

# Vegetable Update 2025 – Weed Management



U.S. EPA,  
U.S. FWS,  
USDA NRCS,  
GDA,  
Visit GA Ag

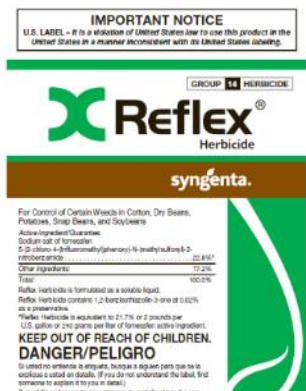


**Stanley Culpepper and Jenna Vance  
Taylor Randell-Singleton, Hannah Wright-  
Smith, Camp Hand  
University of Georgia  
Tifton, GA**





# Lots of Impact from New Labels in Recent Years



**Embed® Extra**  
EPA Reg. No. 62719-726

**2(ee) Recommendation†**

**SATELLITE®**  
HydroCap **HERBICIDE**

For Use in Selected Crops

<b>ACTIVE INGREDIENT:</b>	
Pendimethalin, N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzamide	38.7%
<b>OTHER INGREDIENTS:</b>	
	61.3%
<b>TOTAL:</b>	100.0%
(1 gallon contains 3.8 lbs. of microencapsulated pendimethalin in an aqueous carrier)	
EPA Reg. No. 75069-230	

**FIFRA Section 24(c) Special Local Need**



**FLUMIOXAZIN GROUP 14 HERBICIDE**

FOR DISTRIBUTION AND USE ONLY WITHIN THE STATE OF GEORGIA

**CHATEAU® EZ**  
HERBICIDE

EPA Reg. No. 59639-221  
EPA SLN No. GA-220006



**Prowl® H20**  
Herbicide

For Use in Selected Crops

<b>Active ingredient†:</b>	
pendimethalin, N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzamide	38.7%
<b>Other ingredients:</b>	
	61.3%
<b>Total:</b>	100.0%

**BASF**  
We create chemistry

**SPECIMEN**

**Group 10 Herbicide**

**Liberty® 280 SL**  
Herbicide



# ***The Endangered Species Act (ESA)***

- **ESA implemented in 1973**
- **Provides framework to conserve & protect endangered & threatened species & their habitats!**

***Total of ~1600 species +  
900 critical habitats!!!***



**Grey Wolf**



**Whorled Sunflower**



**Black-footed Ferret**



**Wood Bison**



# Very Minor Changes in Circulars



## 2024 Watermelon Weed Control Programs A.S. Culpepper and J.C. Vance, University of Georgia, Tifton



Crop rotation, tillage, and a sound herbicide program are all critical components for a successful watermelon production system. Minimizing crop injury while maximizing weed control and yield will require experience and knowledge of herbicides used and how each production practice influences the overall weed management system. Potential weed management programs for three common production systems are discussed below.

### ✚ TRANSPLANT SMALL-BED MULCH PRODUCTION:

**Step 1. Under mulch:** Metam sodium (Vapam, others) is, by far, the most effective tool to control small-seeded weeds ( $\geq 50$  GPA broadcast) and nutsedge (75 GPA broadcast); plant only after metam has completely dissipated. Although less effective, Reflex, Sinbar, and/or Sandea can be applied under mulch as long as the treated bed is not disturbed after application with mulch and/or drip installation. For Sandea, delay planting at least 7 days after application.

**Step 2. Over Mulch:** After proper installation of mulched beds (Fig. 1 and 2), before punching transplant holes, and if herbicides were not applied under mulch, broadcast Reflex (12 oz/A), Sinbar (3-4 oz/A), and Curbit (2 pt/A) over mulch and bare soil. Gramoxone\*, Rely\*, or Roundup\* can be included to control emerged weeds. A single 0.5" rain/irrigation event must occur after applying all herbicides and prior to punching holes for transplanting.

**Step 3. In-crop:** Apply Select Max at 9 oz/A without adjuvant when grasses are  $\leq 3"$ ; goosegrass  $< 1"$ .

**Step 4. Row Middle:** Dual Magnum (16 oz/A), Sandea (0.75 oz/A), Curbit (2 pt/A), Treflan (1-1.5 pt/A), Prowl H20 (2 pt/A), and Optogen (3.5 oz/A) can be applied in row middles for additional residual control; avoid crop contact. Sandea plus surfactant would also control emerged nutsedge and radish. Roundup, Rely, and/or Gramoxone can be applied with hoods; avoid contact with the crop. Plowing will destroy the herbicide barrier, apply additional residuals and activate them immediately.

