



**TABLE I. Effectiveness of selected soybean herbicides.**

	itchgrass	seedling johnsongrass	annual grasses	red rice	pigweed	prickly sida	hemp sesbania	morningglory	cocklebur	sicklepod	texasweed	redweed	jointvetch	wild poinsettia	copperleaf	smellmelon
<b>POSTEMERGENCE HERBICIDES: continued</b>																
Pursuit	8	8	8	8	9	4	2	7	9	3	7	6	2	6	4	5
Sceptor DG	5	6	7	7	9	6	3	7	9	5	7	5	0	8	2	3
Select	9	9	9	8	0	0	0	0	0	0	0	0	0	0	0	0
Sequence	9	9	9	9	9	8	7	8	9	9	9	8	7	9	9	9
Storm	1	4	3	1	9	8	9	8	9	4	6	8	5	8	9	9
Typhoon	9	9	9	8	9	3	9	8	8	3	6	5	6	8	9	9
Ultra Blazer	0	2	3	0	8	3	9	8	6	3	5	3	5	8	8	8
<b>DIRECTED POSTEMERGENCE HERBICIDES:</b>																
2,4 – DB	0	0	0	0	9	4	6	9	9	4	4	4	6	5	5	6
Gramoxone Inteon	4	5	9	7	9	6	5	6	4	6	3	5	7	9	8	8
Linex, Lorox	2	2	4	2	9	7	9	8	6	5	7	4	9	7	8	8
Linex or Sencor + 2,4-DB	2	5	6	2	9	8	9	9	9	7	7	4	9	8	9	9
Sencor	2	5	8	2	8	7	8	7	7	6	7	4	8	7	9	9

<sup>1</sup> Roundup Ready varieties only.

