Soybeans

Table 5.36 - Soybean Herbicides and their Restrictions[7]

Trade name	Common name	Manufacturer	Restricted-use pesticide[1]	Water-quality advisory[2]	Worker re-entry (hrs)[3]
2,4-D amine 4S	2,4-D amine	several	—	—	48
2,4-D LVE 4E	2,4-D LVE	several	—	—	12
2,4-DB	2,4-DB	several	—	—	12
Assure II/Targa 0.88L	quizalofop	Dupont/Gowan	—	—	12
Authority 75DF	sulfentrazone	FMC	—	yes	12
Authority Assist	sulfentrazone + imazethapyr	FMC	no	yes	12
Authority MTZ 45DF	sulfentrazone + metribuzin	FMC	—	yes	12
Axiom 68DF	flufenacet + metribuzin	Bayer	—	yes	12
Basagran 4S	bentazon	MicroFlo	—	yes	48
Boundary 7.8L	s-metolachlor + metribuzin	Syngenta	—	yes	12
Canopy 75DF	chlorimuron + metribuzon	DuPont	—	yes	12
Canopy EX 29.5DF	chlorimuron + tribenuron	DuPont	—	—	12
Classic 25DF	chlorimuron	DuPont	—	—	12
Cobra 2E	lactofen	Valent	—	—	12
Command 3ME	clomazone	FMC	—	—	12
Dual II Magnum/Cinch 7.64L	s-metolachlor	Syngenta	—	—	24
Extreme 4.17L	imazethapyr + glyphosate	BASF	—	yes	48
FirstRate 84WDG	cloransulam-methyl	Dow AgroSciences	—	yes	12
Fusilade DX 2E	fluazifop	Syngenta	—	—	12
Fusion 2.56E	fluazifop + fenoxaprop	Syngenta	—	—	24
Gangster (co-pack)	flumioxazin + chloransolam-methyl	Valent	no	yes	12
Gauntlet (co-pack)	sulfentrazore + chloransolam-methyl	FMC/Dow AgroSciences	—	yes	12
Glyphosate[4]	glyphosate	various	—	—	4
Gramoxone Inteon 2.5S	paraquat	Syngenta	yes	—	12
Harmony SG 50SG	thifensulfuron	DuPont	—	—	12
Ignite 280	glufosinate	Bayer	—	—	12

[1] Only licensed applicators may purchase and apply restricted-use pesticides. To become licensed, contact the Virginia Department of Agriculture and Consumer Services.

[2]These herbicides have properties that may result in ground- or surface-water contamination. Do not apply them in areas where soils are permeable or coarse and groundwater is near the surface. Practice should be followed to minimize the potential for dissolved runoff and/or runoff erosion. See the herbicide label for specific restrictions.

[3]If soil-applied products are injected or incorporated at application time, under certain circumstances the Worker Protection Standard allows workers to enter the treated area if they will have no contact with anything that has been treated. Personal protective equipment is required for early entry to treated areas if contact with treated soil, plants, or water is involved.

[4]May be applied over-the-top on Roundup Ready soybean varieties only.

[5]For use on Liberty Link soybean varieties only.

[6]For use on STS soybean varieties only.

[7]Legend based on adequate moisture, good growing conditions, and proper herbicide application.

Table 5.36 - Soybean Herbicides and their Restrictions[7] (cont.)

Trade name	Common name	Manufacturer	Restricted-use pesticide[1]	Water-quality advisory[2]	Worker re-entry (hrs)[3]
Lasso 4E	alachlor	Monsanto	yes	yes	12
Linex/Lorox	linuron	Griffin	—	—	24
Micro-Tech 4ME	alachlor	Monsanto	yes	yes	12
Outlook 6E	dimethenamid-P	BASF	—	yes	12
Poast 1.5E	sethoxydim	MicroFlo	—	—	12
Poast Plus 1E	sethoxydim	MicroFlo	—	—	12
Prefix 5.3EC	metolechlor + fomesafen	Syngenta	—	yes	24
Prowl 3.3E/H_2O	pendimethalin	BASF	—	—	24
Pursuit 2S	imazethapyr	BASF	—	yes	12
Python 80WDG	flumetsulam	Dow AgroSciences	—	yes	12
Raptor 1S	imazamox	BASF	—	—	4
Reflex 2E/Flexstar 1.88E	fomesafen	Syngenta	—	yes	24
Resource 0.86EC	flumiclorac	Valent	—	—	12
Scepter 1.5S/70DG	imazaquin	BASF	—	yes	12
Select Max 0.97E	clethodim	Valent	—	—	12
Sencor 75DF/4L	metribuzin	Bayer	—	yes	12
Sequence 5.25EC	s-metalachlor + glyphosate	Syngenta	—	yes	24
Sonic/Authority First 70DF	sulfentrazone + cloransulam	Dow AgroSciences/FMC	—	yes	12
Stellar 3.1EC	flumiclorac + lactofen	Valent	—	—	12
Storm 4S	acifluorfen + bentazon	UPI	—	yes	48
Synchrony XP 28.4DF	chlorimuron + thifensulfuron	DuPont	—	—	12
Treflan	trifluralin	Dow AgroSciences	—	—	12
Ultra Blazer 2S	acifluorfen	UPI	—	yes	48
Valor	flumioxazin	Valent	—	—	1
Valor XLT 40WDG	flumioxazin + chlorimuron-ethyl	Valent	—	—	12

[1] Only licensed applicators may purchase and apply restricted-use pesticides. To become licensed, contact the Virginia Department of Agriculture and Consumer Services.

[2]These herbicides have properties that may result in ground- or surface-water contamination. Do not apply them in areas where soils are permeable or coarse and groundwater is near the surface. Practice should be followed to minimize the potential for dissolved runoff and/or runoff erosion. See the herbicide label for specific restrictions.

[3]If soil-applied products are injected or incorporated at application time, under certain circumstances the Worker Protection Standard allows workers to enter the treated area if they will have no contact with anything that has been treated. Personal protective equipment is required for early entry to treated areas if contact with treated soil, plants, or water is involved.

[4]May be applied over-the-top on Roundup Ready soybean varieties only.

[5]For use on Liberty Link soybean varieties only.

[6]For use on STS soybean varieties only.

[7]Legend based on adequate moisture, good growing conditions, and proper herbicide application.

Relative Effectiveness of Herbicides for Soybeans

Table 5.37 - Weed Group 1 - Preplant Incorporated

	Barnyardgrass	Bermudagrass	Broadleaf signalgrass	Crabgrass	Fall panicum	Foxtails	Goosegrass	Johnsongrass (seedlings)	Johnsongrass (rhizome)	Quackgrass	Sandbur	Shattercane	Texas panicum	Yellow nutsedge
Authority Assist	P-F	N	N	N	P-F	P-F	N	N	N	N	N	N	N	F
Canopy	F	N	P-F	F	F	F	P	P	N	N	P	P	N	N
Canopy + Dual II Magnum/Cinch	G-E	N	F-G	E	G-E	E	E	P	N	N	F	P	P	F-G
Canopy + Micro-Tech	G-E	N	G	F-G	E	E	E	P	N	N	F	P	P	F
Canopy + Treflan	E	N	G	G	G	E	E	G	P	P	G	P	F-G	P
Command	F-G	P	G-E	F-G	E	E	E	P	N	P	G-E	P	G	N
Command + Sencor	F-G	P	G-E	F-G	E	E	E	P	N	P	G-E	P	G	N
Dual II Magnum/Cinch	G-E	N	F-G	E	G-E	E	E	P	N	N	F	P	P	F-G
Dual II Magnum/ Cinch + Sencor	G-E	N	F-G	E	G-E	G	E	P	N	N	F	P	P	F-G
Micro-Tech	G-E	N	F-G	F-G	E	E	E	P	N	N	F	P	P	F
Micro-Tech + Sencor	G-E	N	F-G	F-G	E	E	E	P	N	N	F	P	P	F
Prowl	E	P	G	F	G	E	G-E	G	P	P	G	G	G	N
Prowl + Sencor	E	P	G	F	G	E	G-E	G	P	N	G	G	G	N
Python	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Scepter	P	N	N	P	P	F	P	F	N	N	N	P	N	P
Scepter + Dual II Magnum/Cinch	G-E	N	F-G	G	G-E	E	E	N	N	N	F	P	P	G
Scepter + Micro-Tech	G-E	N	F-G	G	E	E	E	F	N	N	F	P	P	F-G
Scepter + Prowl	E	P	G	G	G	E	G-E	G	P	P	G	G	G	P
Scepter + Treflan	E	P	G	G	G	E	E	G	P	P	G	G	G	P
Sencor	P-F	N	P-F	P-F	P-F	P-F	F	P	N	N	P	P	N	N
Treflan	E	P	G	G	G	E	E	G	P	P	G	G	G	N
Treflan + Sencor	E	P	G	G	G	E	E	G	P	P	G	G	G	N

Legend - based on adequate moisture, good growing conditions, and proper herbicide application

E = Excellent (>90% control), G-E = Good to Excellent, G = Good (80-90% control), F-G = Fair to Good, F = Fair (60-80% control), P-F = Poor to Fair, P = Poor (20-60% control), N = None (<20% control)

Table 5.38 - Weed Group 1 - Preemergence

	Barnyardgrass	Bermudagrass	Broadleaf signalgrass	Crabgrass	Fall panicum	Foxtails	Goosegrass	Johnsongrass (seedlings)	Johnsongrass (rhizome)	Quackgrass	Sandbur	Shattercane	Texas panicum	Yellow nutsedge
Authority Assist	P-F	N	N	N	P-F	P-F	N	N	N	N	N	N	N	F
Canopy	F	N	P-F	F	F	F	P	P	N	N	P	P	N	P
Canopy + Dual II Magnum/Cinch	G-E	N	F-G	G-E	G	E	E	P	N	N	F	P	P	F-G
Canopy + Micro-Tech	G-E	N	F-G	F-G	E	E	E	P	N	N	F	P	P	P
Canopy + Prowl	G-E	N	F-G	F	F-G	G	P-F	F	N	N	F	F	P-F	P
Dual II Magnum/Cinch	G-E	N	F-G	G-E	G-E	E	E	P	N	N	F	P	P	F
Dual II Magnum/ Cinch + Linex	G-E	N	F-G	G-E	G-E	E	E	P	N	N	F	P	P	F
Dual II Magnum/ Cinch + Sencor	G-E	N	F-G	G-E	G-E	E	E	P	N	N	F	P	P	F
FirstRate	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Linex/Lorox	F	N	P	F	F	F	F	P	N	N	F	P	N	N
Micro-Tech	G-E	N	F-G	F-G	E	E	E	P	N	N	F	P	P	P
Micro-Tech + Linex	G-E	N	F-G	F-G	E	E	E	P	N	N	F	P	P	P
Micro-Tech + Sencor	G-E	N	F-G	F-G	E	E	E	P	N	N	F	P	P	P
Outlook	G-E	N	G	G	G	G-E	G	P	N	N	P-F	P	P	F
Outlook + Linex	G-E	N	F-G	G	G	G-E	G	P	N	N	P-F	P	P	F
Outlook + Scepter	G-E	N	F-G	G	G	G-E	G	P	N	N	P-F	P	P	F
Outlook + Sencor	G-E	N	F-G	G	G	G-E	G	P	N	N	P-F	P	P	F
Prowl	G-E	N	F-G	F	F-G	G	F	F	N	N	F	F	P-F	N
Prowl + Linex	G-E	N	F-G	F	F-G	G	F	F	N	N	F	F	P-F	N
Prowl + Sencor	G-E	N	F-G	F	F-G	G	F	F	N	N	F	F	P-F	N
Python	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Scepter	P	N	N	P	P	P-F	P	P-F	N	N	N	P	N	P
Scepter + Dual II Magnum/Cinch	G-E	N	F-G	G-E	G	E	E	P	N	N	F	P	P	F-G
Scepter + Micro-Tech	G-E	N	F-G	F-G	E	E	E	P	N	N	F	P	P	F
Scepter + Prowl	G-E	N	F-G	F	F-G	G	F	F	N	N	F	F	P-F	P
Sencor	P-F	N	P-F	P-F	P-F	P-F	P-F	P	N	N	P	P	N	N
Valor	P	N	P	P	P	P	P	N	N	N	N	N	P	N

Legend - based on adequate moisture, good growing conditions, and proper herbicide application

E = Excellent (>90% control), G-E = Good to Excellent, G = Good (80-90% control), F-G = Fair to Good, F = Fair (60-80% control), P-F = Poor to Fair, P = Poor (20-60% control), N = None (<20% control)

Table 5.39 - Weed Group 1 - Postemergence

	Barnyardgrass	Bermudagrass	Broadleaf signalgrass	Crabgrass	Fall panicum	Foxtails	Goosegrass	Johnsongrass (seedlings)	Johnsongrass (rhizome)	Quackgrass	Sandbur	Shattercane	Texas panicum	Yellow nutsedge
Assure II	G-E	G	G	F-G	E	G	G	E	G-E	G	G	E	G	N
Authority Assist	P-F	N	N	N	P-F	P-F	N	N	N	N	N	N	N	F
Basagran	N	N	N	N	N	N	N	N	N	N	N	N	N	F
Classic	N	N	N	P	P	P	N	P	N	N	N	P	N	P-F
Cobra	N	N	N	N	N	N	N	N	N	N	N	N	N	N
FirstRate	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Flexstar	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Fusilade DX	E	G	G	F-G	E	E	G	E	G-E	G	G	E	G	N
Fusion	E	F-G	G	G	E	E	G	E	G	G	G	E	G	N
Glyphosate	E	G	E	E	G-E	E	E	E	G	G-E	E	G	G	P-F
Harmony SG	N	N	N	N	N	N	N	N	N	N	N	N	N	P
Poast, Poast Plus	E	F-G	G	G-E	E	E	G-E	E	G	G	G	G	G	N
Pursuit	F	N	F-G	F-G	F	F-G	P	G	P-F	N	P-F	G	P-F	P
Raptor	F-G	N	F-G	F-G	F-G	G	P	G	P-F	N	F	G	P-F	P
Reflex	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Resource	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Scepter	N	N	N	P	P	P	P	P	N	N	N	P	N	P-F
Select	E	G-E	G-E	E	E	E	G	E	G-E	G-E	G	E	G	N
Stellar	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Storm	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Synchrony XP	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Assure II	G-E	G	G	F-G	E	G	G	E	G-E	G	G	E	G	N
Typhoon	E	G	G	F-G	E	E	G	E	G-E	G	G	E	G	N
Ultra Blazer	N	N	N	N	P	P	N	P	N	N	N	P	N	N

