

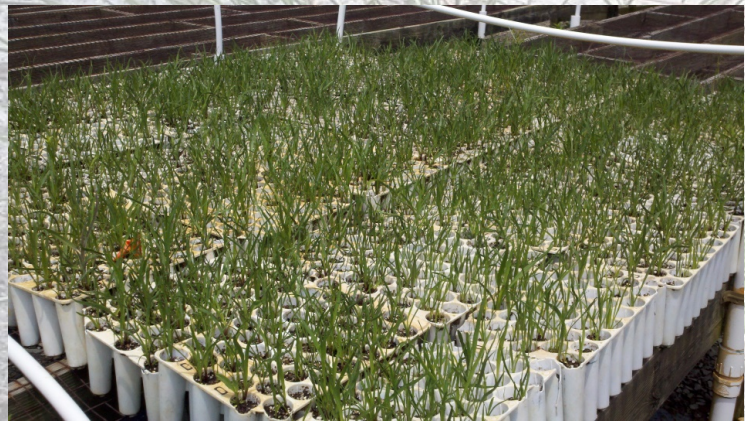
PLANTS FOR GROUNDCOVER RESTORATION

CAROL DENHOF



— THE —
LONGLEAF
ALLIANCE

Consider Your Options for Species Selection



- Seed vs. Plug
- Bulk Seed vs. PLS Seed
- Local Ecotype
- Landowner objectives/preferences – “Restoration Level”

Determine Your “Restoration Level”



Low



Medium



High

Low Restoration Level



- Fuels
- Low Diversity
- Management Function

Native Warm Season Grasses

- Big Bluestem (*Andropogon gerardii*) 1.5 lbs/ac
- Indiangrass (*Sorghastrum nutans*) 1.5 lbs/ac
- Little Bluestem (*Schizachyrium scoparium*) 1.5 lbs/ac

Forbs

- Partridge Pea (*Chamaecrista fasciculata*) 0.25lb/ac
- Native Lespedeza (*Lespedeza* spp.) 1.0 lb/ac
- Florida Ticktrefoil (*Desmodium floridanum*) 1.0 lb/ac

Medium Restoration Level



- Fuels + wildlife
- Moderate Diversity
- Management Function
- Food/Habitat for Wildlife

<u>Grasses</u>	<u>Rate(lb/ac)</u>	<u>Forbs</u>	<u>Rate (lb/ac)</u>
Little Bluestem	1.5	Partridge Pea	1.5
Splitbeard Bluestem	1.15	Florida Ticktrefoil	1.15
Lopsided Indiangrass	.5	Sensitive Brier	.5
Sporobolus junceus	.25	Spurred Butterlypea	.25
Muhly Grass	.50	Spiked Blazingstar	.50
Toothache Grass	.25	Lespedeza sp.	.25
Wiregrass	.10	TOTAL	1 lb/ac
Fall Panicum	.25		
TOTAL	4.5 lbs/ac		

High Restoration Level



- Fuels + wildlife + pollinators + aesthetics
- High Diversity
- Management Function
- Food/Habitat for Wildlife
- Specialty Group – pollinator management

<u>Plant Name</u>	<u>PLS lbs/ac</u>
FORBS	
Yarrow	0.008
Lance Leaved Coreopsis	0.052
Blue False Indigo	0.044
Bergamot	0.012
Butterfly Milkweed	0.067
Blackeyed Susan	0.033
Goat's Rue	0.036
Large Coreopsis	0.01
Spotted Beebalm	0.004
Greyheaded Coneflower	0.023
Blazing Star	0.036
Purple Coneflower	0.09
Rattlesnake Master	0.06
False Sunflower	0.09
Joe-Pye Weed	0.008
White Wingstem	0.029
Florida Tick Trefoil	0.066
Partridge Pea	0.084
Hairy Mountain Mint	0.003
Smooth Aster	0.015
New York Ironweed	0.024
Tall Goldenrod	0.016
GRASSES	
Little Bluestem	0.048
Indian Grass	0.069
Switchgrass	0.046
Pineywoods Dropseed	0.024
TOTAL LBS/AC	8.00

Pick the Right Species



Grasses



Composites

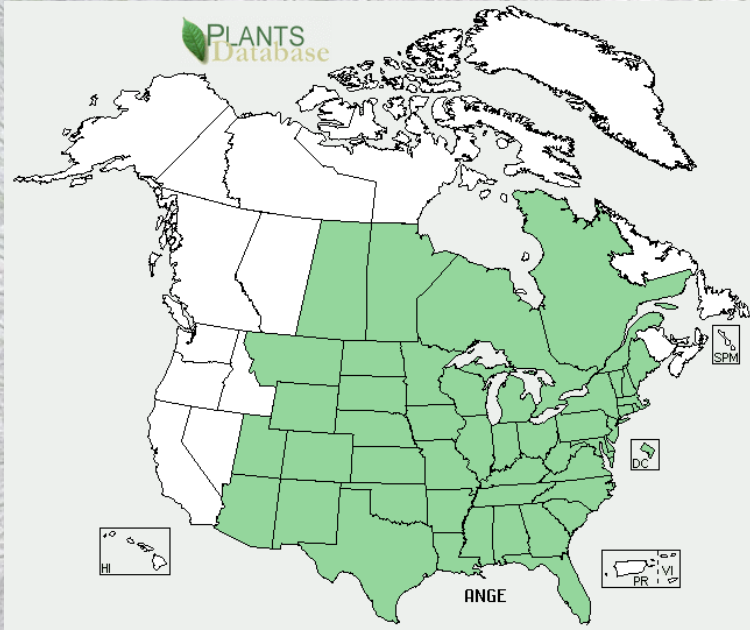


Legumes

Pick the Right Species - Grasses

				Benefits			
Species Name	Common Name	Flowering Time	Flower Color	Fuel	Pollinator	Wildlife Food Plant	Wildlife Cover
<i>Andropogon gerardii</i>	Big Bluestem	June-October	red/green	X	X	X	X
<i>Andropogon ternarius</i>	Splitbeard Bluestem	August-November	light brown	X		X	X
<i>Aristida stricta</i>	Wiregrass	September-November	light brown	X		X	X
<i>Ctenium aromaticum</i>	Toothache Grass	June-August	yellow/green	X		X	X
<i>Muhlenbergia capillaris</i>	Muhly Grass	August-November	purple	X		X	X
<i>Panicum anceps</i>	Fall Panicum	July-November	green	X		X	
<i>Paspalum floridanum</i>	Florida Paspalum	August-November	green	X		X	X
<i>Schizachyrium scoparium</i>	Little Bluestem	July-October	light brown	X	X	X	X
<i>Sorghastrum nutans</i>	Indian Grass	August-September	yellow/brown	X	X	X	
<i>Sorghastrum secundum</i>	Lopsided Indiangrass	August-September	Yellow/brown	X	X	X	X
<i>Sporobolus junceus</i>	Pineywoods Dropseed	September-October	light brown	X		X	X
<i>Tripsacum dactyloides</i>	Eastern Gamma Grass	April-June	brown	X		X	X

