Directed Herbicide Trials
Hardwood Herbicides

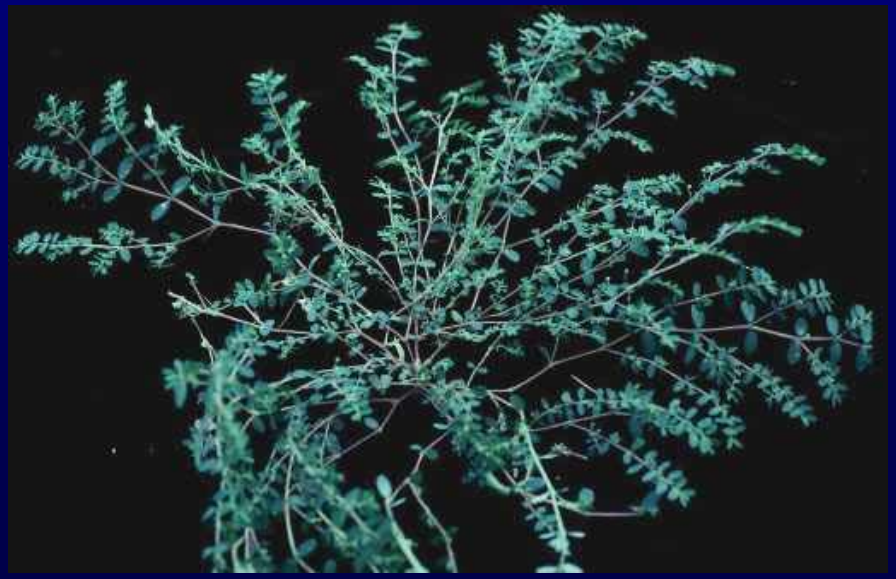
David South

AUBURN

FORESTRY AND
WILDLIFE SCIENCES

Two herbicides

- Metsulfuron-methyl
- For prostrate spurge



- Halosulfuron-methyl
- For nutsedge

Sedgehammer™

TURF HERBICIDE

SEDGEHAMMER is a selective herbicide for the control of nutsedge and other weeds in turfgrass and landscaped areas

	% by Wt.
ACTIVE INGREDIENT:* Halosulfuron-methyl	75.0%
OTHER INGREDIENTS:	25.0%
Total:	100.0%

Vegetation™ Manager

METSULFURON METHYL DF

DRY FLOWABLE

SPECIMEN LABEL

ACTIVE INGREDIENT:	
METSULFURON METHYL	
METHYL 2-[[[[(4-METHOXY-6-METHYL-1,3,5-TRIAZIN-2-YL)AMINO]-CARBONYL]AMINO]SULFONYL]BENZOATE	60%
INERT INGREDIENTS:	40%
TOTAL:	100%