\*Gramoxone must be applied  $> 24$  hr before planting. \*Roundup can be applied over mulch at 1.13 lb ae/A (RU PowerMax 3 = 30 oz/A) 3 or more days before transplanting or rates can be increased to 2.25 lb ae/A if applied 10 or more days prior to planting. \*Rely can be applied twice not to exceed 64 oz/A if applied 3 or more days prior to planting.

Note: Curbit is only labeled for use between watermelon rows in transplant production, do not apply under mulch.

Figure 1. Mulch must be free of holes and beds must be formed allowing irrigation to wash herbicides off mulch.



Figure 2. Poor bed formation allows herbicides to concentrate on mulch which can cause significant injury.



### TRANSPLANT BAREGROUND PRODUCTION:

**Step 1. Preplant:** Prepare land for transplanting, but do not punch transplant holes. Broadcast Sinbar (3-4 oz/A) and/or Reflex (12 oz/A) + Gramoxone  $> 24$  hr before planting. Roundup at  $\leq 1.13$  lb ae/A (RU PMA3 = 30 oz/A) and/or Sandea (0.5-0.75 oz/A) can also be used if they are applied 7 or more days before planting.

**Step 2.** Irrigate to activate herbicides and to move them into the soil, thereby reducing injury potential from splash.

**Step 3.** Punch hole and transplant.

**Step 4.** After planting, irrigate to maintain a perfect stand but limit irrigations to as few as possible during first 3 wks.

**Step 5. In-crop:** Apply Select Max at 9 oz/A without adjuvant when grasses are  $\leq 3"$ ; goosegrass  $< 1"$ .

**Step 6. Row Middle:** Dual Magnum (16 oz/A), Sandea (0.75 oz/A), Curbit (2 pt/A), Treflan (1-1.5 pt/A), Prowl H20 (2 pt/A) and Optogen (3.5 oz/A) can be applied in row middles for additional residual control, avoid crop contact. Sandea plus surfactant would also control emerged nutsedge and radish. Roundup, Rely, and/or Gramoxone can be applied with hoods; avoid contact with the crop. Plowing will destroy the herbicide barrier, apply additional residuals and activate them immediately.

➤ Cole crop

➤ Leafy greens

➤ Summer squash

➤ Sweet potato

➤ Watermelon

Are there others crops you would like programs for?

# ***Rely Being Discontinued – Fortunate to Move to Liberty***



## **Supplemental Label**

**Liberty® 280 SL**  
Herbicide

**For weed control in cantaloupe, cucumber, summer squash, and watermelon in Georgia**

This supplemental label expires December 1, 2025, and must not be used or distributed after this date.

Glufosinate    Group    **10**    Herbicide

## **Supplemental Label**

**Liberty® 280 SL**  
Herbicide

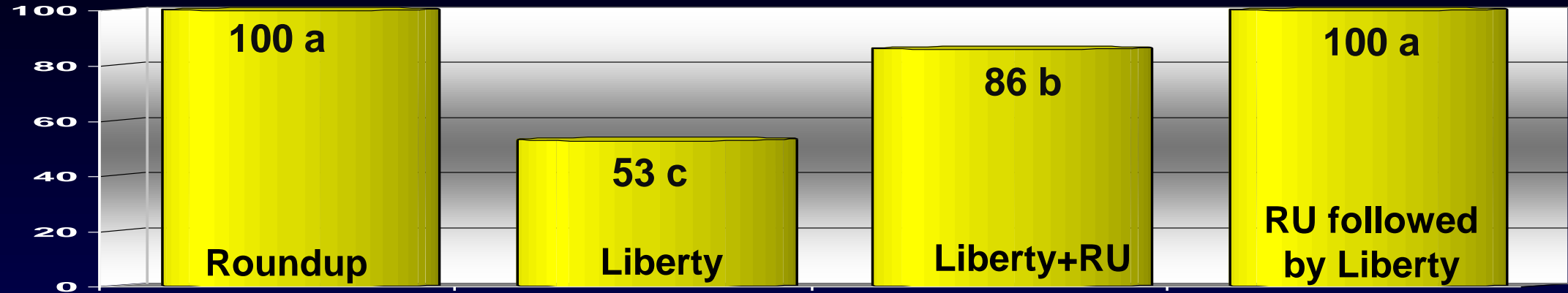
**For weed control in tomato and peppers (bell and nonbell) in Georgia**

This supplemental label expires December 1, 2025, and must not be used or distributed after this date.