Big Bluestem - *Andropogon gerardii*



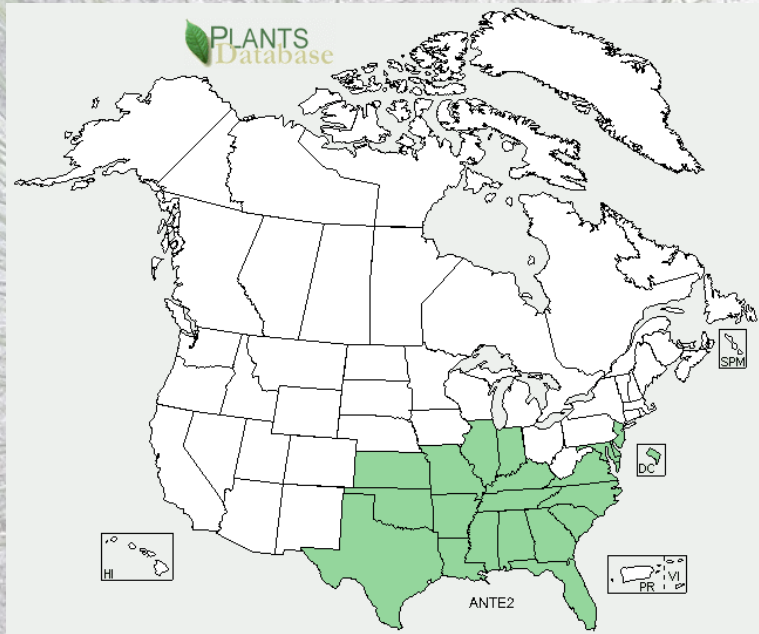
ID TIPS:

- large bunch grass up to 8' tall
- brown (instead of silky & white) inflorescence resembling a turkey foot

HABITAT: Prairies, hillside bogs, pine savannas, and flatwoods.



Splitbeard Bluestem - *Andropogon ternarius*



ID TIPS:

Long inflorescence stalks up to 2" in length

HABITAT: Dry sandy soils.

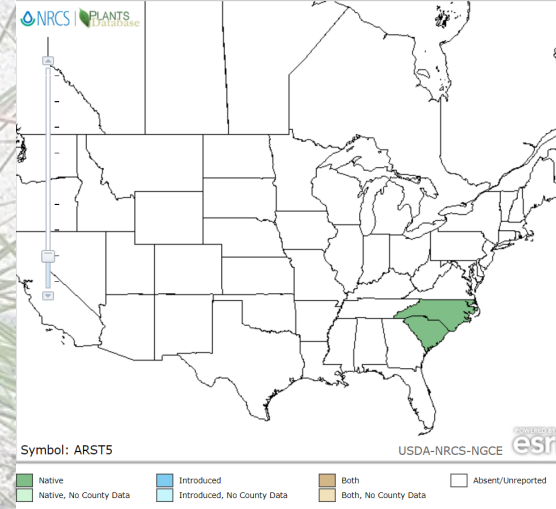


Splitbeard
Bluestem



Broomsedge

Wiregrass - *Aristida stricta*

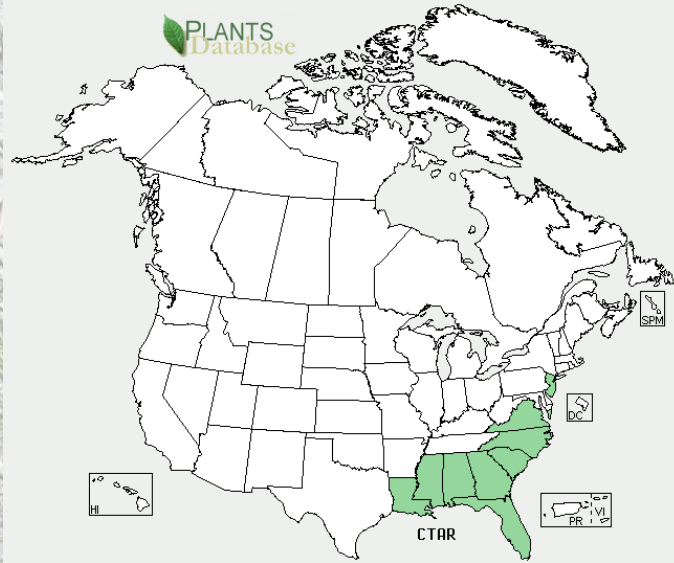


ID TIPS:

- Densely tufted wiry bunchgrass
- Seeds bear 3 hair-like awns
- Leaves with tuft of hair near the base

HABITAT: Longleaf pine savannas and flatwoods.

Toothache Grass - *Ctenium aromaticum*



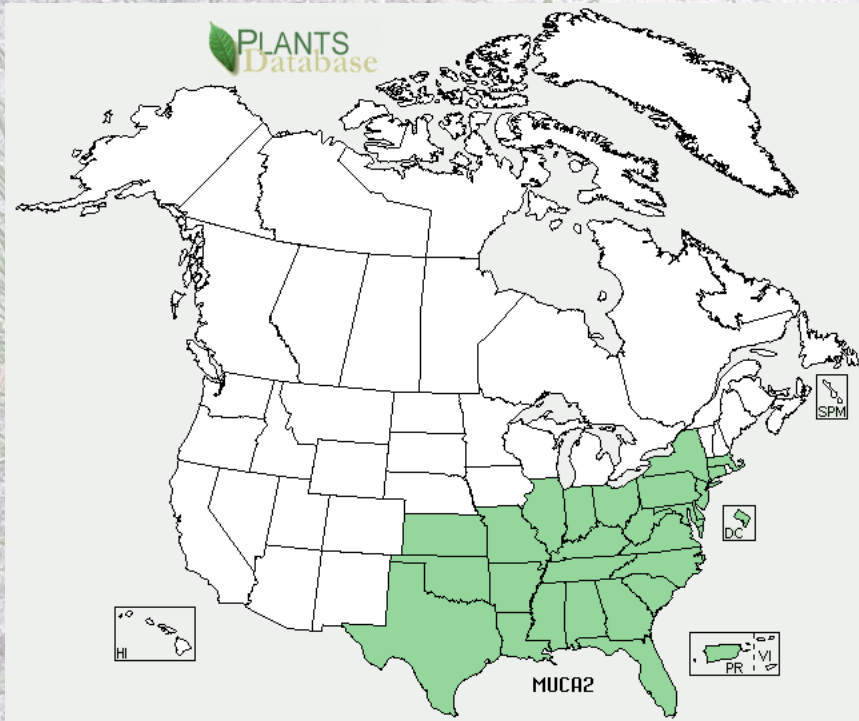
ID TIPS:

- Bunch grass that forms dense clumps
- Leaves dark green on top and lighter on bottom
- Inflorescence looks like comb and curl as seeds mature

HABITAT: Wet to moist pine flatwoods, savannas, prairies, and pitcher plant bogs.



Muhly Grass - *Muhlenbergia capillaris*

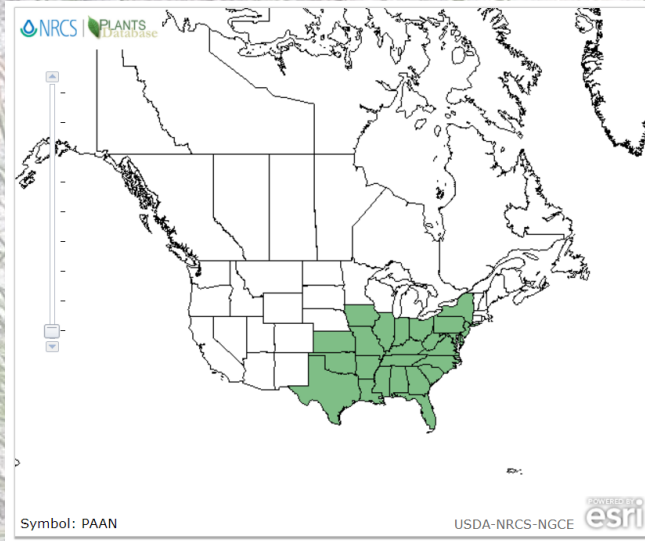


ID TIPS:

- Bunchgrass with wiry leaves (no hairs)
- Open purple panicle

HABITAT: Wide range of sites including seeps, marshes, stabilized sand dunes, pine savannas, and flatwoods.

