

FORAGE SUITABILITY GROUP

Sandy or Sandy Over Loamy Soils on Stream Terraces or Flood Plains

FSG No.: G152AA134FL

Major Land Resource Area (MLRA 152A):

Eastern Gulf Coast Flatwoods

Map Unit List

Garcon-Ousley-Albany complex, occasionally flooded
Ocilla loamy fine sand, overwash, occasionally flooded
Ousley-Albany complex, occasionally flooded

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 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

Soils in this group are similar to those in FSG G152AA131FL with the exception that they are subject to flooding. In most cases, the flooding duration would not be expected to kill adapted perennial species, but may result in stand loss for annual forage species. Additionally, scouring effects can be expected to be more detrimental to annual than perennial species. Planners should consider individual site characteristics when making planting recommendations.

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 G152AA111FL due to increased available water during the growing season, but lower than FSG G152AA141FL 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 production 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 available, see FSG G152AA334FL for species 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

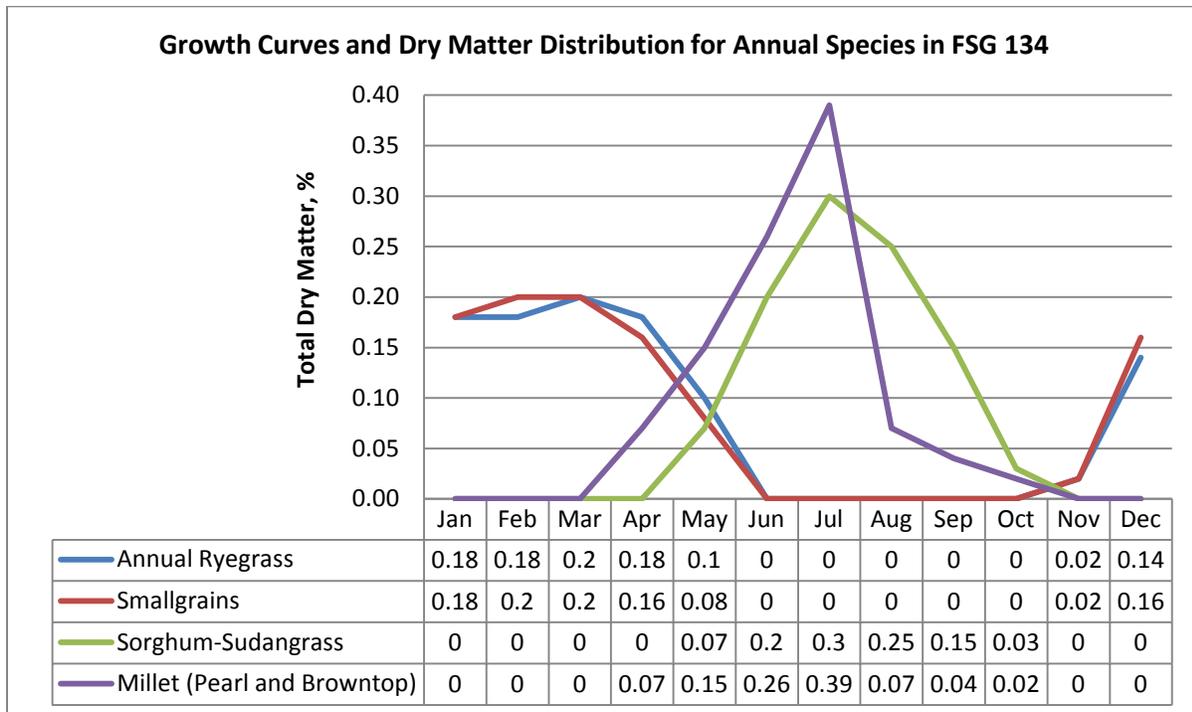
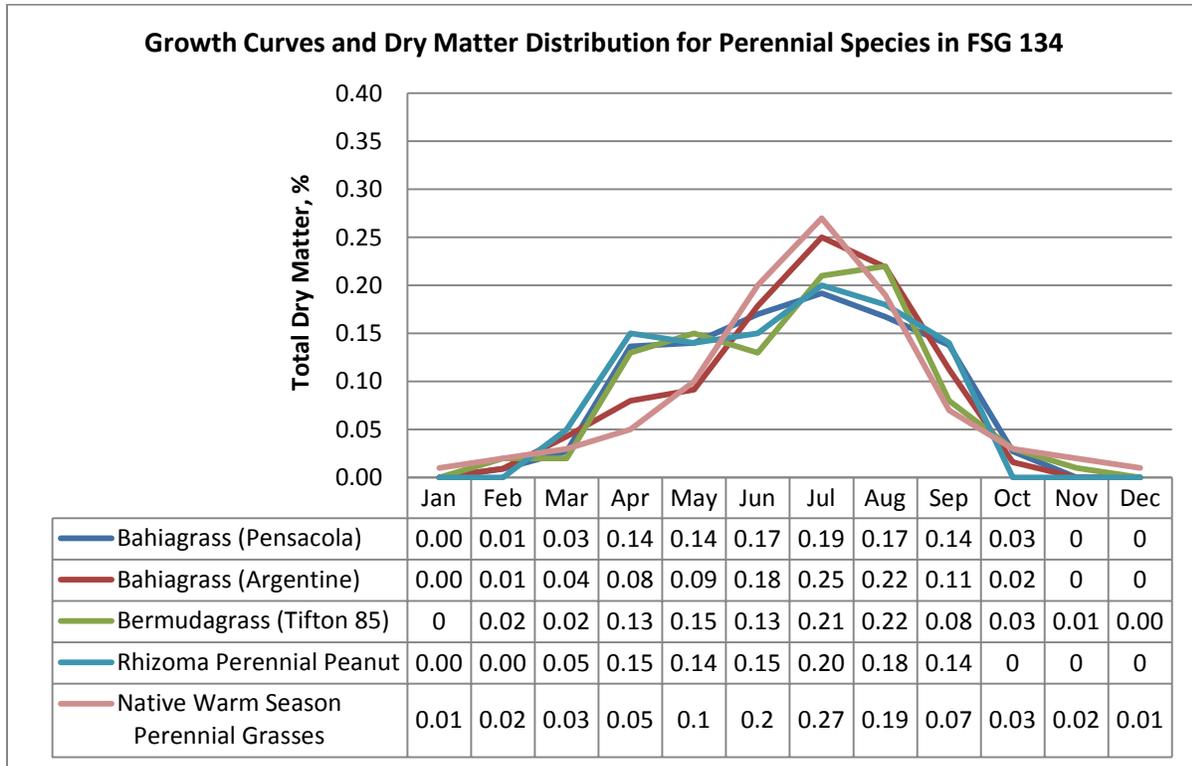
such as hairy indigo or alyceclover can be oversown on bahiagrass stands although fertilization (no N fertilizer) and grazing management needs to favor legume establishment and persistence. Additional lime may be needed to maintain a pH of 5.5 to 6.0.

