

FORAGE SUITABILITY GROUP

Sandy Xeric Soils on Stream Terraces or Flood Plains

FSG No.: G133AA114FL

Major Land Resource Area (MLRA 133A):

Southern Coastal Plain

Map Unit List

Alpin fine sand, occasionally flooded
Bigbee loamy sand, 0 to 5 percent slopes,
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)

- Chalky Bluestem (*Andropogon virginicus* var. *glaucus*)
- Splitbeard Bluestem (*Andropogon ternarius*)
- Yellow Indiangrass (*Sorghastrum nutans*)
- Switchgrass (*Panicum virgatum*)

Legumes

Warm season

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

Annual Species:

Grasses

Warm season (Introduced)

- Browntop Millet (*Urochloa ramosa*; =*Panicum ramosum*)
- Pearl Millet (*Pennisetum glaucum*)

- Sorghum (*Sorghum bicolor*; includes forage sorghum, sudangrass, and their hybrids)

Cool season (Introduced)

- Rye (*Secale cereale*)

Legumes

Warm season (Introduced)

- 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 G133AA111FL 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.

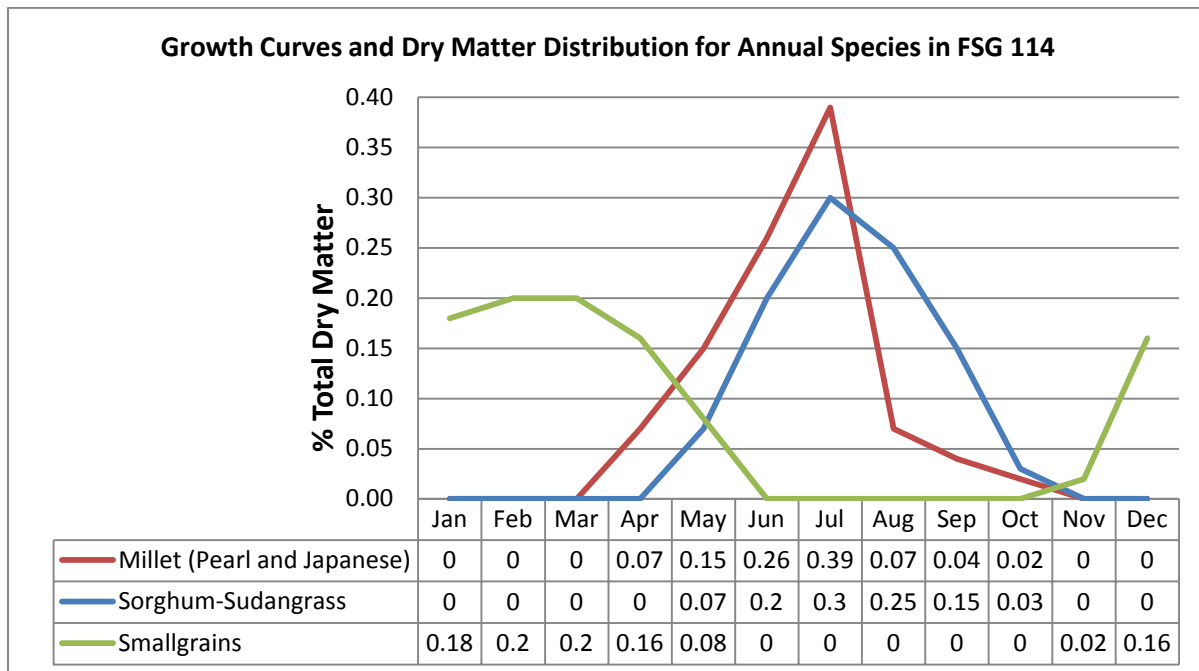
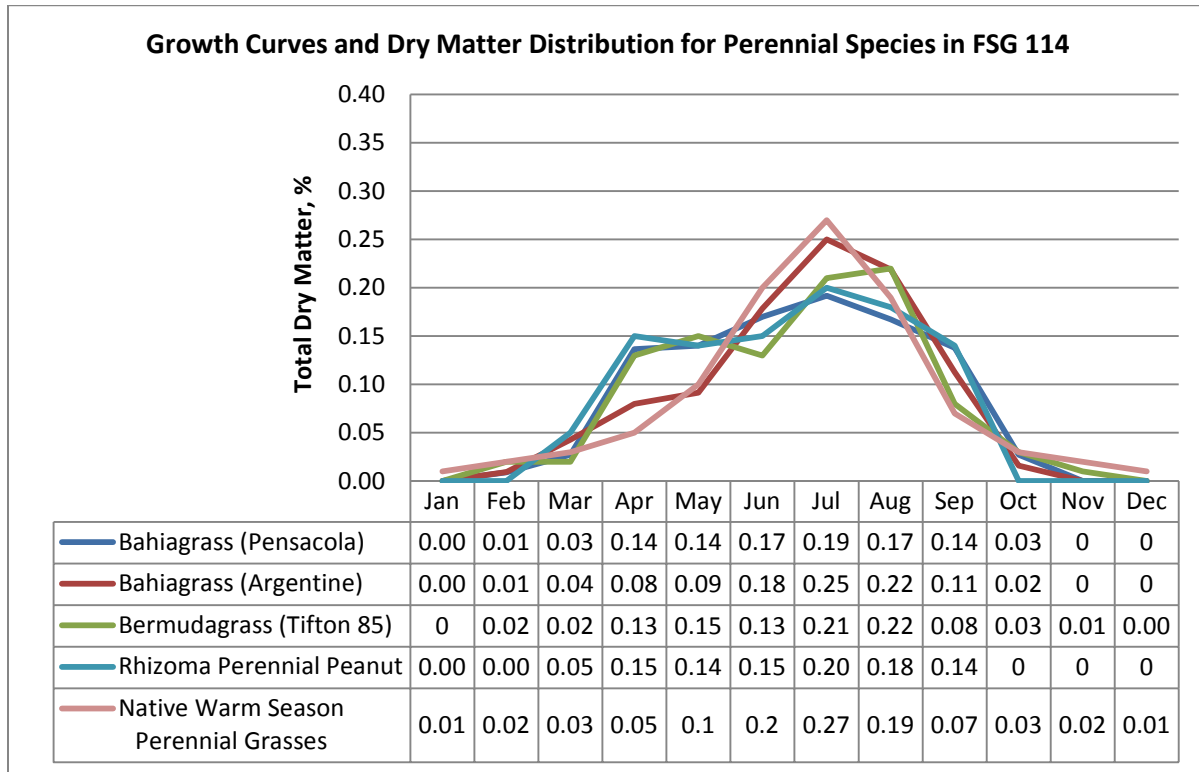
Seasonal and total forage production may be limited during low rainfall periods due to deep sandy soils in this group. Surface and subsurface texture is predominantly sandy with low or very low available water capacity, and a seasonal high water table greater than 6 feet. These factors increase drought effects. Total annual production is driven largely by rainfall; yields can increase by > 1,000 lbs/acre in years with above average rainfall. However greatly reduced production and even stand loss associated with over grazing can occur in years with below average rainfall. Irrigation is not recommended for these soils due to poor water holding capacity. Establishment of both annual and perennial warm season forages may be delayed due to limited rainfall in the spring and short term drought periods in the summer months. Total production of all forage species is expected to be considerably less than other FSG, with a general growth curve weighted more towards the later part of the growing season.