Beaked Panicgrass - *Panicum anceps*



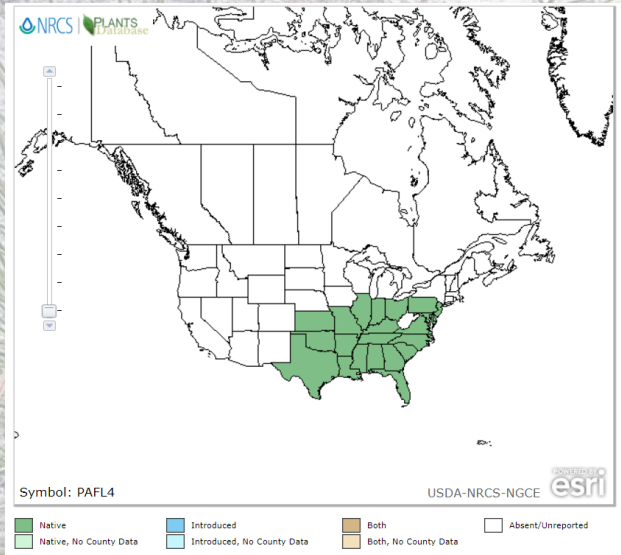
ID TIPS:

- Rhizomatous, clumping perennial
- Scaly rhizomes like *P. virgatum*
- Grows up to 3ft tall
- Inflorescence triangular in shape & only 3-5" wide.

HABITAT: Open forests, forest openings, and along forest margins.



Florida Paspalum - *Paspalum floridanum*



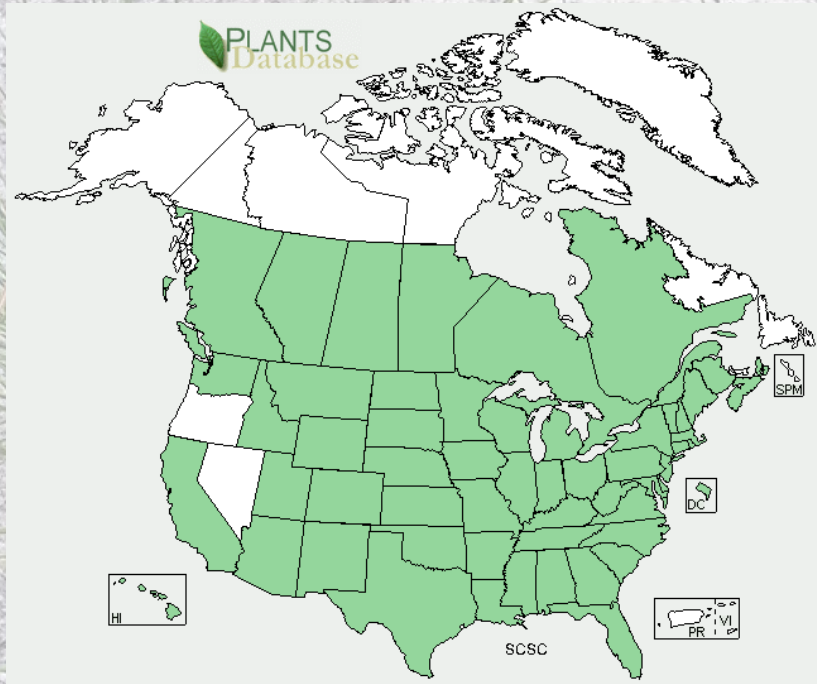
ID TIPS:

- Tall, robust perennial grass (3-6 ft)
- Leaves are very hairy
- Inflorescence is a narrow panicle of large, round spikelets

HABITAT: Grows on a wide range of sites – moist, well-drained soils to dry, sandy sites.



Little Bluestem - *Schizachyrium scoparium*

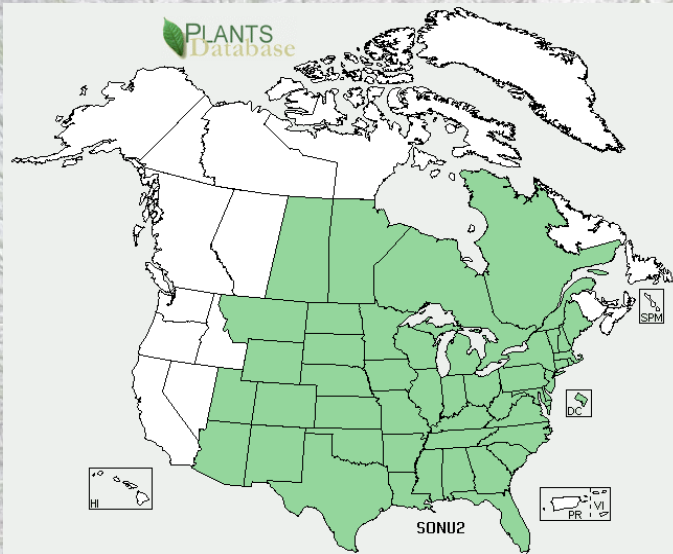


ID TIPS:

- Common bunch grass up to 4' tall
- Inflorescence a single raceme
- Leaves turn purplish-red in fall.

HABITAT: Old fields, open forests, and prairies.

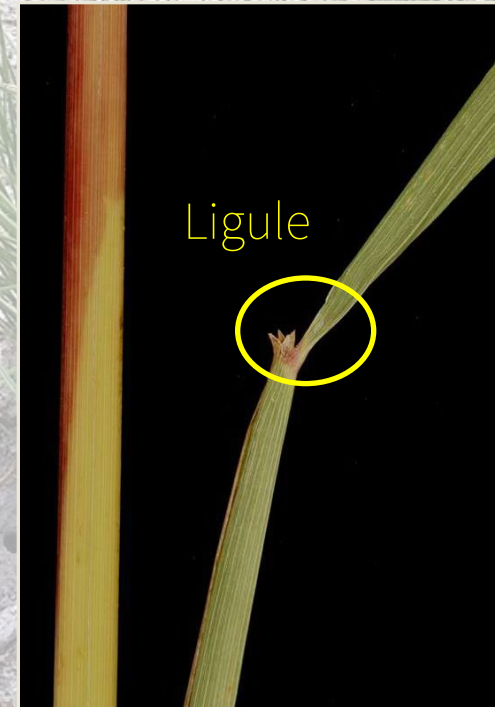
Yellow Indiangrass - *Sorghastrum nutans*



