

SOYBEAN

NO TILLAGE

Herbicides used in no-till soybeans include foliar-applied herbicides (often called a "burndown" herbicides) to control emerged weeds and soil-residual herbicides for preemergence weed control. Some herbicides are capable of providing both burndown control of small weeds as well as preemergence control.

No-till soybean herbicide treatments are usually applied as spring-applied Early Preplant (normally 15 to 30 days ahead of planting) or as Preemergence (to the crop) at the time of planting. Fall-applied Early Preplant treatments are occasionally used in no-till to manage cool-season species and generally do not control weeds that emerge after soybean planting.

Early preplant programs may require a sequential herbicide treatment applied at or after planting to provide additional length of weed control. Tillage after application may reduce effectiveness of the herbicide treatments.

Preplant Foliar "Burndown" Herbicides for No-Tillage Soybeans

2,4-D ESTER	Rate/A	(2,4-D)
Small Annuals	0.5 to 1 pt/A	(0.25 to 0.5 lb ai/A)
Large Annuals	1 to 2 pt/A	(0.5 to 1 lb ai/A)

(NOTE: Application rates based on 4 lb ai/gal)

Additives: Normally not required with 2,4-D, however, certain tank-mix partners may require an additive.

Weeds Controlled: Common ragweed, dandelion, giant ragweed, hairy vetch, horseweed (marestail), lambsquarters, mustards, prickly lettuce.

Timing: A restrictive interval between application of 2,4-D and soybean planting is required. The interval for most 2,4-D Ester formulations is 7 days for rates up to 0.5 lb ai/A, and 15 to 30 days for rates >0.5 lb to 1.0 lb ai/A. The restrictive interval for rates applied up to 1 lb ai/A may vary for some 2,4-D ester products (examples of products include 2,4-D LV4, Weedone 650, E-99, and Salvo). Consult specific product label for details.

Spray Volume: Apply in a minimum of 10 to 15 gal of water per acre. Check label for use with liquid fertilizer.

General Comments: Not all 2,4-D products are labeled for use prior to planting soybeans (consult product label). Unacceptable crop injury may occur when 2,4-D is applied as a pre-plant treatment to soybean. Plant soybean seed at least 1 ½ to 2 inches deep. Adjust planter press wheels to ensure that soybean seed are completely covered with soil. Applying with paraquat or glyphosate may improve control of horseweed (marestail). Do not exceed 1 lb ai/A/season.

Environmental Statements: Drift of 2,4-D spray or vapor can injure nearby susceptible plants.

Rain Delay: No information on label.

Rotation Restrictions: Do not replant fields treated with 2,4-D in the same growing season with crops other than those labeled for 2,4-D preplant use.

Harvest & Forage Restrictions: Do not cut soybeans for feed or graze fields treated with a 2,4-D pre-plant application. Do not harvest or graze treated cover crops.

Tank Mixtures: Gramoxone Extra, Roundup, Prowl, Scepter. Always check product labels for directions and other registered tank mixtures.

CLARITY 4S

4 to 16 oz/A

dicamba 0.125 to 0.5 lb ae/A

Weeds Controlled: Annual fleabane, marestail (horseweed), prickly lettuce, musk thistle, giant ragweed, vetch.

Additives: Although not required, adjuvants such as nonionic surfactant, crop oil concentrate, or sprayable fluid fertilizer may improve control of emerged weeds. Use of fertilizer additives such as Ammonium Sulfate may not be recommended when CLARITY is tank mixed with some products (consult all labels).

Timing: *Apply only as an early preplant treatment in the spring.* Following application of dicamba and a minimum accumulation of 1 inch of rain or irrigation, allow a waiting interval of 14 days for <8 fluid oz/A and 28 days for 16 fluid oz/A. Do not exceed 16 fl oz of Clarity/A in spring applications prior to planting soybeans.

Spray Volume: Keep spray volume at or above 20 GPA and pressure at or below 20 psi. Use coarse sprays to limit the risk of drift to nearby sensitive species.

General Comments: Consult label for specific guidelines when used as a preplant treatment on soybean.

Rain Delay: 4 hours

Tank Mixtures for Clarity: Glyphosate, 2,4-D, Outlook, Dual Magnum.

Generic Formulations: Clash, Detonate, Sterling Blue, Strut, Vision

DICAMBA	Herbicide Rate Based on Soybean Trait	
	Non-Dicamba Tolerant	Roundup Ready 2 Xtend (Dicamba Tolerant)
Xtendimax with VaporGrip Technology (http://www.xtendimaxapplicationrequirements.com)	11 to 22 fl oz/A (0.25 to 0.5 lb ae/A)	22 to 44 fl oz/A (0.5 to 1 lb ae/A)
FeXapan plus Vapor Grip Technology (http://www.fexapanapplicationrequirements.dupont.com)	11 to 22 fl oz/A (0.25 to 0.5 lb ae/A)	22 to 44 fl oz/A (0.5 to 1 lb ae/A)
Engenia (http://www.engeniatankmix.com)	3.2 to 12.8 fl oz/A (0.125 to 0.5 lb ae/A)	12.8 fl oz/A (0.5 lb ae/A)

Additives: DO NOT apply with ammonium sulfate (AMS) or any ammonium containing products. The addition of AMS even in small amounts increases the volatility of these products. Refer to the application requirement websites for allowed and/or required adjuvants and drift reduction agents.

Weeds Controlled: Annual fleabane, marestail (horseweed), prickly lettuce, musk thistle, giant ragweed, vetch.

Timing: Xtendimax, FeXapan, and Engenia may be applied preplant, preemergence, and postemergence up to 45 days after soybean planting in dicamba tolerant soybean systems. For non-dicamba tolerant soybean a minimum of 1 inch of rain and 14 days is required prior to planting for applications of 0.25 lb ae or less of dicamba and 1" of rain and 28 days for applications of 0.5 lb dicamba.

Spray Volume: Minimum 15 GPA

General Comments: RESTRICTED USE HERBICIDES that require certification and dicamba specific training to purchase and apply. Refer to label for specific record keeping requirements. KENTUCKY SPECIFIC GUIDELINES MAY BE MORE RESTRICTIVE, REFER TO STATE SPECIFIC LABELING FOR FURTHER DETAILS.

Environmental Statements: Drift of dicamba spray or vapor can cause injury on nearby sensitive crops including non-DT soybean and tobacco. The following parameters must be followed to assure off-site movement does not occur.

- Do not apply if wind is blowing toward a sensitive crop, which includes non dicamba tolerant soybean
- Maintain a 110 ft (0.5 lb ae) or 220 ft (1 lb ae) downwind buffer (Refer to the label when additional buffer restrictions are required in counties where endangered species may exist).
- Do Not apply if wind is less than 3 mph or greater than 10 mph
- Use only approved nozzles that can be found on the application requirement websites of each product
- Do Not exceed 15 MPH spray ground speed
- Do Not exceed a boom height of 24"
- Only apply between 1 hour after sunrise and 2 hours prior to sunset
- Avoid applications into a temperature inversion (See label for further descriptions of temperature inversions)

Rain Delay: 24 hours

Tank Mixtures : Refer to application requirement websites for all allowed tank mixtures.

76 Soybean

ELEVORE

1 fl oz/A

halauxifen-methyl 0.004 lb ae/A

Weeds Controlled: marestail (horseweed), lambsquarters, common ragweed,

Additives: Crop oil Concentrate (COC) or Methylated seed oil (MSO) at 0.5 to 1% v/v

Timing: Apply preplant at least 14 days prior to soybean planting

General Comments: ELEVORE is recommended for burndown control of herbicide resistant horseweed, other burndown products should be tankmixed with Elevore for control of other weeds present at time of burndown application.

Rotation Restrictions: Corn, Wheat, and Barely can be planted 14 days after application.

Tank Mixtures: Check ElevoreTankMix.com for tankmix restrictions.

ENLIST DUO with Colex D Technology (3.3 L)	Rate/A	(2,4-D Choline : glyphosate)
Small Annuals	3.5 pt/A	(0.7 lb ae/A : 0.75 lb ae/A)
Large Annuals	4.75 pt/A	(0.95 lb ae/A : 1 lb ae/A)

Weeds Controlled: Annual fleabane, barnyardgrass, brome spp., chickweed, common ragweed, crabgrass, dandelion, fall panicum, giant foxtail, giant ragweed, henbit, horseweed (marestail), johnsongrass (seedling), lambsquarters, mustards, prickly lettuce, rye, smartweed, volunteer corn (except glyphosate resistant), wheat.

Timing: Apply no less than 30 days preplant prior to soybean planting.

Spray Volume: Apply in a minimum of 10 to 15 gal of water per acre. Do not apply with nitrogen fertilizer as a carrier

General Comments: Unacceptable crop injury may occur when Enlist Duo is applied as a pre-plant treatment to non-ENLIST soybean. Plant soybean seed at least 1 to 2 inches deep. Adjust planter press wheels to ensure that soybean seed are completely covered with soil. Do not disturb soil with tillage between application and soybean planting.

Do not make more than one application of Enlist Duo per growing season; do not exceed 4.75 pt/A per season.

Environmental Statements: Drift of Enlist Duo spray or vapor can injure nearby susceptible plants. The following parameters must be followed to assure off-site movement does not occur.

-Applications must be made with approved broadcast nozzles and pressures (See label for details)

-Do Not apply if winds are greater than 15 mph

-Do Not apply during a low level temperature inversion

-Must maintain a 30 ft buffer on the downwind edge of the field to any sensitive areas (See label for details)

Rain Delay: 24 hours

Rotation Restrictions: Do not replant fields treated with Enlist Duo in the same growing season with crops other than those labeled for use with 2,4-D and glyphosate

Harvest & Forage Restrictions: Do not cut soybeans for feed or graze fields treated with a Enlist Duo for 8 weeks following application.

ENLIST ONE with Colex D Technology (3.8 L)	Rate/A	(2,4-D Choline)
Small Annuals	1.5 pt/A	(0.7 lb ae/A)
Large Annuals	2 pt/A	(0.95 lb ae/A)

Weeds Controlled: Common ragweed, dandelion, giant ragweed, hairy vetch, horseweed (marestail), lambsquarters, mustards, prickly lettuce.

Timing: Apply no less than 15 days preplant prior to soybean planting for the 1 pt/A rate and 30 days preplant for the 2 pt/A rate.

Spray Volume: Apply in a minimum of 10 to 15 gal of water per acre. Do not apply with nitrogen fertilizer as a carrier.

General Comments: Unacceptable crop injury may occur when Enlist One is applied as a pre-plant treatment to non-ELIST soybean. Plant soybean seed at least 1 to 2 inches deep. Adjust planter press wheels to ensure that soybean seed are completely covered with soil. Do not disturb soil with tillage between application and soybean planting.

Do not make more than one application of Enlist One per growing season; do not exceed 2.0 pt/A per season.

Environmental Statements: Drift of Enlist One spray or vapor can injure nearby susceptible plants. The following parameters must be followed to assure off-site movement does not occur.

-Applications must be made with approved broadcast nozzles and pressures (See label for details)

-Do Not apply if winds are greater than 15 mph

-Do Not apply during a low level temperature inversion

-Must maintain a 30 ft buffer on the downwind edge of the field to any sensitive areas (See label for details)

Rain Delay: 24 hours

Rotation Restrictions: Do not replant fields treated with Enlist One in the same growing season with crops other than those labeled for use with 2,4-D.

Harvest & Forage Restrictions: Do not cut soybeans for feed or graze fields treated with a Enlist One for 8 weeks following application.

GLYPHOSATE

Listed below are examples of glyphosate formulations and approximate rates for most burndown applications in no-tillage soybeans. The specific rate of product will vary depending on glyphosate formulation and size and species of weeds.

Glyphosate formulation¹	Annuals <6" tall	Annuals >6" tall
Glyphosate 4, Roundup Original, other products (3 lb ae/gal)	1.5 to 2 pt/A (24 to 32 fl oz/A) (0.56 to 0.75 lb ae/A)	2 to 3 pt/A (32 to 48 fl oz/A) (0.75 to 1.13 lb ae/A)
Buccaneer 5 (3.75 lb ae/gal)	1.2 to 2 pt/A (19 to 32 oz/A) (0.56 to 0.94 lb ae/A)	1.75 to 2.5pt/A (28 to 40 oz/A) (0.82 to 1.17 lb ae/A)
Glyphomax XRT (4 lb ae/gal)	1.13 to 1.5 pt/A (18 to 24 fl oz/A) (0.56 to 0.75 lb ae/A)	1.5 to 2.25pt/A (24 to 36 oz/A) (0.75 to 1.13 lb ae/A)
Roundup WeatherMAX Roundup PowerMAX (4.5 lb ae/gal)	1 to 1.4 pt/A (16 to 22 fl oz/A) (0.56 to 0.77 lb ae/A)	1.4 to 2 pt/A (22 to 32 fl oz/A) (0.77 to 1.13 lb ae/A)

¹ For a detailed list of glyphosate products see page 21

Additives: For products that require a surfactant, a non-ionic surfactant at 0.25% v/v is often used. Consult the herbicide product label to verify if a surfactant is needed and the type and rate of surfactant to include. Dry Ammonium Sulfate at 1 to 2% by weight (8.5 to 17 lb/100 gal) or an equivalent amount of AMS in a liquid formulation may improve glyphosate activity under certain conditions such as dry weather, or when mixed in hard water or with certain herbicides, or applied to certain weed species.

Annual Weeds Controlled: Annual fleabane, barnyardgrass, brome spp., chickweed, common ragweed, crabgrass, fall panicum, giant foxtail, giant ragweed, henbit, johnsongrass (seedling), lambsquarters, mustards, prickly lettuce, rye, smartweed, volunteer corn (except glyphosate resistant), wheat.

Perennial Weeds: Consult label for glyphosate rate for specific perennial weed species. Best control of perennial weeds is usually achieved when treated at late growth stages (approaching maturity) and when soil moisture is adequate for active plant growth. At normal application times for no-till soybeans, perennial weeds may not be at the proper growth stage. Control may be reduced if plants are mowed or grazed and not allowed to regrow to recommended growth stage. Perennial weeds may require multiple applications for optimum control.

Spray Volume: Apply in 10 to 20 gallons of clean water/A when mixing with other herbicides. A spray volume of 3 to 10 gallons of water/A is often recommended when glyphosate is used alone at reduced labeled rates for certain annual weed species.

General Comments: Apply before, during, or after planting but before crop emergence. Glyphosate is a translocated herbicide. Reduced control may occur if mixed with such products as Micro-Tech. Management programs that rely on repeated use of glyphosate alone without herbicides of other sites of action may lead to the development of populations of glyphosate-resistant biotypes of weeds. Applying with 2,4-D ester (7 to 30 days early preplant) or products containing chlorimuron or cloransulam may be needed for improved control of horseweed(marestail).

Environmental Statements: Take precautions to avoid spray drift to desirable plants.

Rain Delay: Rainfall soon after application may reduce effectiveness. Some labels indicate 6 hrs.

Rotation Restrictions: There are no rotational restrictions following normal use of glyphosate. Wait at least 30 days before planting of crops not listed on the label.

Harvest & Forage Restrictions: Do not harvest or graze treated vegetation for 8 weeks after application.

Tank Mixtures: Consult label for specific tank mixes.

78 Soybean

LIBERTY 280 SL

32 to 43 fl oz/A

glufosinate 0.59 to 0.79 lb ai/A

Weeds Controlled: Chickweed, marestalk (horseweed), giant foxtail, crabgrass, johnsongrass (seedling), lambsquarters, common ragweed, giant ragweed, smartweed, vetch.

Additives: If foaming occurs a silicone-antifoam based agent may be added. Ammonium sulfate may improve control of weeds that are stressed.

Timing: Apply preplant or prior to crop emergence of any conventional or transgenic soybean varieties. When LIBERTY is used as a burndown, an additional application LIBERTY may be used as an in-season application at 22 to 29 fl oz/A overtop soybean varieties designated as "LibertyLink".

Spray Volume: A minimum of 15 GPA. For dense weed canopies use 20 to 40 GPA. Do not use nozzles or pressures that result in coarse sprays.

General Comments: Weed control may be reduced when applied to weeds stressed from drought or cool temperatures. Heavy dew or fog may reduce weed control. Also, applications should be made between dawn and 2 hours before sunset to avoid potential reduction in control of lambsquarters and velvetleaf. The cumulative rate over the total season rate should not exceed 65 oz/A for soybean.

Rain Delay: 4 hours.

Rotation Restrictions: Rotational crops that may be planted are corn or soybeans anytime, small grains 70 days, and other crops 180 days after application.

Harvest & Forage Restrictions: Do not apply within 70 days of harvesting soybean seed. Do not graze treated fields or harvest for forage or hay.

Tank Mixtures: LIBERTY may be tank mixed with labeled rates of other herbicides provided other products are labeled for burndown applications. No specific products are listed for burndown tank mixes.

Generic Formulations: CHEETAH, FORFEIT 280, IGNITE, INTERLINE, SURMISE are other products labeled for burndown before planting conventional or transgenic varieties. These products may also be applied overtop Liberty Link Soybeans.

PARAQUAT	Herbicide Rate Based on Height of Annual Weeds		
	1 to 3" weeds	3 to 6" weeds	6" weeds
GRAMOXONE SL 2.0 or FIRESTORM 3S, PARAZONE 3S, PARAQUAT CONCENTRATE 3S	2 to 2.5 pt/A or 1.3 to 1.7 pt/A	2.5 to 3 pt/A or 1.7 to 2.0 pt/A	3 to 4 pt/A or 2.0 to 2.7 pt/A
<i>(paraquat cation lb/A)</i>	<i>(0.5 to 0.63 lb ai/A)</i>	<i>(0.63 to 0.75 lb ai/A)</i>	<i>(0.75 to 1 lb ai/A)</i>

Additives: Non-ionic surfactant at 1 to 2 pt/100 gal of spray mixture or Crop Oil Concentrate at 4 qt/100 gal.

Weeds Controlled: Many small annuals including chickweed, crabgrass, giant foxtail, henbit.

Spray Volume: Apply in 10 to 20 gal of clean water or complete clear liquid fertilizers per acre. Do not use suspension type fertilizers. A spray volume of more than 20 GPA may be needed if weeds exceed 6 inches in height.

