Weed Management in Mississippi Row Crops

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Acknowledgment

- ADAMA USA
- AMVAC Chemical
- BASF Corporation
- Bayer CropScience
- Corteva Agrisciences
- FMC Corporation
- Gowan Company
- Helm Agro





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- Horizon Ag
- Innvictus
- Nufarm
- Nutrien Ag Solutions
- Summit Agro
- Ce Promotion Board
- Syngenta Crop Protection
- United Phosphorus, Inc.
- Valent USA Corporation



2021 Weed Control Issues

- Weather (Ice in winter and flooding in summer)
- Italian ryegrass control
- Bog yellowcress control in burndown and in crop
- Off-target movement and misapplication
- Herbicide pricing and sourcing





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Freeze/Ice Influence on Burndown





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Summer Flooding





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Italian Ryegrass Control



FIFRA 24(c) Special Local Need Label

EPA SLN No.: MS-210002 EPA Reg. No. 279-3158

FOR DISTRIBUTION AND USE ONLY IN MISSISSIPPI

This label for Command[®] 3ME Microencapsulated Herbicide is valid until November 15, 2026, or until withdrawn, canceled or suspended.

Control Resistant Italian Ryegrass In Fallow Crop DIRECTIONS FOR USE

THESE USE DIRECTIONS MUST BE IN THE POSSESSION OF THE USER AT THE TIME OF PESTICIDE APPLICATION.

FALLOW APPLICATION:

Command 3ME microencapsulated herbicide may be used as a residual preemergence treatment to control resistant Italian ryegrass during the fallow period following crop harvest and before the following crop is planted.

Application rates:

26 to 42.7 fl. ounces per acre (0.6 to 1.0 lbs ai/A)

Application timing and volume:

Apply prior to Italian ryegrass emergence in the fallow period of October 1st through November 15th. If Italian ryegrass is already present, include a post-emergence grass herbicide with the application. Apply by ground only in a minimum of 10 gallons of finished spray per acre.

RESTRICTIONS:

- DO NOT apply more than a maximum cumulative amount of 53.3 fl oz/A (1.25 lb ai/A of clomazone) of Command 3ME microencapsulated herbicide or any product containing clomazone in a 12-month period.
- DO NOT apply to fallow fields in which concurrent crayfish or catfish farming is included in the cultural practices.

Observe all buffer restrictions noted in the Command 3ME microencapsulated herbicide in the Application Precautions section below.



