

Weed Control

Part 2

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Auburn University



How do you control nutsedge?



Soil Fumigation...and sanitation and a 24/7 weed management program



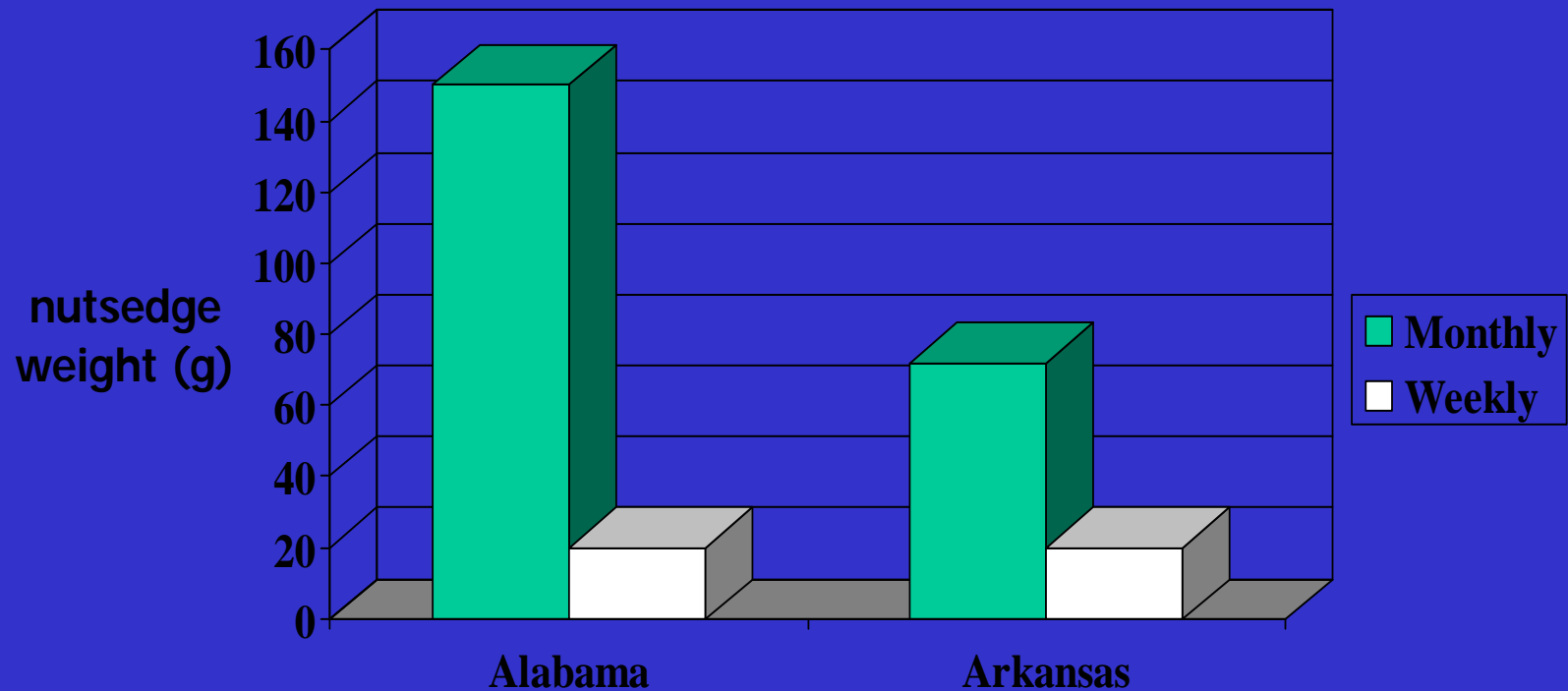
A 24/7 Nutsedge program

- Cover crop: Permit – Roundup ready corn
- Fallow land: Oust-Roundup-Reflex tank-mix
- Methyl bromide fumigation (while it lasts)
- Reflex at time of sowing (for sandy nurseries)
- Weekly applications of Goal-Cobra
- Drip apply Roundup-Reflex to center of escape nutsedge plants (use purple dye)
- Spot applications of MSMA (in alleyways and on risers)

