

2018 Weed Control Manual for Tennessee

Field Crops • Forage Crops • Pastures • Farm Ponds • Harvest Aids

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2018 Weed Control Manual for Tennessee

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INTRODUCTION

This manual contains the 2018 University of Tennessee weed control recommendations for corn, grain sorghum, cotton, soybeans, burley and dark tobacco, wheat, forage crops, and farm ponds. These recommendations are based on results of research and demonstrations conducted by UT AgResearch and UT Extension. Decisions regarding recommendations are made by the University of Tennessee Weed Control Committee and are based on three years of data at various locations in the state.

Disclaimer

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others that may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product. The author(s), the University of Tennessee Institute of Agriculture and University of Tennessee Extension assume no liability resulting from the use of these recommendations.

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EXPECTED WEED AND COVER CROP RESPONSE TO BURNDOWN HERBICIDES*

These are ratings for burndown materials alone, and also for some of the more widely used combinations in corn, cotton or soybeans. See appropriate crop section in this manual for the specific labeled and recommended burndown and residual herbicides.

	Glyphosate	Liberty 280 SL	Gramoxone SL	2,4-D	Dicamba	Glyphosate + Leadoff + 2,4-D	Glyphosate + Dicamba	Liberty 280 SL + 2,4-D	Liberty 280 SL + Dicamba	Gramoxone SL + 2,4-D	Gramoxone SL + Dicamba	Liberty 280 SL + diuron	Liberty 280 SL + Caparol	Gramoxone SL + diuron	Gramoxone SL + Caparol	Gramoxone SL + Cotoran	Gramoxone SL + Metribuzin	Gramoxone SL + atrazine	Glyphosate + atrazine
Herbicide Site of Action*	9	10	22	4	4	9+4+2	9+4	10+4	10+4	22+4	22+4	10+7	10+5	22+7	22+5	22+7	22+5	22+5	9+5
Annual bluegrass	5	3	8	0	0	7	5	3	3	7	7	5	5	9	9	9	9	9	9
Carolina Geranium	1	8	8	7	8	9	9	9	9	9	8	9	9	9	9	9	9	9	9
Chickweed	5	9	9	7	9	9	8	9	9	9	8	9	9	9	9	9	9	9	9
Common lambsquarters	8	6	6	6	8	9	9	7	9	8	8	8	8	9	8	9	9	9	9
Curly dock	4	7	5	2	7	9	8	8	9	6	8	8	8	5	5	5	8	9	9
Cutleaf Eveningprimrose	4	7	5	7	8	8	8	8	9	7	8	8	8	8	8	8	8	9	9
Dandelion	3	6	2	8	8	9	9	8	9	9	8	8	8	8	8	8	8	8	8
Deadnettle/Henbit	5	7	7	4	5	7	8	8	8	8	9	8	8	8	8	8	8	9	9
Horseweed (mare's-tail)	2	8 ^a	5	6	8	8	9	8	9	8	8	8	8	8	8	7	8	9	9
Ryegrass*	7	3	6	0	0	5	5	3	3	6	6	5	5	7	7	7	7	7	8
Smartweed	7	7	2	6	8	9	9	7	8	8	8	8	8	8	8	8	8	9	9
Vetch	5	8	7	8	9	9	9	9	9	8	8	9	9	7	7	7	8	9	9
Wheat	9	5	5	0	5	9	9	5	5	5	5	5	5	7	5	7	5	8	9
Plant back restrictions (days)																			
Corn	0	0	0	7	0	7	0	7	0	7	0	12M	NR	NR	NR	NR	NR	NR	NR
Cotton	0	0	0	30	15	30	15	30	21	30	15	0	0	0	0	0	12M	8M	8M
Soybean	0	0	0	30	14	30	14	30	21	30	14	12M	12M	NR	12M	12M	0	12M	12M

* Herbicide mode of action see page 81 for details.

^a Poor performance is possible with this product if day time temperatures are less than 60F.

GLYPHOSATE-RESISTANT HORSEWEED MANAGEMENT SYSTEMS

Rate/Acre Broadcast		Remarks	
Herbicide (site of action)	Active Ingredient Formulated Product		
CORN			
Burndown			
Glufosinate (10)	1.67-2.09 lbs.	Liberty 280 SL 22 - 29 ozs.	Thorough spray coverage is essential for optimal performance. Ground application requires a minimum of 15 gallons of water/acre. Dense weed canopies require 20 to 40 gallons per acre. See label for further application instructions. May be tank-mixed with atrazine and 2,4-D. Poor performance is possible with this product if day time temperatures are less than 75F.
Glyphosate + Dicamba or 2,4-D (9 + 4)	0.75 - 1.5 lbs.(a.e.) + 0.25 lb. or 0.5 - 1.0 lb.	Roundup PowerMax + Clarity + 2,4-D 22 - 43 ozs.+ 0.5 pt. or 1.0-2.0 pt. of a 4 lb. /gal. formulation	Apply these products before, during or after corn planting (prior to corn emergence) for control of existing horseweed. Note: Make sure seed furrow is closed to avoid injury to corn seedlings. With 2,4-D apply 7-14 days prior to, or 3-5 days after corn planting, but prior to crop emergence. Do not use 2,4-D on light, sandy soils.
Saflufenacil (14)	0.0445 lbs.	Sharpen SG 2 ozs.	MSO 1.0% Use on smaller weeds. Do not tank-mix with Valor. Thorough coverage is needed for efficient control.
Preemergence			
Paraquat (u)+Atrazine(u) (22 + 5)	0.47-0.75 lbs + 1.6 - 2.0 lbs.	Gramoxone SL +Atrazine (u) 30 - 48 ozs + 1.6 - 2.0 qts. 4L	Atrazine provides extended preemergence control of late emerging horseweed. Atrazine is a restricted use herbicide.
Postemergence			
Dicamba or dicamba + diflufenzopyr (14)	0.25 lb. or 0.175 - 0.26 lb.	Clarity or Distinct 0.5 pt. or 4 -6 ozs.	The 0.5 pt. rate may be applied overtop corn up to 36" tall. For Distinct apply overtop to corn between 4" and 24" tall. For corn 4 to 10" tall, use 6 oz./A. For corn 10 to 24" tall, use 4 oz./A. Always add nonionic surfactant at 1 qt./100 gal. of spray mix. Do not use crop oil. Temporary corn injury (twisting, leaning) may be noted when applications are made during periods of rapid growth, or crop stress. Do not apply under conditions which favor drift onto nearby, sensitive crops. Do not tank-mix with Lorsban, Ambush or Warrior insecticides. Check labels of tank-mix partners for restrictions on corn size at application.
SOYBEAN			
Preplant Burndown			
Glufosinate (10)	1.67-2.09 lbs.	Liberty 280 SL 22 - 29 ozs.	Thorough spray coverage is essential for optimal performance. Ground application requires a minimum of 15 gallons of water/acre. Dense weed canopies require 20 to 40 gallons per acre. See label for further application instructions and tank-mix partners. Poor performance is possible with this product if day time temperatures are less than 75F.
Glyphosate + Dicamba (9 + 4)	0.75 - 1.5 lbs. (a.e) + 0.25 lb.	Roundup PowerMax 22 - 43 ozs. + 8 ozs.	Apply as a tank-mix for control of winter weeds. A minimum of 1 inch of rainfall/irrigation and a 14 day waiting period after rainfall/irrigation is required before planting soybeans to avoid crop injury.

