

# Native Understory Forbs and Grasses for Pollinator and Insect Utilization in Southeastern Longleaf Pine Ecosystems



USDA Natural Resources Conservation Service

Jimmy Carter Plant Materials Center  
Americus, Georgia

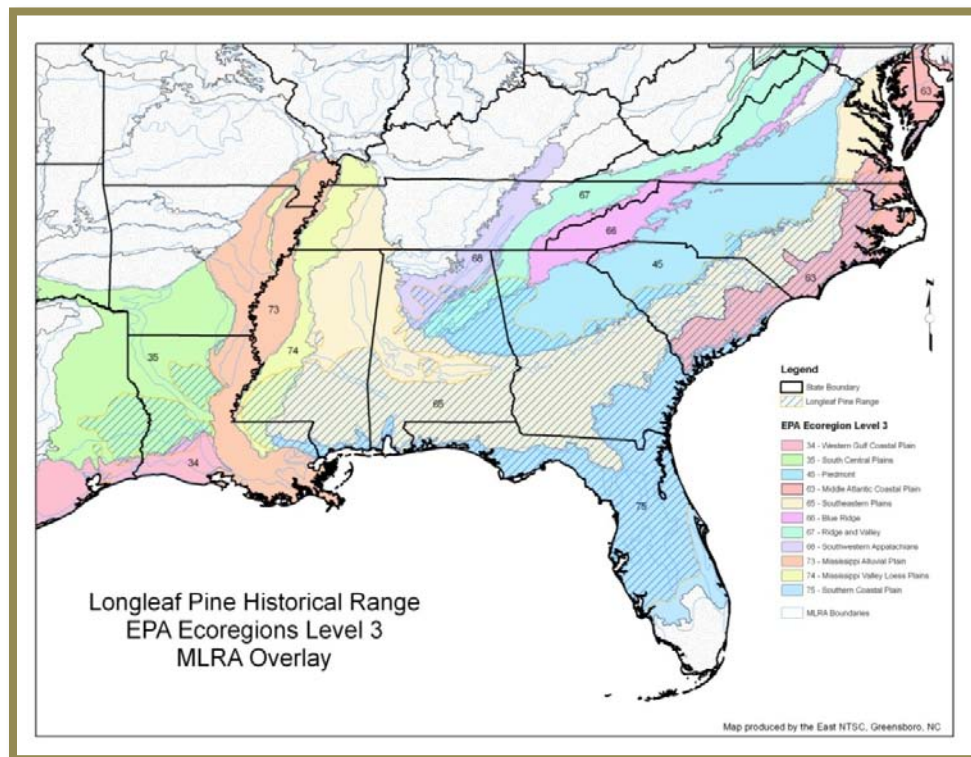
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Greensboro, North Carolina



Pollination by insects is crucial to the production of multiple crops in the United States. Biologists have recorded dramatic declines in insect pollinators, especially our native bees. National efforts are underway to conserve and enhance pollinator habitat as well as the longleaf pine ecosystem. This document lists commercially available understory longleaf pine forbs and companion grasses to enhance pollinator habitat within that ecosystem. The intention of this document is not to provide a list of understory species in the longleaf pine ecosystem. The species listed, have seed available originating within the longleaf pine range.

Restoration planners should check with seed dealers for origin of plant material. The seeding rate of 20 seed ft<sup>2</sup> is a low rate and was chosen for the establishment of understory plantings. Planners will need to decide appropriate seeding rates for each planting base on the resource needs.

If you are a seed dealer with products originating in the southeastern longleaf pine ecosystem and would like to be included in subsequent versions of this document please send your contact information and products available to [Ramona Garner@gnb.usda.gov](mailto:RamonaGarner@gnb.usda.gov).



“Trade names are used solely to provide information. Mention of a trade name does not constitute a guarantee of the product by the U.S. Department of Agriculture nor does it imply endorsement by the Department or the Natural Resources Conservation Service over comparable products that are not named.”



