

**WEED RESPONSE RATINGS FOR BURNDOWN HERBICIDES – ALL CROPS**  
(See Explanation of Rating Tables on Page 3.)

HERBICIDE <sup>1</sup>	GRASSES										BROADLEAVES													COVER CROP TERMINATION												
	WSSA Group #	Annual Bluegrass	Barnyardgrass	Broadleaf Signalgrass	Crabgrass	Giant Foxtail	Little Barley	Weedy rice	Ryegrass <sup>9,10</sup>	Buttercup	Carolina Geranium	Chickweeds	Common Lambsquarters	Common Ragweed	Coreopsis	Curly Dock	Cutleaf Eveningprimrose	Henbit <sup>9</sup>	Horseweed, Glyphosate-Resistant <sup>9,11</sup>	Mayweed <sup>11</sup>	Morningglory spp.	Mustards	Palmer Amaranth, Glyphosate-Resistant	Prickly Lettuce	Smartweed spp.	Sow Thistle spp.	Swinecress	Virginia Pepperweed	Yellow Nutsedge	Austrian Winter Pea	Cereal Rye	Clover	Rapeseed	Tillage Radish	Hairy Vetch	Wheat Cover
2,4-D (labeled formulations)	4	0	0	0	0	0	0	0	8	5	0	2	9	7	9	8	5	8	8	9	6	9	8	6	7	6	2	4	6	0	6	5	5	9	0	
dicamba <sup>2</sup>	4	0	0	0	0	0	0	0	6	7	8	4	9	7	8	8	6	9	6	9	7	8	7	6	8	7	3	0	7	0	7	5	5	9	0	
Elevore <sup>3</sup>	4	0	0	0	0	0	0	0	-	0	6	-	-	-	-	5	7	9	0	-	-	-	-	-	-	-	-	-	-	0	-	-	-	6	-	
Glyphosate <sup>4</sup>	9	10	9	8	10	8	10	8	3	5	7	10	8	9	4	7	6	7	2	7	6	10	0	9	8	8	6	10	4	6	10	6	4	5	6	9
Glyphosate + dicamba or 2,4-D <sup>5</sup>	9, 4	10	10	8	10	8	10	8	3	10	9	10	10	10	7	9	9	10	9	9	10	10	8	10	9	9	8	10	4	7	10	8	6	6	10	9
Glyphosate + Elevore	9, 4	10	9	8	10	8	10	8	3	5	7	10	8	9	4	7	6	9	10	7	6	10	0	9	8	8	6	10	4	6	10	6	4	5	7	9
Glyphosate + FirstShot	9, 2	10	7	8	8	8	10	8	3	8	9	10	10	9	4	10	7	9	5	8	7	10	4	10	10	8	6	10	4	6	10	8	5	6	8	9
Glyphosate + Glufosinate	9, 10	10	9	9	10	10	10	9	7	10	8	10	9	10	7	8	8	10	9	8	10	10	9	10	9	9	7	10	7	8	10	10	6	7	10	10
Glyphosate + Goal	9, 14	10	8	8	9	8	10	8	6	9	9	10	8	9	4	7	7	10	8	7	7	10	7	9	10	8	6	8	4	-	10	-	-	-	7	9
Glyphosate + LeadOff <sup>6</sup>	9, 2	10	8	8	8	8	10	8	8	9	9	10	10	9	6	10	7	9	6	9	7	10	5	10	9	8	8	9	6	7	10	9	6	7	8	9
Glyphosate + Reviton	9, 14	10	10	9	9	9	10	9	6	10	9	10	9	10	-	8	8	9	7	7	9	9	9	9	9	8	7	10	7	8	10	9	-	7	10	9
Glyphosate + Sharpen	9, 14	10	10	9	9	9	8	9	5	10	8	8	10	10	6	7	7	8	8	8	8	9	8	8	9	9	7	9	7	8	10	9	6	7	9	10
Glyphosate + Sharpen + 2,4-D	9,14,4	10	10	9	9	9	10	9	5	10	10	10	10	10	9	10	8	10	10	10	10	10	10	10	10	10	9	10	7	9	10	10	7	8	10	9
Glyphosate + Valor <sup>7</sup>	9, 14	10	9	8	10	8	10	8	5	6	8	10	9	9	6	7	9	9	2	7	9	10	4	9	9	-	-	10	6	8	10	9	6	7	8	9
Clethodim (Select Max) <sup>8</sup>	1	6	9	10	9	9	7	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9
Glufosinate + 2,4-D	10, 4	6	7	7	7	8	7	7	5	10	8	10	9	10	7	8	8	10	9	10	10	10	10	9	8	8	8	10	7	8	7	9	5	7	10	5
Paraquat <sup>9</sup>	22	9	7	8	8	8	9	7	6	7	9	10	9	8	3	5	7	8	5	7	8	10	9	6	6	6	4	0	4	8	7	9	5	8	8	7
Paraquat + PSII <sup>9</sup>	22, 5	9	9	9	9	9	10	8	8	8	9	10	9	8	8	6	7	9	6	7	9	10	6	6	6	4	0	7	9	10	10	7	9	9	9	

<sup>1</sup> Herbicide rates are: Glyphosate (4 lb/gal) 1 qt/A; paraquat 40 oz/A. Add 0.25% v/v surfactant with paraquat.