Herbicide (site of action)	Rate/Acre Broadcast		Remarks
	Active Ingredient	Formulated Product	
Glyphosate+2,4-D (9 + 4)	0.75 - 1.5 lbs.(a.e.) + 0.5 - 1.0 lb.	Roundup PowerMax+2,4-D 22 - 43 ozs.+ 1.0-2.0 pt. of a 4 lb. /gal. formulation	Apply 2,4-D before soybean planting for control of existing horseweed. With 2,4-D apply 30 days prior to soybean planting. Do not use 2,4-D on light, sandy soils. Higher 2,4-D rates (1.5 to 2 pts/A) have provided consistently better glyphosate-resistant horseweed control.
Saflufenacil (14)	0.02 lbs.	Sharpen SG 1 ozs.	30 days plant back restriction to soybean on coarse soils with O.M. less than 2. Tank-mix with glyphosate or Gramoxone SL for best burndown results. 1.0% MSO. Do not tank-mix with Valor.
Flumioxazin (14)	0.5 - 1 ozs.	Valor 51% WDG 1 - 2 ozs.	Apply as a fall treatment after November 15 in combination with labeled burndown herbicides to provide residual horseweed control the following year. 2 ozs. is recommended for fall application. Valor alone will not control emerged horseweed. Caution should be used with fall applied treatments on highly erodible land.
IN WHEAT PRIOR TO DOUBLECROP Thifensulfuron + Dicamba (2+4)	0.023-0.028 lbs. + 0.09 lbs.	Harmony GT 0.5-0.6 ozs. + 3 ozs.	Apply in February. This herbicide treatment plus competition from a healthy wheat crop has reduced horseweed populations in subsequent double-crop soybeans. When wheat is combined, the tops of the horseweed plants are cut off, leaving a small amount of leaf surface for foliar herbicides to kill prior to double-crop planting.
Preemergence			
Sulfentrazone + Chloransulam (14 +2)	0.282 – 0.35 lbs	Authority/Sonic 6.45 – 8 oz/A	Requires 18 month recrop back to cotton.
Sulfentrazone + Chorimuron (14 + 2)	0.219 – 0.263 lb 0.284 – 0.328 lb 0.306 – 0.35 lb	Authority XL 5-6 ozs coarse 6.5-.7.5 ozs Medium 7-8 ozs fine	Requires 12 month recrop back to cotton.
S-metolachlor + metribuzin (15 +5)	1.31 lbs + 0.31 lbs/ ai/A	Boundary 2 pts.	Requires rainfall to be activated and provide good small seeded broadleaf weed control.
Paraquat (u) + Metribuzin 75DF (22+5)	0.75 lb. + 0.19 lb.	Gramoxone SL (u) 48 ozs. + 4 ozs.	Apply to 6 inch or smaller horseweed and other weeds in a minimum of 20 gallons of water per acre as a preemergence burndown. Include a non-ionic surfactant at 2 pts. per 100 gals. of mix, or crop oil concentrate at 1 gal. per 100 gals. of spray mix. Weeds larger than 6 inches may not be controlled.
Fomesafen + S- metolachlor) (14 + 5)	sandy loam: 1.33 lb. silt loam: 1.33-1.66 lb. silty clay loam: 1.82- 1.99 lb.	Prefix 2 pts. 2-2.5 pts. 2.75-3 pts.	Requires rainfall to be activated and provide good small seeded broadleaf weed control.
Flumioxazin (14)	0.5 - 1 ozs.	Valor 51% WDG 1 - 2 ozs.	Do not apply more than 3 ozs/acre per growing season. Apply as a preplant or preemergence treatment to control spring germinating horseweed. Valor will not control existing horseweed.
Postemergence			
Cloransulam-methyl (2)	0.016 – 0.032 lb.	FirstRate 84 DG 0.3 – 0.6 ozs.	Postemergence in Roundup Ready soybeans: For tank-mix with Roundup WeatherMax, PowerMax, UltraMax or Glyphomax Plus, DO NOT add additional surfactant or crop oil. For tank-mix with other glyphosate products, add non-ionic surfactant at 2 pts. per 100 gals. of mix. Label recommends including ammonium sulfate at 8.5 to 17 lb/100 gals.

(u)- Restricted Use Herbicide

COTTON			
Preplant Burndown			
	Rate/Acre Broadcast		Remarks
Herbicide(site of action)	Active Ingredient	Formulated Product	
Postemergence			
Trifloxysulfuron (2)	0.0038 – 0.0069 lbs.	Envoke 0.10 – 0.15 oz	Use after November 15 and treated fields MUST be planted back to cotton. Some plant residue should be on the field to reduce soil erosion on highly erodible soils.
Flumioxazin (14)	0.5 - 1 ozs.	Valor 51% WDG 1 - 2 ozs.	Use after November 15 in combination with labeled burndown herbicides to control emerged weeds and provide residual control the following year. A minimum of 30 days must pass, and 1 inch of rainfall/irrigation must occur, between Valor application and planting of cotton. Valor will not control existing horseweed.
Preemergence			
Glufosinate (10)	1.67-2.09 lbs.	Liberty 280 SL 22 - 29 ozs.	Thorough spray coverage is essential for optimal performance. Ground application requires a minimum of 15 gallons of water/acre. See label for further application instructions and tank-mix partners. Performance is enhanced by adding Caparol/Direx/Cotoran or delaying application until temperatures are greater than 75F.
paraquat (u) + fluometuron or diuron or prometryn (22 + 7or5)	0.50 – 0.75 lb.	Gramoxone SL (u) 32 – 48 ozs + Cotoran 32 ozs or Direx 16 ozs or Caparol 32 ozs	Effective in suppressing glyphosate-resistant horseweed during the interval within 21 days before planting of cotton. Terminal regrowth can occur. Avoid drift to sensitive plants. See Preemergence Herbicides for Conventional or No-Till Cotton section of this manual for rates of Cotoran, Direx, or Caparol based on soil texture.
Postemergence			
Glufosinate Liberty Tolerant Cotton Only (10)	0.4 – 0.53 lbs.	Liberty 280 SL 22 – 29 ozs.	Apply over the top to Liberty tolerant cotton varieties. No more than 40 ozs./A may be applied per application and no more than 80 ozs./A may be applied per cotton growing season. Thorough spray coverage is essential for optimal performance. Ground application requires a minimum of 15 gallons of water/acre. Dense weed and crop canopies require 20 to 40 gallons per acre. See label for further application instructions.
Trifloxysulfuron (2)	0.0046 – 0.0069 lbs.	Envoke 0.12 – 0.15 ozs.	Apply over the top of 5 leaf or greater cotton for suppression.
Post-directed			
Fluometuron + MSMA (7 + 17)	1.0 lb.+ 2.0 lbs.	Cotoran 32 ozs + MSMA 42 ozs.	May be applied to cotton at least 6 inches tall until bloom. Precise application is necessary to avoid cotton injury.
Diuron + MSMA (7 + 17)	0.8 -1.2 lbs.+ 2.0 lbs.	Direx + MSMA 1.6 - 2.4 pts. + 42 ozs.	May be applied after cotton reaches 12 inches tall until bloom. May injure fall-seeded cover crops.
Prometryn + trifloxysulfuron (5+2)	0.8 – 1.2 lbs	Suprend 1.0 – 1.5 lbs	May be applied to cotton at least 6 inches tall until bloom. Precise application is necessary to avoid cotton injury.