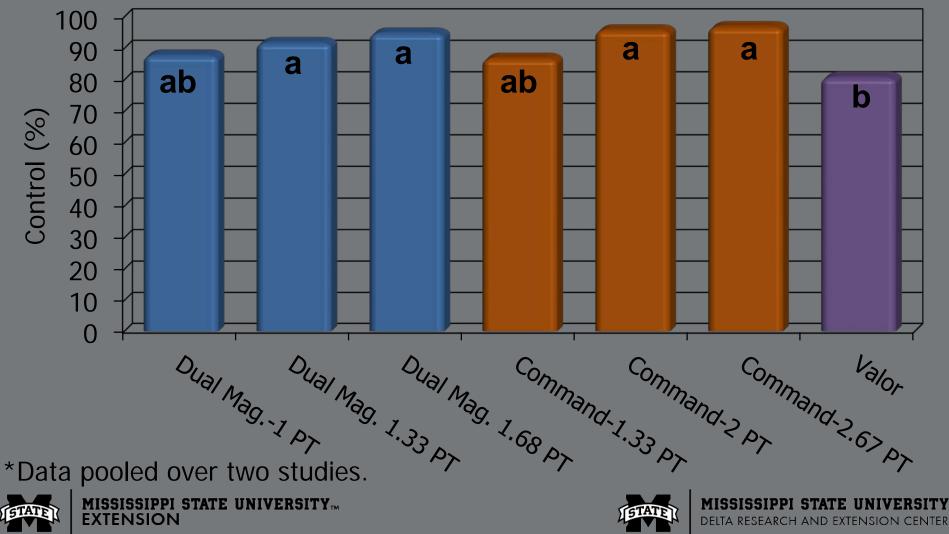


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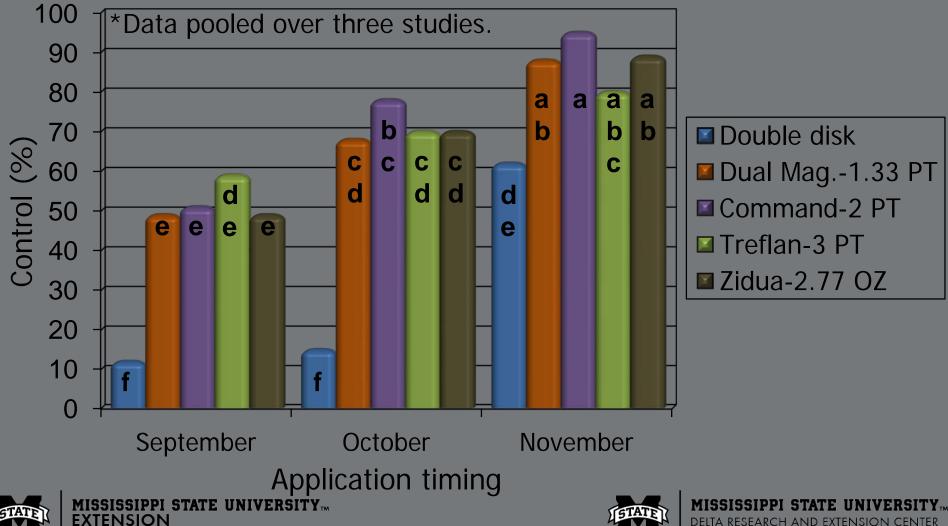


Italian Ryegrass Control

GR Italian ryegrass control 140 days after application of fall residual herbicide treatments



Italian Ryegrass Control GR Italian ryegrass control in early-March with residual herbicides applied at different timings



September

October

November

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Command at 2.67 PT/A



Dual Magnum at 1.33 PT/A



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Bog Yellowcress

- Family: Brassicaceae
- Name: *Rorippa palustris* var. *fernaldiana*
- Life cycle: Annual or biennial
- Plant: Branched; \leq 3 ft; alternate leaves
- Synonyms: bog marshcress, common yellowcress, marsh yellowcress





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Bog Yellowcress





Bog yellowcress:

- Rorippa palustris
- Lobed leaf margins
- Multiple varieties, but *fernaldiana* mostly in MS.



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Stalkless yellowcress:

- Rorippa sessiliflora
- Wavy leaf margins
- Less variable than bog yellowcress



Bog Yellowcress Burndown

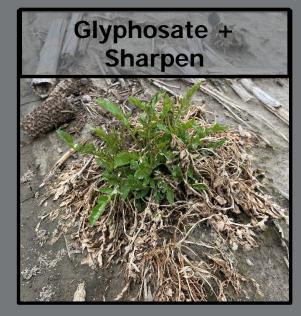








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Bog Yellowcress In Crop Glypohsate + Prefix









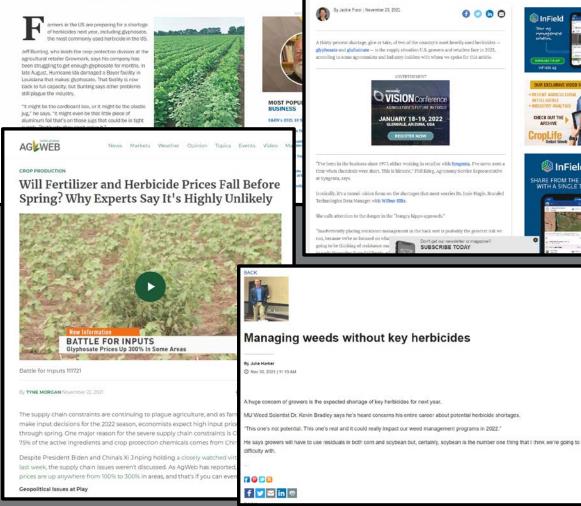
Herbicide Pricing and Sourcing

The Hidden Danger of Historic U.S. Herbicide Shortages

Farmers prepare for herbicide shortage

Crowded ports and storm damage are making crop chemicals hard to get by Matt Biols

oer 3, 2021 (A version of this story appeared in Volume 99, Issue 42



HERBICIDE SHORTAGES THAT SURFACED IN

By Gil Gullickson 11/3/2021

InField

CHECK OUT THE

🕮 InField

SHARE FROM THE

Home + Crops + Soybeans

Planting a herbicide-tolerant trait without being able to apply a matching postemergence herbicide is akin to throwing a party and not inviting the guest of honor. Yet, that's what some farmers faced in 2021 when they couldn't access the herbicide they wanted.

