WEED RESPONSE RATINGS FOR GRAIN SORGHUM HERBICIDES

(See Explanation of Rating Tables on Page 3.)

HERBICIDES	WSSA GROUP #	GRASSES												BROADLEAVES													SEDGES
		Barnyardgrass	Broadleaf Signalgrass	Crabgrass	Fall Panicum	Foxtail	Goosegrass	Weedy rice	Rhizome Johnsongrass	Ryegrass	Seedling Johnsongrass	Shattercane	Texas Panicum	Bigroot Morningglory	Cocklebur	Common Ragweed	Honeyvine Milkweed	Horsenettle	Lambsquarters	Morningglory	Pigweed sp.	Prickly Sida	Purslane	Sicklepod	Smartweed	Velvetleaf	Yellow Nutsedge
Preemergence																											
Atrazine	5	6	4	7	3	6	6	8	0	-	2	0	3	4	9	9	6	5	9	8	9	9	9	8	9	8	0
Atrazine + Degree	5, 15	9	7	9	9	9	9	8	0	8	6	7	3	4	8	9	6	3	9	8	9	9	9	8	4	7	7
Atrazine + Dual II Magnum	5, 15	9	8	9	9	9	9	9	0	9	4	7	3	4	8	9	6	3	9	8	9	9	9	8	4	7	7
Dual Magnum/Outlook	15	9	8	9	9	9	9	7	0	9	6	7	0	2	0	7	-	3	6	2	8	6	6	0	5	4	9
Halex GT	9, 15, 27	9	9	9	9	9	9	9	0	5	6	8	6	9	9	9	-	7	9	8	9	9	9	9	9	9	7
Lexar	5, 15, 27	9	9	9	8	8	7	8	0	9	3	5	-	4	9	9	7	3	9	9	10	9	9	9	9	10	7
Atrazine + Outlook	5, 15	9	8	9	9	9	9	8	0	8	6	7	3	4	8	9	6	3	9	8	9	9	9	8	6	6	7
Verdict	14, 15	8	7	8	7	8	8	7	0	-	-	-	0	5	-	-	-	-	7	8	9	7	-	5	-	-	-
Postemergence																											
2,4-D	4	0	0	0	0	0	0	0	0	0	0	0	0	3	9	9	9	4	8	9	8	8	9	8	5	8	0
Atrazine + oil	5	6	6	6	5	7	6	9	0	5	3	0	2	4	9	8	6	4	8	8	9	8	9	8	9	7	3
Basagran	6	0	0	0	0	0	0	0	0	0	0	0	0	3	9	8	5	0	5	4	0	7	7	0	9	8	7
Buctril	6	0	0	0	0	0	0	0	0	0	0	0	0	7	9	7	7	4	8	7	5	-	-	3	9	7	0
Dicamba	4	0	0	0	0	0	0	0	0	0	0	0	0	8	8	9	9	6	9	9	9	-	-	8	9	8	0
Facet L	4	8	9	7	6	7	6	0	0	-	0	0	2	4	-	6	-	-	6	8	4	-	-	-	0	6	0
Facet L+ Atrazine	4, 5	8	9	8	6	8	7	8	0	6	4	0	3	4	9	8	6	4	8	9	9	8	9	8	9	7	5
Gambit	2	0	0	0	0	0	0	0	0	0	0	0	0	-	4	9	-	-	7	5	0	8	8	8	8	9	9
Atrazine + Huskie	5, 27	6	6	6	5	7	6	8	0	0	0	0	2	7	9	8	7	5	9	9	9	9	-	8	9	8	5
Paraquat directed or Hood	22	9	9	9	8	8	9	9	0	7	8	0	6	-	4	8	-	7	9	4	9	3	8	9	5	7	3
Peak	2	0	0	0	0	0	0	0	0	0	0	0	0	-	3	8	-	-	8	8	4	8	-	8	8	8	0
Permit	2	0	3	3	3	0	3	0	3	-	3	0	0	-	-	5	-	-	5	5	0	7	7	4	6	6	9
Yukon	2, 4	0	3	3	3	0	3	0	3	0	3	0	0	8	8	9	9	6	9	9	9	8	8	8	9	8	9
FirstAct[1]	1	8	9	9	9	9	9	8**	9	0	9	9	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ImiFlex[2]	2	8	8	8	7	8	7	0	8	7	8	8	8	-	8	-	-	-	7	7	0	-	-	-	7	-	6
Zest[3]	2	8	8	7	7	8	7	-	8	6	9	9	8	7	5	6	2	2	3	6	0	-	-	7	7	6	3

*Rating will be 0 on ALS inhibitor-resistant weeds (Group 2).