Rye is the only cool season forage production recommended for this FSG. Productivity of other cool season annuals will be very low without irrigation due to poor water holding capacity of the soils in this FSG.

Expected Range in Dry Matter Production and Animal Unit Months (AUM) for Different Forages[†]				
Forage	Range in Dry Matter Yield, lb/acre		Range in AUM/acre[‡]	
	Bahiagrass (0 lb N/acre) ⁶ #	2,500	3,500	1.6
Bahiagrass (60 lb N/acre) ^{6,10}	4,000	6,000	2.6	3.8
Bermudagrass (400 lb N/acre) ⁵	14,000	20,000	9.0	12.8
Switchgrass, Alamo ¹	6,000	8,000	3.8	5.1
Rye (120 lb N/acre) ³ #	3,600	4,800	2.3	3.1
Rhizoma Perennial Peanut, Florigraze ^{4,8}	7,000	10,000	4.5	6.4
Pearl Millet (limited irrigation, ≈400 lb N/acre) ⁷	8,000	16,000	5.1	10.3
Alyceclover ⁹	3,000	5,000	1.9	3.2
Hairy Indigo ²	6,000	12,000	3.8	7.7

[†]Production data based on 40% reduction yield range of FSG G133AA321FL.
[‡]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 or gently sloping, well to excessively drained soils formed in sandy marine deposits or alluvium. These soils occur on flats on flood plains, or treads and risers of stream terraces. They have 40 inches to greater than 80 inches of fine sand or sand. Diagnostic subsurface horizons are usually absent. The organic matter content of the surface layer is dominantly very low or low. 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 5 percent

Surface Texture: Fine sand, sand, loamy sand

Sand Content of Surface Layer: 81 to 96 percent

Clay Content of Surface Layer: 1 to 7 percent

Organic Matter Content (Surface Layer): 0.5 to 3 percent

Cation Exchange Capacity of Surface Layer (meq/100g):
 0.1 to 3

Effective Cation Exchange Capacity of Surface Layer (meq/100g): 0.1 to 3

Bulk Density of Surface Layer (g/cc): 1.2 to 1.6

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 1.0 inch per inch

Depth to Finer Textured Material: More than 80 inches.

Depth to Bedrock: Greater than 80 inches. A few members have bedrock within 40 inches.

Drainage Class (Agronomic): Well, somewhat excessive, excessive

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

Flooding: Frequent or occasional with brief to long 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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9. Williams, M.J., C.G. Chambliss, and J.D. Brolmann. 1993. Potential of 'Savanna' Stylo as a Stockpiled Forage for the Subtropical USA. J. Prod. Agric. 6:553-556.
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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