

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
SOYBEANS				
For additional information on burndown herbicides see page 25, WEED RESPONSE RATINGS FOR BURNDOWN HERBICIDES.				
Preplant–Burndown				
paraquat @ 0.47 to 0.94 lb/A	Annual broadleaf and grass weeds (existing vegetation).	Gramoxone Inteon 2 SL 1.88 to 3.0 pt/A in at least 20 gal water per acre for ground application. 5 to 10 gal for aerial application. Add 0.25% surfactant.	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.
glyphosate @ 1 lb/A	Annual grasses and broadleaf weeds (existing vegetation). Weak on morningglories.	Glyphosate (4 lb/gal formulations) See table on page 23 for specific glyphosate conversions and surfactants. 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.
glyphosinate @ 0.71 lb/A	Good option for glyphosate-resistant horseweed. Annual grasses and broadleaf weeds (existing vegetation). Weak on morningglories.	Ignite 280 SL 40 oz/A.	Use prior to planting for vegetation knockdown.	Good coverage and warm weather will increase efficacy. Do not use prior to planting Liberty Link soybeans.
glyphosate or paraquat + metribuzin @ 1.0 lb/A or 0.47 to 0.78 + 0.25 to 0.75 lb/A	Postemergence control of existing annual weeds. See rating table for preemergence control with Sencor.	Glyphosate (4 lb/gal formulations) or Gramoxone Inteon 2 SL + Sencor 75DF See table on page 23 for specific glyphosate conversions and surfactants. 2 pt/A or 1.8 to 3.0 pt/A + 0.33 to 1 lb/A DF. Add 0.25% surfactant.	At planting or prior to crop emergence.	Tank mix. Apply as above. Do not use on sensitive varieties listed on label.
glyphosate or paraquat + chlorimuron/metribuzin @ 1.0 lb/A or 0.47 to 0.94 + 0.188 lb/A	Annual broadleaf and grass weeds. Improved control of cocklebur, hemp sesbania, morningglories, smartweed, and prickly sida. See rating table for preemergence control with Canopy.	Glyphosate (4 lb/gal formulations) or Gramoxone Inteon 2 SL + Canopy 75DF See table on page 23 for specific glyphosate conversions and surfactants. 2 pt/A or 1.8 to 3.0 pt/A + 0.25 lb/A. Add 0.25% surfactant.	At planting.	This is a reduced rate of Canopy. Higher rates have been shown to cause injury in minimum tillage culture. Tank mix with Lasso or Dual or use a followed by postemergence grass herbicide for grass control. May require a followed by postemergence broadleaf herbicide. See earlier comments for Canopy preemergence.

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glyphosate or paraquat + 2,4-D or dicamba + chlorimuron/tribenuron or flumioxazin @ 1.0 lb/a or 0.47 to 0.94 + 1.0 lb/A or 0.25 lb/A + 0.28 to 0.37 lb/A or 0.063 lb/A	Horseweed and other broadleaf weeds. Use Valor where Palmer amaranth is a problem.	Glyphosate (4 lb/gal formulations) or Gramoxone Inteon 2 SL + 2,4-D or Clarity + Canopy EX or Valor or other Valor-containing premixes [Envive (Valor + Synchrony XP)], Valor XLT, Gangster, etc. See table on page 23 for specific glyphosate conversions and surfactants. 2 pt/A or 1.8 to 3.0 pt + 2 pt/A or 8 oz/A + 1.5 to 2.0 oz/A or 2 oz.	21 days after a rainfall, prior to planting.	Burndown plus enhanced control of broadleaf weeds.
glyphosate + thifensulfuron/tribenuron @ 1 lb/A + 0.016 to 0.025 lb/A	Improved control of garlic, curly dock, smartweed, and henbit.	Glyphosate (4 lb/gal formulations) + First Shot SG See table on page 23 for specific glyphosate conversions and surfactants. 2 pt/A + 0.5 to 0.8 oz/A.	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 morning-glories.	Glyphosate (4 lb/gal formulations) + Aim 2 EC See table on page 23 for specific glyphosate conversions and surfactants. 2 pt/A + 1 oz/A.	At planting or prior to crop emergence.	Good spray coverage is essential.
sulfentrazone + metribuzin @ 0.066 to 0.11 + 0.096 to 0.16 lb/A	Broadleaf weeds.	Authority MTZ 6 to 10 oz/A. Add 1% COC.	Up to 14 days prior to planting.	Add glyphosate for existing vegetation.
sulfentrazone + cloransulam @ 0.75 + 0.032 lb/A	Broadleaf weeds.	Authority First 6.45 oz/A. Add 1% COC.	Up to 14 days prior to planting. No later than 3 days after planting.	Add glyphosate for existing vegetation.
flumioxazin @ 0.063 lb/A	Residual horseweed control. No post horseweed activity. Good choice for pigweed.	Valor 51 WDG 2 oz/A.	Apply up to 21 days prior to planting. 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.	Python 80 WDG 1.0 to 1.33 oz/A.	Prior to planting wheat-beans.	Contact and residual for horseweed. Good tank mix with Ignite. Good option where horseweed is present less than 14 days prior to planting.

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SOYBEANS

Wheat - Stubble Planted or Reduced Tillage or Stale Seedbed Soybean Culture

Important factors to consider in stale seedbed and reduced tillage soybean culture.