Weekly applications of Goal improve weed control



Monthly vs weekly Goal



Controlling nutsedge with herbicides



Hardest



Seedbeds



cover-crop



fallow

Easiest



NC-20484

UBI-S734

DPX-4129

ethofumesate

bentazon

cyperquat

perfulidone

hexazinone

glyphosate

imazapyr

EPTC

imazaquin

metolachlor

fomesafen

metsulfuron-methyl

halosulfuron-methyl

sulfometuron-methyl

cloransulam-methyl

metsulfuron-methyl

Selective Nutsedge Herbicides for pine

- Reflex – PRE (AL, AR, GA, MS, NC, SC, TX)
do not use on fine textured soils

POST (NC) no-surfactant

- Eptam (PPI 14 days before sowing)
- MSMA repeat applications
(does not control tubers)

Nutsedge Herbicides for fallow land

- Methyl bromide
- Roundup
- Glyphomax
- Finale
- Oust
- Permit



Oust (1.33 oz product per acre)



Permit in corn or fallow ground



Questionnaire (11 nurseries)

of postemergence Goal and Cobra applications

| # trips | # nurseries | Total herbicide |
|---------|-------------|-----------------|
| 15 | 1 | 2.3 pounds |
| 9 | 2 | 1.3-1.2 |
| 8 | 2 | 1.2-2.1 |
| 7 | 2 | 0.9-1.7 |
| 6 | 3 | 0.5-0.8-0.8 |
| 5 | 1 | 0.8 |

WORK PLAN

3-WAY TANK-MIX FOR NUTSEDGE ON FALLOW LAND

Project Leader: Dr. David South: Auburn University

A. Objectives:

To evaluate the efficacy of a tank-mix (glyphosate, fomesafen, sulfometuron) for controlling purple and yellow nutsedge on fallow land.

B. Procedures:

Table 1. Herbicide rate per treated acre. (all rates in product per acre rates)

| Treatment | <u>Roundup-ultramax</u> | Reflex | Oust | First application | Second application | Third Application (if needed) |
|-----------|-------------------------|-----------|-------------|-------------------|--------------------|-------------------------------|
| Tank mix | 2.5 quarts | 1.5 pints | 1.33 ounces | July | -- | -- |
| | 2.5 quarts | none | 1.33 ounces | -- | August | Late September |
| | 2.5 quarts | none | 1.33 ounces | -- | -- | Late September |
| Roundup | 2.5 quarts | none | none | July | August | Late September |

Treat in 25 to 40 gallons of water per acre.

Apply when nutsedge plants are 3-6 inches tall.

herbicide tank-mix for fallow land

- | | | |
|-----------------------------------|------------------------------------|-----------------------------------|
| • First spot spray | • Second spot spray | • Third spot spray |
| • Roundup • Oust | • Roundup | • Roundup |

AI Pest Management Handbook

Weed control ratings (0-10)

| | Cobra | Reflex | Duel | MSMA | First Rate | Eptc | Roundup | Permit Sedgehammer |
|--------------------|-------|--------|------|------|---------------|------|---------|-----------------------|
| Yellow nutsedge | 2 | 4 | 1 | 7 | 6 | 7 | 7 | 8 |
| Purple | 2 | 4 | 6 | 7 | 6 | 7 | 7 | 8 |

Selective Nutsedge Herbicides for cover-crops

- Permit – Field corn – grain sorghum
- Roundup – Roundup ready corn

Non-selective control of nutsedge in seedbeds



Non-selective control of nutsedge on riser-lines



Direct treatment





MSMA 2 lbs a.i./acre



How do you control spurge?





