

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 22, WEED RESPONSE RATINGS FOR BURNDOWN HERBICIDES.				
Preplant–Burndown				
paraquat @ 0.47 to 0.94 lb/A	Annual broadleaf and grass weeds (existing vegetation).	Paraquat (2 or 3 lb/gal formulations) 32 to 64 oz/A or 1.88 to 3 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) 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.
glufosinate @ 0.64 lb/A	Good option for glyphosate-resistant horseweed. Annual grasses and broadleaf weeds (existing vegetation).	Glufosinate (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 Liberty Link soybeans.
glyphosate or paraquat + metribuzin @ 1 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 metribuzin.	Glyphosate (4 lb/gal formulations) or paraquat (2 or 3 lb/gal formulations) + metribuzin 2 pt/A or 32 to 64 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.	Tank mix. Apply as above. Do not use on sensitive varieties listed on label. A list of metribuzin-tolerant varieties is available. Avoid use on high pH soils.
glyphosate or paraquat + chlorimuron/metribuzin @ 1 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 paraquat (2 or 3 lb/gal formulations) + Canopy 75DF 2 pt/A or 32 to 64 oz/A or 1.8 to 3 pt/A + 6 oz/A. Add 0.25% surfactant.	Prior to planting.	This is a reduced rate of Canopy. Higher rates have been shown to cause injury in minimum tillage culture. Tank mix with Dual or another grass herbicide, or follow this treatment with a postemergence grass herbicide for season-long grass control. A follow-up postemergence broadleaf treatment will also likely be needed.
glyphosate or paraquat + sulfentrazone/cloransulam @ 1 lb/A or 0.47 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.	Glyphosate (4 lb/gal formulations) or paraquat (2 or 3 lb/gal formulations) + Sonic 2 pt/A or 32 to 64 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. Good program for Liberty Link soybeans.

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glyphosate or paraquat + 2,4-D or dicamba + chlorimuron/tribenuron or flumioxazin @ 1 lb/A or 0.47 to 0.94 + 1 lb/A or 0.25 lb/A + 0.28 to 0.37 lb/A or 0.063 lb/A	Horseweed and other broadleaf weeds.	Glyphosate (4 lb/gal formulations) or paraquat (2 or 3 lb/gal formulations) + 2,4-D or dicamba + Canopy EX or Valor (or other Valor-containing premixes) 2 pt/A or 32 to 64 oz/A or 1.8 to 3 pt + 2 pt/A or 8 oz/A + 1.5 to 2 oz/A or 2 oz.	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.
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) + FirstShot SG 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 morning-glories.	Glyphosate (4 lb/gal formulations) + Aim 2 EC 2 pt/A + 1 oz/A.	At planting or prior to crop emergence.	Good spray coverage is essential.
sulfentrazone + metribuzin @ 0.225 + 0.2 lb/A	Broadleaf weeds.	Authority MTZ 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 47. For higher rates, use tolerant varieties. Use 16 oz/A on clay soils.
flumioxazin + thifensulfuron + tribenuron @ 0.063 + 0.003 + 0.008 lb ai/A	Residual horseweed control. No post horseweed activity.	Valor 51 WDG or Afforia 2.5 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.	Python 80 WDG 1 to 1.33 oz/A.	Prior to planting wheat-beans.	Contact and residual for horseweed. Good tank mix with Liberty. Good option where horseweed is present less than 14 days prior to planting.
flumioxazin + chlorimuron/thifensulfuron	Residual horseweed, pigweed and morningglory control.	Envive or Enlite WDG 3.5 or 2.8 oz/A.	Prior to soybean emergence.	Use 2.8 oz/A Enlite on high pH soils.
flumioxazin + chlorimuron + metribuzin @ 0.063 + 0.02 + 0.223 lb/A	Residual horseweed, pigweed and morningglory control.	Trivence 61.3 DG 8 oz/A.	Prior to soybean emergence.	Use 6 oz/A on high pH soils.
saflufenacil @ 0.022 to 0.044 lb/A	Horseweed rapid burndown – regrowth will occur.	Sharpen 2.85 SC 1 to 2 oz/A.	Prior to soybean emergence. 30 days up to prior to emergence.	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.	Verdict 5.57 EC 5 to 10 oz/A.	Prior to planting to preplant. 30 days up to prior to emergence.	