Legend - based on adequate moisture, good growing conditions, and proper herbicide application

E = Excellent (>90% control), G-E = Good to Excellent, G = Good (80-90% control), F-G = Fair to Good, F = Fair (60-80% control), P-F = Poor to Fair, P = Poor (20-60% control), N = None (<20% control)

Table 5.40 - Weed Group 2 - Preplant Incorporated

	Eastern black nightshade	Burcucumber	Cocklebur	Jimsonweed	Lambsquarter	Morningglory (annual spp.)	Pigweed	Giant ragweed	Common ragweed	Sicklepod	Smartweed	Spurred anoda	Prickly sida or teaweed	Tropic Croton	Velvetleaf
Authority Assist	G-E	N	F-G	F-G	F-G	F-G	G	P	P	P	F-G	F	-	-	F-G
Broadstrike SF + Dual II Magnum/Cinch	F-G	N	P-F	P-F	G-E	P	G	P	P-F	F-G	E	F	G	-	E
Broadstrike + Treflan	F-G	N	P-F	P-F	G-E	P	E	P	P-F	F-G	E	F	G	-	E
Canopy	P-F	F	G	G	G-E	F	E	F	G	F-G	G-E	F	G-E	F-G	F
Canopy + Dual II Magnum/Cinch	F	F	G	G	G-E	F	E	F	G	F-G	G-E	F	G-E	F-G	F
Canopy + Mirco-Tech	F-G	F	G	G	G-E	F	E	F	G	F-G	G-E	F	G-E	F-G	F
Canopy + Treflan	P-F	F	G	G	G-E	F	E	F	G	F-G	G-E	F	G-E	F-G	F
Command	P	P	P	F-G	G	N	P-F	P-F	F	P	F-G	E	F-G	G	E
Command + Sencor	P-F	P	F	F-G	G	P-F	E	P-F	G	F-G	G	E	G-E	F-G	E
Dual II Magnum/Cinch	F	N	N	N	P-F	N	G	N	P	N	P	N	P	N	N
Dual II Magnum/ Cinch + Sencor	F	P	F	F	G	P-F	E	P	G	F-G	G	F	G	F-G	F-G
Micro-Tech	F-G	N	N	N	P-F	N	G	N	P	N	P	F	P	N	N
Micro-Tech + Sencor	F-G	P	F	F	G	P-F	E	P	G	F-G	G	F	G	F-G	F-G
Prowl	N	N	N	N	G-E	P	G	N	N	N	P	N	N	P	F
Prowl + Sencor	P	N	F	F	G-E	P-F	E	P	G	F-G	G	F	G	F-G	F
Python	P-F	P	F-G	F-G	G-E	P	E	P	P	F-G	E	F	F-G	-	G
Scepter	F-G	F-G	E	F-G	G	F	E	F	F-G	F-G	F-G	P-F	G	P	F-G
Scepter + Dual II Magnum/Cinch	F-G	F-G	E	F-G	G	F	E	F	F-G	F-G	F-G	P-F	G	P	F-G
Scepter + Micro-Tech	F-G	F-G	E	F-G	G	F	E	F	F-G	F-G	F-G	P-F	G	P	F-G
Scepter + Prowl	F-G	F-G	E	F-G	G-E	F	E	F	F-G	F-G	F-G	P-F	G	P	F-G
Scepter + Treflan	F-G	F-G	E	F-G	G	F	E	F	F-G	F-G	F-G	P-F	G	P	F-G
Sencor	P	P	F	F	G	P-F	E	P	G	F-G	G	F	G	F-G	F-G
Treflan	N	N	N	N	G	P	G	N	N	N	P	N	N	P	N
Treflan + Sencor	P	P	F	F	G	P-F	E	P	G	F-G	G	F	G	F-G	F

Legend - based on adequate moisture, good growing conditions, and proper herbicide application

E = Excellent (>90% control), G-E = Good to Excellent, G = Good (80-90% control), F-G = Fair to Good, F = Fair (60-80% control), P-F = Poor to Fair, P = Poor (20-60% control), N = None (<20% control)

Table 5.41 - Weed Group 2 - Preemergence

	Eastern black nightshade	Burcucumber	Cocklebur	Jimsonweed	Lambsquarter	Morningglory (annual spp.)	Pigweed	Giant ragweed	Common ragweed	Sicklepod	Smartweed	Spurred anoda	Prickly sida or teaweed	Tropic Croton	Velvetleaf
Authority Assist	G-E	N	F-G	F-G	F-G	F-G	G	P	P	P	F-G	F	-	-	F-G
Broadstrike SF + Dual II Magnum/ Cinch	F-G	N	P-F	P-F	G-E	P	G	P	P-F	F-G	E	F	G	-	G
Canopy	P-F	F	F-G	F-G	G-E	F	E	F	G	F-G	G-E	G-F	G-E	F-G	F
Canopy + Dual II Magnum/Cinch	F	F	F-G	F-G	G-E	F	E	F	G	F-G	G-E	F	G-E	F-G	F
Canopy + Micro-Tech	F-G	F	F-G	F-G	G-E	F	E	F	G	F-G	G-E	F	G-E	F-G	F
Canopy + Prowl	P-F	F	F-G	F-G	G-E	F	E	F	G	F-G	G-E	F	G-E	F-G	F
Dual II Magnum/Cinch	F	N	N	N	P-F	N	G	N	P	N	P	N	P	N	N
Dual II Magnum/ Cinch + Linex	F	P	P-F	P-F	G	P-F	E	P	G	P-F	G	P	F-G	F-G	F
Dual II Magnum/ Cinch + Sencor	F	P	F	F	G	P-F	E	P	G	F-G	G	F	G	F-G	F-G
FirstRate	N	P	G	G	E	G	P	F-G	G	N	G	G	N	N	G
Linex/Lorox	P	P	P-F	P-F	G-E	P-F	E	P	G	P-F	G	P	F-G	P	F
Micro-Tech	F-G	N	N	N	P-F	N	G	N	P	N	P	N	P	N	N
Micro-Tech + Linex	F-G	P	P-F	P-F	G-E	P-F	E	P	G	P-F	G	P	F-G	P	F
Micro-Tech + Sencor	F-G	P	F	F	G-E	P-F	E	P	G	F-G	G	F	G	F-G	F-G
Outlook	F	N	N	N	P	N	G	N	P	N	P	N	P	N	N
Outlook + Linex	F	P	P-F	P-F	G	P-F	E	P	G	P-F	G	P	F-G	P	F
Outlook + Scepter	F	P-F	F-G	F-G	F-G	P	E	P	F-G	F-G	F-G	P	F-G	P	P-F
Outlook + Sencor	F	P	F	F	G	P-F	E	P	G	F-G	G	F	G	F-G	F-G
Prowl	N	N	N	N	F-G	P	G	N	P	N	P	N	P	P	F
Prowl + Linex	P	P	P-F	P-F	G-E	P-F	E	P	G	P-F	G	P	F-G	P	F
Prowl + Sencor	P	P	F	F	G-E	P-F	E	P	G	F-G	G	F	G	P	F-G
Python	P-F	P	F-G	F-G	G-E	P	E	P	P	F-G	E	F	F-G	-	G
Scepter	P-F	P-F	F-G	F-G	F-G	P-F	E	P	P-F	F-G	F-G	P	F-G	P	P-F
Scepter + Dual II Magnum/Cinch	F	P-F	F-G	F-G	F-G	P	E	P	P-F	F-G	F-G	P	F-G	P	P-F
Scepter + Micro-Tech	F-G	P-F	F-G	F-G	F-G	P	E	P	P-F	F-G	F-G	P	F-G	P	P-F
Scepter + Prowl	P-F	P-F	F-G	F-G	F-G	P	E	P	P-F	F-G	F-G	P	F-G	P	P-F
Sencor	P	P	F	F	G-E	P-F	E	P	G	F-G	G	F	G	F-G	F-G
Valor	G	N	N	F-G	G	F-G	G	N	N	N	P	F-G	G	F-G	P

Legend - based on adequate moisture, good growing conditions, and proper herbicide application

E = Excellent (>90% control), G-E = Good to Excellent, G = Good (80-90% control), F-G = Fair to Good, F = Fair (60-80% control), P-F = Poor to Fair, P = Poor (20-60% control), N = None (<20% control)

Table 5.42 - Weed Group 2 - Postemergence

	Eastern black nightshade	Burcucumber	Cocklebur	Jimsonweed	Lambsquarter	Morningglory (annual spp.)	Pigweed	Giant ragweed	Common ragweed	Sicklepod	Smartweed	Spurred anoda	Prickly sida or teaweed	Tropic Croton	Velvetleaf
Assure II	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Basagran	P	P	G-E	E	P-F	P[1]	P	P-F	F-G	P	G-E	F	F	F	G
Classic	P	G	E	E	P	P-F[1]	E	G-E	F	F-G	F-G	N	P	P	P-F
Cobra	F-G	F-G	F[1]	E	P	P-F[1]	E	G	E	P	P	P-F	F	F-G	F-G
Firstrate	N	F	E	E	N	G	P	G	G-E	P	G	P	P	-	F-G
Flexstar	F-G	F	F[1]	E	F	F-G[1]	E	G-E	E	P-F	F	P-F	N	F	P-F
Fusilade DX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Fusion	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Glyphosate	F-G	E	E	E	F-G	G	E	G	F-G	F-G	F-G	F	F-G	G	F-G
Harmony SG	N	P-F	F	P	E	P	E	N	N-P	P	G	N	P	P	G
Poast, Poast Plus	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Pursuit	F-G	P-F	E	G	P	F-G	E	F	P-F	P	F-G	F	P	P	F-G
Raptor	F-G	P-F	E	G	F	F-G	E	F	F	P	F-G	F	F	-	F-G
Reflex	F-G	F	F[1]	G	P	F-G[1]	E	G	E	P-F	F	P	P	F-G	P
Resource	P	F	P	P	F	F	F	P	P	N	P	P	N	P	E
Scepter	P	P	E	F	N	P	E	P	P	F	P	N	P	P	P
Select	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Stellar	F	P-F	P-F	F-G	P-F	F	F-G	P-F	F-G	N	P	P	N	P	E
Storm	F-G	P-F	G	E	P	F-G[1]	F	P-F	F-G	P	G	F	F	P	F-G
Synchrony	N	G	E	E	E	F	E	F-G	F	F-G	G	N	P	P	G
Typhoon	F-G	F	F[1]	G	P	F-G[1]	E	G	E	P-F	F	P	P	F-G	P
Ultra Blazer	F-G	F	F[1]	E	P-F	G-E	E	F-G	E	P	G	P	N	F-G	P

Legend - based on adequate moisture, good growing conditions, and proper herbicide application

E = Excellent (>90% control), G-E = Good to Excellent, G = Good (80-90% control), F-G = Fair to Good, F = Fair (60-80% control), P-F = Poor to Fair, P = Poor (20-60% control), N = None (<20% control)

[1]Indicates species for which control can be improved by the addition of 2 fl oz of 2,4-DB.

Soybean Herbicide Rotation Restrictions

The following table summarizes the crop rotation restrictions after certain soybean herbicide applications have been made. Consult the label for a different time interval if two or more of these materials are applied in the same season. ***This list is not a substitute for the label!***

Table 5.43 - Postemergence Overtop Broadleaf Herbicide Rate Chart[1]

Weed	Maximum Leaf No.[2]	Storm (pt)	Basagran (pt)	Classic (oz)	Cobra (oz)	FirstRate (oz)	Flexstar (pt)	Glyphosate[12] (pt)	Harmony SG (oz)	Pursuit (oz)	Raptor (oz)	Reflex (pt)	Resource 0.86E (oz)	Stellar(oz)	Synchrony (oz)	Ultra Blazer (pt)
Balloonvine	2	-[3]	1.5	-	12.5	-	1.25	-	-	-	-	-	-	-	-	1.5
	4	-	1.5-2	-	12.5	-	1.5	-	-	-	-	-	-	-	-	-
	6	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-
Black	2	1.5	-	-	12.5	-	1.0	-	-	1.4	5.0	1-1.25	-	5.0	-	2.0
nightshade	4	1.5	-	-	12.5	-	1.0	1.5	-	1.4	5.0	1-1.25[4]	-	-	-	1.5
	6	1.5	-	-	12.5	-	1.25	1.5	-	-	5.0	-	-	-	-	1.5
	8	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-
Burcucumber	3	-	-	0.67[4,5]	12.5	-	-	1.5	-	-	-	-	-	-	0.85	-
	4	-	-	0.75[4,5]	12.5	-	-	1.5	-	-	-	-	--	-	0.85	-
Cocklebur	2	1.5	1-1.5	0.5	12.5	0.3	1.0	1.5	0.25[4]/.08	1.4	5.0	1.25	-	5.0	0.85	2.0
	4	1.5	1-1.5	0.5	12.5	0.3	1.0	1.5	0.25[4]/.08	1.4	5.0	1.25	-	7.0	0.85	1.5
	5	1.5	1.5	0.5	12.5	0.3	1.25	1.5	0.25[4]/.08	1.4	5.0	-	-	-	0.85	-
	6	1.5	1.5-2.0	0.5	12.5	0.3	1.25	1.5	0.25[4]/.08	1.4	-	-	-	-	0.85	-
	8	-	2.0	0.67	-	0.3	1.5	1.5	-	1.4	-	-	-	-	0.85	-
	10	-	2.0	0.75	-	-	-	1.5	-	-	-	-	-	-	-	-

[1]Taken from product labels. See label for equivalent recommendations.