SOYBEAN<sup>1</sup>

Active Ingredient and Rate <sup>2</sup>	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
<b>PREPLANT:</b>			
s-metolachlor @ 1.0-1.9 lb/A	Dual Magnum @ 1.33-1.67 pt/A	Italian ryegrass; fall treatment	This is a 24-C label to control glyphosate resistant ryegrass and expires January 26, 2014. Apply to prepared seedbeds between September and November. Best control is generally observed from late-October to mid-November. Will not control emerged ryegrass. Mix with paraquat to control emerged ryegrass. Incorporation will be beneficial if an activating rainfall is not received soon after application. Don't incorporate deeper 2-3 inches. The maximum combined fall and spring metolachlor rate is 2.54 lb ai/A.
chlorimuron @ 0.02 lb/A +thifensulfuron @ 0.006 lb/A + flumioxazin @ 0.064 lb/A	Envive @ 3.8 lb/A	Many winter annuals	Apply before planting <b>as part of</b> a burndown program. Consult label for pH, OM and re-crop restrictions.
chlorimuron @ 0.028 lb/A + tribenuron @ 0.008 lb/A	Canopy EX @ 2 oz/A	Many winter annuals	Apply before planting <b>as part of</b> a burndown program. Do not apply within 7 days of planting. Consult label for pH, OM and re-crop restrictions.
trifluralin @ 0.5-1.5 lb/A	Treflan, Trifluralin, Trific, Trilin, Tri-4 – 4 EC @ 1.0-1.5 pt/A on light soil 1.5-2.25 pt/A on medium soil 2.0-3.0 pt/A on heavy soil	Most annual grasses, seedling johnsongrass and fair control of some broadleaf weeds	Apply before planting and incorporate 2-3" deep. Trifluralin can be applied at rates higher than listed to control certain annuals and to suppress rhizome johnsongrass; consult label.
pendimethalin @ 0.5-1.5 lb/A	Prowl 3.3 EC @ 1.2-1.8 pt/A on light soil 1.8-2.4 pt/A on medium soil 2.4-3.6 pt/A on heavy soil	Most annual grasses, seedling johnsongrass and fair control of some broadleaf weeds	Before planting, incorporate 2-3" deep within 7 days of application if sufficient rainfall has not been received. Highest rates for high OM soils. Prowl can be applied at rates higher than listed to control certain annuals and to suppress rhizome johnsongrass; consult label.
flumetsulam @ 0.05-0.066 lb/A + pendimethalin or trifluralin @ 0.5-1 lb/A	Python 80 WDG @ 0.8-0.89 oz/A on light soil 0.89-1.0 oz/A on med-heavy soil	Most annual grasses and selected broadleaf weeds	Apply before planting and incorporate 1-3" deep. Do not apply to soils with pH above 7.8. Do not rotate with cotton for 18 months or grain sorghum for 12 months following application. See label for other restrictions. See comments for pendimethalin or trifluralin.
chlorimuron /metribuzin @ 0.25-0.5 lb/A + pendimethalin or trifluralin @ 0.5– 5 lb/A	Canopy 75 DF @ 0.375 lb/A on light soil 0.5 lb/A on medium soil 0.67 lb/A on heavy soil	Morningglories, yellow and purple nutsedge, pigweeds, prickly sida, wild poinsettia and other broadleaf weeds	Apply and incorporated up to 30 days before. May also be applied at planting or before emergence. <b>DO NOT apply to emerged crop.</b> Do not apply to land to be rotated to cotton the next year. Soil pH > 7.0 greatly reduces rotational flexibility. Do not use on soils with pH > 7.5. Crop stunting may occur if excessive rainfall occurs after application but before soybean emergence. Consult label.
	Rates for pendimethalin or trifluralin are listed above.		
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Active Ingredient and Rate <sup>2</sup>	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
<b>PREPLANT: continued</b>			
clomazone @ 0.75-1.0 lb/A	Command 3ME @ 2.0-2.67 pt/A on light-med. soil 2.67 pt/A on heavy soil	Most annual grasses and some broadleaf weeds	Apply before planting with or without incorporation. If PPI, incorporate 1-3" deep within 3 hours. Do not incorporate for itchgrass control. Consult label for rotational restrictions.
Some fields are heavily infested with both grasses, especially seedling johnsongrass and broadleaf weeds. Combinations of a preplant incorporated and a surface applied material or mixtures of surface applied herbicides may provide better weed control than a single material. Each component of the mixture or combination should be applied at the same rate as if it is being applied alone unless the label specifically states otherwise. Tank mixtures of products such as Lasso/Dual <sup>3</sup> +Linex, Lasso/Dual <sup>3</sup> +Sencor surface applied, or preplant incorporated herbicides tank mixed with Sencor or Linex are labeled at rates different from the rate of each component when applied alone. Check these labels. Several herbicide mixtures are currently available as prepackaged mixes. See the section on prepackaged mixes.			
<b>PREEMERGENCE -SURFACE APPLIED:</b>			
alachlor @ 2.0 - 3.0 lb/A	Microtech @ 2.0 qt/A on light soil 2.5 qt/A on medium soil 3.0 qt/A on heavy soil	Most annual grasses, red rice, johnsongrass from seed and fair control of some broadleaf weeds	Apply after planting and before weeds emerge. May be incorporated. Shallow incorporation (1-2") with a spike tooth harrow or rolling cultivator is required to control red rice under low rainfall conditions. Also available in granular formulation. Consult label.
chlorimuron/metribuzin @ 0.25-0.5 lb/A	Canopy 75 DF @ 0.375 lb/A on light soil 0.5 lb/A on medium soil 0.67 lb/A on heavy soil  Exact rate is dependent on soil organic matter %; consult label.	Annual grasses and most broadleaf weeds	Apply at preplant incorporated or surface applied at planting. <b>Do not use postemergence.</b> Follow labeled rotational crop restrictions. Follow sprayer cleanup instructions before spraying subsequent crops. Do not apply to soils with a pH greater than 7.5. Do not apply to sensitive varieties.
dimethenamid-P @ 0.76 - 1.3 lb/A	Outlook 6EC @ 12-14 oz/A on light soil 14-18 oz/A on med-heavy soil	Most annual grasses, red rice, johnsongrass from seed and fair control of some broadleaf weeds	Apply after planting before weeds emerge.
flumioxazin @ 0.063 lb/A	Valor SX @ 2 oz/A	Broadleaves with some suppression of annual grasses	Apply after planting before weeds emerge. Consult label for tank-mixes to improve grass control.
s-metolachlor <sup>3</sup> @ 0.96 - 1.91 lb/A	Dual II Magnum, Dual Magnum @ 1.0-1.33 pt/A on light soil 1.33-.67 pt/A on medium soil 1.33-2.0 pt/A on heavy soil	Most annual grasses, red rice, johnsongrass from seed and fair control of some broadleaf weeds	Apply at preplant incorporated, surface applied, or preplant. Apply after planting and before weeds emerge. May be incorporated. Shallow incorporation (1-2") with a spike tooth harrow or rolling cultivator is required to control red rice under low rainfall conditions.
metolachlor <sup>3</sup> @ 1.5 - 2.5 lb/A	Dual II, others @ 1.5-2.0 pt/A on light soil 2.0-2.5 pt/A on medium soil	See comments above.	See comments above.
flumetsulam @ 0.05-0.066 lb/A + metolachlor @ 1.5 -2.5 lb/A	Python 80 WDG + Dual @ 0.8-0.89 oz/A on light soil 0.89-1.0 oz/A on med-heavy soil  Dual rates are listed above.	Most annual grasses and selected broadleaf weeds	Apply at preplant incorporated or surface applied at planting. Weed control data are currently incomplete. Consult label for more information on rates and re-crop intervals.

