

# 2024 Update

**Bob Scott**

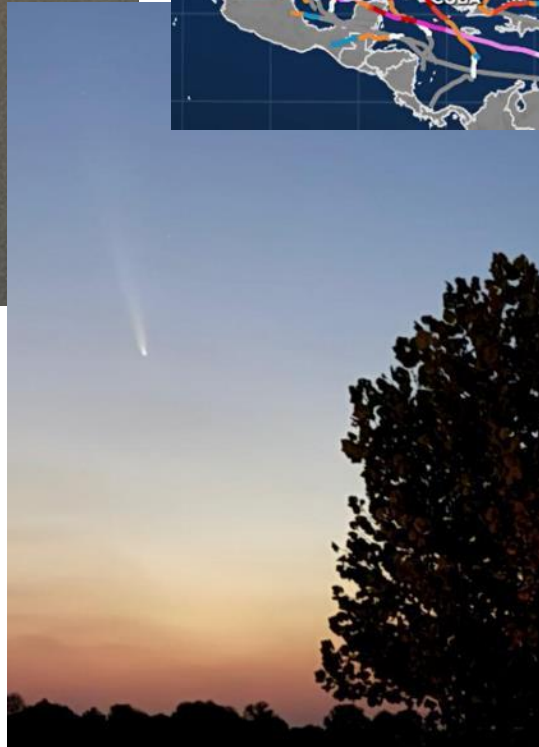
Professor, Extension Weed Scientist  
University of Arkansas System Division of Agriculture