General Comments: Paraquat containing products are classified as Restricted-Use Pesticide. Apply before, during, or after planting but before crop emergence. Regrowth may occur from perennial grasses and broadleaf weeds, legume sods, or perennial grass sods. Annuals such as marestalk, prickly lettuce, smartweed, and giant ragweed may not be controlled. Applying with 2,4-D ester (7 to 30 days early preplant) or Canopy may be needed for improved control of horseweed(marestalk). Grass cover crops such as wheat may not be effectively controlled between tillering and boot stage of growth. Split applications may improve control of fescue, orchardgrass, or ryegrass. Do not exceed 6 pt/A of GRAMOXONE SL or 4 pt/A of FIRESTORM, PARAZONE, or PARAQUAT CONCENTRATE per season.

Environmental Statements: Drift of spray can desiccate green tissue and result in injury to non-target plants which may render them unfit for sale, use, or consumption.

Rain Delay: 15-30 minutes for GRAMOXONE SL; 30 minutes for FIRESTORM, PARAZONE, or PARAQUAT CONCENTRATE..

Rotation Restrictions: All rotational crops may be planted immediately after last application.

Harvest & Forage Restrictions: Do not graze or use for forage before R3 (early pod stage).

Tank Mixtures GRAMOXONE SL: Canopy, Command, Dual Magnum, Dual II Magnum, FirstRate, Harmony Extra, Prowl, Scepter, Turbo, 2,4-D ester (7 to 30 days EPP).

Tank Mixtures FIRESTORM, PARAZONE, and PARAQUAT CONCENTRATE: Canopy, Dual Magnum, Harmony Extra, Prowl, Scepter, Turbo, 2,4-D ester (7 to 30 days EPP)

80 Soybean

FLEXSTAR GT 3.5 (2.8L) 3.5 to 5.3 pt/A (fomesafen: glyphosate)
[(0.25 lb ai/A:0.99lb ae/A) to (0.371 lb ai/A:1.48 lb ae/A)]

Additives: An adjuvant is already included with FLEXSTAR GT and minimizes the need for additional adjuvants. Under certain conditions the addition of one or more of the following may improve control: AMS at 8.5 to 17 lb/100 gal; Crop Oil Concentrate or Methylated Seed oil at 2 to 4 qt/100 gal; or Non Ionic Surfactant at 1 to 2 pt/100 gal.

Weeds Controlled: Burndown control of barnyardgrass, chickweed, common ragweed, crabgrass, fall panicum, giant foxtail, giant ragweed, henbit, johnsongrass (seedling), lambsquarters, mustards, Palmer amaranth, rye, smartweed, volunteer corn (except glyphosate resistant), waterhemp, wheat. Preemergence control of lambsquarters, black nightshade, pigweed, common ragweed.

Timing: Apply as a preplant or preemergence burndown or postemergence over-the-top in glyphosate tolerant soybean.

General Comments: Follow label directions for herbicide rates and optimum stages of weed growth. Do not exceed a maximum of 0.375 lb ai of fomesafen in alternate years.

Environmental Statements: Contamination of groundwater may occur when used on permeable soils.

Rain Delay: Heavy rainfall after application may reduce performance.

Rotation Restrictions: Rotational crops that may be planted are wheat or barley after 4 months; or corn after 10 months (12 months for popcorn) following treatment. Other crops may be planted 18 months after treatment.

Harvest & Forage Restrictions: Do not apply within 45 days of harvest. Do not apply within 45 days of harvest. Treated soybean plants should not be grazed or harvested for forage or hay.

Tank Mixtures for Preplant or Preemergence Applications: 2,4-D, and glyphosate.

LEADOFF 1.5 oz [rimsulfuron:thifensulfuron]
(0.0156 : 0.0156 lb ai/A)

Weeds Controlled: Common chickweed, curly dock, dandelion, henbit, wild garlic, lambsquarters. The addition of 2,4-D ester, glyphosate, paraquat, or glufosinate with LEADOFF will enhance burndown control of such weeds as marehail (horseweed).

Additives: Apply with a nonionic surfactant at 0.25 % v/v (1 qt/100 gal spray solution); or with a petroleum based crop oil concentrate at 1-2% v/v (1-2 gal/100 gal of spray solution); or MSO at 0.5% v/v (0.5 gal/100 gal). An ammonium nitrogen fertilizer or a high quality, sprayable grade of ammonium sulfate may be added to enhance weed control. When mixing with glyphosate or glufosinate that contain a built-in adjuvant system, no additional surfactant is needed.

Timing: When using soybeans without BOLT technology, apply LEADOFF at 1.5 oz/A early preplant in the fall or spring but no later than 30 days before planting soybean. Allow 60 days when applying >1.5 to 2 oz/A. When planting soybeans with BOLT technology, LEADOFF may be at 1.5 to 2.7 oz/A 0 days or more prior to planting.

Spray Volume: A minimum of 10 to 15 GPA.

General Comments: Crop injury may occur during periods of cold weather and/or wet soils, LEADOFF will not control weeds that are resistant to ALS-inhibitor herbicides.

Rotation Restrictions: When LEADOFF is applied at 1.5 oz/A, the rotational interval is 1 month for soybean, 3 months for winter cereals, 10 months for alfalfa, sorghum, and tobacco. Corn may be planted anytime.

Harvest & Forage Restrictions: Do not graze, feed forage, or grain within 30 days of application.

Tank Mixtures: LEADOFF tank mixtures include 2,4-D ester, glyphosate, paraquat, and glufosinate. Consult other labels for approved tankmix partners.

SEQUENCE 5.25 L 3.5 to 4 pt/A (glyphosate:S-metolachlor)
[(1:1.3) to (1.13:1.5 lb /A)]

Additives: Dry Ammonium Sulfate (AMS) at 1 to 2% by weight (8.5 to 17 lb/100 gal) may improve activity during dry weather, or when mixed in hard water or with certain herbicides, or applied to certain weed species.

Annual Weeds Controlled: Annual fleabane, barnyardgrass, brome spp., chickweed, common ragweed, crabgrass, fall panicum, giant foxtail, giant ragweed, henbit, johnsongrass (seedlings), lambsquarters, mustards, prickly lettuce, rye, smartweed, volunteer corn (except glyphosate resistant), wheat

Perennials: CONSULT LABEL FOR SPECIFIC PERENNIAL WEED SPECIES. Best control of perennial weeds is usually achieved at late growth stages approaching maturity and when soil moisture is adequate for active plant growth. Perennial weeds may not be at the proper growth stage during normal application times for no-till soybeans. Control may be reduced if plants are mowed or grazed and not allowed to regrow to recommended growth stage. Perennial weeds may require multiple applications of glyphosate for control.

SEQUENCE (continued)

Timing: Apply up to 30 days before, during, or after planting but before crop emergence. Can also be applied postemergence overtop Roundup Ready soybean from cracking up through third trifoliolate..

Spray Volume: Apply in 10 to 40 gallons of clean water/A

General Comments: Glyphosate is a translocated herbicide that controls emerged weeds, whereas, S-metolachlor is a soil-residual herbicide that controls weeds prior to emergence. Rainfall soon after application may reduce control of emerged weeds. Management programs that rely on repeated use of glyphosate alone for burndown control without herbicides of other modes of action may lead to the development of populations of glyphosate-resistant biotypes of weeds. Do not apply products with S-metolachlor or metolachlor after soybean emergence if SEQUENCE is applied preemergence. Do not exceed 4 pt/A of SEQUENCE per year.

Environmental Statements: SEQUENCE has GROUND and SURFACE WATER ADVISORY statements on the label. This product should not be mixed or loaded within 50 feet of any wells, sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs, unless an impervious pad is used. Avoid drift of spray as this can result in injury to non-target plants.

Rain Delay: Rainfall soon after application may reduce effectiveness.

Rotation Restrictions: Rotational crops that may be planted include corn or sorghum (with Concep treated seed) immediately; alfalfa after 4 months; wheat, barley, rye, or oats after 4.5 months; clover after 9 months; and tobacco in the spring following treatment.

Harvest & Forage Restrictions: For preplant or preemergence applications, do not feed for forage or hay for 30 days after treatment. For post applications in RR soybean, do not harvest grain for 90 days after treatment and do not graze or feed forage or hay.

Tank Mixtures: Authority, Boundary, Canopy, Command, Dual II Magnum, FirstRate, Prowl, Scepter, 2,4-D.

SHARPEN 2.85S 1 fl oz/A –0 Days Pre Plant (saflufenacil 0.022 to 0.033 lb ai/A)
 1.5 fl oz/A – 14 Days Pre Plant

Additives: For optimum burndown activity use a Methylated Seed Oil (MSO) at 1 gal/100 gal. Also include Ammonium Sulfate (AMS) 8.5 to 17 lb/100gal or Urea Ammonium Nitrate (UAN) at 1.25 to 2.5 gal/100 gal. Use AMS when mixing with glyphosate containing herbicides. Do not use surfactants as a substitute for MSO or poor broadleaf control will occur.

Weeds Controlled: Burndown control of common chickweed, horseweed (marestail), prickly lettuce, giant ragweed. Suppression of established dandelion. Soil-residual control of common chickweed, pigweed, and giant ragweed, and prickly sida.

Crop Stage: SHARPEN may be applied in the fall or spring.

General Comments: Applications may be made as an early preplant or preemergence when Sharpen is used at a rate of 1 oz/A. Allow a minimum preplant interval of 14 days for 1.5 oz/A rate and 30 days for 2 oz/A rate. A more restrictive preplant interval will be required if Sharpen is applied with other Group 14 (PPO Inhibitor) herbicides (such as sulentrazone or flumioxazin) or when applied to coarse textured soils with \leq 2% organic matter. Cover seed with soil to avoid washing and concentration of herbicide in seed zone. Do not apply when soybean reach cracking stage. Group 14 herbicides labeled for post treatments may be used 14 days after soybean emergence. Do not exceed a maximum cumulative rate of 4 oz/A (0.089 lb ai/A of saflufenacil). Sequential applications of Sharpen must be separated by at least 30 days.

Environmental Statements: SHARPEN has GROUND and SURFACE WATER ADVISORY statements on the label.

Rain Delay: 1 hour.

Rotation Restrictions: When SHARPEN is applied at 1 oz/A field corn, popcorn, grain sorghum, small grains and soybean may be planted anytime (allow 30 days for soybean with coarse soil texture and \leq 2% OM.) Allow a 4-month rotational interval for other crops.

Harvest & Forage Restrictions: Do not harvest forage or graze for at least 65 days after application.

Tank Mixtures: Extreme, Prowl, Pursuit, Scepter, Verdect, Zidua, glyphosate.

82 Soybean

VERDICT 5.57EC 5 fl oz/A – 0 Days PrePlant (saflufenacil: dimethenamid -P
7.5 fl oz/A – 14 Days PrePlant 0.022:0.195 lb ai/A to 0.033:0.29 lb ai/A)

Additives: For optimum burndown activity use a Methylated Seed Oil (MSO) 1 gal/100 gal. Also include Ammonium Sulfate (AMS) 8.5 to 17 lb/100gal or Urea Ammonium Nitrate (UAN) at 1.25 to 2.5 gal/100 gal. Use AMS when mixing with glyphosate containing herbicides. Do not use surfactants as a substitute for MSO or poor broadleaf control will occur.

Weeds Controlled: Burndown control of common chickweed, horseweed (marestail), lambsquarters, prickly lettuce, giant ragweed. Soil-residual control of common chickweed, smooth pigweed, and prickly sida.

Crop Stage: VERDICT may be applied in the spring at 5 oz/A as an early preplant or preemergence treatment. Allow a minimum of 14 days preplant for 7.5 oz/A rate. Allow a minimum of 30 days preplant for 10 oz/A rate. Verdict may be applied in the fall at 5 to 15 oz/A.

General Comments: When applying 5 to 7.5 oz/A rate to coarse texture soils with $\leq 2\%$ organic matter, allow a minimum interval of 30 days after applications before planting soybean. Cover seed with soil to avoid washing and concentration of herbicide in seed zone. Do not apply VERDICT as a tank mix or sequential application within 30 days (44 days for Verdict at 10 oz/A rate) of other PPO inhibitor herbicides (e.g. sulfentrazone or flumioxazin) because crop injury may occur. PPO inhibitor herbicides labeled for postemergence treatments may be applied 14 days after soybean emergence. Do not exceed a maximum cumulative rate of 20 oz/A (0.089 lb ai/A of saflufenacil)

Environmental Statements: Verdict has GROUND and SURFACE WATER ADVISORY statements on the label.

Rain Delay: 1 hour.

Rotation Restrictions: When VERDICT is applied at 5 oz/A, field corn, popcorn, grain sorghum, or soybean may be replanted immediately after crop failure (allow 30 days for soybean with coarse soil texture and $\leq 2\%$ OM). Observe the label when the Verdict rate exceeds 5 oz/A. Fall seeded cereal crops may be planted 4 months after treatment. There are no rotational crop restrictions the spring following the previous year's application.

Harvest & Forage Restrictions: Do not harvest forage or graze treated plants to livestock.

Tank Mixtures: Optill, Sharpen, glyphosate.

ZIDUA PRO (4.09SL) 6 fl oz/A (saflufenacil:imazethapyr:pyroxasulfone
0.022:0.062:0.107 lb ai/A)

Additives: For optimum burndown activity use a Methylated Seed Oil (MSO) 1 gal/100 gal. Also include Ammonium Sulfate (AMS) 8.5 to 17 lb/100gal or Urea Ammonium Nitrate (UAN) at 1.25 to 2.5 gal/100 gal. The use of AMS is highly recommended when mixing with glyphosate-based herbicides. Do not use surfactants as a substitute for MSO or poor broadleaf control will occur.

Weeds Controlled: Burndown control of common chickweed, horseweed (marestail), lambsquarters, prickly lettuce, giant ragweed. Soil-residual control of barnyardgrass, broadleaf signalgrass, crabgrass, fall panicum, foxtails, black nightshade, lambsquarters, smooth pigweed, and smartweed.

Crop Stage: ZIDUA PRO may be applied in the spring as an early preplant through preemergence treatment for burndown and/or residual control prior to crop emergence. May be applied in the fall prior to first killing frost.

General Comments: Do not apply after soybean emergence. When applying on coarse texture soils with $\leq 2\%$ organic matter, allow a minimum interval of 30 days after applications before planting soybean. Cover seed with soil to avoid washing and concentration of herbicide in seed zone. Do not apply ZIDUA PRO with other PPO inhibiting [Group 14] herbicides (e.g. sulfentrazone or flumioxazin) as a tank mix or sequential application within 30 days of planting because crop injury may result (consult label). Other PPO inhibitor herbicides [Group 14] labeled for postemergence treatments may be applied 14 days after soybean emergence. Do not exceed a maximum amount of 0.089 lb ai/A of saflufenacil or 0.186 lb ai/A of pyroxasulfone per season.

Environmental Statements: ZIDUA PRO has GROUND and SURFACE water advisory statements on the label.

Rain Delay: 1 hour.

Rotation Restrictions: Soybean may be replanted immediately after crop failure (allow 30 days for soybean with coarse soil texture and $\leq 2\%$ OM). For wheat wait 4 months following application; for field corn wait 8.5 months; for alfalfa wait 10 months; for barley and rye wait 11 months; for clover, oats, popcorn, sorghum, sweet corn, and tobacco wait 18 months. Consult label for other rotational crops which may require waiting 40 months plus a successful field bioassay.

Harvest & Forage Restrictions: Do not graze or feed treated soybean forage, hay or straw to livestock.

Tank Mixtures: Clarity, Outlook, Prowl H20, Sharpen, Zidua, glyphosate.

NO-TILL SOYBEAN Relative Response of Cover Crops and Weeds to Burndown Herbicides¹

HERBICIDE	COVER CROPS										COOL SEASON WEEDS										WARM SEASON WEEDS													
	Alfalfa	Clover, Red	Clover, White	Fescue, Tall	Orchardgrass	Rye	Ryegrass, Annual	Vetch	Wheat	Brome spp.	Chickweed	Dandelion	Dock, Curly	Feabane	Garlic, Wild	Henbit / Purple Deadnettle	Lettuce, Prickly	Horseweed (Marestail)	Mustard spp.	Musk Thistle	Barnyardgrass	Crabgrass	Foxtail, Giant	Fall Panicum	Johnsongrass (seedling)	Johnsongrass (rhizome)	Lambsquarters	Yellow Nutsedge	Pokeweed	Ragweed, Common	Ragweed, Giant	Smartweed		
Paraquat	3	7	5	5	3	7	6	7	7	7	9	4	2	6	7	8	5	4	6	3	7	9	9	9	6	7	3	6	4	4	7	7	5	
Glyphosate ²	6	6	5	7	6	8	7	6	9	9	9	6	4	8	-	8	8	8*	8	6	8	9	9	9	8	9	8	9	6	6	9	9	8	
Canopy	4	-	-	-	-	3	-	6	3	6	9	-	-	-	-	8	9	8	8	-	3	5	5	3	5	3	9	7	-	9	8	7		
Canopy EX	-	-	-	-	-	-	-	-	-	-	9	7	5	8	7	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-
2,4-D Ester /Enlist One ³	6	8	5	0	0	0	0	7	0	0	5	7	4	6	7	4	8	8	8	7	0	0	0	0	0	0	0	8	-	5	9	9	6	
Dicamba ³	8	9	8	0	0	0	0	8	0	0	7	8	7	8	6	6	9	8	7	7	0	0	0	0	0	0	0	-	-	6	9	9	-	
Enlist Duo	6	8	5	7	6	8	7	7	9	9	9	7	4	8	7	8	8	8	8	7	8	9	9	8	9	8	9	6	6	9	9	8		
Envive	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	9	9	-	
FirstShot/HarmonyExtra	-	-	-	-	-	0	0	7	0	0	9	-	8	-	8	8	-	7	-	-	0	0	0	0	0	0	0	8	-	6	4	-		
Flexstar GT	6	6	5	7	6	8	7	6	9	9	9	6	4	8	-	8	8	8*	8	6	8	9	9	8	9	8	9	6	6	9	9	8		
LeadOff ³	-	-	-	-	-	0	0	7	0	0	9	8	8	-	8	8	-	-	-	-	0	0	0	0	0	0	0	8	-	6	4	-		
Liberty ⁴	-	-	-	-	-	-	3	8	5	-	9	6	7	-	-	7	-	8	-	-	7	7	8	8	8	-	8	-	-	9	8	9		
Sequence	6	6	5	7	6	8	7	6	9	9	9	6	4	8	-	8	8	8*	8	6	8	9	9	8	9	7	9	6	6	9	9	8		
Sharpen ³	4	-	5	-	-	-	-	6	1	-	8	7	7	7	-	7	8	8	-	6	-	-	-	-	-	-	8	-	-	-	8	-		
Verdict ³	4	-	5	-	-	-	-	6	1	-	8	7	7	7	-	7	8	8	-	6	-	-	-	-	-	-	8	-	-	-	8	-		
Zidua PRO ³	4	-	-	-	-	-	-	-	1	-	8	7	7	7	-	7	8	8	-	6	-	-	-	-	-	-	8	-	-	-	8	-		

GOOD= 8-9 FAIR = 6-7 POOR = 5 or less - Insufficient Data

¹ Information presented in this table is the relative burndown response of emerged plants to herbicides applied at normal rates for no-till soybeans. This information generally does not reflect soil residual effects of these herbicides. The relative response values are based on a numerical scale from 0 to 9 and compare effectiveness of herbicides to control a particular cover crop or weed species. A herbicide may perform better or worse than indicated in the table due to weed size, environmental conditions or when tank mixed with other herbicides. This table should be used only as a guide. If a farmer is achieving satisfactory results under his conditions, he should not necessarily change products as a result of information in this table.