SOYBEAN<sup>1</sup>

Active Ingredient and Rate <sup>2</sup>	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
<b>PREEMERGENCE -SURFACE APPLIED: continued</b>			
linuron @ 0.50-1.0 lb/A	Lorox 50DF @ 0.66-1.25 lb/A on light soil 1.0-1.66 lb/A on medium soil 1.25-2.0 lb/A on heavy soil Linex 4L @ 1.0-2.33 pt/A on light-med soil 1.33-2.66 pt/A on heavy soil	Most small seeded annual grasses and broadleaf weeds	Apply at planting. Exact rate depends on soil organic matter. Consult label. Plant seed at least 3/4" deep. Not recommended on soils lighter than sandy loams. Injury may occur on light soils if heavy rainfall occurs soon after application. Do Not exceed 2 lb/A in a single application.
imazaquin @ 0.125 lb/A	Scepter 70DG @ 2.8 oz/A	Annual grasses and most broadleaf weeds	Surface applied, preplant incorporate, or at planting. Scepter can be applied PPI within 30 days of planting. A sequential postemergence application may be required for hard to kill weeds such as sicklepod. Observe rotational restrictions.
imazaquin @ 0.12 lb/A + pendimethalin @ 0.12 + 0.75 lb/A	Squadron @ 3.0 pt/A	Same as above.	Apply time same as above. May require sequential POST application.
imazethapyr @ 0.063 lb/A	Pursuit 70DG @ 1.44 oz/A	Annual grasses and broadleaf weeds	Apply at preplant incorporated or surface applied at planting. Control similar to Scepter. Better on grasses and weaker on certain broadleaf weeds. 18 month rotational restriction for rice and cotton.
metribuzin @ 0.25-0.75 lb/A	Sencor 4F @ 0.50-1.0 pt/A on medium soil 1.0 .5 pt/A on heavy soil Sencor 75DF @ 0.30 - 0.67 lb/A on medium soil 0.67-1.0 lb/A on heavy soil	Annual grasses and most broadleaf weeds such as cocklebur, prickly sida, hemp sesbania, & wild poinsettia	Apply at planting. Plant seed 1 1/2" deep. On light soils O.M. content should be 2% or greater. Best performance expected on river bottom soils and medium to heavy soils in the rice area. High rate for Miss. Delta clays. Do not apply to sensitive varieties. Sencor is labeled for use on light (sandy) soils to control sicklepod at 0.25-0.38 lb/A active ingredient.
pendimethalin @ 0.5 - 1.5 lb/A	Prowl 3.3 or Pendimax @ 1.2-2.4 pt/A on light soil 1.8-2.4 pt/A on medium soil 2.4-3.6 pt/A on heavy soil  Prowl H <sub>2</sub> O @ 1-2 pt/A on light soil 2 pt/A on medium soil 3 pt/A on heavy soil	Most annual grasses, johnsongrass from seed and fair control of some broadleaf weeds	Apply at planting. Highest rates for high organic matter soils.
s-metolachlor @ 1.09 lb/A + fomesafen @ 0.25 lb/A	Prefix 5.3 EC @ 1.0 pt/A	Before, during or after planting, but before crop emergence	Must have rainfall for activation. Excellent choice for pigweed control.
<b>POSTEMERGENCE:</b>			
bentazon @ 0.75-1.5 lb/A	Basagran 4L @ 1.5 - 3.0 pt/A.  Apply with COC @ 1gal/100gal	Cocklebur, prickly sida. Fair on other broadleaf weeds	Apply after soybean plants have first trifoliolate leaves. Add 1 pt. of nonionic surfactant per 50 gallons of water when targeting weeds other than cocklebur.

