

Table 4-14. Comments on postemergence herbicides for soybeans.

The following herbicides can be added with postemergence herbicides to improve residual weed control. They will not provide control of emerged weeds, so they should be applied to weed-free soil surface or with products that will provide postemergence control of weeds present at time of application. Consult labels when tank-mixing with any herbicide. Some pesticides or adjuvants used in combination with the following herbicides could increase the chance of soybean injury.

Residual Herbicides Labeled for Postemergence Use

Trade Name	Common Name	Site of Action Number	Application (Timing on Soybean Growth Stage)	Product/A	lb ai/A
Anthem Maxx 4.3SC	pyroxasulfone +	15	preemergence up to third trifoliolate	2–5.7 fl oz	0.033–0.186
	fluthiacet	14			0.002–0.006
<ul style="list-style-type: none"> Do not exceed a seasonal total of 3.4 fl oz on coarse soils or 5.7 fl oz on all other soils. Contains fluthiacet (Cadet); see Cadet for more information. Make applications at least 60 days before harvest. 					
Dual Magnum 7.62EC	<i>S</i> -metolachlor	15	postemergence	1–1.33 pt	0.95–1.27
<ul style="list-style-type: none"> Application timing is not specified on label. Do not exceed a seasonal total of 2.6 pt/A. Make applications at least 90 days before harvest. A prepackaged mixture with glyphosate is available as Sequence; application timing is cracking through third leaf stage. A prepackaged mixture with fomesafen (Reflex) is available as Prefix; label mentions early postemergence application timing. Ratio of fomesafen (Reflex) is too low for consistent postemergence control of emerged weeds. 					
Outlook 6EC	dimethenamid-P	15	cracking stage to 5th trifoliolate	12–21 fl oz	0.56–0.98
<ul style="list-style-type: none"> Rates vary with soil type; refer to label. Limited residual control when applied to coarse-textured soils. Do not exceed a seasonal total of 24 fl oz. 					
Warrant 3CS	acetochlor	15	emergence to R2	1.25–2 qt	0.94–1.5
<ul style="list-style-type: none"> Rates vary with soil type and organic matter; refer to label. Do not exceed 4 quarts per acre per year. Label recommends application at V2 to V3 stage. A prepackaged mixture with fomesafen (Reflex) is available as Warrant Ultra; ratio of fomesafen (Reflex) is too low for consistent postemergence control of emerged weeds. 					
Zidua 85WDG	pyroxasulfone	15	emergence to 3rd trifoliolate	1–3.5 oz wt	0.053–0.186
Zidua SC 4.17SC				1.75–5.75 fl oz	0.057–0.187
<ul style="list-style-type: none"> Rates vary with soil type; refer to label. Can be applied from emergence to the third trifoliolate stage. Do not exceed 2.1 oz wt and 3.5 fl oz per acre per season on coarse-textured soils, 3 oz wt and 5 fl oz on medium-textured soils, and 3.5 oz wt and 5.75 fl oz on fine-textured soils of Zidua 85WDG and Zidua SC 4.17SC, respectively. 					

Postemergence Herbicides

The following herbicides are commonly applied postemergence to control emerged weeds. Most of these herbicides require an adjuvant to improve control; refer to proper tables to assist with adjuvant selection.

Trade Name	Common Name	Site of Action Number	Application	Product/A	Active Ingredient (ai) lb/A
Assure II 0.88E/Targa	quizalofop	1	postemergence	5–10 fl oz	0.03–0.06
<ul style="list-style-type: none"> Do not use crop oils manufactured from vegetable oils. When tank-mixing with a broadleaf herbicide, always read both labels to make sure the right surfactant and concentration are used. Apply when grasses are within the recommended growth stage specified on the label. Perennial grasses may require a second application for complete control. Apply to actively growing grasses in 10 to 40 gallons of water per acre using flat fan or hollow cone nozzles. To avoid antagonism (reduced grass control) from broadleaf herbicides, spray 2–3 days before the broadleaf herbicide or wait 7 days after the broadleaf herbicide application. Assure II/Targa must be applied at least 80 days before harvest. 					
Basagran 4S	bentazon	6	postemergence	1.5–2 pt	0.75–1
<ul style="list-style-type: none"> Application should be made while weeds are small and actively growing and before weeds reach maximum size listed on product label. Basagran will not control pigweed species. 					