<sup>2</sup> Check the Arkansas State Plant Board website ([www.aad.arkansas.gov](http://www.aad.arkansas.gov)) for updated regulations on dicamba.

<sup>3</sup> Elevore is a slow-acting herbicide. It may take 3 weeks or longer to reach maximum control.

<sup>4</sup> Increasing glyphosate rates to 1.5 lb ai or 3 pt/A of 4 lb/gal will increase efficacy on non-resistant weeds.

<sup>5</sup> Glyphosate (4 lb/gal) 1 qt + 2,4-D 1.5 pt/A.

<sup>6</sup> Add 2,4-D or dicamba for improved control of cutleaf eveningprimrose and horseweed.

<sup>7</sup> Adding Valor or other flumioxazin products like Afforia will provide residual control of horseweed and pigweed, but no postemerge control.

<sup>8</sup> Clethodim activity on grass weeds will be reduced when tankmixed with an auxin such as 2,4-D or dicamba and when applied during cold temperatures.

<sup>9</sup> Adding a PSII-inhibiting herbicide such as metribuzin in beans, atrazine in corn or Cotoran in cotton will greatly increase weed control with paraquat.

<sup>10</sup> For glyphosate-resistant ryegrass and henbit, fall applications may be more effective than typical burndown applications applied in the spring. Apply 3.25 oz/A Zidua, 2pt/A Boundary or 1.33 pints per acre of Dual Magnum or equivalent in the fall prior to weed emergence. Valor is effective for broadleaves such as henbit, but not for ryegrass. All crops on the Dual label can be planted the following spring. POST applications of paraquat tank-mixed with a photosystem II inhibitor (metribuzin, diuron or atrazine) have also been effective for ryegrass. Select or Select MAX has also been effective at controlling smaller ryegrass; however, it has failed as a late spring salvage in University trials.