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SOYBEANS

Preplant–Burndown [cont.]

For additional information on burndown herbicides see page 22, WEED RESPONSE RATINGS FOR BURNDOWN HERBICIDES.

glyphosate + 2,4-D + rimsulfuron/thifensulfuron @ 1 + 1 + 0.25/0.25 lb/A	Henbit, grasses and broadleaves.	Glyphosate (4 lb/gal formulations) + 2,4-D + Leadoff 2 pt/A + 1.5 pt/A + 1.5 oz/A.	At least 30 days prior to planting.	For horseweed, substitute dicamba 8 oz/A for 2,4-D. See label for specific plant-back intervals to soybean.
halosulfuron + thifen-sulfuron @ 0.31 to 0.62 + 0.004 to 0.008 lb/A	Sedges and smartweed.	Permit Plus 75 WG 0.75 to 1.5 oz/A.	Up to 21 days prior to planting.	<*STS/BOLT varieties only!

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 seedling 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, paraquat, paraquat + 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 4 EC 1 to 2 pt/A.	From 6 weeks prior to planting to time of planting.
pendimethalin @ 0.5 to 1.5 lb/A	Annual grass weeds and johnsongrass from seed.	Prowl 3.3 EC 1.2 to 3.6 pt/A. or Prowl H₂O 3.8 CS 1 to 3.2 pt/A.	From 60 days prior to planting until immediately prior to planting.
S-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. or metolachlor 8 EC 1.25 to 1.9 pt/A	During final seedbed preparation (within 7 days of planting). Can be applied up to third trifoliolate.

APPLICATION RECOMMENDATIONS FOR ALL FOLLOWING PREPLANT TREATMENTS

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.

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.

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.

[continued]

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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 (teaweed), pigweed and smartweed. Poor control of cocklebur, entireleaf morning-glory and sicklepod.	Prowl or Treflan + Metribuzin 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.	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. 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.
metolachlor + metribuzin @ 0.95 to 1.6 lb/A + 0.375 to 0.5 lb/A	Annual grasses, johnsongrass from seed, annual broadleaf weeds including hemp sesbania (coffeebean), prickly sida (teaweed), pigweed and smartweed. Poor control of cocklebur, entireleaf morning-glory and sicklepod. Better on red rice, weak on seedling johnsongrass.	Dual Magnum + Metribuzin 0.8 to 1.33 pt/A or 0.5 to 0.67 lb/A DF. or Boundary 6.5 EC 1.2 to 2.25 pt/A.	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.
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 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 70 DF. 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 70 DF. 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 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 and pigweeds. Will also reduce competition from teaweed, hophornbeam copperleaf, ground-cherry and other small-seeded broadleaf weeds.	Outlook 6E 12 to 21 oz/A.	From 45 days prior to planting to third 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.
SOYBEANS SEE HERBICIDE RESISTANCE STATEMENTS ON PAGES 20 AND 21.				
Preemergence - Labeled Rates for Broadcast Application				
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 90 days PHI.	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.	Metribuzin 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.
acetochlor @ 0.75 to 1.3 lb/A	Annual grasses and small-seeded broadleaf weeds.	Warrant 3L 2 to 3 pt/A.	At planting.	Rainfall needed for activation. Most pre applications of Warrant should be applied in combination with a Valor or Authority product.
S-metolachlor + metribuzin @ 0.8 to 1.3 + 0.25 to 0.75 lb/A	Same as above with improved annual grass control. Improved control of pigweed and sicklepod compared to above. Good choice for pigweed.	Dual Magnum 7.62EC + Metribuzin 75 DF 0.8 to 1.33 pt/A Dual Magnum + 0.33 to 1 lb/A 75 DF. or Boundary 6.5 EC 1.2 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 sensitive varieties, exceed 4 qt/A/year or use with liquid fertilizer.
flumioxazin @ 0.063 lb/A	Residual broadleaf control. No post horseweed activity. Good option for pigweed.	Valor 51 WDG (or appropriate rate of Valor-containing premixes such as Enlite, Envive, Valor XLT, etc.) 2 oz/A.	Prior to soybean emergence. Apply immediately after planting.	Apply to clean ground or tank-mix for post weed control. Rainfall at emergence may result in injury, mainly cosmetic.

