

### Soybean Herbicide

Compatibility with Fertilizers as Application Carriers

Herbicide	Fertilizer	
	Fluid	Dry
Anthem Maxx	Y	Y
Assure II/Targa	N	N
Authority Elite/Broadaxe	Y	Y
Authority Edge/Authority Supreme	Y	Y
Broadstrike + Dual or Treflan	Y	Y
Dual Magnum	Y	Y
FirstRate	Y	Y
Glyphosate	N	N
Liberty/Cheetah	N	N
Metribuzin	Y	Y
Outlook	Y	Y
Paraquat	Y	N
Prowl	Y	Y
Pursuit	Y	N
Python	Y	Y
Select Max	N	N
Sharpen	Y	Y
Synchrony XP	N	N
Treflan/Trilin/trifluralin	Y	Y
Turbo	Y	Y
Valor	Y	Y
Warrant	N	Y
Zidua	Y	Y

Y = Yes, N = No

There are many specific fertilizer incompatibilities and restrictions with most herbicides. Be sure to read the herbicide label for specific mixing or impregnation instructions. Compatibility agents are required for many mixes. A typical compatibility test procedure for mixing herbicides in fluid fertilizers is given on page 4. NOTE: Compatibility with dry fertilizer is listed here from a labeling standpoint. The University of Arkansas only recommends herbicide application on dry fertilizer as a third alternative to spraying in water or in liquid fertilizer.

### Rainfall-free Periods for Postemergence Herbicides

Herbicide	Time Before Rainfall
2,4-DB	4 hrs
Assure II/Targa	1 hr
Basagran	8 hrs
Classic	4 hrs
Cobra	30 min
Enlist One	4 hrs
Enlist Duo	4 hrs
Engenia/Xtendimax	4 hrs
FirstRate	2 hrs
Fusilade, Fusion	1 hr
Glyphosate	4-6 hrs
Liberty/Cheetah	4 hrs
Paraquat	30 min
Poast/Poast Plus	1 hr
Pursuit	1 hr
Python	4 hrs
Reflex, Flexstar, Typhoon	4 hrs
Resource	1 hr
Reviton	1 hr
Select Max	1 hr
Sharpen	1 hr
Storm	8 hrs
Synchrony XP	4 hrs
Tavium	4 hrs
Ultra Blazer	6 hrs
Valor	1 hr

These are intervals that must occur between application and the first rainfall event in order for no loss in herbicide activity to occur.

### Soybean Postemergence Herbicide

Preharvest Application Intervals (PHI)

Herbicide	PHI
2,4-DB	60 days
Assure II/Targa	80 days
Basagran	No restrictions
Classic	60 days
Cobra	90 days
Enlist One	R2
Enlist Duo	R2
Engenia/Xtendimax	7 day PHI; R1 cutoff
Dual Magnum	90 days
FirstRate	65 days
Fusilade DX	1st bloom / R1
Glyphosate	After flowering / R3
Liberty/Cheetah	70 days
Poast/Poast Plus	90 days
Pursuit	85 days
Python	85 days
Reflex, Flexstar, Typhoon	1st bloom / R1
Resource	60 days
Select Max	60 days
Sharpen	3 days
Storm	50 days
Synchrony XP	60 days
Tavium	75 days PHI; V5 cutoff
Ultra Blazer	50 days
Valor	60 days

These intervals are the number of days that must be allowed between herbicide application and harvest. Applications made after these interval restrictions could cause illegal herbicide residues to be present in the harvested grain.