<sup>11</sup> ALS-resistant populations of horseweed, mayweed, weedy rice and ryegrass have been documented.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
<b>Glyphosate-resistant Italian Ryegrass Preemergence – October 15 - November 30</b>				
S-metolachlor @ 0.75 to 1.3 lb/A	Italian ryegrass and other small seeded grasses and broadleaves.	<b>Dual Magnum</b> 7.62 EC 1.33 to 1.67 pt/A	Apply in the fall by December 1.	Prior to ryegrass emergence. If ryegrass is emerged apply with Select Max 24 oz/A or paraquat 32 oz/A. <b>Do not plant rice following spring.</b>
pyrooxasulfone @ 0.08 to 0.15 lb/A	Italian ryegrass and other small seeded grasses and broadleaves.	<b>Zidua</b> 4.17 SC 2.5 to 4.5oz/A	Apply in the fall by December 1.	Prior to ryegrass emergence. If ryegrass is emerged apply with Select Max 24 oz/A or paraquat 32 oz/A. <b>Do not plant rice following spring.</b>
pyrooxasulfone plus carfen-trazone @ 0.08 to 0.15 lb/A plus 0.006 to 0.010 lb/A	Italian ryegrass and other small seeded grasses and broadleaves.	<b>Anthem Flex</b> 4 SC 2.75 to 5.0 oz/A	Apply in the fall by December 1.	Prior to ryegrass emergence. If ryegrass is emerged apply with Select Max 24 oz/A or paraquat 32 oz/A. <b>Do not plant rice following spring.</b>
S-metolachlor plus metribuzin @0.98 to 1.31 lb/A plus 0.23 to 0.31 lb/A	Italian ryegrass and other small seeded grasses and broadleaves.	<b>Boundary</b> 6.5 EC 1.5 to 2.0 pts/A	Apply in the fall by December 1.	Prior to ryegrass emergence. If ryegrass is emerged apply with Select Max 24 oz/A or paraquat 32 oz/A. <b>Only soybean can be planted in the spring.</b>
clomazone @ 0.375 to 0.56 lb/A	Italian ryegrass and other small seeded grasses and broadleaves.	<b>Command</b> 3ME 16 to 24 oz/A	Apply in the fall by December 1.	Prior to ryegrass emergence. If ryegrass is emerged apply with Select Max 24 oz/A or paraquat 32 oz/A. Use lower rate on lighter soil types such as silt loams. <b>Only rice, soybean and cotton can be planted in the spring.</b>
<b>Glyphosate-resistant Italian Ryegrass Postemergence</b>				
clethodim @ 0.18 to 0.242 lb/A	Ryegrass and other grass weeds.	<b>Select Max</b> 0.97 EC 24 to 32 oz/A	Postemergence. Add 1% crop oil concentrate.	For best control of ryegrass, spray prior to reproductive stages with temperatures in the 50's. Tankmixtures with auxin herbicides such as dicamba and 2,4-D can cause antagonism and result in reduced control.
paraquat @ 0.47 to 0.94 lb/A	Ryegrass and other emerged weeds.	<b>Paraquat</b> (3 lb formulations) 32-40 oz/A	Postemergence. Add a surfactant.	For best control of ryegrass, spray prior to reproductive stages with temperatures in the 50's. Two applications may be necessary if applied later in the spring.
paraquat plus PSII inhibitor @ 0.47 to 0.94 plus 0.25 - 5.0 lb/A	Ryegrass and other emerged weeds.	<b>Paraquat</b> (3 lb formulations) 32-40 oz/A + <b>PSII Inhibitor</b> 0.25 - 1.0 lb ai/A)	Postemergence. Add a surfactant. Better control than paraquat alone.	Use metribuzin @ 0.25 - 0.375 lb ai/A prior to planting soybean atrazine @ 0.5 - 1.0 lb ai/A prior to planting corn, Cotoran 0.75-1.0 lb ai/A prior to planting cotton.
<b>CORN For additional information on burndown herbicides see page 21, WEED RESPONSE RATINGS FOR BURNDOWN HERBICIDES. Preplant–Burndown</b>				
glyphosate @ 1.0 lb/A	Emerged weeds.	<b>Glyphosate</b> (4 lb/gal formulations) 32 oz/A.	Apply at least 7 days before seedbed preparation.	Field must be free of standing water.
2,4-D amine @ 0.5 to 1 lb/A	Emerged broadleaf weeds.	<b>2,4-D Various formulations</b> 1 to 2 pt/A. Add 0.25% v/v nonionic surfactant.	See label for plant-back intervals.	Some plants are sensitive to off-target movement. Therefore, avoid drift. May be tank-mixed with glyphosate.