(u)- *Restricted Use Herbicide*

GLYPHOSATE-RESISTANT PALMER AMARANTH MANAGEMENT SYSTEMS

Control of Palmer amaranth will center on PRE applied herbicides. This is particularly the case for Palmer amaranth that is PPO and glyphosate resistant. Liberty will be the only POST option for Palmer amaranth that is PPO and glyphosate resistant.

	Rate/Acre Broadcast		Remarks
Herbicide(site of action)	Active Ingredient	Formulated Product	
SOYBEAN			
Preplant Incorporated			
Trifluralin (3)	0.5 lbs. 0.75 lbs. 1.0 lbs.	Treflan 4 EC 1 pt. 1.5 pt 2 pt.	Must be incorporated.
Preemergence			
Sulfentrazone+S-metolachlor (14+15)	1.36-1.75 lbs.	Authority Elite 25-32 oz	Soil applied herbicide. Do not apply more than 38.7 oz /ac per crop year
Sulfentrazone + Chloransulam (14+2)	0.282 – 0.35 lbs	Authority First – Sonic 6.45 – 8 oz/A	
Sulfentrazone + Metribuzin (14+5)	0.096 + 0.16 lbs ai/A	Authority MTZ 12 – 18 ozs	Applied PRE provides good horseweed and pigweed control. Plant back restriction to cotton is 12 months.
S-metolachlor + metribuzin (15+5)	1.31 lbs + 0.31 lbs ai/A	Boundary 2 pts.	
Flumioxazin + Chlorimuron + Thifensulfuron (2+ 2+14)	0.077 lbs	Envive 3 ozs.	Apply PRE or with burndown program for residual control of glyphosate-resistant Palmer pigweed, horseweed, morningglories and other broadleaf weeds. Crop oil is preferred adjuvant with burndown program at 1 gallon/100 gallons for better performance.
Pyroxasulfone + Flumioxazin (15+14)	0.14 lbs.	Fierce 3 ozs.	Provides excellent control of small seeded broadleaf weeds. Expect soybean injury, in some cases sever, under wet and/or cool environments.
Fomesafen + S-metolachlor (14+15)	1.33 lb.	Prefix 2 pts.	
Postemergence			
Lactofen (14)	0.2 lb.	Cobra 2E 12.5 ozs.	Will not be effective on PPO-resistant Palmer amaranth. Add 2 pts. nonionic surfactant, or 2 to 4 pts. crop oil concentrate, per 100 gals. spray. Will control Palmer up to 3” tall. Soybean foliar burn which is usually of short duration.
Glufosinate 280 SL For glufosinate-tolerant varieties (10)	0.4 – 0.53 lbs.	Liberty 280 SL 22 - 29 ozs.	Thorough spray coverage is essential for optimal performance. Will control Palmer up to 4 to 6” tall. A follow up application of Liberty 7 to 10 days after the first application may be needed to control Palmer that is over 5” tall. Ground application requires a minimum of 15 gallons of water/acre. Dense weed canopies require 20 to 40 gallons per acre. See label for further application instructions and tank-mix partners.
Fomesafen (14)	0.24-0.35 lb.	Flexstar 1.88SC 1.0-1.5 pts.	Will not be effective on PPO-resistant Palmer amaranth. Always add 1 gal. MSO per 100 gals. of spray mix.
Acifluorfen (14)	0.13-0.38 lb.	Ultra Blazer 2L 0.5-1.5 pts.	See label regarding the use of surfactant. Will not be effective on PPO-resistant Palmer amaranth.

	Rate/Acre Broadcast		Remarks
Herbicide(site of action)	Active Ingredient	Formulated Product	
Cotton			
Preplant Incorporated			
Trifluralin (3)	0.5 lbs. 0.75 lbs. 1.0 lbs.	Trifluralin 1 pt. 1.5 pt 2 pt.	Must be incorporated.
Preemergence			
Prometryn 4L (5)	0.75-1.0 lbs. ^a 2.4 lbs. ^{bc}	Caparol 1.5-2.0 pts. ^a 4.8 pts. ^{bc}	For improved pigweed control, particularly in no-till, reduced rates of Caparol may be applied in combination with Cotoran preemergence. See label for precautions. Rates in pints/A are based on soil texture:
Fluometuron (7)	1.0 lb. ^a	Cotoran 4L or 85DF 2 pts. 4L, or 1.2 lbs. 85DF, or 1.25 lbs. 80DF ^a	
	1.5 lbs. ^b	3 pts. 4L, or 1.8 lbs. 85DF, or 1.88 lbs. 80DF ^b	
	2.0 lbs. ^c	4 pts. 4L, or 2.4 lbs. 85DF, or 2.5 lbs. 80DF ^c	
Postemergence			
Glufosinate 280 SL (10)	0.53 lbs.	Liberty 280 29 ozs.	Thorough spray coverage is essential for optimal performance. Ground application requires a minimum of 15 gallons of water/acre. Dense weed canopies require 20 to 40 gallons per acre. See label for further application instructions and tank-mix partners.
Hooded Sprayer Applications			
Paraquat (22)	0.31-0.62 lb.	Gramoxone SL (u) 20-40 ozs.	State label for Tennessee. Apply in cotton at least 6" tall using hooded sprayers only. Avoid crop contact. Always add nonionic surfactant (1 qt./100gals.of spray mix). Operate hoods as close to soil surface as possible. Gramoxone SL is labeled for tank-mix applications with residual herbicides (Cotoran, Caparol, Direx). See labels for rates and precautions.
Glufosinate 280 SL (10)	0.4-0.53 lbs.	Liberty 280 SL 22 - 29 ozs.	Thorough spray coverage is essential for optimal performance. Ground application requires a minimum of 15 gallons of water/acre. Avoid contact of plant foliage.