[2]Do not count cotyledons as leaves.

[3]Means control not claimed on label.

[4]Label claims only partial control or suppression.

[5]See label for special use directions concerning split applications.

[6]See label for special use directions.

[7]Add crop oil concentrate according to label.

[8]Apply 1.0-1.5 pt Blazer per acre plus 2.0 pt nonionic surfactant per 100.0 gallons anytime before weed begins blooming.

[9]Control may be inconsistent.

[10]Label claims control only with two applications, second application of same rate 5-14 days after first.

[11]Label recommends addition of liquid nitrogen. See label.

[12]Based on 4.0 lb ac/gallon glyphosate containing product. Adjust rates for other formulation strengths as directed by label.

Table 5.43 - Postemergence Overtop Broadleaf Herbicide Rate Chart[1] (cont.)

Weed	Maximum Leaf No.[2]	Storm (pt)	Basagran (pt)	Classic (oz)	Cobra (oz)	FirstRate (oz)	Flexstar (pt)	Glyphosate[12] (pt)	Harmony SG (oz)	Pursuit (oz)	Raptor (oz)	Reflex (pt)	Resource 0.86E (oz)	Stellar(oz)	Synchrony (oz)	Ultra Blazer (pt)
Common	2	1.5	2.0[7]	0.67	12.5	0.3	1.0	1.5	-	1.4	5.0	1.25[4]	4.0	5.0	0.85	1.0
ragweed	4	1.5	2.0[7]	0.67	12.5	0.3	1.0	1.5	-	1.4	5.0	1.25[4]	6.0	5.0	0.85	1.5
	5	1.5	2.0[7]	0.67	12.5	0.3	1.25	1.5	-	-	5.0	-	8.0	5.0	-	-
	6	1.5	2.0 [7]	0.67	12.5	0.3	1.25	1.5	-	-	-	-	8.0	5.0	-	-
	8	-	-	-	12.5	0.3	1.5	1.5	-	-	-	-	-	-	-	-
Giant	2	1.5	2.0	0.75[5]	12.5	0.3	1.0	1.5	-	1.4	5.0	-	-	5.0	0.85	2.0
ragweed	4	1.5	2.0	0.75[5]	12.5	0.3	1.0	1.5	-	1.4	5.0	-	-	7.0	0.85	1.0-1.5
	6	-	-	0.75[5]	12.5	0.3	1.25	1.5	-	-	-	-	-	-	-	-
Jimsonweed	4	1.5	1.5	0.5	12.5	0.3	1.0	1.5	0.25[4]/.08	1.4	5.0	1.0	8.0	7.0	0.85	1.0
	5	1.5	1.5	0.67	-	-	1.0	1.5	0.25[4]/.08	-	5.0	1.25	-	-	0.85	1.5
	6	1.5	1.5-2.0	0.75	-	-	1.0	1.5	-	-	-	1.25	-	-	-	1.5
	8	-	2.0	-	-	-	1.25	1.5	-	-	-	-	-	-	-	2.0
	10	-	2.0	-	-	-	-	1.5	-	-	-	-	1.5	-	-	-
	12	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-
Lambsquarters	2	1.5[9]	2.0[7,9]	-	-	-	-	1.5	0.25/.08	1.4	5.0	1.25	-	-	0.85	1.5
	3	1.5[9]	2.0[7,9]	-	-	-	-	1.5	0.25/.08	-	5.0	-	-	-	0.85	-
	4	1.5[9]	2.0[7,9]	-	-	-	-	1.5	0.25/.08	-	5.0	-	-	-	0.85	-
	6	1.5[9]	2.0[7,9]	-	-	-	-	1.5	0.25/.08	-	5.0	-	-	-	0.85	-
	8	-	2.0[7,9]	-	-	-	-	1.5	0.25/.08	-	5.0	-	-	-	0.85	-
Morningglory	2	1.5	1.5[10]	0.50[5]	12.5[7]	0.3	1.0	1.5	-	1.4	5.0	1.25[4]	-	-	0.85	1.0
pitted	3	1.5	1.5[10]	0.67[5]	12.5[7]	0.3	1.0	1.5	-	-	5.0	-	-	-	0.85	1.5
	4	1.5	1.5[10]	0.75[5]	12.5[7]	0.3	1.0	1.5	-	-	-	-	-	-	-	1.5

[1]Taken from product labels. See label for equivalent recommendations.

[2]Do not count cotyledons as leaves.

[3]Means control not claimed on label.

[4]Label claims only partial control or suppression.

[5]See label for special use directions concerning split applications.

[6]See label for special use directions.

[7]Add crop oil concentrate according to label.

[8]Apply 1.0-1.5 pt Blazer per acre plus 2.0 pt nonionic surfactant per 100.0 gallons anytime before weed begins blooming.

[9]Control may be inconsistent.

[10]Label claims control only with two applications, second application of same rate 5-14 days after first.

[11]Label recommends addition of liquid nitrogen. See label.

[12]Based on 4.0 lb ac/gallon glyphosate containing product. Adjust rates for other formulation strengths as directed by label.

Table 5.43 - Postemergence Overtop Broadleaf Herbicide Rate Chart[1] (cont.)

Weed	Maximum Leaf No.[2]	Storm (pt)	Basagran (pt)	Classic (oz)	Cobra (oz)	FirstRate (oz)	Flexstar (pt)	Glyphosate[12] (pt)	Harmony SG (oz)	Pursuit (oz)	Raptor (oz)	Reflex (pt)	Resource 0.86E (oz)	Stellar(oz)	Synchrony (oz)	Ultra Blazer (pt)
	8	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-	-
Tall	2	1.5	1.5[10]	0.50[5]	12.5[7]	0.3	1.0	1.5	-	1.4	5.0	1.25[4]	-	-	0.85	1.0
	3	1.5	1.5[10]	0.75[5]	12.5[7]	0.3	1.25	1.5	-	-	5.0	-	-	-	0.85	1.5
	4	1.5	1.5[10]	-	12.5[7]	0.3	1.5	1.5	-	-	-	-	-	-	-	-
Ivyleaf	2	1.5	1.5[10]	0.50[5]	12.5[7]	0.3	1.0	1.5	-	1.4	5.0	1.25[4]	-	-	0.85	1.0
	3	1.5	1.5[10]	0.75[5]	-	0.3	1.25	1.5	-	-	5.0	-	-	-	0.85	1.5
	4	1.5	1.5[10]		-	0.3	1.5	1.5	-	-	-	-	-	-	-	-
Entireleaf	2	1.5	1.5[10]	0.50[5]	12.5[7]	0.3	1.0	1.5	-	1.4	5.0	1.25[4]	-	-	0.85	1.0
	3	1.5	1.5[10]	0.75[5]	12.5[7]	0.3	1.0	1.5	-	-	5.0	-	-	-	0.85	1.5
	4	1.5	1.5[10]	-	12.5[7]	0.3	1.25	1.5	-	-	-	-	-	-	-	-
Pigweed	2	1.5	-	0.5	12.5	-	1.0	1.5	0.25/.08	1.4	5.0	1.25[4]	8.0	5.0	0.85	0.5
(redroot)	4	1.5	-	0.5	12.5	-	1.0	1.5	0.25/.08	1.4	5.0	1.25[4]	-	5.0	0.85	0.5
	5	1.5	-	0.67	12.5	-	1.25	1.5	0.25/.08	1.4	5.0	1.25[4]	-	5.0	0.85	1.0
	6	1.5	-	0.75	12.5	-	1.25	1.5	0.25/.08	1.4	5.0	1.25[4]	-	5.0	0.85	1.0-1.5
	8	1.5	-	-	-	-	1.5	1.5	0.25/.08	1.4	-	-	-	-	0.85	-
Prickly sida	4	1.5[9]	1.5	-	12.5	-	1.5	1.5	-	-	-	-	8.0	-	-	-
	6	-	1.5-2.0	-	-	-	-	1.5	-	-	-	-	-	-	-	-
	8	-	2.0	-	-	-	-	1.5	-	-	-	-	-	-	-	-
Sicklepod	1	-	-	0.5[5]	12.5[4]	0.3	-	1.5	-	-	-	-	-	-	0.85	-
	2	-	-	0.67[5]	12.5[4]	-	-	1.5	-	-	-	-	-	-	0.85	-
	3	-	-	0.75 [5]	-	-	-	2.0	-	-	-	-	-	-	-	-
Smartweed	4	1.5	1.5	0.5	12.5[4]	0.3	1.0	1.5	0.25/.08	1.4	5.0	1.25[4]	-	-	0.85	1.0
	5	1.5	1.5	0.67	-	-	1.25	1.5	0.25/.08	-	5.0	-	-	-	0.85	1.5

[1]Taken from product labels. See label for equivalent recommendations.

[2]Do not count cotyledons as leaves.

[3]Means control not claimed on label.

[4]Label claims only partial control or suppression.

[5]See label for special use directions concerning split applications.

[6]See label for special use directions.

[7]Add crop oil concentrate according to label.

[8]Apply 1.0-1.5 pt Blazer per acre plus 2.0 pt nonionic surfactant per 100.0 gallons anytime before weed begins blooming.

[9]Control may be inconsistent.

[10]Label claims control only with two applications, second application of same rate 5-14 days after first.

[11]Label recommends addition of liquid nitrogen. See label.

[12]Based on 4.0 lb ac/gallon glyphosate containing product. Adjust rates for other formulation strengths as directed by label.

Table 5.43 - Postemergence Overtop Broadleaf Herbicide Rate Chart[1]

Weed	Maximum Leaf No.[2]	Storm (pt)	Basagran (pt)	Classic (oz)	Cobra (oz)	FirstRate (oz)	Flexstar (pt)	Glyphosate[12] (pt)	Harmony SG (oz)	Pursuit (oz)	Raptor (oz)	Reflex (pt)	Resource 0.86E (oz)	Stellar(oz)	Synchrony (oz)	Ultra Blazer (pt)
	6	1.5	1.5-2.0	0.75	-	-	1.25	1.5	0.25/.08	-	-	-	-	-	0.85	1.5
	8	-	2.0	-	-	-	-	1.5	0.25/.08	-	-	-	-	-	-	-
	10	-	2.0	-	-	-	-	1.5	0.25/.08	-	-	-	-	-	-	-
Spurred anoda	2	1.5[9]	1.5	-	12.5[4]	-	1.25	1.5	-	-	-	-	-	-	-	-
	4	1.5[9]	1.5	-	-	-	1.5	1.5	-	-	-	-	-	-	-	-
	6	-	1.5-2.0	-	-	-	-	2.0	-	-	-	-	-	-	-	-
	8	-	2.0	-	-	-	-	2.0	-	-	-	-	-	-	-	-
Tropic croton	1	1.5	1.5	-	12.5	-	1.0	-	-	-	-	1.25	-	-	-	1.0
	2	1.5	1.5-2.0	-	12.5	-	1.0	-	-	-	-	1.25	-	-	-	1.5-2.0
	4	-	2.0	-	12.5	-	1.0	-	-	-	-	1.25	-	-	-	-
	6	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-
Velvetleaf	2	1.5[9]	1.5[11]	0.67[5,11]	12.5[6]	0.3	-	1.5	0.25[11]/.08	1.4	5.0	1.25[4]	4.0	5.0	0.85	-
	4	1.5[9]	1.5-2.0[11]	0.67[5,11]	-	0.3	1.25	1.5	0.25[11]/.08	1.4	5.0	-	4.0	5.0	0.85	-
	6	-	2.0[8]	0.67[5,11]	-	-	-	1.5	0.25[11]/.08	-	5.0	-	4.0	5.0	0.85	-
	8	-		0.75[5,11]	-	-	-	1.5	0.25[11]/.08	-	-	-	6.0	-	0.85	-

[1]Taken from product labels. See label for equivalent recommendations.

[2]Do not count cotyledons as leaves.

[3]Means control not claimed on label.

[4]Label claims only partial control or suppression.

[5]See label for special use directions concerning split applications.

[6]See label for special use directions.

[7]Add crop oil concentrate according to label.

[8]Apply 1.0-1.5 pt Blazer per acre plus 2.0 pt nonionic surfactant per 100.0 gallons anytime before weed begins blooming.

[9]Control may be inconsistent.

[10]Label claims control only with two applications, second application of same rate 5-14 days after first.

[11]Label recommends addition of liquid nitrogen. See label.

[12]Based on 4.0 lb ac/gallon glyphosate containing product. Adjust rates for other formulation strengths as directed by label.