National Institute of Food and Agriculture  
U.S. DEPARTMENT OF AGRICULTURE



# Strange year? 2024



# Drift calls 2024



Liberty

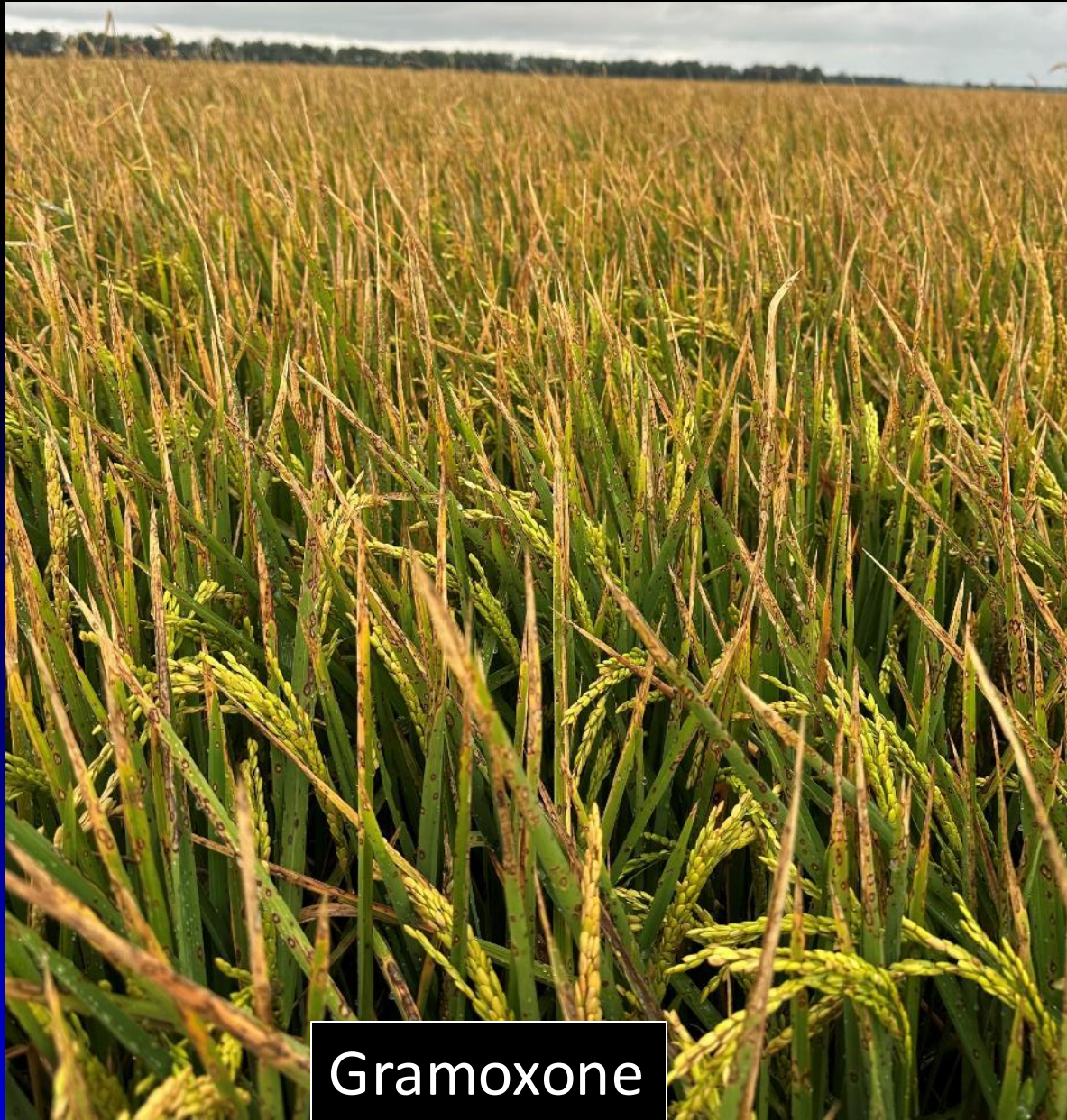


Roundup



ALS Herbicides (2)

# Drift Issues late in 2024



Gramoxone



Roundup + Liberty

**SENSITIVITY<sup>1</sup> OF MAJOR ARKANSAS FIELD CROPS  
TO COMMONLY USED HERBICIDES**

HERBICIDE	Soybean <sup>2</sup>	Corn	Cotton	Grain Sorghum	Rice	Peanuts	Wheat
2,4-D	S	T	VS	T	T	S	T
Aim	M	M/S	M/S	M/S	T	S	T
Armezon	S	T	S	M/S	T	M/S	M/S
Blazer/Storm	T	M/S	M	M/S	T	T	M
Bolero	S/T <sup>4</sup>	M/S	M/S	S	T	T	M/S
Clincher	T	VS	T	VS	T	T	S
Clomazone	T	M	M	M	T	T	M
Dicamba	VS	T	S	T	M	VS	T
Facet	M	M	S	T	T	M	S
FirstRate <sup>2</sup>	T	M	S	M	S	T	T
Flexstar	T	S	M	VS	M/S	M/S	M/S
Gambit <sup>2</sup>	VS	T	VS	T	T	VS	M
Grandstand	S	M	S	M	T	S	T
Grasp	VS	T	S	T	T	VS	T
League <sup>2</sup>	VS	T	S	S	T	S	S
Liberty <sup>3</sup>	VS/T*	S/T*	S/T*	VS	M/S	S	S
Londax	VS	S	S	S	T	VS	-
Loyant	VS	S	S	M/S	T	S	M/S
Newpath/ Beyond Xtra	T	S	S	S	T*/VS	T	S*
Permit <sup>2</sup>	VS	T	S	T	T	VS	M
Propanil	M/S	M/S	M/S	M/S	T	M/S	M/S
Prowl	T	T	T	M	T	T	T
Python	T	T	S	T	M	M	M
Regiment	VS	S	S	S	T	VS	S
RiceStar	T	VS	T	VS	T	T	S
Roundup	VS/T*	VS/T*	S/T*	VS	VS	VS	VS
Sharpen	S	M	M	S	T	M/S	M
Strada <sup>2</sup>	VS	S	S	S	T	VS	-
Valor	M/S	M	S	S	M/S	M	M

- <sup>1</sup> T=Tolerant, M=Moderately Tolerant, M/S=Moderately Sensitive, S=Sensitive, VS=Very Sensitive;  
T\* Some crops are available with herbicide tolerance to these herbicides. These ratings are based on the best available information to date and on foliar application or drift.
- <sup>2</sup> Some soybeans are available with tolerance to ALS herbicides, STS or BOLT Soybeans; this tolerance varies for rice ALS herbicides, particularly Grasp, Regiment, and Gambit.
- <sup>3</sup> Smart Stack and Herculex are tolerant to glyphosate and glufosinate. Tolerance does not imply that this herbicide is labeled for a specific crop.
- <sup>4</sup> Soybean is sensitive to Bolero if a full rate were to be applied prior to soybean emergence. Once soybean is emerged, it is tolerant to Bolero.