² See page 22 for list of glyphosate products.

³ Consult label for preplant interval requirements to limit the risk for soybean injury.

⁴ Environmental stress conditions such as cool temperatures and cloudy weather may limit burndown weed control with Liberty.

* Marestail populations may be resistant to glyphosate.

SOYBEANS
Guide to Weed and Crop Response to Soil-Applied Herbicides ¹

	Barnyardgrass	Broadleaf Signalgrass	Crabgrass	Fall Panicum	Foxtail	Johnsongrass (seedling)	Johnsongrass (rhizome)	Shattercane	Yellow Nutsedge	Black Nightshade	Burcucumber	Cocklebur	Copperleaf, Hophornbeam	Horseweed (Marestail)	Lambsquarters	Morningglory	Palmer amaranth	Pigweed, Smooth	Sida, Prickly	Ragweed, Common	Ragweed, Giant (Horseweed)	Sicklepod	Smartweed	Velvetleaf	Waterhemp	Crop Response ²
Anthem Maxx	8	6	9	8	9	5	0	5	5	8	-	0	-	-	8	5	8	9	9	7	0	0	-	7	8	2
Authority Elite / Broadaxe XC	9	-	9	9	9	6	0	5	8	8	-	6	7	-	9	9	8	9	8	6	5	-	8	6	8	2
Authority First / Sonic	-	-	7	6	7	2	0	-	7	8	0	9	8	9	9	9	8	9	7	9	9	-	8	9	8	2
Authority MTZ	6	6	6	6	7	2	0	-	7	8	0	6	8	7	9	9	8	9	9	8	5	7	8	7	8	2
Authority Supreme	8	8	8	8	8	8	3	6	5	8	-	5	8	7	8	7	9	9	8	8	-	7	5	7	9	3
Authority XL / Zone	6	6	6	6	5	0	4	8	8	8	7	9	9	7	9	9	9	9	8	9	8	5	9	9	9	2
Boundary	8	7	9	9	9	5	0	5	6	7	2	6	8	6	9	5	8	9	9	8	6	7	9	7	8	2
Canopy	6	5	6	6	6	5	0	2	2	5	8	9	8	7	9	8	7	9	9	9	8	8	9	8	6	2
Dual II Magnum / Cinch	8	7	9	9	9	5	0	4	7	8	0	0	4	-	6	0	7	8	3	5	0	3	6	2	7	0
Envive	7	-	6	5	7	-	-	3	7	9	-	8	9	8	9	8	8	8	8	9	7	4	9	8	8	2
Fierce	8	8	8	8	8	8	3	6	5	8	-	5	8	7	8	7	9	9	8	8	-	7	5	7	9	3
Fierce MTZ	8	8	8	8	8	8	-	6	5	8	2	5	8	7	9	7	9	9	9	8	6	7	9	7	9	3
Fierce XLT	8	-	8	8	8	-	-	-	-	9	6	8	8	7	9	8	9	9	8	9	7	-	9	8	9	2
Intimidator	8	8	9	8	8	6	0	-	8	9	-	5	9	6	7	7	9	9	9	8	-	7	9	6	8	2
Metribuzin	6	5	6	6	6	5	0	2	2	2	2	6	8	7	9	5	7	9	9	8	6	7	9	7	7	2
Outlook	8	7	9	9	9	5	0	4	6	8	0	0	4	-	7	0	7	8	0	5	0	2	5	0	7	0
Prefix / Statement /Vise	9	9	9	9	9	5	1	2	6	8	-	3	5	4	7	4	8	8	8	8	6	-	8	6	8	2
Prowl	8	7	9	8	9	8	2	5	0	0	0	0	0	-	8	2	7	8	0	2	0	0	6	6	7	2
Scepter	6	5	5	5	6	6	2	5	2	7	6	9	4	6	9	6	3	9	9	9	7	7	9	6	3	2
Surveil	7	-	6	5	7	-	-	3	2	9	-	8	9	9	9	8	8	9	8	9	7	4	9	8	8	2
Trivence	6	-	5	6	6	-	-	3	-	9	6	8	-	8	9	8	9	9	-	9	7	-	9	8	9	2
Valor SX / Valor EZ	7	5	6	5	7	5	-	3	2	8	-	4	9	7	9	8	8	8	8	8	5	4	5	7	8	2
Valor XLT	7	2	6	5	7	-	3	3	2	8	6	4	9	7	9	8	8	8	8	8	5	4	5	7	8	2
Warrant Ultra	8	-	8	8	8	-	-	5	7	8	-	-	-	-	8	-	9	9	-	8	6	-	7	6	8	2
Zidua	8	8	8	8	9	6	4	6	4	8	-	0	4	6	7	6	8	8	7	6	0	4	5	6	8	1
Zidua PRO	8	8	8	8	9	6	4	6	5	8	-	6	4	7	8	7	8	8	-	7	6	4	8	7	8	2

GOOD = 8 - 9 FAIR = 6 - 7 POOR = 5 or Less - =Insufficient Data Available

¹ This table should be used only as a guide. The relative response value is based on a numerical scale from 0-9 comparing the effectiveness of herbicides to a particular weed. Under certain weather or environmental conditions, a herbicide may perform better or worse than indicated in the table. Response may be less in no-tillage than in conventional tillage. If a farmer is getting satisfactory results under his conditions, he should not necessarily change products as a result of the information in the table.

² A rating of 3 or less will not result in a crop yield loss under normal conditions. Certain soybean varieties vary in their injury response to a herbicide treatment.

SOIL APPLIED HERBICIDES

ANTHEM MAXX

ANTHEM MAXX 4.3 SC 2.5 to 4.75 oz/A (pyroxasulfone:fluthiacet)
 [(0.081:0.0024) to (0.155: 0.047) lb ai/A]

Weeds Controlled: Barnyardgrass, black nightshade, crabgrass, fall panicum, foxtails, lambsquarters, Palmer amaranth, smooth pigweed waterhemp,

Crop Stage: May be applied early preplant, preplant, preemergence, or early postemergence from planting through third trifoliolate.

General Comments: Soybeans should be planted at least one inch deep. The maximum cumulative rate for most soils is 0.186 lb ai /A pyroxasulfone and 0.006 lb ai fluthiacet per 12-month cropping season.

Environmental Statements: ANTHEM MAXX has groundwater and surface water advisory statements on the label.

Rain Delay: 1 hour. Do not irrigate within 4 hours of a post application.

Rotation Restrictions: Corn or soybeans may be planted any time after application. Rotational crops that may be planted after ANTHEM MAXX include wheat after 1 month, grain sorghum after 6 months; alfalfa after 10 months. For certain other crops allow a 18-month interval.

Harvest & Forage Restrictions: Apply no later than 60 days before harvest. Do graze or harvest forage or hay.

Tank Mixtures: Aim, 2,4-D, glyphosate, paraquat, glufosinate, Sharpen, or Verdict,

AUTHORITY ELITE or BROADAXE XC

AUTHORITY ELITE 7L 25-32 fl oz/A (sulfentrazone:S-metolachlor)
 or [(0.137:1.23) to (0.175:1.58) lb ai/A]
BROADAXE XC 7L 25-32 fl oz/A

Weeds Controlled: Barnyard grass, crabgrass, fall panicum, foxtails, black nightshade, lambsquarters, morningglories, Palmer amaranth, smooth pigweed, prickly sida, smartweed, waterhemp. Incorporation and use of high rate may improve control of yellow nutsedge.

Crop Stage: May be applied preplant surface in spring; preplant incorporated; or preemergence up to 3 days after planting but before crop seed germinate. Soybean injury may occur if applied near or after crop emergence.

General Comments: A limited number of soybean varieties are susceptible to sulfentrazone and may be injured. Consult label for other comments regarding crop injury. When other herbicides with these ingredients are also used, do not exceed 0.375 lb ai sulfentrazone/A or 2.387 lb ai S-metolachlor/A per season.

Environmental Statements: AUTHORITY ELITE and BROADAXE XC has groundwater and surface water advisory statements on the label.

Rain Delay: None.

Rotation Restrictions: Rotational crops that may be planted after AUTHORITY ELITE include wheat or barley, after 4 ½ months; field corn and tobacco after 10 months (18 months for popcorn); 12 months for alfalfa. For certain other crops allow a 12-month interval and a bioassay.

Harvest & Forage Restrictions: Do graze or harvest forage or hay for 30 days after treatment.

Tank Mixtures: None specified on the label.

AUTHORITY FIRST or SONIC

AUTHORITY FIRST 70 DG 6.45 oz/A (sulfentrazone:cloransulam 0.25:0.032 lb ai/A)
 or
SONIC 70 DG 6.45 oz/A

Weeds Controlled: Black nightshade, cocklebur, lambsquarters, marestalk (horseweed), morningglories, common ragweed, giant ragweed, smooth pigweed, smartweed, velvetleaf, waterhemp. Incorporation and use of high rate may improve control of yellow nutsedge. For burndown and residual control of marestalk use 6.45 to 8 oz/A

Crop Stage: May be applied preplant incorporated or preemergence. For burndown plus residual control of marestalk (not ALS resistant biotypes) apply AUTHORITY FIRST or SONIC at 6.45 to 8 oz/A plus surfactant or crop oil concentrate plus AMS.

General Comments: Do not exceed 8 oz of AUTHORITY FIRST or SONIC per acre per season. When applying AUTHORITY FIRST or SONIC followed by post application of Authority, do not exceed a cumulative rate of 0.055 lb ai of cloransulam per acre per season.

86 Soybean

AUTHORITY FIRST or SONIC (continued)

Environmental Statements: AUTHORITY FIRST and SONIC have GROUND and SURFACE WATER ADVISORY statements on the label.

Rain Delay: None.

Rotation Restrictions: Rotational crops include wheat after 4 months; field corn or popcorn after 10 months (18 months if organic matter is < 1.5% and soil pH > 7.0); alfalfa, barley, rye, or sorghum after 12 months after application. Tobacco requires a 30-month interval and a successful field bioassay.

Harvest & Forage Restrictions: Do not harvest soybeans for 65 days after application. Do not feed treated forage or hay.

Tank Mixtures: AUTHORITY FIRST or SONIC: Aim, 2,4-D, glyphosate, paraquat.

AUTHORITY MTZ

AUTHORITY MTZ 45 DG 14 to 18 oz/A

(sulfentrazone : metribuzin)
[(0.158:0.24) to (0.2:0.3 lb ai/A)]

Weeds Controlled: Black nightshade, hophornbeam copperleaf, lambsquarters, marestalk (horseweed), morningglories, common ragweed, palmer amaranth, smooth pigweed, smartweed, waterhemp. Incorporation and use of high rate may improve control of yellow nutsedge.

Crop Stage: May be applied in the fall or in the spring (early preplant 30-45 days prior to planting); preplant incorporated; or preemergence up to 3 days after planting but before crop seed germinate.

General Comments: AUTHORITY MTZ is a Restricted Use Pesticide. A limited number of soybean varieties are susceptible to AUTHORITY MTZ and may be injured. Consult label for other comments regarding crop injury.

Environmental Statements: AUTHORITY MTZ has GROUND and SURFACE WATER ADVISORY statements on the label. This product should not be mixed or loaded within 50 feet of any wells, sink holes, perennial or intermittent streams, rivers, and natural or impounded lakes and reservoirs, unless an impervious pad is used.

Rain Delay: None.

Rotation Restrictions: Rotational crops that may be planted after AUTHORITY MTZ include wheat, and barley, after 4 months; field corn or popcorn after 10 months; alfalfa and tobacco after 12 months; and sorghum after 18 months after application. Consult label for reduced intervals for corn & sorghum.

Harvest & Forage Restrictions: Do graze or harvest forage or hay.

Tank Mixtures: None specified on AUTHORITY MTZ label.

AUTHORITY SUPREME

AUTHORITY SUPREME 4.16SC 6 to 9.8 fl oz/a

Sulfentrazone : pyroxasulfone
0.098:0.098 to 0.16:0.16 lb ai/a

Weeds Controlled: Barnyardgrass, crabgrass, fall panicum, foxtails, goosegrass, seedling johnsongrass, Palmer amaranth, hophornbeam copperleaf, lambsquarters, morningglory, black nightshade, pigweed, smartweeds, waterhemp

Crop Stage: Fall, Preplant up to 30 days prior to planting, and preemergence up to three days after planting

General Comments: Crop injury or growth suppression may occur due to stressful environments such as excessive moisture, cold soil temperatures, and compacted soils. Excessive rainfall or prolonged wet soil conditions may increase the risk of soybean injury. Ensure that seed furrows are adequately closed and seed depth is at least one inch to reduce risk of crop injury.

Environmental Statements: Authority Supreme does have a ground water advisory.

Rain Delay: None.

Rotation Restrictions: 4 months for corn and wheat. 10 months for sorghum and 12 months for alfalfa.

Tank Mixtures: Not specified on label

AUTHORITY XL

AUTHORITY XL 70DG 6.5 oz/A to 7.5 oz/A

(sulfentrazone : chlorimuron)
 [(0.25:0.032) to (0.29:0.036 lb ai/A)]

Weeds Controlled: Black nightshade, cocklebur, lambsquarters, marestalk (horseweed), morningglories, prickly sida, common ragweed, giant ragweed, smooth pigweed, smartweed, velvetleaf. Incorporation and use of high rate may improve control of yellow nutsedge.

Crop Stage: May be applied in the fall or in the spring; preplant incorporated; or preemergence up to 3 days after planting but before crop seed germinate.

General Comments: A limited number of soybean varieties are susceptible to AUTHORITY XL and may be injured. Consult label for other comments regarding crop injury. Authority Maxx is a similar premix, yet it provides a lower concentration of chlorimuron, compared to AUTHORITY XL.

Environmental Statements: AUTHORITY XL has groundwater and surface water advisory statements on the label.

Rain Delay: 1 hour.

Rotation Restrictions: For soils with a pH < 6.8 rotational crops that may be planted after AUTHORITY XL include wheat, barley after 4 months; field corn, popcorn, and tobacco after 10 months; alfalfa after 12 months. For sorghum allow 18 months (10 months if rate is 6.4 oz/A). Certain other crops may require 18 or 36 months interval. Consult AUTHORITY XL label when: 1) soil pH >6.8; 2) when using the reduced rate program; 3) or when a successful field bioassay is required.

Harvest & Forage Restrictions: Do not feed treated forage or hay to livestock.

Tank Mixtures: Glyphosate, glufosinate, paraquat, 2,4-D

Generic Products: ZONE HERBICIDE

BOUNDARY

BOUNDARY 6.5EC 2.1 to 3.0 pt/A

[S-metolachlor : metribuzin]
 [(1.38:0.33) to (1.97:0.47) lb ai/A)]

Weeds Controlled: Barnyardgrass, common ragweed, crabgrass, fall panicum, foxtails, hophornbeam copperleaf, lambsquarters, smooth pigweed, prickly sida, smartweed, waterhemp.

Crop Stage: May be applied preplant incorporated or preemergence. BOUNDARY may be applied up to 30 days before no-till plantings.

General Comments: Seed should be planted at least 1.5 inches deep. When soil pH > 7.0, apply 1.5 pt/A rate only.

Environmental Statements: BOUNDARY has GROUND and SURFACE WATER ADVISORY statements on the label. This product should not be mixed or loaded within 50 feet of any wells, sink holes, perennial or intermittent streams, rivers, and natural or impounded lakes and reservoirs, unless an impervious pad is used.

Rain Delay: None.

Rotation Restrictions: Alfalfa, winter wheat, and barley may be planted 4.5 months, or corn after 8 months following BOUNDARY treatments. Other crops may require a 12-month rotational interval. Cover crops may be planted any time but stand reductions may occur. Do not graze or harvest cover crops for feed or food.

Harvest & Forage Restrictions: Wait 40 days after application before grazing or feeding soybean forage.

Tank Mixtures: Canopy, Canopy XL, Command 3ME, FirstRate, Gramoxone Extra, Prowl, Python, Scepter, Roundup Ultra, Touchdown, 2,4-D (LVE).

Generic Formulation: RESIDUAL, TAILWIND, LEDGER

88 Soybean

CANOPY

CANOPY 75DG	Rate/A	chlorimuron:metribuzin
Burndown Control	3 to 4 oz/A	(0.02:0.12) - (0.03:0.16 lb ai/A)
Burndown & Residual Control	6 to 8 oz/A	(0.04:0.24) - (0.053:0.32 lb ai/A)

Additives: When used as a "burndown", add Crop Oil Concentrate at 1% (1 gal/ 100 gal) or Non-Ionic Surfactant at 0.25% (1 qt/100 gal).

Weeds Controlled: Burcucumber, chickweed, cocklebur, henbit, hophornbeam copperleaf, lambsquarters, morningglory, prickly lettuce, marestail, mustards, pennycress, pigweed, prickly sida, common ragweed, giant ragweed, sicklepod, smartweed, velvetleaf. The addition of 2,4-D LVE is required for burndown of marestail.

Timing: CANOPY may be applied preemergence or early preplant in the fall or spring up to 45 days prior to planting.