"In general, there were shortages of products, such as glyphosate (Group 9) and glufosinate (Group 10)," says Phil Krieg, Syngenta agronomy service representative. "There were times when you could not pick them up [chemicals] from the retailer the way you used to."



Herbicide shortages likely won't get any better in 2022. "This is probably not going to

2021 MAY NOT BE RESOLVED IN 2022

HOME > CROPS > WEED CONTROL WORKAROUNDS FOR HERBICIDE SHORTAGES

Herbicide Shortage Workarounds

Weed Control Workarounds for Herbicide Shortages 11/2/2021 | 5:00 AM CDT



ROCKVILLE, Md. (DTN) -- Chemical shortages and price spikes are complicating weed control for farmers this fall and next spring.

Fortunately, university weed scientists have been working to help farmers create weed control programs that work around shortages of key herbicides such as glyphosate. glufosinate (Liberty) and 2.4-D. We've pulled together these pieces here, for quick reference

FALL WEED CONTROL WITHOUT GLYPHOSATE

Perhaps the biggest challenge for many growers tackling fall burndowns and looking ahead to spring burndowns is the prospect of farming without glyphosate -- the country's most commonly used herbicide

Ohio State University weed scientist Mark Loux jumped on this topic early. Loux's two-part series. "Life in a Time of Glyphosate Scarcity," focuses first on weed control in notill wheat and then more generally on fall burndowns. He discusses rate lowering as well as alternative herbicide

options, such as dicamba, metribuzin or simazine and certain ALS herbicides. See both stories here: https://agcrops.osu.edu/__and.here-.https://agcrops.osu.edu/__

This past Ohio State University article on fall-applied herbicides also lists non-glyphosate options, Loux noted



What is your plan to control weeds this fall and

next spring with certain key herbicides in short

scientists have some recommendations to

consider (DTN photo by Pamela Smith)

supply, such as glyphosate and glufosinate? Weed

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Herbicide Pricing and Sourcing 1995 Weed Control Guidelines for Mississippi

	ma																															-				
Herbicides	Weeds	Barnyardgrass	Broadleaf signalgrass	Crabgrass	Goosegrass	Seedling Johnsongrass	Rhizome johnsongrass	Fall panicum	Cocklebur	Entireleaf morninggiory	Pitted morningglory	Palmleaf morninggiory	Smallflower morninggiory	Purple moonflower	Puralane	P. smartweed	Hemp sesbania	Prickly sida	Spurred anoda	Pigweed	Balloonvine	Texas gourd	Sicklepod	Cutleaf groundcherry	Common ragweed	Yellow nutsedge	Annual Sedge	Velvetleaf	Jimsonweed	Red rice	Spurge	Hophornheam copperleaf	Showy crotolaria	Wild poinsettia	Crop tolerance	
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^a Rating scale: 0 - 3 none to slight; 4 - 6 fair; 7 - 8 good; 9 - 10 excellent. Ratings assume the herbicides are applied in the manner suggested in the guidelines and according to the label under optimum growing conditions.

^b An overlay treatment with the preemergence herbicides will control a broader spectrum of weeds, but the effectiveness on any given species may be no better than the highest rating for the best herbicide in the specific combination selected.

^c Control of grasses may be reduced on fine-textured soils.





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			Es	tim	ated	Le	vels	of	Wee	d Co	ontr	ol N	lorn	nlly	Ex	pec	Led				-	_	_	
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⁸Rating scale: 0-3, more to alight: 4-6, fair, 7-8, good; 9-10, excellent; Ratings assume the herbicides are applied in the manner suggested in the guidelines and according to the label under optimuum growing conditions. Crop tolerance rating scale: E - excellent; G - good; F - fair. ¹⁵Sec Glossary for trade names.



Herbicide Pricing and Sourcing 1995 Weed Control Guidelines for Mississippi

Herbicio Preplan Prowl Triflural Zorial (P) Overlay no bett Preemer Comman Fluometu Cotoran Diuron Zorial Zorial +E Postemen Bladex + MSM Cobra + MSM Prometry + MSM Fluometur + MSM DSMA or Goal + MSM Diuron + MSM Postemer Assure II Fusilade Poast Plus Select Bugle Layby-pro Bladex Diuron "Rating scal and according ^bSee Glossa

Soybeans, Continued									
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in overlay treatment wit	the ingless rating for the best herbicide in the si	ne effectiveness on any given

of grasses may be reduced on fine-textured soils d Two applications.