**\*Most referenced  
table in 2024.**

**MP44**  
Arkansas 2024  
Recommended Chemicals  
for Weed and Brush Control

U of A  
DIVISION OF AGRICULTURE  
RESEARCH & EXTENSION  
University of Arkansas System

AR  
WEED  
SCIENCE

ARKANSAS  
SOYBEAN  
CHECK-OFF

See MP44 online at [www.uaex.uada.edu](http://www.uaex.uada.edu)  
Cooperative Extension Service, University of  
Arkansas System, U.S. Department of Agriculture  
and County Governments Cooperating

# New for rice – in the pipeline

**Safener technology (Fenclozim, fluxofenim)**

**HPPD's (Shieldex, Armezon, Diflanil, Callisto and Laudis)**

**Warrant**

**Higher rates of command?**

**New herbicides's –**

**TVE (FMC)**

**others (insert legal notice here)**

**Brake for rice (post, row rice)**

**Roxy rice**

**Non-GMO**

**ALB2023 (Oxyfluorfen)**

**Barnyardgrass, Sprangletop, aquatics and other weeds**

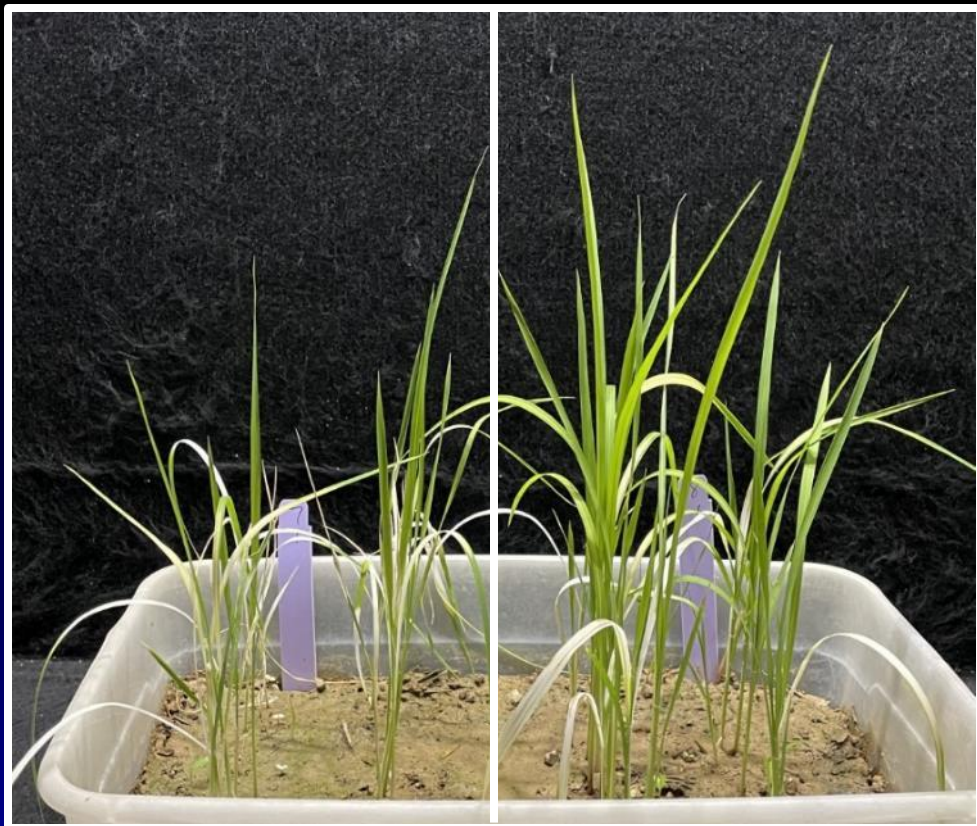
**Maybe some red rice**

**California, waiting on mid-south varieties**

**Brake<sup>®</sup> for rice**  
**Injury when flooded!**  
**Best use -row rice**  
**No post activity**  
**Pigweed**  
**12-16 oz/A**