General Comments: Soybean injury may occur if soil pH is greater than 7.5. Do not exceed 3.5 oz/A CANOPY DF if soil pH exceeds 7.0. Treatments will provide some "burndown" of existing broadleaf weeds up to 3" and small annual grasses up to 1" tall. For added postemergence control, apply with 2,4-D, paraquat, or glyphosate. Soybean stunting may occur under certain environmental conditions. Sprayer equipment should be thoroughly cleaned before spraying other crops.

Environmental Statements: The use of metribuzin on permeable soils may result to ground water contamination.

Rain Delay: Rainfast after 1 hour.

Rotation Restrictions: If soil pH is 7.0 or less and the CANOPY rate is less than 10 oz/A, rotational crops which may be planted include wheat or barley after 4 months; or alfalfa, tobacco, grain sorghum, field corn or popcorn after 10 months (9 months for corn if rate is \leq 6 oz/A following treatment). Other crops require a minimum 18 month interval. Consult label for rotation restrictions if pH is greater than 7.0, CANOPY rate exceeds 10 oz/A, or when other long-residual herbicides are used during the same season. Over application can result in injury to rotational crops. When using CANOPY BLEND, consult label for rotation restrictions.

Harvest & Forage Restrictions: Do not graze treated fields or harvest for forage.

Tank Mixtures: metolachlor, pendimethalin, 2,4-D LVE, glyphosate, or paraquat

Generic Formulation: CLOAK is similar to CANOPY. Follow label for rates & preplant intervals.

DUAL II MAGNUM (S-metolachlor)

DUAL II MAGNUM 1.33 to 1.67 pt/A (S-metolachlor 1.27 to 1.6 lb ai/A)
or

CINCH or EverpreX 1.33 to 1.67 pt/A

Weeds Controlled: Barnyardgrass, black nightshade, crabgrass, fall panicum, foxtails, smooth pigweed, Incorporation and use of high rate may improve control of yellow nutsedge.

Crop Stage: DUAL II MAGNUM and CINCH may be applied preplant incorporated or preemergence for control of annual grasses and certain broadleaf weeds. They may be applied within 30 days before planting. Postemergence treatments may be applied 1 to 1.33 pt/A before weeds emerge through 3 trifoliolate soybean.

General Comments: Similar products include Brawl II, Charger Basic, Cinch, Parallel, Parallel PCS and Stalwart. BRAWL II, CHARGER BASIC, DUAL II MAGNUM, CINCH, MEDAL and MEDAL II contain 7.64 lb ai S-metolachlor per gal. PARALLEL contains 7.8 lb ai metolachlor. Me-Too-Lachlor, Parallel PCS and Stalwart contain 8 lb ai metolachlor per gal.

Environmental Statements: These products have GROUND and SURFACE WATER ADVISORY statements on the label. They should not be mixed or loaded within 50 feet of any wells, sink holes, perennial or intermittent streams, rivers, and natural or impounded lakes and reservoirs, unless an impervious pad is used.

Rain Delay: None.

Rotation Restrictions: Field corn, popcorn, or grain sorghum (use CONCEP treated seed) or soybeans may be planted anytime following application. Small grains may be planted 4 ½ months, alfalfa 4 months, or clover 9 months after application. Plant other crops in the spring following treatment.

Harvest & Forage Restrictions: No restrictions except when Dual II Magnum is applied postemergence allow a minimum of 90 days before harvest. Do not graze or feed forage or hay to livestock.

Tank Mixtures DUAL II MAGNUM: Canopy, Gramoxone MAX, Roundup, Scepter.

Tank Mixtures CINCH and EverpreX: Scepter, Gramoxone, Touchdown, or Roundup UltraMax

ENVIVE

ENVIVE 2.5 to 5.3 oz/A *

(chlorimuron 0.014 to 0.03 lb ai/A)
(thifensulfuron 0.0045 to 0.0096 lb ai/A)
(flumioxazin 0.046 lb ai/A to 0.097 lb ai/A)* Use >4 to 5.3 oz/A where soil pH \leq 7.0. No pH restrictions for rates at 2.5 to 4 oz/A

Additives: Crop Oil Concentrate at 1 gal/100 gal of spray mixture. If tank mix partner prohibits use of crop oil concentrate, use non-ionic surfactant at 1 qt/100 gal of spray mixture.

Weeds Controlled: Burndown control of dandelion, prickly lettuce, common ragweed, giant ragweed. Add 2,4-D LVE for optimum burndown control of horseweed (marestail), wild garlic, and certain other weed species. Preemergence control of black nightshade, cocklebur, dandelion, hophornbeam copperleaf, lambsquarters, marestail, morningglories, Palmer amaranth, smooth pigweed, prickly sida, common ragweed, smartweed, velvetleaf, waterhemp

Crop Stage: Apply as an early preplant treatment in the fall or spring up to 3 days after planting but before crop emergence. For optimum control apply when annual broadleaf weeds are up to 3 inches and perennial broadleaf weeds are up to 6 inches in height or diameter.

General Comments: Do not exceed 4 oz/A where soil pH >7. Soybean stunting may develop if excessive rainfall occurs after application and for a short period after crop emergence. Risk of injury can be minimized by not using on poorly drained soils, planting seed at least 1.5 inches deep, and covering seed with soil.

Environmental Statements: Do not mix/load, or use within 50 feet of all wells including abandoned wells, drainage wells and sinkholes.

Rain Delay: 1 hour

Rotation Restrictions: Follow the label for herbicide rate relative to soil pH. The rotation intervals are 4 months for barley, wheat, 10 months for alfalfa, transplanted tobacco, field corn, popcorn, (8 months for field corn if chlorimuron rate does not exceed 0.375 oz ai/A), and 12 months for sorghum and clover.

Harvest & Forage Restrictions: Do not graze treated fields or harvest for forage or hay.

Tank Mixtures: 2,4-D LVE, Assure II, dicamba, Express brands, glyphosate, metribuzin, paraquat, pendimethalin, pyroxasulfone, saflufenacil (refer to label restrictions). Do not tank mix ENVIVE with acetochlor (Warrant), flufenacet (Axiom, Domain), metolachlor (Cinch, Dual), or dimethenamide (Outlook) within 14 days of soybean planting unless soybeans are planted under no-till or minimum till on wheat stubble or no-till field corn stubble.

FIERCE

FIERCE 76 DG 3 to 3.75 oz/A

(flumioxazin:pyroxasulfone)
[(0.063:0.08) to (0.078:0.1 lb ai/A)]

Weeds Controlled: Barnyardgrass, broadleaf signalgrass, large crabgrass, fall panicum, foxtails, seedling johnsongrass, black nightshade, common ragweed, hophornbeam copperleaf, lambsquarters, marestail (horseweed), Palmer amaranth, smooth pigweed, prickly sida, waterhemp.

Crop Stage: May be applied in the fall or in the spring up to 3 days after planting but before crop emerges. Do not apply if soybeans are cracking.

General Comments: When used for burndown control, consult label for use of additives. Crop injury may occur if treated soil is splashed onto newly emerged plants. Spray equipment must be cleaned each day. To enhance removal of herbicide residue from spray system, use a tank cleaner such as Valent Tank Cleaner.

Environmental Statements: Fierce label has GROUNDWATER AND SURFACE WATER ADVISORY statements

Rain Delay: 1 hour

Rotation Restrictions: The rotational interval when using up to 3 oz of Fierce/A is 1 month for wheat, 30 days for conventional till field corn (7 days for reduced-till corn), 10 months for alfalfa, and 18 months for other crops. Consult label when Fierce rate is 3 oz/A.

Harvest & Forage Restrictions: Do not graze or feed treated forage or hay to livestock.

Tank Mixtures: Extreme, Gangster, metribuzin, FirstRate, pendimethalin, Python, Scepter, Valor, Valor XLT Command, glyphosate, 2,4-D LVE, Ignite, dicamba. Do not use FIERCE where flufenacet (Axiom), (Micro-Tech), metolachlor (Dual), or dimethenamid (Outlook) are applied or injury may occur.

90 Soybean

FIERCE MTZ

FIERCE MTZ 2.6 SC 1 to 1.25 pt/A (flumioxazin:pyroxasulfone:metribuzin)
[(0.06:0.08:0.19 lb ai/A) to (0.08:0.10:0.23 lb ai/A)]

Weeds Controlled: Barnyardgrass, broadleaf signalgrass, large crabgrass, fall panicum, foxtails, seedling johnsongrass, black nightshade, common ragweed, hophornbeam copperleaf, lambsquarters, marestalk (horseweed), Palmer amaranth, smooth pigweed, prickly sida, waterhemp, velvetleaf.

Crop Stage: May be applied in the fall or in the spring up to 3 days after planting but before crop emerges. Do not apply if soybeans are cracking.

General Comments: When used for burndown control, consult label for use of additives. Crop injury may occur if treated soil is splashed onto newly emerged plants. Spray equipment must be cleaned each day. To enhance removal of herbicide residue from spray system, use a tank cleaner such as Valent Tank Cleaner.

Environmental Statements: Fierce MTZ label has GROUND AND SURFACE WATER ADVISORY statements.

Rain Delay: 1 hour

Rotation Restrictions: The rotational interval is 4 months for wheat, 4 months for corn, 10 months for alfalfa, and 18 months for other crops.

Harvest & Forage Restrictions: Do not graze or feed treated forage or hay to livestock.

FIERCE XLT

FIERCE XLT 62.41 DG 3.75 to 4.5 oz/A (chlorimuron:flumioxazin:pyroxasulfone)
[(0.0156:0.0575:0.073 lb ai/A) to
(0.0187:0.069:0.088 lb ai/A)]

Weeds Controlled: Barnyardgrass, large crabgrass, fall panicum, foxtails, black nightshade, common ragweed, hophornbeam copperleaf, lambsquarters, marestalk (horseweed), Palmer amaranth, smooth pigweed, prickly sida, smartweed, velvetleaf, waterhemp.

Crop Stage: May be applied in the fall or in the spring up to 3 days after planting but before crop emerges. Do not apply if soybeans are cracking.

General Comments: When used for burndown control, consult label for use of additives. Crop injury may occur if treated soil is splashed onto newly emerged plants. Spray equipment must be cleaned each day. To enhance removal of herbicide residue from spray system, use a tank cleaner such as Valent Tank Cleaner.

Environmental Statements: Fierce XLT label has GROUND AND SURFACE WATER ADVISORY statements.

Rain Delay: 1 hour

Rotation Restrictions: The rotational interval when soil pH is < 7.0 is 10 months for field corn, 18 months for alfalfa, barley, clover rye, and sorghum. Consult label when soil pH is 7.0 or greater.

Harvest & Forage Restrictions: Do not graze or feed treated forage or hay to livestock.

Tank Mixtures: Do not tank mix FIERCE XLT with chloroacetamide products such as flufenacet (Axiom), metolachlor (Dual), or dimethenamid (Outlook) are applied or injury may occur.

INTIMIDATOR

INTIMIDATOR 2.8 to 4.48 pt/A (S-metolachlor:metribuzin:fomesafen)
[1.19:0.26:0.23 lb ai/A] to [1.9:0.42:0.38 lb ai/A]

Weeds Controlled: Barnyardgrass, broadleaf signalgrass, crabgrass, fall panicum, foxtails, yellow nutsedge, black nightshade, hophornbeam copperleaf, palmer amaranth, smooth pigweed, prickly sida, common ragweed, smartweed, waterhemp. Incorporation and higher use rates may improve control of yellow nutsedge.

Crop Stage: Preplant incorporated, preplant surface up to 30 days before planting or preemergence surface before soybean emergence.

General Comments: Do not exceed a maximum of 4.48 pt/A pre use season. When using other herbicides with these ingredients, do not exceed a cumulative rate 2.5 lb/A metolachlor or S-metolachlor; or 0.375 lb fomesafen per acre in alternate years.

Environmental Statements: INTIMIDATOR has ground and surface water advisory statements on the label. It should not be mixed or loaded within 50 feet of wells, sinkholes, perennial intermittent streams, rivers, and natural impounded lakes and reservoirs, unless an impervious pad is used.

Rain Delay: None.

Rotation Restrictions: Rotational crops include wheat or barley after 4.5 months, field corn after 10 months, (popcorn after 12 months). Other crops require an interval of 18 months.

Harvest & Forage Restrictions: Do not graze or harvest for soybean forage or hay. Do not graze rotated small grains or harvest forage or straw for livestock. Make post applications at least 90 days before harvest.

Tank Mixtures: 2,4-D LVE, Gramoxone Inteon, glyphosate, Canopy, FirstRate, Command, Python

MATADOR

MATADOR 2.4 to 4.0 pt/A (metolachlor:metribuzin:imazethapyr)
[1.2:0.168:0.039 lb ai/A] to [2:0.28:0.065 lb ai/A]

Weeds Controlled: Barnyardgrass, common ragweed, crabgrass, fall panicum, foxtails, hophornbeam copperleaf, lambsquarters, smooth pigweed, prickly sida, smartweed, waterhemp.

Crop Stage: May be applied preplant incorporated or preemergence.

General Comments: Seed should be planted at least 1.5 inches deep. Applications to soils with a pH > 7.5 can result in soybean injury. Do not apply in conjunction with soil applied organophosphate insecticides

Environmental Statements: Matador has GROUND and SURFACE WATER ADVISORY statements on the label. This product should not be mixed or loaded within 50 feet of any wells, sink holes, perennial or intermittent streams, rivers, and natural or impounded lakes and reservoirs, unless an impervious pad is used.

Rain Delay: None.

Rotation Restrictions: Alfalfa, winter wheat, and barley may be planted 4.5 months, or corn after 8.5 months following Matador treatments. Tobacco requires a 12-month rotational interval. Risk of rotational crop injury is increased if products containing chlorimuron-ethyl, cloransulam-methyl, flumetusalum, or imazaquin are applied in the same season as Matador

Harvest & Forage Restrictions: Do not graze or feed soybean forage, hay or straw that has been treated with Matador

Tank Mixtures: Roundup Ultra, Touchdown, 2,4-D (LVE).

METRIBUZIN

METRIBUZIN 75DF 0.5 to 0.7 LB/A metribuzin
or 0.38 to 0.5 lb ai/A
MAULER 0.75 to 1 pt/A

Weeds Controlled: Common ragweed, hophornbeam copperleaf, lambsquarters, marestalk (horseweed), smooth pigweed, prickly sida, smartweed.

Crop Stage: May be applied preplant incorporated, preemergence, or post directed after soybeans are 8" tall.

General Comments: Seed should be planted at least 1 ½ inches deep.

Environmental Statements: METRIBUZIN has a GROUNDWATER ADVISORY statement on the label.

Rain Delay: None.

Rotation Restrictions: Alfalfa, corn, wheat, barley, and forage grasses may be planted 4 months after METRIBUZIN treatments are applied to soybeans. Before planting grain sorghum or tobacco, wait 12 months after application. Cover crops may be planted any time but stand reductions may occur. Do not graze or harvest cover crops for feed or food.

Harvest & Forage Restrictions: When METRIBUZIN is soil-applied, wait 40 days before utilizing treated soybean plants for forage, feed, or grazing. For POST-DIRECTED applications of METRIBUZIN, wait 70 days after application before harvesting grain or utilizing treated soybean plants (dry vines) as a forage crop. Do not use green vines for feed.

Tank Mixtures: Consult specific metribuzin product labels.

Generic Formulations: DIMETRIC, GLORY, METRI DF, METRIBUZIN 75, and TRICOR DF are examples of products containing the active ingredient metribuzin and are similar to SENCOR (a former brand name product.)

OUTLOOK

OUTLOOK 6EC 14 to 21 oz/A or (dimethenamid-P 0.66 to 0.98 lb ai/A)

Weeds Controlled: Barnyardgrass, black nightshade, crabgrass, fall panicum, foxtails, smooth pigweed. Incorporation and use of high rate may improve control of some weeds.

Crop Stage: Apply preplant incorporated or preemergence for control of annual grasses and certain broadleaf weeds. OUTLOOK may be applied up to 30 days before planting and may also be applied postemergence from first to third trifoliolate soybeans and before weeds emerge.

General Comments: ESTABLISH is another dimethenamid-P containing product. Incorporation and higher use rates will improve control of certain weeds.

Environmental Statements: OUTLOOK may have the potential to contaminate groundwater and surface water. This product should not be mixed or loaded within 50 feet of any wells, sink holes, perennial or intermittent streams, rivers, and natural or impounded lakes and reservoirs, unless an impervious pad is used.

Rain Delay: None.

Rotation Restrictions: Soybean, corn, or grain sorghum (with seed safener) may be planted immediately after application. Allow a 4-month rotational interval for fall-seeded small grains. Other rotational crops may be planted the following spring.

Harvest & Forage Restrictions: Do not use treated plants for feed or forage.

Tank Mixtures: Authority, Canopy, Command, Extreme, FirstRate, glyphosate, Gramoxone Extra, Scepter, or Touchdown. Consult label for approved combinations after soybean emergence.

92 Soybean

PANTHER PRO

PANTHER PRO 12 to 15 fl oz/A

Metribuzin:flumioxazin:imazehtapyr
(0.28:0.063:0.053 to 0.35:0.079:0.066 lb ai/A)

Weeds Controlled: Barnyardgrass, crabgrass, foxtails, seedling johnsongrass, black nightshade, cocklebur, marehail, lambsquarters, morningglory, palmer amaranth, smooth pigweed, common ragweed, smartweed, velvetleaf, waterhemp,

Crop Stage: Fall or Spring Burndown or Preemergence.

General Comments: Soybean Injury can occur when soil pH is greater than 7.5, when applied to soybean with sensitivity to metribuzin, applied in conjunction with an OP insecticide, or when soybean are planted less than 1.5 inches deep.

Environmental Statements: PANTHER PRO has ground water Advisory statements on the label.

Rain Delay: 1 hour

Rotation Restrictions: 4 months for wheat. 8 months for alfalfa. 8.5 months for corn. 9.5 months for Barley. 18 months for sorghum and tobacco.

Harvest & Forage Restrictions: Do not harvest within 85 days of Panther PRO application. Do not graze or feed forage to livestock.

Tank Mixtures: glyphosate and glufosinate.

PREFIX

PREFIX 5.29L 2.25 to 2.75 pt/A

(S-metolachlor:fomesafen 1.22 : 0.27 to 1.49:0.33 lb ai/A)

Weeds Controlled: Barnyardgrass, black nightshade, crabgrass, fall panicum, foxtails, palmer amaranth, smooth pigweed, waterhemp. Incorporation and higher use rates may improve control of yellow nutsedge.