° Ca

3 Bladex	9	4	8	5	4	4	G
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Layby-preemergence acti	vity	0	0	0	0	0	E
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8 Select	9	0	0	0	0	0	E
8 Poast Plus	9	4	4	4	4	8	F
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	d	9	7	-	8	-	G
7 Assure II	8	4	4	3	6	8	FG
Postemergence-over-the-t	op	4	5	5	7	8	FG
⁸ 7 + MSMA	8	-	-	-	-		G
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Bladex	200		uge	둯			8
Postemergence-directed	-						



Herbicide Pricing and Sourcing

Comparison of herbicide programs in Xtend soybean with and without dicamba and glyphosate

Timing	With glyphosate and dicamba	Without glyphosate; with dicamba	Without glyphosate and dicamba
Burndown	Glyphosate + 2,4-D + Select Max	2,4-D + dicamba + Select Max	2,4-D + dicamba + Select Max
Preplant		Paraquat + Authority Elite	Paraquat + Authority Elite
PRE	Paraquat + Boundary	Paraquat + Boundary	Paraquat + Command + metribuzin
POST 1	Glyphosate + Engenia + Zidua	Engenia + Python + Zidua	Prefix
POST 2	Glyphosate + Engenia	Select Max	Select Max
POST 3		Engenia + Assure II + Outlook	Cobra + Outlook





Cultural/Mechanical Control

- Variety selection
- Row width
- Seeding rate
- Soil fertility
- Irrigation
- Planting date
- Crop rotation
- Tillage
- Hand weeding



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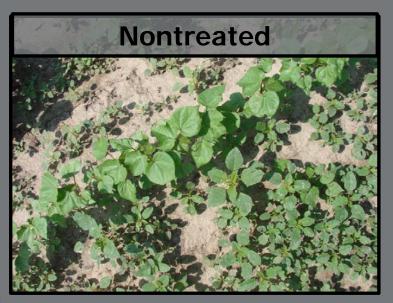




Roundup WeatherMax

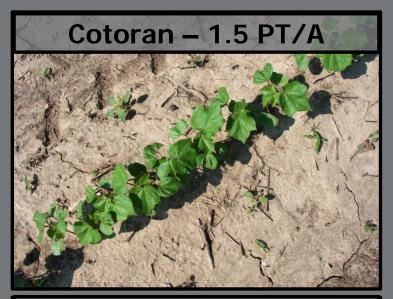
Sequential Residual Herbicides

- The easiest growth stage for Palmer amaranth control is before emergence.
- Overlay residual herbicides to stay ahead of the problem.





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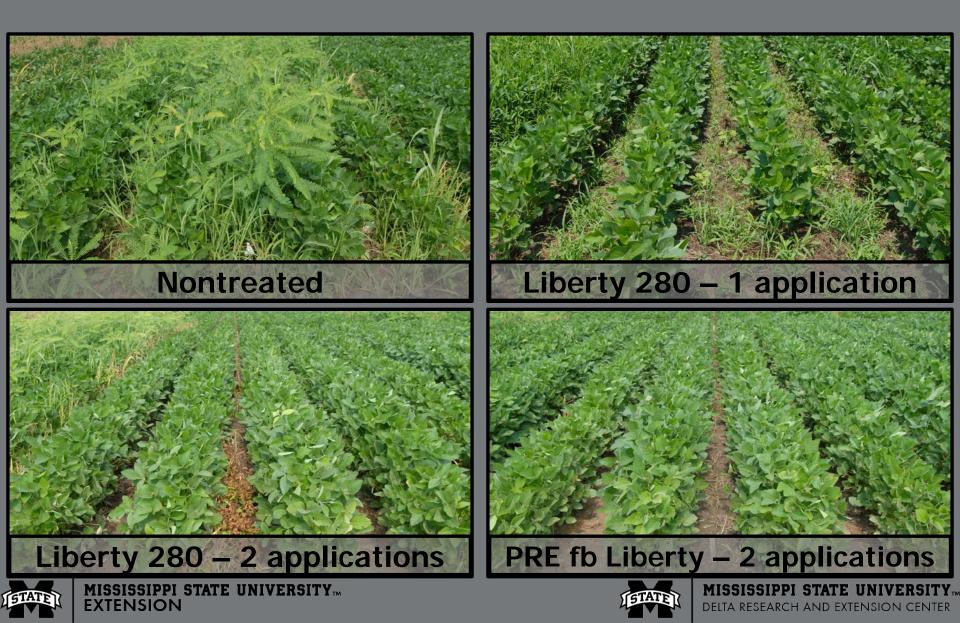