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
Rhizome 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 G152AA141FL.

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

#Superscript numbers refer to references.



Physiographic Features

Dominantly very deep, nearly level or gently sloping, somewhat poorly drained or moderately well drained soils formed in sandy alluvial or marine deposits. These soils occur on flats on flood plains, or treads and risers of stream terraces. They have more than 40 inches of fine sand. Diagnostic subsurface horizon is an argillic horizon or is absent. 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 268 d (range 243-295 d)

Length of growing season (>32° F 9 years in 10 at least): averages 235 d (range 206-267 d)

Annual minimum temperature (° F in month of January):
 averages 53.7 (range 49.0-64.5)

USDA Plant Hardiness Zone:
 8b (15-20° F, Tallahassee)
 9a (20-25° F, Gainesville)

Mean annual precipitation (inches):
 averages 60.77 (range 52.83-69.20)

Soil Properties

Percent Slope: 0 to 5 percent

Surface Texture: Loamy fine sand, fine sand, loamy sand, sand

Sand Content of Surface Layer: 80 to 97 percent

Clay Content of Surface Layer: 1 to 15 percent

Organic Matter Content of Surface Layer: Averages 1.3 percent, but ranges from 0.5 to 3.0

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): 1.38 to 1.55

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 1.4 inch per inch

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

Depth to Bedrock: Greater than 80 inches. A few members have bedrock at 50 to 80 inches.

Drainage Class (Agronomic): Somewhat poorly, moderately well

Depth to Seasonal High Water Table (during wet periods): 1 to 3 feet

Flooding: Occasional with brief or long duration

Ponding: None

Monthly precipitation (inches) and temperature (F):

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Precip avg	5.25	4.28	5.67	3.52	3.78	6.20	7.82	7.44	5.82	3.46	3.54	3.75
Avg Min	40.5	43.0	48.9	83.7	62.0	66.9	71.6	71.4	68.1	57.1	49.0	43.2
Avg Temp	53.7	56.7	62.7	68.1	75.3	80.8	82.6	82.3	79.4	70.6	62.6	55.8
Avg Max	64.1	67.3	73.3	79.1	85.6	90.1	91.3	90.9	88.3	81.2	73.3	66.2

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

FSG Documentation

Inventory Data References:

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10. Sumner S., W. Wayne, J. Selph, J. Southwell, V. Hoge, P. Hogue, E. Jennings, P. Miller, and T. Seawright. 1991. Fertilization of established bahiagrass pasture in Florida. Gainesville, FL, USA: University of Florida, Institute of Food and Agricultural Sciences, Agriculture Experiment Station. Cir. 916. 23 p. Available at: <http://rcrec-ona.ifas.ufl.edu/pdf/publications/fertilization-established-bahia-pasture-FL.pdf>. Accessed 17 December 2012.

State Correlation: (NA)

Forage Suitability Group Approval:



Greg Hendricks, State Resource Conservationist



Tom Weber, State Soil Scientist

Appendix 1: Climate Station Locations		
COOP ID (FL=08)	Location	County
3230	Fountain	Bay
6842	Panama City	Bay
2008	Cross City	Dixie
3855	Pensacola Sherman NAS	Escambia
6997	Pensacola Regional Air.	Escambia
211	Apalachicola	Franklin
9566	Wewahitchka	Gulf
5539	Mayo	LaFayette
8758	Tallahassee Mun. Air.	Leon
9120	Usher Tower	Levy
5275	Madison	Madison
6240	Niceville	Okaloosa
3841	Whiting Field NAS	Santa Rosa
5099	Live Oak	Suwannee
7025	Perry	Taylor
8565	Steinhatchee	Taylor