Table 5.44 - Application Rates and Perennial Grass Sizes for Treatment with Fusilade DX, Poast, Poast Plus, Select, and Assure II[1]

		Weed Size and Herbicide Rate[2] (oz/A)	
Herbicide	**Weed**	**First Application**	**Second Application**
Assure II/Targa	Rhizome johnsongrass	10-24 inches 10 oz	6-10 inches 7 oz
	Bermudagrass	up to 6 inches 10 oz	up to 6 inches 7 oz
Fusilade DX	Rhizome johnsongrass	8-18 inches 12 oz	6-12 inches 8 oz
	Bermudagrass	4-8 inches 12 oz	4-8 inches 8 oz
Poast	Rhizome johnsongrass	20-25 inches 24 oz	12 inches 16 oz
	Bermudagrass	6-inch stolon 24 oz	4-inch stolon 16 oz
Poast Plus	Rhizome johnsongrass	15-25 inches 12 oz	6-12 inches 12 oz
	Bermudagrass	6 inches or less in diameter 36 oz	1-4 inches 24 oz
Select	Rhizome johnsongrass	12-24 inches 8-16 oz	6-18 inches 6-8 oz
	Bermudagrass	3-6 inches 8-16 oz	3-6 inches 8-16 oz

[1]Taken from product labels.

[2]Weed size refers to height of johnsongrass and length of bermudagrass runners.

Table 5.45 - Application Rates and Annual Grass Sizes for Treatment with Assure II, Fusilade DX, Poast, Poast Plus, Pursuit, Fusion, Select, and Raptor[1]

	Assure II		Poast		Poast Plus		Fusilade Dx		Fusion		Pursuit		Select		Raptor	
Species	**Ht. (in)**	**Rate (oz/A)**	**Ht. (in)**	**Rate (oz/A)**	**Ht. (in)**	**Rate (oz/A)**	**Ht. (in)**	**Rate (oz/A)**	**Ht. (in)**	**Rate (oz/A)**	**Ht. (in)**	**Rate (oz/A)**	**Ht. (in)**	**Rate (oz/A)**	**Ht. (in)**	**Rate (oz/A)**
Barnyardgrass	2-6	8	8	16	3-8	24	2-3	12	2-3	8	1-3	1.4	2-8	6-8	2-5	5
Broadleaf signal grass	2-6	8	6	16	1-4 4-8	18 24	2-4	12	2-4	8	1-8	1.4	2-6	6-8	-	-
Crabgrass	2-6	8	6	16	3-6	24	1-2	12	1-2	8	1-3	1.4	2-6	6-8	-	-
Crowfoot grass	2-6	7	-	-	-	-	-	-	-	-	-	-	2-6	6-8	-	-
Fall panicum	2-6	7	8	16 3-8	1-4 24	18	2-6	12	2-6	8	-	-	2-8	6-8	2-6	5
Foxtails	2-8	7	8	16	1-4	18	2-6	12	2-6	8			2-12	6-8	2-6	5
Giant					4-8	24					1-6	1.4				
Green	2-4	7	8	16	1-4 4-8	18 24	2-4	12	2-4	8	1-3	1.4	2-8	6-8	2-6	5
Yellow	2-4	7	8	16	1-8	24	2-4	12	2-4	8	1-3	1.4	2-8	6-8	2-6	5
Goosegrass	2-6	7	6 3-6	16 24	1-3	18	2-4	8	2-4	8	-	-	2-6	6-8	-	-
Seedling johnsongrass	2-8	5	8	16	1-8	24	2-8	6	2-8	6	1-8	1.4	4-10	6-8	4-8	5
Sandbur	2-6	7	3	20	-	-	2-4	12	-	-	-	-	2-6	6-8	-	-
Shattercane	6-12	5	18	16	6-18	24	6-12	6	6-12	6	1-8	1.4	6-18	6-8	2-8	5
Texas panicum	2-4	8	8	16	1-4 4-8	18 24	2-8	12	2-8	8	-	-	2-6	6-8	-	-
Volunteer corn	6-18	5	20	16	1-12 12-20	18 24	12-24	6	12-24	6	-	-	4-12	4-8	2-8	5

[1]Taken from product labels; control not claimed on label.

Table 5.46 - Feeding Restrictions on Soybean Hay and Preharvest Interval Following Treatment with Various Herbicides[1]

	Hay		
Herbicide	**Do not feed**	**No Restrictions**	**Seed Pre-Harvest**
2,4-D	x		45 days EPP to soybeans
2,4-DB	60 days[2]		60 days
Assure II/Targa	x		80 days[4]
Authority Assist	x		—
Axiom	x		
Basagran	30 days	x	
Boundary	40 days		—
Canopy	x		—
Canopy EX	x		—
Classic	x		60 days
Cobra	x		45 days
Command	x		—
Dual II Magnum/Cinch	x		—
Extreme	x		85 days
FirstRate	14 days		65 days
Fusilade DX	x		Before bloom
Fusion	x		Before bloom
Glyphosate	25 days		7 days
Glyphosate on Roundup Ready Soybeans	14 days		14 days
Gramoxone Inteon	x		—[5]
Harmony SG	x		60 days
Ignite 280	45 days		45 days
Micro-Tech	40 days	x[3]	
Lexone	40 days		
Outlook	x		—
Poast or Poast Plus		x	90 days
Prefix	x		—
Prowl		x	
Pursuit	x		85 days
Python	x		
Raptor	x		85 days
Reflex/Flexstar	x		Before bloom
Resource	x		60 days
Scepter	x		90 days
Select Max	x		60 days

[1]These restrictions apply to soybean hay. For feeding of green forage, see labels, as restrictions may be different.

[2]Minimum time between appllication and hay making.

[3]Do not feed if Micro-Tech is applied after crop emergence.

[4]Do not apply after pod set.

[5]When at least 65% of the seed pods have reached a mature brown or when seed moisture is 30% or less.

Table 5.46 - Feeding Restrictions on Soybean Hay and Preharvest Interval Following Treatment with Various Herbicides[1] (cont.)

	Hay		
Herbicide	**Do not feed**	**No Restrictions**	**Seed Pre-Harvest**
Sencor	40 days		
Sequence (POST on RR soybeans)	x		90 days
Sequence (PRE)	30 days		—
Sonic/Authority First	x		65 days
Stellar	x		60 days
Storm	x		50 days
Synchrony XP	x		60 days
Touchdown Total/HiTech (RR soybeans)	x	x	14 days
Treflan		x	—
Ultra Blazer	x		50 days
Valor	x		—
Valor XLT	x		—

[1]These restrictions apply to soybean hay. For feeding of green forage, see labels, as restrictions may be different.

[2]Minimum time between appllication and hay making.

[3]Do not feed if Micro-Tech is applied after crop emergence.

[4]Do not apply after pod set.

[5]When at least 65% of the seed pods have reached a mature brown or when seed moisture is 30% or less.

Table 5.47 - Preplant

Weed Problem	**Chemical rate per acre**	**Product per acre**	**Remarks**
Johnsongrass (rhizomes)	Glyphosate 1.0-3.0 lb	4.0 lb ai/gallon glyphosate contaning product or equivalent 1.0-3.0 qt	Use in 10.0-40.0 gal of water/A. Spray when johnsongrass is 24-30 inches high and in boot to head stage. Rainfall within 6 hours may reduce effectiveness, within 2 hours retreatment is necessary. Allow at least 7 days before plowing. Use one of the pre-plant incorporated herbicides for johnsongrass seedling control before planting. Do not feed or forage treated crops within 8 weeks after application.
Johnsongrass (rhizomes) Alternate method	Glyphosate 1.0-1.5 lb	4.0 lb ai/gallon glyphosate containing product or equivalent 1.0-5.0 qt	Use 1.0-1.5 lb ai/A with low water volume (5.0-10.0 gal/A) and with flat fan type nozzles on annually cropped areas. Use the 2.0-3.0 lb ai/A rate described above on noncrop areas or where annual tillage is not performed.

Table 5.48 - Preplant Incorporated

Weed Problem	Chemical rate per acre	Product per acre	Remarks
Carpetweed, cocklebur, crabgrass spp., jimsonweed, lambsquarters, morningglory spp., nightshade, fall panicum, pigweed spp., purslane, prickly sida, smartweed, spurred anoda, and velvetleaf.	Sulfentrazone 0.16-0.32 lb + Imazethapyr 0.031 - 0.062 lb	Authority Assist 4 SC 6.0-12.0 oz	Apply preplant incorporated or as a preemergence treatment. If incorporated, do not incorporate more than 2 inches deep. Do not apply to soils classified as sand with less than 1% organic matter content or to soils with pH of 7.9 or higher. Authority Assist rates of 4 to 6 ounces can be used when followed by glyphosate applications in a Roundup Ready soybean system. Rates of 6 to 12 ounces are recommended in conventional soybean systems.
Cocklebur, jimsonweed, lambsquarters, pigweed, common ragweed, smartweed, prickly sida or teaweed, velvetleaf, and suppression of annual morning-glory species, burcucumber and giant ragweed	Chlorimuron + metribuzin 0.19-0.38 lb	Canopy 75DG 4.0-8.0 oz	Incorporate uniformly into the top 1-2 inches of soil before planting soybeans. If tank mixed with grass herbicide, follow incorporation instructions for the grass herbicide. Use lower rates on sand or loamy sand or any soil of less than 0.5% organic matter content. Do not use on soils of pH 7.0 or higher. Observe labeled rotational crop restrictions. May require use of a supplementary postermergence herbicide. Use of STS soybeans with Canopy may allow use of higher rates with reduced risk of crop injury.
		Approved combinations: Micro-Tech, Dual II Magnum/Cinch, Treflan, Outlook	Observe all precautions, rates of application, and weeds controlled stated on respective labels.
Barnyardgrass, crabgrass, fall panicum, foxtails, goosegrass, broadleaf signalgrass, yellow nutsedge, carpetweed, pigweed, and galinsoga	s-metolachlor 0.96-1.9 lb	Dual II Magnum/Cinch 1.0-2.0 pt Approved combinations: Sencor, tank mix or preemergence; Scepter, tank mix or preemergence.	If used preplant incorporated, incorporate not over 2 inches deep within 14 days before planting. Apply before weeds or crop emerge. Refer to labels for rates application, and complete weed lists. The metolachlor plus metribuzin combination may be applied as the prepackage mix Turbo.
Barnyardgrass, carpetweed, crabgrass, fall panicum, foxtails, goosegrass, johnsongrass seedlings, lambsquarters, pigweed,broadleaf signalgrass, smartweed, spurges, and shattercane	Pendimethalin 0.5-1.5 lb	Prowl 3.3EC 1.21-3.63 pt	Adjust rate to soil texture. Apply and incorporate 1-2 inches deep within 7 days after application. Soybeans may be planted immediately.
		Approved combinations: Sencor/Lexone, tank mix or preemergence; Linex, preemergence; Scepter, tank mix or preemergence.	Observe all precautions, rates of application, and weeds controlled stated on the respective labels. Prowl + scepter are available as the package-mix Squadron (3.0 pt/A). Prowl is also available in a prepack with Scepter and Pursuit called Steel.

Table 5.48 - Preplant Incorporated (cont.)

Weed Problem	Chemical rate per acre	Product per acre	Remarks
Cocklebur, pigweed only	Imazaquin 0.95 lb	Scepter 1.5E 0.5 pt, 70DG 2.15 oz	
		Approved combinations: MicroTech, Dual II Magnum/Cinch, Prowl, Treflan	Observe all precautions, rates of application, and weeds controlled stated on respective labels.
Cocklebur, jimsonweed, lambsquarters, pigweed spp., common ragweed, smartweed, prickly sida or teaweed, velvetleaf, foxtail spp., seedling johnsongrass, and suppression of giant ragweed	Imazquin 0.125 lb	Scepter 70DG 2.8 oz	Apply before planting and incorporate uniformly into the top 1-2 inches of soil. Observe labeled rotational crop restrictions. Do not graze or feed treated soybean forage, hay, or straw to livestock.
Johnsongrass control and above annual weeds for respective chemicals	Trifluralin 1.0-2.0 lb or pendimethalin 1.0-2.0 lb	Treflan 4EC 2.0-4.0 pt or Prowl 3.3 EC 2.42-4.84 pt	In the fall (preferable) or early spring, bring johnsongrass rhizomes to soil surface by moldboard plow, spring harrow, or chisel plow. Thoroughly disc soil before treatment to cut johnsongrass rhizomes into 2-3 in pieces. Apply herbicide to well worked, dry-surfaced soil. Apply in spring at the rate suggested for your soil and thoroughly incorporate with a tandem disc set to cut 4-6 inch deep and operated at 4-6 mph and cross disc. Soybeans can be planted immediately. Cultivate at least once during growing season. Usually requires two annual applications for effective control. Follow label as to rotational crops that may be safely grown. Use a johnsongrass seedling control
Wild cane or shattercane control and above annual weeds for respective chemicals	Trifluralin 0.5-1.25 lb	Treflan 4EC 1.0-2.5 pt	Follow soil preparation, mixing, application, and incorporation instructions listed above.
Barnyardgrass, brachiaria sp., bromegrass, carpetweed, crabgrass, fall panicum, Florida pusley, foxtails, goosegrass, johnsongrass seedlings, lambsquarters, pigweed, purslane, sandbur, stinkgrass, Texas panicum, wild cane, shattercane	Trifluralin 0.5-1.0 lb	Treflan HFP 4EC 1.0-2.0 pt	Incorporate with tandem disk set to cut 4-6 inches immediately or within 24 hours after application. Use lower rates on sandy and sandy loam soils and heavier rates on loam and silt loam soils. Plant soybeans after early season adverse weather has passed. Do not plant deeper than 2 inches. Follow label for proper soil incorporation procedures.
		Approved combinations: Sencor/Lexone tank mix or preemergence; Linex, preemergence; Scepter, tank mix or preemergence.	Observe all precautions, rates of application, and weeds controlled stated on the respective labels.