SOYBEAN WEED CONTROL

BURNDOWN HERBICIDES FOR NO-TILL SOYBEANS

Herbicide(site of action)	Rate/Acre Broadcast		Remarks
	Active Ingredient	Formulated Product	
Halauxifen-methyl (4)		Elevore 1 oz	
Paraquat (u) (22)	0.5 -0.75 lbs.	Gramoxone SL(u) 32 - 48 ozs.	Apply in a minimum of 10 gallons of water per acre. Weeds taller than 6" may not be controlled adequately. As density of stubble, crop residue or weeds increases, water volume should be increased to ensure good coverage. Add a nonionic surfactant (at least 75% active) at 1 pt. per 100 gallons of mix. For aerial applications, apply at 5-10 gallons of water per acre.
Rimsulfuron + Thifensulfuron-methyl (2 +2)	0.0313 – 0.0564 lbs.	Leadoff 1.5 - 2.7 ozs.	Applied 30 days or more preplant to cotton or soybeans for winter vegetation management. Crop injury may occur if there is a prolonged period of cold weather and/or in conjunction with wet soils. Apply with 1% COC or 0.5% MSO. NIS applied at 0.25%.
Glufosinate (10)	0.4 – 0.53 lbs. Up to 0.66 lbs	Liberty 280 SL 22 – 29 ozs. Up to 36 ozs.	Thorough spray coverage is essential for optimal performance. Will control Palmer up to 4 to 6" tall. A follow up application of Ignite 7 to 10 days after the first application may be needed to control regrowth of Palmer that is over 5" tall. Ground application requires a minimum of 15 gallons of water/acre. Dense weed canopies require 20 to 40 gallons per acre. See label for further application instructions and tank-mix partners. If 36 oz is used at burndown, only 29 oz can be used POST.
Clethodim	0.128-0.256	Select 2EC 8 – 16 oz	Always use a crop oil concentrate at listed rate (but not less than 1 pt/A)
Saflufenacil (14)	0.02 lbs.	Sharpen SG 1 ozs.	30 day plant back restriction to soybean on coarse soils with O.M. less than 2. Tank-mix with glyphosate or Gramoxone SL for best burndown results. 1.0% MSO. Do not tank-mix with Valor.
Glyphosate (9)	1.1 lbs. (a.e.)	Roundup PowerMax 4.5ae 32 ozs.	Apply in 10-20 gallons of water per acre. More effective than Gramoxone SL on weeds such as smartweed and fall panicum. Apply lower rates to control many annual weeds less than 6" tall. Increase the rate on larger annual weeds and perennials. (See label).
Saflufenacil + dimethenmid (14 + 15)	0.22 – 0.435 lb.	Verdict 5 – 10 oz	Minimum preplant interval of 30 days is required for coarse (sand, loamy sand, and sandy loam) soils with ≤ 2.0% organic matter. Tank-mix with glyphosate or Gramoxone SL for best burndown results. 1.0% MSO. Do not tank-mix with Valor. Verdict contains product that will give some residual control of grasses.

(u)--Restricted Use Herbicide.

* NOTE: Several brands of glyphosate have become available in recent years. Products differ in terms of concentration, rates, addition of surfactant and registration on Roundup Ready crops. Always read the label before application.

PREPLANT INCORPORATED HERBICIDES FOR SOYBEANS

Herbicide(site of action)	Rate/Acre Broadcast		Remarks
	Active Ingredient	Formulated Product	
Trifluralin (3)	sandy loam: 0.5 lb. silt loam: 0.75 lb. silty clay loam: 1.0 lb.	Treflan 1 pt. 1.5 pts. 2.0 pts.	For best results, incorporate immediately after application. Trifluralin is labeled for incorporation* into the top 2-3" of soil. The 2X or double the normal rate of trifluralin can be applied for increased suppression of rhizome johnsongrass. However, this must be followed by 2 or more timely cultivations. Use a recommended preemergence herbicide for broadleaf control.

*For proper incorporation, a disk should be set to cut about twice as deep as placement is desired. A second mixing with shallow disking or field cultivator usually improves weed control. See label for incorporation instructions with other implements.

PREPLANT/PREEMERGENCE HERBICIDES FOR SOYBEANS

Herbicide(site of action)	Rate/Acre Broadcast		Remarks
	Active Ingredient	Formulated Product	
Sulfentrazone+Chorimuron (14,2)	0.084 – 0.117 lb ai.	Anthem Maxx 2.5 – 3.5 oz	Soybean seed must be planted a minimum of 1.0 inches deep.
Sulfentrazone+S-metolachlor (14,15)	1.36 – 1.75 lb	Authority Elite 25-32 oz	Do not apply more than 38.7 oz fl oz per acre of Authority Elite per crop year.
Sulfentrazone + Cloransulam-methyl (14 + 2)	0.282 – 0.35 lbs	Authority First/Sonic 6.45 – 8 oz	The 4.5 oz/A rate is the typical use rate and allows for a 12 month plant back to cotton.
Sulfentrazone + Metribuzin (14 + 5)	0.188 + 0.28 lbs.	Authority MTZ 8– 12 ozs	Applied PRE provides good horseweed and pigweed control.
Sulfentrazone + Chlorimuron (14 + 2)	0.219 – 0.263 lb 0.284 – 0.328 lb 0.306 – 0.35 lb	Authority XL 5-6 ozs coarse 6.5-.7.5 ozs Medium 7-8 ozs fine	Do not follow Authority XL with a post-emergence application of another chlorimuron containing herbicide the same cropping season.
S-metolachlor + metribuzin (15 + 5)	1.31 lbs + 0.31 lbs	Boundary 2 pts.	Applied PRE provides good horseweed and pigweed control.
Chlorimuron + Metribuzin (2 + 5)	0.188 - 0.28 lbs.	Canopy 75DG 4 – 6 ozs.	May be applied at planting or up to 45 days prior to planting.
Chlorimuron + tribenuron (2+ 2)	0.028-0.037 lbs.	Canopy EX 1.5-2.0 ozs.	May be applied up to 7 days before planting.
Clomazone (13)	0.5-1.25 lbs.	Command 3ME 1.3-3.3 pts.	Apply as a surface application. Use where velvetleaf, spurred anoda, prickly sida or annual grasses (signalgrass, etc.) are serious problems and where application buffer zones can be observed. See label. Note: Many trees, shrubs and vegetables are sensitive to drift of this herbicide. See label for drift reduction instructions. Do not plant wheat within 12 months of application.