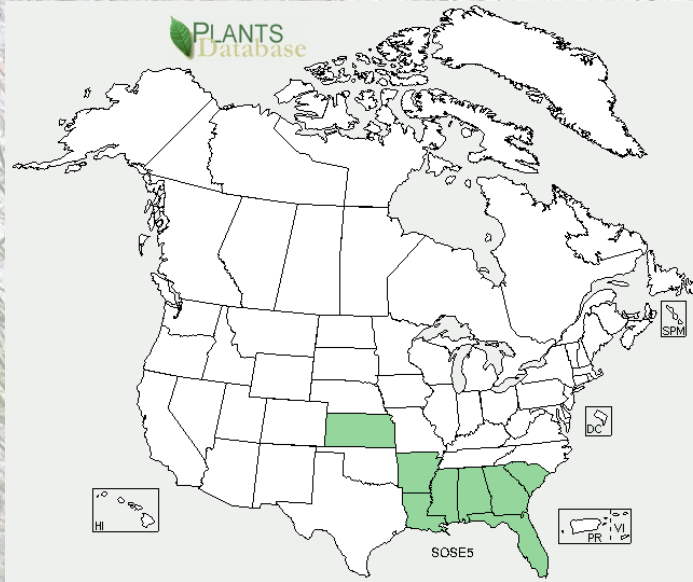
ID TIPS:

- Membranous ligule up to 1/4" long
- Rhizomatous
- Long awns on spikelets

HABITAT: Forest plantations and open forests, and along forest margins and right-of-ways.



Lopsided Indiangrass - *Sorghastrum secundum*



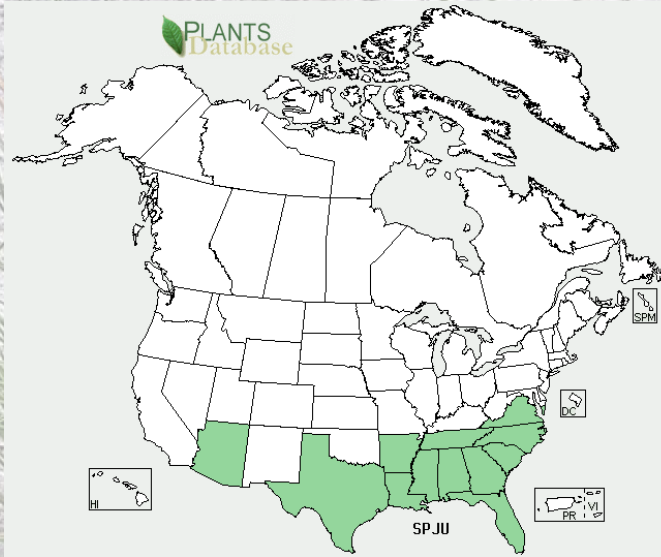
ID TIPS:

- Membranous ligule up to 1/8" long
- Non-rhizomatous clump grass
- Inflorescence a one-sided panicle
- Spikelets with long, twisted awns

HABITAT: grows well in well-drained soils of upland sites.



Pineywoods Dropseed - *Sporobolus junceus*



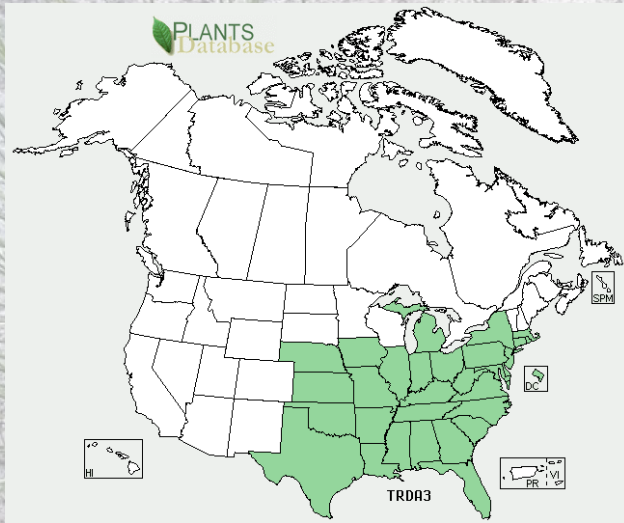
ID TIPS:

- Bunchgrass with wiry leaves (no tuft of hair)
- Leaves are a blue/green color
- Inflorescence is pyramid shaped panicle

HABITAT: Longleaf pine savannas, flatwoods, and longleaf pine-turkey oak sandhills.



Eastern Gamma Grass - *Tripsacum dactyloides*



ID TIPS:

- large bunchgrass to 8' tall
- forms dense clumps
- seed heads up to 10" long with large seeds that appear "jointed".

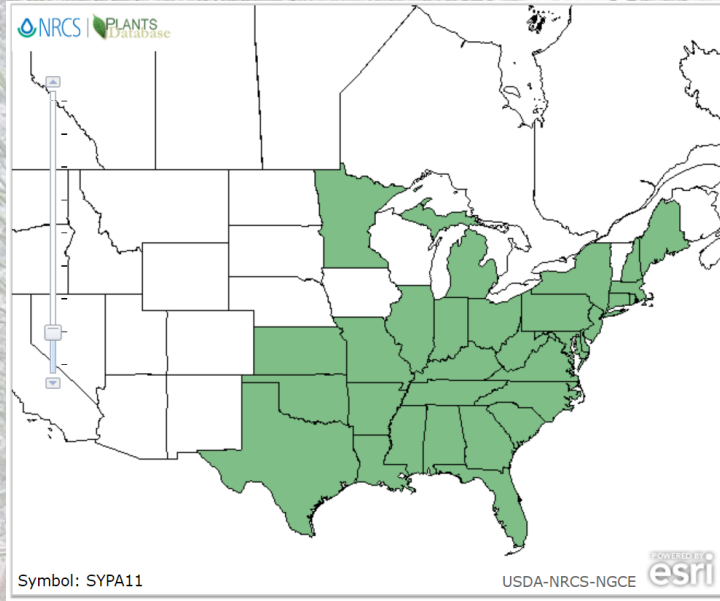
HABITAT: Low woods, edges of salt marshes, mesic, upland grasslands.



Pick the Right Species - Composites

				Benefits			
Scientific Name	Common Name	Flowering Time	Flower Color	Fuel	Pollinator	Wildlife Food	Wildlife Cover
<i>Ambrosia artemisiifolia</i>	Ragweed	Summer	greenish			X	X
<i>Aster patens</i>	Late Purple Aster	Fall	blue/purple		X	X	
<i>Aster spectabilis</i>	Eastern Showy Aster	Fall	blue/purple		X	X	
<i>Chrysopsis mariana</i>	Maryland Golden Aster	August-October	yellow		X	X	
<i>Coreopsis lanceolata</i>	Cutleaf Tickseed	May-August	yellow		X	X	
<i>Eupatorium rotundifolium</i>	Roundleaf Thoroughwort	July-October	white		X	X	
<i>Gaillardia pulchella</i>	Firewheel	May-August	red/yellow		X		
<i>Helianthus angustifolius</i>	Swamp Sunflower	October	yellow		X	X	
<i>Liatris pycnostachya</i>	Shaggy Blazing Star	August-November	purple		X	X	
<i>Liatris spicata</i>	Dense Blazing Star	July-September	white/purple		X	X	
<i>Rudbeckia hirta</i>	Black-eyed Susan	June-October	yellow		X	X	
<i>Solidago odora</i>	Anise-scented Goldenrod	July-October	yellow		X	X	
<i>Vernonia angustifolia</i>	Tall Ironweed	June-August	purple		X	X	

