Problem Plant Species & Solutions

Problem Species in Longleaf Establishment

Broadleaf Weeds

- Marestail
- Ragweed
- Sicklepod
- Morning glory
- Blackberry
- Sericea/Bicolor lespedeza
- Air yam
- Pigweed

Grasses

- Bermuda
- Bahia
- Fescue
- Rye
- Crabgrass
- Microstegium
- Signalgrass

Woody Plants

- Loblolly
- Oaks
- Sweetgum
- Smilax
- Grapevine
- Large Partridge Pea (Lark)

Sources for Weed Identification

Coordinating Author:
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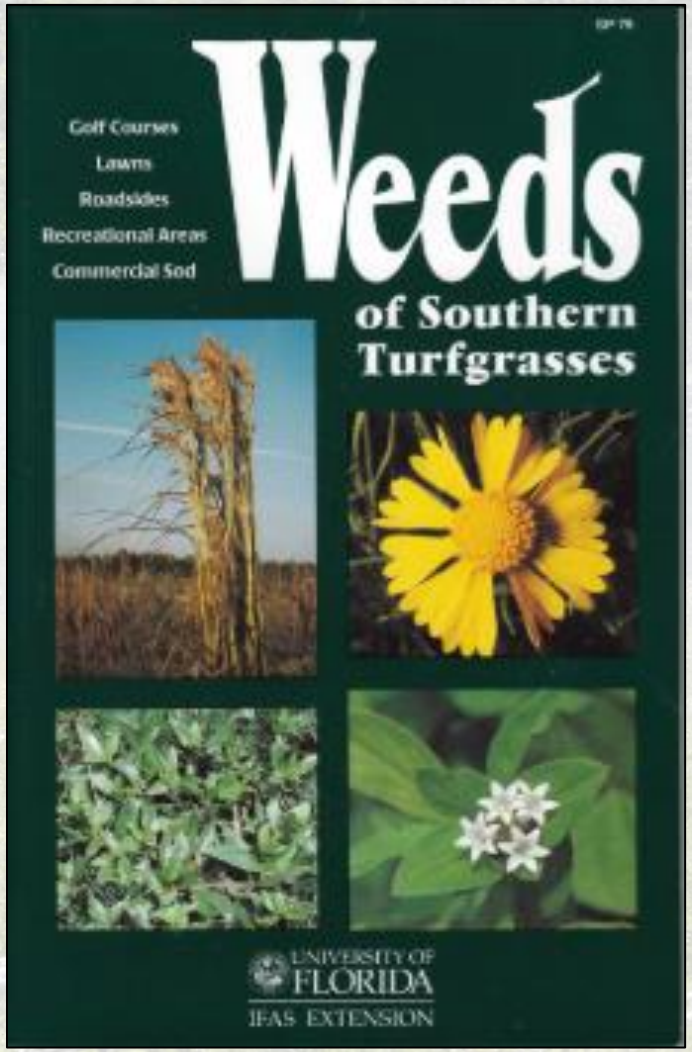
Authors:
Daniel L. Colin - University of Florida
Ray Dickens - Auburn University
John W. Everest - Alabama Extension Service
David Hall - KBN Engineering, Inc.
L. B. (Bert) McCarty - Clemson University



Ordering Information from the University of Georgia can be found at: https://extension.uga.edu/publications/detail.html?number=SB31&title=Weeds%20of%20Southern%20Turfgrasses or you may call (706) 542-8999

Please mention: Special Bulletin 31

Sources for Weed Identification

- Weeds of Southern Turfgrasses, by Clemson Extension, March 2004
- http://weeds.cropsci.illinois.edu/weedid.htm
- http://ipm.ucanr.edu/PMG/weeds_intro.html
- www.msuturfweeds.net/id-tool/
- **https://weedid.cals.vt.edu/**

https://weedid.cals.vt.edu/

weedid.cals.vt.edu/profile/69

Apps | Microsoft Office Ho... | Inbox - jacob@long... | Milton, FL | Workshop and Tour...

common ragweed

Family ***Asteraceae***

Scientific Name ***Ambrosia artemisiifolia***

OTHER COMMON NAMES:
annual ragweed

HABIT
This erect summer annual flowers from August through October, spreading allergy-causing pollen in the air.