Rate product/acre

| | | |
|---------------------|------------|---|
| Cobra 2EC | 13 oz | Apply before 1" diameter |
| Pendulum AquaCap | 2 quarts | Apply before weeds emerge 3-5 weeks after sowing |
| Scythe | 1 gal/acre | Apply on hot day before 1" diameter |

Spurge trials

SPECIMEN

PENDULUM Herbicide
AquaCap™

For Use as a Preemergent Weed Control Herbicide in Turfgrasses, Landscape or Grounds Maintenance, Noncropland Areas and Ornamental Production

| | |
|--|--------|
| ACTIVE INGREDIENT | |
| pendimethalin, N-[1-ethylpropyl]-3,4-dimethyl-2,6-dinitrobenzamine | 98.7% |
| INERT INGREDIENTS: | 51.3% |
| TOTAL | 100.0% |

(1 gallon contains 3.8 lbs. of microencapsulated pendimethalin in an aqueous carrier)

EPA Reg. No. 241-418 EPA Est. No. _____

2 quarts per acre

\$30 per acre

May 28th

Control

Pendulum AC



June 26th - % spurge cover

| | | |
|-------------|----------|--------|
| Control | -- | 95% a |
| Sureguard | 6 oz | 82% bc |
| Pendulum AC | 1 quart | 88% ab |
| Oryzalin | 2 quarts | 87% ab |
| Oust | 1.33 oz | 74% c |
| Pendulum AC | 2 quarts | 46% d |

November 1

Control



Pendulum





PENDULUM AC

The image shows a large field of young pine trees, likely a nursery or a plantation. The trees are arranged in neat, horizontal rows. The ground is covered with brown mulch or pine needles. In the foreground, a blue flag is planted in the ground, marking a specific location. The text 'PENDULUM AC' is overlaid on the left side of the image, and 'CONTROL' is overlaid on the right side.

CONTROL



May PendulumAC

May Pendulum
+June PendulumAC

May PendulumAC+Escort

Control

ESCORT® XP may be applied on conifer and hardwood plantations, and noncrop sites that contain areas of temporary surface water caused by the collection of water **between planting beds, in equipment ruts**, or in other depressions created by management activities.
BUT YOU MUST HAVE THE SUPPLEMENTAL LABEL.



Equipment rut

0.2 ounce/acre



How do you control this weed?



How do you control sicklepod?

FUMIGATION IS NOT THE RIGHT ANSWER!





Supplemental Labeling



Dow AgroSciences LLC

9330 Zionsville Road

Indianapolis, IN 46268-1054 USA

Stinger*

EPA Reg. No. 62719-73

**Control of Sicklepod and Other Susceptible Broadleaf Weeds
in Southern Pine Seedbeds in Forest Nurseries**

For distribution and use only in the states of Alabama, Arkansas, Georgia, Louisiana,
Mississippi, North Carolina, South Carolina, Tennessee, Texas and Virginia

Application Timing

General broadleaf weed control: For best results, apply when weeds are small and actively growing.

Sicklepod: For best results, apply after the majority of basal leaves have emerged.

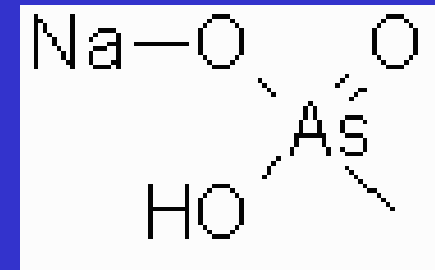
Application

Apply at a broadcast rate of 1/4 to 1/2 pt per acre in a spray volume of 20 or more gallons per acre. Application may be made any time after May 1, but some needle curling may occur if applied during active conifer growth. When making spot applications, use a calibrated boom, or if a hand-held sprayer is used, care should be taken to apply the spray uniformly and at a rate equivalent to a broadcast

How do you control this weed?



Check



MSMA 1-2 pints/acre



Use a surfactant and treat when flathead sedge is small.

How do you control this weed?