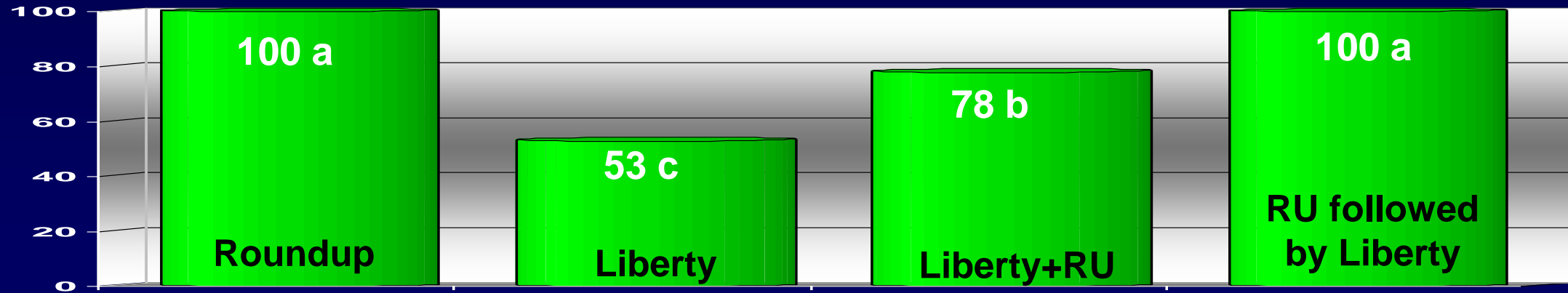
- **Cantaloupe**
- **Tomato**
- **Cucumber**
- **Pepper**
- **Squash**
- **Watermelon**