Crop Stage: PREFIX may be applied early preplant (up to 15 days before planting), preplant incorporated or preemergence for control of annual grasses and certain broadleaf weeds. PREFIX may be applied early postemergence at least 90 days before harvest to soybeans at 2-2.33 pt/A.

General Comments: Do not exceed a maximum of 0.375 lb ai of fomesafen in alternate years. Do not exceed 2.48 lb ai metolachlor per year.

Environmental Statements: PREFIX ground and surface water advisory statements on the label. It should not be mixed or loaded within 50 feet of wells, sinkholes, perennial intermittent streams, rivers, and natural impounded lakes and reservoirs, unless an impervious pad is used.

Rain Delay: None.

Rotation Restrictions: Rotational crops include wheat or barley after 4.5 months, corn after 10 months, (popcorn after 12 months when rate \geq 2 pt/A). Other crops require an interval of 18 months.

Harvest & Forage Restrictions: Do not graze or harvest for soybean forage or hay. Do not graze rotated small grains or harvest forage or straw for livestock. Make post applications at least 90 days before harvest.

Tank Mixtures: 2,4-D LVE, Gramoxone Inteon, glyphosate. (May be mixed with glyphosate for post applications to RR soybean.)

Generic Formulations: Statement and Vise

PROWL

PROWL 3.3E 1.8 to 3 pt/A

(pendimethalin 0.74 to 1.24 lb ai/A)

or

or

PROWL H2O 3.8 L 2 to 2.5 pt/A

(pendimethalin 0.95 to 1.19 lb ai/A)

Weeds Controlled: Barnyardgrass, crabgrass, fall panicum, foxtails, johnsongrass (seedling), lambsquarters, smooth pigweed.

Crop Stage: Early preplant in the fall or spring (up to 15 days prior to planting) or preemergence or preplant incorporated for control of annual grasses and certain broadleaf weeds. Apply preplant incorporated and at the higher recommended rate to reduce competition from harder-to-control weeds.

General Comments: The rate for preemergence applications at planting up through 2 days after planting should not exceed 2.4 pt/A for Prowl 3.3 EC or 2 pt/A for Prowl H2O. Lodging from "brittleness" of soybean stems may occur with preemergence applications of Prowl in conventional tillage.

Environmental Statements: None.

Rain Delay: None.

PROWL (Continued)

Rotation Restrictions: Soybean or tobacco may be planted any time. Any rotational crop may be planted the year following application. Allow a 10-month interval following spring applications of Prowl H2O for sorghum (milo) or perennial grasses. Wheat or barley may be planted 4 months days after application. Allow a 12-month interval for wheat if less than 12" of rain occurs between application and planting rotational crop. Observe label when pendimethalin rate exceeds 2 lb ai/A.

Harvest & Forage Restrictions: Pendimethalin treated soybean plants may be used as a forage crop. Do not apply PROWL H2O within 85 days of grain harvest.

Tank Mixtures with PROWL 3.3 EC or PENDIMAX 3.3: Canopy, Command 4EC, Gramoxone Extra, Roundup, Scepter, Sencor, 2,4-D.

Generic Formulations: Acumen, Pendant, Stealth are other pendimethalin containing products.

SCEPTER

SCEPTER 70DG 2.8 oz/A

(imazaquin 0.123 lb ai/A)

Weeds Controlled: Cocklebur, common ragweed, lambsquarters, smooth pigweed, prickly sida, smartweed. Apply as a preplant incorporated treatment for optimum control of such weeds as black nightshade, burcucumber and giant ragweed.

Crop Stage: May be applied preplant incorporated, preemergence, (up to 45 days before planting) or postemergence up to 90 days before harvest.

General Comments: Internode shortening of soybean plants may be observed with SCEPTER.

Environmental Statements: SCEPTER use on permeable soils may result in ground water contamination.

Rain Delay: None.

Rotation Restrictions: Rotational crops which may be planted include wheat after 3 months; field corn or tobacco 9.5 months; or barley, or grain sorghum 11 months following treatment. Do not plant other rotational crops within 18 months after application. Consult label for rotation restrictions when other long-residual herbicides are used during the same season; for sequential SCEPTER applications; or when soil conditions are dry after application.

Harvest & Forage Restrictions: Do not harvest within 90 days after SCEPTER application. Do not use treated plants for feed or forage.

Tank Mixtures: Dual, Frontier, Gramoxone, Prowl, Roundup, Roundup Ultra, Sencor, Touchdown, 2,4-D.

SURVEIL

SURVEIL 48% WG 3.5 to 4.2 oz/A

cloransulam 0.026 to 0.032 lb ai/A
flumioxazin 0.079 to 0.095 lb ai/A

Weeds Controlled: Black nightshade, cocklebur, common ragweed, hophornbeam copperleaf, lambsquarters, marehail (horseweed), morningglories, smooth pigweed, prickly sida, smartweed, velvetleaf, waterhemp.

Crop Stage: May be applied in the fall or in the spring up to 3 days after planting but before crop emerges.

General Comments: When used for burndown control, consult label for use of additives. DO NOT INCORPORATE. Plant seed at least 1.5 inches deep and completely cover seed with soil. Crop injury may occur in poorly drained soils and under cool wet conditions. Crop injury may also occur if treated soil is splashed onto newly emerged plants. Do not tank-mix SURVEIL with group 15 herbicides such as acetochlor, flufenacet, metolachlor, dimethenamide, or pyroxasulfone, within 14 days of planting soybeans unless soybeans are planted no-till or minimum till into wheat or corn stubble. The risk of soybean injury may increase if applications are followed by prolonged periods of cool wet weather. Spray equipment must be cleaned each day. To enhance removal of herbicide residue from spray system, use a tank cleaner such as All Clear or Valent Tank Cleaner.

Environmental Statements: Cloransulam has the potential to occur in ground water.

Rain Delay: 2 hours

Rotation Restrictions: Rotational crops that may be planted following SURVEIL include wheat after 3 months; field corn, popcorn, and sorghum after 9 months, 10 months for alfalfa. Transplanted tobacco requires a 30-month interval and a successful field bioassay. Consult label for requirements for a 10-month interval for tobacco.

Harvest & Forage Restrictions: Do not feed treated forage or hay to livestock.

Tank Mixtures: glyphosate, paraquat, 2,4-D LVE, Liberty, dicamba, pendimethalin

94 Soybean

TRIPZIN ZC

TRIPZIN ZC 4 29 to 44 fl oz/A

(pendimethalin:metribuzin)
(0.66:0.25 to 1:0.38 lb ai/A)

Weeds Controlled: Barnyardgrass, crabgrass, fall panicum, foxtails, johnsongrass (seedling), lambsquarters, smooth pigweed, Common ragweed, hophornbeam copperleaf, maretail (horseweed), prickly sida, smartweed.

Crop Stage: Preplant incorporate up to 60 days prior to planting, incorporation must occur mechanically or by rainfall within 7 days of application. Preemergence up to 2 days after planting.

General Comments: Soybean Injury can occur when soil pH is greater than 7.5, when applied to soybean with sensitivity to metribuzin, applied inconjunction with an OP insecticide, or when soybean are planted less than 1.5 inches deep.

Environmental Statements: TRIPZIN SC has ground water Advisory statements on the label.

Rotation Restrictions: Soybeans may be planted immediately, The rotation interval is 4 months for wheat, barley, field corn, forage grasses, and alfalfa. 18 months for tobacco and all other crops.

Harvest & Forage Restrictions: Do not harvest sooner than 85 days after application.

TRIVENCE

TRIVENCE 61.3WDG 6 to 9 oz/A

chlorimuron, flumioxazin, metribuzin
(0.014:0.048:0.167 to 0.022:0.072:0.25 lb ai/A)

Weeds Controlled: Black nightshade, cocklebur, maretail, lambsquarters, morningglory, palmer amaranth, smooth pigweed, common ragweed, smartweed, velvetleaf, waterhemp,

Crop Stage: Fall through spring up to 3 days after planting. Do not apply at cracking or after soybean emergence.

General Comments: Excessive rainfall in a short period following emergence of soybean may cause leaf burn, crinkling and defoliation of lower leaves. Excessive rain and cool cloudy weather during the growing season may cause temporary stunting. The use of TRIVENCE in same field treated with flufenacet, metolachlor, dimethenamid may result in severe crop injury when applications are followed by prolonged periods of cool wet weather. When using TRIVENCE with these other herbicides allow a minimum of 14 days prior to planting in no-till and reduced till soybeans

Environmental Statements: TRIVENCE has ground water Advisory statements on the label.

Rain Delay: 1 hour

Rotation Restrictions: Soybeans may be planted immediately, The rotation interval is 4 months for wheat and barley, 10 months for field corn and alfalfa, 12 months for forage grasses, and 18 months for tobacco and certain other crops.

Harvest & Forage Restrictions: Do not graze or harvest forage for livestock sooner than 40 days after Trivence application.

Tank Mixtures: Assure II, Express, dicamba, glyphosate, glufosinate, paraquat, saflufenacil, or 2,4-D LVE.

VALOR

VALOR SX 51WDG 2 to 2.5 oz/A

or

(flumioxazin 0.064 to 0.080 lb ai/A)

VALOR EZ 4L 2 to 2.5 fl oz/A

Weeds Controlled: Black nightshade, common ragweed, hophornbeam copperleaf, lambsquarters, maretail (horseweed), morningglories, palmer amaranth, smooth pigweed, prickly sida, waterhemp.

Crop Stage: May be applied for preemergence and for burndown control before soybeans emerge.

General Comments: When used for burndown control, consult label for use of additives. DO NOT INCORPORATE. Plant seed at least 1.5 inches deep and completely cover seed with soil. Crop injury may occur in poorly drained soils and under cool wet conditions. Crop injury may also occur if treated soil is splashed onto newly emerged plants. No-till planters that incorporate soil during planting may limit the length of weed control in the spring. Spray equipment must be cleaned each day. To enhance removal of herbicide residue from spray system, use a tank cleaner such as Valent Tank Cleaner.

Environmental Statements: Flumioxazin products (e.g. VALOR, ENCOMPASS) have the potential to runoff to surface water and adjacent land.

Rain Delay: 1 hour

VALOR (Continued)

Rotation Restrictions: Soybeans may be planted immediately. Rotational intervals for other crops that may be planted following VALOR at rates up to 2 oz/A include: 7 days for no-till wheat; 7 to 14 days for no-till field corn depending on herbicide rate, residue cover, and rainfall; 30 days for conventional field corn, sorghum, and tobacco and a minimum of 1 inch rainfall. Allow 3 months for barley. For alfalfa, clover, and other crops not listed, allow 4 months if soil is tilled before planting and 8 months for no-tillage. A successful soil bioassay is required for other crops not listed. Consult VALOR label when rate is up to 3 oz/A.

Harvest & Forage Restrictions: Do not feed treated forage or hay to livestock.

Tank Mixtures: Command, metribuzin, FirstRate, glyphosate, paraquat, pendimethalin, Python, Scepter, 2,4-D LVE, Weedmaster. Do not use VALOR where flufenacet (Define), metolachlor (Dual), or dimethenamid (Outlook) are applied or injury may occur.

Generic Products: OUTFLANK, PANTHER, PANTHER SC ENCOMPASS

VALOR XLT

VALOR XLT 40.3WDG 3 to 4 oz/A (flumioxazin:chlorimuron (0.056:0.019 to 0.075:0.026 lb ai/A)

Weeds Controlled: Black nightshade, common ragweed, hophornbeam copperleaf, lambsquarters, marestalk (horseweed), morningglories, palmer amaranth, smooth pigweed, prickly sida, waterhemp.

Crop Stage: May be applied in the fall or spring for preemergence and for burndown control before soybeans emerge.

General Comments: When used for burndown control, consult label for use of additives. Plant seed at least 1.5 inches deep and completely cover seed with soil. Crop injury may occur in poorly drained soils and under cool wet conditions. Spray equipment must be cleaned each day. To enhance removal of herbicide residue from spray system, use a tank cleaner such as Valent Tank Cleaner. Do not use on soils with a composite pH greater than 7.6.

Environmental Statements: Do not apply where runoff is likely to occur.

Rain Delay: 1 hour

Rotation Restrictions: Rotational crops that may be planted where soil pH is less than 7.0 are wheat or barley after 4 months, field corn, popcorn, sorghum, or tobacco after 10 months, or alfalfa after 12 months after application. Other crops require 18 months. Consult label when soil pH \geq 7.0.

Harvest & Forage Restrictions: Do not feed treated forage or hay to livestock.

Tank mixtures: 2,4-D LVE, Express, glyphosate, Harmony GT, linuron, metribuzin, paraquat, pendimethalin, or Command. Tank mixes with chloroacetamide containing products (e.g. Dual II magnum, Outlook, Intrro) may result in crop injury.

WARRANT ULTRA

WARRANT ULTRA 3.45L 48 to 65 oz/A (acetochlor:fomesafen)
[(1.06:0.236) to (1.43:0.32) lb ai /A]

Weeds Controlled: Barnyardgrass, crabgrass, fall panicum, black nightshade, lambsquarters, Palmer amaranth, smooth pigweed, common ragweed, waterhemp.

Crop Stage: Preplant, at-planting, and preemergence.. Warrant Ultra may also be applied postemergence before R2 growth stage. For optimum postemergence control, apply to soybean at V2 to V3. growth stage.

General Comments: Do not exceed a maximum of 0.375 lb ai /A of fomesafen in alternate years.

Environmental Statements: Warrant Ultra has GROUND WATER AND SURFACE WATER ADVISORY statements on the label.

Rain Delay: 1 hour for postemergence applications.

Rotation Restrictions: Rotational crops that may be planted include wheat, barley, rye, oats after 4 months, corn after 10 months, popcorn after 12 months, alfalfa and grain sorghum after 18 months after application..

Harvest & Forage Restrictions: Do not apply within 45 days of harvest. .Do not graze or feed treated crop following a postemergence application.

Tank Mixtures: Prowl, metribuzin, imazethapyr, 2,4-D, Gramoxone Inteon, Roundup

96 Soybean

ZIDUA

ZIDUA 85 WDG 2 to 3 oz/A

or

ZIDUA SC 3.25 to 5 fl oz/A

(pyroxasulfone 0.106 to 0.159 lb ai/A)

Weeds Controlled: Barnyardgrass, Broadleaf signalgrass, crabgrass, fall panicum, foxtails, black nightshade, Palmer amaranth, smooth pigweed, waterhemp.

Crop Stage: May be applied in the fall or in the spring preplant surface up to 14 days before planting, preplant incorporated, preemergence, or early postemergence at first-trifoliolate to third-trifoliolate leaf stage. Do not apply from emergence (at-cracking) through unifoliolate stage.

General Comments: Do not apply more than one application in the spring. The maximum cumulative rate of Zidua for all soils other than coarse texture is 3.5 oz/A.

Environmental Statements: Zidua label has GROUNDWATER AND SURFACE WATER ADVISORY statements.

Rain Delay: None

Rotation Restrictions: The rotational interval when using 1 to 3 oz of Zidua/A is up to 4 months for wheat depending on rate of Zidua (11 months for other small grains), 10 months for alfalfa, and 18 months for other crops. Corn and soybean may be planted immediately. Consult label when using other rates of Zidua.

Harvest & Forage Restrictions: No information on label.

Tank Mixtures: Extreme, Outlook, Prowl, Pursuit, Raptor, Scepter, Sharpen, Verdict, glyphosate.

POSTEMERGENCE TANK MIXTURES LABELED FOR SOYBEANS

	ULTRA BLAZER	BUTYRAC	CLASSIC	COBRA	FIRSTRATE	FLEXSTAR	FLEXSTAR GT	GLYPHOSATE **	PREFIX	LIBERTY	PURSUIT	RAPTOR	RESOURCE	SEQUENCE	SYNCHRONY
ARROW	NL	NL	L	L	L	L	NL	L	NL	L	L	L	L	NL	L
ASSURE II*	L	NL	L	L	L	L	NL	L	NL	L	L	NL	L	NL	L
ULTRA BLAZER	-	L	L	NL	L	NL	NL	L	NL	L	L	L	L	NL	L
CLASSIC	L	L	-	L	L	L	NL	L	NL	L	NL	L	L	NL	NL
CHEETAH MAX	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL
COBRA	NL	L	L	-	L	NL	NL	L	NL	L	L	NL	L	NL	L
EXTREME	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	X	NL	NL	NL
FIRSTRATE	L	NL	L	L	-	L	NL	L	NL	L	L	L	L	NL	L
FLEXSTAR	NL	L	L	NL	L	-	NL	L	NL	L	L	L	L	NL	L
FUSION*	L	NL	L	L	L	L	L	L	NL	L	L	NL	L	L	L
FUSILADE DX	L	NL	L	L	NL	L	L	L	NL	L	L	NL	L	L	NL
GLYPHOSATE**	L	L	L	L	L	L	L	-	L	NL	L	L	L	L	L
HARMONY SG	NL	NL	L	NL	NL	L	NL	L	NL	NL	L	NL	L	NL	L
LIBERTY	L	NL	L	L	L	L	NL	NL	NL	-	L	L	L	NL	L
PHOENIX	NL	L	L	NL	L	NL	NL	L	NL	L	L	L	L	NL	L
POAST PLUS*	L	NL	L	L	L	L	NL	L	NL	L	L	L	L	NL	L
PREFIX	NL	NL	NL	NL	NL	NL	NL	L	NL	NL	NL	NL	NL	NL	NL
PURSUIT	L	L	X	L	L	L	NL	L	NL	L	-	X	L	NL	NL
RAPTOR	L	NL	L	NL	L	L	NL	L	NL	L	X	-	L	NL	NL
RESOURCE	L	NL	L	L	L	L	NL	L	NL	L	L	L	-	NL	L
SECTION	L	NL	L	L	L	L	NL	L	NL	L	L	L	L	NL	L
SELECT MAX*	NL	NL	L	L	L	L	NL	L	NL	L	L	L	L	NL	L
SEQUENCE	NL	NL	NL	NL	NL	NL	NL	L	NL	NL	NL	NL	NL	-	NL
SYNCHRONY	L	L	NL	L	L	L	NL	L	NL	L	NL	X	L	NL	-
VOLUNTEER*	L	NL	L	L	L	L	NL	L	NL	L	L	L	L	NL	L

*For optimum control of rhizome johnsongrass, shattercane, volunteer corn, or certain other grasses apply these post-grass herbicides as sequential applications to avoid herbicide antagonism.