SOYBEAN<sup>1</sup>

Active Ingredient and Rate <sup>2</sup>	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
<b>POSTEMERGENCE: continued</b>			
acifluorfen @ 0.25-0.5 lb/A	Ultra Blazer 2L @ 0.5-1.5 pt/A  Apply with NIS @ 1 qt/100gal or COC @ 1 gal/100gal; see label.	Hemp sesbania, most morningglories, smellmelon, pigweed and other broadleaf weeds.	Apply when seedling weeds are in 2-4 leaf stage and actively growing. Use 1.0 pt/A for hemp sesbania and showy crotalaria that is actively growing but before flowering. Rate is dependent on weed spectrum and size. Consult label. Maximum rate .5 pt/A/application and 2 pt/A/season.
acifluorfen @ 0.25-0.5 lb/A + bentazon @ 0.75-1.5 lb/A	Blazer + Basagran as above or Storm @ 1.5 pt/A  Apply with NIS @ 1 qt/100gal or COC @ 1 gal/100gal; see label.	Hemp sesbania, morningglories, smellmelon, pigweed, prickly sida, cocklebur, other broadleaf weeds	Application same as above. Choose most serious weed pest and use the full rate of whichever herbicide is considered most effective plus 1.0 pt. of the herbicide. Read and follow label instructions. Storm at 1.5 pt/A is equivalent to 1 pt of each herbicide in a tank-mix.
chlorimuron @ 0.008-0.012 lb/A	Classic 25DG @ 0.5-0.75 oz/A.  Apply with NIS @ 1 qt/100 gal.	Morningglories, pigweed, sicklepod, hemp sesbania	Apply after soybeans have 1 <sup>st</sup> trifoliolate leaves and when weeds have 2-6 leaves. See label for re-crop intervals. Clean sprayer thoroughly before spraying other crops. Don't apply to soils with a pH higher than 7.5. May tank mix with glyphosate in Roundup Ready soybeans.
cloransulam-methyl @ 0.25 oz/A	Firstrate @ 0.30 oz/A.  Apply with NIS @ 1 qt/100 gal.	Cocklebur and morningglories	Apply before weeds exceed height limitations (generally 2-4" tall) and prior to soybeans reaching 50% flowering stage. Application prior to full emergence of first soybean trifoliolate may cause temporary chlorosis. May tank mix with other soybean herbicides, including glyphosate in Roundup Ready soybeans. May reduce grass control when mixed with some grass herbicides.
cloransulam-methyl + flumetsulam @ 0.25 + 0.10 oz/A	Frontrow @ 0.30 oz/A.  Apply with NIS @ 1 qt/100 gal.	Cocklebur, prickly sida, annual morningglories	Apply to actively growing weeds prior to weeds exceeding maximum growth stage; generally 2- 4 true leaves. May tank mix with other soybean herbicides, including glyphosate in Roundup Ready soybeans. May reduce grass activity when mixed with some grass herbicides. Consult label.
imazethapyr @ 0.06 lb/A	Pursuit DG @ 1.44 oz/A  Apply with NIS @ 1 qt/100 gal.	Annual grasses and certain broadleaf weeds	Apply before weeds are 3" in height. See comments in preemergence section. See label for re-crop intervals.
imazaquin @ 0.125 lb/A	Scepter 70DG @ 2.8 oz/A  2.0 oz/A for cocklebur  Apply with NIS @ 1 qt/100gal or COC @ 1 gal/100gal; see label.	Cocklebur, pigweed, wild poinsettia	Apply after soybeans have emerged but before cocklebur and pigweed are 12" tall (6" for wild poinsettia). A sequential treatment of Scepter PPI or preemergence followed by Scepter applied postemergence not only improves control of sicklepod but improves control of many other weeds as well. Follow rotational crop restrictions.