1. If your goal is to conserve moisture at planting time and heavy vegetation is present, moisture reserves may already be depleted and establishing soybean stands may not be feasible without rainfall.
2. In a dry year, failure to obtain good control of existing vegetation will result in failure to obtain a stand of soybeans because the weeds will deplete the soil moisture before the seeding soybeans can become established.
3. Spray volume for herbicides should be in the 10 to 20 gallon per acre range for best results.
4. Thorough and uniform coverage is necessary for good "burndown" results. Coverage more dependent on droplet size and number of droplets (orifice size-pressure relationship) than on total volume.
5. Timely postemergence herbicide applications and, in some cases, cultivation will be necessary for full-season weed control.
6. **Compared to the burndown and residual mixtures below, a burndown herbicide such as glyphosate, Gramoxone, Gramoxone + Sencor, or Canopy followed by a total postemergence program has been cheaper and more consistent in no-till, stubble-planted soybeans.**

Preplant-Incorporated

trifluralin @ 0.5 to 1 lb/A	Annual grass weeds and johnsongrass from seed.	Treflan, Trilin, Trifluralin 4 EC 1 to 2 pt/A.	From 6 weeks prior to planting to time of planting.	<p>APPLICATION RECOMMENDATIONS FOR ALL FOLLOWING PREPLANT TREATMENTS</p> <p>Although Treflan and Prowl are labeled for use up to 6 weeks (or 60 days for Prowl) prior to planting, poor results are often obtained with early applications of both 1 and 2X rates if extended periods of wet weather occur before planting. For this reason, apply as near to planting as practical.</p> <p>The following summary is taken from Equipment and Methods for Soil Incorporation of Herbicides, a paper by Bode, Newberg, Butler, and Wax at the American Society of Agricultural Engineers meeting in 1977. Note section on large disks.</p> <p>Tillage from tandem disk harrows is such that the soil is inverted, and herbicides are mixed deeper in the soil than with any other incorporation tool tested. A single pass with tandem disks results in areas of low concentration, where weed streaking can occur. A second pass will help to level out the areas of high and low concentrations, but there seems to be very little difference whether the second pass is parallel, perpendicular, or at any angle with the first pass. Large disks with blades spaced (9 inches or wider) will not give adequate soil mixing when operated at shallow depths of 4 inches or less. When large disks are operated at a 6 inch depth or more to obtain soil inversion, some of the chemical is incorporated deeper than desired. There is also some loss of horizontal uniformity with the large disk.</p> <p>Spacing of disk blades and depth of operation seem to be more important than blade diameter in determining the amount of soil mixing. Disks with 7-inch blade spacings gave more uniform incorporation at the desired (2 to 3 inch) depth than disks with 9-inch spacings.</p>
pendimethalin @ 0.5 to 1.5 lb/A	Annual grass weeds and johnsongrass from seed.	<p>Prowl or Pendimax 3.3 EC 1.2 to 3.6 pt/A.</p> <p>or</p> <p>Prowl H₂O 3.8 CS 1.0 to 3.2 pt/A.</p>	From 60 days prior to planting until immediately prior to planting.	
metolachlor @ 0.95 to 1.6 lb/A	Red rice, annual grasses, and yellow nutsedge.	Dual Magnum 7.62 EC 1 to 1.67 pt/A.	During final seedbed preparation (within 7 days of planting). Can be applied up to third trifoliolate.	
pendimethalin or trifluralin + metribuzin @ 0.5 to 1 + 0.25 to 0.5 lb/A	Annual grasses, johnsongrass from seed, annual broadleaf weeds including hemp sesbania (coffeebean), prickly sida (tea-weed), pigweed and smartweed. Poor control of cocklebur, entire-leaf morningglory and sicklepod.	Prowl or Treflan + Sencor 75 DF 1.2 to 2.4 pt/A Prowl 3.3 EC or 1 to 2 pt/A Treflan 4 EC + 0.33 to 0.67 lb/A DF. Tank mix.	During final seedbed preparation before planting. Can be applied up to third trifoliolate.	