LEAVES
The 4 to 10 cm long leaves are hairy, and are generally

FLOWER SEED HEAD
The flowers occur in small clusters on terminal branches. Male and female flowers occur in different parts of the plant, with male flowers occurring in long, slender racemes, and females at the leaf axils.

SEED FRUIT
A single seed forms in each 3 to 4 mm long achene. The achenes have longitudinal ridges that terminate in short

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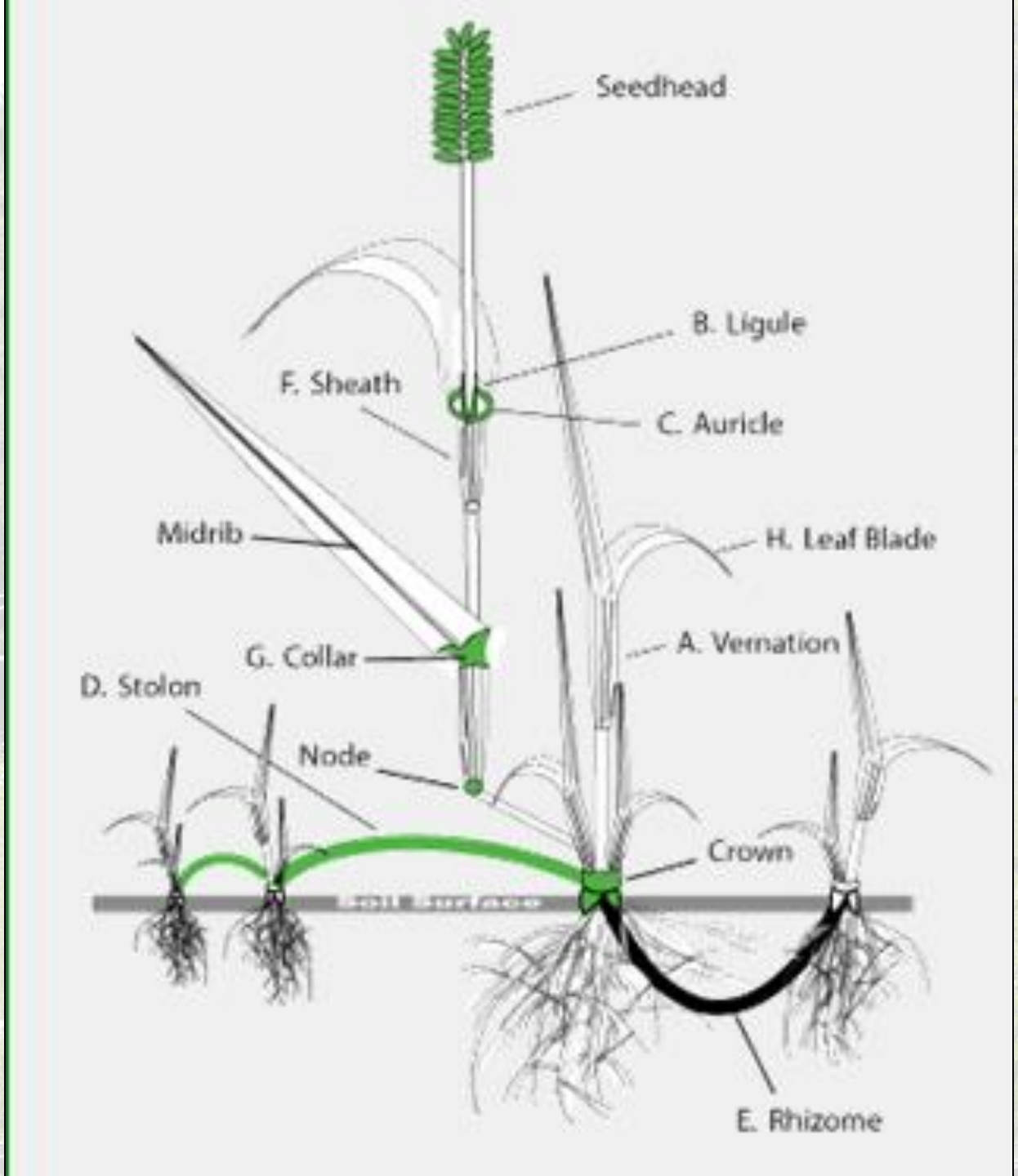