SOYBEAN<sup>1</sup>

Active Ingredient and Rate <sup>2</sup>	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
<b>POSTEMERGENCE: continued</b>			
lactofen @ 0.15-0.19 lb/A	Cobra 2L @ 10.0-12.5 oz/A.  Apply with NIS @ 1 qt/100 gal.	Some morningglories, cocklebur, pigweeds, prickly sida, ballonvine, smelldelon, copperleaf	Apply before weeds exceed height limitations. Application may cause moderate burn. Soybeans normally recover in 10 days without loss of yield.
fomesafen @ 0.25-0.38 lb/A	Reflex 2L @ 1.0-1.5 pt/A Flexstar 1.88L @ 2.0-3.0 pts/A.  Apply with NIS @ 1 qt/100gal or COC @ 1 gal/100gal; see label.	Morningglories, cocklebur, pigweed, hemp sesbania and suppression of grasses	Apply before weeds exceed height limitations. Soybeans are very tolerant to Reflex. May be mixed with grass herbicides. Rotation interval: 4 months small grains; 10 months beans, corn, cotton and rice. Injury may be observed under hot, humid conditions.
fluzifop-P-butyl @ 0.125 - 0.50 lb/A	Fusilade DX @ 0.37-0.75 pt/A  Apply with NIS @ 1 qt/100gal or COC @ 1 gal/100gal; see label	Annual and perennial grasses	Apply before grasses exceed height recommended for treatment; consult label. Use the highest rate for bermudagrass with runners 4-6" long. Application to larger grasses or grasses under stress will result in reduced control. Activity may be reduced if mixed with other herbicides.
clethodim @ 0.09 - 0.25 lb/A	Select 2 EC @ 6-16 oz/A.  Apply with NIS @ 1 qt/100gal or COC @ 1 gal/100gal; see label.	Annual and perennial grasses	Application same as above. Refer to label for rate for specific grass species. Same as above. Addition of a spray-grade nitrogen fertilizer or ammonium sulfate may further improve weed control. Refer to label.
fenoxyprop – ethyl + fluazifop-P-butyl @ 0.06 - 0.22 lb/A	Fusion @ 4.0 - 14.0 oz/A.  Apply with NIS @ 1 qt/100gal or COC @ 1 gal/100gal; see label	Annual and perennial grasses	Same as above. Aerial applications require adjuvant adjustment. Consult label to determine proper application timing if using a broadleaf tank-mix or broadleaf sequential herbicide.
sethoxydim @ 0.19 - 0.47 lb/A	Poast Plus @ 1.5-2.25 pt/A  Apply with NIS @ 1 qt/100gal or COC @ 1 gal/100gal; see label	Annual and perennial grasses	Apply before grasses exceed height recommended for treatment. In general use 0.5 pt/A for annual grasses up to 4" tall, 1.5 pt/A for johnsongrass 1–2 ft tall and 2.25 pt/A for bermudagrass with 4-6" runners. Application to larger grasses or grasses under stress will result in reduced control. Activity may be reduced if mixed with other herbicides. Consult labels for retreatment rates.
quizalofop @ 0.10 - 0.20 lb/A	Assure II @ 5-10 oz/A.  Apply with NIS @ 1 qt/100gal or COC @ 1 gal/100gal; see label	Annual and perennial grasses	Apply before grasses exceed height recommended for treatment. Application to larger grasses or grasses growing under stress will result in reduced control.
tillage	rotary hoe	Small seedling grassy and broadleaf weeds	Apply as soon as soybeans are up to a stand or before if soil crusts enough to prevent emergence. PRE herbicides may remain more effective following rotary hoeing. Not effective if soil is damp or wet. Effective if soil is crusted. May be used repeatedly until 3rd set of true leaves are expanded. Soybean seedlings may be injured if hoed when fully turgid.