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metolachlor or alachlor @ 0.95 to 1.6 or 2 to 2.75 lb/A + 0.375 to 0.5 lb/a	Same as above. Better on red rice, weak on seedling johnsongrass.	Dual Magnum or Intro + Sencor 0.8 to 1.33 pt/A or 2 to 2.75 qt/A + 0.75 to 1 pt/A 4L or 0.5 to 0.67 lb/A DF. Tank mix.	During final seedbed preparation (within 7 days of planting).	The field cultivator also requires two passes to obtain adequate incorporation. Better soil mixing is obtained when sweeps are used at travel speeds of 5 to 7 mph. To avoid areas of low chemical concentration which would result in strips of weeds, the second pass should be at some angle to the first pass rather than parallel to it. The rear row of shanks should not be allowed to operate deeper than the forward rows because untreated soil may be brought to the surface, and weed control would be reduced. A drag harrow mounted behind the cultivator to level the ridges will improve herbicide distribution in the top inch of soil. Incorporation distribution with the Do-All with field cultivator teeth is similar to that of one pass with the field cultivator followed with a heavy drag harrow. The addition of the ground-driven reel on the Do-All has very little effect on vertical placement of the herbicide but does result in as good a horizontal distribution as can be obtained from two passes with the disks. Under good soil conditions, a single pass with the Do-All having field cultivator teeth + ground reel + drag harrow and properly operated will give adequate soil incorporation. For red rice control, use 2 passes. A Do-All having only the ground reel and drag harrow is inadequate. Barrentine and Jordon reported in Weeds Today that the Triple K will place most of the herbicide in the top 2 inches. It is a good incorporation tool on light and medium textured soils. Use 2 passes for red rice control.
pendimethalin or trifluralin + imazaquin @ 0.5 to 1 + 0.094 to 0.125 lb/A	Most annual grass, and broadleaf weeds except hemp sesbania. Sicklepod if followed by Classic.	Prowl, Pendimax or Treflan + Scepter 70 DF 1.2 to 2.4 pt/A Prowl 3.3 EC or 1 to 2 pt/A Treflan 4 EC + 1.4 to 2.8 oz/A 70DF. If incorporating 2 to 4 weeks prior to planting, use labeled rates of Scepter. If incorporating from 0 to 2 weeks prior to planting, the University of Arkansas recommended rate is 1.4 oz/A 70DF. See comments at right.	Up to 4 weeks prior to planting. Incorporate immediately after application. Poor weed control may occur if incorporated into dry soils unless rainfall occurs for activation.	Incorporate thoroughly in the top 2 to 3 inches of seedbed. When applied from 0 to 2 weeks prior to planting, University of Arkansas research has shown near equal results from rates ranging from 1.4 to 2.8 oz/A – regardless of soil texture. The most consistent programs with Scepter are those that use the rate of 1.4 oz/A 70DF followed by a postemergence herbicide, if needed.
pendimethalin or trifluralin + chlorimuron + metribuzin @ 0.5 to 1 + 0.25 to 0.5 lb/A	Same as Prowl or Treflan + Sencor with improved control of cocklebur and morningglories. Sicklepod if followed by Classic.	Prowl, Pendimax or Treflan + Canopy 75 DF 1.2 to 2.4 pt/A Prowl 3.3 EC or 1 to 2 pt/A Treflan + 0.375 to 0.67 lb/A Canopy 75 DF.	Up to 2 weeks prior to planting.	Incorporate thoroughly in the top 2 to 3 inches of seedbed. Severe crop injury can occur under prolonged wet conditions at emergence. Do not use on heavy soils with pH above 7.0.
flumetsulam @ 0.05 to 0.066 lb/A	Cocklebur, horseweed, smooth pigweed, velvetleaf, prickly sida, spurge, eclipta. Suppression of morningglories. Sicklepod if followed by Classic.	Python 80 WDG 1 to 1.33 oz/A + labeled rate of grass herbicide.	Apply from 0 to 30 days before planting.	Incorporate thoroughly into the top 2 inches of the seedbed. Control of cocklebur, morningglory and sicklepod may be enhanced by using the higher end of the rate range for each soil textural class. Do not use on soils with pH above 7.8. Do not rotate with cotton for 18 months or sorghum for 12 months following application.

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SOYBEANS				
Preplant Incorporated [cont.]				
dimethenamid @ 0.56 to 0.98 lb/A	Red rice, annual grasses, yellow nutsedge, pigweeds, will also reduce competition from teaweed, hophornbeam copper-leaf, groundcherry and other small seeded broadleaf weeds.	Outlook 6E 12 to 21 oz/A.	From 45 days prior to planting to 3rd trifoliolate.	Disk incorporation is not recommended. A field cultivator or similar type implement should be used to incorporate in the top 2 to 3 inches. Rate dependent on percent organic matter. See label.
Preemergence - Labeled Rates for Broadcast Application	SEE HERBICIDE RESISTANCE STATEMENTS ON PAGES 11 AND 12.			
metolachlor @ 0.9 to 1.5 lb/A	Annual grasses, red rice, nutsedge, and small seeded broadleaves.	Dual Magnum 7.62EC 1 to 1.67 pt/A.	At planting, up to third trifoliolate.	Rainfall needed for activation.
metribuzin @ 0.25 to 0.75 lb/A	Hemp sesbania, prickly sida, common cocklebur, pigweed, spurred anoda, common ragweed, smartweed, and sicklepod.	Sencor 75 DF 0.33 to 1 lb/A.	At planting.	Do not apply to sandy soils or to sandy loam or loamy sand soils with less than 2% organic matter. Some stunting and stand reduction may occur from Sencor if heavy rains closely follow treatment. Do not apply more than once per season. Do not use treated vines for feed or forage. See Soybean Update for list of metribuzin sensitive varieties. Do not use on soils pH 7.5 or above. Weak on grass weeds. Do not use 1.5 pt/A 4L or 1 lb/A DF rates on any soils except Mississippi Delta heavy clay.
metolachlor + metribuzin @ 0.7 to 1.2 + 0.25 to 0.75 lb/A	Same as above with improved annual grass control. Improved control of sicklepod compared to above.	Dual Magnum 7.62EC + Sencor 75 DF 0.8 to 1.33 pt/A Dual + 0.33 to 1 lb/A 75 DF. or Boundary 6.5 EC 1 to 2.25 pt/A.	At planting.	Tank mix. Apply only once per season. Do not use on sand or loamy sand soils with less than 2% organic matter. Do not plant crops other than soybeans within 4 months after treatment. Do not use treated vines for feed or forage. Do not apply to varieties listed above.
S-metolachlor + fomesafen @ 1.09 + 0.24 lb/A	Annual grasses, small seeded broadleaves including pigweed, yellow nutsedge, others.	Prefix 5.3 EC 2.0 pt/A.	Before, during, or after planting, but before crop emergence.	Must have rainfall to activate. Excellent choice for pigweed.