# Weed Response to Roundup, Liberty, and Mixtures.

% Large Crabgrass Control

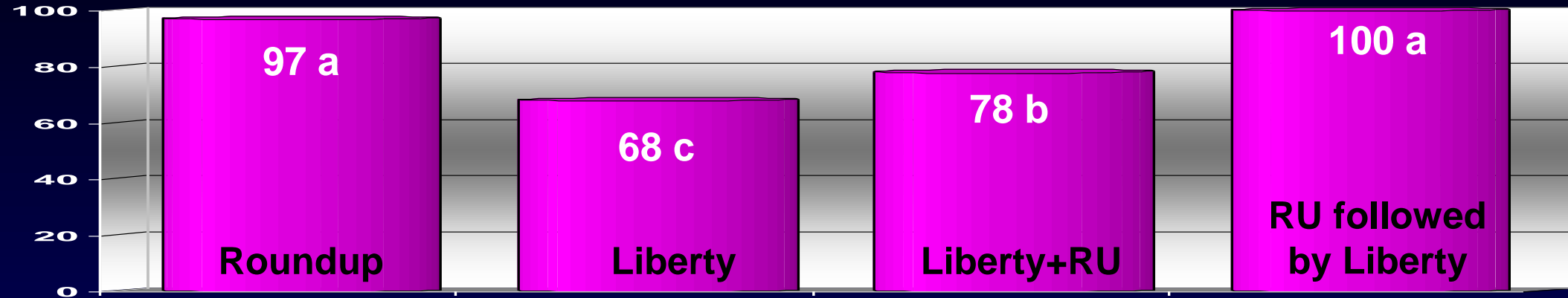


% Goosegrass Control

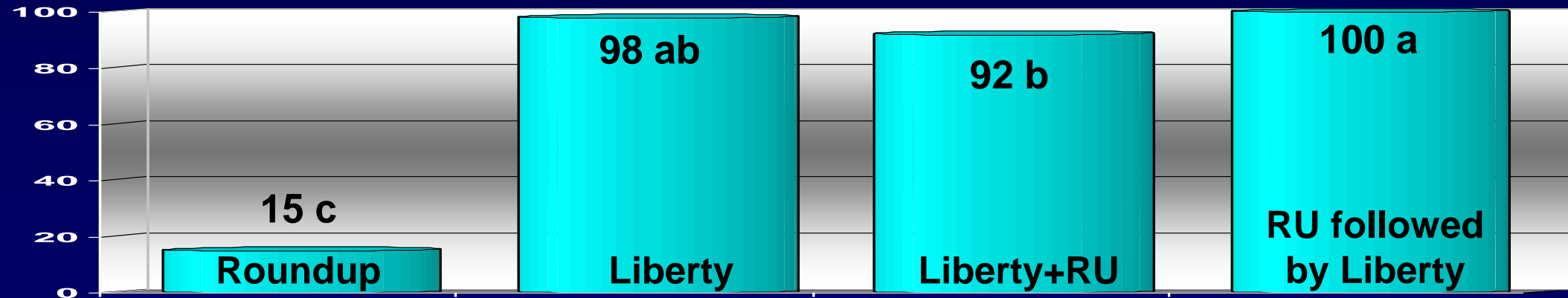


# Weed Response to Roundup, Liberty, and Mixtures.

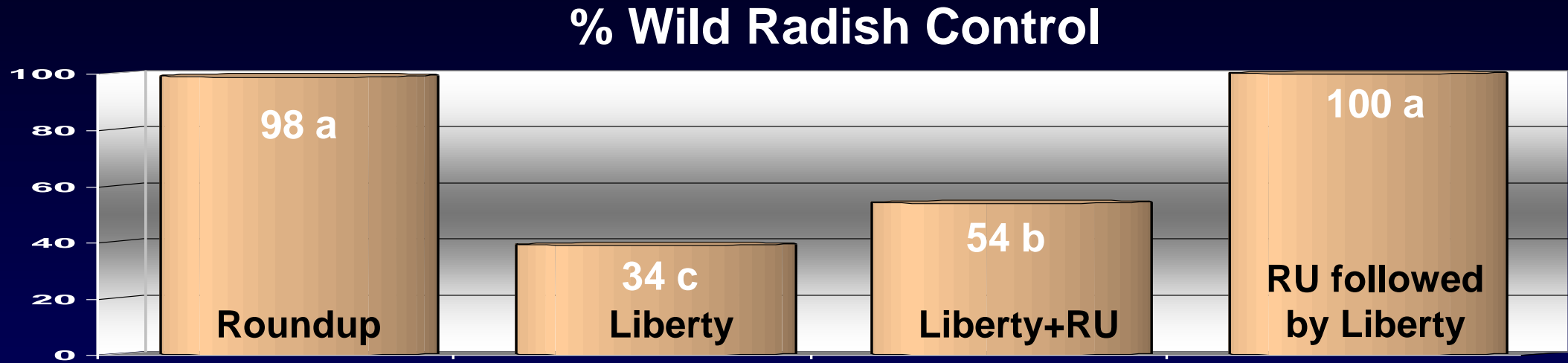
## % Pink Purslane Control



## % Ragweed Parthenium



# Weed Response to Roundup, Liberty, and Mixtures.



Roundup PMAX 3 = full rate; Liberty = full rate. Radish 5".



# ***Limiting antagonism from POST tank mixtures***

- **Smaller weed sizes, usually less than few inches**
- **Residual herbicides reducing density and size**
- **Full herbicide rates**
- **Coverage essential**
- **Sequential applications is the best option, especially during burndown**



# Chateau EZ 24(c) Indemnified Labels For Raised Bed Mulch Row Middle

- **Fruiting Veg:** eggplant, groundcherry, okra, pepino, bell pepper, chili pepper, cooking pepper, pimento, sweet pepper, tomatillo, tomato
- **Cucurbits:** chayote, Chinese waxgourd, citron melon, cucumber, gherkin, gourd, edible (hyotan, cucuzza, hechima, Chinese okra), momordica (balsam apple/pear, bittermelon, Chinese cucumber, cantaloupe, pumpkin, summer squash, winter squash (butternut, calabaza, hubbard, acorn, spaghetti), watermelon
- **Brassica:** Broccoli, brussels sprouts, cabbage, Chinese cabbage, napa cabbage, cauliflower



# Paraquat

The paraquat training module is now live on Syngenta's website. It is available at [Paraquat Training](#). Links from Gramoxone 2.0 and 3.0 pages have been updated along with the EPA paraquat page.

- No charge for the training
- English and Spanish
- One time registration form requiring name, email address, state, and pesticide application license number.
- Automatic renewal email



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EXTENSION





# EPA Issues Emergency Order to Stop Use of Pesticide Dacthal to Address Serious Health Risk



August 6, 2024

## Contact Information

EPA Press Office ([press@epa.gov](mailto:press@epa.gov))

**WASHINGTON** – Today, Aug. 6, the U.S. Environmental Protection Agency is announcing the emergency suspension of all registrations of the pesticide dimethyl tetrachloroterephthalate (DCPA or Dacthal) under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). This is the first time in almost 40 years EPA has taken this type of emergency action, following several years of unprecedented efforts by the Biden-Harris Administration to require the submission of long-overdue data and then assess and address the risk this pesticide poses.

EPA has taken this action because unborn babies whose pregnant mothers are exposed to DCPA, sometimes without even knowing the exposure has occurred, could experience changes to fetal thyroid hormone levels, and these changes are generally linked to low birth weight, impaired brain development, decreased IQ, and impaired motor skills later in life, some of which may be irreversible.