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dimethenamid + saflufenacil @ 0.156 to 0.31 + 0.022 to 0.044 lb/A	Annual grasses, pigweed, velvetleaf, morningglory and horseweed.	Verdict 5 oz/A.	Burndown to preemergence. Do not apply Verdict over the top of cracking or emerged soybeans. 5 oz/A of Verdict can be applied up to pre-emergence on medium and fine soils. 7.5 oz/A of Verdict can be applied up to 14 days before planting on medium to fine soils. 10 oz/A of Verdict can be applied up to 30 days before planting on medium to fine soils. Apply immediately after planting.	For best burndown results, tank mix with glyphosate or paraquat. An MSO and AMS must be used for burndown. On coarse soils with less than 2% organic matter, the plant back to soybeans is 30 days at 5 to 7.5 ounces and 44 at 10 ounces. See label for further recommendations and restrictions.
pyroxasulfone @ 0.72 to 2.98 oz/A or pyroxasulfone + fluthiacet-methyl @ 0.65 + 0.02 to 1.43 + 0.045 lb/A	Annual grasses and small-seeded broadleaves.	Zidua 85 W or Zidua 4.17 SC 1 to 3.5 oz/A or 1.75 to 5.75 oz/A or Anthem Maxx 4.2 SE 2.5 to 5.5 oz/A.	At planting.	Rainfall required for activation.
pyroxasulfone + flumioxazin @ 1.28 + 1 oz/A	Annual grasses and small-seeded broadleaves.	Fierce 76 WDG 3 oz/A.	At planting. Apply immediately after planting.	Rainfall required for activation. Do not apply if soybeans are cracking. Injury may be worse than expected with Valor alone. Cool, wet conditions may result in delayed recovery and growth.
saflufenacil @ 0.022 to 0.044 lb/A	Pigweed, velvetleaf, morning-glory and horseweed.	Sharpen 2.85 SC 1 to 2 oz/A. Add surfactant.	Burndown to preemergence. Do not apply Sharpen over the top of cracking or emerged soybeans. 1 oz/A of Sharpen can be applied up to preemergence on medium and fine soils. 1.5 oz/A of Sharpen can be applied up to 14 days before planting on medium to fine soils. 2 oz/A of Sharpen can be applied up to 30 days before planting on medium to fine soils.	For best burndown results, tank mix with glyphosate or paraquat. An MSO and AMS must be used for burndown. On coarse soils with less than 2% organic matter, the plant back to soybeans is 30 days at 1 to 1.5 ounces and 44 at 2 ounces. See label for further recommendations and restrictions.
sulfentrazone + S-metolachlor @ 0.106 + 1.75 to 0.94 + 1.57 lb/A	Grass and broadleaf weeds.	Authority Elite 7 EC or BroadAxe XC 19 to 32 oz/A.	At planting.	Rainfall required for activation. Rate depends on soil type.
sulfentrazone + metribuzin @ 0.225 + 0.2 lb/A	Broadleaf weeds.	Authority MTZ 12 to 16 oz/A.	No later than three days after planting.	Make sure seed furrow is closed. See soil texture chart on page 47. For higher rates, use tolerant varieties.
S-metolachlor + fomesafen @ 1.08 to 1.6 + 0.24 to 0.36 lb/A	Grass and broadleaf weeds.	Prefix 2 to 3 pt/A oz/A.	At planting.	Do not use PRE if you plan to use Flexstar POST for pigweed. Rainfall required for PRE activity.
sulfentrazone + pyroxasulfone @ 0.065 + 0.065 to 0.186 + 0.186 lb/A	Annual grasses and small-seeded broadleaves.	Authority Supreme 6 to 11.5 oz/A.	At planting.	Rainfall required for activation. Rate depends on soil type.