** Information on tank mixing products containing glyphosate with other postemergence herbicides was combined across several labels; consequently more tank mixtures are represented in this table than indicated on a specific label. Consult label(s) of specific glyphosate product and tank mix partner for approved combinations.

L = Labeled tank mixture. Consult labels for use of additives.

NL = Not a labeled tank mixture. Consult labels for precautions or restriction that may limit mixing with chemicals not indicated on the label.

X = Do not tank mix these products since severe crop injury, herbicide carryover, or herbicide antagonism may occur.

Guide to Weed and Crop Response to Postemergence Herbicides¹

	Barnyardgrass	Broadleaf Signalgrass	Crabgrass	Fall Panicum	Foxtail	Johnsongrass (seedling)	Johnsongrass (rhizome)	Shattercane (Wild Cane)	Volunteer Corn ⁶	Yellow Nutsedge	Black Nightshade	Burcucumber	Cocklebur	Copperleaf, Hophornbeam	Horseweed (Marestail)	Lambsquarters	Morningglory	Palmer amaranth	Pigweed, Smooth	Prickly sida (Teaweed)	Ragweed, Common	Ragweed, Giant (Horseweed)	Sicklepod	Smartweed	Velvetleaf	Waterhemp	Crop Response ²	
Assure II	8	8	8	9	9	9	8	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Blazer Ultra	2	2	4	5	7	6	0	6	4	2	9	6	7	8	4	5	8	7	8	2	9	8	1	9	6	8	2	
Classic	0	0	0	0	0	0	0	0	2	7	5	8	9	4	7*	3	7	4*	8*	3	7	7	8	7	7	4*	1	
Cheetah Max (LL-soybean) ⁴	6	7	8	8	8	8	6	8	7	-	9	8	9	-	8	8	8	8	9	8	9	9	-	9	9	8	2	
Cobra / Phoenix ³	2	2	2	2	3	5	0	4	2	2	9	7	8	9	5	6	7	-	8	6	9	8	1	7	7	8	3	
Extreme (RR-soybean) ⁴	9	9	9	9	9	9	9	9	9	7	8	8	9	-	7*	8	7	-	9	7	8*	8	8	8	8	8	-	1
FirstRate	1	0	1	0	2	2	0	3	2	3	3	7	9	-	8*	3	8	3	4	4	9	9	7	8	9	5	1	
Flexstar	0	0	3	3	5	5	0	4	2	2	8	6	8	8	5	5	8	8	9	2	8	8	1	8	7	8	1	
Flexstar GT (RR-soybean) ⁴	9	9	9	9	9	9	7	9	9	6	8	-	9	8	7*	8	8	9	9	7	8	8	9	8	8	9	1	
Fusilade DX	8	8	8	8	8	9	8	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fusion	8	9	9	9	9	9	8	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Glyphosate (RR-soybean) ^{4,5}	9	9	9	9	9	9	9	9	9	6	8	8	9	7	7*	8	7	7*	9	7	7*	8*	9	8	8	7*	0	
Liberty (LL-soybean) ⁴	7	7	7	8	9	8	5	8	7	5	9	7	9	8	8	8	8	8	8	8	8	9	8	7	9	8	0	
Poast / Poast Plus	9	9	9	9	9	9	7	9	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Prefix	3	3	3	-	-	3	-	-	-	7	8	5	8	8	-	-	8	8	9	2	6	7	3	7	6	9	1	
Pursuit	6	6	7	7	6	8	5	8	5	4	8	4	9	2	5	6	7	3	9*	6	7	8	0	8	8	5	1	
Raptor	8	7	7	7	9	8	6	9	7	5	9	6	8	2	5	8	8	5	9*	6	7	8	0	9	8	5	2	
Resource	0	0	0	0	0	0	0	0	0	0	5	5	7	-	5	6	6	7	7	7	8	7	-	5	9	7	2	
Select MAX /Select , etc.	9	9	9	9	9	9	8	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sequence (RR-soybean)	9	9	9	9	9	9	9	9	9	6	8	8	9	7	7*	8	7	-	9	7	7*	8	9	8	8	8	-	0
Synchrony XP ⁴	0	0	0	0	0	0	0	0	4	6	5	8	9	-	7*	8	6	-	8*	4	7	6	8	8	8	8	-	1

EXCELLENT = 9+ **GOOD = 8-9** **FAIR = 6-7** **POOR = 5 OR LESS** **- INSUFFICIENT DATA**

¹ This table should be used only as a guide. The relative response value is based on a numerical scale from 0-9 comparing the effectiveness of herbicides to a particular weed. Under certain weather or environmental conditions, a herbicide may perform better or worse than indicated in the table. If a farmer is getting satisfactory results under his conditions, he should not necessarily change products as a result of the information in the table.

² A rating of 3 or less will not result in a crop yield loss under normal conditions. Certain soybean varieties vary in their injury response to a herbicide treatment.

³ Crop response and velvetleaf control may be less with Phoenix than with Cobra.

⁴ Apply only to selected soybean cultivars designated with GENETIC resistance /tolerance to Roundup Ready (RR-soybean) or Sulfonyleurea Tolerant (STS-soybean) or Liberty Link (LL-soybean). Consult label for directions.

⁵ Examples of specific glyphosate products are listed on page 22.

⁶ Control of volunteer plants from previous herbicide-resistant corn hybrids may NOT be successful depending on source of herbicide tolerance.

* Will not control biotypes resistant to the class of chemistry associated with this herbicide.

Response of Perennial Broadleaves to Postemergence Soybean Herbicides¹

	Bindweed, Field	Dandelion	Dogbane, Hemp	Horsenettle	Milkweed, Common	Milkweed, Honeyvine	Morningglory, Bigroot	Pokeweed, Common	Thistle, Canada	Trumpetcreeper
Cobra ²	6	-	-	6	6	6	5	-	6	5
Extreme ³	7	8	7	7	7	7	5	7	8	7
Flexstar or Flexstar GT ⁴	6	-	-	6	-	6	-	-	6	5
Glyphosate (RR-soybean) ⁵	7	8	7	7	7	7	5	8	8	7
Pursuit ⁶	-	-	-	7	-	-	-	-	6	-
Raptor ⁷	6	-	-	-	-	-	-	6	7	-
Synchrony (STS soybean) ⁸	7	-	-	5	7	7	-	6	7	-
Ultra Blazer ⁹	6	-	-	6	6	-	5	-	6	5

GOOD = 8 - 9 FAIR = 6 - 7 POOR = 5 or less - Insufficient Data

1 **In-season herbicide treatments for perennial broadleaf weeds usually provide only partial control or suppression.** The response value indicated is based on a numerical scale from 0 to 9 comparing the relative effectiveness of the herbicides listed to a particular weed. Under certain weather or environmental conditions, a herbicide may perform better or worse than indicated in the table. **Therefore, this table should be used only as a guide for selecting treatments to deal with problem weeds.**

2 Apply Cobra (12.5 oz/A) or Phoenix (12.5 oz/A). Use crop oil concentrate at 4 pt/100 gal with Cobra or 1 pt/A with Phoenix for Canada thistle, bigroot morningglory, common milkweed, climbing milkweed, swamp smartweed, and trumpetcreeper with a maximum of 6 leaves.

3 Apply Extreme (3 pt/A) + NIS (1 pt/100 gal)+ AMS (8.5 to 17lb/100gal) only to on selected soybean cultivars designated as Roundup Ready or glyphosate resistant.

4 Apply Flexstar (1.5 pt/A) or + NIS (0.5 to 1 pt/25 gal) or crop oil concentrate (1 to 2 pt/25 gal) + 28% liquid N (2.5 qt/25gal) for field bindweed, honeyvine milkweed, and trumpetcreeper.

5 Apply glyphosate 3L (32 to 64 oz/A); glyphosate 3.75 L (26 to 52 oz/A); glyphosate 4 L (24 to 48 oz/A); or glyphosate 4.5 L (21 to 42 oz/A) **only on selected soybean cultivars designated as Roundup Ready or glyphosate resistant.** Consult herbicide label for use of surfactant and AMS as additives. See page 20 for examples of GLYPHOSATE products.

6 Apply Pursuit DG (1.44 oz/A) + Crop Oil Conc. (1.25 gal/100 gal) or NIS (1 qt/100 gal) + 28% Liquid N (1.25 to 2.5 gal/100 gal). Apply up to 3" tall Canada thistle.

7 Apply Raptor (5 oz/A) + Crop Oil Conc. (1 to 2 gal/100 gal) + NIS (1 qt/100 gal)+ 28% Liquid N (2.5 gal/100 gal). Apply up to 4" tall field bindweed or 5" tall Canada thistle.

8 Apply Synchrony XP (0.75 oz/A) or Synchrony STS (0.5 oz/A) + Crop Oil Conc. (1 gal/100 gal) + Liquid N (2 qt/A) only to cultivars designated as STS. Apply up to 6" tall common milkweed , up to 4" tall dandelion, up to 6" tall common pokeweed, and up to 4" tall Canada thistle.

9 Apply Ultra Blazer (1.5pt/A) + NIS (1 to 2 pt/100 gal) for field bindweed, common milkweed, climbing milkweed, and trumpetcreeper.

MAXIMUM WEED SIZE LABELED FOR POSTEMERGENCE HERBICIDE APPLICATIONS

Herbicide	Rate	Barnyardgrass	Broadleaf Signalgrass	Crabgrass	Fall Panicum	Foxtail (Giant)	Johnsongrass (seedling)	Johnsongrass (rhizome)	Shattercane (Wildcane)	Volunteer Corn	Volunteer Wheat
ARROW 2 EC	6 to 8 oz 8 to 16 oz	8"	6"	6"	8"	12"	10"	X 24" ²	18"	24"	6"
ASSURE II 0.88E	5 oz 8 oz 10 oz	X 6"	X X 6"	X 6" ¹	X 6"	4" 8"	8"	X X 24" ²	12"	18" 30"	X 6"
CHEETAH MAX	26 oz 34oz	3" 5"	- -	3" 5"	3" 5"	6" 12"	3" 5"	- -	6" 8"	10" 12"	4" 5"
EXTREME	3 pt	6"	8"	12"	12"	18"	12"	12"	18"	20"	18"
FLEXSTAR GT (RR Soybean)	3 pt 4.5 pt	6" 12"	8" 10"	12"	6" 10"	18"	12" 18"	X X	12" 16"	24" ³	18"
FUSILADE DX 2E	8 oz 12 oz	X 3"	X 4"	X 2"	X 6"	X 6"	- -	X 18"	12"	24"	6"
FUSION 2.56E	6 oz 8 oz 12 oz	X 4"	X 2" 4"	X 4"	X 6"	8"	8"	X X 18"	12"	24"	X 6"
GLYPHOSATE ⁵ (3 lb ae/gal) (RR Soybean)	24 oz 32 oz 48 oz	3" 6" 9"	3" 6" 9"	6" 12"	4" 6" 12"	12" 20"	12" 18" 24"	X Boot Stage ⁶ -	12" 20"	12" ³ 20"	6" 12" 18"
LIBERTY 280 SL	22 oz 29 oz	3" 5"	3" 5"	3" 5"	3" 5"	6" 12"	3" 5"	X X	6" 8"	10" ³ 12"	4" 5"
POAST	1 pt 1.5 pt	8"	8"	6"	8"	8"	8"	- 20" ²⁻⁴	18"	20" ³	X 4"
PURSUIT 2S	4 oz	3"	8"	3"	X	6"	8"	X	8"	X	X
RAPTOR 1S	5 oz	5"	5"	X	6"	6"	8"	X	8"	8" ³	4"
ROUNDUP POWERMAX ⁵ (4.5 lb ae/gal) (RR Soybean)	16 oz 22 oz 32 oz	3" 6" 9"	3" 6" 9"	6" 12"	4" 6" 12"	12" 20"	12" 18" 24"	X Boot Stage ⁶ -	12" 20"	12" ³ 20"	6" 12" 18"
SELECT MAX 0.97 EC ⁷	6 to 12 oz 9 to 16 oz 12 to 32 oz	X 8"	X 6"	X 6"	X 8"	X 12"	X 10"	X X 24"	X 18"	12" 24" 36"	X 6"
SEQUENCE	2.5 pt 3.5 pt	6" 12"	6" 12"	12"	6" 18"	18"	18"	X Boot Stage ⁶	18"	18" ³	18"

X = Not labeled for control -- = same height as indicated above

1 Maximum length of lateral growth for crabgrass.
 2 Two applications may be necessary for acceptable control. Consult the label for specific weed height, timing of application, treating regrowth, and tank mixtures with other herbicides.
 3 Control of volunteer plants from previous herbicide-resistant corn hybrids may NOT be successful depending on source of herbicide tolerance.
 4 Maximum height for rhizome johnsongrass is 25" in conventional tillage or 20" for no-tillage.
 5 Consult labels of other glyphosate products for rates for specific weed species.
 6 Rate of glyphosate for rhizome johnsongrass control may vary depending on tillage system.
 7 Use the high rate under heavy grass pressure and/or when grasses are at the maximum height.

Herbicide	Rate	Black Nightshade	Burcucumber	Cocklebur	Copperleaf	Horseweed (Marestail)	Lambsquarters	Morningglory	Palmer amaranth	Smooth Pigweed	Prickly Sida	Ragweed, Common	Ragweed, Giant (Horseweed)	Sicklepod	Smartweed	Velvetleaf	Waterhemp	Yellow Nutsedge
CHEETAH MAX	26 oz	6"	6"	6"	4"	X	4"	6"	X	3"	4"	6"	6"	4"	6"	3"	X	X
	34 oz	8"	10"	14"	6"	12"	6"	8"	4"	4"	5"	10"	12"	6"	14"	4"	5"	X
CLASSIC	0.5 oz	X	X	6"	X	3"	X	2"	X	X	X	X	X	2"	2"	X	X	3"
	0.75 oz	X	6"	12"	X	6"	X	4"	X	X	X	4"	6"	4"	4"	6"	X	4"
COBRA	12.5 oz	6 LF	4 LF	6 LF	6 LF	X	X	2 LF	6 LF	6 LF	4 LF	8 LF	6 LF	X	X	X	6 LF	X
EXTREME	3 pt	12"	12"	18"	2"	12"	8"	4"	12"	18"	2"	9"	9"	3"	6"	5"	12"	X
FIRSTRATE	0.3 oz	X	X	10"	X	6"	X	4"	X	X	X	8"	10"	<2"	6"	6"	X	X
FLEXSTAR	1 pt	4 LF	X	4 LF	4 LF	X	X	3 LF	4 LF	4 LF	X	4 LF	4 LF	X	4 LF	2 LF	2 LF	X
	1.5 pt	6 LF	X	8 LF	6 LF	X	X	5 LF	6 LF	6 LF	4 LF	8 LF	8 LF	X	6 LF	4 LF	6 LF	X
FLEXSTAR GT	3 pt	4"	X	4"	2"	X	4"	3"	1"	4"	2"	4"	4"	2"	4"	4"	2"	X
	4.5 pt	8"	X	8"	4"	X	10"	4"	3"	6"	4"	6"	8"	4"	8"	8"	4"	X
GLYPHOSATE ¹	24 oz	4"	6"	18"	2"	6"	6"	X	12"	12"	2"	6"	6"	2"	X	X	X	X
	32 oz	6"	12"	24"	4"	12"	12"	3"	18"	18"	4"	12"	12"	4"	6"	6"	6"	X
	48 oz	12"	18"	36"	6"	18"	20"	6"	24"	24"	6"	18"	18"	8"	9"	12"	12"	X
HARMONY SG	0.125 oz	X	X	X	X	X	4"	X	4"	8"	X	X	X	X	6"	6"	X	X
LIBERTY 280 SL	22 oz	6"	6"	6"	4"	X	4"	6"	3"	3"	4"	6"	6"	4"	6"	3"	4"	X
	29 oz	8"	10"	14"	6"	6-12"	6"	8"	4"	4"	5"	10"	12"	6"	14"	4"	5"	X
PHOENIX	12.5 oz	3"	X	2"	2"	X	X	X	2"	4"	2"	6"	4"	X	X	X	6"	X
PURSUIT 2S	4 oz	3"	X	8"	X	X	X	2"	X	8"	X	X	X	X	3"	3"	X	X
RAPTOR 1S	5 oz	5"	X	8"	X	X	5"	4"	4"	8"	X	5"	5"	X	5"	8"	X	X
RESOURCE 0.86E	4 oz	X	X	X	X	X	X	X	X	X	X	X	X	X	X	6 LF	X	X
	8 oz	X	X	X	X	X	X	X	X	4 LF	4 LF	6 LF	X	X	X	10 LF	X	X
ROUNDUP (RR Soybean)	16oz	4"	6"	18"	2"	6"	6"	X	12"	12"	2"	6"	6"	2"	X	X	X	X
POWERMAX ¹	22 oz	6"	12"	24"	4"	12"	12"	3"	18"	18"	4"	12"	12"	4"	6"	6"	6"	X
	32 oz	12"	18"	36"	6"	18"	20"	6"	24"	24"	6"	18"	18"	8"	9"	12"	12"	X
SEQUENCE	2.5 pt	6"	12"	18"	3"	12"	—	3"	X	12"	3"	12"	12"	3"	6"	6"	6"	X
	3.5 pt	12"	—	—	—	18"	18"	6"	X	18"	6"	18"	18"	6"	12"	12"	12"	X
SYNCHRONY XP	0.75 oz/A	X	3"	8"	X	5"	4"	3"	8"	8"	X	4"	4"	3"	8"	8"	X	3"
ULTRA BLAZER	1.5 pt	2"	X	2"	4"	X	X	4"	4"	4"	X	3"	3"	X	6"	X	4"	X

X = Not labeled for control — = Same height as indicated above

* May not effectively control certain biotypes due to herbicide resistance.

¹ Consult labels of other glyphosate products for rates recommended for specific weed species.