DO NOT USE ON FOOD OR FEED CROPS EXCEPT AS RECOMMENDED

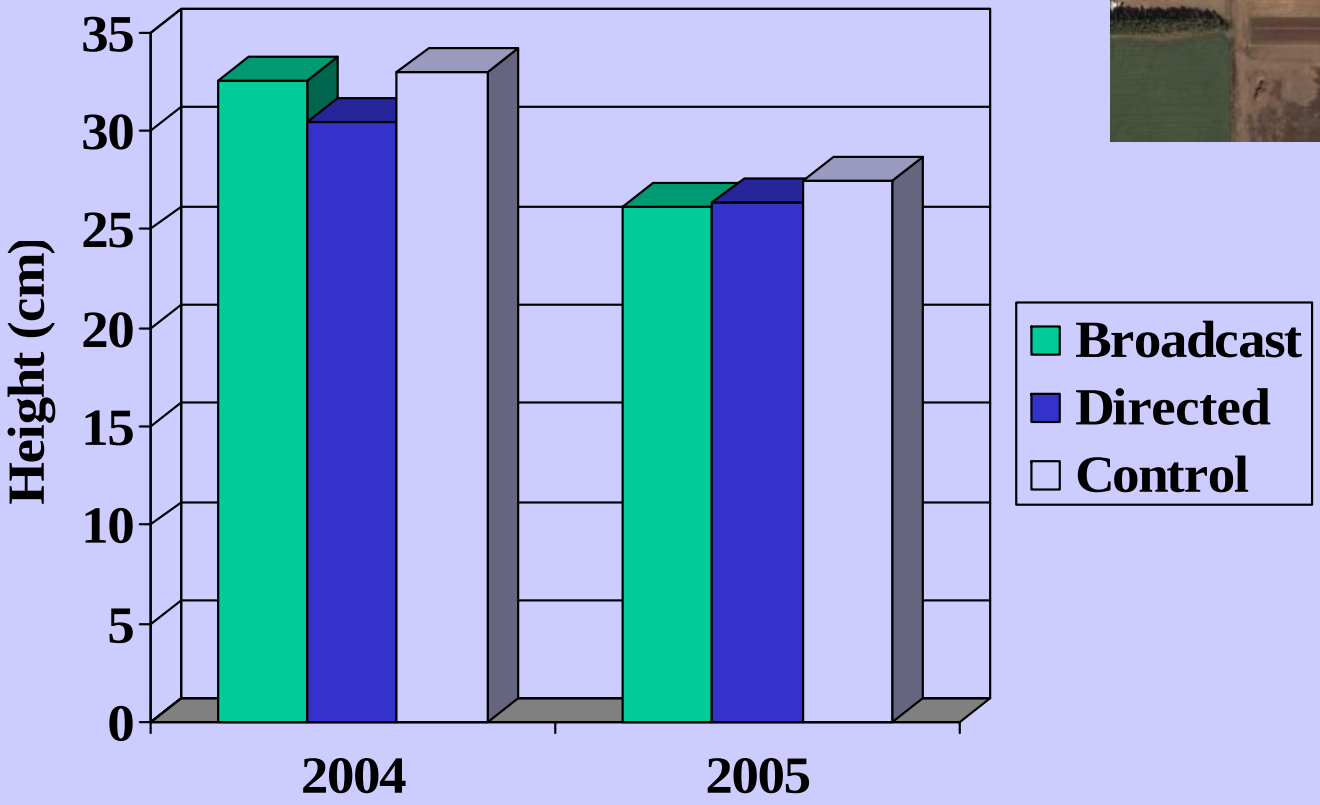
Directed Trials

- Elberta 2004
- Shubuta 2004
- Atmore 2004
- Elberta 2005
- Shubuta 2005
- Delano 2005
- Taylor 2006
- Flint River 2006