How do you control alligator weed?



How do you control this weed?



How do you control knawel?



How do you control knawel?



Escort does a heck of a number on knawel. We made one application of 1/10 oz/ac during the second week of April of last year. We did it on a Friday, got about a tenth of an inch of rain on Sunday and by Tuesday, it was dead. It also cleaned most of everything else up too except for the nutsedge. We have since used it in longleaf, loblolly, shortleaf and Virginia pines with good results. ... It seems that knawel knows no boundaries.

How do you control this weed?



How do you control tall morningglory?



Treat when small when it has not developed a waxy leaf and can be affected by herbicides like.



Goaltender....

Cobra

Cobra with UAN

Goal with UAN

How do you control this weed?



How do you control mareetail or horseweed ?



4 to 8 oz of Stinger/acre

Postemergence only

Up to 5 leaf stage

How do you control this weed?



How do you control white clover?



4 to 8 oz of Stinger/acre

Postemergence only

How do you control this weed?





How do you control eclipta?

*Hard to control with
preemergence herbicides.*



*Cobra or MSMA applied to
very young seedlings.*

*Old seedlings Cobra just turns
it black.*

Some control with Escort



COBRA + MSMA

MSMA

COBRA

How do you control this weed?



How do you control crabgrass?



*Before it germinates with weekly applications
of diphenylether herbicides*

Goal..... Cobra

How do you control crabgrass after it germinates?



Acclaim
Fusilade II
Vantage
Envoy

How do you control this weed?



How do you control bermudagrass after it germinates?



Multiple applications of

Acclaim

Fusilade II

Vantage

Envoy

How do you control this weed?



How do you control this common purslane?



Goal or Cobra or Goaltender

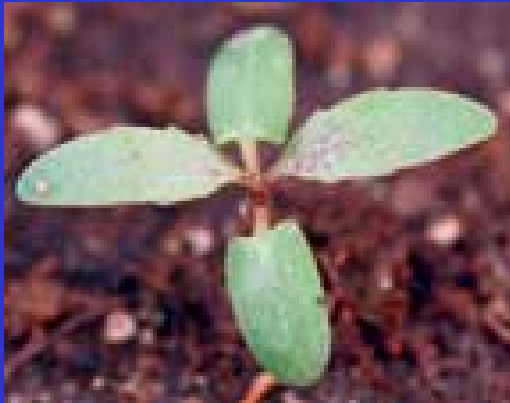
How do you control this weed?



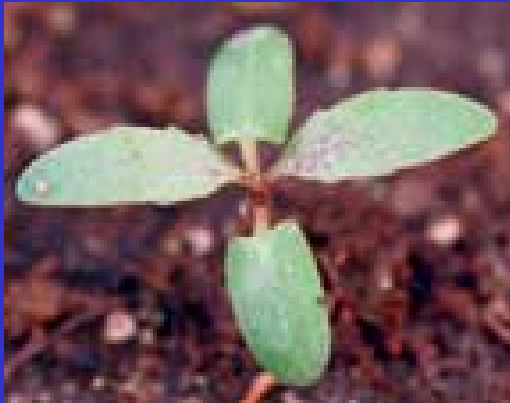
How do you control this cogongrass?



How do you control this weed?



How do you control this weed?



How do you control cottonwood in hardwoods?



*Wick application of glyphosate
on taller cottonwood seedlings*

QUESTIONS?





Herbicide formulations

- EC – emulsifiable concentrate
- AS – aqueous solution
- WP – wettable powder (EPA does not like)
- WSP – water soluble packet
- F – flowable
- DF- dry flowable
- DG – dispersible granule
- G - granular (often costs much more)

G?

OR

DG?





Goal



NEW GoalTender herbicide

GoalTender herbicide contains the same active ingredient as Goal 2XL, oxyfluorfen. However, GoalTender is formulated as a water-based flowable and is a 4 lb a.i./gallon material (Goal 2XL is a 2 lb a.i./gallon material). The unique formulation of GoalTender reduces the potential for "lift-off" (or co-distillation), increasing the safety to adjacent crops. GoalTender has effectively no odor.