Herbicide(site of action)	Rate/Acre Broadcast		Remarks
	Active Ingredient	Formulated Product	
S-metolachlor (15)	sandy loam: 0.96-1.27 lbs. silt loam: 1.27-1.59 lbs. silty clay loam: 1.27-1.59 lbs.	Dual Magnum 1-1.33 pts. 1.33-1.67 pts. 1.33-1.67 pts.	Good grass control. Use higher rate to control seedling johnsongrass. Use in tank-mix with a broadleaf herbicide for broad spectrum weed control. Available package mixture with glyphosate as Sequence.
Flumioxazin + Chlorimuron + Thifensulfuron (2+ 2+14)	0.077 lbs	Envive 3 ozs.	Apply PRE or with burndown program for residual control of glyphosate-resistant Palmer pigweed, horseweed, morningglories and other broadleaf weeds. Crop oil is preferred adjuvant with burndown program at 1 gallon/100 gallons for better performance.
Pyroxasulfone + Flumioxazin (15+14)	0.14 lbs.	Fierce 3 ozs.	Provides excellent control of small seeded broadleaf weeds. Expect soybean injury, in some cases sever, under wet and/or cool environments.
S-metolachlor+Metribuzin+Fomesafen (15,5,14)	1.7 – 1.95 lbs ai	Intimidator 2.8 – 3.2 pts	Do not exceed the maximum application rate of 4.48 pts of Intimidator per acre per use season.
Metribuzin 75DF (5)	sandy loam: do not use silt loam: 0.38-0.5 lb. silty clay loam: 0.5-0.6 lb.	----- 0.5-0.67 lb. 0.67-0.83 lb.	Apply either preplant incorporated 1-2" deep or as a surface application after planting. Tank mix with a grass herbicide for broad spectrum control. Has controlled volunteer Roundup Ready cotton in research and demonstration trials in soybeans. For control of emerged cotton, Metribuzin can be tank mixed with Gramoxone.
Fomesafen + S-metolachlor (14 + 15)	sandy loam: 1.33 lb. silt loam: 1.33-1.66 lb. silty clay loam: 1.82-1.99 lb.	Prefix 2 pts. 2-2.5 pts. 2.75-3 pts.	Requires rainfall to be activated provides good small-seeded broadleaf weed control.
Pendimethalin (3)	sandy loam: 0.5-0.75 lb. silt loam: 0.75-1.0 lb. silty clay loam: 0.75-1.5 lb.	Prowl H2O 1.2-1.8 pts. 1.8-2.4 pts. 1.8-3.6 pts.	Good grass control. Can be applied as a surface application after planting or preplant incorporated 1-2" deep. The 2X or double the normal rate can be applied preplant incorporated for increased suppression of rhizome johnsongrass. Use a recommended broadleaf herbicide for broad-spectrum weed control. Surface applications may cause crop lodging later in season (soybeans 8-12" tall) if cool, rainy weather occurs during crop emergence.
S-metolachlor + glyphosate (15 + 9)	1.64 lb.	Sequence 2.5 pts.	Apply up to 3 trifoliolate.
Saflufenacil (14)	0.22 lb.	Sharpen SG 1 ozs.	30 day plant back restriction to soybean on coarse soils with O.M. less than 2. Tank-mix with glyphosate or Gramoxone SL for best burndown results. 1.0% MSO.
Cloransulam-methyl+flumioxazin (2,14)	0.1- 0.126 lb	Surveil 3.5 oz	Surveil may be applied to soybeans prior to planting or preemergence, but prior to soybean emergence
Chlorimuron ethyl+ Flumioxazin+metribuzin) (2,5,14)	0.228 – 0.342 lb ai	Trivence 6 – 9 oz	Trivence may be applied any time from fall through spring, up to 3 days after planting. BOLT and STS varieties have tolerance.
Flumioxazin (14)	0.063-0.078 lb.	Valor 51WDG 2-2.5 oz.	Apply preemergence to control pigweed, lambsquarters, hophornbeam copperleaf, morningglories and several other weeds. Weak on cocklebur and sicklepod. Apply in 10-30 gal. of water per acre. Mix with a grass herbicide for broad spectrum weed control.
Flumioxazin + chlorimuron (14+2)	0.9+0.3 lbs-1.2+0.4lb.	Valor XLT 3-4 ozs.	Apply PRE to control pigweeds, horseweed, hophornbeam copperleaf and morningglory spp. Mix with grass herbicide for better broad spectrum grass control.

	Rate/Acre Broadcast		Remarks
Herbicide(site of action)	Active Ingredient	Formulated Product	
Pyroxasulfone	0.08-0.18 lbs.	Zidua 1.5-3.5oz.	Apply PRE to control pigweed/annual grasses. Use rate of 2.5 oz. or above for consistent control

Postemergence Weed Control in Soybeans: Postemergence herbicides work best under the following conditions: weeds are young and rapidly growing, high humidity and good soil moisture, and good spray coverage. Performance is reduced when weeds are stressed due to drought, disease or cultivation, or when weeds are too large. Select the most effective weed management program for the money you can afford to spend. The following tables should assist with selection of a program for controlling your weeds.