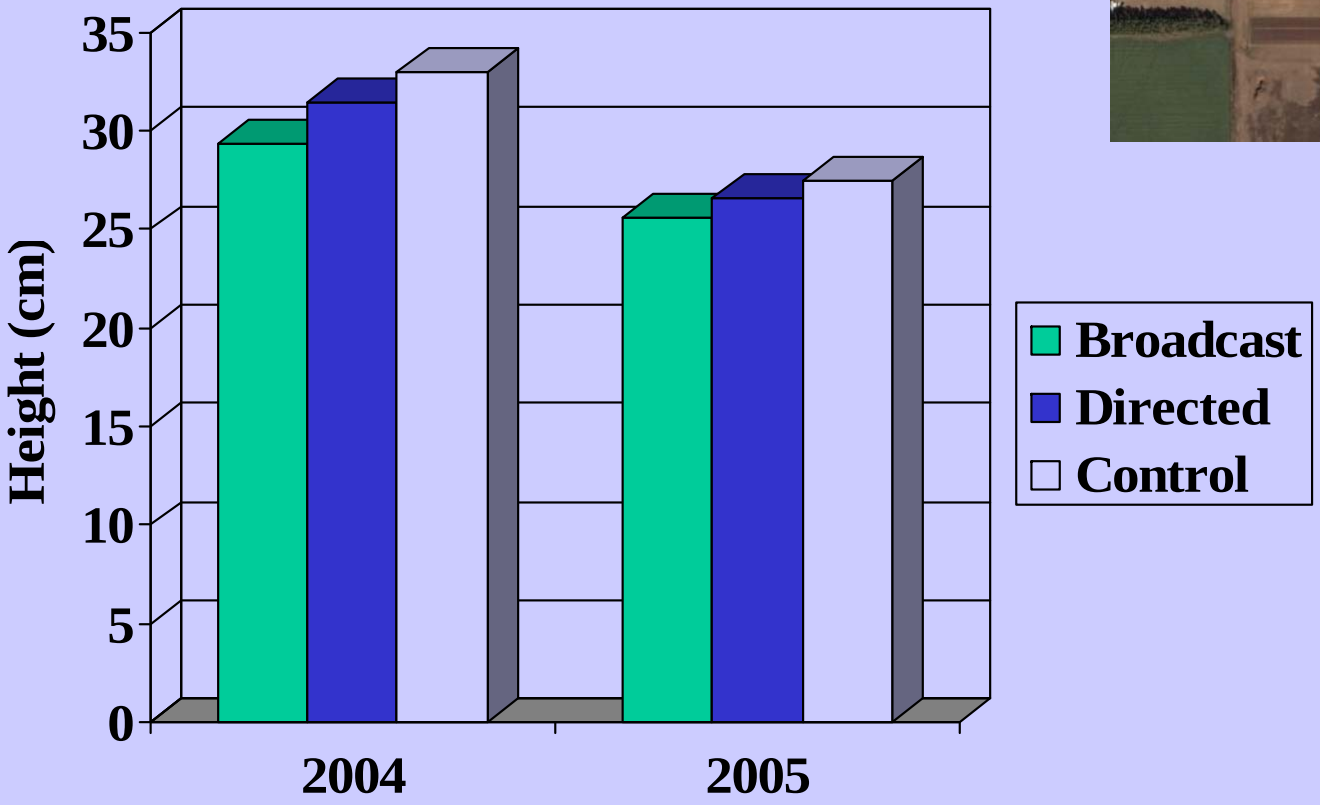
Results

- Elberta 2004 Stunting -height
- Shubuta 2004 No stunting
- Atmore 2004 Lifted early
- Elberta 2005 Stunting -height
- Shubuta 2005 No stunting
- Delano 2005 Better than controls

halosulfuron



metsulfuron

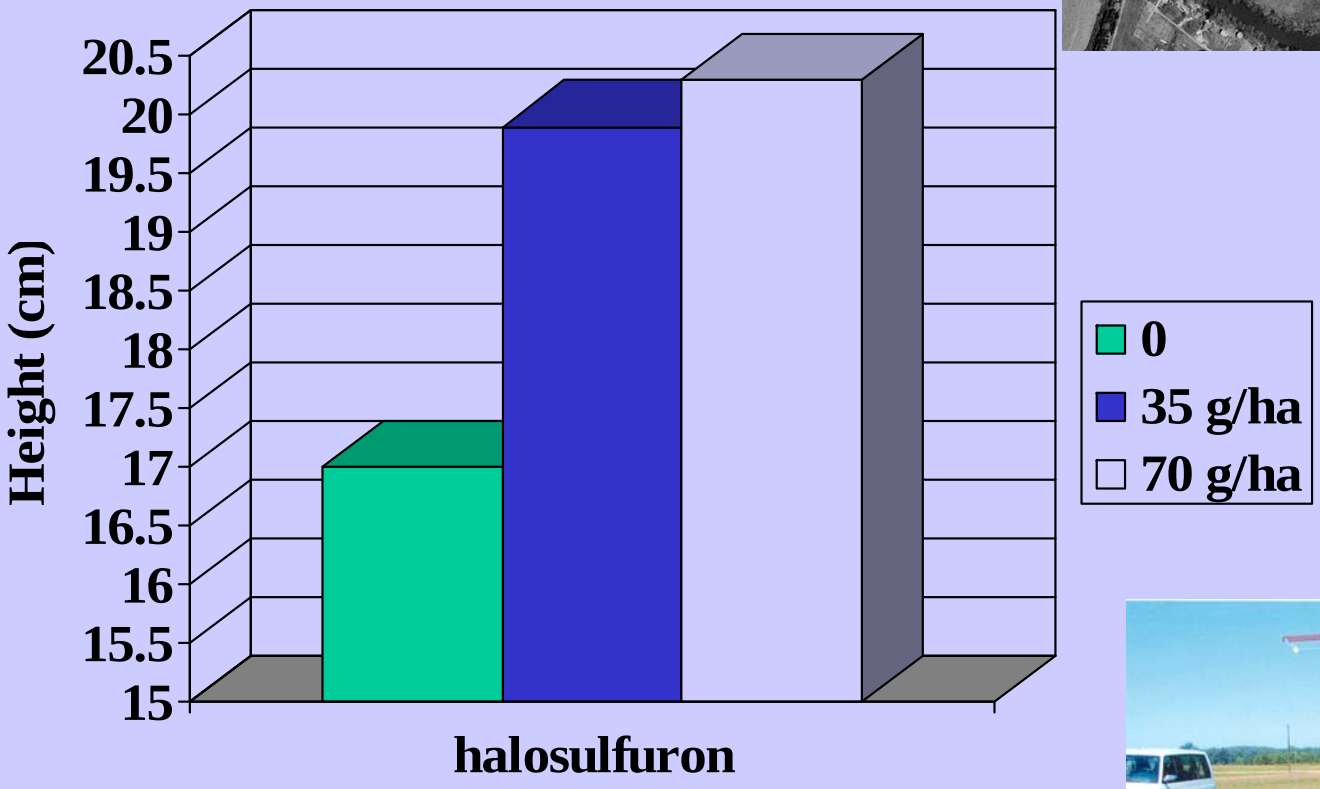


Conclusions

On some soils, halosulfuron-methyl (30 g ai /acre 1.4 oz product/acre) will stunt seedlings even when using a directed sprayer.

