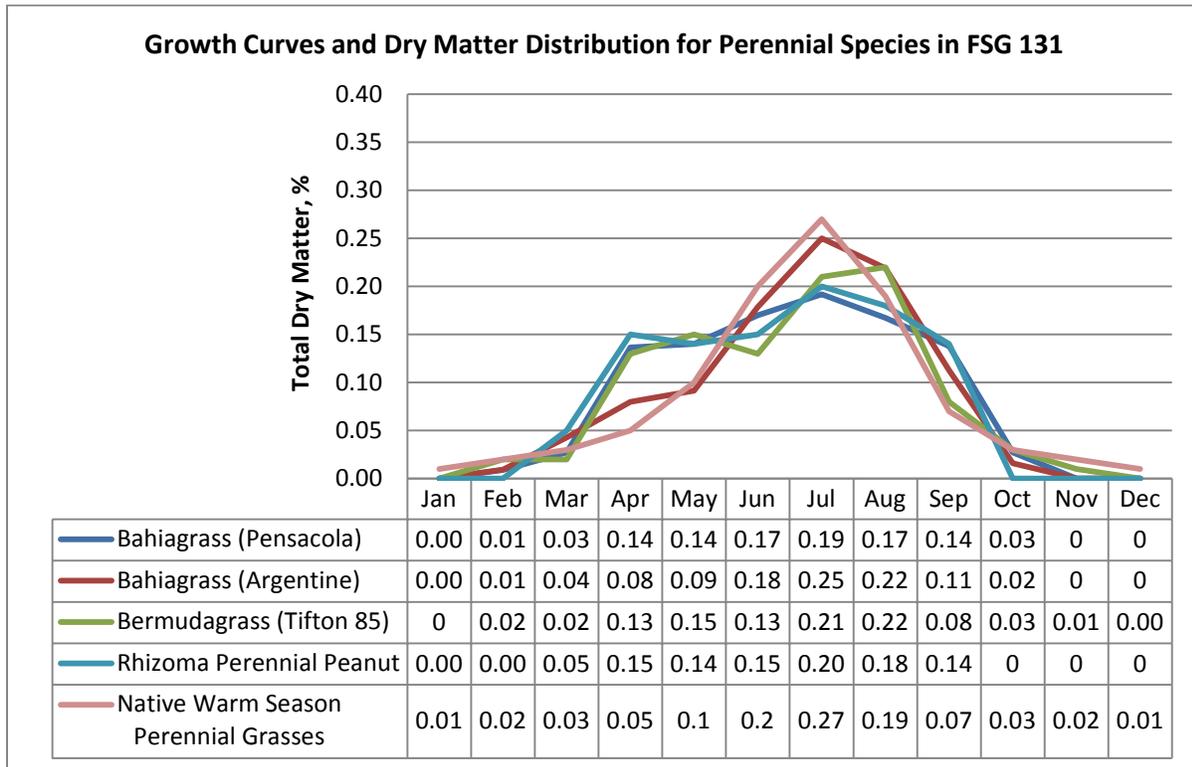
Expected Range in Dry Matter Production and Animal Unit Months (AUM) for Different Forages†				
Forage	Range in Dry Matter, lbs/acre		Range in AUM/acre‡	
Bahiagrass (0 lb N/acre) ^{9,10} #	2,250	4,500	1.4	2.9
Bahiagrass (60 lb N/acre) ¹⁰	5,250	7,500	3.4	4.8
Bermudagrass, (200 lb N/acre) ⁶	10,000	14,000	6.3	8.9
Rhizoma Perennial Peanut ⁷	8,000	14,000	5.1	8.9
Pearl Millet (225 to 300 lb N/acre) ^{1,4}	6,000	12,000	3.8	7.6
Sorghum X Sudangrass (225 to 300 lb N/acre) ^{1,4}	10,000	24,000	6.3	15.2
Small Grains (oat, wheat, etc.; 120 lb N/acre) ³	3,780	5,040	2.4	3.2
Annual Ryegrass ^{2,8}	1,500	5,250	1.0	3.4
Hairy Indigo ⁵	1,500	2,250	1.0	1.4

†Production data based on 25% decrease for all warm season forages except for bermudagrass, rhizoma perennial peanut, and warm season annual grasses and 10% decrease for small grains from FSG G133AA141FL.

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

#Superscript numbers refer to references.

Production Curves:



Physiographic Features

Dominantly very deep, nearly level to sloping, somewhat poorly drained or moderately well drained soils formed in sandy marine deposits. These soils occur on flats, summits, and shoulders of marine terraces. These soils have 40 inches to greater than 80 inches of fine sand or sand. Diagnostic subsurface horizon is either an argillic or spodic horizon below 40 inches or is absent. A few members have either a mollic or umbric horizon. 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: 0 to 8 percent

Surface Texture: Fine sand, sand, loamy sand

Sand Content of Surface Layer: 81 to 98 percent

Clay Content of Surface Layer: 0.2 to 8 percent

Organic Matter Content of Surface Layer: 0.5 to 5.0

Cation Exchange Capacity of Surface Layer (meq/100g):
 0.1 to 7.6

Effective Cation Exchange Capacity of Surface Layer (meq/100g): 0.1 to 7.9

Bulk Density of Surface Layer (g/cc): 1.25 to 1.7

Saturated Hydraulic Conductivity of Surface Layer: Rapid or very rapid

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

Available Water Capacity (0 to 30 inches): 0.1 to 1.5 inch per inch

Depth to Finer Textured Material: 40 to more than 80 inches

Depth to Bedrock: Dominantly greater than 80 inches. A few members have bedrock between 40 and 80 inches.

Drainage Class (Agronomic): Somewhat poorly, moderately well

Depth to Seasonal High Water Table (during wet periods): 1.0 to 3.0 feet

Flooding: None. However a few members are rarely or very rarely flooded with brief duration.

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:

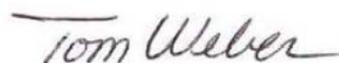
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State Correlation: Pending

Forage Suitability Group Approval:



Rosalind Moore, Acting State Resource Conservationist



Tom Weber, State Soil Scientist

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