POSTEMERGENCE HERBICIDES FOR WEED CONTROL IN SOYBEANS

	Rate/Acre Broadcast*		Remarks**
Herbicide(site of action)	Active Ingredient	Formulated Product	
Carfentrazone-ethyl (14)	0.008-0.025 lb.	Aim EW 0.25-0.5 ozs.	Apply overtop of soybeans from V3 to V10 to control velvetleaf and morningglories. Causes soybean foliar burn which is usually of short duration. Always add 1 qt. nonionic surfactant per 100 gals. of spray mix. May be tank-mixed with glyphosate to control larger morningglories.
Pyroxasulfone + Fluthiacet-methyl(14,15)	0.084-0.0151 lbs.	Anthem Maxx 2.5-4.5 ozs.	Do not graze or feed treated soybean forage/hay to livestock. The last application for soybean should be made no later than 60 days before harvest.
Quizalofop (1)	0.034-0.069 lb.	Assure II 0.88E 5-10 ozs.	Apply overtop to control rhizome johnsongrass . Apply 5 ozs. of Assure II when johnsongrass is 10-24" tall and re-treat with 5 ozs. when grass regrowth reaches 6-10" tall. Add oil concentrate at 1 gal. (for ground application) or 1 qt. nonionic surfactant per 100 gals. of spray mixture. The higher rates may be needed to control annual grasses or bermudagrass . See label. Controls volunteer Roundup Ready corn in soybeans.
Bentazon (6)	0.75-1.0 lb.	Basagran 4SC 1.5-2 pts.	Apply to control cocklebur, prickly sida and other broadleaf weeds. Addition of 1 qt./A of crop oil concentrate may improve control of ragweed and lambsquarters. Add 2 ozs. of 2,4-DB (Butyrac) to the regular rate of Basagran for improved control of morningglory. Do not add oil or surfactant when mixing with 2,4-DB.
Fomesafen+ Glufosinate (10,14)	0.6 – 0.78 lb	Cheetah Max 26 – 34 oz	DO NOT apply Cheetah Max as an over-the-top application to non-LibertyLink soybeans as plant death will occur.
Chlorimuron (2)	0.008-0.012 lb.	Classic 25DF 0.5-0.75 oz.	Apply to control cocklebur, pigweed, burcucumber and other broadleaf weeds. Can be applied after the first trifoliolate until 60 days before harvest. Weak on prickly sida and lambsquarters. Add 1 qt. of nonionic surfactant (80 percent active) per 100 gal. water. See label for information concerning the use of crop oil concentrate and liquid fertilizer. Classic may be tank-mixed with Roundup Ultra (Roundup Ready soybeans only) for improved control of morningglory and hemp sesbania (see label). Do not plant corn, cotton, or sorghum within 9 months after application. See label for other crops. For salvage control of cocklebur or smooth pigweed, apply .75 oz. and 1 qt. of crop oil concentrate.
Lactofen (14)	0.2 lb.	Cobra 2E 12.5 ozs.	Apply to control morningglory, balloonvine and several broadleaf weeds. Add 2 pts. nonionic surfactant, or 2 to 4 pts. crop oil concentrate, per 100 gals. spray. Causes soybean foliar burn which is usually of short duration.
Cloransulam-methyl (2)	0.016-0.032 lb.	FirstRate 84DG 0.3-0.6 oz.	Apply overtop prior to 50% flowering stage of soybeans. Application prior to full emergence of the first soybean trifoliolate leaf may cause temporary yellowing. Good control of cocklebur, common ragweed, giant ragweed and sicklepod. Always add crop oil concentrate at 1.2 gal. per 100 gal. of spray mix. FirstRate can be tank-mixed with Roundup PowerMax (Roundup Ready soybeans only), and several other herbicides (see label). For FirstRate tank mixes with Roundup WeatherMax or PowerMax, DO NOT add additional surfactant or crop oil. Other glyphosate product tank-mixes add non-ionic surfactant at 2 pt. per 100 gals. If needed, a sequential application can be made. See label.

Herbicide(site of action)	Rate/Acre Broadcast*		Remarks**
	Active Ingredient	Formulated Product	
Fomesafen (14)	0.24-0.35 lb.	Flexstar 1.0-1.5 pts.	Contains same active ingredient as Reflex, but is formulated with an adjuvant system. Causes soybean foliar burn which is usually of short duration. Always add 1-2 qts. nonionic surfactant, or 0.5-1 gal. crop oil concentrate per 100 gals. of spray mix. Less incompatibility problems with glyphosate. Also sold premix as Flexstar GT 3.5. Other generic formulations available.
Fluazifop (1)	0.094-0.188 lb.	Fusilade DX 2E 6-12 ozs.	Apply lower rate for most annual grasses before they exceed 4" tall. For johnsongrass control, apply the higher rate when it is 8-18" tall. Make a second application (8 ozs.) when regrowth is 6-12" tall. For bermudagrass , apply the higher rate when runners are 4-8" long, and repeat when regrowth reaches 4". Add oil concentrate (1 gal.) or nonionic surfactant (2 pts.) per 100 gal of spray mixture. Controls volunteer Roundup Ready corn in soybeans.
Glufosinate FOR USE ON GLUFOSINATE- TOLERANT SOYBEAN VARIETES ONLY (10)	0.4 – 0.66lbs.	Liberty 280 SL 22-36 ozs. 36 fb 29 29 fb 29	For control of glyphosate-resistant Palmer pigweed, horseweed and other weeds, apply early to small sized weeds for best control. Will control Palmer up to 4 to 6" tall. A follow up application of Ignite 7 to 10 days after the first application may be needed to control Palmer that is over 5" tall. Use at least 15 gallons/acre of water for more effective coverage. Apply up to a maximum of 65 oz/A prior to first bloom (R1) if no Liberty was used as a burndown treatment. R1 occurs approx. 40 days after planting for MG4 soybeans.
Sethoxydim (1)	0.19 lb.	Poast 1.5E or Poast Plus 1.0E 16 ozs. 1.5E or 24 ozs. 1.0E	Apply for control of most annual grasses . For best results, make applications before most grasses exceed 4" tall. Always include oil concentrate at 2 pts/A. Controls volunteer Roundup Ready corn in soybeans.
Fomesafen + S- metolachlor (14 + 15)	1.32 lb. (0.24 +1.09 lb.)	Prefix 32 ozs	May be applied from cracking through the third trifoliate.
Imazethapyr (2)	0.063 lb.	Pursuit 2AS or 70DG 4 fl. ozs. or 1.44 ozs. 70DG	Apply to control morningglory, spurge, pigweed, cocklebur and other broadleaf weeds. For most effective control, apply before weeds exceed 3" in height. Use nonionic surfactant at the rate of 1 qt. per 100 gallons of spray mix. Use 10 or more gallons of spray solution per acre to ensure good weed coverage. See label regarding rotational crop restrictions. Also available as a premix with glyphosate (Extreme) for use in Roundup Ready soybeans. See label.
Flumetsulam (2)	sandy loam: 0.04- 0.045 lb. silt loam:silty clay loam: 0.045-0.05 lb.	Python 80WDG 0.8-0.89 oz. 0.89-1.25 oz.	Use Python with a recommended grass herbicide for broad spectrum control. Good control of pigweed, nightshade, spurge and velvetleaf. For hard-to-control weeds, such as sicklepod, apply 1.14-1.25 oz. on medium and fine textured soils. A nonionic surfactant at 0.25% must be included in all postemergence applications. Do not plant cotton within 18 months or grain sorghum within 12 months. See label for other rotational crops.
Imazamox (2)	0.03-0.04 lb.	Raptor 1AS 4-5 ozs.	Apply overtop prior to soybean bloom and before most weeds exceed 5 inches tall (see label). Good control of cocklebur, morningglory, pigweed, velvetleaf and seedling johnsongrass. Weak on sicklepod and hophornbeam copperleaf. Always add either crop oil concentrate at 1 gal. per 100 gals. or nonionic surfactant at 1 qt. per 100 gals. of spray mix. Do not make more than one application per season.