SOYBEAN<sup>1</sup>

Active Ingredient and Rate <sup>2</sup>	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
<b>ROUNDUP READY: Programs</b>			
glyphosate <sup>4</sup> @ 1.0 lb/A	5.5 L formulations @ 22 oz/A 4 L formulations @ 32 oz/A	Most broadleaf weeds and grasses	<b>FOR USE IN ROUNDUP READY VARIETIES ONLY.</b> See Herbicide-Tolerant Soybean Varieties on last page for further information.
glyphosate <sup>4</sup> @ 1 lb/A + s-metolachlor @ 0.47-1.27 lb/A	glyphosate as above + Dual Magnum @ 0.5-1.33 pt/A <b>or</b>  Sequence 5.25 L @ 2.5-4.0 pt/A	Most broadleaf weeds and grasses	<b>FOR USE IN ROUNDUP READY VARIETIES ONLY.</b> Apply from soybean cracking to third trifoliolate. See Herbicide-Tolerant Soybean Varieties on last page for further information.
<b>STS/ROUNDUP READY: Programs</b>			
glyphosate <sup>4</sup> @ 1 lb/A + chlorimuron @ 0.013-.02 lb/A + thifensulfuron @ 0.013-0.02 lb/A	Glyphosate as above + Synchrony XP @ 0.75-1.125 oz/A	Broadleaf and grass weed control	<b>Apply only to STS/RR soybean varieties.</b> Apply after first trifoliolate leaf. See Herbicide-Tolerant Soybean Varieties on last page for further information.
<b>LIBERTY LINK: Programs</b>			
glufosinate @ 0.4 lb/A	Ignite 280 SL @ 22 oz/A	Most broadleaf weeds. Control of small grass weeds in weeds are < 3-inches.	<b>FOR USE IN LIBERTY LINK VARIETIES ONLY.</b> Two applications and/or the use of residual herbicides are recommended. Make first application 7-10 days after emergence on 2-3 inch weeds. Make the second application 10-14 days later. Do not exceed 44 oz/A/year. Use residual in burndown, at planting or with first application. See Herbicide-Tolerant Soybean Varieties on last page for further information.
glufosinate @ 0.4 lb/A + s-metolachlor @ 0.9 lb/A	Ignite 280 SL @ 22 Oz/A + Dual Magnum @ 1.0 pt/A	Broadleaf and grass weed control. Good option where no residual was used at burndown or at planting.	Good option where no residual was used at burndown or at planting. See comments above for Ignite and Dual II magnum. See Herbicide-Tolerant Soybean Varieties on last page for further information.
<b>DIRECTED POSTEMERGENCE:</b>			
2,4-DB @ 0.2 lb/A	Various formulations @ 1pt/A; consult product labels for correct rate and surfactant requirements,	Annual morningglory and cocklebur, pigweed and prickly sida	Apply after soybeans are 8" tall. Apply to lower 3" of soybean as a <b>directed spray</b> . Repeat once if necessary. Do not apply to soybeans showing root rot symptoms.
paraquat @ 0.07-0.12 lb/A	Gramoxone Inteon @ 4.5-8 oz/A  Surfactant required; consult label.	Seedling grasses such as seedling johnsongrass, crabgrasses, signalgrass, barnyardgrass, goosegrass	Apply when grasses and pigweed are 2-4" tall and soybeans are at least 8". <b>Directed Spray Only.</b> Good coverage necessary for control. Soybeans treated topically will be killed. Do not exceed 30 lbs. pressure. Do not graze treated areas. Apply low rate to weeds 2" tall and higher rate to grasses 2-4" tall and pigweeds 2-3" tall. Consult the label.
linuron @ 0.25 - 1.0 lb/A	Lorox 50DF @ 0.5 - 2.0 lb/A Linex 4L @ 0.5 - 2.0 pt/A  Add 0.25% v/v nonionic surfactant.	Grasses and small broadleaf weeds such as crabgrass, cocklebur, hemp sesbania 12"-15" tall, etc	Apply after soybeans are 8" and weeds less than 6" tall. <b>Directed spray only.</b> Severe injury to soybeans may occur if spray strikes mid to upper portions of soybean plants. Low rate for smaller weeds, higher rate for larger weeds. Consult the label.