Table 5.49 - Preemergence

Weed Problem	Chemical rate per acre	Product per acre	Remarks
Carpetweed, cocklebur, crabgrass spp., jimsonweed, lambsquarters, morningglory spp., nightshade, fall panicum, pigweed spp., purselane, prickly sida, smartweed, spurred anoda, and velvetleaf.	sulfentrazone 0.16-0.32 lb + imazethapyr 0.031-0.062 lb	Authority Assist 4 SC 6-12 oz	Apply preplant incorporated or as a preemergence treatment. If incorporated, do not incorporate more than 2 inches deep. Do not apply to soils classified as sand with less than 1% organic matter content, or to soils with pH of 7.9 or higher. Authority Assist rates of 4-6 ounces can be used when followed by glyphosate applications in a Roundup Ready soybean system. Rates of 6-12 ounces are recommended in conventional soybean systems.
Anoda (spurred), carpetweed, cocklebur (common), croton (tropic), dayflower (common), galinsoga (hairy), jimsonweed, lambsquarters (common), momingglory spp., nightshade (eastern black), pigweed spp., purslane (common), ragweed (common), sida (prickly), smartweed, velvetleaf	Metribuzin 0.135-0.338 lb + sulfentrazone 0.09-0.225 lb	Authority MTZ 8.0-20 oz	Reduced rates are labeled for the suppression of weeds to reduce early-season weed competition in glyphosate-resistant soybeans. Properly closed planter seed furrows are required prior to application to avoid crop injury. Soil pH greater than 7.5 can cause crop injury. Do not apply to soils classified as sand that have less than 1% organic matter.
Barnyardgrass, carpetweed, crabgrass, foxtail (giant, green, yellow), galinsoga, goosegrass, panicum (fall), purslane	Flufenacet + metribuzin 0.3-0.55 lb	Axiom 68DF 7.0-13.0 oz	Apply Axiom alone or in combination with recommended tank mixes at broadcast spray. Do not apply serially. Can be applied up to 14 days preplant. Do not use on sandy soil with less than 1% organic matter.
		Approved combinations: Tank mix with Linex/ Lorox, Scepter, or Sencor	
Cocklebur, jimsonweed, lambsquarters, pigweed, common ragweed, smartweed, prickly sida or teaweed, velvetleaf, and suppression of annual morning-glory species, burcucumber, and giant ragweed	Chlorimuron + metribuzin 0.19-0.38 lb	Canopy 75DG 4.0-8.0 oz	Apply uniformly to soil surface after planting but before soybeans emerge. Do not use on sand or loamy sand or any soil of less than 0.5% organic matter content. Can be tankmixed with a residual grass herbicide for improved annual grass control. Do not apply on soils at pH 6.8 or greater. Observe labeled rotational crop restrictions. Injury in the form of stunting and leaf discoloration may occur with some varieties under certain environmental conditions. May require use of a supplementary postemergence herbicide. Use of STS soybeans with Canopy may allow use of higher rates with reduced risk of crop injury.
		Approved combinations: MicroTech, Dual II Magnum/Cinch, or Prowl tank mix; or as an overlay to Treflan	Observe all precautions, rates of application, and weeds controlled stated on respective labels.

Table 5.49 - Preemergence (cont.)

Weed Problem	Chemical rate per acre	Product per acre	Remarks
Anoda (spurred) barnyardgrass, crabgrass, foxtail (giant, green, and yellow), goosegrass, johnsongrass (seedling), lambsquarters, panicum (fall), purslane, sandbur (field), sida (prickly), signalgrass (broadleaf), smartweed, and velvetleaf	Clomazone 0.5-1.0 lb	Command 3ME 1.33-2.66 pt	Apply in a minimum spray volume of 10 gal/A. Do not apply within 1,200 feet of areas listed on the label. Do not exceed 30 psi spray pressure. Off-site movement of spray drift or vapors of Command 3ME can cause foliar whitening or yellowing of some plants.
		Approved combinations: Tank mix with Scepter or Sencor	
Barnyardgrass, beggarweed, carpetweed, crabgrass, fall panicum, Florida pusley, foxtails, galinsoga, goosegrass, pigweed, broad- leaf signalgrass, witchgrass, and yellow nutsedge	s-metolachlor 0.96-1.9 lb	Dual II Magnum 7.64 EC 1.0-2.0 pt	Apply before, during or after planting but before weeds or crop emerges. May be incorporated into the top 2 inches of soil within 14 days before planting. Small grains may be planted 4.5 months after treatment. Do not graze or feed forage or fodder from small grains or soybeans.
		Approved combinations: Linex, tank mix; Sencor, tank mix or preplant incorporated; Treflan, preplant incorporated; Scepter, tank mix or preplant incorporated;	Observe all precautions, rates of application, and weeds controlled stated on the respective labels. Do not use metribuzin on coarse textured, coastal plain soils. The metolachlor plus metribuzin combination may be applied as the prepackage mix Boundary.
Cocklebur, horseweed, ragweed (common, giant), jimsonweed, smartweed, lambsquarters, Venice mallow, velvetleaf, morningglory species, pigweed species	cloransulam-methyl 0.032-0.040 lb/A	FirstRate 84D 0.6-0.75 oz/A	Apply Firstrate/Amplify alone or in tank-mix combination with other herbicides registered for preplant surface application in soybeans. For best results apply within 2 weeks of planting, but prior to crop or weed emergence. When applied in combination, follow use instructions and restrictions for each product used in tank- mixture.
Barnyardgrass, carpetweed, crabgrass, foxtails, Florida pusley, goosegrass, fall panicum, galinsoga, lambsquarters, mustard, pigweed, purslane, ragweed, and smartweed. Will not control cocklebur, jimsonweed, morning-glory, or velvetleaf	Linuron 0.3-1.0 lb	Linex 4L 0.3-1.0 qt	Apply after planting and before beans germinate. Provide good agitation in tank before and during application. Follow labeled directions regarding soybean planting depth. Do not use on light sandy soils with low organic matter because injury may occur. Do not plant any crop not on label within 4 months of application. Often provides short-term grass control.
		Approved combinations: MicroTech, tank mix; Dual II Magnum/Cinch, tank mix; Treflan, preplant incorporated; Prowl, preplant incorporated or tank mix	Observe all precautions, rates of application, and weeds controlled stated on the respective labels. When used in combinations, linuron rates generally should be reduced.

Table 5.49 - Preemergence (cont.)

Weed Problem	Chemical rate per acre	Product per acre	Remarks
Barnyardgrass, crabgrass, carpetweed, Florida pusley, foxtails, galinsoga, goosegrass, fall panicum, nightshade (black), pigweed, broadleaf signalgrass, and witchgrass	Alachlor 1.5-4.0 lb	MicroTech or others 1.5-4.0 qt	Apply immediately after planting and before crop and weeds emerge. Use lower rates on sandy and sandy loam soils, higher rates on silt loam soils. Also may be used as a pre-plant incorporated treatment. Shallow incorporation or surface blend generally is most effective, particularly on light, sandy, soils. MicroTech is not recommended for incorporation on coarse soils in the Southeast.
		Approved combinations: Linex, tank mix; Sencor, tank mix; Scepter, tank mix	Observe all precautions, rates of application, and weeds controlled stated on respective labels.
Barnyardgrass, carpetweed, crabgrass, foxtail (giant, green, yellow), goosegrass, nutsedge (yellow), panicum (fall), pigweed spp., pusley (Florida), broadleaf signalgrass, and witchgrass	Dimethenamid-P 0.47-0.98 lb	Outlook 6.0 EC 10.0-21.0 oz	Do not exceed a rate of 20.0 oz/A on coarse soils with less than 2.5 % OM, PPI treatments are not recommended on these soils. Add 3-5 oz/A to the rates given when Frontier is used on heavy surface plant residue. Frontier plus Scepter is available as a package mix called Detail. Do not apply Detail on coarse soil classified as sand with less than 3% organic matter content and where depth to ground water is 30 feet or less.
		Approved combinations: tank mix with Scepter, Linex, or Sencor	Observe all precautions, rates of application and weeds controlled on the respective labels.
Barnyardgrass, carpetweed, crabgrass, foxtail spp., goosegrass, panicum (fall), lambsquarters (common), nightshade (eastern black), pigweed spp., purslane (common), ragweed (common), signalgrass (broadleaf), smartweed	S-metolachlor 1.1-1.6 lb + fomesafen 0.24-0.36 lb	Prefix 5.32EC 2.0-3.0 pt	Prefix can be used as part of a two-pass program for weed control in soybeans. A sequential application of Reflex or Flexstar is prohibited.
Barnyardgrass, carpetweed, crabgrass, fall panicum, Florida pusley, foxtails, goosegrass, lambsquarters, pigweed, broadleaf signalgrass, smartweed, spurges, and velvetleaf suppression	Pendimethalin 0.5-1.25 lb	Prowl 3.3EC 1.21-3.0 pt	Apply to a seedbed that is firm and free of trash. Rainfall is necessary for activation, and treatment is most effective when adequate rainfall or overhead irrigation is received within 7 days after application. If rainfall is not adequate for activation, a shallow cultivation should be made to control existing weeds; place herbicide in zone of weed seed germination. Under certain environmental conditions, soybeans may become brittle at soil surface.

Table 5.49 - Preemergence (cont.)

Weed Problem	Chemical rate per acre	Product per acre	Remarks
		Approved combinations: tank mix with Canopy plus Scepter, or Sencor; preplant incorporated with Scepter or Sencor	
Cocklebur, jimsonweed, lambsquarters, morning glory species, nightshade species, pigweed, sida (prickly), smartweed, velvetleaf	Flumetsulam 0.04-0.067 lb	Python 0.8-1.33 oz	Do not apply aerially. Do not apply to soils with a pH >7.8. A tank mix grass herbicide is recommended.
Cocklebur, pigweed only	Imazaquin 0.95 lb	Scepter 70DG 2.15 oz	
		Approved combinations: tank mix with Prowl, dimethenamid, Micro-Tech or Dual II Magnum/Cinch; preplant-incorporated with Outlook, Prowl, Treflan, or Dual II Magnum/Cinch	Observe precautions, rates of application, and weeds controlled on respective labels.
Cocklebur, jimsonweed, lambsquarters, pigweed spp,. common ragweed, smartweed, prickly sida or teaweed, and foxtail spp.	Imazaquin 0.125 lb	Scepter 70DG 2.8 oz	Apply during or after planting but before crop emergence. If sufficient rainfall for activation is not received within 7 days of application, a shallow tillage or cultivation is recommended. May be tankmixed with a residual herbicide for improved annual grass control. Observe labeled rotation crop restrictions.
Barnyardgrass, beggarweed, carpetweed, coffeeweed, pusley, fall panicum, jimsonweed, lambsquarters, mustard spp., pigweed spp., purslane, ragweed, broadleaf signalgrass, sicklepod, smartweed, spurred anoda, prickly sida, and velvetleaf	Metribuzin 0.25-0.375 lb	Sencor 4L 0.5-0.75 pt or DF 0.33-0.5 lb	Apply immediately after planting. Plant at least 1.5 inches deep. Do not use on sands or sandy loam soils or soils with less than 0.5% organic matter. If used on coarser textured soils with less than 2% organic matter, or if heavy rainfall follows soon after application, severe stand losses can occur. Certain organic phosphate soil insecticides placed in contact with seed also may result in increased soybean injury from metribuzin. Do not use on Altona, Coker 102 and 156, Gervin, Semmes, Tracy, or Varsoy varieties. The lowest rates have not effectively controlled cocklebur, jimsonweed, or morningglory. Rainfall (0.25-0.5 inches) within 2 weeks after application is necessary to activate herbicide. Do not use treated vines for feed or forage. Do not replant treated areas to any crop other than soybeans within 4 months after treatment. Read and follow the label for such use.

Table 5.49 - Preemergence (cont.)

Weed Problem	Chemical rate per acre	Product per acre	Remarks
		Approved combinations: MicroTech, tank mix; Dual II Magnum/Cinch, tank mix or preplant incorporated; Prowl, tank mix or preplant incorporated; Treflan, preplant incorporated	Observe all precautions, rates of application, and weeds controlled stated on the respective labels.
Anoda (spurred), carpetweed, cocklebur (common), crabgrass, croton (tropic), dayflower (common), goosegrass, jimsonweed, lambsquarters (common), momingglory spp., nightshade (eastern black), panicum (fall), pigweed spp., purslane (common), ragweed (common), signalgrass (broadleaf), smartweed, velvetleaf	Sulfentrazone 0.25-0.31 lb + cloransulam 0.032-0.04 lb	Sonic/Authority First 70DF 6.45-8.0 oz	Sonic/Authority First contains a group 2 herbicide (chloransulam) and there is known weed resistance to group 2 herbicides. Sonic/Authority First will not control group 2-resistant weed biotypes. Do not apply to soils classified as sand with less than 1% organic matter. It is recommended that you use 3.0 oz/A when followed by glyphosate in a Roundup-Ready soybean system, or 6.45 to 8.0 oz/A in conventional soybeans. For soils with less than 3.0% organic matter, use 6.45 oz/A, for soils with greater than 3.0% organic matter use 8.0 oz/A. Do not apply to sands with less than 1.0% organic matter.
Cocklebur, lambsquarters, marestail, pigweed spp., common ragweed, smartweed, and velvetleaf; and suppression of annual grasses (foxtails, barnyardgrass, crabgrass spp., fall panicum), common chickweed, jimsonweed, morningglory spp., yellow nutsedge, prickly sida, and giant ragweed.	chlorimuron 0.21-0.64 oz + thifensulfuron 0.0 -0.21 oz	Synchrony XP 28.4 DG 1.0-3.0 oz	Apply to either conventional, reduced-tillage, or no-till plantings. In reduced-tillage and no-tillage plantings, Synchrony XP will also provide burndown control of many existing winter annual and summer annual weeds. Burndown applications should include a crop- oil concentrate at 1% v/v and be made in a minimum of 20 GPA. The addition of 2,4-D LVE at 1 pt/A will enhance burndown control. The addition of 2,4-D LVE is required with the 1.0 oz rate of Synchrony XP and is recommended for all other rates. Do not apply more than 1.5 oz/A of Synchrony XP to soils with composite pH greater than 7.0.