glyphosate + halauxfen-methyl @ 1 lb/A + 0.004 1lb/A	Annual grass and broadleaf weeds including horseweed.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>Elevere</b> 2 pt/A + 1 oz/A.	At least 14 days prior to planting corn.	Good option for glyphosate-resistant horseweed.
glyphosate + thifensulfuron + tribenuron @ 1.0 + 0.016 to 0.025 lb/A	Improved control of curly dock, smartweed, henbit and garlic.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>FirstShot</b> 50 SG 32 oz/A + 0.5 to 0.8 oz/A.	Prior to planting.	Field must be free of standing water.
glyphosate plus tiafenacil @ 1lb/A plus 0.022 to 0.044 lb/A	Control of grass and broad-leaf weeds.	<b>Glyphosate</b> (4lb/gal formulations) 2pt/A + <b>Reviton</b> 2.83 SC 1-2 oz/A.	cotton planting is 7 days following 1 oz/A and 14 days for 2oz/A and above.	Postemergence burndown of winter annuals. No residual control provided.
glyphosate + halosulfuron + thifensulfuron @ 1.0 + 0.065 lb/A or 1.0 + 0.031 + 0.004 lb/A	Emerged weeds + enhanced sedge control. Will suppress other broadleaves.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>Permit 75 WG or Permit Plus</b> 32 oz/A + 1 oz/A or 0.75 oz/A.	Apply prior to planting Pioneer IR corn hybrids or 1 month prior to planting other hybrids.	Field must be free of standing water. Soil pH must be less than 8.0.
glyphosate + 2,4-D + rimsulfuron/thifensulfuron @ 1 + 1 + 0.25/0.25 lb/A	Henbit, grasses and broad-leaves.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>2,4-D + Leadoff</b> 2 pt/A + 1.5 pt/A + 1.5 oz/A.	Can plant corn immediately. Hybrids that have increased sensitivity to ALS herbicides may be injured or stunted. Check hybrid seed tags or manufacturer for tolerance.	For horseweed, substitute dicamba 8 oz/A for 2,4-D. See label for specific plant-back intervals to soybean.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
saflufenacil + dimethenamid @ 0.022 to 0.044 + 0.2 to 0.4 lb/A	Horseweed burndown and residual control.	<b>Verdict 5.57 EC</b> 5 to 10 oz/A.	Prior to corn emergence	Tank mix with glyphosate, 1% MSO and 2% v/v of AMS or UAN for best activity.
saflufenacil @ 0.022 - 0.044 lb/A	Pigweed, horseweed, morning-glory and small-seeded broad-leaves.	<b>Sharpen</b> 1 to 2 oz/A. Must use a minimum of 1% v/v MSO + AMS.	Prior to corn emergence. Timing to small weeds or prior to weed emergence.	Tank mix with glyphosate or paraquat. Use high water volumes for best coverage. See label for crop specific restrictions and limitations.
clethodim @ 0.18 to 0.242 lb/A	Ryegrass and other grass weeds.	<b>Select Max 0.97 EC</b> 24 to 32 fl oz/A	Postemergence. Add 1% crop oil concentrate. <b>30 day plant-back to corn.</b>	For best control of ryegrass, spray prior to reproductive stages with temperatures in the 50's. Tank-mixtures with auxin herbicides such as dicamba and 2,4-D can cause antagonism and result in reduced control.
paraquat @ 0.75 lb/A	Emerged weeds.	<b>Paraquat</b> (3 lb/gal formulations) 32-40 oz/A. Add 0.25% v/v nonionic surfactant.	Use high rate on weeds larger than 2 inches.	Provides rapid desiccation of existing vegetation. Paraquat is sensitive to off-target movement; therefore, drift control is necessary. Refer to label for precautions and tank-mix instructions.
paraquat + atrazine @ 0.75 lb/A + 1.0 lb/A	Emerged weeds.	<b>Paraquat</b> (3 lb/gal formulations) 32-40 oz/A. Add 0.25% v/v nonionic surfactant. <b>+ AAtrex 4 L</b> 1 qt/A	Use high rate on weeds larger than 2 inches.	Provides rapid desiccation of existing vegetation. Paraquat is sensitive to off-target movement; therefore, drift control is necessary. Refer to label for precautions and tank-mix instructions. Control is increased with atrazin added to tank.