Apply 0.125 pounds a.i. of oxyfluorfen per acre

How many fluid ounces per acre?

Dilution equations

Active ingredient vs. Product

$$\frac{\text{Rate of a.i./acre}}{\text{lbs a.i. Per gallon}} = \text{gallons of product/acre}$$

$$\frac{0.125 \text{ lbs/acre}}{2 \text{ lbs a.i./gallon}} = \frac{1}{16} \text{ gallon of Goal 2XL/A}$$

(or 8 fluid ounces)



Excort XP

(60% a.i.)

We tested 3.4 g a.i. of metsulfuron methyl /acre

How much product to measure out ??

$$\frac{3.4 \text{ g a.i. /acre}}{0.6 \text{ a.i.}} = 5.67 \text{ g product/acre}$$



Excort XP

(60% a.i.)

Tommy says apply 0.2 ounce product/acre

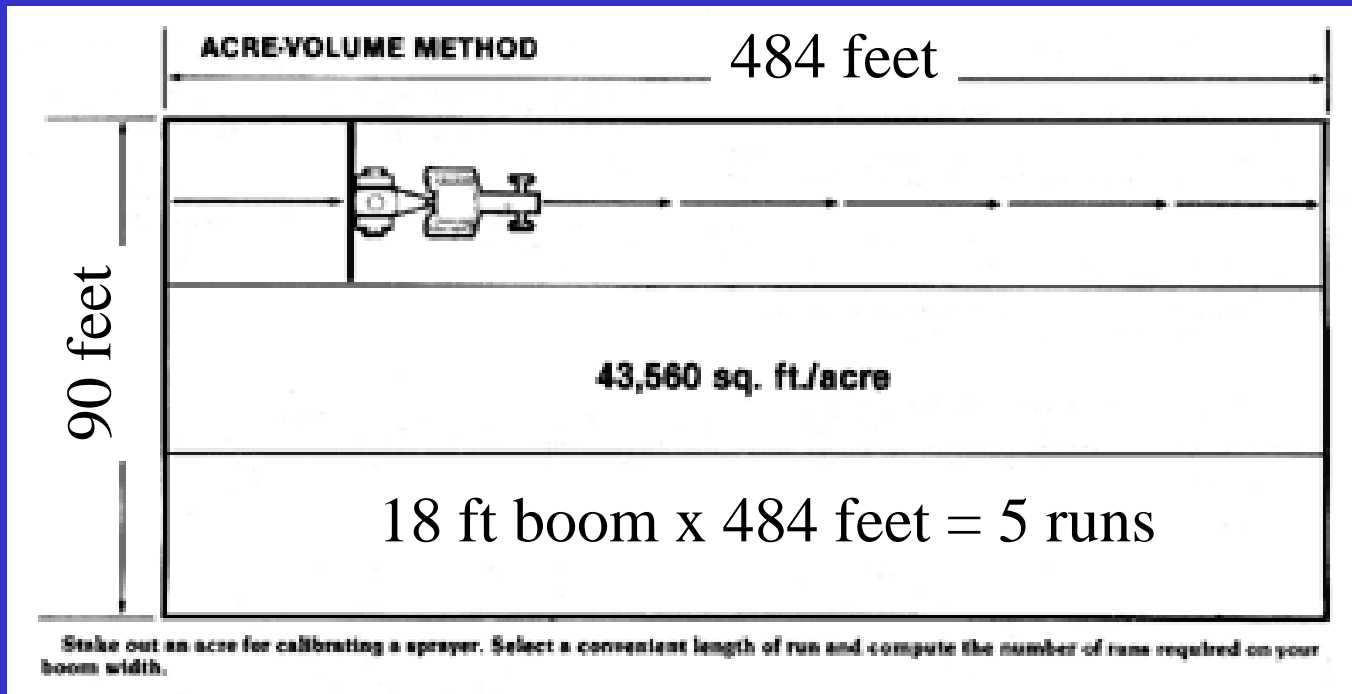
How much product to measure out???