**Repeat application may be needed to achieve these ratings.
Footnote #1: Use only on Double Team™ grain sorghum.
Footnote #2: Use only on igrowth™ grain sorghum.
Footnote #3: Use only on Inzen™ grain sorghum.

Rating scale – 0 = No Control 10 = 100% Control.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
GRAIN SORGHUM **Preplant**				
glyphosate @ 1 lb/A	Emerged weeds.	**Glyphosate** (4 lb/gal formulations) 32 oz/A.	Preplant for vegetation knockdown.	Apply in low volume – 5 to 10 gpa.
glyphosate + 2,4-D @ 1.0 + 0.50 lb/A	Annual grasses and broadleaf weeds.	**Glyphosate** (4 lb/gal formulations) **+ 2,4-D** 32 oz/A + 1 pt/A of 4SL 2,4-D amine.	Same as above.	Improved control of horseweed, curly dock and primrose.
S-metolachlor @ 0.9 to 1.4 lb/A	Weedy rice, yellow nutsedge, annual grasses and pigweed.	**Dual Magnum 7.64 EC or Cinch 7.64 EC** 1 to 1.6 pt/A.	Incorporate thoroughly in top 2-inches within 14 days before planting.	**Use with Concep-treated sorghum seed only.** If broadleaf weeds emerge, use 2,4-D or atrazine postemergence.
dimethenamid @ 0.56 to 0.98 lb/A	Weedy rice, yellow nutsedge, annual grasses and pigweed.	**Outlook 6 E** 12 to 21 oz/A.	Apply up to 45 days preplant.	**Use with Concep-treated seed only.**
Preemergence				
S-metolachlor @ 0.95 to 1.9 lb/A	Annual grasses and pigweed. For weedy rice or yellow nutsedge use ppi treatment above.	**Dual Magnum 7.62 EC or Cinch 7.62 EC** 1 to 2 pt/A.	At planting.	**Use with Concep-treated sorghum seed only.** May be tank mixed with atrazine according to label directions or may be followed with atrazine or 2,4-D for broadleaf control as recommended below.
S-metolachlor + atrazine @ 1.25 + 1 lb/A	Annual grasses and broadleaf weeds. For weedy rice or yellow nutsedge, use Dual Magnum ppi above.	**Bicep II Magnum 5.5 L or Cinch ATZ 5.5 F** 1.3 qt/A.	At planting.	**Use with Concep-treated seed only.** Good treatments for average weed infestations. However, if weedy rice is a problem, use Dual ppi and atrazine early post if needed. If heavy cocklebur and morningglory pressure exists, use atrazine pre-emergence at preemergence rates below or use atrazine early post as listed below.
S-metolachlor + glyphosate + mesotrione @ 1.04 to 1.57 + 1.04 to 1.57 + 0.1 to 0.157 lb/A	Most annual grasses and broadleaf weeds.	**Halex GT** 4 to 6 pt/A.	Preplant/at planting, prior to grain sorghum emergence.	**Use with Concep-treated sorghum seed only.** May be tank mixed with atrazine according to label directions or may be followed with atrazine or 2,4-D for broadleaf control as recommended below.
atrazine @ 1 lb/A	Germinating annual grasses and most annual broadleaf weeds, including cocklebur, annual morningglory and sicklepod.	**Atrazine** 1 qt/A 4L or 1.1 lb/A Nine-0.	At planting.	Do not plant fall cover crops. Do not plant crops other than corn in treated fields during the same season. Thoroughly till soil before planting any spring crop other than corn or sorghum. Planting deeper than 1-inch will increase safety margin. Do not use on coarse-textured soils (sand, loamy sand, sandy loam) or on any soil with less than 1% o.m. For sandy soils, see AAtrex + oil below. All atrazine labels have been revised because of surface and groundwater concerns. Special precautions are required on new labels.