**COTTON** For additional information on burndown herbicides see p. 21, **WEED RESPONSE RATINGS FOR BURNDOWN HERBICIDES.**  
Preplant–Burndown

paraquat @ 0.47 to 0.94 lb/A	Most emerged broadleaf weeds and grasses.	<b>Paraquat</b> (3 lb/gal formulations) 32 to 40 oz/A. or 1.25 to 2.5 pt/A. Use high rate on weeds larger than 2 inches. Add a surfactant (p. 3).	After beds are formed but prior to planting.	Apply for knockdown of existing vegetation prior to planting. Not dependent upon temperature for activity. Add 2,4-D or Clarity for improved control of horseweed. Add Cotoran or Diuron for improved control.
paraquat + cotoran or diuron @ .75 lb/A + 0.75 to 1 lb/A or 0.5 to 0.75 lb/A	Postemergence control of existing annual weeds.	<b>Paraquat</b> (3 lb/gal formulations) + <b>Cotoran or Direx</b> 32 oz/A + 24-32 oz/A or 16-24oz/A	Preplant, at planting or before crop emergence	Adjust Cotoran and Direx rates based on soil type.
glufosinate @ 0.73 lb/A	Most emerged broadleaf and grass weeds.	<b>Glufosinate</b> (280 SL formulations) 40 oz/A. Follow label for surfactant use.	Prior to planting.	Add 2,4-D or Clarity for improved control of horseweed if preplant interval can be achieved. Use nozzles and pressure that create medium spray droplets. Use 10 gpa.
L-glufosinate @ 0.36 lb/A	Postemergence control of existing annual weeds.	<b>Liberty Ultra</b> 29 oz/A Can add AMS, no additional surfactant needed.	Preplant, at planting or before crop emergence.	Maximum allowable rate per year is 58 oz/A. Read label for additional restrictions.
glyphosate @ 1 lb/A	Annual grasses and broadleaf weeds. Does not control entire-leaf and ivyleaf morningglories.	<b>Glyphosate</b> (4 lb/gal formulations) 2 pt/A.	Use prior to planting for vegetation knockdown.	Add 2,4-D or Clarity for control of horseweed.
glyphosate + carfentrazone @ 1 lb/A + 0.016 lb/A	Improved control of morning-glory and henbit.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>Aim 2EC</b> 2 pt/A + 1.0 oz.	Use prior to planting for vegetation knockdown.	Add surfactant if glyphosate formulation does not contain one. Add 2,4-D or Clarity for improved control of horseweed.
glyphosate plus tiafenacil @ 1lb/A plus 0.022 to 0.044 lb/A	Control of grass and broadleaf weeds.	<b>Glyphosate</b> (4 lb/gal formulations) 2pt/A + <b>Reviton</b> 2.83 SC 1-2 oz/A	Cotton planting is 7 days following 1 oz/A and 14 days for 2oz/A and above.	Postemergence burndown of winter annuals. No residual control provided.
glyphosate + 2,4-D @ 1 lb/A + 1 lb/A	Annual grasses and broadleaf weeds.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>4 SL 2,4-D Amine</b> 2 pt/A + 2 pt/A.	At least 28 days prior to planting.	Adding residual herbicide such as Caparol, Valor, Cotoran or Direx provides residual control of horseweed.
glyphosate + 2,4-D + rimsulfuron/thifensulfuron @ 1 + 1 + 0.25/0.25 lb/A	Annual grasses and broadleaf weeds.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>2,4-D + LeadOff/Crusher</b> 2 pt/A + 1.5 pt/A + 1.5 oz/A.	At least 30 days prior to planting. Some injury from LeadOff has been observed.	For horseweed use 8 oz/A dicamba.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
<b>COTTON For additional information on burndown herbicides see page 21, WEED RESPONSE RATINGS FOR BURNDOWN HERBICIDES. Preplant–Burndown [cont.]</b>				
glyphosate + dicamba @ 1 lb/A + 0.25 lb/A	Annual grasses and broadleaf weeds including horseweed.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>dicamba</b> 2 pt/A + 8 oz/A.	At least 21 days following 1-inch of rainfall prior to planting non-Xtend varieties.	Good option for glyphosate-resistant horseweed. Adding residual herbicide such as Valor, Caparol, Cotoran or Direx provides residual control of horseweed. Check plant-board rules prior to application.
glyphosate + halauxifen-methyl @ 1 lb/A + 0.004 lb/A	Annual grasses and broadleaf weeds including horseweed.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>Elevore</b> 2 pt/A + 1 oz/A.	At least 30 days prior to planting cotton.	Good option for glyphosate-resistant horseweed. Add 2,4-D for control of primrose.
glyphosate + flumioxazin @ 1 lb/A + 0.032 to 0.063 lb/A	Annual grasses and broadleaf weeds.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>Valor 51 WDG</b> 2 pt/A + 1 to 2 oz/A.	At least 14 days for 1 oz/A or 21 days for 2 oz/A + 1-inch of rain prior to planting.	Valor is rainfast in 1 hour. Provides residual control of horseweed. Add Clarity for resistant horseweed.
glyphosate + fomesafen @ 1 lb/A + 0.25 lb/A	Broadleaf weeds including Palmer pigweed.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>Reflex 2 EC</b> 2 pt/A + 1 pt/A.	Apply 14-21 days preplant + 0.5-inch rainfall prior to planting.	Provides residual control of horseweed and pigweed for 6 weeks after application. Knocking or dragging top of beds prior to planting will remove herbicide and allow weed infestation.
glyphosate + flumioxazin + dicamba @ 1 lb/A + 0.063 lb/A + 0.25 lb/A	Annual grass and broadleaf weeds including horseweed.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>dicamba + Valor 51 WDG or Afforia</b> 2 pt/A + 8 oz/A + 2 oz/A or 2.5 oz/A.	At least 30 days following 1-inch of rainfall prior to planting.	Provides residual control of horseweed and pigweed up to 4 weeks after application.
glyphosate + oxyfluorfen @ 1 lb/A + 0.25 lb/A	Annual grass and broadleaf weeds.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>Goal 2XL</b> 2 pt/A + 1 pt/A.	Apply late February to mid-March.	If planting directly into the stale seedbed, application of Goal requires at least 30 days prior to planting <b>and</b> at least three ¼-inch rainfalls. If these conditions are not met, a 2-inch surface incorporation is required before planting.
clethodim @ 0.18 to 0.242 lb/A	Ryegrass and other grass weeds.	<b>Select Max 0.97 EC</b> 24-32 fl oz/A.	Postemergence. Add 1% crop oil concentrate.	For best control of ryegrass, spray prior to reproductive stages with temperatures in the 50's. Tank-mixtures with auxin herbicides such as dicamba and 2,4-D can cause antagonism and result in reduced control.
<b>SOYBEANS For additional information on burndown herbicides see page 21, WEED RESPONSE RATINGS FOR BURNDOWN HERBICIDES. Preplant–Burndown</b>				
paraquat @ 0.47 to 0.94 lb/A	Annual broadleaf and grass weeds (existing vegetation).	<b>Paraquat</b> (3 lb/gal formulations) <b>32 to 40 oz/A.</b> Use high rate on weeds larger than 2 inches. Add a surfactant (p. 3).	Use prior to planting on seedbeds that are not to be disturbed before planting. Use higher rate on weeds larger than 2 inches.	Good spray coverage is essential. Adding metribuzin will increase activity.
glyphosate @ 1 lb/A	Annual grasses and broadleaf weeds (existing vegetation). Weak on morningglories.	<b>Glyphosate</b> (4 lb/gal formulations) 2 pt/A. Use high rate on all but very small weeds.	Use prior to planting for vegetation knockdown.	Best results when applied in lower spray volumes, i.e., 5 to 10 gpa.