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# FORBS

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## **Butterfly Milkweed**

*Asclepias tuberosa*

Height: 0.5 to 2.5 ft  
Flower Color: Orange  
Bloom Date: May to August  
Seed/Pound: 87,000  
Pounds/Acre<sup>†</sup>: 10.0  
~Price/Pound: \$160 to \$240  
Seed Source: 1,2



## **Spurred Butterfly Pea**

*Centrosema virginianum*

Height: 0.5 to 2.0 ft  
Flower Color: Blue - Violet  
Bloom Date: June to September  
Seed/Pound: unknown  
~Price/Pound: \$363  
Seed Source: 2



## **Partridge Pea**

*Chamaecrista fasciculata*

Height: 0.5 to 2.0 ft  
Flower Color: Yellow  
Bloom Date: July to September  
Seed/Pound: 65,000  
Pounds/Acre<sup>†</sup>: 13.4  
~Price/Pound: \$14  
Seed Source: 1



## **Lanceleaf Tickseed**

*Coreopsis lanceolata*

Height: 0.5 to 3.0 ft  
Flower Color: Yellow  
Bloom Date: April to June  
Seed/Pound: 221,000  
Pounds/Acre<sup>†</sup>: 4.0  
~Price/Pound: \$14 to \$55  
Seed Source: 1,2,3

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**Panicleleaf Ticktrefoil**  
*Desmodium paniculatum*

Height: 1.5 to 4.0 ft  
Flower Color: Pink-Purple  
Bloom Date: June to September  
Seed/Pound: unknown  
~Price/Pound: \$60  
Seed Source: 1,2

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**Swamp Sunflower**  
*Helianthus angustifolius*

Height: 3.0 to 6.0 ft  
Flower Color: Yellow  
Bloom Date: July to frost  
Seed/Pound: 504,000  
Pounds/Acre<sup>†</sup>: 1.8  
~Price/Pound: \$60  
Seed Source: 1

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**Rayless Sunflower**  
*Helianthus radula*

Height: 1.25 to 2.5 ft  
Flower Color: Purple - Red  
Bloom Date: August to October  
Seed/Pound: 100,000  
Pounds/Acre<sup>†</sup>: 8.7  
~Price/Pound: \$285 to 300  
Seed Source: 1,3

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**Roundtop Lespedeza**  
*Lespedeza capitata*

Height: 1.5 to 5.0 ft  
Flower Color: Yellow - White  
Bloom Date: August to October  
Seed/Pound: 275,000  
Pounds/Acre<sup>†</sup>: 3.2  
~Price/Pound: \$149 to \$180  
Seed Source: 1,2

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**Hairy Lespedeza**

*Lespedeza hirta*

Height: 1.5 to 5.0 ft  
Flower Color: White  
Bloom Date: August to October  
Seed/Pound: 175,000  
Pounds/Acre<sup>†</sup>: 5.0  
~Price/Pound: \$200  
Seed Source: 1

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**Tall Blazing Star**

*Liatris aspera*

Height: 2.5 to 6.0 ft  
Flower Color: Lavender  
Bloom Date: July to October  
Seed/Pound: 100,000 to 131,000  
Pounds/Acre<sup>†</sup>: 6.7 to 8.7  
~Price/Pound: \$523  
Seed Source: 2

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**Pinkscale Blazing Star**

*Liatris elegans*

Height: 2.0 to 4.0 ft  
Flower Color: Pink - White  
Bloom Date: September to October  
Seed/Pound: 140,000  
Pounds/Acre<sup>†</sup>: 6.2  
~Price/Pound: \$400  
Seed Source: 1

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**Slender Blazing Star**

*Liatris gracilis*

Height: 2.5 to 4.5 ft  
Flower Color: Lavender  
Bloom Date: September to October  
Seed/Pound: 100,000  
Pounds/Acre<sup>†</sup>: 8.7  
~Price/Pound: \$300  
Seed Source: 1

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**Dense Blazing Star<sup>s</sup>**

*Liatris spicata*

Height: 2.5 to 6.0 ft  
Flower Color: Lavender  
Bloom Date: July to September  
Seed/Pound: 100,000 to 135,000  
Pounds/Acre<sup>†</sup>: 6.5 to 8.7  
~Price/Pound: \$100 to \$300  
Seed Source: 1, 3

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**Fourvalve Mimosa**

*Mimosa quadrivalvis*

Height: Trailing  
Flower Color: Pink  
Bloom Date: June to September  
Seed/Pound: 38,400  
Pounds/Acre<sup>†</sup>: 22.7  
~Price/Pound: \$363  
Seed Source: 2

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**Blackeyed Susan**

*Rudbeckia hirta*

Height: 1.25 to 3.25  
Flower Color: Yellow  
Bloom Date: May to July  
Seed/Pound: 1,500,000  
Pounds/Acre<sup>†</sup>: 0.6  
~Price/Pound: \$24 to \$29  
Seed Source: 1, 2