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SEE HERBICIDE RESISTANCE STATEMENTS ON PAGES 20 AND 21.				
Preemergence - Labeled Rates for Broadcast Application [cont.]				
chlorimuron + metribuzin @ 0.039 + 0.25 lb/A	Cocklebur, pitted, entireleaf and ivyleaf morningglory, spurge, and hemp sesbania. Sicklepod if followed by Classic postemergence. Add Dual or Zidua for grass control and an excellent pigweed option, suppression of nutsedge.	Canopy 75 DF 6 oz/A.	At planting.	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. 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 to 21 oz/A.	From at planting until soybeans have reached unifoliolate stage.	Rainfall needed for activation.
sulfentrazone + cloransulam @ 0.13 to 0.26 lb/A	Cocklebur, Palmer amaranth, morningglories, smartweed, and grass suppression.	Sonic or Authority First 3 to 6 oz/A.	PPI, preplant surface applied or pre-emergence (within 3 days of planting).	Rainfall required for activation.
flumioxazin + cloransulam methyl @ 0.063 + 0.021 lb/A	Small-seeded broadleaves.	Surveil 48 WDG 2.8 oz/A.	Preemergence.	Add Zidua or metribuzin for PPO-resistant pigweed.

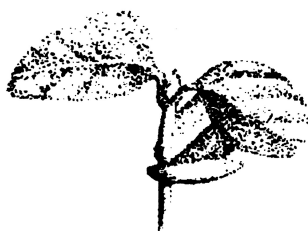
Postemergence-All Cultural Systems

Soybean Growth Stages for Applying Postemergence Herbicides



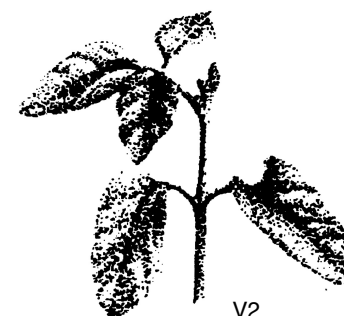
VC

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.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
SOYBEANS				
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, velvetleaf, 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) trifoliolate 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, croton, 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 croton. 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, palmeaf and entireleaf morningglories, Texas gourd and woolly croton.	<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. or Storm 4L 1.5 pt/A. Add a surfactant. Note: Storm rate of 1½ 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 is larger than 2", increase Basagran rate to 1½ pt/A. Use high Ultra Blazer rate for entireleaf and ivyleaf morningglory.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
SOYBEANS				
Postemergence – Overtop [cont.]				
Labeled Rates – See previous statement on tank mixes of grass and broadleaf herbicides.				
lactofen @ 0.2 lb/A	Balloonvine, cocklebur, pitted morningglory, prickly sida, spurge, hemp sesbania, woolly croton 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 @ 0.235 to 0.35 lb/A	Cocklebur, morningglories, pigweed, hemp sesbania, woolly croton and others. See rating table.	Flexstar 1.88L 1 to 1.5 pt/A. See comments at right.	Between 10 and 14 days after weed emergence. 2" to 3" pigweed.	Weed control rapidly diminishes as weeds exceed 14 days after emergence or if environmental conditions are poor. Good residual control of Palmer amaranth 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.
chlorimuron @ 0.008 lb/A	Cocklebur, hemp sesbania, pitted, entireleaf and ivyleaf morningglories, northern joint-vetch and sicklepod. Some suppression of yellow nutsedge.	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 non-Clearfield 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. Do not exceed 0.6 oz/A per year.	10 to 14 days after weed emergence. Cotyledon to 1 true leaf sicklepod. Up to R2 soybean.	Timing is critical. Erratic on sicklepod. Has been a good tank mix partner with glyphosate in research. Best post option for horseweed. PHI = 70 days.
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.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
fluthiacet @ 0.0035 to 0.006 lb/A	Morningglory, velvetleaf, smartweed and hophornbeam copperleaf.	Cadet 0.91 EC 0.5 to 0.9 oz/A.	2- to 4-inch weeds.	Add to glyphosate for improved control of velvetleaf and morningglories.