**Soil-Applied Herbicide Rates for Soybeans**  
**Soil Texture**

Herbicide	Coarse (light)	Medium	Fine (heavy)
Broadcast Rates Per Acre			
<b>Preplant (Normal Rates)</b>			
Afforia	2.5 oz	2.5 oz	2.5 oz
Dual Magnum	1 pt	1.33 pt	1.67 pt
Dual Magnum + metribuzin 75DF	0.8 pt + 0.33 lb	1 pt + 0.5 lb	1.33 pt + 0.67 lb
Prowl 3.3EC	1.2-1.8 pt	1.8-2.4 pt	2.4-3.6 pt
Prowl H <sub>2</sub> O 3.8 CS	1.0-1.6 pt	1.6-2.1 pt	2.1-3.2 pt
Sonic	3-6 oz	3-6 oz	3-6 oz
Synchrony XP	1.5 oz	1.5 oz	1.5 oz
Treflan, Trilin, Trifluralin 4EC	1 pt	1.5 pt	2 pt
Valor	2 oz	2 oz	2 oz
<b>Preemergence</b>			
Afforia	2.5 oz	2.5 oz	2.5 oz
Anthem Flex	2.25-2.75 oz	2.75-5.55 oz	4.0-5.5 oz
Anthem Maxx	2-3.25 oz	2.5-4.75 oz	3.5-5.5 oz
Authority Edge	5.9-7.9 oz	7.0-10.0 oz	9.0-12.0 oz
Authority Elite	19-23 oz	24-26 oz	27-32 oz
Authority MTZ	10-12 oz	12-14 oz	14-18 oz
Authority Supreme	6-6.9 oz	6-9.8 oz	7-11.5 oz
Boundary	1.2-1.5 pt	1.5-2 pt	1.75-2.25 pt
BroadAxe XC	19-25 oz	25-32 oz	25-32 oz
Dual Magnum	1 pt	1.33 pt	1.67 pt
Dual Magnum + metribuzin 75DF, Boundary	0.8 pt + 0.33 lb	1 pt + 0.5 lb	1.33 pt + 0.67 lb
Enlite	2.8 oz	2.8 oz	2.8 oz
Envive	3.5 oz	3.5 oz	3.5 oz <sup>1</sup>
Metribuzin 75DF	0.33-0.5 lb	0.5-0.67 lb	0.67-1 lb
Outlook	10-14 oz	14-16 oz	16-18 oz
Prefix	2 pt	2-2.5 pt	2-3 pt
Python	1 oz	1.1 oz	1.3 oz
Sharpen	--	1 oz	1 oz
Sonic/Authority First	3-6 oz	3-6 oz	3-6 oz
Surveil (co-pack)	3 oz	3 oz	3 oz
Tendovo	1.2-1.5 qt	1.35-2.1 qt	1.75-2.35 qt
Trivence <sup>1</sup>	6 oz	6-8 oz	8-10 oz
Valor	2 oz	2 oz	2 oz
Verdict	--	5 oz	5 oz
Warrant	1.25 qt	1.5 qt	1.9 qt
Zidua SC	2.5-3.5 oz	3.25-5	4-5.75 oz
Zone Defense	3.5-5.0 oz	4.5-5.0 oz	5.0 oz

<sup>1</sup>See label for pH restrictions.

## Forage, Feed and Grazing Restrictions for Corn and Grain Sorghum Herbicides

Herbicide	Restrictions
2,4-D amine or ester	Do not forage or feed corn fodder for 7 days following application.
Acuron	Do not graze or feed forage from treated areas for 45 days following application.
Atrazine	Do not graze or feed forage from treated areas for 21 days following application, or illegal residues may result.
Banvel	Do not harvest or graze corn for dairy or beef feed prior to the ensilage (milk) stage of the crop.
Basagran	Do not graze treated fields for at least 12 days after application.
Bicep	No restrictions on label.
Buctril	Do not cut for feed or graze within 30 days after application.
Buctril + atrazine	Do not cut crop for feed or graze within 30 days after application.
Cinch	No restrictions on label.
Cinch ATZ	No restrictions on label.
Degree	Do not graze or feed for 21 days.
Dual II Magnum	No restrictions on label.
Exceed	Do not graze or feed for 30 days or silage for 4 months.
Gambit	Allow 30 days before grazing or feeding.
Glufosinate	Allow 60 days for forage and 70 for fodder.
Glyphosate	Do not harvest or feed treated crops for 8 weeks after application. Allow 14 days following spot treatment or selective equipment use before grazing domestic livestock.
Harness MAX	Allow a minimum of 60 days following application before harvesting for hay or grazing.
Lexar EZ/Coyote/Halex GT	Do not graze or feed forage from treated area within 45 days of application.
Outlook/Guardsman Max	May be grazed or fed at 40 or more days after application.
Paraquat	Do not graze treated areas or feed treated forage to livestock.
Peak	Do not graze or feed forage for 30 days following application. Do not harvest for silage for 40 days.
Permit, Permit Plus	Allow 30 days before grazing or feeding.
Prowl	No restrictions on label.
Realm Q	Do not graze or feed treated forage to livestock within 30 days of application.
Resolve Q	Do not graze or feed treated forage to livestock within 30 days of application.
ShieldEX	Do not graze or feed treated corn forage or silage for 21 days after application.
Sodium Chlorate	Do not graze treated field or feed treated fodder, forage or seeds within 14 days of application.

Restrictions are listed as worded on the labels. Feeding and application restrictions for herbicides are generally based on residue tolerances allowed for animal feeding. The restrictions are generally not due to acute toxicity (poisoning) problems. Livestock that are accidentally fed treated crops earlier than allowed may not be harmed, but may have illegal pesticide residues in their meat or milk. If you have fed livestock treated crops within the restricted period, refer to the label, your dealer or herbicide company representative for more information.