On some soils, using a directed applicator can increase seedling tolerance to metsulfuron-methyl (5.1 g ai/acre or 1.5x rate)

2005 – ww oak

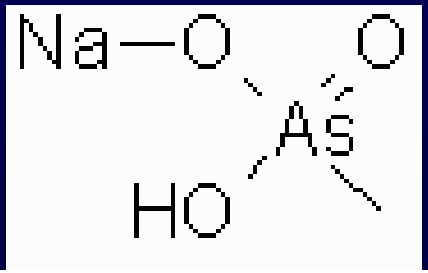

Height (cm)
20.5
20
19.5
19
18.5
18
17.5
17
16.5
16
15.5
15
halosulfuron
0
35 g/ha
70 g/ha

Research Reports

- **05-03 Shielded Applications of Sulfonylureas**
- 06-03 – Part II
- 06-02 Halsulfuron methyl in oak seedbeds

MSMA

- Monosodium methanearsonate
- Causes rapid desiccation
- Strongly adsorbed to soil
- Average field half-life of 180 days
- Medium to low mobility on sandy soil
- Can leach 20 inches in a Norfolk sandy loam



GENERAL INFORMATION

This product is a herbicide for use in cotton, fruit, nuts, golf courses, turf, grass seed crops, forestry, and non-crop areas. This product contains a surfactant (wetting agent) in proper ratio for best results. It is not necessary to add additional surfactant to the spray tank. Local conditions and recommendations vary; consult local agricultural experiment station or extension service weed specialists for recommendations in your area. DO NOT feed treated foliage to livestock or graze treated areas. DO NOT spray or allow drift onto vegetables, ornamentals or other desirable plants. DO NOT apply when weather conditions favor drift from target area. A partial list of weeds controlled with this product includes:

Bahiagrass
Barnyardgrass
Brachiaria spp.
Bullnettle
Chickweed
Cocklebur*
Crabgrass
(Smooth & Large)
Dallisgrass
Foxtail
(Green &Yellow)
Goosegrass
Johnsongrass
Morningglory
Nutsedge
Pigweed
Puncturevine
Ragweed
Sandbur
Watergrass
Wood Sorrel

* Arsenical resistant varieties may not be controlled.
See Golf Course and Turf Uses for weeds controlled at those sites.

NON-CROP: This product is effective in control of the above listed weeds and many similar weeds on drainage ditch banks, rights-of-way (including highway, railroad, pipeline and utility), fence rows, golf course sand traps, storage yards and many similar non-crop areas. Application should be made when weeds are small and conditions are favorable for good weed growth. Mix at a rate of 2½ to 6 pints of this product in 40 to 50 gallons of water for application to one acre. Use higher rates and spray volume for dense weed growth. For small areas, use 1 to 2 fluid ounces in 5 gallons water per 1,000 sq. ft. spray undesirable vegetation thoroughly to point of runoff. Adequate coverage and complete wetting of foliage is important for effective control. Repeat applications may be necessary if regrowth occurs. Use only as spot treatment in Florida.

FORESTRY:

GENERAL INFORMATION ON TREE CONTROL: This product is designed for crown kill of undesirable trees through spaced-cut injection methods. It is useful for the control of the following conifers: Cedar, Douglas fir, Grand fir, Lodgepole pine, Ponderosa pine, Jack pine, Red pine, Silver fur, and Western hemlock. It is also useful for the control of Big leaf maple, but not most hardwoods. It shows negligible translocation through root grafts and has no residual phytotoxic action in the soil. Forked trees require individual treatment.

Weed Technology. 2003. Volume 17:554–559

Selective Exposure of Yellow (*Cyperus esculentus*) and Purple Nutsedge (*Cyperus rotundus*) to Postemergence Treatments of CGA-362622, Imazaquin, and MSMA[1]