102 Soybean

POSTEMERGENCE HERBICIDES IN SOYBEANS, ADJUVANTS, CROP GROWTH STAGES, AND RAIN-FREE PERIODS

Herbicides	Adjuvant ¹	Crop Stage (Timing of Application) ²	Rain Delay ³
Assure II	COC or NIS + (Liquid N or AMS optional)	Before pod set and 80 days prior to harvest.	1 hour
Butyrac 200 (2,4-DB)	NIS or COC can enhance injury and may be prohibited	Do not apply within 60 days of harvest. Other limitations may apply if mixed with other herbicides.	** 3
Cheetah Max	AMS Optional	From emergence up to but not including bloom stage. Do not apply within 70 days of harvest.	4 hours
Classic	NIS or COC + (Liq N / AMS optional)	After first trifoliolate leaf has expanded but 60 days before maturity.	1 hour
Cobra	COC or NIS (Liq N optional)	Normally when plants are in the one to two trifoliolate leaf stage; Do not apply within 45 days before harvest or after stage R6 (full seed).	30 min.
Extreme	NIS + AMS	Before bloom and prior to 85 days of harvest.	1 hour
FirstRate	NIS or COC + Liq N	Before 50% flowering stage & 65 days before harvest for 0.3 oz/A rate	2 hours
Flexstar	NIS or COC + (Liq N optional)	Do not apply within 45 days of harvest.	1 hour
Flexstar GT	AMS, NIS , COC, or MSO optional	Do not apply within 45 days of harvest.	*** 4
Fusilade EX	COC or NIS + (Liq N optional)	24 oz/A before bloom stage. 6 oz/A after bloom 60 days before harvest	1 hour
Fusion	COC or NIS + (Liq N or AMS optional)	Before bloom stage.	1 hour
Glyphosate (Post Broadcast) (Spot Treat) (Preharvest)	NIS varies with product used. (AMS is optional)	Cracking throughout flowering. Before initial pod set. After pods have set and lost green color.	*** 4
Firestorm or Parazone (Directed) (Preharvest)	NIS or COC NIS or COC	≥ 8- inch tall soybean plants. Consult label.	30 min.
Gramoxone Inteon (Directed) (Preharvest)	NIS or COC NIS or COC	≥ 8- inch tall soybean plants. Consult label.	15 - 30 min.
Harmony SG	NIS or COC + Liq N	After first trifoliolate leaf has expanded until 60 days before harvest	** 3
Liberty 280SL	-----	After emergence up to but NOT including bloom stage and 70 days before harvest.	4 hours
Phoenix	NIS	Normally when plants are in the one to two trifoliolate leaf stage; Do not apply within 45 days before harvest or after stage R6 (full seed).	2 hours

**POSTEMERGENCE HERBICIDES IN SOYBEANS, ADJUVANTS,
CROP GROWTH STAGES, AND RAIN-FREE PERIODS**

Herbicides	Adjuvant¹	Crop Stage (Timing of Application)²	Rain Delay³
Poast	COC or DASH (Liq. N optional)	Do not apply within 75 days of harvest.	1 hour
Poast Plus	COC or DASH (Liq. N optional)	Do not apply within 75 days of harvest.	1 hour
Pursuit	NIS or COC + Liq N or AMS	Before bloom stage and prior to 85 days of harvest.	1 hour
Prefix	(Consult label)	Apply at least 90 days before harvest	---
Raptor	NIS or MSO+Liq N (COC for certain situations)	Before bloom stage.	1 hour
Resource	COC + (Liq N optional) (Consult label for using NIS for certain mixes)	Do not apply within 60 days of harvest.	1 hour
Select MAX & other clethodim products	NIS or COC (Consult label for using AMS)	Do not apply within 60 days of harvest.	1 hour
Sequence	AMS	From cracking through 3rd trifoliolate for Roundup Ready soybean	*** 4
Synchrony XP	COC + Liq N (Consult label for using NIS for certain mixes)	After first trifoliolate has expanded until 60 days before harvest.	1 hour
Ultra Blazer	NIS (Consult label for using Liq N, AMS, and /or COC for certain mixes)	Do not apply within 50 days of harvest.	4 hours

¹ COC = Crop Oil Concentrate; NIS = Non-Ionic Surfactant (at least 80% active ingredient); Liq N generally involves Urea Ammonium Nitrate or UAN (28% to 32% nitrogen fertilizer) or 10-34-0. Consult label for specific type of adjuvant and rate.

² This information is based on optimum crop growth stage and/or preharvest interval for grain.

³ **Rainfall soon after application may reduce effectiveness. Do not apply if weather conditions are favorable for rain.

⁴ *** A heavy rainfall soon after application of glyphosate may reduce effectiveness. Some product labels indicate that if rainfall occurs within 6 hours after treatment, the effectiveness may be reduced. A heavy rainfall within 2 hours after application may wash chemical off the foliage and thus requiring another treatment.

104 Soybean

POSTEMERGENCE

ASSURE II

ASSURE II 0.88E 5 to 12 oz/A	(quizalofop 0.034 to 0.083 lb ai/A)
+	+
OIL CONCENTRATE 8 pt/100 gal	(additive)
or	or
SURFACTANT (NON-IONIC 80%) 2 pt/100 gal	(additive)
+	+
[28% UAN (2 to 4 qt/A) or AMS (2 to 4 lb/A) may be included with surfactant or crop oil]	(additive)

Weeds Controlled: Barnyardgrass, broadleaf signalgrass, crabgrass, fall panicum, foxtails, johnsongrass, shattercane, volunteer corn.

Crop Stage: Before pod set and 80 days prior to harvest.

General Comments: Follow label directions for herbicide rate and stages of weed growth for optimum results. For volunteer corn (including RR and LL corn) control apply 4 oz/A for plants up to 12" tall; 5 oz/A for plants up to 18" tall; use 8 oz/A for plants 18 to 30" tall.

Environmental Statements: None

Rain Delay: 1 hour.

Rotation Restrictions: Do not plant other crops within 120 days after last application.

Harvest & Forage Restrictions: Apply no later than 80 days before harvest. Do not use treated soybean plants for feed or forage.

Tank Mixtures: Basagran, Classic, Flexstar, Harmony GT, Pursuit, or Synchrony. Also, glyphosate in glyphosate-resistant soybean. When using ASSURE II tank mixes or as a sequential treatment, follow label directions.

Generic Formulations: Targa, Quiz

CLASSIC

CLASSIC 25DF 0.5 to 0.75 oz/A	(chlorimuron 0.008 to 0.012 lb ai/A)
+	+
SURFACTANT (NON-IONIC 60%) 2 pt/100 gal	(additive)
or	
CROP OIL CONCENTRATE 8 pt/100 gal	
+	+
28% UAN (4 to 8 pt/A) or AMS (2 to 4 lb/A) [may be included with surfactant or crop oil for certain weed species.]	(additive)

Weeds Controlled: Burcucumber, cocklebur, smooth pigweed, sicklepod.

Crop Stage: After first trifoliate leaf has expanded but no later than 60 days before maturity.

General Comments: Follow label directions for herbicide rate and stages of weed growth for optimum results.

Environmental Statements: Do not mix, load, or use within 50 ft of wells including abandoned wells, drainage wells, and sink holes.

Rain Delay: 1 hour.

Rotation Restrictions: Crops which may be planted after CLASSIC include wheat or barley after 3 months; corn after 8 months; popcorn, sorghum, tobacco, alfalfa or clover after 9 months following treatment. If applied after August 1, extend recrop interval 2 months for alfalfa, clover, corn, popcorn, sorghum, or tobacco. Consult labels when other chlorimuron containing products (i.e. CANOPY), imazaquin (i.e. SCEPTER, etc.), or imazethapyr (i.e. PURSUIT) are applied the same year.

Harvest & Forage Restrictions: Apply no later than 60 days before soybean maturity. Do not use treated plants for feed or forage.

Tank Mixtures: Assure II, Ultra Blazer, Cobra, FirstRate, Flexstar, Harmony GT, Phoenix. Also, glyphosate herbicides for Roundup Ready soybeans.

CHEETAH MAX (LibertyLink Varieties ONLY)

CHEETAH MAX 3L 26 to 34 fl oz/A

[(glufosinate:fomesafen)
(0.4:0.2) to (0.53:0.265) lb ai/A)]

Weeds Controlled: Black nightshade, burcucumber, cocklebur, common ragweed, crabgrass, fall panicum, foxtails, giant ragweed, johnsongrass (seedling), hophornbeam copperleaf, lambsquarters, marestalk (horseweed), morningglories, palmer amaranth, smooth pigweed, prickly sida, shattercane, smartweed, velvetleaf, waterhemp (consult label for weed size).

Crop Stage: Apply postemergence only in LibertyLink soybeans from emergence up to but not including bloom growth stage. Preplant surface or preemergence applications may be made prior to the emergence of conventional or transgenic soybean varieties.

General Comments: Apply only overtop soybean varieties designated as "LibertyLink". On soybeans do not exceed 42 oz of CHEETAH MAX/A per application. A Cumulative maximum of 48 oz of CHEETAH MAX/A (0.375 lb ai /A of fomesafen) may be applied per year in alternate years. Heavy dew or fog may reduce weed control. Also, applications should be made between dawn and 2 hours before sunset to avoid reduced control of lambsquarters and velvetleaf. Ammonium sulfate may be added at 3 lbs/A. When temperatures exceed 85F, reduce AMS rate to 1.5 lb/A. If foaming occurs a silicone-antifoam based agent may be added. Use nozzles and pressures that generate MEDIUM spray droplets.

Environmental Statements: Cheetah Max has GROUNDWATER and SURFACE WATER statements on the label.

Rain Delay: 4 hrs

Rotation Restrictions: Soybean may be planted anytime. Allow a minimum interval of 4 months for wheat and barley, 10 months for corn (12 months for popcorn for 32 oz/A rate), 18 months for alfalfa or sorghum and certain other corps..

Harvest & Forage Restrictions: Do not apply within 70 days of harvest. Do not graze or cut for hay.

Tank Mixtures: Consult label.

COBRA or PHOENIX

COBRA 2L 12.5 oz/A

(lactofen 0.2 lb ai/A)

+

+

CROP OIL CONCENTRATE 1 to 2 pt/A or
SURFACTANT (NON-IONIC) 2 pt/100 gal

(additive)

[NOTE: Crop oil concentrate is the preferred additive over a wide range of conditions, but may enhance crop response. Consult label for adjuvant recommendations based on relative humidity]

Liquid Nitrogen fertilizer 1 qt/A or Ammonium Sulfate 2.5 lb/A
may also be included as additives

or

or

PHOENIX 2 EC 12.5 oz/A

(lactofen 0.2 lb ai/A)

+

+

SURFACTANT (NON-IONIC) 1 to 2 pt/100 gal
(Consult PHOENIX label for other additives)

(additive)

Weeds Controlled: Black nightshade, cocklebur, common ragweed, giant ragweed, hophornbeam copperleaf, smooth pigweed, waterhemp.

Crop Stage: Normally applied when plants are in the 1- to 2- trifoliolate leaf stage; Do not apply within 45 days before harvest or after stage R6 (full seed)

General Comments: Follow label directions for herbicide rates and optimum stages of weed growth. Do not apply to soybeans under stress.

Environmental Statements: Lactofen has characteristics similar to other chemicals detected in groundwater.

Rain Delay: 30 minutes for COBRA. 2 hours for PHOENIX.

Rotation Restrictions: No rotational crop restrictions indicated on herbicide label.

Harvest & Forage Restrictions: Do not apply later than 45 days before harvest or after stage R6 (full seed). Do not use treated soybean plants for feed or forage.

Tank Mixtures with COBRA: Assure II, Basagran, Classic, 2,4-DB, FirstRate, Pursuit, Scepter, or Select. Also, Roundup Ultra for Roundup Ready soybeans, or Synchrony for STS soybeans only).

Tank Mixtures with PHOENIX: Basagran, Classic, 2,4-DB, FirstRate, Harmony GT, Pursuit, Raptor, Resource, Scepter, or Select. Also, glyphosate (RR-soybeans), or Synchrony (STS soybeans only).

106 Soybean

EXTREME

EXTREME 2.17L 3 pt/A	(imazethapyr : glyphosate 0.064:0.75 lb ai/A)
+	+
SURFACTANT (NON-IONIC 80%) 1 pt/100 gal or	(additive)
+	+
AMS 8.5 to 17 lb/A	(additive)

Weeds Controlled: Barnyardgrass, black nightshade, broadleaf signalgrass, burcucumber, cocklebur, common ragweed, crabgrass, fall panicum, foxtails, giant ragweed, johnsongrass (seed and rhizomes), lambsquarters, smooth pigweed, shattercane, sicklepod, smartweed, velvetleaf, volunteer corn.

Crop Stage: Before bloom and prior to 85 days of harvest.

General Comments: Apply EXTREME only OVER-THE-TOP OF SOYBEAN VARIETIES DESIGNATED AS "ROUNDUP READY" (glyphosate resistant). Follow label directions for maximum stages of weed growth. EXTREME may also be applied preplant or preemergence for burndown weed control.

Environmental Statements: The EXTREME label has GROUNDWATER ADVISORY statements.

Rain Delay: 1 hour.

Rotation Restrictions: Rotational crops that may be planted include wheat after 3 months; alfalfa, barley, or rye after 4 months; or susceptible field corn hybrids after 8.5 months; or tobacco after 9.5 months; or popcorn, sweet corn, sorghum, and oats after 18 months following EXTREME application. Other crops may require a minimum of 40 months and a successful field bioassay before planting. Over application may result in injury to rotational crops.

Harvest & Forage Restrictions: Do not harvest within 85 days after application. Do not use treated plants for feed or forage.

Tank Mixtures: None.

Generic Formulation: ThunderMaster

FIRSTRATE

FIRSTRATE 84 WDG 0.3 oz/A or	(cloransulam 0.016 lb ai/A)
[one 0.6 oz water soluble packet per 2 acres.]	
+	+
SURFACTANT (NON-IONIC 80%) 1 to 2 pt/100 gal	(additive)
+	+
28% UAN 2.5 gal/100 gal or	(additive)
AMS 2 lb/A (8.5 to 17 lb/100gal)	
[consult label for use of crop oil conc.(1.2 gal/100 gal) with UAN]	

Weeds Controlled: Cocklebur, morningglory, common ragweed, giant ragweed, smartweed, velvetleaf.

Crop Stage: Before 50% flowering stage. Application prior to emergence of first trifoliate leaf may cause temporary yellowing.

General Comments: Consult label for optimum stages of weed growth. FIRSTRATE may be applied postemergence up to 0.6 oz/A for heavy weed infestations or added residual control. Do not exceed 1.05 oz/A in a single season. If soil application is made, no more than 0.3 oz/A may be applied postemergence.

Environmental Statements: FIRSTRATE should not be mixed or loaded within 50 feet of any wells, sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs, unless an impervious pad is used.

Rain Delay: 2 hours.

Rotation Restrictions: Rotational crops that may be planted are wheat after 4 months; or alfalfa, field corn, popcorn, or sorghum after 9 months following treatment. For transplanted tobacco allow 18 months if herbicide rate > 0.3 oz/A and allow 10 months if herbicide rate ≤ 0.3 oz/A. For other crops allow an 18-month rotational interval.

Harvest & Forage Restrictions: Do not apply FIRSTRATE within 65 days of harvest. Do not harvest for forage or hay for 14 days after treatment. When FIRSTRATE postemergence rate exceeds 0.3 oz/A, the preharvest interval is 70 days for soybean harvest, and 25 days for forage or hay.

Tank Mixtures: Assure II, Basagran, Blazer, Classic, Cobra, Flexstar, Fusion, Poast Plus, Pursuit, Raptor, Resource, Select. Also, glyphosate (glyphosate tolerant soybeans), or Synchrony (STS soybeans only).

FLEXSTAR

FLEXSTAR 1.88L 1 to 1.5 pt/A + SURFACTANT (NON-IONIC 80%) 0.5 to 1 pt/25 gal or CROP OIL CONCENTRATE 1 to 2 pt/25 gal [28% liquid N may be included with surfactant or crop oil]	(fomesafen 0.235 to 0.35 lb ai/A) + (additive)
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Weeds Controlled: Black nightshade, cocklebur, common ragweed, giant ragweed, hophornbeam copperleaf, morningglories, palmer amaranth, smartweed, smooth pigweed, waterhemp.

Crop Stage: Prior to 45 days before harvest.

General Comments: Follow label directions for herbicide rates and optimum stages of weed growth. Do not exceed a maximum of 0.375 lb ai of fomesafen in alternate years.

Environmental Statements: Contamination of groundwater may occur when used on permeable soils.

Rain Delay: 1 hour.

Rotation Restrictions: Rotational crops that may be planted are wheat or barley after 4 months; or corn after 10 months (12 months for popcorn) following treatment. Other crops may be planted 18 months after treatment.

Harvest & Forage Restrictions: Do not apply within 45 days of harvest. Treated soybean plants or rotated small grain crops should not be grazed or harvested for forage or straw.

Tank Mixtures for FLEXSTAR: Assure II, Basagran, Butyrac 200, Classic, FirstRate, Fusion, Harmony GT, Poast, Poast Plus, Pursuit, Raptor, Resource, Scepter, or Select. Also, glyphosate in Roundup Ready soybeans or Synchrony STS in STS soybeans only.

Generic Formulations: Andross 1.88, Battle Star, Dawn, Reflex, Rhythm. Ringside, Rumble, Shafen, Shafen Star, Statement

FLEXSTAR GT

FLEXSTAR GT 3.5 (2.8L)	3.5 to 5.3 pt/A	(fomesafen : glyphosate) [(0.25 lb ai/A:0.99lb ae/A) to (0.371 lb ai/A:1.48 lb ae/A)]
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An adjuvant is already included with FLEXSTAR GT and minimizes the need for additional adjuvants. Under certain conditions the addition of one or more of the following may improve control: AMS at 8.5 to 17 lb/100 gal; Crop Oil Concentrate or Methylated Seed oil at 2 to 4 qt/100 gal; Non Ionic Surfactant at 1 to 2 qt/100gal.

Weeds Controlled: Black nightshade, barnyardgrass broadleaf signalgrass, cocklebur, common ragweed, crabgrass, fall panicum, giant foxtail, giant ragweed, hophornbeam copperleaf, johnsongrass (seedling), lambsquarters, morningglories, palmer amaranth, smooth pigweed, sicklepod, shattercane, smartweed, volunteer corn (except glyphosate resistant), velvetleaf, waterhemp.

Crop Stage: Preplant or preemergence burndown or postemergence (glyphosate tolerant soybean) prior to 45 days before harvest.

General Comments for Glyphosate Tolerant Soybean Only. Follow label directions for herbicide rates and optimum stages of weed growth. Do not exceed a maximum of 0.375 lb ai of fomesafen in alternate years.