<ul style="list-style-type: none"> • Add crop oil concentrate or nitrogen solution to spray mixture as directed. • Apply in a minimum of 20 gal of water/A and at minimum pressure of 40 psi. • Tank-mixing with Reflex or Ultra Blazer improves pigweed control. • Apply at least 30 days prior to harvest as forage. • <i>Water quality advisory.</i> 					
Butyrac 200 2L	2,4-DB	4	postemergence	0.7–0.9 pt	0.175–0.22
<ul style="list-style-type: none"> • 2,4-DB is not recommended for use by itself due to limited control and potential for crop injury. Rather, 2 oz of 2,4-DB can improve morningglory, cocklebur, and jimsonweed control when tank-mixed with other postemergence herbicides. • Potential for crop injury is increased under hot, dry growing conditions. • If more than 2 oz/A rate is used, apply as directed spray into rows when soybeans are 8 to 12 inches high and cocklebur, morningglory, jimsonweed, and pigweed have not exceeded a height of 3 inches. • Top of weed seedling must be sprayed. Use precision directed spray application equipment. Apply with sprayer nozzles mounted on skids or gauge wheels. Do not spray more than one-third of the base of soybean as severe injury may occur. • Apply at least 60 days prior to harvest (forage or grain). 					
Cadet 0.91EC	fluthiacet	14	emergence to full flowering	0.4–0.9 fl oz	0.0028–0.006
<ul style="list-style-type: none"> • Apply 0.4 to 0.6 fl oz/A with glyphosate (RR soybean) or glufosinate (LL soybean), or 0.6 to 0.9 fl oz when applied alone. • Include the necessary spray additives (NIS or COC plus AMS or nitrogen solution). Applications should be made when susceptible broadleaf weeds, are small. Cadet is very effective on velvetleaf, but other broadleaf weeds must be small (less than 3 inches) to achieve control/suppression. Tank-mixing with other herbicides will usually be necessary to provide broad-spectrum weed control. • Cadet does not provide residual weed control. • Cadet can cause bronzing or browning of the soybean leaves. • Marvel is prepackaged mixture with Reflex and Cadet, but rate of Reflex is below what is typically recommended and needed for effective weed control. • Apply at least 60 days prior to grain harvest. 					
Classic 25DF	chlorimuron	2	after 1st trifoliolate	0.5–0.75 oz wt	0.008–0.012
<ul style="list-style-type: none"> • Application should be made while weeds are small and actively growing. • Always read the label to determine the proper adjuvants. • Observe labeled crop rotation restrictions for all products containing Classic (see Table 1-5). • If the soil pH is greater than 7.0, at Classic rates of 0.5 oz/A or greater, do not plant corn for at least 9 months after application. Use of STS and Bolt varieties will reduce the risk of injury. • Classic plus Harmony SG is available as a prepackaged mixture called Synchrony XP. Synchrony XP can be applied to non-STS soybean varieties at 0.375 oz/A use rate or to STS and Bolt varieties at rates up to 1.125 oz/A. • There is widespread resistance to Classic and other group 2 herbicides in the region. • Apply at least 60 days prior to harvesting for grain. 					
Cobra 2E	lactofen	14	postemergence	6–12.5 fl oz	0.09–0.19
<ul style="list-style-type: none"> • Soybeans should have 1 to 2 trifoliolate leaves. • Applications should be made while weeds are small and actively growing. • Use surfactant or crop oil concentrate as directed. • Cobra often causes foliar injury to soybeans. • Use 6–8 fl oz/A for control of 4- to 6-leaf common ragweed or pigweed. • Apply at least 45 days prior to harvesting for grain. 					
Engenia	dicamba BAPMA salt	4	emergence through R1	12.8 fl oz	0.5 (ae)
XtendiMax/FeXapan	dicamba DGA salt with VaporGrip			22 fl oz	0.5 (ae)
<ul style="list-style-type: none"> • Apply over-the-top to dicamba-tolerant (Xtend) soybean varieties only. • These are the only brands of dicamba registered for this use. • Applications should be made while weeds are small (4 inches) and actively growing. • The risk of injuring sensitive plants via off-target movement is much less when these products are used early burndown or prior to planting full-season soybean in the spring compared to postemergence applications or applications prior to planting double-crop soybean during the summer months. • Spray droplet size plays an important role in minimizing off-target movement. Nozzles that produce extremely coarse or ultra-coarse droplets while limiting the amount of driftable fine droplets are necessary to limit spray drift. Consult labels for approved nozzles. • Dicamba can be difficult to completely remove from spray equipment and residue is capable of injuring sensitive plants. Follow label instructions concerning sprayer cleanout. 					