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**Anise Goldenrod**

*Solidago odora*

Height: 1.5 to 4.5  
Flower Color: Yellow  
Bloom Date: July to October  
Seed/Pound: Unknown  
~Price/Pound: \$380  
Seed Source: 3

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**Virginia Tephrosia**

*Tephrosia virginiana*

Height: 0.5 to 2.0

Flower Color: Yellow - Pink

Bloom Date: May to September

Seed/Pound: 40,000

Pounds/Acre<sup>†</sup>: 21.8

~Price/Pound: \$200 to \$545

Seed Source: 1, 2

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## Grasses

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**Big Bluestem**

*Andropogon gerardii*

Height: 5.0 to 8.0

Bloom Date: August to October

Seed/Pound: 150,000

Pounds/Acre<sup>†</sup>: 5.8

~Price/Pound: \$10 to \$20 PLS<sup>‡</sup>

Seed Source: 1

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**Splitbeard Bluestem**

*Andropogon ternarius*

Height: 2.5 to 4.0

Bloom Date: September to November

Seed/Pound: 200,000

Pounds/Acre<sup>†</sup>: 4.4

~Price/Pound: \$91

Seed Source: 2

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**Broomsedge Bluestem**

*Andropogon virginicus*

Height: 2.5 to 5.0

Bloom Date: September to October

Seed/Pound: 300,000

Pounds/Acre<sup>†</sup>: 2.9

~Price/Pound: \$76 to \$90

Seed Source: 1,3

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**Wiregrass (Beyrich Threeawn)**

*Aristida beyrichiana*

Height: 2.0 to 4.0

Bloom Date: September to November

Seed/Pound: 750,000

Pounds/Acre<sup>†</sup>: 1.2

~Price/Pound: \$115

Seed Source: 2



**Toothache Grass**

*Ctenium aromaticum*

Height: 2.0 to 4.0

Bloom Date: June to August

Seed/Pound: unknown

~Price/Pound: \$150

Seed Source: 2



**Purple Lovegrass**

*Eragrostis spectabilis*

Height: 1.5 to 3.0

Bloom Date: August to October

Seed/Pound: 1,000,000

Pounds/Acre<sup>†</sup>: 0.9

~Price/Pound: \$180 PLS<sup>‡</sup>

Seed Source: 1



**Hairawn Muhly**

*Muhlenbergia capillaris*

Height: 1.5 to 4.0

Bloom Date: September to October

Seed/Pound: 1,400,000

Pounds/Acre<sup>†</sup>: 0.6

~Price/Pound: \$300 to \$385 PLS<sup>‡</sup>

Seed Source: 1, 3

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### **Beaked Panicgrass**

*Panicum anceps*

Height: 2.0 to 3.5

Bloom Date: July to October

Seed/Pound: unknown

~Price/Pound: \$17 to \$36 PLS<sup>‡</sup>

Seed Source: 1



### **Switchgrass**

*Panicum virgatum*

Height: 3.0 to 6.0

Bloom Date: July to August

Seed/Pound: 259,000

Pounds/Acre<sup>†</sup>: 3.4

~Price/Pound: \$6 to \$22 PLS<sup>‡</sup>

Seed Source: 1, 2



### **Little Bluestem**

*Schizachyrium scoparium*

Height: 2.0 to 5.0

Bloom Date: August to October

Seed/Pound: 240,000

Pounds/Acre<sup>†</sup>: 3.6

~Price/Pound: \$12 to \$32 PLS<sup>‡</sup>

Seed Source: 1



### **Yellow Indiangrass**

*Sorghastrum nutans*

Height: 5.0 to 8.0 ft

Bloom Date: September to October

Seed/Pound: 174,000

Pounds/Acre<sup>†</sup>: 5.0

~Price/Pound: \$12 to \$16 PLS<sup>‡</sup>

Seed Source: 1

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**Lopsided Indiangrass**  
*Sorghastrum secundum*

Height: 3.0 to 7.0  
Bloom Date: September to October  
Seed/Pound: unknown  
~Price/Pound: \$82 to \$96  
Seed Source: 1



**Pineywoods Dropseed**  
*Sporobolus junceus*

Height: 1.0 to 3.0  
Bloom Date: September to October  
Seed/Pound: unknown  
~Price/Pound: \$181  
Seed Source: 2



**Purple Tridens**  
*Tridens flavus*

Height: 2.0 to 5.0  
Bloom Date: July to October  
Seed/Pound: 465,000  
Pounds/Acre<sup>†</sup>: 1.9  
~Price/Pound: \$12 to \$36 PLS<sup>‡</sup>  
Seed Source: 1

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<sup>†</sup>Pounds per acre calculated based on a seeding rate of 20 seed per ft<sup>2</sup>. This is a low rate that would be used in a monoculture; rates should be adjusted to reflect percentages within a mixture.