Seedhead
B. Ligule
F. Sheath
C. Auricle
Midrib
H. Leaf Blade
A. Vernation
G. Collar
D. Stolon
Node
Crown
E. Rhizome

www.turffiles.ncsu.edu/turfid/

Criteria	List of selected criteria	Plants satisfying criteria

Growth Season
- summer annual weed
- winter annual weed
- biennial weed
- perennial weed

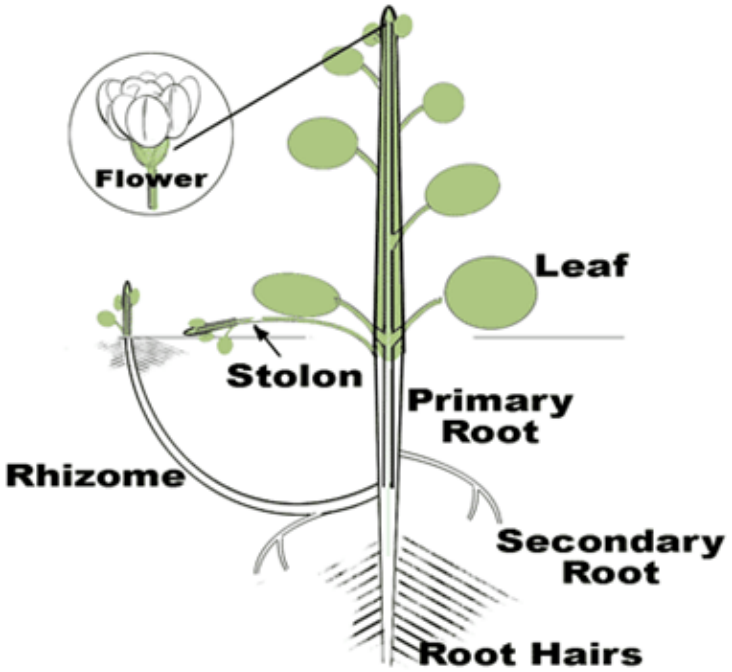
Growth Habit
- upright
- vining
- rosette
- prostrate, spreading

Leaflet Number
- one
- three
- four or more

Leaf Margin
- lobed
- serrated/toothed
- smooth
- wavy/crinkled

Leaf Hairs
- none
- upper/lower surface
- blunt

Instructions | Plant Diagram | References | Credits



betony, Florida
bittercress, hairy
blackberry
burrweed, lawn (spurweed)
buttercup, bulbous
buttercup, hairy
buttercup, smallflower
buttonweed, Virginia
carpetweed
chickweed, common
chickweed, mouseear
clover, hop
clover, white
cudweed
dandelion, Carolina false
dandelion, cat's ear
dandelion, common
deadnettle, purple
dichondra
dock, curly
dogfennel
dollarweed (pennywort)
doveweed
evening-primrose, cutleaf
facelis (annual trampweed)
garlic, wild
geranium, Carolina
velvetgrass

Internet | Protected Mode: On

Weed Classification

Annual

- A plant starting from seed and completing its life cycle in the same growing season

Biennial

- A plant starting from seed and requiring two years to complete its life cycle

Perennial

- A plant that may or may not start from seed, may or may not produce seed, and lives more than two years

Horseweed (Marestail)

Erigeron canadensis

Annual

- Height may vary according to soil type
- Immature rosette looks different than mature plant
- Stem is usually hairy, and generally branched near the top
- Lower leaves are 1 - 4 inches long and toothed, while leaves along the stem are narrow and smooth.
- Produces numerous small, inconspicuous white flowers, followed by an abundance of seed