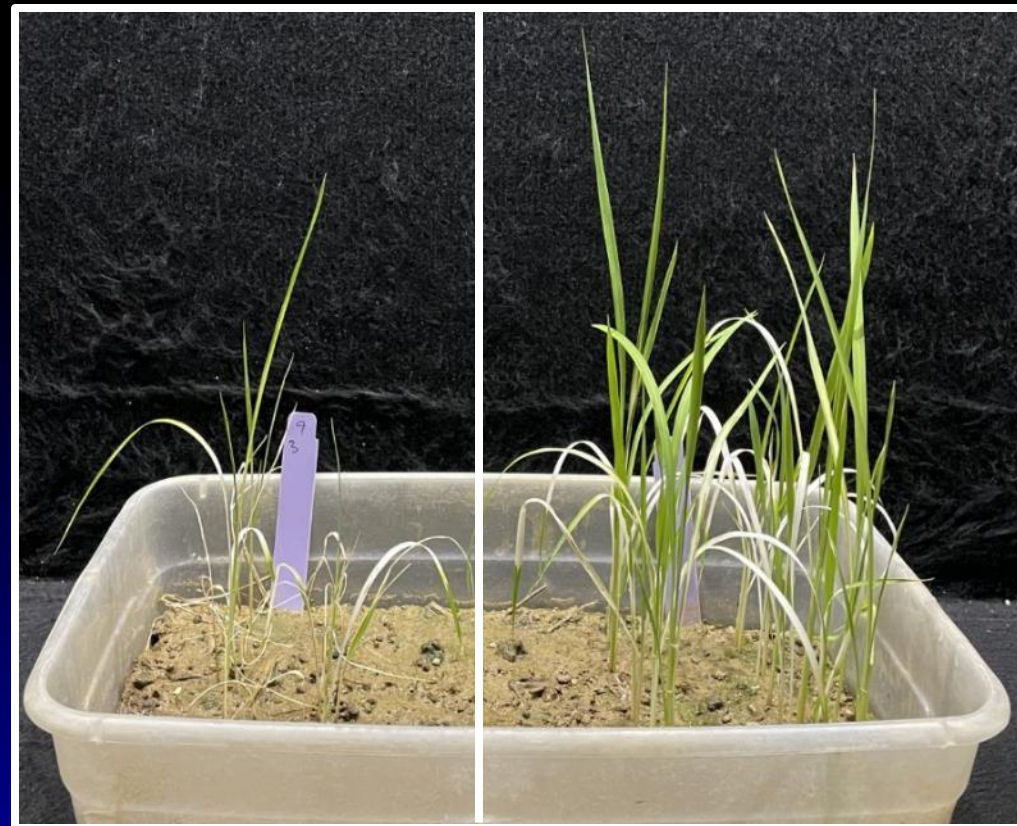
# 21 Days after Emergence



No Fenclorim

Fenclorim

Command 3ME (1X)



No Fenclorim

Fenclorim

Command 3ME (1.5X)



# Roxy Rice Production System



Nontreated



Prowl + Bolero + ALB2023 – DPRE  
ALB2024 – 2-leaf



Prowl + Bolero + ALB2023 – DPRE  
ALB2024 – Preflood

**FMC - TVE29 (registration 2025/26)**

ai - Tetflupyrolimet Dodhylex™

Active

Group 28 – New!