<sup>‡</sup>PLS = Pure Live Seed is a measure used to describe the percent of a quantity of seed that has the potential to germinate.  
PLS= analytical purity X germination capacity

## Seed Sources

### 1. Ernst Conservation Seeds

9006 Mercer Pike  
Meadsville, PA 16335  
Phone: (800) 873-3321  
Fax: (814) 336-5191  
E-Mail: [ernstsales@ernstseed.com](mailto:ernstsales@ernstseed.com)  
Website: [www.ernstseed.com](http://www.ernstseed.com)

### 2. Roundstone Native Seed

9764 Raider Road  
Upton, KY 42784  
Phone: 270-531-3034  
Fax: 270-531-3036  
E-Mail: [sales@roundstoneseed.com](mailto:sales@roundstoneseed.com)  
Website: [www.roundstoneseed.com](http://www.roundstoneseed.com)

### 3. Florida Wildflowers Growers Cooperative

**Wildflower Seed And Plant Growers Association, Inc.**  
P.O. Box 776  
Crescent City, Florida 32112  
Telephone: (352) 988-8117  
E-Mail: [businessmanager@floridawildflowers.com](mailto:businessmanager@floridawildflowers.com)  
Website: [floridawildflowers.com](http://floridawildflowers.com)

## FORBS

| Scientific Name                 | Common Name             | Height Feet       | Flower Color | Bloom Date | Seed Per Pound  | Price Per Pound | Seed Source |
|---------------------------------|-------------------------|-------------------|--------------|------------|-----------------|-----------------|-------------|
| <i>Asclepias tuberosa</i>       | Butterfly Milkweed      | 0.5-2.5           | Orange       | May-Aug    | 87,000          | \$160-\$236     | 1,2         |
| <i>Centrosema virginianum</i>   | Spurred Butterfly Pea   | Climbing Trailing | Blue-Violet  | June-Sept  | -----           | \$363           | 2           |
| <i>Chamaecrista fasciculata</i> | Partridge Pea           | 0.5-2.0           | Yellow       | July-Sept  | 65,000          | \$14            | 1           |
| <i>Coreopsis lanceolata</i>     | Lanceleaf Tickseed      | 0.5-3.0           | Yellow       | April-June | 221,000         | \$14-\$55       | 1,2,3       |
| <i>Desmodium paniculatum</i>    | Panicleleaf Ticktrefoil | 1.5-4.0           | Pink-Purple  | June-Sept  | -----           | \$59.50         | 2           |
| <i>Helianthus angustifolius</i> | Swamp Sunflower         | 3.0-6.0           | Yellow       | July-Frost | 504,000         | \$60            | 1           |
| <i>Helianthus radula</i>        | Rayless Sunflower       | 1.25-2.5          | Purple-Red   | Aug-Oct    | 100,000         | \$285-\$300     | 1, 3        |
| <i>Lespedeza capitata</i>       | Roundhead Lespedeza     | 1.5-5.0           | Yellow-White | Aug-Oct    | 275,000         | \$149-\$180     | 1,2         |
| <i>Lespedeza hirta</i>          | Hairy Lespedeza         | 1.5-6.0           | White        | Aug-Oct    | -----           | \$200           | 1           |
| <i>Liatris aspera</i>           | Tall Blazing Star       | 2.5-6.0           | Lavender     | July-Oct   | 100,000-131,000 | \$523           | 2           |
| <i>Liatris elegans</i>          | Pinkscale Blazing Star  | 2.0-4.0           | Pink-White   | Sept-Oct   | 140,000         | \$400           | 1           |
| <i>Liatris gracilis</i>         | Slender Blazing Star    | 2.5-4.5           | Lavender     | Sept-Oct   | 100,000         | \$300           | 1           |
| <i>Liatris spicata</i>          | Dense Blazing Star      | 2.5-6.0           | Lavender     | July-Sept  | 100,000-135,000 | \$100-\$300     | 1,3         |
| <i>Mimosa quadrivalvis</i>      | Fourvalve Mimosa        | Trailing          | Pink         | June-Sept  | 38,400          | \$363           | 2           |
| <i>Rudbeckia hirta</i>          | Blackeyed Susan         | 1.25-3.25         | Yellow       | May-July   | 1.5 Million     | \$24-\$29       | 1,2         |
| <i>Solidago odora</i>           | Anise Goldenrod         | 1.5-4.5           | Yellow       | July-Oct   | -----           | \$380           | 3           |
| <i>Tephrosia virginiana</i>     | Virginia Tephrosia      | .5-2.0            | Yellow-Pink  | May-Sept   | 40,000          | \$200-\$545     | 1,2         |