SOYBEAN<sup>1</sup>

Active Ingredient and Rate <sup>2</sup>	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
<b>DIRECTED POSTEMERGENCE:</b>			
linuron @ 0.25 - 0.5 lb/A + 2,4-DB @ 0.2 lb/A	Linuron and 2,4-DB rates as above  Add 0.25% v/v nonionic surfactant.	Grasses and small broadleaf weeds such as crabgrass, cocklebur and hemp sesbania	Apply after soybeans are 8" tall and weeds less 6" tall. <b>Directed spray only.</b> Severe injury to soybeans may occur if spray strikes mid to upper portions of soybean plants. Low rate for smaller weeds, higher rate for larger weeds. Consult the label.
metribuzin @ 0.25 - 0.50 lb/A	Sencor 4F @ 0.5 - 1.0 pt/A Sencor DF @ 0.33 - 0.67 lb/A  Add 0.25% v/v nonionic surfactant or 1% v/v crop oil concentrate.	Grasses and broadleaf weeds such as cocklebur, dayflower, prickly sida, hemp sesbania and others	Apply After soybeans are 8" tall and before grasses are 1" tall and broadleaf weeds are 3" tall. <b>Directed Spray Only.</b> Spray only the lower 1/4 to 1/3 of soybean plants. Do not apply to sensitive varieties. Higher rate required to control sesbania and prickly sida and to suppress morningglory, spotted spurge and wild poinsettia. Consult the label.
metribuzin @ 0.25 - 0.50 lb/A + 2,4-DB @ 0.2 lb/A	metribuzin and 2,4-DB rates as above  Add 0.25% v/v nonionic surfactant or 1% v/v crop oil concentrate.	Grasses and small broadleaf weeds	Apply after soybeans are 8" tall. <b>Directed Spray Only.</b> Severe injury to soybeans may occur if spray strikes mid to upper portions of soybean plants. Low rate for smaller weeds, higher rate for larger weeds.
<b>PRE-HARVEST DESSICANTS:</b>			
carfentrazone @ 0.023 lb/A	Aim 2EC @ 1.4 oz/A Add 1% v/v crop oil concentrate.	Better on vines than pigweed, sicklepod, etc.	Apply after crop has matured and grain has begun to dry down. More effective on annual vines. Do not apply within 3 days of harvest. Apply in 10 gallons by ground, 5 gallons by air.
paraquat @ 0.126 - 0.25 lb/A	Gramoxone Inteon @ 8 - 16 oz/A Add 0.25% v/v nonionic surfactant.	Desiccation of weeds and soybeans only.	Indeterminate varieties: 65% of pods are mature or moisture content is 30% or less. Determinate varieties: 50% leaf drop and remaining leaves are yellow. Some drought stressed weeds will not be desiccated. Do not graze or harvest for hay. Apply in 10 gals by ground, or 5 gals by air. Do not apply within 15 days of harvest. Immature soybeans will be injured.
sodium chlorate	Sodium Chlorate @ 6 lb/gallon product 1 gallon 3 lb/gallon product 2 gallons	Desiccation only. Level of weed control is affected by environmental conditions.	Apply 7 to 10 days before harvest. Apply in 20 gallons by ground, 5 gallons by air. Check label for environmental conditions most favorable for desiccation. Apply under high temperatures and humidity.
<b>SPOT TREATMENTS:</b>			
sethoxydim @ 1.0 lb/100 gal water	Poast Plus at 1.0 gal/100 gal water. Add 1% v/v crop oil concentrate.	Johnsongrass, bermudagrass, itchgrass, and other weeds	Apply to rapidly growing grass 1-2 feet tall. Spray to wet.
fluazifop-P-butyl @ 1.0 lb/100 gal water	Fusilade DX @ 2 qt/100 gal water. Add 0.25% v/v nonionic surfactant or 1% v/v crop oil concentrate.	Same as above	Same as above

**SOYBEAN<sup>1</sup>**

<b>Active Ingredient and Rate<sup>2</sup></b>	<b>Formulated Product and Rate</b>	<b>Weeds Controlled</b>	<b>Remarks and Precautions</b>
<b>SPOT TREATMENTS: continued</b>			
clethodim @ 0.33 – 0.67 lb/100 gal water	Select @ 44 – 88 oz/100 gal water. Add 0.25% v/v nonionic surfactant or 1% v/v crop oil concentrate.	Same as above	Same as above
glyphosate <sup>4</sup> @ 4 – 8 lb/100 gal of water	Glyphosate (4 lb/gal formulations) @ 1.0-2.0 gal/ 100 gal of water	Grass and broadleaf Weeds	Apply to rapidly growing weeds. Thoroughly wet the weed foliage and keep spray off of the crop plants. May be used as a salvage application after 20% cracked bolls.
<b>ROPE WICK APPLICATORS</b>			
glyphosate @ 2.0 lb/1.0 gal of water	Glyphosate (4 lb/gal formulations) @ 0.5 gal/1.0 gal of water	Johnsongrass	Apply when johnsongrass is at least 12" taller than crop. The rope wick should remain moist for best results. Repeated applications may be necessary.

**FOOTNOTES**

<sup>1</sup> Refer to the burndown section of this guide for suggestions on managing cool season weeds.

<sup>2</sup> Refer to the herbicide resistance section of this guide for suggestions on herbicide resistance management.