“DCPA is so dangerous that it needs to be removed from the market immediately,” **said Assistant Administrator for the Office of Chemical Safety and Pollution Prevention Michal Freedhoff.** “It’s EPA’s job to protect people from exposure to dangerous chemicals. In this case, pregnant women who may never even know they were exposed could give birth to babies that experience irreversible lifelong health problems. That’s why for the first time in almost 40 years, EPA is using its emergency suspension authority to stop the use of a pesticide.”

# Search for Dacthal Alternatives in Seeded Onion



**Nortron® SC**  
HERBICIDE

Net  
Contents:

**2.5 Gallons**

ETHOFUMESATE GROUP 8 HERBICIDE

**SUSPENSION CONCENTRATE**

**BROAD SPECTRUM HERBICIDE**

For selective control of weeds in sugar beets, garden beets, onions, shallots; and carrots (in WA and OR only)



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**EXTENSION**



ONION (DRY BULB), SHALLOT (BULB) (NOT FOR USE IN CALIFORNIA)

**NORTRON SC HERBICIDE ALONE**

**DOSAGE TABLE 4**

**DOSAGE FOR BROADCAST APPLICATIONS TO ONION AND SHALLOT**

Use Pattern	NORTRON SC HERBICIDE FLUID OUNCES/ACRE BROADCAST
Preemergence, soil surface	16
Coarse Soils (sand, loamy sand, sandy loam)	32
Medium and Fine Soils	
Postemergence up to 4 foliar applications at evenly spaced intervals, with last application 30 (+/- 2) days before harvest	16

## USE RESTRICTIONS

On coarse soils do not apply more than a total of 1.5 lbs ai/A (0.38 gallon; 48 fluid ounces) of Nortron SC Herbicide per year. The maximum single application rate for coarse soils is 0.5 lbs ai/A (0.125 gallon; 16 fluid ounces). On medium and fine textured soils do not apply more than a total of 3 lbs ai/A (0.75 gallon; 96 fluid ounces) of Nortron SC Herbicide per year. The maximum single application rate for medium and fine textured soils is 1.0 lbs ai/A (0.25 gallon; 32 fluid ounces). Do not retreat within 10 days. Do not apply more than 4 applications. This product is not for use in California. See *Use Restrictions* for additional information on proper use.

# ***2024/2025 Onion Plots and Vidalia Onion Research Farm***



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# Efforts in Seeded Onions



- We continue our search...any ideas?
- LaserWeeder



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## DEEP TILLAGE



## LASER WEEDER

## SEE AND SPRAY TECHNOLOGY

Deere launches See and Spray Ultimate

Green-on-green sprayer system now available for some crops



Deere has introduced its first green-on-green sprayer system. Photo: John Deere



## COVER CROPS



## WEEDOUT POLLEN

# ***Seeded Onion Treatments – Planted Oct 23***

- 1. No weed control**
- 2. LaserWeeder Nov 9, Nov 21, Dec 5, Jan 3**
- 3. Herbicide program**
- 4. Herbicide program + LaserWeeder**