sethoxydim @ 0.2 to 0.3 lb/A	Annual grasses, johnsongrass, bermudagrass and red rice.	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 1½ pt treatment. For spot treatment, use 1% solution of Poast Plus + 1% crop oil concentrate. Spray to wet but not to runoff.	Best control before annual grasses exceed 14 days after emergence. Johnsongrass - 15" to 20" Bermudagrass - 1" ht or 6" runner length max Red rice - first 7 days after emergence and before exceeds 4". Timing for annual grass and red rice very critical.	[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.
flumiclorac @ 0.027 lb/A	Volunteer cotton, velvetleaf and other broadleaf weeds.	Resource 0.86 EC 6 oz/A. Add 1% crop oil concentrate.	10 to 14 days after weed emergence. Do not apply within 60 days of harvest.	Effective tank-mix partner with glyphosate for controlling volunteer Roundup Ready cotton. Do not apply more than 16 oz/year.
fluazifop @ 0.188 lb/A	Bermudagrass, johnsongrass and annual grasses.	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.	Before annual grasses exceed 14 days after emergence. Johnsongrass - 12" to 18" Bermudagrass - 3" height or 6" to 12" runner maximum Red rice - first 7 days after emergence and before exceeds 2" Timing for annual grass very critical.	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 two 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.
fluazifop/fenoxaprop @ 0.166 + 0.25 lb/A	Annual grasses, johnsongrass and bermudagrass.	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.	See above comments for Fusilade.	See above comments for Fusilade. Do not apply more than 24 fl oz/season.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
SOYBEANS				
Postemergence – Overtop [cont.]				
Labeled Rates – See previous statement on tank mixes of grass and broadleaf herbicides.				
quizalofop p-ethyl @ 0.031 to 0.063 lb/A	Annual grasses, bermudagrass, johnsongrass and red rice.	Assure II 0.88 EC 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. Add crop oil concentrate at 1% for ground application or 0.5% for aerial application or nonionic surfactant at 0.25%.	Before annual grasses exceed 14 days after emergence. Johnsongrass - 10" to 24" Red rice - first 14 days after emergence or 1 to 4 leaf Timing for annual grass and red rice is very critical.	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.
clethodim @ 0.25 lb/A	Annual grasses, bermudagrass and johnsongrass. Red rice seedhead suppression.	Select 2E or Select Max 0.97 EC 8 or 16 oz/A. Add 1% crop oil concentrate + AMS.	Before annual grasses exceed 14 days after emergence. Johnsongrass - 12" to 24" Bermudagrass - 3" height or 6" runner length maximum For red rice seedhead suppression, apply at internode elongation stage of red rice.	See above comments for Poast Plus and Fusilade on cultivation and tank mixing. Performance comparable to Assure II for annual grasses and johnsongrass.
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.				
glyphosate @ 1 lb/A (two applications)	Emerged annual grasses, johnsongrass, red rice, cocklebur, sicklepod, pigweed morningglories, prickly sida, velvetleaf, eclipta, spurge, hemp sesbania, northern joint-vetch and smartweed. See rating table for other species.	Glyphosate (4 lb/gal formulations) 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/Xtend 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.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
glyphosate @ 1 lb/A	Emerged annual grasses, red rice, johnsongrass, cocklebur, pigweeds, sicklepod, common ragweed and spurge. Weak on entireleaf and pitted morning-glory, prickly sida and hemp sesbania. See rating table for other species.	Glyphosate (4 lb/gal formulations) 2.0 pt/A.	14 days after soybean emergence. For rhizome johnsongrass: 12" to 15" johnsongrass.	For use on Roundup Ready/Xtend 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 + S-metolachlor @ 0.7 to 0.84 + 0.94 to 1.12 lb/A	Same as above plus residual grass and pigweed control.	Sequence 5.25 F 2.5 to 3.5 pt/A.	Preplant through post.	Same as above. 90-day PHI.
glyphosate + chlorimuron @ 1 + 0.005 lb/A	Same as above with increased control of hemp sesbania, morning-glories and yellow nutsedge.	Glyphosate (4 lb/gal formulations) + Classic 25 DF 2 pt/A + 0.33 oz/A.	After first trifoliolate leaf expanded. Small weeds.	For use on Roundup Ready/Xtend soybeans only.