Table 5.49 - Preemergence (cont.)

Weed Problem	Chemical rate per acre	Product per acre	Remarks
Carpetweed, lambsquarters, horseweed, nightshade spp., pigweed spp., prickly sida (teaweed), morningglory species, common ragweed, jimsonweed, spurred anoda, tropic croton	Flumioxazin 0.64-0.80 lb/A	Valor 51D 2.0-2.5 oz/A	Apply preemergence using ground equipment only. Crop injury may occur from applications made to poorly drained soils or under cool, wet conditions. Apply in 10.0-30.0 gal/A. Valor can be tank mixed with pendimethalin or Command for additional grass control. Tank mixes with metolachlor (Dual products or Boundary), dimethenamid (Frontier or Outlook), or alachlor (Micro-Tech) may result in severe injury to soybeans when application is followed by prolonged periods of cool wet weather and should not be used with Valor. Valor can be tank mixed with Sencor, FirstRate, Linex, Python, or Scepter for additional broadleaf weed control.
Barnyardgrass, carpetweed, crabgrass (large), goosegrass, lambsquarters (common), nightshade (eastern black), panicum (fall and Texas), pigweed spp., primrose (evening), purslane (common), sida (prickly), signalgrass (broadleaf). At rates >4 oz include the following: cocklebur (common), croton (tropic), jimsonweed, morningglory spp., ragweed (common and giant), smartweed spp., velvetleaf	Chlorimuron 0.019-0.0317 lb + flumioxazin 0.056-0.093 lb	Valor XLT 40.3WDG 3.0-5.0 oz	Do not incorporate Valor XLT. Valor XLT contains a group 2 herbicide (chlorimuron) and there is known resistance to group 2 herbicides. Chlorimuron will not control group 2-resistant weed biotypes. Risk of crop injury can be minimized by not using on poorly drained soils, planting at least 1.5 inches deep, and completely covering seeds with soil prior to preemeregence applications. For improved grass control, Valor XLT can be tank mixed with products such as Command or pendimethalin (Prowl and others).

Table 5.50 - 2,4-D Application Rate Chart - Preplant Soybeans[1]

2,4-D is now labeled for use prior to planting soybeans. Use the following table to determine the amount of 2,4-D to use and the time interval needed between application and planting soybeans.

Product	Use Rate	lb ai/A	When to Apply (Pre-Plant Interval)
4.0 lb ai/gallon	0.75-1.0 pt	0.375-0.5	15 days
2,4-D amine	1.0-2.0 pt	0.5-1.0	30 days
4.0 lb ai/A gallon	0.75-1.0 pt	0.375-0.5	7 days
2,4-D ester	1.0-2.0 pt	0.5-1.0	30 days

[1]Restrictions and limitations for use of 2,4-D on soybeans (pre-plant).

- Do not apply when weather conditions such as temperature air inversions or wind favor drift from treated areas to susceptible plants.
- Do not exceed the 2,4-D rates given on the product labels.
- Do not apply 2,4-D prior to planting soybeans if you are not prepared to accept the results of soybean injury including possible oss of stand and yield.
- Do not replant fields treated with 2,4-D in the same growing season with crops other than those labeled for 2,4-D pre-plant use.
- Do not mow or cultivate weeds prior to treating with 2,4-D or poor control may result.
- Do not cut for feed or graze soybeans grown in fields which have received a 2,4-D pre-plant application.
- Other 2,4-D formulations (such as Selvo) can have shorter preplant intervals.
- Some 2,4-D formulations contain greater than 4.0 lb ai/gallon. Consult label and adjust rates accordingly.

Table 5.51 - Soybeans (Full-season No-till)

For control of vegetation existing at planting, use one of the three following options.

Weed problem	Chemical rate per acre	Product per acre	Remarks
Contact kill of most annual weeds and annual cover crops	Paraquat 0.5 lb + surfactant	Gramoxone Inteon 2.0 pt [1] + surfactant as specified by label	Apply in 20.0-60.0 gal/A. May not control weeds higher than 6 inches. Increase gallonage as density of stubble, crop residue, and/or weeds increases. 2,4-D-B may increase activity of this treatment on some species.
Alternate method for increased activity on harder to control annual weeds such as horseweed (marestail), annual vetch, and lambsquarters	Paraquat 0.25-0.5 lb + surfactant + paraquat 0.25-0.5 lb + surfactant 10 days later + residual herbicide	Gramoxone Inteon 1.0 - 2.0 pt [1] + surfactant as labeled + Gramoxone Inteon 1.0 - 2.0 pt + surfactant as labeled 15 days later + residual herbicide as needed	Apply as directed above. 2,4-D may be needed with first application. Refer to label and to 2,4-D comment below.

[1]For enhanced control of marestail or horseweed, lambsquarters, ragweed, and other susceptible broadleaf species, and as a supplement to traditional burndown herbicides, 2,4-D may be added to paraquat or glyphosate.

Table 5.51 - Soybeans (Full-season No-till) (cont.)

For control of vegetation existing at planting, use one of the three following options.

Weed problem	Chemical rate per acre	Product per acre	Remarks
Control of annual weeds including horseweed (marestail) and annual cover crops and suppression or control of perennial weeds or covers	Glyphosate 0.75-3.0 lb	4.0 lb ai/gallon glyphosate containing product or equivalent 0.75-3.0 qt	Effective in heavy annual weed infestations and with large weeds where thorough coverage with paraquat is not possible. Higher rates will control perennial species, but those species often are not present or susceptible at the time of planting. Use 0.75 lb ai for annual weeds up to 6 inches and 1.5 lb ai for weeds greater than 6 inches. Use a minimum of 1.5 lb ai for horseweed (marestail) control. Horseweed taller than 6 inches may not be controlled. Make applications with fan-type nozzles. Use 15.0-30.0 gal/A (lower volumes usually are most effective).

[1]For enhanced control of marestail or horseweed, lambsquarters, ragweed, and other susceptible broadleaf species, and as a supplement to traditional burndown herbicides, 2,4-D may be added to paraquat or glyphosate.

Successful production of full-season and double crop no-till soybeans depends on control of existing vegetation (cover crop/weeds) and broadleaf and grass weeds that emerge after planting. A diversity of herbicides and cover crop/residue situations make it impossible to utilize a single program to efficiently control weeds and grasses on all situations. Herbicide selection based on weed histories of each farm or field is necessary to achieve weed-free, high-yielding soybeans.

Existing vegetation is traditionally controlled by the non-selective herbicides glyphosate or paraquat (Gramoxone Inteon) in no-till soybeans. If in-crop applications of glyphosate are planned, consider use of an alternative burndown program to reduce the potential for development of tolerant or resistant species. Two paraquat applications may be required for satisfactory control of some species. More recently, 2,4-D and thifensulfuron (Harmony SG) were labeled for control of broadleaf weeds prior to planting full season no-till soybeans. In double crop no-till soybeans planted into barley or wheat stubble, chlorimuron plus metribuzin (Canopy), linuron (Linex), metribuzin (Sencor), or chlorimuron plus sulfentrazone (CanopyXL) plus adjuvants have controlled small broadleaf weeds without addition of non-selective herbicides. Annual grass control in no-till soybeans can be obtained with preemergence applications of alachlor (Micro-Tech), metolachlor (Dual II Magnum/Cinch), dimethenamid (Outlook), pendimethalin (Prowl) or with any of several postemergence grass herbicides. Stem brittleness and lodging can be associated with pendimethalin when soil conditions are cool and wet, these conditions can occur most frequently in early-planted full-season no-till soybeans.

Annual broadleaf weed control **in no-till** can be achieved with a combination of preemergence and postemergence broadleaf herbicides. Because of the diversity of species in many fields it is frequently necessary to apply postemergence herbicides to control weeds that escape preemergence herbicides.

Escalating herbicide costs and our interest in keeping herbicide use to a minimum is encouraging many people to **rethink their herbicide strategy by reducing or eliminating preemergence herbicides and following with timely applications of postemergence herbicides.** Our experiences lead us to suggest that one should always control existing vegetation at or prior to planting. Preemergence and/or postemergence herbicides can then be selected at rates that will control weeds that emerge after planting. Reducing or eliminating all or some of the preemergence herbicides can reduce costs in fields that historically have needed postemergence herbicides. This approach **should** be considered first in double-crop no-till soybeans where weed populations have traditionally been low and expanded to the full-season no-till system as appropriate.

Table 5.52 - General Consideration for Weed Control in Full-season No-till Soybeans

Control of annual weeds and grasses as listed for specific	For annual grass control in full-season, no-till soybeans, use either alachlor (Micro-Tech), metolachlor (Dual II Magnum/Cinch), dimethenamid (Outlook), or pendimethalin (Prowl). Where herbicides in previous tables split paraquat applications are used, a portion of the residual grass herbicide may be applied with the initial paraquat application for improved early season grass control. Stem brittleness and lodging can be associated with applications of pendimethalin when soil conditions are cool and wet. Because these conditions frequently occur early in the growing season, especially under no-till conditions, the use of alachlor or metolachlor for early, full-season, no-till plantings is recommended. Late-season grass control will tend to be better with the longer residual herbicides than with the somewhat shorter residual herbicides, such as Prowl. Supplement the grass control herbicide with linuron (Linex), metribuzin (Sencor), chlorimuron + metribuzin (Canopy), imazaquin (Scepter), or chlorimuron + sulfentrazone (Canopy XL) for broadleaf weed control. Carefully monitor weed development and supplement the preemergence herbicide program with appropriate postemergence or postdirected herbicides.
Perennial broadleaf weeds	No selective herbicides are available to control perennial broadleaf weeds in soybeans, and these weeds may become prevalent under continuous no-till culture. Spot treatment with glyphosate may be used. The use of glyphosate in Roundup Ready soybean has been very effective for control or supression of many perennial broadleaf species.
Perennial grass weeds (johnsongrass, bermudagrass)	In general, soil-applied herbicides to control perennial grasses must be incorporated and cannot be used in no-till culture. Perennial grasses, therefore, must be controlled in no-till with glyphosate, or with Assure II, Fusilade DX, Fusion, Poast, Poast Plus or Select. See directions under postemergence treatments listed below. Carefully consider these options before establishing no-till soybeans in areas containing a perennial grass infestation.

Table 5.53 - Soybeans (No-till, Small-grain Stubble)

Weed Problem	Chemical Rate per Acre	Product per Acre	Remarks
Contact kill of most annual weeds and weeds listed in previous tables for specific residual herbicides	Paraquat 0.5-1.0 lb + surfactant + alachlor, metolachlor, dimethenamid, pendimethalin (residual grass control) + clomazone linuron metribuzin	Gramoxone Inteon 2.0-4.0 pt + surfactant as specified by label + Micro-Tech or Dual II Magnum/Cinch, Outlook, Prowl + Command ME or Linex or Sencor	Apply to small-grain stubble after planting and before emergence of soybeans. Use 20.0-60.0 gal of diluted spray/A. As the density of the stubble or crop residue increases, the spray gallonage should increase to ensure complete coverage and kill. Do not graze or feed treated forage to livestock. Observe all precautions, rates or application and weeds controlled stated on the respective labels. Use 4.0-8.0 oz for added control of velvetleaf, spurred anoda, and volunteer small grains.

Table 5.53 - Soybeans (No-till, Small-grain Stubble) (cont.)

Weed Problem	Chemical Rate per Acre	Product per Acre	Remarks
Kill of most annuals and some perennials and weeds listed in previous tables for specific residual herbicides	Glyphosate 0.5-3.0 lb + alachlor, metolachlor, dimethenamid, pendimethalin (residual grass control) + clomazone linuron metribuzin	4.0 ai/gal glyphosate containing product or equivalent 0.5-3.0 qt + Micro-Tech or Dual II Magnum/Cinch, Outlook, Prowl + Command ME or Linex or Sencor	At the normal time of planting of soybeans, johnsongrass and bermudagrass will not be at the proper stage of growth for effective control. Do not feed or forage glyphosate-treated crops within 8 weeks after application. See label for specific weeds controlled. Use 0.75 lb ai for control of annual broadleaf weeds and grasses up to 6 inches high and 1.5 lb ai for annual broadleaf weeds and grasses more than 6 inches high. Applications with fan type nozzles generally have been more effective than with flood-jet type nozzles. Use 3.0-10.0 gal of water/A and low-rate instructions for most economical glyphosate use rates, or 10.0-40.0 gal of water using high-volume instructions and corresponding glyphosate rates. Glyphosate is also available in a prepack with Dual II Magnum called Sequence, and in a prepack with Pursuit called Extreme.
Preplant: Canada thistle, carolina geranium, cutleaf evening primrose, curly dock, Pennsylvania smartweed, prickly lettuce, prostrate knotweed and many other broadleaf weeds	Thifensulfuron and Tribenuron 0.023-0.028 + surfactant or crop oil concentrate or liquid fertilizer	Harmony Extra SG 0.75-0.9 oz + surfactant 1.0 qt/100.0 gal or crop oil concentrate 1.0 qt/100.0 gal or fertilizer	Apply Harmony Extra SG at least 45 days prior to planting soybeans, either conventional or no-till. Allow to stand for 5 weeks before tillage or mowing. Best results obtained when applications are made to young, actively growing weeds. This is an excellent treatment, especially when combined with 2, 4-D ester for the control of Canada thistle and many hard to kill weeds in full season no-till soybeans such as horseweed, carolina geranium, cutleaf evening primrose, curly dock, etc.
		Approved combination: tank mix with 2,4-D ester 1.0-2.0 pt/A (4.0 lb/gal)	Use for improved control of Canada thistle, carolina geranium cutleaf primrose and most other broadleaf weeds.