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glufosinate @ 0.64 lb/A	Good option for glyphosate-resistant horseweed. Annual grasses and broadleaf weeds (existing vegetation).	<b>Glufosinate</b> (280 SL formulations) 36 oz/A.	Use prior to planting for vegetation knockdown.	Good coverage and warm weather will increase efficacy. Do not use prior to planting LibertyLink soybeans.
L-glufosinate @ 0.36 lb/A	Postemergence control of existing annual weeds.	<b>Liberty Ultra</b> 29 oz/A Can add AMS, no additional surfactant needed.	Preplant, at planting or before crop emergence.	Maximum allowable rate per year is 58 oz/A. Read label for additional restrictions.
paraquat + metribuzin @ 0.75 to 0.94 lb/A + 0.25 to 0.75 lb/A	Postemergence control of existing annual weeds. See rating table for preemergence control with metribuzin.	<b>Paraquat</b> (3 lb/gal formulations) + <b>Metribuzin 75DF</b> 32 to 40 oz/A or 1.8 to 3 pt/A + 0.33 to 1 lb/A DF. Add 0.25% surfactant.	At planting or prior to crop emergence. See Soybean Update for a list of tolerant varieties.	Tank mix. Apply as above. Do not use on sensitive varieties listed on label. A list of metribuzin-tolerant varieties is available at <a href="http://uaex.uada.edu">uaex.uada.edu</a> . Avoid use on high pH soils.
paraquat + sulfentrazone/cloransulam @ 0.75 to 0.94 + 0.13 to 0.26 lb/A	Annual broadleaf and grass weeds. Improved control of cocklebur, morningglories, smartweed and horseweed. Additional residual control of many broadleaf weeds, including Palmer amaranth.	<b>Paraquat</b> (3 lb/gal formulations) + <b>Sonic</b> 32 to 40 oz/A or 1.8 to 3 pt/A + 3 to 6 oz/A.	Prior to planting.	Tank mix. Good program for burndown with residual broadleaf control.
glyphosate + oxyfluorfen @ 1 lb/A + 0.25 lb/A	Annual grass and broadleaf weeds.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>Goal 2XL</b> 2 pt/A + 1 pt/A.	Apply late February to mid March.	If planting directly into the stale seedbed, application of Goal requires at least 30 days prior to planting <b>and</b> at least three ¼-inch rainfalls. If these conditions are not met, a 2-inch surface incorporation is required before planting.
glyphosate or paraquat + 2,4-D or dicamba + flumioxazin @ 1 lb/A or 0.47 to 0.94 + 1 lb/A or 0.25 lb/A + 0.063 lb/A	Horseweed and other broadleaf weeds.	<b>Glyphosate</b> (4 lb/gal formulations) <b>or Paraquat</b> (3 lb/gal formulations) + <b>2,4-D or dicamba</b> + <b>Valor</b> (or other Valor-containing premixes) 2 pt/A or 32 to 40 oz/A or 1.8 to 3 pt/A + 2 pt/A or 8 oz/A + 2 oz/A.	For dicamba and 2,4-D, 21 days after 1.0-inch rainfall, prior to planting.	Burndown plus enhanced control of broadleaf weeds. If horseweed is present, use at least 8 oz/A of dicamba. See Arkansas State Plant Board regulations regarding dicamba restrictions and cutoff date.
glyphosate + haloxifenmethyl @ 1 lb/A + 0.004 lb/A	Annual grasses and broadleaf weeds including horseweed.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>Elevore</b> 2 pt/A + 1 oz/A.	At least 14 days prior to planting soybean.	Good option for glyphosate-resistant horseweed. Add 2,4-D for control of primrose. Visit <a href="http://elevore-tankmix.com">elevore-tankmix.com</a> for approved tankmix partners.
glyphosate + thifensulfuron/tribenuron @ 1 lb/A + 0.016 to 0.025 lb/A	Improved control of garlic, curly dock, smartweed and henbit.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>FirstShot SG</b> 2 pt/A + 0.5 to 0.8 oz/A.	Immediately prior to planting. Label requires application be made at least 7 days prior to planting.	Burndown plus enhanced control of broadleaf weeds.
glyphosate + carfentrazone @ 1 lb/A + 0.016 lb/A	Improved control of morningglories.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>Aim 2 EC</b> 2 pt/A + 1 oz/A.	At planting or prior to crop emergence.	Good spray coverage is essential.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
<b>SOYBEAN</b> For additional information on burndown herbicides see page 21, WEED RESPONSE RATINGS FOR BURNDOWN HERBICIDES. <b>Preplant–Burndown [cont.]</b>				
glyphosate plus tiafenacil @ 1lb/A plus 0.022 to 0.067 lb/A	Control of grass and broadleaf weeds.	<b>Glyphosate</b> (4 lb/gal formulations) 2pt/A plus <b>Reviton 2.83 SC</b> 1-3 oz/A	0-7 days prior to planting depending on rate and soil type. Check product label.	Postemergence burndown of winter annuals. No residual control provided. Can be tank-mixed with group 5, 14 or 15 herbicides for better control of larger or harder to control weeds.
glyphosate + 2,4-D + rimsulfuron/thifensulfuron @ 1 + 1 + 0.25/0.25 lb/A	Henbit, grasses and broad-leaves.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>2,4-D + Leadoff</b> 2 pt/A + 1.5 pt/A + 1.5 oz/A.	At least 30 days prior to planting. Recommend planting STS or BOLT soybeans to avoid risk of injury.	For horseweed, substitute dicamba 8 oz/A for 2,4-D. See label for specific plant-back intervals to soybean.
glyphosate + thifensulfuron + thifensulfuron @ 1 + .031 to .062 + .004 to .008 lb/A	Sedges and smartweed.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>Permit Plus 75 WG</b> 2pt + 0.75 to 1.5 oz/A	Up to 21 days prior to planting.	*STS/BOLT soybean varieties only!
clethodim @ 0.18 to 0.242 lb/A	Ryegrass and other grass weeds.	<b>Select Max 0.97 EC</b> 24 - 32 oz/A.	Postemergence. 1% crop oil concentrate.	For best control of ryegrass, spray prior to reproductive stages with temperatures in the 50's. Tank-mixtures with auxin herbicides such as dicamba and 2,4-D can cause antagonism and result in reduced control.
sulfentrazone + metribuzin @ 0.225 + 0.2 lb/A	Broadleaf weeds.	<b>Authority MTZ</b> 12-16 oz/A. Add 1% COC.	Up to 14 days prior to planting.	Add glyphosate or paraquat for existing vegetation. See soil texture chart on page 45. For higher rates, use tolerant varieties. Use 16 oz/A on clay soils.