Late purple aster – *Symphotrichum patens*



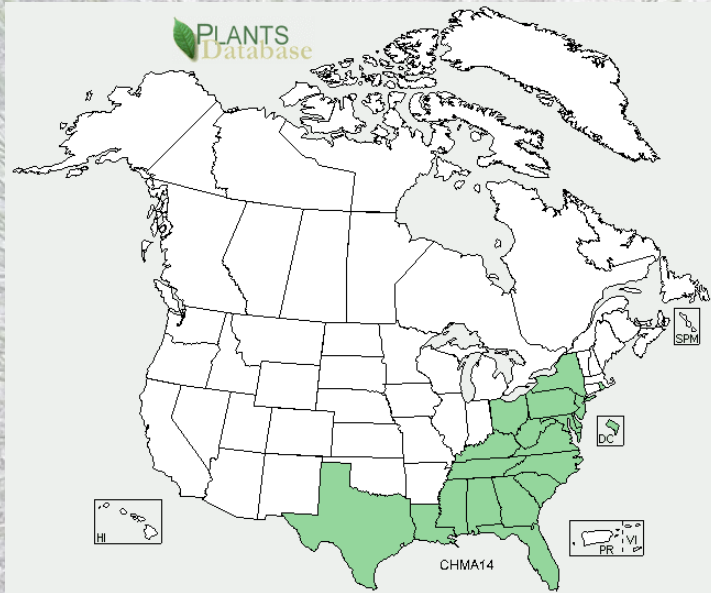
ID TIPS:

- Erect perennial with multiple, hairy stems/leaves
- Thick, stiff leaves clasp stem
- Purple rays & yellow discs

HABITAT: open oak and pine woods, fields, roadsides, disturbed habitats



Golden Aster – *Chrysopsis mariana*



ID TIPS:

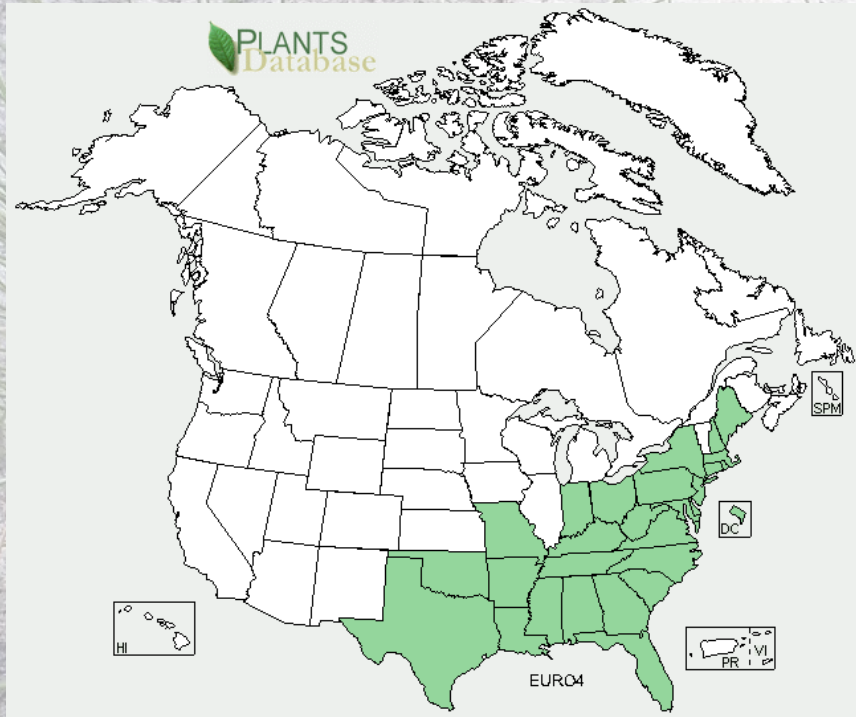
- Bright yellow flowers in fall
- Stems & leaves with silky white hairs

HABITAT: Sandy, piney woods



Chrysopsis mariana
Photo by Shirley Denton

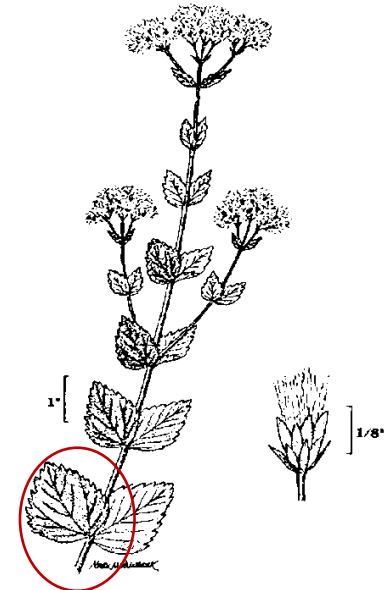
Roundleaf thoroughwort - *Eupatorium rotundifolium*



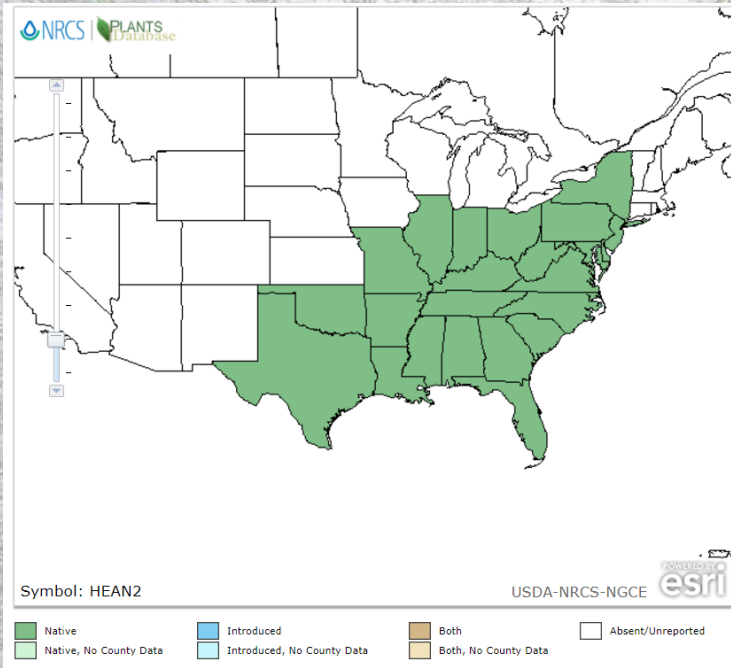
ID TIPS:

- Rounded, toothed sessile leaves
- White discoid flowers.

HABITAT: Woodlands, pine barrens, & savannas.