## Corn and Grain Sorghum Herbicide Compatibility with Fertilizers as Application Carriers\*

Herbicide	Fertilizer	
	Fluid	Dry
Atrazine 4L, 80W, DF	Y	N
Banvel	Y	N
Bicep	Y	Y
Callisto	Y	N
Degree Xtra	Y	Y
Dual II Magnum	Y	Y
Exceed	Y	N
Gambit	Y	N
Glyphosate	N	N
Harness MAX	Y	Y
Paraquat	Y	N
Permit, Permit Plus	Y	N
Prowl	Y	Y
2, 4-D amine	N	N

Y = Yes, N = No

\*There are many specific fertilizer incompatibilities and restrictions with most herbicides. Be sure to read the herbicide label for specific mixing or impregnation instructions. Compatibility agents are required for many mixes. A typical compatibility test procedure for mixing herbicides in fluid fertilizers is given on page 4. NOTE: Compatibility with dry fertilizer is listed here from a labeling standpoint. The University of Arkansas only recommends herbicide application on dry fertilizer as a third alternative to spraying in water or in liquid fertilizer.

## Rainfall-free Periods for Postemergence Corn and Grain Sorghum Herbicides

Herbicide	Time Before Rainfall*
Accent	4 hr
Atrazine	1 to 2 hrs
Banvel	6 to 8 hrs
Basagran	8 hrs
Beacon	4 hrs
Buctril	1 hr
Buctril/Atrazine	1 hr
Callisto	1 hr
Capreno	1 hr
Corvus	1 hr
Gambit	4 hr
Glufosinate	4 hrs
Glyphosate	6 hrs
Halex GT	1 hr
Paraquat	30 min
Permit, Permit Plus	4 hrs
ShieldEx	1 hr
2,4-D amine or other	6 to 8 hrs

\*This is the interval that must occur prior to a rainfall event in order to maintain maximum weed control.

**WEED RESPONSE RATINGS FOR RICE HERBICIDES (cont.)**  
(See Explanation for Ratings Tables on Page 3.)

HERBICIDES	WSSA GROUP #	GRASSES							BROADLEAF WEEDS											SEDGES									
		Barnyardgrass <sup>1</sup>	Broadleaf Signalgrass	Crabgrass	Fall Panicum	Weedy rice	Rice Cutgrass	Sprangletop spp.	Ammania (red stem)	Dayflower	Ducksalad	Eclipta	Gooseweed	Groundcherry	Hemp Sesbania (coffeebean)	Indian Jointvetch	Northern Jointvetch (curly indigo)	Palmleaf Morningglory	Pigweed, Palmer <sup>2</sup>	Pitted Morningglory	Smartweed	Texasweed	Water Hyssop	Flatsedges <sup>3</sup>	White-margined flatsedge	Spikerush	Umbrella Sedge	Yellow Nutsedge	
<b>Early Postemergence [cont.]</b>																													
Basagran	6	0	0	0	0	0	0	0	8	9	6	8	7	0	3	3	3	8	0	3	7	0	8	8	8	8	8	7	6
Basagran + propanil	6, 5	9	9	7	9	0	2	5	9	9	7	9	7	4	9	9	9	8	7	5	8	6	9	9	9	9	8	7	
Aim	14	0	0	0	0	0	0	0	6	7	5	7	-	8	9	6	6	10	6	10	9	3	7	-	0	0	3	0	
Sharpen	14	0	0	0	0	0	0	0	8	7	5	9	7	8	9	9	9	9	7	10	-	8	8	8	4	-	6	6	
Ultra Blazer + propanil	14, 5	8	8	7	8	0	1	5	6	5	7	8	5	8	9	6	9	8	9	8	7	3	8	8	5	8	2	5	
<b>Early Postflood<sup>5</sup></b>																													
Ricestar + Regiment	1, 2	8	5	5	4	0	4	6	4	6	6	5	0	-	6	5	5	2	0	3	7	5	4	1	1	-	1	2	
Ricestar + Beyond Xtra	1, 2	8	8	8	8	6 <sup>4</sup>	6	8	6	2	4	0	3	6	0	0	0	2	0	4	6	4	0	6	3	6	0	5	
Novixid <sup>6</sup>	2, 4	7	5	0	0	0	3	4	6	8	9	8	8	5	9	9	9	2	8	6	4	4	8	8	7	7	8	6	
Rogue	27	5	3	-	-	8***	-	9	0	-	10	-	6	-	6	6	6	-	-	-	3	-	-	10	7	-	10	6	
<b>Midseason</b>																													
2,4-D	4	0	0	0	0	0	0	0	9	9	9	9	6	5	9	5	5	9	8	9	6	0	9	8	7	8	3	5	
Grandstand + propanil	4, 5	4	4	4	4	0	0	0	9	-	6	6	7	3	9	8	9	9	7	9	5	0	8	5	5	8	5	3	
Propanil	5	4	4	4	4	0	0	0	4	0	3	4	0	4	8	5	5	3	6	0	3	0	8	5	5	7	5	3	
Propanil + Ultra Blazer	5, 14	5	5	5	5	0	0	0	5	2	4	5	2	5	9	6	6	7	7	8	7	0	8	6	5	7	5	4	
Ultra Blazer	14	0	0	0	0	0	0	0	0	0	0	0	0	3	9	0	0	3	6	3	6	0	0	0	0	0	0	0	