Dog fennel

Eupatorium capillifolium

Perennial

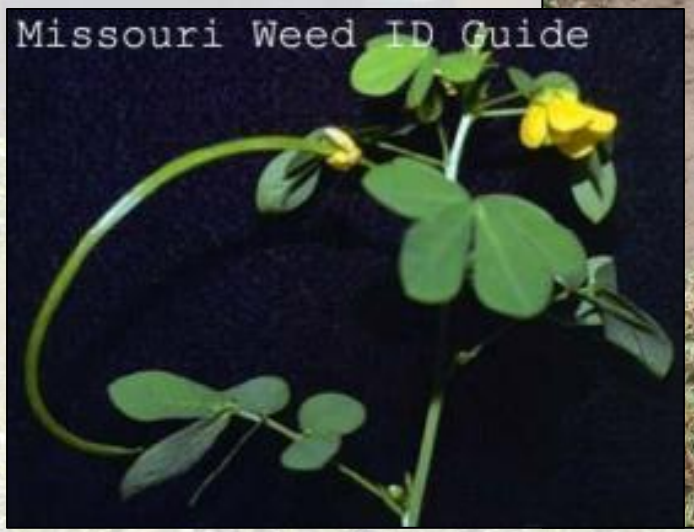
- Height can vary (from < 6 inches to > 6 ft)
- Finely dissected leaves make it easy to identify, and when crushed, the leaves and stems have a very distinct odor that is slightly sour and musty.
- Stems are soft and easily broken when young, but become very tough and woody as it ages.
- Stems are very hairy, especially when young, but leaves are always hairless

Sicklepod

Senna obtusifolia

Annual

- Can reach 1-6 ft in height
- Yellow flowers, long narrow seed pod

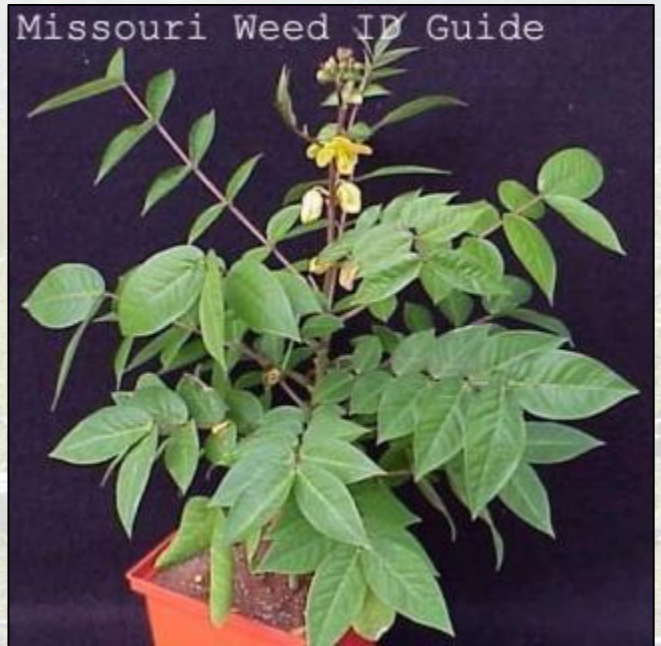


Coffee Senna

Senna occidentalis

Annual

- Erect, multi-branched
- May grow as high as 10 feet
- Growth habit and appearance similar to Sicklepod
- Leaves divided into many ovate leaflets and spherical glands near base of leaf petioles



Morning Glory spp.

Ipomoea & *Jacquemontia*

Perennial

- Seeds remain viable in soil for long periods
- Annual or perennial
- Seedlings emerge following adequate moisture, but may also appear when surface soil is too dry to allow germination of other annuals

Sericea Lespedeza

Lespedeza cuneata

Perennial

- Woody stems grow upright
- Individual leaves are oblong in shape, and appear to have been folded
- Small white and purple flowers can be found in the axils of the leaves
- Stiff hairs that can be found on the stem

Greenbriar

Smilax rotundifolia & spp

Perennial

- Perennial woody vine
- Climbs other vegetation and can form dense thickets
- Broad heart-shaped leaves are shiny and have parallel venation and smooth margins
- Stems have many sharp thorns along their entire length

Blackberry

Rubus spp

Perennial

- Upright growth habit that can completely take over when not controlled
- Thorns on stems and leaves
- Deep taproots can make chemical control difficult
- Distinctive berries form in late summer