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imazaquin @ 0.092 to 0.125 lb/A	Cocklebur, pitted morningglory, spurge, prickly sida, pigweed and smartweed. Sicklepod if followed by a postemergence application.	Scepter 70 DF 2.1 to 2.8 oz/A. Use low rate on sandy soils. NOTE: Use either following an application of Treflan or Prowl or tank mixed with a labeled rate of Dual or Lasso.	At planting. Apply on band to reduce cost.	Rainfall within 3 to 5 days required for activation. Not recommended for later planted soybeans due to poor probability of rainfall. If using for cocklebur control in later plantings, use postemergence. Severe soybean injury can occur on soils with poor internal drainage under prolonged wet conditions at emergence. Follow same recropping intervals outlined for Scepter ppi.
sulfentrazone + metribuzin @ 0.66 to 0.11 + 0.96 to 0.16 lb/A	Broadleaf weeds.	Authority MTZ 6 to 10 oz/A.	No later than three days after planting.	Make sure seed furrow is closed.
chlorimuron/metribuzin @ 0.25 to 0.5 lb/A	Cocklebur, pitted, entireleaf and ivyleaf morningglory, spurge, and hemp sesbania. Sicklepod if followed by Classic post-emergence.	Canopy 75 DG 0.375 to 0.67 lb/A. Use either following Treflan or Prowl or tank mixed with a labeled rate of Dual or Lasso.	At planting. Apply on band to reduce cost.	Rainfall required for activation. Not recommended for later planted soybeans due to poor probability of rainfall. Severe soybean injury can occur on soils with poor internal drainage under prolonged wet conditions at emergence. Follow same recropping intervals outlined for Canopy ppi. Do not use on heavy soils with pH above 7.0.
flumetsulam @ 0.05 to 0.066 lb/A	Cocklebur, horseweed, smooth pigweed, eclipta, velvetleaf, spurge, and prickly sida. Suppression of morningglories. Sicklepod if followed by Classic.	Python 80 WDG 1 to 1.33 oz/A + labeled rate of Dual or other preemergence grass herbicide.	At planting.	Rainfall required for activation. Control of cocklebur, morningglory, and sicklepod may be enhanced by using higher end of rate range for each soil textural class. Do not plant cotton for 18 months or sorghum for 12 months following application. Do not use on soils with pH above 7.8.
dimethenamid @ 0.56 to 0.98 lb/A	Most small seeded annuals.	Outlook 6E 12 oz/A to 21 oz/A.	From at planting until soybeans have reached unifoliolate stage.	Rainfall needed for activation.

Postemergence-All Cultural Systems

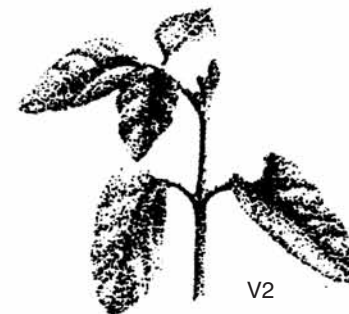
Soybean Growth Stages for Applying Postemergence Herbicides



VC
Unifoliolate leaves unrolled sufficiently so the leaf edges are not touching.



V1
Fully developed leaves at unifoliolate nodes.



V2
Fully developed trifoliolate leaf at node above the unifoliolate nodes.

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SOYBEAN [cont.]	SEE HERBICIDE RESISTANCE STATEMENTS ON PAGES 11 AND 12.			
Postemergence – Overtop	Labeled Rates – See previous statement on tank mixes of grass and broadleaf herbicides.			
bentazon @ 0.75 to 1 lb/A	Emerged common cocklebur, jimsonweed, smartweed, velvet-leaf, prickly sida, and common ragweed.	<p>Basagran 4L 1.5 to 2 pt/A. A surfactant is optional. Research has shown no advantage to adding a surfactant for cocklebur. Use two applications for morningglory control. The addition of 2 fl oz/A of 2,4-DB may improve morningglory control somewhat and may also improve control of cocklebur slightly larger than those listed on Basagran label. Rate may be reduced with band application.</p>	Postemergence when soybeans are in 1 (V2) to 4 (V5) trifoliate stage. If a second flush of cocklebur emerges, repeat treatment or follow with another material as a directed spray. Most effective on cocklebur 6 inches or less.	Overtop or semi-directed. Excellent spray coverage is necessary for results. If the crop canopy shelters small weeds, use a semi-directed spray. Use high rate on cocklebur larger than 6-leaf stage. Do not apply to soybeans growing under stress. Do not apply more than 2 lb bentazon per acre in one season. Do not add 2,4-DB unless good soil moisture is present and soybeans are actively growing. Refer to label for precautions and disclaimers.
acifluorfen @ 0.375 to 0.5 lb/A	Emerged hemp sesbania, crotalaria, morningglory, Texas gourd, common ragweed, copperleaf, woolly croton and several other broadleaf weeds. (See rating table.)	<p>Ultra Blazer 2L 1 to 2 pt/A. 1 pt rate on hemp sesbania and showy crotalaria. Use 2 pt rate on all but very small jimsonweed, purple moonflower, pitted morningglory or common ragweed. Add a surfactant. Refer to label. The addition of 2 fl oz/A of 2,4-DB may improve cocklebur control somewhat and may also improve control of morningglory slightly larger than those listed on Ultra Blazer label. Rate may be reduced with band application.</p>	Postemergence when soybeans are small. Ivyleaf and entireleaf morningglories must be controlled before they are beyond the 2 true leaf stage. Pigweed must be controlled first 7 to 10 days after emergence. Refer to label for specific weed sizes. For hemp sesbania (coffeebean) only, best control obtained between 12" and bloom stage.	Overtop or semi-directed. Weeds should be actively growing. Excellent spray coverage is necessary. Crop injury symptoms are foliar burn, leaf speckling and leaf crinkling. The symptoms are usually cosmetic in nature only. Notice, for successful results, labeled rates and timing of application must be strictly adhered to. Do not add 2,4-DB unless good soil moisture is present and soybeans are actively growing. Refer to label for precautions and disclaimers. Cutoff date is 50 days prior to harvest (PHI). May be applied to soybeans in bloom stage if within the PHI.
acifluorfen + bentazon @ 0.25 to 0.5 + 0.5 lb/A	Pigweed, cocklebur, prickly sida, hemp sesbania; pitted, purple, palmleaf, and entireleaf morningglories, and Texas gourd.	<p>Ultra Blazer + Basagran 1 to 2 pt/A + 1 pt/A. Add a surfactant according to Ultra Blazer label. Rate may be reduced with band application.</p> <p>or Storm 4L 1.5 pt/A. Add a surfactant. Note: Storm rate of 1 1/2 pt/A equivalent to 1 pt/A Basagran + 1 pt/A Ultra Blazer.</p>	Postemergence when soybeans are small. Ivyleaf and entireleaf morningglories must be controlled before they are beyond the 2 true leaf stage. Pigweed must be controlled first 7 to 10 days after emergence. Refer to label for specific weed sizes. For hemp sesbania (coffeebean) only, best control obtained between 12" and bloom stage.	Same as above. If prickly sida larger than 2" increase Basagran rate to 1 1/2 pt/A. Use high Ultra Blazer rate for entireleaf and ivyleaf morningglory.