<ul style="list-style-type: none"> • Cotton, grapes, lima bean, pea, pepper, snap bean, soybean, sweet potato, tobacco, tomato, watermelon, and many other crops are very sensitive to dicamba. Follow application instructions on label to avoid injuring neighboring plants. • See Engeniatankmix.com, xtendimaxapplicationrequirements.com, and www.fexapanapplicationrequirements.dupont.com for approved adjuvants, drift reduction agents, and other tank mixes. • See federal and supplemental labels for use in dicamba-tolerant soybean for details on drift management, including recommended nozzles and pressures, wind speed, boom height, temperature inversions, buffers, susceptible plants, and spray equipment cleanout. • Can be applied multiple times postemergence; do not exceed a total of 25.6 fl oz of Engenia or 44 fl oz of XtendiMax/FeXapan postemergence; do not exceed a combined total for the season of 51.2 fl oz of Engenia or 88 fl oz of XtendiMax/FeXapan. • <i>Water quality advisory.</i> 					
Extreme	glyphosate +	9	postemergence	1.5 qt	0.56 (ae)
	imazethapyr	2			0.06
<ul style="list-style-type: none"> • Prepackaged mixture of glyphosate plus Pursuit. Amount of glyphosate in Extreme is lower compared to amount when applied; additional glyphosate maybe needed for some species. • Pursuit is a Group 2 herbicide, and there is widespread resistance in the region to this family of herbicides. • Apply at least 85 days prior to harvesting for grain. • Refer to comments in sections for individual herbicides for more information. 					
FirstRate 84WDG	cloransulam	2	1st trifoliolate to 50% flowering	0.3–0.6 oz	0.016–0.031
<ul style="list-style-type: none"> • Tank-mix to broaden weed spectrum. • FirstRate may be applied up to 0.6 oz for heavy weed infestations or added residual control. • FirstRate water-dispersible packets are not soluble in liquid fertilizer solutions; premixing in water is required. UAN will improve velvetleaf control. • Two applications of 0.3 oz/A are allowed. Do not exceed 1.05 oz/A per season. • FirstRate is a Group 2 herbicide, and there is widespread resistance in the region to this family of herbicides. • Apply at least 65 days prior to harvesting for grain and 14 days prior to harvesting for forage. • <i>Water quality advisory.</i> 					
Flexstar GT 3.5	glyphosate +	9	postemergence	3–4.5 pt	1–1.47 (ae)
	fomesafen	14			0.24–0.35
<ul style="list-style-type: none"> • Prepackaged mixture of glyphosate plus Reflex; refer to comments in those sections for more information. 					
Fusilade DX 2E	fluazifop	1	postemergence	6–12 fl oz	0.09–0.18
Fusion 2.56EC	fluazifop +	1	postemergence	6–12 fl oz	0.094–0.188
	fenoxaprop	1			0.031–0.062
<ul style="list-style-type: none"> • See label for rate and size of weed to be controlled. • Most annual grasses should be treated when 2–4 inches in height. Perennial grasses may require second application to achieve complete control. • To avoid antagonism (reduced grass control) from broadleaf herbicides, spray 2–3 days before the broadleaf herbicide or wait 7 days after the broadleaf herbicide application. • Apply before soybeans begin to bloom. 					
Glyphosate	glyphosate	9	postemergence	varies by formulation and acid equivalent ¹	0.75–1.5 (ae)
<ul style="list-style-type: none"> • Apply over-the-top to glyphosate-resistant (Roundup Ready) soybean varieties only. • There are many formulations available; be sure to read the label for rates, adjuvants, etc. • Treat in-crop from soybean emergence through full flowering of soybeans. • If additional weed emergence is anticipated, consider including an herbicide that provides residual control. • Perennial weeds may require higher rates and repeat applications. Best control may be obtained when perennial weeds are treated in the bud to bloom growth stage. • Include ammonium sulfate in the tank to improve control of weeds and be sure to read the label to determine if additional adjuvants are required or recommended. • Observe maximum rates per application and per crop. • If glyphosate-resistant weeds are present or Palmer amaranth is in the vicinity, include a second, highly effective herbicide to control these species. • Avoid drift to adjacent crops or other desirable vegetation. 					
Harmony SG 50DF	thifensulfu ron	2	at least 1st trifoliolate	0.125 oz wt (1/8 oz)	0.004