$$\frac{454 \text{ g/lb}}{16 \text{ ounces/lb}} = 28.375 \text{ g/oz}$$

16 ounces/lb

$$28.375 * 0.2 = 5.675 \text{ g product per acre}$$

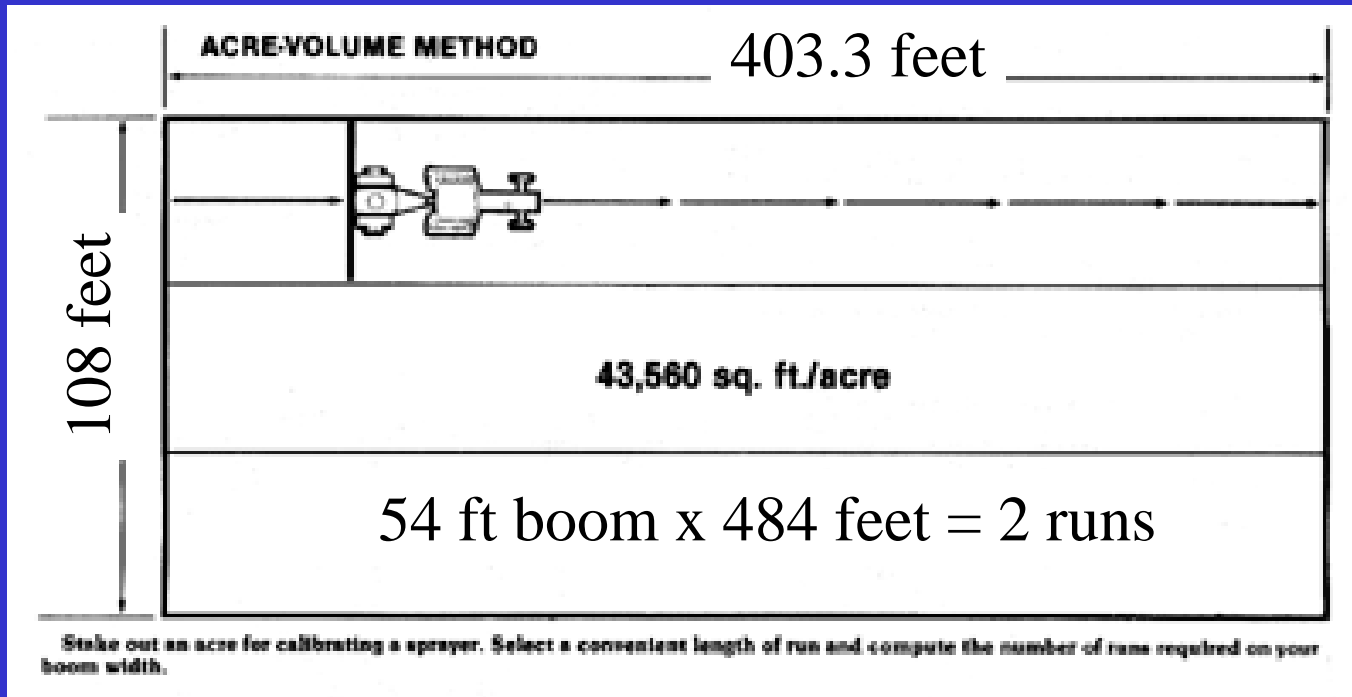
Calibration – 18' boom



11 nozzles per boom.... 32 gallons per acre = 2.9 gallons/nozzle



Calibration – 54' boom



32 nozzles per boom.... 32 gallons per acre = 1 gallon/nozzle



Automatic sprayer calibration



Proper storage of pesticides



QUESTIONS?