## **Herbicide Program**

**Dacthal 3 pt PRE**

**Dacthal 3 pt Flag**

**Prowl 2 pt 2 lf**

**Goal 4 F 0.75 oz 2 lf**

**Goal 4 F 0.75 oz 3 lf**

**Goal 4 F 8 oz 6 leaf**

**Prowl 12 oz 6 leaf**



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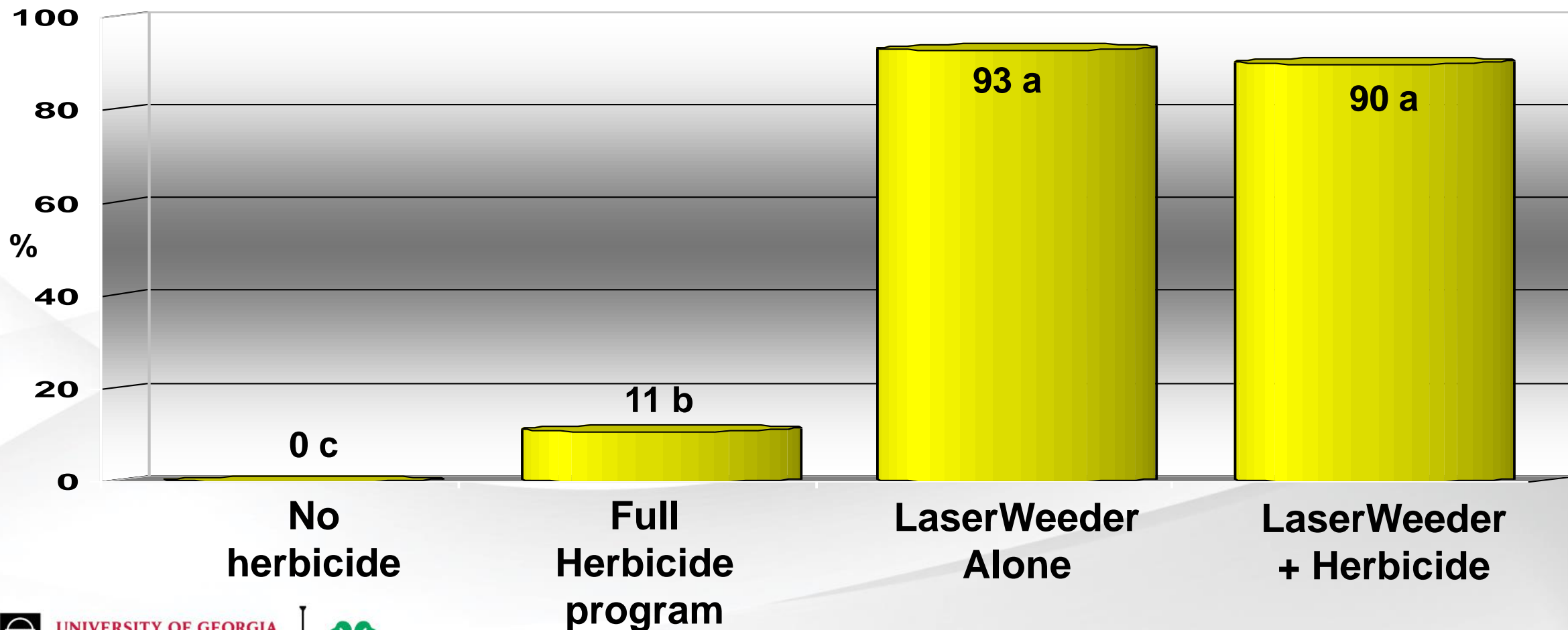




# Percent Primrose Control (Seeded Onion)

*Harvest – May 3*

*# primrose/A: none = 71K; herbicide: 22.8K; LW: 816; LW + Herb: 181*



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# ***Onions Per Plot – Seeded Laser Weeder Exp. 2024***

**No weed  
control**

**Laser weeder**

**Herbicide  
program**

**Laser weeder  
+  
Herbicide  
program**





# ***Transplant Onion Experiment – Planted Nov 16***

- 1. No weed control**
- 2. LaserWeeder Dec 5, Jan 3, Feb 27, Mar 21**
- 3. Herbicide program**
- 4. Herbicide program + LaserWeeder**



Photo = Chris Tyson

## **Herbicide Program**

**Prowl 2 pt – 2 days after transplant**

**Goal XL 2 pt - 2 days after transplant**



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# ***“Paper” vs. Standard LDPE Mulch on Nutsedge***



**“Paper”**

- **Herbicide removal**
- **Nutsedge control**
- **John Bennet (watermelon session)**



**LDPE**



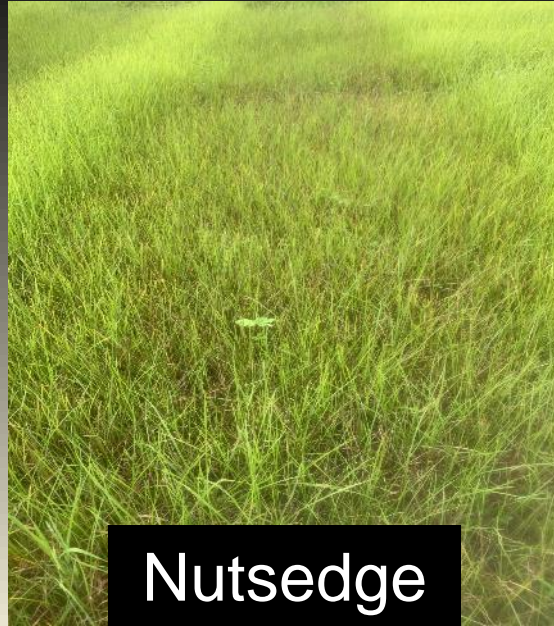
Common purslane



Ragweed parthenium



Pink purslane



Nutsedge



Alligator weed



# Residual herbicides are key.....if activated



Atrazine  
Chateau  
Devrinol  
Dual Mag  
Goal  
Outlook  
Prowl  
Reflex  
Sencor  
Sonalan  
Sencor  
Treflan  
Valor