S-metolachlor @ 0.95 to 1.6 lb/A	Control of grass and small-seeded broadleaf weeds.	Dual Magnum 7.62 EC 1 to 1.67 pt/A.	Up to 90 days PHI.	Residual pigweed and grass control. No post activity.
acetochlor @ 1.13 lb/A	Control of grass and small-seeded broadleaf weeds.	Warrant 3L 3 pt/A.	Up to R2.	Do not exceed 4 qt/A/year. Do not use liquid fertilizer.
pyroxasulfone @ 0.053 to 0.12 lb/A	Residual control of small-seeded grass and broadleaf weeds.	Zidua 0.85 WG or Anthem Maxx 4.3 SC 1 to 2 or 1.65 to 3.25 oz/A.	Up to third trifoliolate (V4).	Residual pigweed and grass control. No post activity.
S-metolachlor + fomesafen @ 1.09 to 1.26 + 0.24 to 0.28 lb/A	Early post broadleaf with residual grass and broadleaf control. Apply to 2- to 3-inch pigweed.	Prefix 2 to 2.33 pt/A.	Early post for best results up to 90 days PHI.	Temporary injury will occur. 90-day PHI.
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 2 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/Xtend soybeans only.
glyphosate + fomesafen or S-metolachlor + fomesafen @ 1.0 + 0.235 lb/A or 1.09 + 0.24 lb/A	Same as glyphosate above but increased control of morning-glories, giant ragweed and Palmer pigweed.	Glyphosate (4 lb/gal formulations) + Flexstar or Prefix 2 pt/A + 16 oz/A or 2 pt/A.	After first trifoliolate leaf expanded. Small weeds.	For use on Roundup Ready/Xtend soybeans only.
glyphosate + fomesafen @ 1.17 + 0.28 lb/A.	Same as glyphosate above but increased control of morningglories, giant ragweed and Palmer pigweed (use full rate of Flexstar).	Flexstar GT 3.5 3.5 pt/A.	After first trifoliolate leaf expanded. Small weeds.	For use on Roundup Ready/Xtend soybeans only.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
Postemergence–Liberty Link Soybean				
University data has shown that a solid residual program applied after planting, followed by a timely application of glufosinate, is the best program approach to weed control in Liberty Link soybeans. This is especially true for glyphosate-resistant pigweed programs. In wider row spacing, a residual at planting followed by a post residual is different.				
glufosinate @ 0.53 lb/A	Grass and broadleaf weeds. Will control glyphosate-resistant weeds.	Glufosinate 280 SL 29 oz/A fb. 29 oz/A. (A single application of 36 oz/A is labeled.) Do not exceed 65 oz/year.	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. The Liberty Link soybean system works best in combination with a well planned residual herbicide applied at burndown or at planting.
glufosinate + S-metolachlor @ 0.53 lb/A + 0.95 to 1.2 lb/A	Grass and broadleaf weeds. Will control glyphosate-resistant weeds. Adds residual control of grass and small-seeded broadleaves.	Glufosinate 280 SL + Dual Magnum 7.62 EC 29 oz/A + 1 to 1.33 pt/A fb 29 oz/A.	2- to 3-inch weeds. Follow with a second Liberty application as needed. Do not apply past bloom.	Good option where no residual was used at burndown or at planting. Expect some leaf burn.
glufosinate + pyroxasulfone @ 0.53 + 0.053 to 0.12 lb/A	Adds residual control of small-seeded grass and broadleaf weeds.	Glufosinate 280 SL + Zidua 0.85 WG or Anthem Maxx 29 oz/A + 1 to 2 or 1.65 to 3.25 oz/A.	Up to third trifoliate.	Good option where no residual was used at burndown or at planting. Expect some leaf burn.
glufosinate + acetochlor @ 0.53 + 1.13 lb/A	Adds residual control of small-seeded grass and broadleaf weeds.	Glufosinate 280 SL + Warrant 3L 29 oz/A + 3 pt/A.	Do not apply past bloom.	Good option where no residual was used at burndown or at planting. Expect some leaf burn.
glufosinate + S-metolachlor @ + fomesafen @ 0.53 + 1.09 lb/A + 0.24 lb/A	Grass and broadleaf weeds. Will control glyphosate-resistant weeds. Adds residual control of grass and small-seeded broadleaves.	Glufosinate 280 SL + Prefix 5.3 EC or Cheetah Max 29 oz/A + 2 pt/A fb 29 oz/A.	2- to 3-inch weeds. Follow with a second Liberty application as needed.	Good option where no residual was used at burndown or at planting. Expect some leaf burn.