\*Water seed pin-point flood culture. \*\*Postemergence control only. \*\*\*Only effective on sensitive populations. There are known Rogue-resistant weedy rice populations within Arkansas. Rating Scale: 0 = No Control 10 = 100% Control.

<sup>1</sup>Some biotypes of barnyardgrass in Arkansas are resistant to Command, propanil, Facet or both (Facet + propanil), Newpath, Grasp, Regiment, Clincher, Ricestar, and Loyant. **Best barnyardgrass control is achieved through a program approach with overlapped residuals at the front of the season.**

<sup>2</sup>Data from Arkansas resistance screenings has identified WSSA Group 3 (pendimethalin) and Group 14 (saflufenacil) resistant pigweed. Expect reduced control from herbicides such as Prowl or Sharpen when used alone.

<sup>3</sup>Data from Arkansas resistance screenings indicates more than 50% of annual flatsedge populations test positive for ALS-inhibitor (Permit) resistance.

<sup>4</sup>Off-types and evolved herbicide resistance would reduce this rating significantly (near 0).

<sup>5</sup>Applying these herbicides individually, rather than in a mixture, would result in significantly reduced control at this timing.

<sup>6</sup>These ratings are based on spray applications. Reduced grass control would be observed if coated on fertilizer.

**ROW RICE WEED RESPONSE RATINGS TABLE**

HERBICIDES	Goosegrass	Large Crabgrass	Johnson-grass	Carpetweed	Entireleaf Morning-glory <sup>2</sup>	Prickly Sida <sup>3</sup>	Palmer <sup>4</sup> Amaranth	Sicklepod
<b>Preemergence</b>								
Prowl	C	C	C <sup>1</sup>	C	NR	C	C	NR
Bolero	C	S	-	-	-	-	-	-
Clomazone	S	C	S <sup>1</sup>	NR	NR	S	NR	NR
Sharpen	NR	NR	NR	C	C	C	C	NR
<b>Early Postemergence</b>								
Clincher	S	S	C	NR	NR	NR	NR	NR
Ricestar	S	C	C <sup>1</sup>	NR	NR	NR	NR	NR
Grasp	NR	NR	NR	NR	S	NR	NR	C
Newpath/Preface - Beyond Xtra/Postscript	S	S	C <sup>1</sup>	C	S	S	NR	NR
Gambit	NR	NR	NR	NR	S	C	NR	C
Regiment	NR	NR	C	NR	C	NR	NR	C
Loyant	NR	NR	NR	-	NR	NR	C	C
Facet	NR	C	NR	-	C	NR	NR	NR
Grandstand	NR	NR	NR	-	C	NR	NR	C
Propanil	C	C	S	C	C	S	S	S
Ultra Blazer	NR	NR	NR	C	C	NR	S	NR

C = Control S = Suppression NR = Not Recommended

<sup>1</sup>Johnsongrass seedling only, not rhizome.

**RAINFALL-FREE PERIODS FOR POSTEMERGENCE RICE**

Herbicide	Time Before Rainfall	Herbicide	Time Before Rainfall
2,4-D	6 hrs	Newpath/Preface	1 hr
Aim	1 hr	Permit/Permit Plus	4 hrs
Basagran	4 hrs	Propanil	6 hrs
Beyond Xtra/Postscript	1 hr	Provisia/Highcard	1 hr
Bolero	24 hrs	Regiment	8 hrs
Clincher	1 hr	Ricestar HT	1 hr
Facet	6 hrs	Sharpen	1 hr
Gambit	4 hrs	Storm	8 hrs
Grasp	1 hr	Strada	6 hrs
League	6 hrs	Ultra Blazer	4 hrs
Loyant	2 hrs		