<ul style="list-style-type: none"> • Harmony SG is a very concentrated formulation. Be sure to use proper application rate, otherwise soybean injury may occur. • Various formulations of Harmony 50SG and generic 75DF thifensulfuron are available; be sure proper rate is applied. • Apply when weeds are actively growing and before they reach maximum size listed on product label. • Any crop may be planted within 45 days following Harmony SG application. • For adequate velvetleaf control, add 1 gallon of liquid nitrogen solution per acre. • Use of STS or Bolt varieties will reduce the risk of injury. • Harmony SG plus Classic is available as a prepackaged mixture called Synchrony XP. • Harmony SG plus Sandea/Permit is available as a prepackaged mixture called Permit Plus. • Synchrony XP can be applied to non-STS soybean varieties at the 0.375 oz/A use rate or to STS or Bolt varieties at rates up to 1.125 oz/A. • Harmony SG, generic thifensulfuron products, Permit Plus, and Synchrony XP labels state that the first trifoliolate leaf of the soybean is fully expanded before the application is made. • Apply Harmony 7 days before harvesting forage green; 30 days before harvesting dried forage; and 60 days before harvesting for grain. • Harmony is a Group 2 herbicide, and there is widespread resistance in the region to this family of herbicides. 					
Liberty 280 2.34L	glufosinate	10	emergence to bloom stage	32–43 fl oz	0.59–0.79
<ul style="list-style-type: none"> • Apply over-the-top to glufosinate-resistant soybean varieties (e.g., LibertyLink) only. • For best results, plant in narrow rows and apply up to 43 fl oz Liberty about 4 weeks after residual herbicides were applied, when weeds are 2–4 inches tall, and before soybean canopy begins to interfere with spray coverage. • If using sequential applications of Liberty, apply 10–14 days apart and do not apply more than 87 fl oz per acre per season and before soybean bloom stage. • A residual soil-applied product or a sequential POST application may be necessary depending on weed species and severity. • Liberty provides no soil residual activity. • Tank-mixing Liberty with other herbicides including residual products (e.g., Outlook, Warrant) is allowed. Local university research has not observed increased injury with most herbicide combinations; some stunting and leaf burn was observed when Liberty was tank-mixed with Prefix. • Liberty 280 must be applied with ammonium sulfate at the rate of 3 lb/A. • Use of surfactants or crop oils may increase risk of crop response. • Uniform, thorough spray coverage is necessary to achieve consistent weed control; do not use nozzles that produce large droplets; use at least 15 gal/A (20 gal/A if dense vegetation is present). • Applications should be made between two hours after sunrise and one hour before sunset to avoid the possibility of reduced weed control. • Liberty 280 has been observed to antagonize grass control with postemergence grass herbicides. • Apply 45 days before harvesting for grain or forage. 					
Permit Plus 74WDG	halosulfuron +	2	1st trifoliolate to R2 stage	0.75 oz wt	0.031
	thifensulfuron	2			0.004
<ul style="list-style-type: none"> • Permit Plus is labeled only for STS or Bolt varieties. • Permit Plus can be applied from V1 stage up until 88 days before harvest. • Permit Plus is excellent for yellow nutsedge control. • Can be tank-mixed with glyphosate. • See Harmony entry for more information. • Permit Plus contains two Group 2 herbicides, and there is widespread resistance in the region to this family of herbicides. 					
Poast 1.5E	sethoxydim	1	postemergence	0.75–1.5 pt	0.14–0.28
<ul style="list-style-type: none"> • Application should be made when grasses are actively growing and within the recommended stage of growth on the Poast label. Perennial grasses may require a second application to achieve complete control. • Nitrogen fertilizer additives may improve control of some species. • To avoid antagonism (reduced grass control) from broadleaf herbicides, spray 2–3 days before the broadleaf herbicide or wait 7 days after the broadleaf herbicide application. • Poast must be applied at least 75 days before harvest. 					
Pursuit 2S	imazethapyr	2	before bloom	4 fl oz	0.063
<ul style="list-style-type: none"> • A prepackaged mixture with glyphosate is available as Extreme. The amount of glyphosate is lower than the rate commonly used when glyphosate is applied alone. • Only one application of Pursuit can be made per soybean growing season. • Extreme can only be applied to soybean varieties designated Roundup Ready. • Observe rotation restrictions for products containing imazethapyr (see Table 1-5). 					