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lactofen @ 0.2 lb/A	Balloovine, cocklebur, pitted morningglory, prickly sida, spurge, hemp sesbania and others. See rating table. Weak on entireleaf morningglory.	Cobra 2E 0.8 pt/A. Add a nonionic surfactant or crop oil concentrate. (See label.) University of Arkansas research has often shown an increase in soybean injury with little or no increase in weed control with COC compared to surfactant.	Between 10 and 14 days after weed emergence.	Weed control rapidly diminishes as weeds exceed 14 days after emergence or if environmental conditions are poor. Timing is very critical on cocklebur or regrowth will occur. Expect 30% to 40% initial crop burn. Research has shown this does not lower yield in weed-free soybeans planted at recommended planting dates. Not recommended on soybeans planted beyond the recommended planting date. Less dependent than other herbicides on environmental conditions.
fomesafen @ 0.375 lb/A or 0.235 to 0.29 lb/A	Cocklebur, morningglories, pigweed, hemp sesbania and others. See rating table.	Reflex 2L 1.5 pt/A. Add a nonionic surfactant. or Flexstar 1.88L 1 to 1.25 pt/A. See comments at right.	Between 10 and 14 days after weed emergence.	Weed control rapidly diminishes as weeds exceed 14 days after emergence or if environmental conditions are poor. Good residual control of cocklebur has been observed if rainfall occurs shortly after application. Do not plant crops other than wheat, corn, cotton, peanuts, soybeans or rice for 18 months after application. Flexstar is more effective on certain weed species such as velvetleaf, prickly sida, and cocklebur. Flexstar can also be “hotter” on soybeans but injury is usually temporary.
chlorimuron @ 0.008 lb/A	Cocklebur, hemp sesbania, pitted, entireleaf and ivyleaf morningglories, northern jointvetch, and sicklepod.	Classic 25DF 0.5 oz/A. Add a nonionic surfactant.	7 to 12 days after weed emergence.	Timing is critical. Control of sicklepod and entireleaf-ivyleaf morningglories may be erratic. Weeds must be actively growing. Avoid drift. Crop injury in forms of yellowing and leaf malformation may occur but should be quickly outgrown. Avoid drift to cotton or rice. Tank mixing with other herbicides may reduce activity.
imazethapyr @ 0.063 lb/A	Yellow nutsedge, pitted, entireleaf, and ivyleaf morningglories, spotted spurge, and smartweed. Suppression of annual grass, red rice and johnsongrass.	Pursuit 70 DG 1.45 oz/A. Add a nonionic surfactant.	Within first 10 days after weed emergence. Can tank mix with glyphosate for improved nutsedge control.	Timing is extremely critical. Weeds must be very small. Can give excellent residual control if rain occurs within 5 days. 40 month rotation to rice.
cloransulam-methyl @ 0.016 lb/A	Cocklebur, morningglory, ragweeds, sicklepod, and horseweed.	FirstRate 84 DG 0.3 oz/A. Add 1.2% crop oil concentrate.	10 to 14 days after weed emergence. Cotyledon to 1 true leaf sicklepod.	Timing is critical. Erratic on sicklepod. Has been a good tank mix partner with glyphosate in research.
flumetsulam @ 0.0062 lb/A	Prickly sida and other broadleaf weeds.	Python 80 WDG 0.125 oz/A. Add 0.5% crop oil concentrate.	10 to 14 days after weed emergence. (2- to 3-leaf sida).	Good tank mix with FirstRate in conventional soybeans. Can be tank mixed with glyphosate.

