

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
Reviton	Y	N
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
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
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
Dual Magnum	75 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
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 Soybean
Soil Texture**

Herbicide	Coarse (light)	Medium	Fine (heavy)
	Broadcast Rates Per Acre		
Preplant (Normal Rates)			
Afforia	2.5 oz	2.5 oz	2.5 oz
Dual Magnum	1 pt	1.5 pt	2.00 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 ₂ 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
Preemergence			
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	1.33-1.67 pt	1.5 pt
Dual Magnum + metribuzin 75DF	1.0 pt + 0.33 lb	1.33 pt + 0.5 lb	1.5 pt + 0.67 lb
Enlite	2.8 oz	2.8 oz	2.8 oz
Envive	3.5 oz	3.5 oz	3.5 oz ¹
Metribuzin 75DF ¹	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 ²	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

¹See label for pH restrictions.

²Use metribuzin tolerant varieties (www.uaex.uada.edu).

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
Surtain	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 hrs
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 ¹	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 ²	Pitted Morningglory	Smartweed	Texasweed	Water Hyssop	Flatsedges ³	White-margined flatsedge	Spikerush	Umbrella Sedge	Yellow Nutsedge
Early Postemergence [cont.]																												
Basagran	6	0	0	0	0	0	0	8	9	6	8	7	0	3	3	3	8	0	3	7	0	8	8	6	8	7	6	
Basagran + propanil	6, 5	9	9	7	9	0	2	9	9	7	9	7	4	9	9	9	8	7	5	8	6	9	9	7	9	8	7	
Aim	14	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	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	6	5	7	8	5	8	9	6	9	8	9	8	7	3	8	8	5	8	2	5	
Early Postflood⁵																												
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 ⁴	6	8	6	2	4	0	3	6	0	0	2	0	4	6	4	0	6	3	6	0	5	
Novixid ⁶	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	3	7	8	6
Rogue	27	5	3	-	-	8 ^{***}	8	9	0	-	10	-	6	-	6	6	6	-	-	-	3	-	-	10	7	-	10	6
Midseason																												
2,4-D	4	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	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	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	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	

*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.

ROW RICE WEED RESPONSE RATINGS TABLE

HERBICIDES	Goosegrass	Large Crabgrass	Johnson-grass	Carpetweed	Entireleaf Morning-glory ²	Prickly Sida ³	Palmer Amaranth ⁴	Sicklepod
Preemergence								
Prowl	C	C	C ¹	C	NR	C	C	NR
Bolero	C	S	-	-	-	-	-	-
Clomazone	S	C	S ¹	NR	NR	S	NR	NR
Sharpen	NR	NR	NR	C	C	C	C	NR
Early Postemergence								
Clincher	S	S	C	NR	NR	NR	NR	NR
Ricestar	S	C	C ¹	NR	NR	NR	NR	NR
Grasp	NR	NR	NR	NR	S	NR	NR	C
Newpath/Preface - Beyond Xtra/Postscript	S	S	C ¹	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
¹Johnsongrass seedling only, not rhizome.

¹Some 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.**
²Data 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.
³Data from Arkansas resistance screenings indicates more than 50% of annual flatsedge populations test positive for ALS-inhibitor (Permit) resistance.
⁴Off-types and evolved herbicide resistance would reduce this rating significantly (near 0).
⁵Applying these herbicides individually, rather than in a mixture, would result in significantly reduced control at this timing.
⁶These ratings are based on spray applications. Reduced grass control would be observed if coated on fertilizer.

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		