<ul style="list-style-type: none"> Pursuit is a Group 2 herbicide, and there is widespread resistance in the region to this family of herbicides. Apply at least 85 days prior to grain harvest. <i>Water quality advisory.</i> 					
Raptor 1S	imazamox	2	before bloom	4–5 fl oz	0.031–0.039
<ul style="list-style-type: none"> Occasionally, internode shortening and/or temporary yellowing of soybeans may occur, especially if under environmental stress. When adequate soil moisture is present, Raptor will provide residual activity of susceptible germinating weeds. Apply when weeds are actively growing and before they reach the maximum size listed on product label. Add a non-ionic surfactant and fertilizer solution as directed. Less persistent than Pursuit, but follow labeled crop rotation restrictions (see Table 1-5). Raptor is a Group 2 herbicide, and there is widespread resistance in the region to this family of herbicides. Apply at least 85 days prior to grain harvest. 					
Reflex 2E or	fomesafen	14	postemergence	1–1.6 pt	0.25–0.375
Flexstar 1.88E					0.235–0.376
<ul style="list-style-type: none"> Do not apply Reflex or Flexstar or other fomesafen containing products more than once every 2 years. Follow labeled rotation restrictions (see Table 1-4). Flexstar can cause more soybean injury than Reflex. Tank-mixing Reflex with glyphosate formulated as a potassium salt can cause compatibility issues; glyphosate formulations as isopropyl or diammonium salts do not have this issue. Flexstar GT contains glyphosate plus fomesafen and should be applied only to glyphosate-resistant soybeans. Marvel is prepackaged mixture with Reflex and Cadet, but rate of Reflex is below what is typically recommended and needed for effective weed control. Prefix is a premix of Reflex and Dual and must be applied at least 90 days before grain harvest. Warrant Ultra is a premix of Reflex with Warrant and must be applied at least 45 days before grain harvest. Both have low ratio of Reflex that is below what is typically recommended for effective control. Apply Reflex prior to soybean bloom. Do not apply within 14 days of an application of saflufenacil (Kixor or Sharpen). <i>Water quality advisory.</i> 					
Resource 0.86EC	flumiclorac	14	postemergence	4–12 fl oz	0.027–0.08
<ul style="list-style-type: none"> Apply to actively growing weeds at growth stages recommended on the label. Tank-mixing broadens the weed control spectrum; use higher rates for larger velvetleaf. Resource has activity against several other weeds when they are in the 2- to 3-leaf stage, including cocklebur, lambsquarters, common ragweed, jimsonweed, pigweed species, and prickly sida, but control declines on larger weeds. Apply in a minimum of 10 gal of water/A and a minimum pressure of 30 psi. In most cases, use a crop oil concentrate or other additive according to product label. Apply at least 60 days prior to grain harvest. 					
Select 2E or	clethodim	1	postemergence	6–16 fl oz	0.094–0.25
Select Max 0.97EC				6–32 fl oz	0.05–0.25
<ul style="list-style-type: none"> Clethodim is also available as Select Max, which contains a specialized adjuvant system, thus non-ionic surfactant plus ammonium sulfate (AMS) is the standard adjuvant recommendation. Also, Select Max does not require additional adjuvants (other than AMS) when tank-mixed with a “loaded” glyphosate product and provides greater flexibility in additive selection when tank-mixed with other products. Select 2E should always include crop oil concentrate at 1 qt/A. Add ammonium sulfate at 2.5 lb/A to improve quackgrass control. To avoid antagonism (reduced grass control) from broadleaf herbicides, spray 2–3 days before the broadleaf herbicide or wait 7 days after the broadleaf herbicide application. Apply at least 60 days prior to grain harvest. 					
Storm	bentazon +	6	postemergence	1–1.5 pt	0.33–0.5
	aciflourfen	14			0.167–0.25
<ul style="list-style-type: none"> Prepackaged mixture of Basagran plus Ultra Blazer; refer to comments in those sections for more information. Apply at least 50 days prior to grain harvest. 					
Synchrony XP 28.4XP	chlorimuron +	2	fully expanded	0.375–1.125 oz	0.005–0.015
	thifensulfuron	2	1st trifoliolate		0.0016–0.0045
<ul style="list-style-type: none"> Synchrony XP may be applied postemergence to STS or Bolt soybeans at a use rate of 0.375–1.125 oz/A and to non-STS soybeans at 0.375 oz/A. Synchrony XP may be tank-mixed to improve weed control spectrum. Carefully observe crop rotation intervals, and note that extended crop rotation intervals apply when Synchrony XP is applied following preemergence applications of other sulfonyleurea or imidazolinone herbicides (see Table 1-5). Synchrony contains two Group 2 herbicides, and there is widespread resistance in the region to this family of herbicides. 					

<ul style="list-style-type: none"> Apply at least 60 days before harvest. 					
Ultra Blazer 2S	acifluorfen	14	at least 1st trifoliolate	0.5–1.5 pt	0.125–0.38
<ul style="list-style-type: none"> Apply in a minimum of 20 gal of water/A and at a minimum pressure of 40 psi. Do not apply when weeds or crop are under stress; applications made under these conditions generally will be less satisfactory than those made under optimum conditions. Tank-mixing with Basagran improves velvetleaf and common lambsquarters control. Apply at least 50 days prior to grain harvest. <i>Water quality advisory.</i> 					

¹ Various glyphosate formulations exist; see Table 1-2 (glyphosate formulations) for more information.