# ***Potentially Effective Postemergence Materials***



**Atrazine**

**Lorox**

**Sencor**

**Roundup fb Gramoxone\***

**Roundup fb Liberty\***

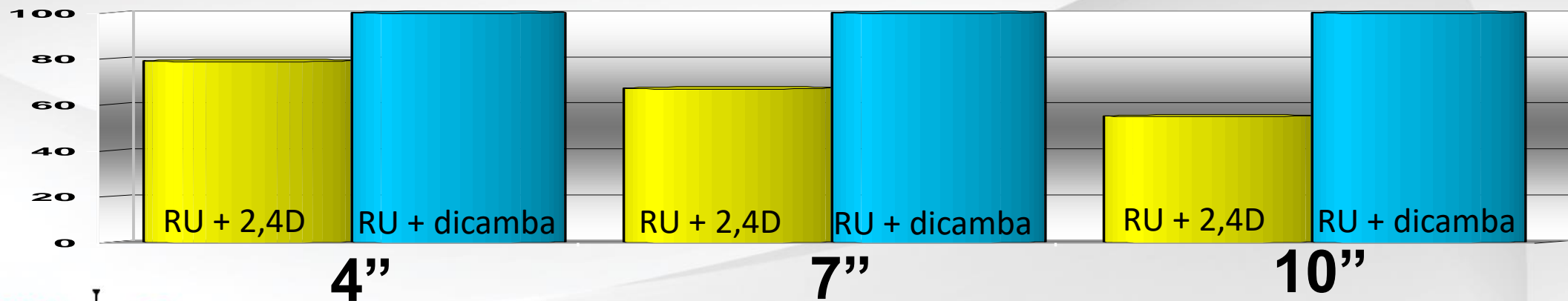
- 1. Residual herbicides are key in crop.**
- 2. \*Between Crops: Max Roundup allowable followed by Gramoxone or Liberty 5 to 7 d later.**



# Ragweed Parthenium – Generating Data



- Liberty (full rate): very good
- Roundup: very bad on ours
- Roundup + dicamba: excellent
- Roundup + 2,4-D: fair
- Command PRE: very good
- Valor/Chateau PRE: fair/good



# Ragweed Parthenium – Data is Still Limited



- Liberty (full rate): very good
- Roundup: very bad on ours
- Roundup + dicamba: excellent
- Roundup + 2,4-D: fair
- Command PRE: very good
- Valor/Chateau PRE: fair/good

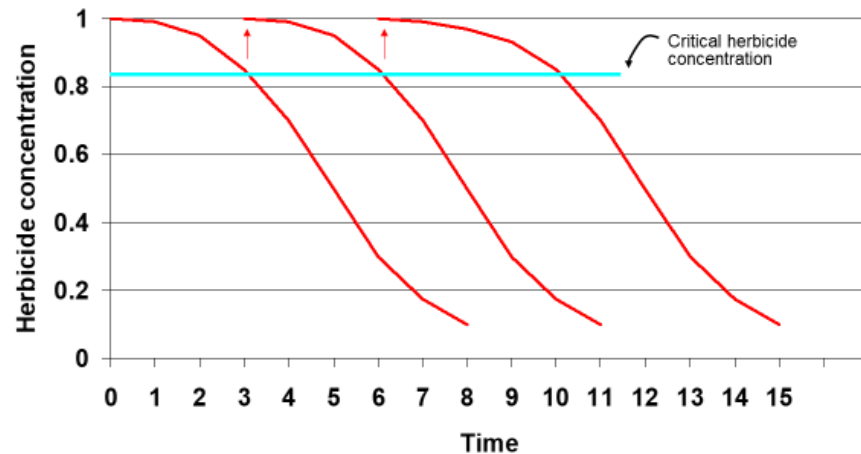
## From Literature

- Dual: poor
- Prowl/Treflan: poor
- Gramoxone: poor
- Basagran: poor
- Atrazine: poor



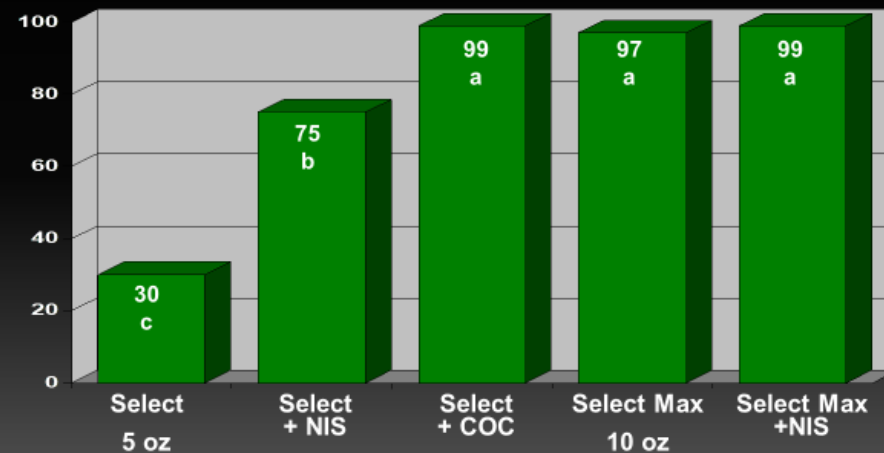
# Four Areas To Consider For Huge Payoff!