Bermudagrass

Cynodon dactylon

Perennial

- Spreads by rhizomes and stolons
- Seedhead / Flower has 3-5 spikes joining at the top of a main stem
- Very invasive and hard to control

Bahiagrass

Paspalum notatum

Perennial

- Easily recognized by its characteristic "Y-shaped" seedhead
- Rapid lateral spread via aggressive rhizome production
- Good drought tolerance and tolerates a wide range of soils
- Very competitive

Tall Fescue

Schedonorus arundinaceus

Perennial

- Heat and drought tolerant, disease resistant
- Easily confused with Kentucky bluegrass, annual ryegrass, and perennial ryegrass
- Bunch grass with clumping tendency
- May have short slowly spreading rhizomes
- Panicle seed head
- Tolerates wet soils, short periods of flooding

Annual Ryegrass (Italian)

Lolium multiflorium

- Bunch-type grass
- Seedhead can be confused with quack grass
- No rhizomes present, whereas quack grass does
- Easily confused with tall fescue

Perennial Ryegrass

Lolium perenne

- Bunch-type grass
- Texture, color, and density very similar to Kentucky bluegrass
- Often confused with tall fescue and/or Kentucky bluegrass

Crabgrass

Digitaria sanguinalis

Annual

- Typically have spreading stems with wide flat leaf blades that lie on the ground with the tips ascending
- Seedhead/flower: 2-9 spikelets arising from different points along the top of stems
- Stolon but no rhizome
- Often confused with goosegrass, dallis grass and bermuda

Loblolly Pine

Preparing the Site

Herbaceous Weed Control

Most common treatments

March	April	May	June
2 oz/A Oust (pre)		4-5 oz/A Arsenal AC(after May 15)	
10-12 oz/A Oustar (pre)			
		2 oz/A Oust + 4 oz/A Arsenal AC	
		8-21 fl oz/A Transline (post)	
		5-7 fl oz/A Milestone	
		5-7 fl oz/A Milestone + 4-5 fl oz/A Arsenal AC	

Herbaceous Weed Control

Things to know:

- Soil pH
  - 6 – 6.5 use ≤ 1 oz/A Oust
  - > 6.5 avoid Oust
- Seedling root growth
  - Longleaf seedlings should have > 2 in. new root growth prior to Oust app
- Wait until May 15 before applying Arsenal (waiting on waxy cuticle!)

Herbicide Recommendation Disclaimer….

Arsenal® AC
Grasses & Broadleaf Weeds

Labeled rates

- First year (4-6 fl oz/A) after May 15th
- 2-5 years (12-16 fl oz/A) after Aug. 15th
- Controls bahia*, bermuda*, rye*, fescue*, crabgrass*, dog fennel*, pigweed*, greenbriar, morning glory*

* Requires 16 fl oz/A or more

Arsenal® AC
Grasses & Broadleaf Weeds

Labeled rates

NOT RECOMMENDED DUE TO TOLERANCE ISSUES

- First year (4-6 fl oz/A)
- **2-5 years(12-16 fl oz/A) after Aug. 15th**
- Controls bahia*, bermuda*, rye*, fescue*, crabgrass*, dog fennel*, pigweed*, greenbriar, morning glory*

* Requires 16 fl oz/A or more

OustStar® herbicide
Grasses and Broadleaf Weeds

Soil Texture	1st year Weed Control ounces per acre	After 1st year Weed Control ounces per acre
Coarse Textured Loamy sand Sandy loam Sand	10-12	12-16
Medium Textured Loam Sandy clay loam Silt loam	12-16	16-19
Fine Textured Clay loam Sandy clay Silty clay loam Silty clay	16-19	18-24
Clay	Not recommended	Not recommended

OustStar® herbicide
Grasses and Broadleaf Weeds

- Primarily pre-emergent
- Late March – mid May

- Crabgrass, dog fennel, fescue, horseweed, ragweed, panicums

Transline® herbicide

- Horseweed*, ragweed*, coffee senna*, morning glory, sicklepod* (8-16 fl oz/A)

Release treatments may be made anytime during the season; however, some needle/leaf curling may occur if applied during active tree growth