Herbicide(site of action)	Rate/Acre Broadcast*		Remarks**
	Active Ingredient	Formulated Product	
Fomesafen (14)	0.25-0.38 lb.	Reflex 1-1.5 pts.	Apply to control morningglory (high rate only) and several broadleaf weeds. Add 1-2 qts. nonionic surfactant or 1 gal. crop oil concentrate per 100 gals. of spray. Reflex may be tank-mixed with Roundup Ultra (Roundup Ready soybeans only) for improved control of morningglory and hemp sesbania (see label). It is usually very safe on soybeans. Do not plant sorghum within 10 months of application. Has controlled volunteer Roundup Ready cotton that is 6 inches or smaller in research and demonstration trials in soybeans. May be less compatible when tank-mixed with glyphosate. Other generic formulations available.
Flumiclorac (14)	0.03 lb.	Resource 0.86E 4 ozs.	Apply to control velvetleaf with up to 6 leaves. Larger plants will require higher rates (see label). Add oil concentrate at 1 qt./A.
Glyphosate (9)	1.1 lbs. (a.e.)	Roundup PowerMax4.5ae 32 ozs.	The Roundup Ready system has been most successful where soybeans are drilled, where fields are scouted early, and when applications are timely. Apply overtop to control many annual broadleaf and grass weeds, and johnsongrass. Excellent control of crabgrass, fall panicum, goosegrass, signalgrass, johnsongrass, cocklebur, copperleaf, and spurge. Some of the more difficult to control weeds include morningglory, black nightshade, groundcherry, hemp sesbania, prickly sida, spurred anoda, and giant ragweed. Consider tank-mixing with reduced rates of Classic, Ultra Blazer, Cobra or Reflex for improved control of morningglories and hemp sesbania. Tank mixing with FirstRate will improve control of giant ragweed. See product labels for specific tank-mix directions. Avoid drift to adjacent crops. Be sure that your spray system has been thoroughly cleaned and flushed prior to and after application. Applications can be made from the cracking stage up to R3 (1/4" pod visible on at least one of top 4 nodes on main stem). Repeat applications may be required to maintain control. Dry conditions will reduce weed control.
Imazaquin (2)	0.063-0.125 lb.	Scepter 1.5AS or 70DG 0.33-0.67 pt. or 1.4-2.8 ozs.	Use .33 pt. to control cocklebur and pigweed. Use higher rate to control other broadleaf weeds. Weak on jimsonweed and nightshade. Add 1 qt. nonionic surfactant (80 percent active) per 100 gals. of spray volume. See label for information concerning the use of crop oil concentrate and rates to use on specific weeds. Do not plant sorghum within 11 months or cotton within 18 months of application. Corn may be planted the following spring if 10 inches of water is received within 6 months following application. See label for other crops. For salvage control of cocklebur or smooth pigweed, apply 0.5-.67 pt./A (2.1-2.8 ozs. 70DG) per acre plus nonionic surfactant (1 qt./100 gal.). Also available as a premix with glyphosate for use in Roundup Ready soybeans. See label.
Clethodim (1)	0.094-0.125 lbs.	Select Max 1EC 12-16 ozs.	Apply 12 ozs./A for control of most annual grasses up to 6" tall. For johnsongrass , 12-24" tall, apply 16 ozs. A second application of 12 ozs./A can be made to regrowth, 6-10" tall. For bermudagrass , apply the higher rate on runners up to 6" long, and repeat on regrowth up to 6" long. Always use crop oil concentrate at 1 qt./A. Controls volunteer Roundup Ready or glufosinate-tolerant corn in soybeans.
S-metolachlor + Glyphosate (15 + 9)	1.64 lb.	Sequence 2.5 pts.	Apply up to 3 trifoliolate.
Basagran + Blazer (6+14)	0.75 lb.	Storm 1.5 pts.	Broad spectrum control of cocklebur, morningglory, and several other broadleaf weeds. Always add crop oil concentrate (1-2 pts./A) or nonionic surfactant (0.125-0.25% by volume) with Storm. Causes soybean foliar burn which is usually of short duration. Note: 1.5 pt/A of Storm is equivalent to 1 pt. of Basagran and 1 pt. of Blazer per acre.

Herbicide(site of action)	Rate/Acre Broadcast*		Remarks**
	Active Ingredient	Formulated Product	
Ultra Blazer 2L (Acifluorfen) (14)	0.13-0.38 lb.	0.5-1.5 pts.	Apply to control morningglory, pigweed and several other broadleaf weeds. See label regarding the use of surfactant. Ultra Blazer may be tank-mixed with Roundup Ultra (Roundup Ready soybeans only) for improved control of morningglory and hemp sesbania (see label). Add 2 ozs. of 2,4-DB (Butyrac) to improve control of cocklebur and large morningglory.
Pyroxasulfone (15)	0.08-0.18 lb.	Zidua 1.5-3.5 oz.	Apply overtop from first-trifoliate to third-trifoliate leaf stages.
Chlorimuron + Thifensulfuron (2 +2)	0.0067 lbs.	Synchrony XP 0.375 ozs.	May be tank-mixed at a reduced rate with glyphosate to provide residual control. BOLT and STS varieties have tolerance.

**If a band treatment is used, the rate should be reduced proportionately according to band width and row spacing.*

***For rhizome johnsongrass control, do not tank mix postemergence grass herbicides with broadleaf herbicides.*

SOYBEAN HARVEST AIDS

Harvest aid chemicals are sometimes needed to desiccate weeds in order to improve timeliness of harvest. This is most frequently encountered with early maturing varieties which may be ready for harvest prior to a killing frost. Harvest aid chemicals do not speed-up maturity of the soybean plant; they merely reduce moisture in weeds and may improve harvest efficiency, in addition to timeliness. Producers are encouraged to make harvest aid decisions by comparing cost with anticipated benefits. Also, care must be taken to minimize chances of drift to adjacent crops. Be sure to read labels thoroughly and follow required preharvest intervals (PHI).

	Rate/Acre Broadcast		Remarks
Harvest Aid(site of action)	Active Ingredient	Product	
Carfentrazone	0.023 lbs.	Aim EW 1 - 2 ozs.	Aim has a 3 day pre-harvest interval.
Glyphosate	0.75-1.5 lbs. (a.e.)	Roundup PowerMax4.5ae 22-43 ozs.	Apply after pods have set and lost all green color. Allow a minimum of 7 days between application and harvest of soybeans. Use a spray volume of 10 to 20 gallons of water per acre for ground applications, or 3 -10 gallons of water for aerial applications. Do not graze or harvest treated crop for livestock feed within 25 days of application. Do not apply to soybeans grown for seed as a reduction in germination or vigor may occur. Avoid spraying during conditions which favor drift.
Generic Glyphosate (glyphosate 4.0 ae)		32-48 ozs.	
Sodium Chlorate, Defol 5, other tradenames (sodium chlorate)	5.0 - 7.5 lbs.	4.8 qt of a 5 lb/gal formulation or 3.2 qt of a 7.5 lb/gal formulation	Make application 7 to 10 days before anticipated harvesting date when soybeans are mature and ready for harvest. Apply in a minimum spray volume of 20 gallons per acre by ground or 5 gallons per acre by air. Do not graze treated fields or feed treated soybean foliage. Do not apply under conditions which favor drift.
Paraquat (u)	0.13-0.26 lb.	Gramoxone SL 8-16 ozs.	For indeterminate varieties (maturity Group III or IV) apply when at least 65% of the seed pods have reached a mature brown color or when seed moisture is 30% or less. For determinant varieties (maturity Group V) apply when plants are mature, i.e., beans fully developed, one-half of leaves have dropped, and remaining leaves are yellowing. Immature soybeans will be injured. Use the higher rate when cocklebur is present. Use a minimum spray volume of 20 gallons per acre by ground or 5 gallons per acre by air. Do not apply within 15 days of harvest. Do not graze or harvest for forage or hay. Do not apply under conditions which favor drift.