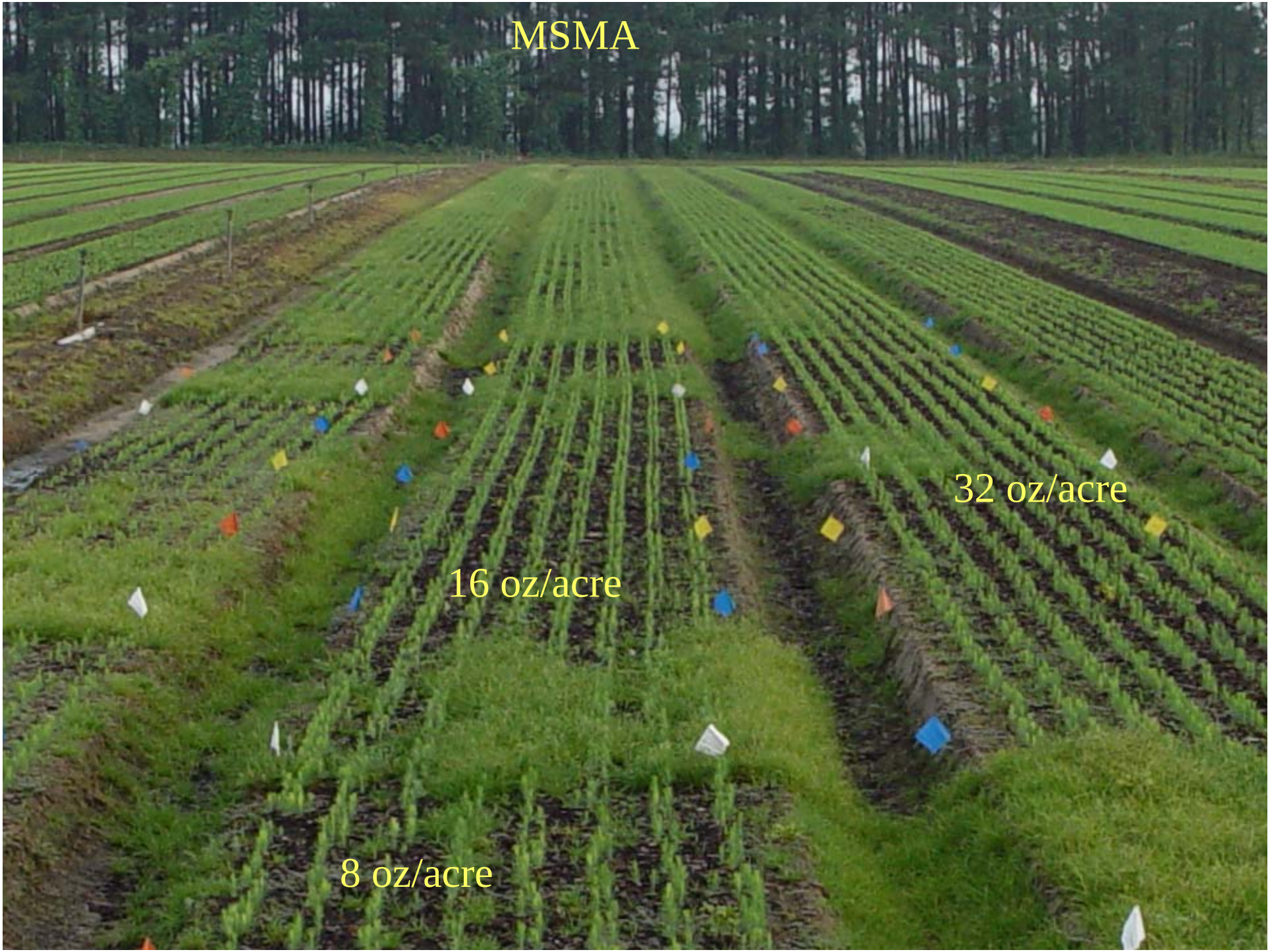
J. SCOTT McELROY, FRED H. YELVERTON, SHAWN C. TROXLER, and JOHN W. WILCUT[2]

2 lbs a.i./acre

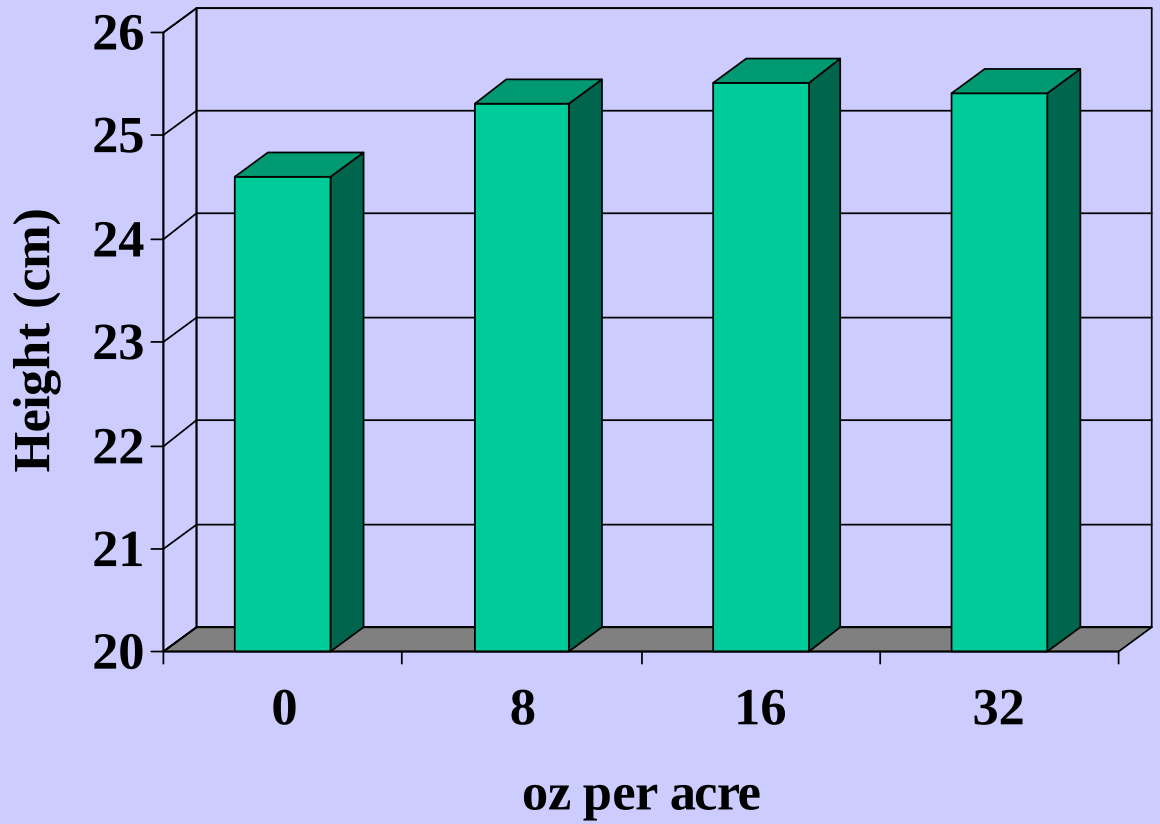
Table 3. Influence of nutsedge species by placement interaction on shoot number reduction 60 DAT[a].