flumioxazin @ 0.063 lb/A	Residual horseweed control. No post horseweed activity.	<b>Valor 51 WDG</b> 2 oz/A.	Prior to soybean emergence.	Apply to clean ground or tank-mix for post weed control. Rainfall at emergence may result in injury, mainly cosmetic.
flumetsulam @ 0.05 to 0.066 lb/A	Horseweed and other broad-leaves.	<b>Python 80 WDG</b> 1 to 1.33 oz/A.	Prior to planting wheat-beans.	Contact and residual for horseweed. Good tank mix with glufosinate. Good option where horseweed is present less than 14 days prior to planting.
flumioxazin + chlorimuron/thifensulfuron	Residual horseweed control.	<b>Envive or Enlite WDG</b> 3.5 or 2.8 oz/A.	Prior to soybean emergence.	Use 2.8 oz/A Enlite on high pH soils.
saflufenacil @ 0.022 to 0.044 lb/A	Horseweed rapid burndown – regrowth will occur.	<b>Sharpen 2.85 SC</b> 1 to 2 oz/A.	Prior to soybean emergence. 30 days prior to plant depending on rate applied and soil type.	Tank mix with glyphosate, 1% MSO and 2% v/v of AMS or UAN for best activity. 30-day plant back on coarse soils.
saflufenacil + dimethenamid @ 0.022 to 0.044 + 0.2 to 0.4 lb/A	Horseweed burndown and residual control.	<b>Verdict 5.57 EC</b> 5 to 10 oz/A.	Prior to planting to preplant. 30 days prior to plant depending on rate applied and soil type.	Tank mix with glyphosate, 1% MSO and 2% v/v of AMS or UAN for best activity.
flumioxazin + thifensulfuron + tribenuron @ 0.063 + 0.008 + 0.008 lb/A	Residual horseweed control. No post horseweed activity. Post activity of winter annuals and smartweed.	<b>Afforia 50.8 WDG</b> 2.5 oz/A.	Prior to soybean emergence. Up to 3 days after planting.	Apply to clean ground or tank-mix for post weed control. Rainfall at emergence may result in injury, mainly cosmetic.
flumioxazin + chlorimuron + metribuzin @ 0.063 + 0.02 + 0.223 lb/A	Residual horseweed, pigweed and morningglory control.	<b>Trivence 61.3 DG</b> 8 oz/A.	Prior to soybean emergence.	Use 6 oz/A on high pH soils.
<b>RICE</b> For additional information on burndown herbicides see p. 21, WEED RESPONSE RATINGS FOR BURNDOWN HERBICIDES. <b>Preplant-Vegetation Knockdown</b>				
2,4-D amine @ 0.5 to 1 lb/A	Emerged broadleaf weeds.	<b>2,4-D Various formulations</b> 1 to 2 pt/A. Add 0.25% v/v non-ionic surfactant.	See label for plant-back intervals.	Some plants are sensitive to off-target movement. Therefore, avoid drift. May be tank-mixed with glyphosate.
glyphosate @ 1.0 lb/A	Emerged weeds.	<b>Glyphosate</b> (4 lb/gal formulations) 32 oz/A.	Apply at least 7 days before seed-bed preparation.	Field must be free of standing water.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
glyphosate + halsulfuron + prosulfuron @ 1 + 0.031 to 0.062 + 0.018 to 0.036 lb/A	Grasses, sedges, smartweed and other broadleaf weeds.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>Gambit 79 WG</b> 2 pt + 1 to 2 oz/A	Prior to planting	Applications at or immediately following planting may result in rice injury. Do not apply if soil pH > 8.0.
glyphosate + halosulfuron + thifensulfuron @ 1.0 + 0.065 lb/A or 1.0 + 0.031 + 0.004 lb/A	Emerged weeds + enhanced sedge control. Will suppress other broadleaves.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>Permit 75 WG or Permit Plus</b> 32 oz/A + 1 oz/A or 0.75 oz/A.	Up to 14 days prior to planting.	Field must be free of standing water. Soil pH must be less than 8.0.
glyphosate + bensulfuron @ 1.0 + 0.023 lb/A	Improved control of yellow nut-sedge, morningglory and hemp sesbania.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>Londax 60 DF</b> 32 oz/A + 0.5 oz/A.	Apply at least 7 days before seed-bed preparation or planting.	Field must be free of standing water.
glyphosate + clomazone @ 1.0 lb + 0.3-0.6 lb/A	Emerged weeds plus residual grass.	<b>Glyphosate</b> (4 lb/gal formulations) 32 oz + <b>Clomazone 3 ME</b> 0.8-1.6 pt/A Medium (Silt Loam) Fine (Clay) 0.8-1.1 pt/A 1.3-1.6 pt/A Research has shown very little difference in grass control among rates within each soil type. <b>Note: On thin soils, especially those that have been leveled, consider rates as low as 0.5 pt/A.</b>	Up to 14 days prior to planting.	Field must be free of standing water. Antagonism on barnyardgrass has been documented with this tank mix. Always use full rate of glyphosate.
clethodim @ 0.18 to 0.242 lb/A	Ryegrass and other grass weeds	<b>Select Max</b> 0.97 EC 24 - 32 oz/A	Postemergence prior to ryegrass jointing. 1% crop oil concentrate. <b>Apply 30 days prior to planting rice.</b>	For best control of ryegrass, spray prior to reproductive stages with temperatures in the 50's. Tankmixtures with auxin herbicides such as dicamba and 2,4-D can cause antagonism and result in reduced control.
paraquat @ 0.75 lb/A	Emerged weeds.	<b>Paraquat</b> (3 lb/gal formulations) 32-40 oz/A. Add 0.25% v/v nonionic surfactant.	Use high rate on weeds larger than 2 inches.	Provides rapid desiccation of existing vegetation. Paraquat is sensitive to off-target movement; therefore, drift control is necessary. Refer to label for precautions and tank-mix instructions.
saflufenacil @ 0.022 - 0.088 lb/A	Pigweed, horseweed, morning-glory and small-seeded broadleaves.	<b>Sharpen</b> 1 to 4 oz/A. Must use a minimum of 1% v/v MSO + AMS.	Prior to planting. Timing to small weeds or prior to weed emergence.	Tank mix with glyphosate or paraquat. Use high water volumes for best coverage. See label for crop specific restrictions and limitations.
glyphosate + thifensulfuron + tribenuron @ 1.0 + 0.016 to 0.025 lb/A	Improved control of curly dock, smartweed, henbit and garlic.	<b>Glyphosate</b> (4 lb/gal formulations) + <b>FirstShot 50 SG</b> 32 oz/A + 0.5 to 0.8 oz/A.	Prior to planting.	Field must be free of standing water.