(u)--Restricted Use Herbicide.

* NOTE: Several brands of glyphosate have become available in recent years. Products differ in terms of concentration, rates, addition of surfactant and registration on Roundup Ready crops. Always read the label before application.

EXPECTED SOIL APPLIED HERBICIDE RESPONSE OF COMMON WEEDS IN SOYBEANS

	PPI	PREPLANT INCORPORATED/PREEMERGENCE				PREEMERGENCE								
	Treflan	Boundary	Canopy 75DG	Prowl	Metribuzin	Authority Elite	Authority MTZ	Command	Dual Magnum	Fierce	Prefix	Surveil	Verdict	Zidua
Herbicide Site of Action	3	15+5	2+5	3	5	14+15	5+14	13	15	14+15	14+15	2+14	14+15	15
Annual Morningglories	6	5	9	6	5	8	8	3	2	6	6	9	5	2
Broadleaf Signalgrass	8	8	8	8	6	8	6	9	8	8	8	4	9	9
Cocklebur	0	5	8	0	5	5	6	5	0	6	6	9	2	2
Common Ragweed	0	7	8	0	8	6	8	6	0	6	6	8	2	2
Crabgrass, Foxtails, Goosegrass	9	9	8	9	8	9	8	9	9	9	9	4	9	9
Groundcherries/Black Nightshade	0	7	8	0	6	7	6	3	7	7	7	6	7	7
Hophornbeam Copperleaf	0	6	9	0	6	4	6	2	4	5	4	9	4	4
Jimsonweed	0	7	----	0	8	-	8	5	0	-	-	9	----	0
Lambsquarters	7	8	----	8	8	9	8	7	6	9	9	9	9	9
Pigweed, Palmer	8	7	7	8/6 ^{tt}	7	8	8	0	6	9	9	8	9	9
Pigweed, Smooth or Redroot	8	9	9	7	9	9	9	2	8	9	9	9	9	9
Prickly Sida	0	8	8	0	8	7	8	9	0	5	5	7	5	5
Seedling Johnsongrass	9	8	6	8	4	8	4	8	8	8	8	2	8	8
Sicklepod	0	6	5	0	6	4	8	0	3	4	4	8	4	4
Smartweed	4	7	----	3	7	5	9	6	0	5	5	8	5	5
Spotted Spurge	0	7	----	0	8	7	9	8	7	7	7	8	7	7
Spurred Anoda	0	6	----	0	7	6	9	9	0	--	--	8	0	0
Velvetleaf	2	6	----	2	7	6	8	9	0	6	6	8	0	0
Yellow Nutsedge	0	7	9	0	0	8	2	0	8	4	8	2	4	4
Soybean Tolerance	1	2	T	2	3	2	3	0	1	3	1	2	2	2

KEY TO SYMBOLS: 0=No control or crop injury; 10=100% control or severe, yield-reducing crop injury; ----=data not available

(Ratings are based on labeled rates of each herbicide, applied at the optimum timing for each weed)T-Tolerance related to variety and environmental conditions. ^{tt}- 8 for PPI; 6 for PRE

EXPECTED WEED RESPONSE FROM POSTEMERGENCE SOYBEAN HERBICIDES

	Aim	Basagran	Classic	Cobra	FirsRate	Flexstar	Roundup PowerMax/others	Ultra Blazer	Assure II	Fusilade DX	Poast, Poast Plus	Select Max
Herbicide Site of Action	14	6	2	14	2	14	9	14	1	1	1	1
Annual grasses	0	0	1	4	----	5	9	4	8	8	9	9
Burcucumber	0	3	8	6	----	5	----	6	0	0	0	0
Cocklebur	6	9	9	7	9	8	10	7	0	0	0	0
Common Ragweed	-	5	7	7	9	7	9	7	0	0	0	0
Giant Ragweed	2	3	5	7	8	7	6	6	0	0	0	0
Groundcherry/Nightshade	7	1	2	8	----	8	6	8	0	0	0	0
Hemp Sesbania	9	0	9	9	2	9	4	9	0	0	0	0
Hophornbeam Copperleaf	7	2	2	9	----	9	7	9	0	0	0	0
Jimsonweed	7	8	5	7	5	7	8	7	0	0	0	0
Johnsongrass (rhizome)	0	0	1	1	0	2	9	1	9	9	6	9
Johnsongrass (seedling)	0	0	1	4	2	5	10	4	9	9	8	9
Lambsquarters	8	7	0	6	----	5	8	5	0	0	0	0
Morningglory Entireleaf/Ivy ^a	7	2	8	8	8	8	8	8	0	0	0	0
Morningglory Pitted ^b	7	5	8	9	8	9	7	9	0	0	0	0
Morningglory Tall ^c	7	3	7	9	5	9	8	9	0	0	0	0
Pigweed, Palmer	6	0	4	8*	4	8*	2	8*	0	0	0	0
Pigweed, Smooth or Redroot	8	0	8	8	4	8	9	8	0	0	0	0
Prickly Sida	4	7	0	6	3	2	6	2	0	0	0	0
Sicklepod	1	0	8	1	8	1	9	1	0	0	0	0
Smartweed	7	8	5	7	----	7	8	7	0	0	0	0
Spotted Spurge	6	0	3	7	----	7	9	7	0	0	0	0
Velvetleaf	9	9	8	4	6	4	7	3	0	0	0	0
Yellow Nutsedge	0	8	7	1	----	6	7	1	0	0	0	0
Soybean Tolerance	3	0	2	3	0	1	0*	2	0	0	0	0

*PPO susceptible Palmer amaranth.

^a Many hairs on upper leaf surface

^b No hairs on upper leaf surface

^c A few hairs on upper leaf surface

KEY TO RESPONSE RATINGS: 0=No control or crop injury; 10=100% control or severe, yield reducing crop injury; ----=No data available

Ratings are based on labeled rates of each herbicide, applied at the optimum timing for each weed.