S-metolachlor + mesotrione @ 1.0 to 1.25 lb/A + 0.10 to 0.125 lb/A	Pigweed, smartweed, prickly sida, ragweed, annual grasses and weedy rice.	**Coyote** 2 qt/A.	At planting.	**Use with Concep-treated sorghum seed only.** Do not apply to emerged grain sorghum as severe injury will occur.
S-metolachlor + mesotrione + atrazine @ 1.3 + 0.168 + 1.3 lb/A	Annual grasses and broadleaf weeds.	**Lexar 3.75 SE** 3 qt/A.	At planting.	**Use with Concep-treated sorghum seed only.** Do not apply to emerged grain sorghum as severe injury will occur.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
saflufenacil @ 0.022 to 0.044 lb/A	Pigweed, velvetleaf, morningglory and horseweed.	**Sharpen** 1 to 2 oz/A.	Burndown up to preemergence. **Do not** apply Sharpen over the top of emerged sorghum.	For best burndown results, tank mix with glyphosate or paraquat. An MSO and AMS must be used for burndown. See label for further recommendations and restrictions.
dimethenamid + saflufenacil @ 0.31 to 0.62 + 0.044 to 0.088 lb/A	Annual grasses, pigweed, velvetleaf, morningglory and horseweed.	**Verdict** 10 oz/A.	Burndown up to preemergence. **Do not** apply Verdict over the top of emerged grain sorghum.	Rainfall or overhead irrigation is required for activation. Verdict can be used as a burndown that leaves behind residual control. For best burndown activity, tank mix with glyphosate and use MSO 1 pt/A + AMS. On medium to fine soils, the rotation interval to soybean is 30 days if you were to lose the grain sorghum crop. Use with Concep-treated seed. See label for restrictions.
dimethenamid 0.56 to 0.98 lb/A	For annual grasses and pigweed. For weedy rice or yellow nutsedge, use ppi treatment.	**Outlook 6E** 12 to 21 oz/A.	At planting.	**Use with Concep-treated seed only. Rates depend on percent organic matter. See label.**
dimethenamid + atrazine package mix	Annual grasses and broadleaf weeds. For weedy rice or yellow nutsedge, use ppi treatment.	**Guardsman Max 5L** 2.5 pt/A.	At planting.	**Use with Concep-treated seed only.**
Postemergence				
2,4-D amine @ 0.5 lb/A	Most broadleaf weeds such as morningglory, cocklebur and sicklepod.	**2,4-D amine** 1 pt/A of 4 lb/gal 2,4-D amine. Do not use a surfactant or oil.	Apply when weeds are small and sorghum 6 to 12 inches.	May be applied broadcast overtop to sorghum not over 8 inches. Directed applications later with drop nozzles. Do not treat when sorghum is in bloom. AVOID DRIFT. Do not apply during very active growth, i.e., when combination of good moisture, warm temperatures and high nitrogen exist, or excessive injury may result. **Follow all State Plant Board regulations.**
dicamba @ 0.25 lb/A	Most broadleaf weeds such as morningglory, cocklebur and sicklepod.	**Dicamba** (various formulations) 0.5 pt/A. Do not use a surfactant or oil.	From grain sorghum emergence up to 8 inches tall. Best results on weeds 3 inches or less.	Ground application only. Drift is extremely toxic to soybean. Do not apply after soybean begin to emerge in general area. **Follow all State Plant Board regulations.**

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
GRAIN SORGHUM				
Postemergence [cont.]				