glufosinate + clethodim @ 0.53 + 0.25 lb/A	Enhanced grass control in LL soybean.	Glufosinate 280 SL + Select Max 0.97 EC 29 + 16 oz/A.	14 to 21 days after grass emergence.	Do not add other tank-mix partners.
Postemergence–STS or BOLT Soybean				
glyphosate + chlorimuron/thifensulfuron @ 1.0 + 0.013 to 0.02 lb/A	Hemp sesbania, morningglory and yellow nutsedge plus some residual.	Glyphosate (4 lb/gal formulations) + Synchrony XP 2.0 pt/A + 0.75 to 1.125 oz/A.	After first trifoliate leaf.	Apply only to STS or BOLT/RR soybean varieties. Use Sequence or add Dual for residual grass component. The addition of Dual or Zidua may increase crop response from Permit Plus on STS soybean. Good choice where potential ALS herbicide drift from rice may occur. There are STS Liberty Link varieties available also.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
glyphosate + halosulfuron + thifensulfuron @ 1.0 + 0.031 + 0.004 or 0.031 to 0.063 lb/A	Same as above with enhanced nutsedge and smartweed control.	Glyphosate (4 lb/gal formulations) + Permit Plus or Halo Max 75 2.0 pt/A + 0.75 oz/A or 0.66 to 1.33 oz/A.	From 21 days prior to planting up to 88 days prior to harvest. Brief chlorosis may occur on some STS varieties.	Apply only to STS or BOLT/RR soybean varieties. Use Sequence or add Dual for residual grass component. The addition of Dual or Zidua may increase crop response from Permit Plus on STS soybean. Good choice where potential ALS herbicide drift from rice may occur. There are STS Liberty Link varieties available also.
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 one-third up the soybean stem. Cover weeds thoroughly. ROOT ROT OR POOR GROWING CONDITIONS FOLLOWING THE APPLICATION MAY RESULT IN SOY-BEAN 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. (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.			
Preharvest				
paraquat @ 0.25 lb/A	Desiccation of green weed foliage and soybean defoliation.	Paraquat (2 or 3 lb/gal formulations) Add a surfactant. 2 lb/gal = 16 oz. 3 lb/gal = 10.67 oz.	When ½ of soybean leaves have dropped and the other ½ are yellow. Apply 15 days prior to harvest or 3 days prior to harvest for seed production.	For indeterminate soybeans, apply when 65% of pods are brown and remaining pods are turning 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 and soybean defoliation.	Sodium Chlorate Several brands and trade names available. 2 gal/A of 3 lb/gal or 1 gal/A of 6 lb/gal.	When ½ of soybean leaves have dropped and the other ½ are yellow.	See label for details. More dependent on environmental conditions for activity than paraquat.
paraquat + sodium chlorate @ 0.167 + 3 lb/A	Desiccation of green weed foliage and soybean defoliation.	Paraquat (2 or 3 lb/gal formulations) 16 or 10.67 oz/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 ½ of soybean leaves have dropped and the other ½ are yellow. Apply 15 days prior to harvest. 3 days prior to harvest for seed production.	For indeterminate soybeans, apply when 65% of pods are brown and remaining pods are turning 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) 2 pt/A.	After soybean pods have lost all green color.	See label for details. Much slower than paraquat.

Crop, Situation, and Active Chemical Per Broadcast Acre	Weeds Controlled	Formulated Material Per Broadcast Acre	Time of Application	Method of Application and Precautions
SOYBEANS				
Preharvest [cont.]				
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. Add glyphosate or paraquat for best results.
saflufenacil @ 0.044 lb/A	Desiccation of green foliage.	Sharpen 2.0 oz/A.	At least 3 days prior to harvest.	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	Bermudagrass.	Glyphosate (4 lb/gal formulations) 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.
clethodim	Johnsongrass.	Select 2 EC or Select Max 0.97 EC 8 or 16 oz/A + 1% COC/A.	Spot treat emerged weeds before pod set of soybeans.	If field treated with glyphosate previously, this is the preferred spot treatment.
Postemergence johnsongrass emerged above canopy				
glyphosate wipe-on	Johnsongrass.	Glyphosate (4 lb/gal formulations) 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.