**Residual only, narrow spectrum**

Barnyardgrass

Sprangletop

Crabgrass

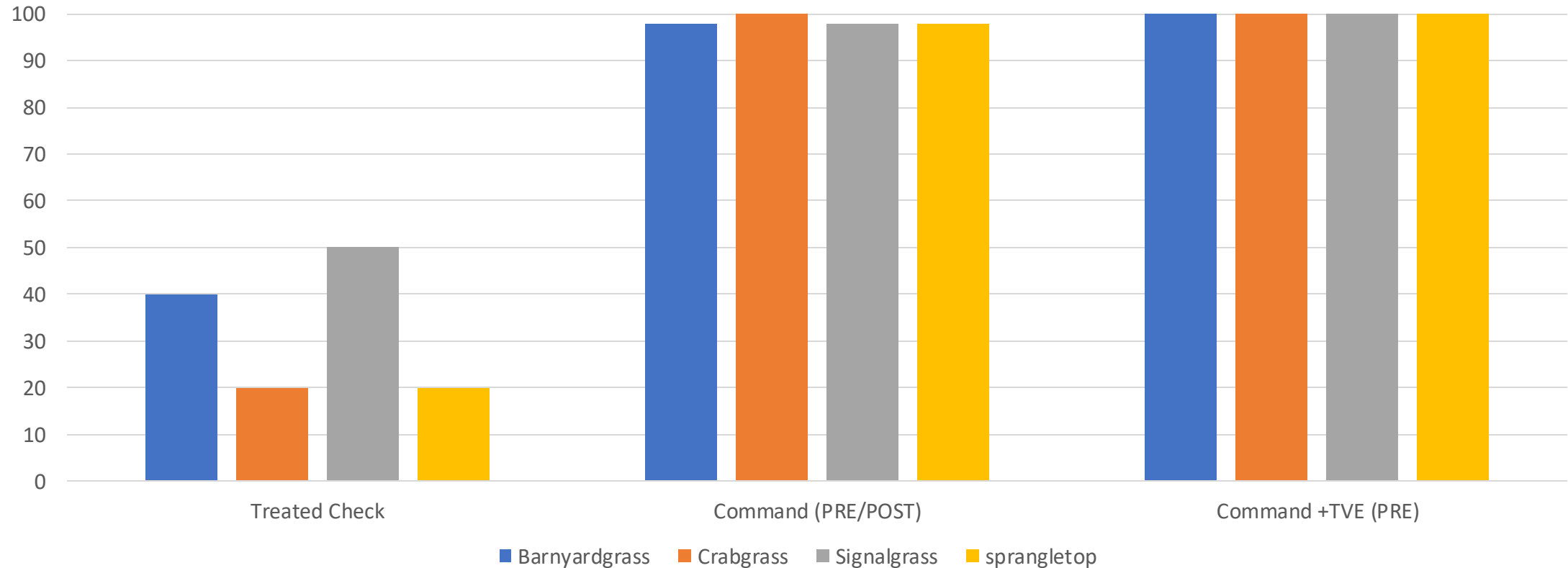
suppression of signalgrass

Co-Pak with Command



# TVE29 (tetflupyrolimet) Group 28

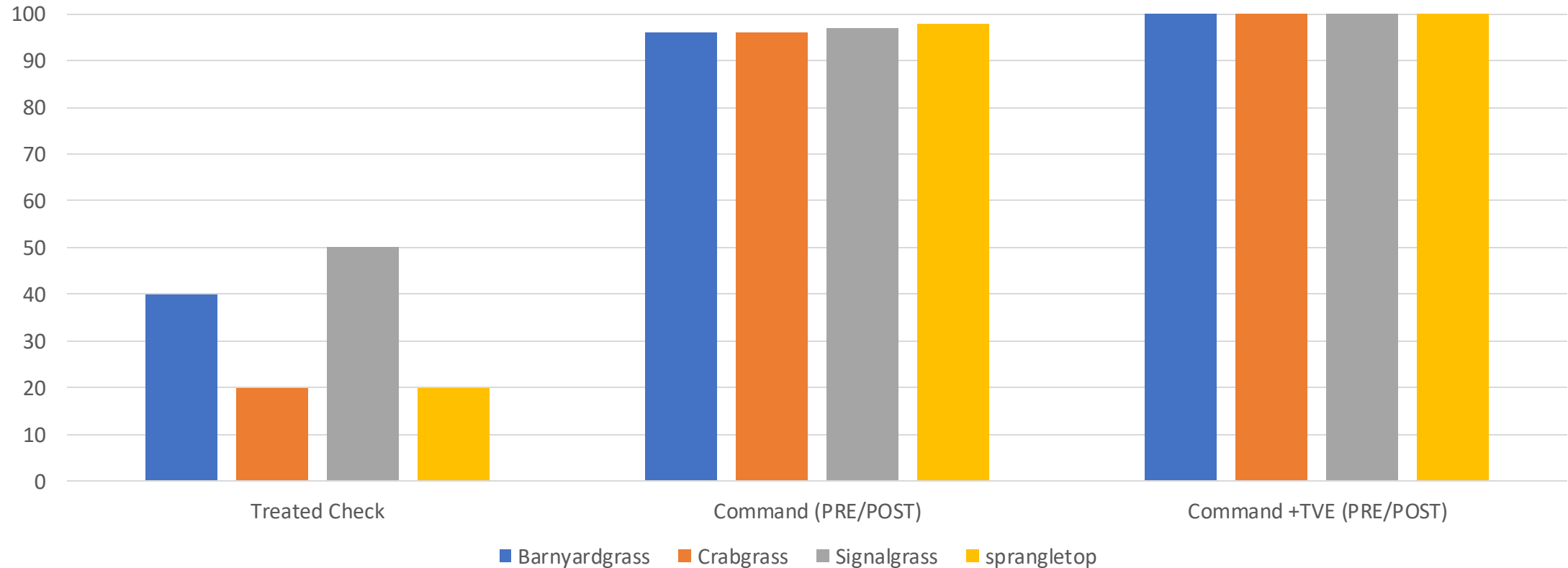
Grass control in flooded Rice 35DAP – Sequential application vs 1



\*Pre followed by EPOST followed by Ricestar + Gambit.  
(10.75 oz/A + 4.3 oz/A) – Same results with 8 oz Command.