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SOYBEAN [cont.]	SEE HERBICIDE RESISTANCE STATEMENTS ON PAGES 11 AND 12.			
Postemergence – Overtop	Labeled Rates – See previous statement on tank mixes of grass and broadleaf herbicides.			
sethoxydim @ 0.2 to 0.3 lb/A	Annual grasses, johnsongrass, bermudagrass, and red rice.	<p>Poast Plus 1E 1 to 1.5 pt/A. Add 1 qt/A crop oil concentrate. Use 1 pt rate only on small annual grasses. Red rice may require repeat treatment of 1 pt/A following initial 1 1/2 pt treatment. For spot treatment use 1% solution of Poast Plus + 1% crop oil concentrate. Spray to wet but not to runoff. Rate may be reduced with band application. Use 2 pt/A broadcast rate for red rice. An alternative for rhizome johnsongrass is to apply 0.75 pt/A under conditions of active growth and repeat if regrowth occurs.</p>	<p>Best control before annual grasses exceed 14 days after emergence. johnsongrass - 15" to 20" bermudagrass - 1" ht or 6" runner length max red rice - 1st 7 days after emergence and before exceeds 4". Timing for annual grass and red rice very critical.</p>	<p>[Most effective grass herbicide on large annual grasses.] Apply only under conditions of active growth. Thorough coverage required. Do not cultivate 7 days before or after treatment. However, cultivation soon after 7 days will be helpful. Repeat treatments may be required if regrowth occurs. If a herbicide is needed for broadleaf weed control, apply Poast Plus first and follow with broadleaf herbicide at least 1 day later. If broadleaf weeds form canopy over small grass, apply broadleaf herbicide, and wait 7 days before applying Poast Plus.</p>
flumiclorac @ 0.027 lb/A	Volunteer cotton, velvetleaf, and other broadleaf weeds.	<p>Resource 0.86 EC 6 oz/A. Add 1% crop oil concentrate.</p>	<p>10 to 14 days after weed emergence. Do not apply within 60 days of harvest.</p>	<p>Effective tank-mix partner with glyphosate for controlling volunteer Roundup Ready cotton. Do not apply more than 16 oz/year.</p>
fluazifop @ 0.188 lb/A	Bermudagrass, johnsongrass, and annual grasses.	<p>Fusilade DX 2E 0.75 pt/A. Add 1% crop oil concentrate or 0.25% nonionic surfactant. Red rice may require repeat treatment. For spot treatment use 2 qt Fusilade/100 gal. Add 1 gal crop oil or 1 qt nonionic surfactant/100 gal. Rate may be reduced with band application. A more effective alternative for rhizome johnsongrass is to apply 0.375 pt/A under conditions of very active growth and repeat if regrowth occurs.</p>	<p>Before annual grasses exceed 14 days after emergence. johnsongrass - 12" to 18" bermudagrass - 3" ht or 6" to 12" runner maximum red rice - 1st 7 days after emergence and before exceeds 2" Timing for annual grass very critical.</p>	<p>Apply only under conditions of active growth. Less effective than Poast Plus on annual grasses, more effective on bermudagrass and johnsongrass. Repeat if necessary. Thorough coverage required. Do not tank mix. Do not cultivate 7 days before or after treatment. However, cultivation soon after 7 days will be helpful. See label for details. Repeat treatment may be needed if regrowth occurs. No-till johnsongrass control will require 2 applications. If a herbicide is needed for broadleaf weed control, apply Fusilade first and follow at least 1 day later. If broadleaf weeds form canopy over small grass, apply broadleaf herbicide, and wait 7 days before applying Fusilade. Do not apply after bloom stage of soybeans.</p>
fluazifop/fenoxaprop @ 0.166 + 0.25 lb/A	Annual grasses, johnsongrass, and bermudagrass.	<p>Fusion 2.66 EC 0.5 pt/A annual grasses 0.75 pt/A perennial grasses Add crop oil concentrate at 1% or 0.25% nonionic surfactant. See other comments on Fusilade above.</p>	<p>See above comments for Fusilade.</p>	<p>See above comments for Fusilade. Do not apply more than 24 fl oz/season.</p>

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
quizalofop p-ethyl @ 0.031 to 0.063 lb/A	Annual grasses, bermudagrass, johnsongrass, and red rice.	<p>Assure II 0.8E</p> <p>5 oz/A volunteer corn and milo, 8 oz/A most annual grasses, 9 oz/A red rice. Repeat if needed. 10 oz/A rhizome johnsongrass and bermudagrass</p> <p>Add crop oil concentrate at 1% for ground application or 0.5% for aerial application or nonionic surfactant at 0.25%. For rhizome johnsongrass, a more effective alternative is to apply 5 oz/A rate under conditions of active growth and repeat, if needed.</p>	<p>Before annual grasses exceed 14 days after emergence.</p> <p>johnsongrass - 10" to 24" red rice - 1st 14 days after emergence or 1 to 4 leaf.</p> <p>Timing for annual grass and red rice is very critical.</p>	<p>See above comments for Poast Plus and Fusilade on cultivation and tank mixing. Performance comparable to Poast Plus on annual grasses and Fusilade on rhizome johnsongrass. Better than either on small red rice.</p>
clethodim @ 0.094 to 0.25 lb/A	Annual grasses, bermudagrass, and johnsongrass.	<p>Select 2E</p> <p>6 to 8 oz/A most annual grasses 8 to 10 oz/A rhizome johnsongrass Repeat application with 6 to 8 oz/A for regrowth. 8 to 16 oz/A bermudagrass Repeat application with 6 to 8 oz/A for regrowth. Add 1% crop oil concentrate.</p>	<p>Before annual grasses exceed 14 days after emergence.</p> <p>Johnsongrass - 12" to 24" Bermudagrass - 3" height or 6" runner length maximum</p> <p>For red rice seedhead suppression apply at internode elongation stage of red rice.</p>	<p>See above comments for Poast Plus and Fusilade on cultivation and tank mixing. Performance comparable to Assure II for annual grasses and johnsongrass.</p>
clethodim @ 0.062 lb/A	Red rice seedhead suppression.	<p>Select 2E</p> <p>4 oz/A. Add 1% crop oil concentrate.</p>	<p>Apply when red rice joint movement exceeds 1 inch up to early booting.</p>	<p>Refer to label for total lb ai/A of Select that can be applied per growing season. This use has a 40 day preharvest interval. Apply under conditions of active growth.</p>

GENERAL STATEMENT ON TANK MIXING POSTEMERGENCE GRASS AND BROADLEAF HERBICIDES.