Table 5.53 - Soybeans (No-till, Small-grain Stubble) (cont.)

Weed Problem	Chemical Rate per Acre	Product per Acre	Remarks
Burndown control of emerged winter annual, perennial, and summer annual weeds, including buttercup, chickweed, dandelion, deadnettle, henbit, lambsquarters, prickly lettuce, mustard spp., pigweed, ragweed spp., smartweed, speedwell, and velvetleaf.	chiorimuron 0.25 oz + tribenuron 0.075 oz	Canopy EX 29.5 DG 1.1 oz	Apply to no-till or conventional-tillage fields anytime after fall harvest, up to 45 days before soybean planting. For best results, apply to annual weeds that are up to 3 inches in height or diameter, and to perennial weeds that are up to 6 inches in height or diameter. For the best burndown results, the addition of 1 pt/A of 2,4-D LVE is recommended, and is required for control of some species. Applications of Canopy EX must include either a crop-oil concentrate or a nonionic surfactant. Crop-oil concentrate is the required adjuvant unless tank mixing with a product that precludes use of crop-oil concentrate. On soils with soil pH of 7.0 or less, Canopy EX may be applied at rates or 1.5 - 3.3 oz/A and will also provide residual control of cocklebur, henbit, marestail, pigweed spp., common ragweed, smartweed, and winter annual mustard spp., and will provide suppression of annual grasses, chickweed, jimsonweed, morningglory spp., yellow nutsedge, prickly sida, giant ragweed, and velvetleaf.
The addition of Synchrony XP to glyphosate containing herbicides will increase the burndown control of dandelion, curly dock, henbit, marestail, morningglory spp., yellow nutsedge, evening primrose, ragweed spp., sicklepod, smartweed spp., and velvetleaf versus application of glyphosate alone.	chlorimuron 0.16 oz + thifensulfuron 0.052 oz	Synchrony XP 28.4 DG 0.75 oz	Synchrony XP may be tank mixed with glyphosate-containing herbicides registered for soybeans for burndown of existing summer and winter annual weeds. Apply up to 30 days before planting and prior to soybean emergence. Always include 0.25% v/v nonionic surfactant. The addition of 1-2% w/w ammonium sulfate may increase performance of this tank mix. 1 pt/A of 2,4-D LVE will enhance performance and may be applied up to 7 days before planting. Synchrony XP will also provide limited preemergence control of jimsonweed, lambsquarter, marestail, yellow nutsedge, pigweed spp., ragweed spp., and smartweed spp. For season-long control, however, a planned PRE or POST sequential program is required.

Table 5.54 - Postemergence

Weed Problem	Chemical Rate per Acre	Product per Acre	Remarks
Common cocklebur (2 leaf only), morning-glory, pigweed, jimsonweed, common ragweed, smell melon, buffalo bur, wild mustard, carpetweed, common purslane, Pennsylvania smartweed, giant ragweed, Florida pusley, black nightshade, ironweed, tropic croton, lanceleaf groundcherry, prostrate spurge, and burcucumber	Acifluorfen 0.25-0.375 lb	Ultra Blazer 2L 1.0-1.5 pt	Apply when weeds are 2-4 inches high and actively growing and when soybeans are in the 1-2 trifoliate leaf stage. Use standard herbicide sprayers equipped with hollow-cone or flat-fan nozzles. (Best results have been obtained with fan type nozzles). Use 40-60 psi at the nozzle tips and a minimum of 20.0 gal spray volume/A. Add a nonionic surfactant at the rate of 1.0 pt/100.0 gal to Ultra Blazer 2L. Do not apply when crop and weeds are under stress, such as from drought, flooding, excessive fertilizer or soil salts, wind injury, frost damage, unseasonable cold night and day temperatures, or injury from previous herbicides. Application with 30.0 gal of spray volume/A; a minimum of 50 psi, and the addition of surfactant to the 2L formulation may improve on drought-stressed or slightly oversized weeds, but applications made under these conditions generally will be less satisfactory than those made under optimum conditions. Do not apply if rain is threatening (6 hour rainfree period is required for best results). Do not apply within 50 days of harvest and do not use treated plants for feed or forage. The addition of 2,4-DB (2 fl oz) is recommended for additional control of morning-glory spp. and cocklebur. Add to Basagran, Ultra Blazer, Classic, Reflex, or Cobra.

Table 5.54 - Postemergence (cont.)

Weed Problem	Chemical Rate per Acre	Product per Acre	Remarks
Beggarticks, cocklebur, Pennsylvania smartweed, wild mustard, velvetleaf, common ragweed, galinsoga, jimsonweed, giant ragweed, prickly sida (teaweed), purslane, spurred anoda, yellow nutsedge, and suppression of Canada thistle	Bentazon 0.75-1.0 lb + Crop oil concentrate	Basagran 0.75-1.0 qt + Crop oil concentrate 1.0 qt	Apply to thoroughly cover weeds when they are small and actively growing. Add oil concentrate to the spray solution according to label instructions. Weed growth stages generally correspond to soybean growth stages or 1-2 trifoliate leaves. For best results, treat before weeds reach the size limits listed on the label. Control has generally been most effective using fan tips and pressures of 40-50 psi. Yellow nutsedge may be controlled best when application is followed in 7- 10 days with a repeated application or by cultivation in 10- 14 days. Soybeans may exhibit a slight yellowing, bronzing, or speckled appearance, which generally is soon outgrown. Do not apply to soybeans growing under unfavorable conditions and exhibiting stress symptoms. Rainfall within 8 hours of application may reduce effective- ness. Do not apply within 65 days of harvest. Do not feed forage to livestock. The addition of 2,4-DB (2 fl oz) is recommended for additional control of morning-glory spp. and cocklebur. Add to Basagran, Ultra Blazer, Classic, Reflex, or Cobra.
Cocklebur, jimsonweed, pigweed, common ragweed, smartweed, velvetleaf, and suppression of morning-glory species and sicklepod, giant ragweed,and burcucumber restrictions.The addition of 2,4-DB (2 fl oz) is recommended for addi- tional control of morning-glory spp. and cocklebur. Add to Basagran, Ultra Blazer, Classic, Reflex, or Cobra.	Chlorimuron 0.008-0.012 lb + surfactant 0.25% or chlorimuron 0.008-0.012 lb + surfactant 0.25% + 2,4-DB 0.03 lb	Classic 0.5-0.75 oz + surfactant 0.25% or Classic 0.5-0.75 oz + surfactant 0.25% + Butyrac 2.0 fl oz	Apply to young, actively growing weeds within labeled growth- stage ranges. Apply at 25-40 psi with a minimum of 10.0 gal/A. Al- ways add 0.25% surfactant. Do not use crop oil, crop oil concen- trate, or vegetable oil spray addi- tives. Flood type, low-pressure nozzles are not recommended. Observe labeled rotational crop
Cocklebur, pigweed, and suppression of sicklepod	Imazaquin 0.063-0.125 lb + surfactant 0.25%	Scepter 70DG 1.42-2.85 oz + surfactant 0.25%	Apply after crop emerges but before weeds are 12 inches high. Do not apply when weeds and soybeans have been subjected to temperature or moisture stress. Allow 90 days between application and harvest. Observe labeled rotation crop restrictions. Use the lower rates for control of cocklebur, pigweed, and volunteer corn only.

Table 5.54 - Postemergence (cont.)

Weed Problem	Chemical Rate per Acre	Product per Acre	Remarks
Burcucumber, carpetweed, cocklebur, groundcherry, galinsoga, jimsonweed, morning-glory supression, nightshades, pigweed, prickly sida (teaweed), purslane, ragweeds, spurges, velvetleaf	Lactofen 0.2 lb	Cobra 12.5 oz	Consult label for specific adjuvants recommendations. Apply in 15.0-30.0 gal of water using flat fan or hollow-cone nozzles. Do not apply within 45 days of harvest. Special local-need label for VA, MD, DE: Apply cobra for control of 15-36 inch tall common ragweed, velvetleaf, jimsonweed, and burcucumber that have escaped earlier treatment. The addition of 2,4DB (2.0 fl oz) is recommended for additional control of morning-glory spp. and cocklebur. Labeled combinations include Basagran, 2,4DB, Classic, FirstRate, Pinnacle, Pursuit, Raptor, Resource, Roundup Ultra Max (for use on soybean varieties designated as **Roundup Ready**), Scepter, Select, and Synchrony (for use on soybean varieties designated as STS).
Morningglory, nightshade, cocklebur, common ragweed, jimsonweed, smartweed, pigweed, and others	Fomesafen 0.25-0.375 + surfactant crop oil concentrate	Reflex 1.0-1.5 pt + surfactant 0.25% v/v crop oil concentrate 1.0% v/v	Apply in a minimum of 10 gal of water at 40-60 psi when weeds are small and before weeds reach maximum growth stages described on the label. Apply in combination with 0.25-0.5% nonionic surfactant or 1% crop oil concentrate. Do not apply Reflex more than once every 2 years. Carefully observe labeled rotational crop restrictions. The addition of 2,4DB (2 fl oz) is recommended for additional control of morning-glory spp. and cocklebur. Add to Basagran, Ultra Blazer, Classic, Reflex, or Cobra.
Common lambsquarters, pigweed spp., smartweed, velvetleaf, and burcucumber	Thifensulfuron 0.004 lb + surfactant 0.125%	Harmony SG 75 DF 0.12 oz + surfactant 0.125% v/v	Use a nonionic surfactant at a rate of 1.0 pt/100 gal of spray mixture. For adequate velvetleaf control, add 1.0 gal/A of liquid nitrogen.
Barnyardgrass, crabgrass, foxtail spp., seedling johnsongrass, shattercane, cocklebur, jimsonweed, pigweed, smartweed, velvetleaf, and nightshade spp.	Imazethapyr 0.063 lb + surfactant 0.25%	Pursuit 2L 4.0 oz + surfactant 0.25% v/v	Apply early postemergence when weeds are actively growing and before most exceed a height of 3 inches. Use a nonionic surfactant at a rate of 2.0 pt/100.0 gal of spray mixture. Use of a fertilizer solution additive is recommended for optimum weed control. Pursuit plus Roundup Ultra Max can also be applied as the prepack Extreme.

Table 5.54 - Postemergence (cont.)

Weed Problem	Chemical Rate per Acre	Product per Acre	Remarks
Beggarticks, bristly starbur, burcucumber, cocklebur, cowpea, Florida beggarweed, hemp sesbania, lambsquarte rs,jimsonweed, morning-glory spp., pigweed spp., ragweed spp., sicklepod, smartweed spp., yellow nutsedge, velvetleaf, and suppression of Canada Thistle, marestail, and purple nutsedge	(chlorimuron 0.16 + thifensulfuron 0.052 oz) + crop oil concentrate	Synchrony XP 28.4 D 0.75 oz + crop oil concentrate 1.0% v/v	**For use only on soybean varieties designated as "STS" in the variety name.** These soybeans contain a trait which enhances tolerance to sulfonylurea herbicides. Make application to small, actively growing weeds. Split applications may be required for certain weeds, including burcucumber, morning-glory species, and sicklepod. Carefully observe crop rotation intervals, and note that extended crop rotation intervals apply when synchrony STS is applied following preemergence application of other sulfonylurea or imidazolinone herbicides. Synchrony XP can be used at the reduced rate of 0.375 oz/A on non-STS soybeans for the control of 1-4 inch cocklebur and pigweed, and suppression of 1-4 inch lambsquarters, jimsonweed, common ragweed, smartweed, and velvetleaf.
Velvetleaf	Flumiclorac + crop oil 0.027-0.054 lb	Resource 4.0-8.0 oz + crop oil concentrate 1 qt	Apply 4.0-8.0 oz as a broadcast over-the-top postemergence spray to 6-10 leaf velvetleaf using the higher rates for larger velvetleaf. Resource has activity against several other weeds when they are in the 2-3 leaf stage including cocklebur, lambsquarters, common ragweed, jimsonweed, pigweed species, and prickly sida but control declines on larger weeds. Labeled combinations include Basagran, Ultra Blazer, Classic, Cobra, FirstRate, Flexstar, Pinna- cle, Pursuit, Raptor, Reflex, Roundup Ultra Max (for use on soybean varieties designated as ROUNDUP READY), Scepter, Select, Storm, and Synchrony (for use on soybean varieties designated as STS).
Common waterhemp, tall waterhemp, velvetleaf, common ragweed, redroot pigweed, smooth pigweed, palmer amaranth, eastern black nightshade	flumiclorac .027 lb + lactofen .093 lb	Stellar 3.1EC 5.0 fl oz + crop oil concentrate or methylated seed oil at 1.0-2.0 pt	Good coverage of young, actively growing weeds is essential for good control. Apply Stellar in 10 to 30 gal of water/A on a broadcast basis at a pressure of 40 to 60 psi measured at the nozzle. Use flat fan or hollow cone nozzles. Do not use flood nozzles. Always add crop oil concentrate or methylated seed oil to be 0.5% of the spray solution, but not less than 1.0 pt/A. Soybean leaves that are sprayed may exhibit bronzing and speckling, and may be cupped or crinkled at the tip. The crop will outgrow these effects.

Table 5.54 - Postemergence (cont.)