# TVE29 (tetflupyrolimet) Group 28

Grass control in Row Rice 35DAP – Sequential applicatons



\*Pre followed by EPOST followed by Ricestar + Gambit.  
(10.75 oz/A + 4.3 oz/A)

## Weedy Rice

### An increasing problem!

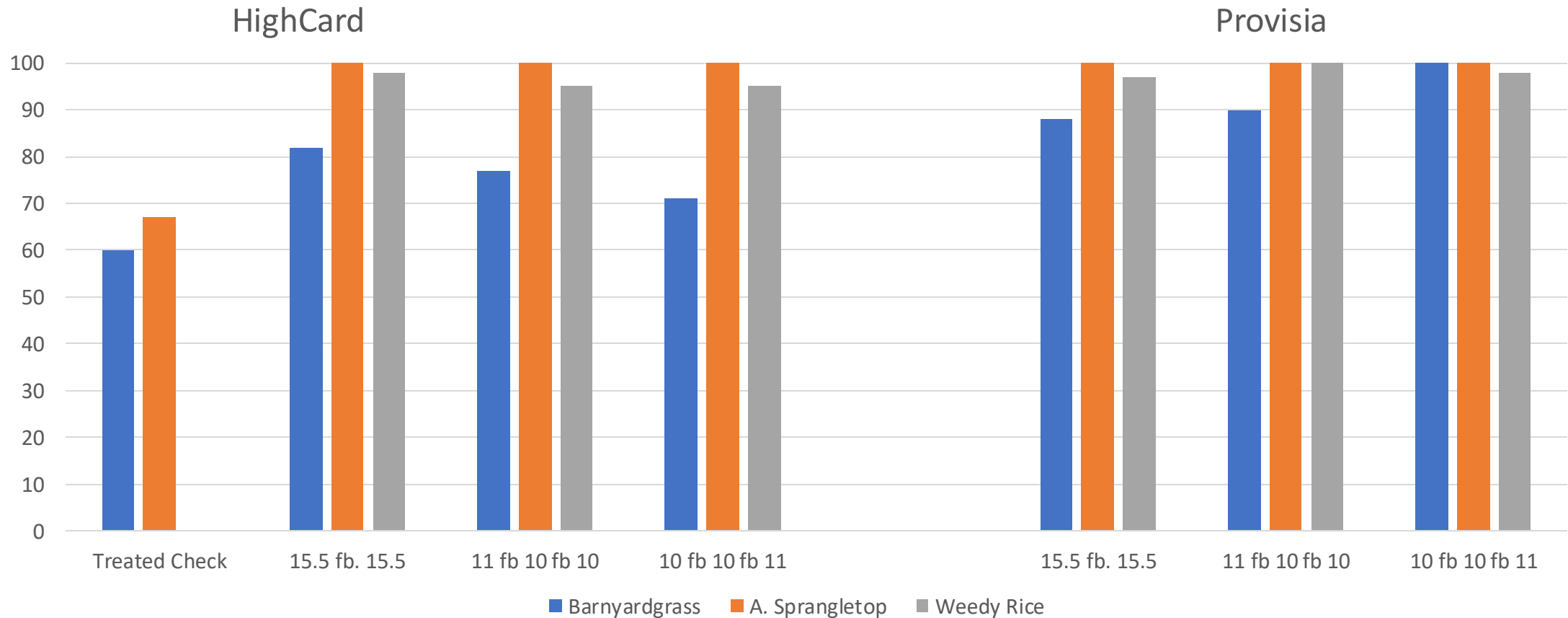
Clearfield rice introduced in 2002.

Provisia in 2018 (filed for patent in 2008-9).

4 confirmed cross resistant biotypes of weedy rice in 2024..



# Grass control with Highcard vs. Provisia 14 DAT



\*Treated check: Sharpen (3.0 oz/A)+ glyphosate+ Command (12 oz/A).

\*\* Recommend Provisia at 15.5 epost fb. 15.5 postflood if grass to big to start with.

Rep 1 Photo  
7/31/24  
App A 5/30/24  
App B 7/2/24  
App C 7/11/24  
App D 7/25/24



MaxAce



Provisia

**Command 0.8 pt/A (Preemergence)**  
**Provisia 15.5 fl oz/A (Early Postemergence)**  
**Provisia 15.5 fl oz/A (Postemergence)**



**No postflood**



**Rogue 12.6 oz/A**



# Soybean Weed Control

Dicamba likely not legal  
Increase in Enlist acres?  
Liberty Ultra labeled  
Glufosinate-p labeled (Liberty Ultra)  
-Rate: 24 = 32 ish.