## PLANT-BACK RECOMMENDATIONS FOR BURNDOWN HERBICIDES<sup>1</sup>

See MP519 for more information

HERBICIDE	Grain Sorghum	Corn	Wheat	Soybean	Cotton	Rice	Peanut
2,4-D <sup>2</sup>	7d <sup>3</sup>	7d	7d	14d	28d	21d	_9
Afforia	30d	30d	30d	l	30d	30d	45d
Dicamba <sup>3</sup> (8 oz)	15d	l	22d	14d	21d	22d	14
Diuron	6m	l	6m	6m	l	6m	6m
Elevore	14d	14d	14d	14d	30d	14d	9m
Express	14d	14d	l <sup>4</sup>	14d	14d	l	_9
FirstShot	14d	14d	l	7d	14d	l	_9
Gambit	2m	1m	2m	10m	10m	l	10m
Goal	10m	30d	10m	7d	7d	10m	60d
Glyphosate	l	l	l	l	l	l	l
Paraquat	l	l	l	l	l	l	l
Glufosinate	l	l	l	l	l	l	l
Harmony GT	l	l	l	l	7d	l	l
LeadOff/Crusher	10m	l	3m	30d <sup>5</sup>	30d	10m	45d
Metribuzin	18m	0-4m <sup>1</sup>	4m	l	18m	12m	18m <sup>9</sup>
Permit	2m	1m	2m	9m	4m	l	6m
Python	12m	l	4m	l	18m	6m	_9
Reviton	120d	l	l	0-7d	7-14d <sup>8</sup>	120d	120d
Select Max <sup>6</sup>	30d	30d	30d	l	l	30d	l
Sharpen <sup>7</sup>	l	l	l	1m	3m	l	5m
Valor	30d	30d	30d	l	30d	30d	l
Verdict <sup>8</sup>	l	l	4m	l-4m	1.5m	FY	4m
Zidua <sup>8</sup> (3.25 fl oz)	6m	l	30d	l	2m	12m	2m

<sup>1</sup> Always read and follow the label.

<sup>2</sup> Most 2,4-D labels state rotation to all crops after 90 days or until sufficiently dissipated.

<sup>3</sup> Days listed are based on University data and after receiving 1.0 inches or more rainfall – 8 oz 14d and 16 oz 28d to beans.

<sup>4</sup> l = immediately, d = days, m = months.

<sup>5</sup> Labeled plant-back to soybean is 30d for 1.5 oz/A and 60d for 2.0 oz/A – plant STS or BOLT beans to avoid potential injury.

<sup>6</sup> Rotational interval can be reduced to 7 days if 6oz/A Select Max rate is used.

<sup>7</sup> Rotational intervals are determined by rate – see label. Intervals shown are for 2.0 oz/A.

<sup>8</sup> Rotational intervals increase with rate.

<sup>9</sup> No information provided on label.



For more information on plant-back intervals, please scan the QR code to download the MP519, 2021 Row Crop Plant-Back Intervals for Common Herbicides.

## 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
Brake	MT	MT	MT	MT	T	MT	-
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.