atrazine @ 1 to 2 lb/A	Most small-seeded annuals. More effective on broadleaf weeds. Good control of pigweed, cocklebur, annual morningglory, velvetleaf, spurred anoda, prickly sida, smartweed, sicklepod and weedy rice.	**AAtrex, Atrazine** 1 to 2 qt/A 4L. Use low rate on silt loam soil and high rate on clay soil. No surfactant is recommended on label.	Apply from sorghum emergence up to "close in". Apply before weeds exceed 1½ inches in height. **Best grass control obtained before grass weeds exceed ½-inch.**	Do not apply if grain sorghum is taller than 12 inches. Do not graze treated areas or feed forage from treated land within 21 days of application. After June 10, do not plant crops other than corn or grain sorghum the following year. **Do not use on sands or sandy loam soils. For these soils, use atrazine and crop oil concentrate below.** Do not apply more than 2.5 lb/A active atrazine per season.
atrazine @ 1.2 lb/A + crop oil concentrate	Same as above.	**AAtrex, Atrazine + Crop Oil Concentrate** 1.2 qt/A plus 1% COC.	Same as above**.**	Same as above but may be used on sandy loam soil. Less likely to cause injury to milo or carryover to sensitive follow crops.
S-metolachlor + atrazine @ 0.75 to 1.3 lb/A + 1 to 1.2 lb/A	Annual grasses, pigweed, annual morningglory, velvetleaf, smartweed and sicklepod.	**Dual Magnum + Aatrex** 0.8 to 1.4 pt/A + 1/2 qt/A **or Bicep II Magnum** 1.5 to 2.5 qt/A.	Before sorghum reaches 12 inches tall. Best grass control obtained before grass weeds exceed ½-inch.	Some injury may occur with higher rates on lighter soils.Select rates based on soil types.
halosulfuron @ 0.047 lb/A	Yellow nutsedge, flatsedge and hemp sesbania.	**Permit or Halomax 75 WG** 1 oz/A. Add a nonionic surfactant or crop oil concentrate.	Apply to emerged weeds. 2 leaf to layby.	Aerial or ground application. Avoid drift to soybean.
halosulfuron + prosulfuron @ 0.031 to 0.048 + 0.018 to 0.027 lb/A	Sedges and most broadleaf weeds including triazine-resistant biotypes.	**Gambit 79 WDG** 1 to 1.5 oz/A.	Apply from 2 leaf through layby stage (before grain head emergence).	Avoid drift to soybean. Will not control ALS-resistant weeds. See crop rotation section on label for precautions about rotational crops.
prosulfuron @ 0.018 to 0.036 lb/A	Most broadleaf weeds including triazine-resistant biotypes.	**Peak 57 WDG** 0.5 to 1.0 oz/A. Add 0.25% nonionic surfactant.	Apply to actively growing sorghum between 5 and 30 inches in height and before head emergence.	Will not control ALS-resistant weeds. See crop rotation section for precautions about rotational crops. Do not apply to sorghum under stress from moisture or cold weather. Do not apply to sorghum that has been treated with an organophosphate insecticide at planting or within 15 days of a postemergence organophosphate insecticide application.
bentazon @ 0.75 to 1 lb/A	Cocklebur, ragweed, jimsonweed, smartweed, prickly sida, velvetleaf and yellow nutsedge.	**Basagran 4EC** 0.75 to 1 qt/A.	Postemergence. See label for specific timing for weed desired.	May be tank mixed with atrazine. See label. Best treatment for smartweed.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
bentazon + atrazine @ 0.5 to 0.75 + 0.5 to 0.75 lb/A	Most broadleaf weeds.	**Basagran + Atrazine** 1 to 1.5 pt/A + 1 to 1.5 pt/A 4L or 0.6 to 0.9 lb/A 80W or 0.55 to 0.8 lb/A 90DF. Add crop oil concentrate.	Postemergence from emergence to 12 in grain sorghum.	Use low rate on small weeds and higher rate on larger weeds. All atrazine labels have been revised because of surface and groundwater concerns. Special precautions are required on new labels.
bromoxynil @ 0.25 to 0.375 lb/A	Cocklebur, smartweed, morningglories and pigweed.	**Buctril 2 E** 1 to 1½ pt/A. On larger weeds, tank mix with 0.5 lb/A active Atrazine.	Postemergence to weeds in seedling (2- to 4-leaf) stage.	Use high rate on morningglories and pigweed. **Weeds must be small.** Expect some temporary burn.