<sup>3</sup> Dual is manufactured by Syngenta Crop Protection, has been extensively used in cotton production and has the common name metolachlor. When metolachlor is manufactured, it contains a 1:1 ratio of two metolachlor isomers; the –R and the –S isomer. The –S isomer has greater herbicidal activity than the –R isomer, which allows for a reduction in the amount of –S isomer herbicide needed to obtain similar weed control compared to the –R isomer herbicide. To differentiate between metolachlor herbicides containing the –R or –S isomer consult the label under the “active ingredients” section. The –R isomer is denoted by metolachlor while the –S isomer is denoted by acetamide –(s). Alternatively, according to the Syngenta Crop Protection labels, if the trade names Bicep or Dual include the word “Magnum” (Dual Magnum, Dual II Magnum, Bicep II Lite Magnum), the –S isomer is an active ingredient. If the trade name does not include “Magnum”, the metolachlor –R:-S isomer ratio is 1:1 (Dual II, Bicep II, Bicep Lite II).

<sup>4</sup> See “Appendix A” for **GLYPHOSATE PRODUCTS, FORMULATIONS AND SURFACTANT RECOMMENDATIONS.**

## HERBICIDE-TOLERANT SOYBEAN VARIETIES

**Roundup Ready Soybeans:** These varieties are tolerant to overtop applications of glyphosate herbicide. The initial application of glyphosate should be made at 1.0 quarts/acre for the 4 lb ai/gal formulation when weeds are less than 4-inches tall. If the first application is made to weeds 5-12 inches tall, increase the glyphosate rate to 1.5 quarts/acre. Numerous formulations of glyphosate are available for use and are shown in Table XX on page XX; therefore, rates may differ depending upon glyphosate formulation used. Additionally, ensure that the formulation is labeled for use in Roundup Ready soybean. Consult the product label for use requirements. Remember that the longer the weeds remain in the field, the larger they become and longer they compete with the soybean. Since some morningglories, hemp sesbania, yellow and purple nutsedge, and dayflower are not controlled with one application, two applications of glyphosate are often needed. Sequential treatments may be needed, depending upon weed pressure, growing conditions, and other factors. If applying glyphosate by air, be extremely careful to prevent off-site herbicide movement.

**Classic + glyphosate tank mix:** Classic (active ingredient chlorimuron) at 0.25 to 0.33 oz product/acre + glyphosate may be tank-mixed for improved postemergence and perhaps some preemergence weed control in Roundup Ready soybean. A non-ionic surfactant at 0.25% v/v may be needed if glyphosate formulation does not contain a pre-loaded surfactant. Check the glyphosate to determine if additional surfactant is needed. Apply this tank-mix at the proper weed height and after the first soybean trifoliolate leaf has expanded. Classic and all herbicides that contain chlorimuron have the tendency to persist in the soil if soil pH is greater than 7.0. If soil pH is greater than 7.5, do not apply Classic or chlorimuron containing herbicides.

**Other glyphosate tank-mixes:** Glyphosate may also be tank-mixed with Ultra Blazer, First Rate, Reflex, etc. for increased broadleaf weed control in Roundup Ready soybean. The best choice depends upon the weed spectrum present. Be certain to scout fields and choose an appropriate herbicide based on weed spectrum. Ultra Blazer is a good choice if hemp sesbania is present, but is somewhat weak on jointvetch. First Rate is a good choice if prickly sida and/or palmleaf morningglory is present. See Table 2 in soybean weed control section for addition information.

**(STS) Sulfonylurea tolerant soybean:** These varieties are tolerant to herbicides such as Classic, Canopy, or Synchrony STS (members of the sulfonylurea herbicide family). These varieties allow utilization of the sulfonylurea herbicides in high pH soils in the current crop year and in following crops. Soybean varieties are available that are tolerant to both glyphosate and sulfonylurea herbicides (STS/RR varieties).

**Liberty Link soybean:** These varieties are tolerant to overtop applications of Ignite 280 (glufosinate). The initial application of Ignite 280 should be made at 22 oz product/A, 7-10 days after soybean emergence. A sequential application of Ignite 280 should follow 10 – 14 days later. A maximum of 44 oz product/A/year can be applied. Do not apply past first bloom. Ignite 280 should provide good control of most broadleaf weeds, but is weak on grass weeds. For acceptable grass weed control, Ignite 280 should be applied to grasses less than 3 inches tall. The Liberty Link soybean weed control system works very well with a residual herbicide that provides grass control. In addition, metolachlor containing products may be tank-mixed with Ignite 280 to provide residual control of some small-seeded broadleaf and grass weeds. If Liberty Link soybean is planted in an area with known large grassy weed populations, then a graminicide such Select Max, Fusilade, etc. should be budgeted to control late-season grass problems.