Use a good PRE, narrow rows, plant early (Zidua, metribuzin, PPO combinations)

We are still able to put programs together with overlapping residuals, Enlist and glufosinate.



# Soybean Weed Control –resistance update

Pigweed resistance increasing

POST-applied glyphosate, glufosinate, 2,4-D, dicamba, and fomesafen failed on a population of Palmer amaranth from Mississippi County. Several residual herbicides are still effective options.

Approximately 2/3rds of the fields sampled within a 10-mile radius of the initially confirmed glufosinate-resistant Palmer amaranth population in Mississippi County failed to provide complete control of the weed under greenhouse conditions.

Glufosinate + 2,4-D was highly effective in controlling Palmer amaranth, which could not be controlled with dicamba or 2,4-D alone.



# Regulatory Update

## Disclaimer:

I do not claim to be an expert on the EPA and do not work for them or the ASPB.

# Regulatory Update

Dicamba (Tavium, Engenia or Xtendimax) labels vacated in 2024.

## EPA has received application for new use:

BASF Corporation, 26 Davis Drive, Research Triangle Park, North Carolina 27709–3528. Active ingredient: Dicamba. Product type: Herbicide. Proposed use: Dicamba-tolerant cotton and dicamba-tolerant soybeans. Contact: RD. This proposed new use has been coded as an R170, additional food use, which carries a PRIA 5 statutory review time of 17 months from the date that the action gets in-processed. Because EPA expects a large stakeholder interest in this application, EPA also included in the docket the BASF’s current proposed labeling associated with the application - (received over 4000 comments).

Also, Tavium and Xtendimax. All registrants did come together and there is now a label that looks the same for all three products. (I have not seen this label)

“which carries a PRIA 5 statutory review time of 17 months from the date that the action gets in-processed”

without a section 18 or 24C no label until late 2025 is how it looks.

# Regulatory Update - ESA

When EPA [registers a pesticide](#) or re-evaluates it in [registration review](#), the agency has a responsibility under the **Endangered Species Act (ESA)** to ensure that the use of the pesticide does not jeopardize the continued existence of federally threatened or endangered (listed) species or adversely modify their designated critical habitats. Over the last few years, EPA has developed strategies and educational materials in support of the agency's implementation of its ESA obligations.

All new herbicides will comply with ESA as well as re-registrations  
Restrictions will appear on the labels if they apply

[Pesticides and Endangered Species Educational Resources  
Toolbox | US EPA](#)

# EPA: Herbicide Strategy Update

- EPA Herbicide Strategy Proposal (updated on 9/16/2024)
  - Apply herbicide based on a point system with buffers in place-where req.
  - Point system derived from conservation measures: cover crops, filter strips, water capture, field slope, rate, soil type etc.
  - Pesticide runoff and drift to sensitive areas is basis of point system
  - The strategy itself does not impose restrictions on use
  - The strategy will inform mitigations for new ai registrations and reviews of existing products
  - Therefore, these will not become effective until EPA registers new labels.
  - EPA worked on making the strategy easier to understand, increasing flexibility to applicators, reducing mitigations where appropriate
  - EPA is also working with FWS and NMFS to refine maps
  - **Drift reduction agents now included in mitigation**

# Example Glufosinate-P (Liberty Ultra®)

- EPA is requiring the implementation of the following mitigation measures to address on- and off-field effects to non-target species, including listed species:
  - Prohibiting application during rainfall and when soils are saturated or above field capacity;
  - Requiring users to visit EPA's [Mitigation Menu Website](#) before application and determine an appropriate strategy for meeting or exceeding the required number of mitigation points as specified on the label;
  - Maintaining a downwind buffer between the last spray row and the protection area of 50 feet for aerial application and 10 feet for ground application; and,
  - Instructing users to access and follow any applicable endangered species bulletins for the two listed species--the Spring Creek bladderpod plant and the whorled sunflower plant--from "[Bulletins Live! Two](#)" web-based system for all additional directions and restrictions.
- If application does not meet certain parameters, then a minimum of 3 points is needed.