## Concept of Overlapping Residuals –



Alan York

## Percent large crabgrass control with various clethodim products and adjuvants. TyTy, GA.



Large Crabgrass 3 inches at time of application!

# Hooded Sprayer!

FIFRA Section 24(c) Special Local Need



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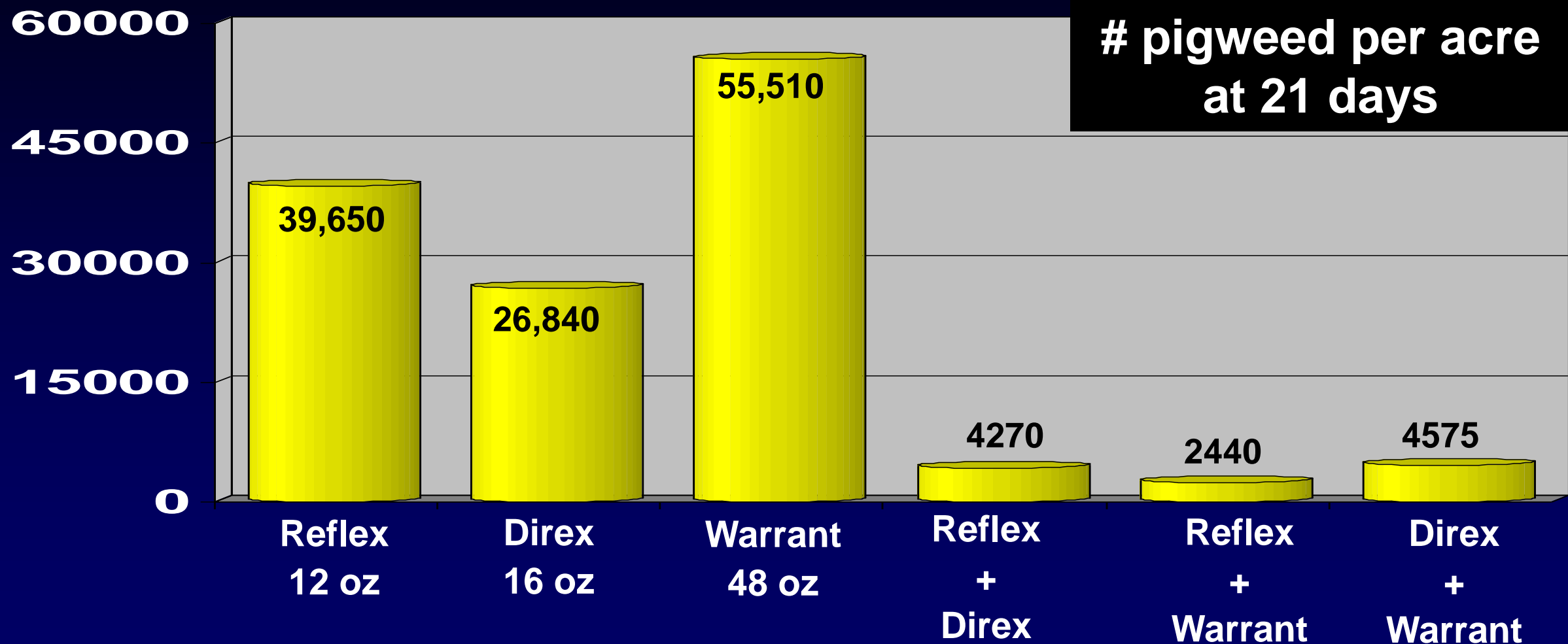
CHATEAU® EZ

H E R B I C I D E

EPA Reg. No. 59639-221  
EPA SLN No. GA-220006



***If feasible, apply two residuals, both effective on your major pest, together!***



# Science, Cooperation, & Communication

**Farmers**



THE UNIVERSITY OF GEORGIA  
**COOPERATIVE  
EXTENSION**



PLANT  
INDUSTRY



**Industry  
Partners**



Cotton  
Incorporated