Reflex –1 PT/A fb Cotoran – 1.5 PT/A





Glufosinate Applications



Key Points to Remember

- Command at 1.33 PT/A will control Italian ryegrass in fall applications and leave 2 PT/A for application to the following year's rice crop.
- Bog yellowcress is an emerging problem in Delta counties, and control has been inconsistent.
- Herbicide pricing, sourcing, and potential label changes may greatly complicate weed control in 2022.
- Cultural weed management (planting date, rotations, row spacing) should be utilized where possible.
- Sequential applications of residual herbicides will be critical for early-season weed control.





Weed Control in MS Row Crops

Rice

Rice

Rice Rice

2022 Weed Management Suggestions for Mississippi Row Crops

Herbicide-Resistant Weed Management

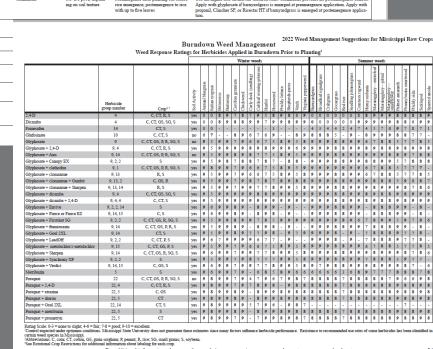
Management Options for Herbicide-Resistant Weeds

These are suggested options for managing herbicide-resistant weeds in the major agronomic crops of Mississippi. These are not the only options, but they have proven effective at managing herbicide-resistant weeds in Mississippi. See overall herbicide resistance summary in this section for details on existing herbicide-resistant weeds in Mississippi. NOTE: Consult individual crop sections in this publication or product labels for specific information on application rates, timings of application, preplant intervals, rainfast intervals, and rotational crop restrictions

Crop	Herbicide(s)	Rate	Timing of application	Special instructions
Barnyardgrass (ACCase-, ALS-, propanil-, ar	ad quinclorac-resistant)		
Rice	clomazone	0.8–2.1 pt/A, depending on soil texture	Preemergence after planting but before rice emergence; postemergence to rice with up to five leaves	Use the higher rate on heavier-textured soils. Clomazone provides no postemergence control Apply with glyphosate if barnyardgrass is emerged at preemergence application.
Rice	Loyant	1 pt/A	Postemergence from two-leaf rice to 60 days prior to harvest	Soil moisture is critical for good activity. Weed foliage must not be covered with water at application. Add methylated seed oil (MSO) at 0.5 pint per acre. Loyant should not be mixe with other herbicides containing propanil.
Rice	pendimethalin	Formulation and soil texture dependent	Delayed preemergence after rice seed have imbibed water for germination	Use higher rate on heavier-textured soils. Provides no postemergence control.
Rice	pendimethalin + Bolero	0.75–1 lb ai/A + 4 pt/A	Delayed preemergence after rice seed have imbibed water for germination	Seedbed should be sealed by rain or flushing. Do not allow soil to crack after application. Application to rice stressed by high salt and/or high pH soil may cause excessive rice injury
Barnyardgrass (a	ALS-resistant)			
Rice	Clincher SF	15 oz/A	Postemergence from one-leaf rice to ear- ly tillering stage to barnyardgrass with fewer than four leaves	Soil moisture is critical for good activity. Weed foliage must not be covered with water at application. Add clomazone, quinclorac, or pendimethalin for residual control. Add crop oil concentrate or methylated seed oil (MSO) at 1 quart per acre. May be applied as an emergen cy salvage treatment.
Rice	clomazone	0.8–2.1 pt/A; depend- ing on soil texture	Preemergence after planting but before rice emergence; postemergence to rice with up to five leaves	Use the higher rate on heavier-textured soils. Clomazone provides no postemergence control Apply with glyphosate if barnyardgrass is emerged at preemergence application. Apply with propaul, Clincher SF, or Ricestar HT if barnyardgrass is emerged at postemergence applica- tion.

2022 Weed Management **Suggestions for Mississippi Row Crops**

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For additional information, please see these websites: www.agrian.com, www.cdms.net, or www.greenbook.net



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Questions?



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