Swamp Sunflower - *Helianthus angustifolius*



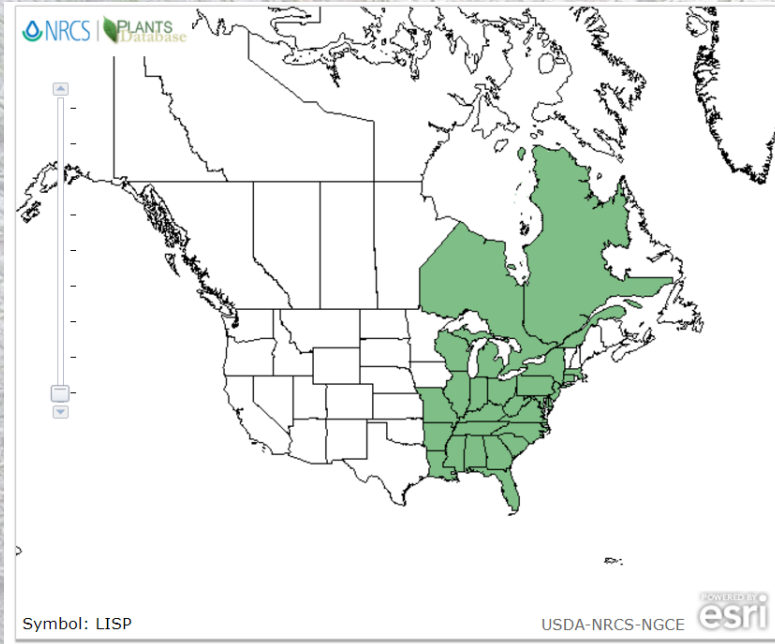
ID TIPS:

- Tall, herbaceous perennial – Can be >6 ft tall
- Bright, yellow flowers
- Bracts under flowers not in 2 distinct series
- Leaves are narrow and have a rough texture

HABITAT: Savannas and pine barrens.



Dense Blazing Star - *Liatris spicata*



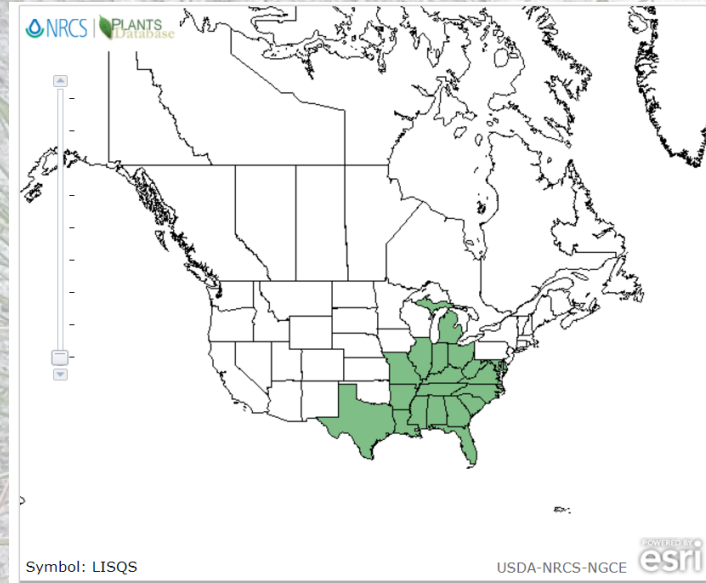
ID TIPS

- Very showy, spikes of purple flowers – heads not on stalks
- Generally taller than other *Liatris* – Can reach 5.5'

HABITAT: Moist pine barrens, savannas and ditches.



Scaly Blazing Star - *Liatris squarrosa*



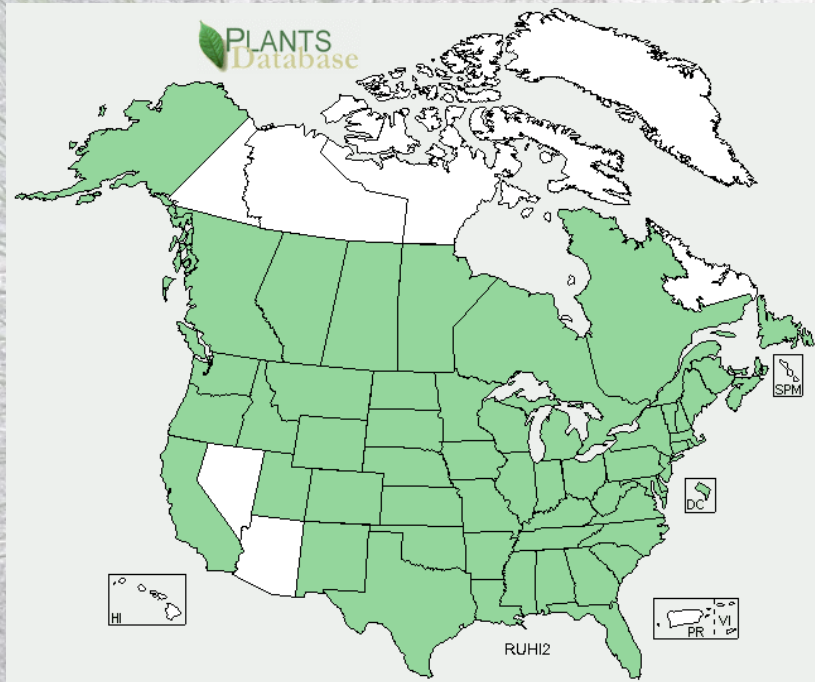
ID TIPS:

- Single to few flowering heads per plant
- Long, pointed bracts of involucre
- Earlier flowering period than other *Liatris* spp.

HABITAT: Dry longleaf pinelands, oak-hickory woods.



Brown-eyed Susan - *Rudbeckia hirta*



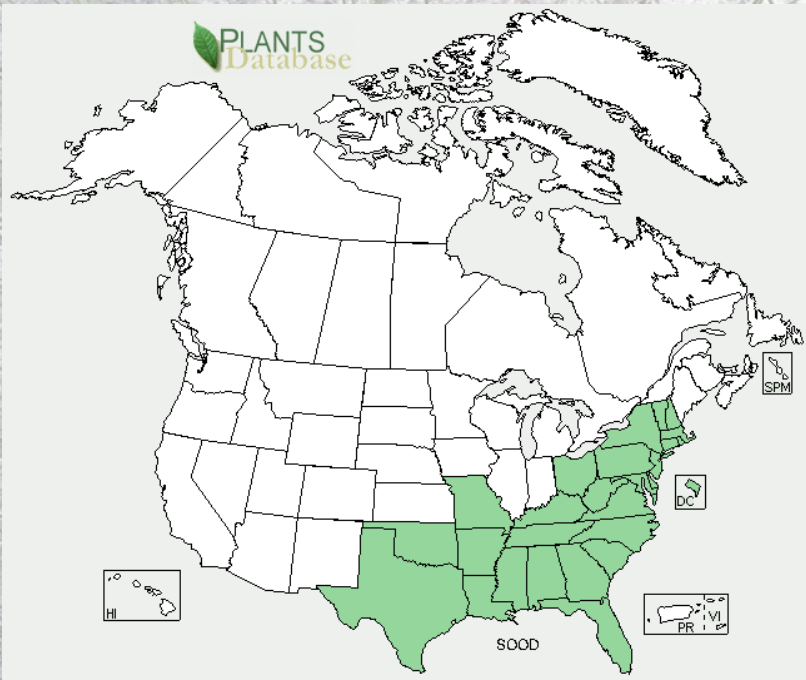
ID TIPS:

- Large, bright yellow flower heads
- Stems & leaves covered with rough hairs

HABITAT: Meadows, pastures, old fields & roadsides.