Species	Shoot number reduction			LSD[b]
	Soil	Foliar	Soil + Foliar	
	%			
Yellow nutsedge	26	60	68	22
Purple nutsedge	58	21	47	28
LSD[c]	NS	26	NS	

[a] Abbreviations: DAT, days after treatment; NS, nonsignificant.
[b] LSD ($P < 0.05$) for comparing placement within a species.
[c] LSD ($P < 0.05$) for comparing species within a placement.


MSMA
32 oz/acre
16 oz/acre
8 oz/acre

MSMA



Auburn University Southern Forest Nursery Management Cooperative

RESEARCH REPORT 05-05

THE EFFECT OF TOP-PRUNING ON TOLERANCE OF GREENHOUSE-GROWN LOBLOLLY PINE SEEDLINGS TO MSMA

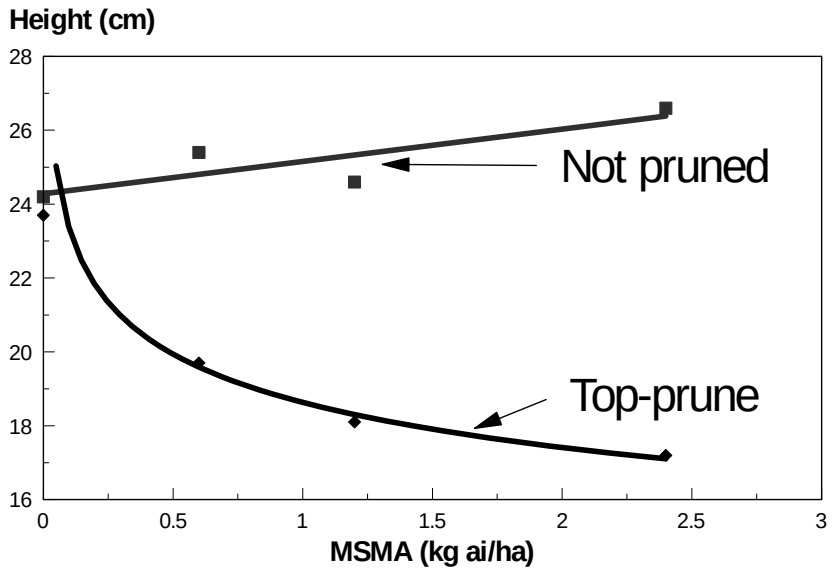
by
David B. South and Tommy Hill

MSMA

- Control
- 12 oz/ac (0.6 lb ai/acre)
- 24 oz/ac (1.2 lb ai/acre)
- 48 oz/ac (2.4 lb ai/acre)

Half of seedlings top-pruned prior to application

Significant Interaction



No top prune

No herbicide

1.2 lb ai/acre

Spray after top-prune

1.2 lb ai/acre

no herbicide

2006 top-prune test

Specimen Label

Dow AgroSciences

GoalTender™

Herbicide

™Trademark of Dow AgroSciences LLC

Use Directions For: artichokes (globe), broccoli/ cabbage/cauliflower, cacao, citrus (nonbearing), coffee, conifer (seedbeds, transplants, container stock) and selected deciduous trees, cotton, cottonwood, eucalyptus, fallow bed, (cotton/soybeans), garbanzo beans, garlic, guava (Hawaii only), horseradish, jojoba, mint, onions, onions grown for seed, papaya (Hawaii only), taro, treefruit/nut/vine