* Up to 5 leaf stage

Velpar L herbicide

Grasses and Broadleaf Weeds

- Dog fennel, pigweed, panicums, lespedeza
- Rye*, crabgrass*, fescue*, horseweed*
- Do not add surfactant
- Moisture needed for activation

EASTERN US

Soil Texture Description	VELPAR® L (Pt/Acre) First Year Plantings	VELPAR® L (Pt/Acre) Established Trees
Loamy sand, sandy loam(50-85% sand)	4	4–5
Loam, silt loam, silt, sandy clay loam	4–5	5–7
Silty clay loam, clay loam, sandy clay, silty clay, clay	5–6	7–8

* Partial only

Oust® herbicide

Grasses and Broadleaf Weeds

Controls: crabgrass, dog fennel, fescue, horseweed, panicums, and ragweed

Use rates: 2 to 8 fl oz/A

- Best results when applied late winter – early spring
- Moisture required for pre-emergent control

Milestone® herbicide

Broadleaf Weeds

- Horseweed (5-7 fl oz/A)
- Pigweed, Sicklepod, Blackberry (7 fl oz/A)
- Morning glory* (7 fl oz/A)
- Ragweed (3-5 fl oz/A)
- Thistle (3-5 fl oz/A or 5-7 fl oz/A)
- Do not add surfactant
- Apply to trees in grass stage of growth

* Suppression only

Milestone® herbicide
Use Sites

- Non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), forests – site preparation and directed spray for conifer release
- Conservation Reserve Program (CRP) acres
- Longleaf pine plantations

Milestone Label Development in Longleaf

Milestone® herbicide

- Herbaceous weed control evaluations began 2007
- 12 sites across Carolinas
- 5-10 acres
- Operational treatments
- Targeting broadleaf weeds, vines
- Stand alone and tank mixtures with Arsenal

Longleaf Pine Tolerance to Milestone

What We Know

- Initiated longleaf trials 2007
- Labeling based on operational applications > 10 sites
- Site types
  - 1st year and inter-planted
- Primary weeds
  - morning glory and blackberry
- Applications
  - broadcast and directed spray
  - stand alone and tank mix with Arsenal AC

Conclusions

- Achieved effective control of target species (> 95% control)
- Observed little to no injury with broadcast rates ≤ 7 fl oz per acre alone or tank mixed with Arsenal AC
- Where injury was noted, damage occurred on seedlings emerging from the grass-stage with exposed candles/buds during growth flush/elongation. Injury consisted of damage to terminal bud followed by re-growth of the same or new bud
- Symptomology: temporary needle discoloration , irregular needle growth
- No longleaf mortality was observed

Recommendations

- Timing: newly planted longleaf seedlings to age 3 – as long as longleaf are in the grass stage of development
- Users should exercise caution when varying stages of longleaf growth exist as seedlings with exposed or elongated terminal buds may be injured
- Avoid direct treatment of Milestone to exposed longleaf pine terminals to avoid injury
- Milestone can be used alone or tank mixed with Arsenal AC to broaden the spectrum of control of weed competition
- Treatments should not include the use of a surfactant

2012 Milestone Longleaf Trials

- 2 sites: old field and cutover
- Treatments:
  - Broadcast : April, May, June
  - Spot: July
- 10 treatments at 7 fl oz
- 6 treatments at 14 fl oz/ A (2X)
- 1 treatment at ¼%
- 88% longleaf 1-6 ft in height
- 165 total trees

Observations

Transient needle droop

Observations

Transient needle curling/twisting

7 and 14 fl oz/A
30, 60, 90 DAT

Conclusions

- Expect transient symptomology (needle droop, needle twisting/curling) after broadcast foliar applications with Milestone at labeled rates to actively growing longleaf pine
- No tree/bud mortality observed from any (1-2X) labeled treatment (372DAT) applied to longleaf during periods of active growth with elongated buds
- Observed 16% tree/bud mortality using ¼% Milestone directed spray 348 DAT applied to trees during periods of active growth with elongated buds

7 fl oz/A Milestone 70 DAT
2-3 ft volunteer loblolly pine

READ, UNDERSTAND, & FOLLOW

- Product label
- Uses
- Guidelines
- Precautions
- Restrictions

Questions?