## GRASSES

| Scientific Name                | Common Name          | Height Feet | Bloom Date | Seed Per Pound | Price Per Pound              | Seed Source |
|--------------------------------|----------------------|-------------|------------|----------------|------------------------------|-------------|
| <i>Andropogon gerardii</i>     | Big Bluestem         | 5.0-8.0     | Aug-Oct    | 150,000        | \$10-\$20 pls <sup>†</sup>   | 1           |
| <i>Andropogon ternarius</i>    | Splitbeard Bluestem  | 2.5-4.0     | Sept-Nov   | 200,000        | \$91                         | 2           |
| <i>Andropogon virginicus</i>   | Broomsedge Bluestem  | 2.5-5.0     | Sept-Oct   | 300,000        | \$76-\$90                    | 1,3         |
| <i>Aristida beyrichiana</i>    | Beyrich Threeawn     | 2.0-4.0     | Sept-Nov   | 750,000        | \$115                        | 2           |
| <i>Ctenium aromaticum</i>      | Toothache Grass      | 2.0-4.0     | June-Aug   | -----          | \$150                        | 2           |
| <i>Eragrostis spectabilis</i>  | Purple Lovegrass     | 1.5-3.0     | Aug-Oct    | 1 Million      | \$180 pls <sup>†</sup>       | 1           |
| <i>Muhlenbergia capillaris</i> | Hairawn Muhly        | 1.5-4.0     | Sept-Oct   | 1.4 Million    | \$300-\$385 pls <sup>†</sup> | 1,3         |
| <i>Panicum anceps</i>          | Beaked Panicgrass    | 2.0-3.25    | July-Oct   | -----          | \$17-\$36                    | 1           |
| <i>Panicum virgatum</i>        | Switchgrass          | 3.0-6.0     | July-Aug   | 259,000        | \$6-\$22 pls <sup>†</sup>    | 1,2         |
| <i>Schizachyrium scoparium</i> | Little Bluestem      | 2.0-5.0     | Aug-Oct    | 240,670        | \$12-\$32 pls                | 1           |
| <i>Sorghastrum nutans</i>      | Yellow Indiangrass   | 5.0-8.0     | Sept-Oct   | 174,000        | \$12-\$16 pls <sup>†</sup>   | 1           |
| <i>Sorghastrum secundum</i>    | Lopsided Indiangrass | 3.0-7.0     | Sept-Oct   | -----          | \$82-\$96                    | 1           |
| <i>Sporobolus junceus</i>      | Pineywoods Dropseed  | 1.0-3.0     | Sept-Oct   | -----          | \$181                        | 2           |
| <i>Tridens flavus</i>          | Purpletop Tridens    | 2.0-5.0     | July-Oct   | 465,000        | \$12-\$36 pls <sup>†</sup>   | 1           |

<sup>†</sup>PLS - pure live seed

| Retailer                                   | Web Site   | Phone Number |
|--|--|--------------|
| 1. Ernst Conservation Seeds                | <a href="http://www.ernstseed.com">www.ernstseed.com</a>                   | 800-873-3321 |
| 2. Roundstone Seed                         | <a href="http://www.roundstoneseed.com">www.roundstoneseed.com</a>         | 270-531-3034 |
| 3. Florida Wildflowers Growers Cooperative | <a href="http://www.floridawildflowers.com">www.floridawildflowers.com</a> | 352-988-8117 |

For additional information, contact your local USDA NRCS Service Center or the Jimmy Carter Plant Materials Center.

**Jimmy Carter Plant Materials Center**

295 Morris Drive

Americus, Georgia 31709

Phone: (229) 924-4499

Fax: (229) 924-0013

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