Active Ingredient	
oxyfluorfen: 2-chloro-1-(3-ethoxy-4-nitrophenoxy)4-(trifluoromethyl)	41%
Inert Ingredients	59%
Total	100%

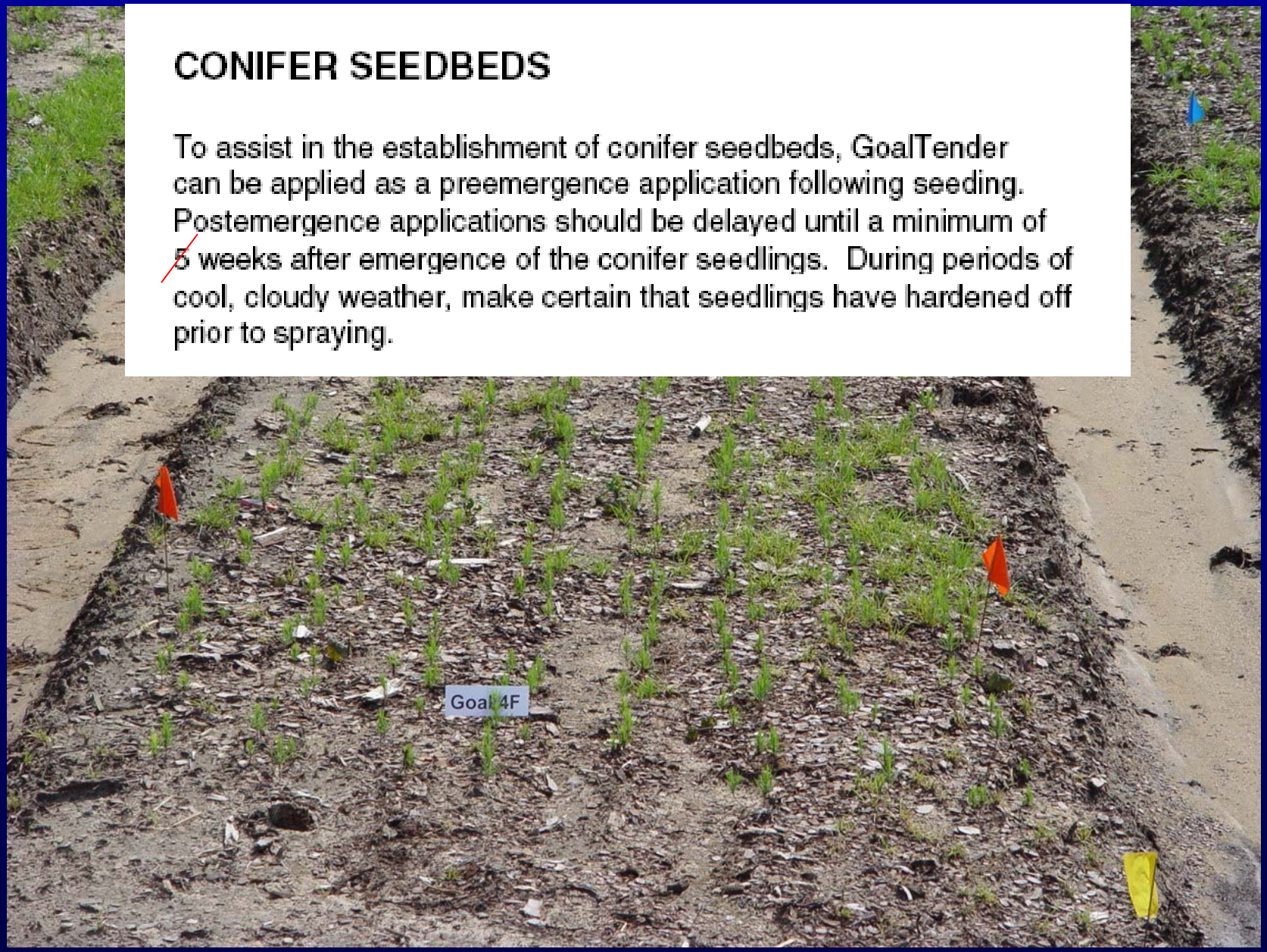
Contains 4 pounds active ingredient per gallon.

Shake Well Before Using

Now being used operationally in nurseries

CONIFER SEEDBEDS

To assist in the establishment of conifer seedbeds, GoalTender can be applied as a preemergence application following seeding. Postemergence applications should be delayed until a minimum of 5 weeks after emergence of the conifer seedlings. During periods of cool, cloudy weather, make certain that seedlings have hardened off prior to spraying.