Anise-Scented Goldenrod - *Solidago odora*



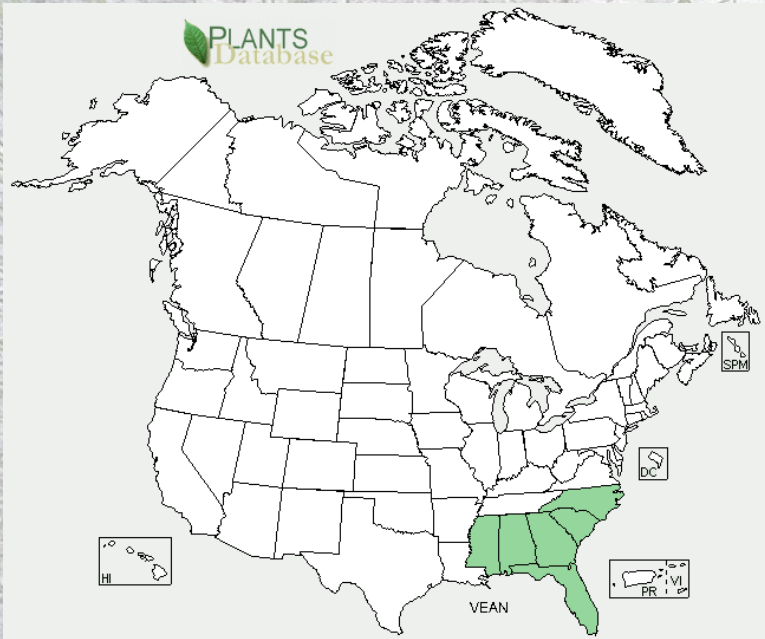
ID TIPS:

- Late summer yellow flowers
- Leaves smell like licorice when crushed.

HABITAT: Woodlands, road banks, savannas, and pine barrens.



Tall Ironweed - *Vernonia angustifolia*



ID TIPS:

- Vibrant purple discoid inflorescence
- Alternate narrow leaves with deeply incised midvein

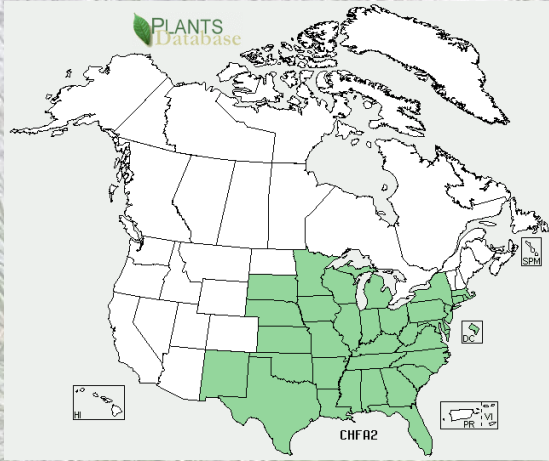
HABITAT: Savannas, pine barrens, sandy woods & old fields.



Pick the Right Species - Legumes

Scientific Name	Common Name	Flowering Time	Flower Color	Benefits			
				Fuel	Pollinator	Wildlife Food Plant	Wildlife Cover
<i>Centrosema virginianum</i>	Spurred Butterfly Pea	Summer	purple		X	X	
<i>Chamaecrista fasciculata</i>	Partridge Pea	Summer-Fall	Yellow		X	X	
<i>Chamaecrista nictitans</i>	Small Flowered Partridge Pea	Summer-Fall	Yellow		X	X	
<i>Desmodium floridanum</i>	Florida Ticktrefoil	Summer-Fall	pink/purple		X	X	
<i>Lespedeza capitata</i>	Roundhead Lespedeza	Summer	white		X	X	X
<i>Lespedeza hirta</i>	Hairy Lespedeza	Summer-Fall	white		X	X	X
<i>Lespedeza virginica</i>	Slender Lespedeza	Summer-Fall	pink/purple		X	X	X
<i>Lupinus perennis</i>	Sundial Lupine	Spring	purple		X	X	
<i>Mimosa quadrivalvis</i>	Sensitive Brier	Summer-Fall	pink		X	X	
<i>Tephrosia virginiana</i>	Goat's Rue	Spring-Summer	yellow/pink		X	X	X

Partridge Pea - *Chamaecrista fasciculata*



ID TIPS:

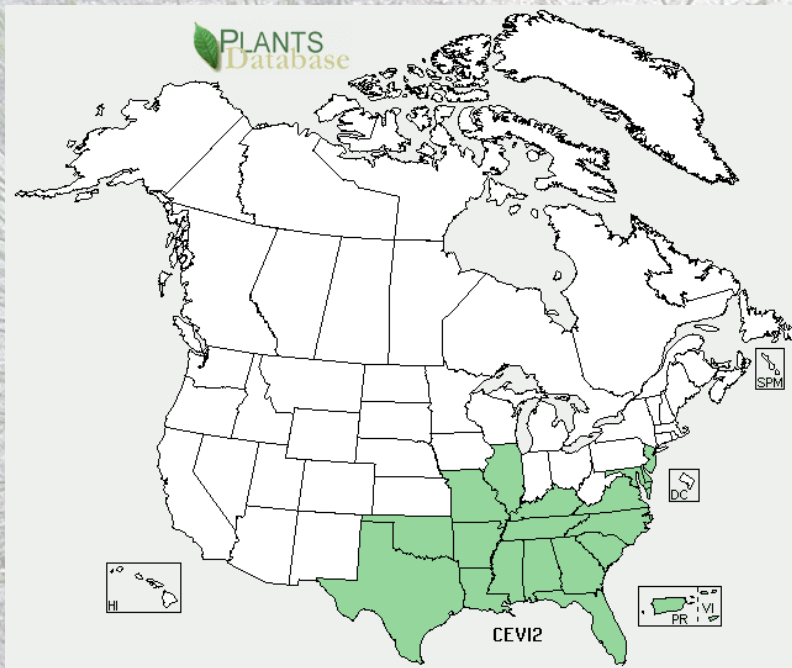
- Large yellow flowers with red centers
- Branched erect annual up to 3'
- Small flat gland at the base of the petiole
- Vegetatively similar to *C. nictitans*

HABITAT: Woodland trails and openings & other disturbed areas.



Small flowered partridge pea

Spurred Butterfly Pea - *Centrosema virginiana*



ID TIPS:

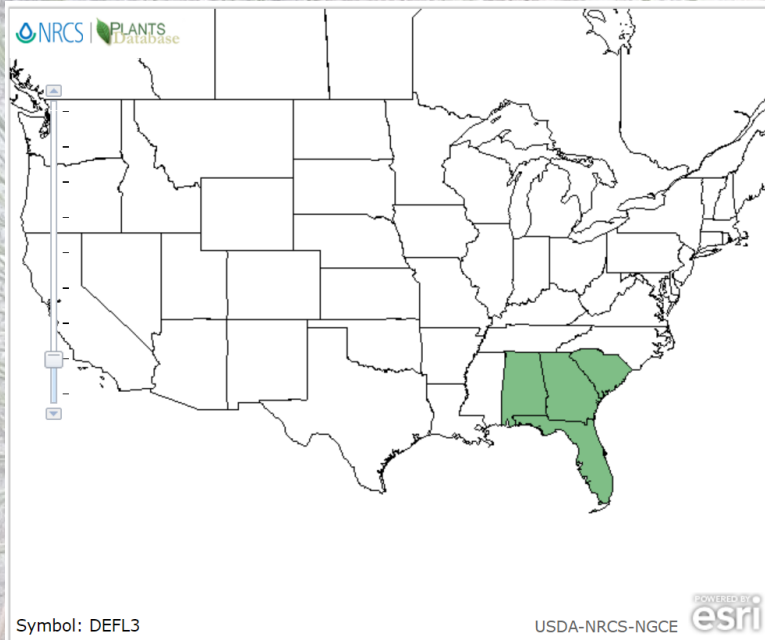
- Twining or trailing vine
- Large 1" purple flowers with spreading petals
- Similar to *Clitoria mariana*