Results from tank mixing these herbicides has been variable among locations, years and persons conducting the studies. As a general statement, under optimum growing conditions and weed sizes, antagonism from Ultra Blazer, Reflex, and Cobra has been very slight or not at all. When tank mixing with Basagran increase the grass herbicide rate by 50%. Do not tank mix the grass herbicide with Scepter, Classic or Pursuit. Not all combinations are labeled. Refer to label. To eliminate any possibility of antagonism (loss of grass activity), apply grass herbicide first followed by the broadleaf herbicide 1 or more days later.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
SOYBEAN [cont.] Postemergence-Overtop	SEE HERBICIDE RESISTANCE STATEMENTS ON PAGE 11 AND 12.			
glyphosate @ 1 lb/A (two applications)	Emerged annual grasses, johnsongrass, red rice, cocklebur, sicklepod, pigweed morningglories, prickly sida, velvetleaf, eclipta, spurge, hemp sesbania, northern jointvetch, and smartweed. See rating table for other species.	Glyphosate (4 lb/gal formulations) See table on page 23 for specific glyphosate conversions and surfactants. Repeat application 2 pt/A each application. See instructions at right for timing of application.	Make first application when soybeans and weeds are 10 to 14 days after emergence and repeat in 7 to 14 days. On the timing of the second application, University of Arkansas research has shown that a 14 DAE application followed by a second application 7 days later is the standard to which other programs must be compared. However, there can be exceptions depending upon environmental conditions. If repeating the application for control of regrowth on tough weeds such as morningglory, nutsedge or hemp sesbania, repeat in 7 to 10 days after the first. If applying for a second flush of weeds, repeat when second flush weeds are 10 to 14 days old.	For use on Roundup Ready varieties only. Research to date has shown much more consistent results with split applications compared to single treatments. The second application improves control of the more tolerant weeds, such as morningglory, hemp sesbania and prickly sida, and provides control of second flush weeds. When the recommended timing of both applications is strictly adhered to in research, there has been little difference in control from 16 oz/A compared to 32 oz/A each. However if the timing is missed, increase the rates. Soil moisture is very critical for activity. If no soil applied herbicides are used and the soybeans do not form a dense canopy, a third application may be required. Cultivation is recommended if soybeans are planted in wide rows.
glyphosate @ 1 lb/A	Emerged annual grasses, red rice, johnsongrass, cocklebur, pigweeds, sicklepod, common ragweed, and spurge. Weak on entireleaf and pitted morningglory, prickly sida, and hemp sesbania. See rating table for other species.	Glyphosate (4 lb/gal formulations) See table on page 23 for specific glyphosate conversions and surfactants. 2.0 pt/A.	14 days after soybean emergence. For rhizome johnsongrass: 12" to 15" johnsongrass.	For use on Roundup Ready varieties only. This treatment is primarily intended for use where a soil applied herbicide has been used to control difficult species such as the morningglories, hemp sesbania (coffeebean) and prickly sida (teaweed). It is neither as effective on these species nor as broad spectrum as the split application recommended above. Repeat the treatment if reinfestation occurs before canopy closure. Cultivation is recommended if soybeans are planted in wide rows.
glyphosate + metolachlor @ 0.5 + 0.95 lb/A	Same as above plus residual grass and pigweed control.	Sequence 5.25 F 2 pt/A.	Cracking to third trifoliolate.	Same as above.
glyphosate + chlorimuron @ 1 lb/A and 0.005 lb/A	Same as above with increased control of hemp sesbania, morningglories, and yellow nutsedge.	Glyphosate (4 lb/gal formulations) + Classic 25 DF See table on page 23 for specific glyphosate conversions and surfactants. 2 pt/A + 0.33 oz/A. Add 0.25% non-ionic surfactant.	After first trifoliolate leaf expanded. Small weeds.	For use on Roundup Ready soybeans only. May note some loss of glyphosate activity on barnyardgrass unless higher glyphosate rate used.
metolachlor @ 0.9 lb/A	Control of grass and small-seeded broadleaf weeds.	Dual Magnum 7.62 EC 1 pt/A.	Up to third trifoliolate.	Residual pigweed and grass control. No post activity.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
glyphosate + cloransulam-methyl @ 1.0 + 0.008 to 0.016 lb/A	Same as glyphosate above but increased control of morning-glories, horseweed, and giant ragweed.	Glyphosate (4 lb/gal formulations) + FirstRate 84DG See table on page 23 for specific glyphosate conversions and surfactants. 2.0 pt/A + 0.15 to 0.3 oz/A FirstRate. Add 0.25% nonionic surfactant.	After first trifoliolate leaf expanded. Small weeds.	For use on Roundup Ready soybeans only. May note some loss of glyphosate activity on barnyard-grass unless higher glyphosate rate used.
glyphosate + fomesafen @ 1.0 + 0.09 lb/A	Same as glyphosate above but increased control of morning-glories and giant ragweed.	Glyphosate (4 lb/gal formulations) + Flexstar/Reflex See table on page 23 for specific glyphosate conversions and surfactants. 2.0 pt/A + 6 oz/A.	After first trifoliolate leaf expanded. Small weeds.	For use on Roundup Ready soybeans only. May note some loss of glyphosate activity on barnyard-grass unless higher glyphosate rate used.
Postemergence—Liberty Link Soybean				
glyphosate @ 0.4 lb. 0.4 lb/A	Grass and broadleaf weeds. Will control glyphosate-resistant weeds.	Ignite 280 SL 22 oz/A fb. 22 oz/A.	7 to 10 days after soybean emergence. 2- to 3-inch weeds. Followed by sequential application 10 to 14 days later. Do not apply past bloom.	Do not apply to non Liberty Link soybeans. Do not exceed 44 oz/A/year. The Liberty Link soybean system works well in combination with a well planned residual herbicide applied at burndown or at planting.
glyphosate + metolachlor @ 0.4 lb/A + 0.9 lb/A	Grass and broadleaf weeds. Will control glyphosate-resistant weeds. Adds residual control of grass and small-seeded broadleaves.	Ignite 280 SL + Dual Magnum 7.62 EC 22 oz/A + 1 pt/A.	2- to 3-inch weeds. Up to third trifoliolate.	Good option where no residual was used at burndown or at planting.
Postemergence—STS/RR Soybean				
glyphosate + chlorimuron/thifensulfuron @ 1.0 + 0.013 to 0.02 lb/A	Hemp sesbania, morningglory and yellow nutsedge + some residual.	Glyphosate (4 lb/gal formulations) + Synchrony XP See table on page 23 for specific glyphosate conversions and surfactants. 2.0 pt/A + 0.75 to 1.125 oz/A.	After first trifoliolate leaf.	Apply only to STS/RR soybean varieties.
Postemergence-directed				
2,4-DB @ 0.2 lb/A	Common cocklebur, morning-glory.	Butyrac, Butoxone 0.8 pt/A of 2 lb/gal 2,4-DB (Butyrac 200) or 1 pt/A of 1.75 lb/gal 2,4-DB.	Direct spray to soybeans at V4 (8-inch) stage and repeat 5 to 7 days later.	Apply directed spray treatment no higher than 1/3 up the soybean stem. Cover weeds thoroughly. ROOT ROT OR POOR GROWING CONDITIONS FOLLOWING THE APPLICATION MAY RESULT IN SOYBEAN INJURY. USE SAME PRECAUTIONS IN APPLYING 2,4-DB AS ARE USED IN APPLYING 2,4-D. AVOID DRIFT. DO NOT APPLY WITHIN 60 DAYS OF HARVEST.
NOTE—Many producers are reluctant to apply 2,4-DB with directed spray equipment used in cotton. This can be done successfully and many producers do so. The following procedure has been shown to be effective in cleaning 2,4-DB from a sprayer system.		<ol style="list-style-type: none"> (1) Replace any cracked or badly worn hoses. (2) Flush system completely with detergent water; drain. (3) Flush system with ammonia solution (1 quart ammonia per 25 gallons water); drain. (4) Fill system with above concentration ammonia solution; let stand overnight. (5) Drain system next day; flush with excess water. (6) Flush system the day before next use. (7) Clean outside of equipment and nozzle assemblies in above manner. 		