GoalTender
Comments by managers

The early postemergence application seems to provide better control of morningglory

Chemical barrier

GoalTender directed in hardwoods (4 oz/a then 6 oz/a)

East Tennessee Nursery

No herbicide

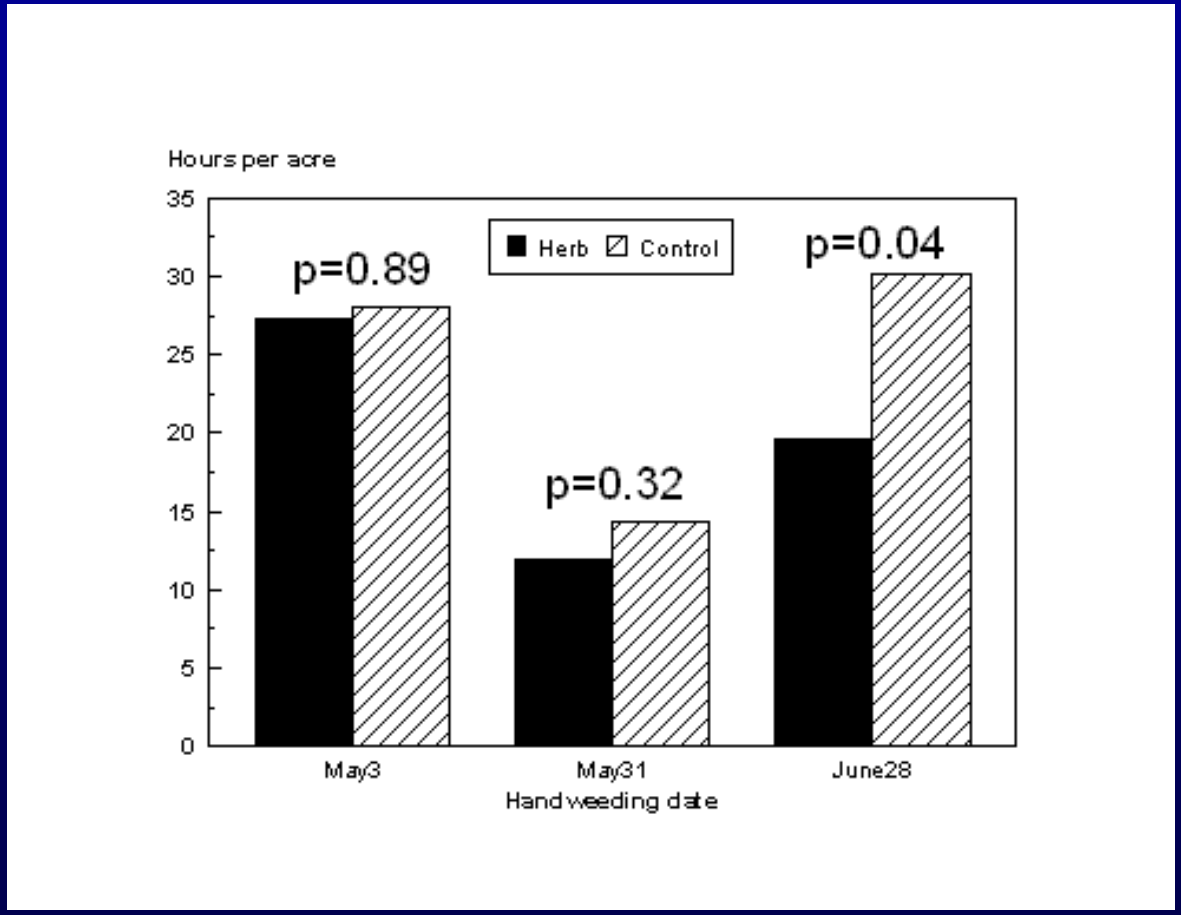
4 oz/ac Goaltender + irrigation

Indian Mound Nursery - operational trial

Indian Mound Nursery - operational trial

Injury to Nuttal oak (also some on Shumard oak)

Indian Mound Nursery - operational trial



Weekly applications of GoalTender

Rates for various herbicides

	Weed	Rate per acre	Labeled for
MSMA	Flathead sedge Prostrate Spurge*	8 oz	Fallow
Stinger	Sicklepod Eclipta	4 oz 8 oz	Pine Hardwoods
Metsulfuron	Prostrate spurge	0.2 oz	Fallow
Sledgehammer	nutsedge	0.66-1.33 oz	Fallow

* Add Cobra for additional control

Questions?

Need to test MSMA + Suprend
For nutsedge