HABITAT: Longleaf pine woodlands



Clitoria mariana

Florida Ticktrefoil – *Desmodium floridanum*



ID TIPS:

- Grows upright to 3 feet
- Large (1-3") ovate to diamond shaped leaflets
- Whole plant covered in short, hooked hairs (sticky feel)

HABITAT: Sandhills & flatwoods



Lespedeza spp. – Bush Clovers



L. hirta – Hairy Lespedeza

ID TIPS:

- Covered in spreading tawny hairs
- Leaflets oval shaped
- Flowers in round clusters

HABITAT: Dry pinelands



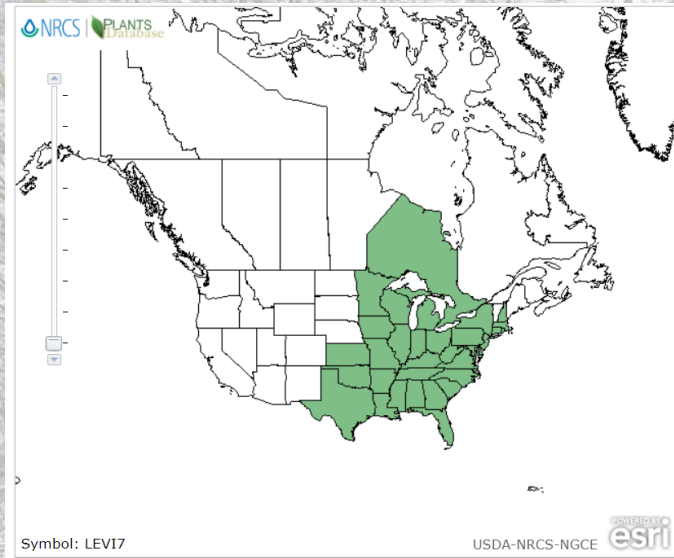
L. capitata – Silvery Bush Clover

ID TIPS

- Covered in dense, silvery hairs
- Flowers in elliptical clusters
- Leaflets more narrow

HABITAT: Moist longleaf pinelands

Slender Lespedeza - *Lespedeza virginica*



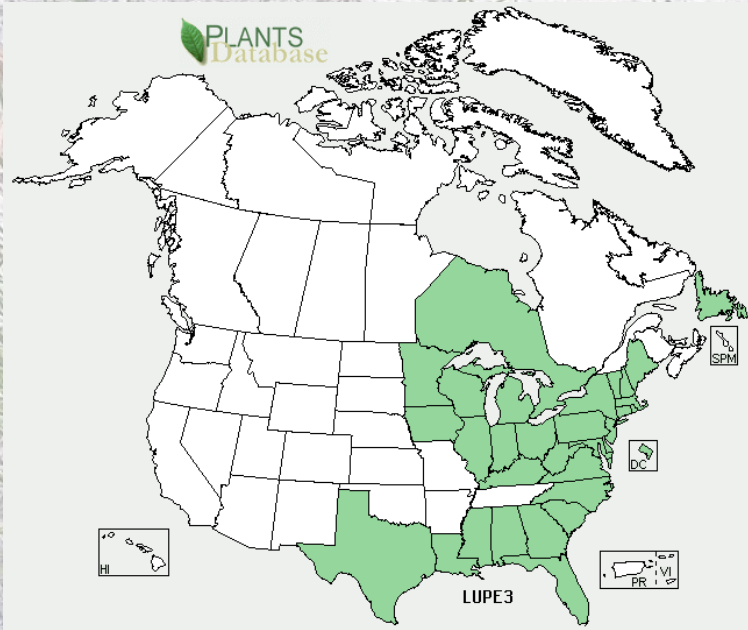
ID TIPS:

- Narrow leaflets (linear-oblong)
- Pink flowers tightly clustered in upper leaf axils

HABITAT: Dry open woods & clearings



Sundial Lupine - *Lupinus perennis*



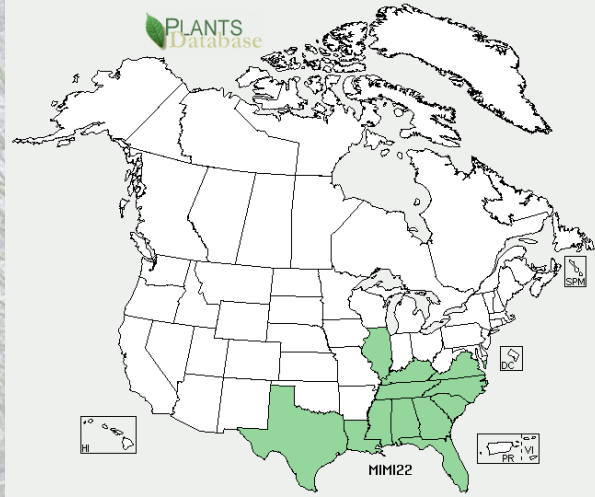
ID TIPS:

- Palmately compound leaf with 7-11 leaflets
- Blue-purple flowers

HABITAT: Sandhills and clearings



Sensitive Brier - *Mimosa quadrivalvis*



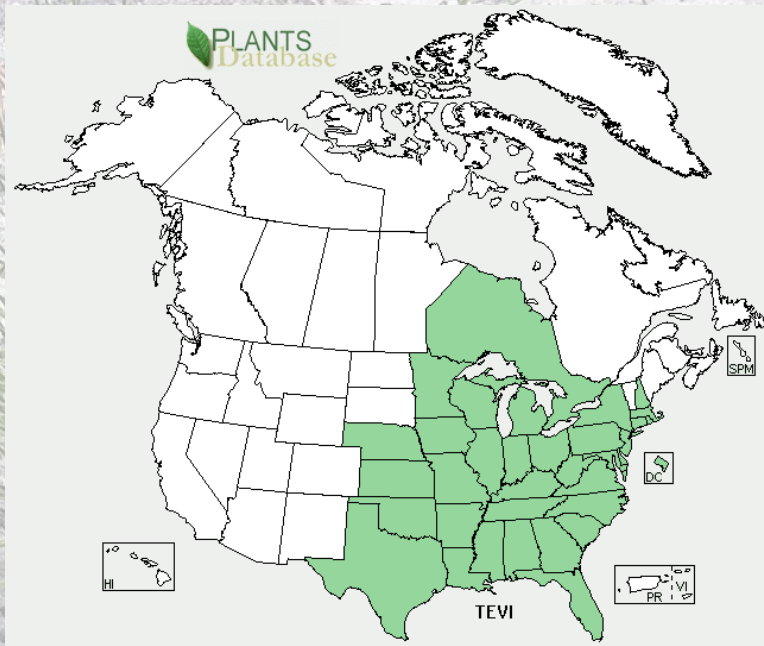
ID TIPS:

- Pink pom-pom flowers
- Thorny spreading plant
- Pinnately compound leaves
- Flowers look like Mimosa tree flowers

HABITAT: Dry longleaf pinelands



Goat's Rue - *Tephrosia virginiana*



ID TIPS:

- Pinnately compound leaf
- Bicolored flower
- Clonal, erect growth

HABITAT: Dry-mesic longleaf pine communities, oak-hickory woodlands, clearings