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
SOYBEAN [cont.]				
Preharvest				
paraquat @ 0.25 lb/A	Desiccation of green weed foliage.	Gramoxone Inteon 2 SL 1.0 pt/A. Add surfactant (p. 3).	When 1/2 of soybean leaves have dropped and the other 1/2 are yellow.	Do not pasture livestock within 15 days of treatment and remove 30 days before slaughter.
sodium chlorate @ 6 lb/A	Desiccation of green weed foliage.	Sodium Chlorate Several brands and trade names available. 2 gal/A of 3 lb/gal or 1 gal/A of 6 lb/gal.	When 1/2 of soybean leaves have dropped and the other 1/2 are yellow.	See label for details. More dependent on environmental conditions for activity than paraquat.
paraquat + sodium chlorate @ 0.25 to 3 lb/A	Desiccation of green weed foliage.	Gramoxone Inteon 2 SL 0.67 pt/A + sodium chlorate 3 lb ai/A (1 gal of 3 lb/gal or 0.5 gal of 6 lb/gal). Add a surfactant.	When 1/2 of soybean leaves have dropped and the other 1/2 are yellow.	See label for details. More dependent on environmental conditions for activity than paraquat.
glyphosate @ 1 lb/A	Desiccation of green weed foliage.	Glyphosate (4 lb/gal formulations) See table on page 23 for specific glyphosate conversions and surfactants. 2 pt/A.	After soybean pods have lost all green color.	See label for details. Much slower than Gramoxone.
carfentrazone @ 0.025 lb/A	Desiccation of morningglory foliage.	Aim 2EC 1.5 oz/A. Add 0.25% nonionic surfactant or 0.5% crop oil concentrate.	After soybean pods have lost all green color. 3-day pre-harvest interval.	Excellent coverage is required.
Spot Treatment				
2,4-DB	Common cocklebur.	Butyrac, Butoxone, etc. 1/2 gal in 100 gal water.	Spot treat individual weeds.	Spray terminal area and upper leaves of cocklebur. Spray in manner similar to boom spraying with 20 gpa nozzle output.
glyphosate	Johnsongrass, bermudagrass.	Glyphosate (4 lb/gal formulations) See table on page 23 for specific glyphosate conversions and surfactants. 1 to 2 gal per 100 gal water. Add surfactant.	Spot treat emerged weeds before pod set of soybeans.	More effective on large, actively growing weeds.
Postemergence johnsongrass emerged above canopy				
glyphosate wipe-on	Johnsongrass.	Glyphosate (4 lb/gal formulations) See table on page 23 for specific glyphosate conversions and surfactants. 33% solution in ropewick or other wipe-on applicator.	After there is sufficient height difference between crop and weed.	Use in conjunction with other good johnsongrass control practices.