Weed Problem	Chemical Rate per Acre	Product per Acre	Remarks
Control of most annual grasses and broadleaf weeds in conventional and no-till soybean production systems, and control or suppression of many perennial weeds including bermudagrass, Canada thistle, field bindweed, hemp dogbane, horsenettle, nutsedge, quackgrass, rhizome johnsongrass, and trumpetcreeper. Most effective in narrow row spacings	Glyphosate 0.75-3.0 lb	4.0 lb ai/gallon glyphosate containing product or equivalent 1.0-3.0 qt	**For use only on soybean varieties designated Roundup Ready.** Glyphosate may be applied postemergence from cracking through the full flowering stage. Single or sequential applications in crop may not exceed 2.0 qts per acre annually. Make initial post-emergence applications of 0.75-1.5 lb ai. and if necessary, sequential treatments of 0.75-1.5 lb ai. Adjust application rates for individual weed species and weed size as directed by the label. Apply 1.0-2.0 lb ai for perennial weed suppression or control. **Extreme care must be used to avoid drift to adjacent crops or other desirable vegetation.** Many current glyphosate formulations are very effective in removing pesticide resides from spray tanks. Carefully clean equipment prior to spray application. Do not graze or feed treated soybean forage. Do not tank-mix with other herbicides except as specified by label. Most effective in narrow row spacings. The maximum use rate is 3.0 lb ai in-crop, with a maximum of 2.0 lb ai for any single application.
Anoda (spurred), carpetweed, cocklebur, copperleaf (Virginia), croton (tropic), eclipta, groundcherry (ground), jimsonweed, lambsquarters, morning-glory sp., mustard (wild), nightshade (black), pigweed sp., purslane, ragweed (common, giant), sida (prickly), smartweed, sunflower, velvetleaf	Fomesafen 0.235-0.35 lb/ai	Flexstar HL 1.88 L 1.0-1.5 pt	Best control of susceptible weeds is obtained when Flexstar HL is applied early to actively growing weeds. Flexstar HL should be used with a minimum of 1.0% liquid nitrogen or a minimum of 4.0 lb of ammonium sulfate/100 gal of spray volume. Always add a nonionic surfactant or crop-oil concentrate as discussed on the label. Do not use flood-type spray nozzles. A maximum of 1.6 pt of Flexstar HL may be applied/A in alternate years in MD, DE, and VA; a maximum of 1.3 pt/A may be applied in alternate years in NJ, PA, and WV. Consult label for tank-mix partners. Can provide more crop response than Reflex.

Table 5.54 - Postemergence (cont.)

Weed Problem	Chemical Rate per Acre	Product per Acre	Remarks
Artichoke (Jerusalem), chickweed (common), cocklebur, jimsonweed, lambsquarters, morning- glory (entireleaf, ivyleaf, smallflower, tall), mustard sp., nightshade (black, eastern black, hairy), pigweed sp., purslane, ragweed (common, giant), sunflower, velvetleaf	Imazamox 0.039 lb	Raptor 5.0 oz	Applications of Raptor require the addition of an adjuvant and a nitrogen fertilizer solution — consult label. 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. Consult label for tank-mix partners.
Cocklebur, jimsonweed, horseweed, (marstail), morning-glory, ragweed (common, giant,), smart- weed, velvetleaf	Chloransulam-methyl 0.016 lb	Firstrate 0.3 oz	Thorough mixing is required. Firstrate water dispersible packets are not soluble in liquid fertilizer solutions. Premixing in water is required. Do not apply aerially. Apply before 50% flowering stage of soybeans. Always use an approved adjuvant system. UAN will be required for improved velvetleaf control.
Cocklebur, morning-glory, and suppression of jimsonweed, lambsquarters, pigweed, ragweed, and velvetleaf weed seedling must be sprayed. Use precision, directed-spray application equipment. Apply with sprayer nozzles mounted on skids or gauge wheels. Do not spray over one-third the base of soybean because severe injury may occur. Do not harvest within 60 days after application.	2,4-DB 0.175-0.22 lb	2,4-DB 0.7-0.9 pt	Apply as **directed spray** into the row when soybeans are 8-12 inches and cocklebur, morning-glory, jimsonweed, and redroot pigweed not exceeded 3 inches high. Top of
Barnyardgrass, crabgrass, goosegrass, pigweed, johnsongrass, and seedlings	Paraquat 0.07-0.125 lb + surfactant	Gramoxone Inteon 4.5-8.0 oz + surfactant as recommended	Apply in 20.0-40.0 gal of water/A when soybeans are at least 8 inches tall and weeds 2-4 inches. Use as a precision **directed spray**, hitting no more than the lower 3 inches of the soybeans. Follow label for necessary application equipment and procedures. Do not treat more than twice. Do not graze or feed treated forage to livestock.
Barnyardgrass, fall panicum, foxtails, johnsongrass seedlings, goosegrass, crabgrass, shattercane, volunteer corn, volunteer cereal grains, and broadleaf signalgrass	Sethoxydim 0.19-0.28 lb + crop oil concentrate	Poast Plus 1.5-2.25 pt or Poast 1.0-1.5 pt + crop oil concentrate or Dash 2.0 pt	Apply to actively growing grasses at the rate and size range indicated on the label for the individual grass species with 10.0-20.0 gal of water/A and 40 psi. Do not use flood type nozzles. Always add 2.0 pt/A of crop oil concentrate. Rainfall within 1 hour of application will decrease effectiveness.

Table 5.54 - Postemergence (cont.)

Weed Problem	Chemical Rate per Acre	Product per Acre	Remarks
Rhizome johnsongrass, bermudagrass (wiregrass)	Sethoxydim 0.19 lb + crop oil concentrate + (sequential treatment on regrowth) sethoxydim 0.19 lb + crop oil concentrate	Poast Plus 1.5-2.25 pt or Poast 1.5 pt + crop oil concentrate or Dash 2.0 pt + Poast Plus 1.5 pt or Poast 1.0 pt + crop oil concentrate or Dash 2.0 pt	Apply to actively growing grasses in the manner described above. Apply first application to johnsongrass 15-20 inches high or bermudagrass plants less than 6 inches in diameter. Apply regrowth treatments to 6-10 inches johnsongrass or 1-4 inches diameter bermudagrass plants. Rainfall within 1 hour of application will decrease effectiveness.
Quackgrass	Sethoxydim 0.28 lb + crop oil concentrate + (sequential treatment on regrowth) sethoxydim 0.19 lb + crop oil concentrate	Poast Plus 2.25 pt or Poast 1.5 pt + crop oil concentrate or Dash 2.0 pt + Poast Plus 1.5 pt or Poast 1.5 pt + crop oil concentrate or Dash 2.0 pt	Apply to actively growing quackgrass 6-8 inches high and to regrowth 6-8 inches high with 2.0 pt/A crop oil concentrate in the manner described above. Rainfall within 1 hour of application will decrease effectiveness.
Barnyardgrass, fall panicum, crabgrass, foxtails, johnsongrass seedlings, goosegrass, shattercane, volunteer corn, and broadleaf signalgrass	Fluazifop-P 0.19 lb + crop oil concentrate	Fusilade DX 0.75 pt + crop oil concentrate 0.5-1.0% v/v	Apply to actively growing grasses at the rate and growth stage indicated on the label for the individual grass species with a minimum of 10.0 gal of water/A and 30-60 psi. Do not use flood nozzles. Add 0.5% to 1.0% crop oil concentrate or 0.25% nonionic surfactant to the spray mixture. Rainfall within 1 hour of application will decrease effectiveness.
Rhizome johnsongrass	Fluazifop-P 0.19 lb + crop oil concentrate + (sequential treatment on regrowth) fluazifop-P 0.125 lb + crop oil concentrate	Fusilade DX 0.75 pt + crop oil concentrate 0.5-1.0% v/v + Fusilade DX 0.5 pt + crop oil concentrate 0.5-1.0% v/v	Apply in the manner described above to johnsongrass 12-18 inches high and before boot stage; and, if necessary, to regrowth 6-12 inches high.
Bermudagrass (wiregrass), quackgrass	Fluazifop-P 0.19 lb + crop oil concentrate + (sequential treatment on regrowth) Fluazifop-P 0.125 lb + crop oil concentrate	Fusilade DX 1.5 pt + crop oil concentrate 0.5-1.0% v/v + Fusilade DX 1.0 pt + crop oil concentrate 0.5-1.0% v/v	Apply in the manner of 10 gal of water and 30-60 psi using flat-fan or hollow-cone nozzles when johnsongrass is 10-15 inches tall. The sequential application may be needed on regrowth of rhizome johnsongrass. Do not add crop oil concentrate to Fluazifop-P when treating johnsongrass. Do not graze or use treated forage, hay, or straw.

Table 5.54 - Postemergence (cont.)

Weed Problem	Chemical Rate per Acre	Product per Acre	Remarks
Barnyardgrass, crabgrass, fall panicum, foxtails, seedling johnsongrass, goosegrass, shattercane, volunteer corn, cereals, and broadleaf signalgrass	Quizalofop 0.06-0.1 lb + crop oil concentrate	Assure II/Targa 5.0-8.0 oz + crop oil concentrate 1.0% v/v	Apply to actively growing grasses in 10.0-40.0 gal/A using flat-fan or hollow-cone nozzles. Always add crop oil concentrate. Do not graze treated field or harvest for forage or hay. Do not apply within 80 days of harvest or afterpod set. Rainfall within 1 hour of application will decrease effectiveness.
Rhizome johnsongrass, bermudagrass, and quackgrass	Quizalofop 0.12 lb A + crop oil concentrate Quizalofop 0.09 lb + crop oil concentrate	Assure II/Targa 10.0 oz + crop oil concentrate 1.0% v/v Assure II 7.0 oz + crop oil concentrate 1.0% v/v	Apply to actively growing grasses in manner described above. The first application when johnsongrass is 10-24 inches, bermudagrass is 3 inches, and quackgrass is 6-10 inches. Apply regrowth treatments to 6-10 inch johnsongrass, 3 inch bermudagrass, and 4-8 inch quackgrass.
Quackgrass, wirestem muhly, seedling johnsongrass, volunteer corn, volunteer small grains, and most annual grass species	Fluzifop-P + fenoxyprop-ethyl 0.125-0.21 lb + crop oil concentrate or nonionic surfactant	Fusion 6-10 oz + crop oil concentrate 1.0% v/v or nonionic surfactant 0.25-0.5 1.0% v/v	Apply in 5.0-40.0 gal of spray mixture. Consult label for rates and weed heights for individual species. Use of crop oil concentrate or nonionic surfactant is required. Flat fan nozzles are recommended for optimum results.
Bamyardgrass, crabgrass, foxtail (giant, green, and yellow), goosegrass, johnsongrass (seedling), panicum (fall, Texas), shattercane, and volunteer cereals and corn	Clethodim 0.068-0.0.121 lb + crop oil concentrate	Select Max 0.97EC 9.0-16.0 oz + crop oil concentrate 2.0 pt	Apply to actively growing grasses in 10 to 40 gallons of water by ground or 3 to 10 gallons of water by air. See label for tank-mix instructions. Clethodim may be available as a 0.97 lb ai/gallon formulation under the trade name Select Max. Check label for specific rate and adjuvant recommendations.
Bermudagrass and quackgrass	Clethodim 0.091-0.243 lb + crop oil concentrate	Select Max 0.97 EC 12.0-32.0 oz + crop oil concentrate 2.0 pt	Time first application when bermudagrass is 3 inches tall and quackgrass is 4 to 12 inches tall. Apply second application when regrowth of bermudagrass is 3 inches tall and quackgrass is 4 to 12 inches tall.
	(sequential treatment on regrowth) Clethodim 0.091-0.243 lb + crop oil concentrate	Select Max 0.97 EC 12.0-32.0 oz + crop oil concentrate 2.0 pt	
Johnsongrass (rhizome)	Clethodim 0.091-0.243 lb + crop oil concentrate	Select Max 0.97 EC 12.0-32.0 oz + crop oil concentrate 2.0 pt	Time first application when johnsongrass is 12 to 24 inches tall. Apply second application when regrowth reaches 6 to 18 inches tall.
	(sequential treatment on regrowth) Clethodim 0.068-0.182 lb + crop oil concentrate	Select Max 0.97 EC 9.0-24.0 oz + crop oil concentrate 2.0 pt	

Table 5.54 - Postemergence (cont.)

Weed Problem	Chemical Rate per Acre	Product per Acre	Remarks
Johnsongrass and other perennial weeds, cocklebur, pigweed, volunteer corn, and shattercane	Glyphosate 1.0-3.0 lb	4.0 lb ai/gal glyphosate containing product or equivalent	Use a spot treatment when johnson grass is 24-36 inches high and in the boot-seeding stage. See label for proper stage of treatment for other 1.0-3.0 qt perennials. All soybeans hit with chemical will be killed. Applications of glyphosate may be made with a wick applicator or recirculating sprayer. Apply when there is 6 inches or more differential in height. The 1.0 lb ai rate may be used on johnsongrass if 5.0- 10.0 gal of water are applied and fan tips are used. Use the 2.0-3.0 lb ai rate on noncrop land or where annual tillage is not performed. Do not harvest soybeans within 7 days after application.
Harvest aid	Paraquat 0.125-0.25 lb + surfactant	Gramoxone Inteon 0.5-1.0 pt + surfactant as recommended	Apply in 20.0-40.0 gal/A when soybeans are fully developed, at least one-half of the leaves have dropped, and remaining leaves are yellow. With aerial applications, observe caution and consider the addition of drift control agents. Do not pasture livestock within 15 days of treatment. Remove livestock from treated fields at least 30 days before slaughter.
Harvest Aid: useful for johnsongrass control and control of other perennial weed species, or for late season weed control	Glyphosate 1.0 - 3.0 lb	4.0 lb ai/gal glyphosate containing product or equivalent 1.0-3.0 qt	Apply after pods have set and lost all green color. Allow a minimum of 7 days between application and harvest. Do not apply more than 26.0 fl oz of Roundup Ultra Max by air.