bromoxynil + pyrasulfotole @ 0.175 to 0.22 lb/A + 0.03 to 0.039 lb/A	Annual broadleaves including pigweed and morningglories.	**Huskie** 12.8 to 16 oz/A. Add 0.25% NIS.	Apply on or after 3-leaf stage until grain sorghum reaches 30 inches tall, or flag leaf emerges.	Use high rate on morningglories and pigweed. **Weeds must be small.** Expect some temporary injury if tank mixed with atrazine.
paraquat @ 0.5 lb/A	Annual grasses and broadleaf weeds.	**Paraquat** (3 lb/gal formulations) 21 oz/A. Add 0.25% nonionic surfactant.	After sorghum is 12 inches.	**Directed spray with hoods. Spray must not touch more than lower 3 inches of stalk. Some injury will occur.**
quinclorac @ 0.25 to 0.375 lb/A	Annual grasses and broadleaf weeds.	**Facet L** 22 to 32 oz/A.	Apply to weeds less than 2 inches tall.	Apply prior to 12-inch grain sorghum. Tank mix with 1 lb/A atrazine for improved control. Do not drift on cotton or tomatoes.
INZEN™ Grain Sorghum Only!				
nicosulfuron @ 0.031 to 0.062 lb/A	Barnyardgrass, broadleaf signalgrass, panicum and foxtail.	**Zest 75 WDG** 0.67 to 1.33 oz/A + 0.25% NIS.	Small actively growing weeds. Spray on 4- to 20-inch Inzen grain sorghum.	**FOR USE ONLY ON INZEN™ GRAIN SORGHUM.** – Several populations of ALS-resistant Johnsongrass exist in Arkansas; do not plant Inzen in fields with suspected ALS resistance. – Do not tank mix with Huskie. – Check label for other precautions.
DoubleTeam Grain Sorghum Only!				
quizalofop @ 0.032 to 0.078 lb/A	Most annual and some perennial grasses including johnsongrass	**FirstAct** 5 to 12 oz/A + 1% COC Use highest rate for Johnsongrass	Apply to grain sorghum from 4 to 20 inches tall.	**Use ONLY on DoubleTeam Grain Sorghum.** Make 2 applications at least 7 days apart at 15GPA. Crop injury may occur in cool/wet/cloudy conditions.
igrowth Grain Sorghum Only!				
imazamox@ 0.047 lb/A	Suppression or control of most annual grasses including johnsongrass	**ImiFlex** 6 oz/A + 1% COC or MSO.	Postemergence to 20 inches tall.	**Use ONLY on igrowth Grain Sorghum** – Some populations of ALS-resistant johnsongrass exist in Arkansas; do not plant igrowth in fields with suspected resistance – Only one application allowed per year. – Some injury can occur, check label for other precautions.
Preharvest				
sodium chlorate @ 4.5 to 6 lb/A	Desiccation of green vegetation.	**Sodium Chlorate** Several brands and trade names available. 2 gal of 3 lb/gal or 1 gal of 6 lb/gal.	7 to 10 days prior to harvest.	Use a labeled brand and follow label directions.
carfentrazone @ 0.016 lb/A	Desiccation of morningglories.	**Aim 2 EC** 1 oz/A.	3 days prior to harvest.	Coverage is important. Use 10 gallons of spray solution per acre. Can be tank mixed with sodium chlorate.
glyphosate @ 1 to 1.3 lb/A	Desiccation of green vegetation.	**Glyphosate** (4 lb/gal formulations) 32 to 40 oz/A.	7 days prior to harvest.	Coverage is important. Use 10 gallons of spray solution per acre. Can be tank mixed with sodium chlorate.
glyphosate + carfentrazone @ 1 lb/A + 0.016 lb/A	Improved desiccation of vines/ morningglories.	**Glyphosate** (4 lb/gal formulations) **+ Aim 2 EC** 32 oz/A + 1 oz/A.	7 days prior to harvest.	Coverage is important. Use 10 gallons of spray solution per acre. Can be tank mixed with sodium chlorate.