# Mitigation Menu Website

- Pesticide applicators need to follow the steps below to determine which runoff/erosion mitigation measures to consider and employ before using a pesticide for their operation each year.
- Step 1: At the field or farm level, what crops are being grown and what pesticides are expected be used throughout the entire growing season/year?
- Step 2: Of these pesticides, do any product labels or bulletins specify that runoff/erosion mitigation points need to be achieved? If yes, move to step 3. If no, the product does not require runoff/erosion mitigation points. Follow existing label/bulletin instructions.
- Step 3: Evaluate the farm/field(s) being treated. You do **not** have to implement any additional runoff/erosion measures for the application if the answer is “yes” to any one of the following questions:
- Are the [areas within 1,000 ft down-gradient from the treated farm/field comprised entirely of managed areas](#)? Managed areas are defined as:
  - Agricultural fields, including untreated portions of the treated field,
  - Roads, paved or gravel surfaces, mowed grassy areas adjacent to field, and areas of bare ground from recent plowing or grading that are contiguous with the treated area;
  - Buildings and their perimeters, silos, or other man-made structures with walls and/or roof;
  - Areas maintained as a mitigation measure for runoff/erosion or spray drift control, such as vegetative filter strips (VFS), field borders, hedgerows, Conservation Reserve Program lands (CRP), and other measures identified in Table 2 below;
  - Managed wetlands including constructed wetlands on the farm, and
  - On-farm contained irrigation water resources that are not connected to adjacent water bodies, including on-farm irrigation canals and ditches, water conveyances, managed irrigation/runoff retention basins, and tailwater collection ponds.



# Mitigation Menu Website

- Step 4. If the answer is no to all questions in step 3, runoff/erosion mitigation applies for the application. Determine which product being used throughout the crop cycle/year is the most restrictive, thereby requiring the highest number of mitigation points. Ensure the point value of mitigation measures being implemented equals or exceeds the highest number of mitigation points noted in labels/bulletins.
- Step 5. Visit the mitigation menu (Tables [1](#) and [2](#) below) to determine what measures are available for you to choose to fulfill the strictest runoff/erosion requirements. For each measure, click on the associated link to see the minimum specifications needed to successfully implement that measure.
- **Points will be assigned in the label. You can select items from the mitigation menu that apply to achieve the minimum points.**
- **Examples: less than 3% slope 2 points, permeable soil (sand/silt) 2 points, less than max label rates, reduced tillage, cover crops, grass waterways, drift retardants, and many others.**
- Step 6. For all pesticides, if additional restrictions are defined on the label that are more restrictive than the runoff/erosion measures listed on this website, then you must follow the more restrictive measure on the label. Examples include use prohibitions, timing restrictions, application method prohibitions, and sandy soil application restrictions.
- The [Crosswalk of EPA's Ecological Mitigation Measures with USDA NRCS Conservation Practices in Support of EPA's Endangered Species Strategies \(pdf\)](#) (249.43 KB) provides information on how voluntary participation in NRCS and other conservation programs can help achieve runoff/erosion mitigation points.



# EPA website:

(EPA-HQ-OPP-2023-0365)

[www.regulations.gov](http://www.regulations.gov) or Access EPA's Mitigation Menu Website at [www.epa.gov/pesticides/mitigation-menu](http://www.epa.gov/pesticides/mitigation-menu) for a full list of field/application parameters to evaluate whether your field is subject to runoff/erosion mitigation.

<https://epa.gov/endangered-species/biologicalopinions-available-public-comment-links-final-opinions-and-links>

Arkansas State Board

<https://www.agriculture.arkansas.gov/arkansas-state-plant-board/>

## Drones:

Considered aircraft by FAA and AR Dept of Ag

Currently no specific state distinction between air and drone

Drone apps are considered aerial application

Must follow all state, federal label requirements

Need a commercial firm license for aerial apps and individual commercial license with aerial category **if done for hire**

Individual applying to their own land need a private applicators license with pilot authorization (FAA)

FAA – Pilot license under FAA part 107 (drone), part 137 (chemical dispensing), and section 44807 waiver for unmanned aircraft under 55 lbs

All this is changing.

1. Pilots will be able to operate up to 3 spray drone aircraft at a time.
2. Pilots can do this solo, no visual observer required
3. Pilots can do all of the above at night.

You can contact the state plant board for more information.





# Questions?

Bob Scott

501-837-0273

[bscott@uada.edu](mailto:bscott@uada.edu)

Soybean Weed Survey

**UofA**

**DIVISION OF AGRICULTURE  
RESEARCH & EXTENSION**

*University of Arkansas System*





## Soybean Weed Survey