Environmental Statements: Contamination of groundwater may occur when used on permeable soils.

Rain Delay: Heavy rainfall after application may reduce performance.

Rotation Restrictions: Rotational crops that may be planted are wheat or barley after 4 months; or corn after 10 months (12 months for popcorn) following treatment. Other crops may be planted 18 months after treatment.

Harvest & Forage Restrictions: Do not apply within 45 days of harvest. Treated soybean plants should not be grazed or harvested for forage or hay.

Tank Mixtures for Postemergence Applications: Fusilade DX, Fusion, glyphosate.

Generic Formulations: Battlestar GT.

108 Soybean

FUSILADE DX

FUSILADE DX 2E 6 to 12 oz/A [fluazifop-P-butyl (0.093 to 0.188 lb ai/A)
+ (additive)
CROP OIL CONCENTRATE 0.5 to 1 gal/100 gal
or SURFACTANT (NIS 75%) 1 to 2 qt/100 gal
[28% UAN 1 gal/A) may be included with
surfactant or crop oil]

Weeds Controlled: Barnyardgrass, broadleaf signalgrass, crabgrass, fall panicum, foxtails, johnsongrass, shattercane, volunteer corn.

Crop Stage: Use up to 24 fl oz/A pre bloom to soybean and up to 6 fl oz/A from bloom through post bloom (R1 growth stage or later). Do not harvest for 60 days after application.

General Comments: Follow label directions for herbicide rate and stages of weed growth for optimum results.

Environmental Statements: FUSILADE DX has GROUNDWATER and SURFACE WATER statements on the label.

Rain Delay: 1 hour.

Rotation Restrictions: Do not plant rotational grass crops such as corn, sorghum, or small grains within 60 days after last application.

Harvest & Forage Restrictions: Do not harvest for 60 days after last application.

Tank Mixtures: Basagran, Ultra Blazer, Classic, Flexstar, Pursuit. Also glyphosate for RR soybeans only. When using FUSILADE DX in tank mixtures or as a sequential application with other herbicides, follow specific directions on the labels.

FUSION

FUSION 2.56E 6 to 12 oz/A [fluazifop-P-butyl:fenoxaprop-P- ethyl]
+ [(0.09:0.026 lb ai/A) to (0.188:0.053) lb ai/A]
+ (additive)
CROP OIL CONCENTRATE 1 to 2 pt/25 gal
or SURFACTANT (NIS 75%) 0.5 to 1 pt/25 gal
[28% UAN (4 qt/25 gal) or AMS (4 lb/A) may be
included with surfactant or crop oil]

Weeds Controlled: Barnyardgrass, broadleaf signalgrass, crabgrass, fall panicum, foxtails, johnsongrass, shattercane, volunteer corn.

Crop Stage: Before bloom stage.

General Comments: Follow label directions for herbicide rate and stages of weed growth.

Environmental Statements: None.

Rain Delay: 1 hour.

Rotation Restrictions: Do not plant rotational grass crops such as corn, sorghum, or small grains within 60 days after last application.

Harvest & Forage Restrictions: Apply FUSION before soybean bloom. Do not graze or harvest treated fields for forage or hay.

Tank Mixtures: Basagran, Blazer, Classic, Cobra, FirstRate, Flexstar, Pursuit, Scepter, Storm. Also Touchdown 5 for RR soybeans or Synchrony in STS soybeans only. When using FUSION in tank mixtures or as a sequential application with other herbicides, follow specific directions on the labels.

GLYPHOSATE

GLYPHOSATE is available in various formulations. The concentration of glyphosate may be expressed as acid equivalent which is based on the parent acid of glyphosate or expressed as active ingredient which is based on the acid plus the salt. Comparing glyphosate rates based on acid equivalents is a common method for evaluating products on equal terms. Some of the different types of formulations of glyphosate available and their application rates in a single application are shown below. Examples of specific glyphosate products are listed on **page 21**.

GLYPHOSATE FORMULATION	PRODUCT RATE / A	ACID EQUIVALENT / A
GLYPHOSATE (3 lb ae/gal formulation)	2 to 4 pt/A (32 to 64 fl oz/A)	(0.75 to 1.5 lb ae/A)
Example of products: Roundup Original and other glyphosate products		
GLYPHOSATE (3.75 lb ae/gal formulation)	1.6 to 3.2 pt/A (26 to 51.2 fl oz/A)	(0.76 to 1.5 lb ae/A)
Example of products: Buccaneer 5		
GLYPHOSATE (4 lb ae/gal formulation)	1.5 to 3 pt/A (24 to 48 fl oz/A)	(0.75 to 1.5 lb ae/A)
Example of products: Duramax, Durango DMA		
GLYPHOSATE (4.5 lb ae/gal formulation)	1.38 to 2.75 pt/A (22 to 44 fl oz/A)	(0.77 to 1.55 lb ae/A)
Example of products: Roundup Power MAX, Roundup WeatherMAX		

Additives: For products that require a surfactant, a non-ionic surfactant at 0.25% v/v is often used. Consult the herbicide product label to verify if a surfactant is needed and the type and rate of surfactant to include. Certain surfactants may cause necrosis, chlorosis, or speckling of leaves. Dry Ammonium Sulfate at 1 to 2% by weight (8.5 to 17 lb/100 gal) or an equivalent amount of AMS in liquid formulation may improve glyphosate activity during dry weather, or when mixed in hard water or with certain herbicides, or applied to certain weed species.

Weeds Controlled: Barnyardgrass, black nightshade, broadleaf signalgrass, burcucumber, cocklebur, crabgrass, fall panicum, foxtails, giant ragweed, johnsongrass (seed and rhizomes), lambsquarters, smooth pigweed, shattercane, sicklepod, smartweed, velvetleaf, volunteer corn (except glyphosate tolerant). Consult label for specific troublesome weed species and growth stages.

Crop Stage: Applications may be made to soybeans from the cracking stage through full flowering stage (R2). R2 ends when a pod 5 millimeters (3/16") long appears at one of the four uppermost nodes on the main stem with a fully expanded leaf.

General Comments: Apply glyphosate only OVER-THE-TOP OF SOYBEAN VARIETIES DESIGNATED WITH THE "ROUNDUP READY" GENE. For optimum control of most weed species, plant soybeans in narrow rows (≤ 15 inches). The general recommended rates for glyphosate are 0.75 lb ae/A for annuals and 0.75 to 1.5 lb ae/A for perennials. A sequential application may be needed to control regrowth or new weed flushes. For optimum control of perennials, apply when broadleaf plants are in the early bud to flowering stage and when grasses are in the boot to seedhead stage. Consult label for rate for specific weeds. The repeated use of glyphosate alone without other herbicides may lead to selection of glyphosate-resistant populations of weeds. The following table summarizes the maximum rate of product for various glyphosate formulations for different applications for weed management in soybeans. Consult label for total combined rate when applied during flowering.

110 Soybean

GLYPHOSATE (continued)

Glyphosate Formulation (acid equivalent)	Maximum Rate Preplant Before Crop Emergence	Maximum Rate For Single In-crop Application*	Combined Total of Multiple In-crop Applications	Maximum Use Rate Preharvest Application	Combined Season Total for All Applications
Roundup Original (3 lb ae/gal)	5 qt/A	2 qt/A	3 qt/A	1 qt/A	8 qt/A
Buccaneer 5 (3.75 lb ae/gal)	4 qt/A	1.6 qt/A	2.4 qt/A	0.8 qt/A	6.5 qt/A
Duramax (4 lb ae/gal)	3.75 qt/A	1.5 qt/A	2.25 qt/A	24 oz/A	6 qt/A
Roundup WeatherMAX (4.5 lb ae/gal)	3.3 qt/A	44 oz/A	64 oz/A	22 oz/A	5.3 qt/A

*Some product labels require a reduced rate of glyphosate when applied during flowering. Consult label.

Environmental Statements: Take precautions to avoid spray drift to desirable plants.

Rain Delay: Rainfall soon after application may reduce effectiveness. Some labels indicate 6 hrs.

Rotation Restrictions: There are no rotational restrictions following normal use of glyphosate. Wait at least 30 days before planting of crops not listed on the label.

Harvest & Forage Restrictions: Do not harvest within 14 days after treatment. Consult label for use of treated plants for feed or forage.

Tank Mixtures: Consult specific glyphosate label.

LIBERTY 280 SL (LibertyLink Varieties ONLY)

Liberty 2.34L 32 oz/A to 43 oz/A (glufosinate ammonium 0.59 to 0.79 lb ai/A)

Weeds Controlled: Black nightshade, cocklebur, common ragweed, fall panicum, foxtails, giant ragweed, johnsongrass (seedling), hophornbeam copperleaf, lambsquarters, marestail (horseweed), morningglories, Palmer amaranth, smooth pigweed, prickly sida, shattercane, smartweed, velvetleaf, waterhemp. Consult label for weed size.

Crop Stage: Apply postemergence only in LibertyLink soybeans from emergence up to but not including bloom growth stage. Preplant surface or preemergence applications may be made prior to the emergence of conventional or transgenic soybean varieties.

General Comments: Apply only overtop soybean varieties designated as "LibertyLink". A second application of LIBERTY or a tank mix application with a residual herbicide will be needed to control weeds not yet emerged at time of application. When using sequential treatments apply the first treatment of LIBERTY at 22 to 36 fl oz/A and the second treatment at 22 to 29 fl oz/A. Do not exceed 36 fl oz/A as a single application or a total of 65 oz/A per season including the burndown treatment. Heavy dew or fog may reduce weed control. Also, applications should be made between dawn and 2 hours before sunset to avoid reduced control of lambsquarters and velvetleaf. Ammonium sulfate may improve control of weeds that are stressed. If foaming occurs a silicone-antifoam based agent may be added. Use nozzles and pressures that generate MEDIUM spray droplets.

Environmental Statements: Use precautions to avoid drift of spray to nearby crops or sensitive plants.

Rain Delay: 4 hrs

Rotation Restrictions: Corn or soybean may be planted anytime. Allow a minimum interval of 70 days after application for wheat, barley, and oats and 180 days for other crops.

Harvest & Forage Restrictions: Do not apply within 70 days of harvest. Do not graze or cut for hay.

Tank Mixtures: Assure II, Classic, clethodim, Cobra, FirstRate, Flexstar, Fusion, Phoenix, Poast Plus, Pursuit, Raptor, Reflex, Resource, SelectMax, Synchrony XP and Ultra Blazer.

Generic Formulations: CHEETAH, FORFEIT, INTERLINE, SURMISE may be applied overtop LibertyLink Soybeans. They are also labeled for burndown treatments before planting conventional or transgenic varieties.

POAST or POAST PLUS

POAST 1.5E 1.0 to 1.5 pt/A or (sethoxydim 0.18 to 0.28 lb ai/A)
POAST PLUS 1E 1.5 to 2.25 pt/A

+

CROP OIL CONCENTRATE 2 pt/A or (additive)
 DASH HC 1 pt/A

[28% UAN (2 to 4 qt/A) or AMS (2.5 lb/A) may also be included to improve control of certain species.]

Weeds Controlled: Barnyardgrass, broadleaf signalgrass, crabgrass, fall panicum, foxtails, johnsongrass, shattercane, volunteer corn.

Crop Stage: Do not apply within 75 days of harvest.

General Comments: Follow label directions for rates and stages of weed growth for optimum results.

Environmental Statements: None.

Rain Delay: 1 hour.

Rotation Restrictions: Do not plant any other crop to be harvested for 30 days after application unless POAST or POAST PLUS are registered for that crop.

Harvest & Forage Restrictions: Do not apply within 75 days of harvest. Do not graze or feed ensilage from treated soybean plants to livestock. Soybean hay may be fed.

Tank Mixtures: Basagran, Blazer, Classic, Cobra, FirstRate, Flexstar, Pursuit, Raptor, Resource, or Storm. Also, glyphosate (e.g. Roundup) in Roundup Ready soybeans only or Synchrony in STS soybeans only. When using POAST in tank mixes or sequential applications with other herbicides, follow specific directions on label.

PREFIX

PREFIX 2.0 to 2.33 pt/A (S-metolachlor:fomesafen 1.09 : 0.238 to 1.26:0.28 lb ai/A)

Weeds Controlled: Black nightshade, cocklebur, hophornbeam copperleaf, morningglories, Palmer amaranth, smooth pigweed, waterhemp.

Crop Stage: PREFIX may be applied early postemergence at least 90 days before harvest. It may also be applied early preplant (up to 15 days before planting), preplant incorporated or preemergence for control of annual grasses and certain broadleaf weeds.

General Comments: Do not exceed 2.33 pt of Prefix/A in a single post application. Do not exceed a maximum of 0.375 lb ai of fomesafen in alternate years. Do not apply PREFIX postemergence if S-metolachlor was applied preemergence.

Environmental Statements: PREFIX has ground and surface water advisory statements on the label. It should not be mixed or loaded within 50 feet of wells, sinkholes, perennial intermittent streams, rivers, and natural impounded lakes and reservoirs, unless an impervious pad is used.

Rain Delay: None.

Rotation Restrictions: Rotational crops include wheat or barley after 4.5 months, corn after 10 months, (popcorn after 12 months when rate \geq 2 pt/A). Other crops require an interval of 18 months.

Harvest & Forage Restrictions: Do not graze or harvest for soybean forage or hay. Do not graze rotated small grains or harvest forage or straw for livestock. Make post applications at least 90 days before harvest.

Tank Mixtures: May be mixed with glyphosate for post applications to RR soybean.

112 Soybean

PURSUIT

PURSUIT 2S 4 oz/A	(imazethapyr 0.063 lb ai/A)
+	+
SURFACTANT (NON-IONIC 80%) 1 qt/100 gal or CROP OIL CONCENTRATE 1.25 gal/100 gal or METHYLATED SEED OIL 1 gal/100 gal	(additive)
+	+
FERTILIZER SOLUTION [28 to 32% NITROGEN or 10-34-0 at 1.25 to 2.5 gal/100 gal or AMS 12 to 15 lb/100 gal]	(additive)

Weeds Controlled: Black nightshade, cocklebur, foxtails, giant ragweed, johnsongrass (seedling), smooth pigweed, shattercane, smartweed, velvetleaf.

Crop Stage: Apply PURSUIT any time prior to soybean bloom and 85 days before harvest.

General Comments: Follow label directions for optimum stages of weed growth. Make only one PURSUIT application per growing season.

Environmental Statements: PURSUIT has GROUND WATER advisory statements on the label. It should not be mixed or loaded within 50 feet of any wells, sink holes, perennial or intermittent streams, rivers, and natural or impounded lakes and reservoirs, unless an impervious pad is used.

Rain Delay: 1 hour.

Rotation Restrictions: Rotational crops that may be planted include wheat after 3 months, alfalfa, barley, or rye after 4 months; susceptible field corn hybrids after 8.5 months (Clearfield corn may be planted immediately); tobacco after 9.5 months; or popcorn, sweet corn, sorghum, and oats after 18 months following PURSUIT application. Other crops may require a minimum of 40 months and a successful field bioassay before planting. Consult label for rotation restrictions when other long-residual herbicides are used during the same season. Only rotational crops harvested at maturity may be used for feed or food.

Harvest & Forage Restrictions: Do not harvest within 85 days after PURSUIT application. Do not use treated plants for feed or forage.

Tank Mixtures: Basagran, Ultra Blazer, Cobra, FirstRate, Flexstar, Glyphosate, Harmony GT, Poast Plus, Scepter.

RAPTOR

RAPTOR 1S 5 oz/A	(imazamox 0.039 lb ai/A)
+	+
METHYLATED SEED OIL 1 to 2 gal/100 gal or CROP OIL CONCENTRATE 1 to 2 gal/100 gal or SURFACTANT (NON-IONIC 80%) 1 qt/100 gal	(additive)
+	+
FERTILIZER SOLUTION [28 to 32% NITROGEN or 10-34-0 at 2.5 gal/100gal or AMS at 12 to 15 lb/100gal]	(additive)

Weeds Controlled: Barnyardgrass, black nightshade, cocklebur, foxtails, giant ragweed, johnsongrass (seedling), lambsquarters, morningglories, smooth pigweed, shattercane, smartweed, velvetleaf.

Crop Stage: Before bloom stage.

General Comments: Follow label for herbicide rates and optimum stages of weed growth. Do not apply RAPTOR more than once per season.

Environmental Statements: None.

Rain Delay: 1 hour.

Rotation Restrictions: Rotational crops that may be planted are Clearfield wheat anytime; alfalfa and non-Clearfield wheat after 3 months; barley or rye after 4 months; or Clearfield and susceptible corn (field or pop) after 8.5 months; or grain sorghum, or tobacco 9 months following treatment. Other crops may be planted 18 months after treatment. Consult label if certain long-residual herbicides have been used.

Harvest & Forage Restrictions: Apply before soybean bloom.

Tank Mixtures: Ultra Blazer, Classic, FirstRate. Also glyphosate (for RR soybeans only). Do not tank mix with Extreme.

RESOURCE

RESOURCE 0.86E	4 to 8 oz/A	(flumiclorac pentyl 0.027 to 0.054 lb ai/A)
	+	+
CROP OIL CONCENTRATE	(1 qt/A)	(additive)
(Consult labels when using non-ionic surfactant for certain tank mixes)		
	+	+
[28% UAN (1 to 2 qt/A) or AMS (2.5 lb/A) may be included with crop oil or surfactant.]		(additive)

Weeds Controlled: Common ragweed, velvetleaf.

Crop Stage: Do not apply within 60 days of harvest.

General Comments: Follow label directions for herbicide rates and optimum stages of weed growth. Soybean leaves open at the time of application may show some burn or spotting. Do not exceed 12 oz/A in a single application or a cumulative amount of 16 oz/A in a season.

Environmental Statements: Do not allow spray drift to food or forage crops that might be damaged and rendered unfit for sale or use for consumption.

Rain Delay: 1 hour.

Rotation Restrictions: Do not rotate to crops other than soybeans or field corn within 30 days after last application

Harvest & Forage Restrictions: Do not apply within 60 days of harvest. Do not feed treated forage.

Tank Mixtures: Assure II, Basagran, Blazer, Classic, Cobra, FirstRate, Flexstar, Fusion, Harmony GT, Poast, Poast Plus, Pursuit, Raptor, Scepter, Select, Storm. Also, glyphosate in Roundup Ready soybeans or Synchrony in STS soybeans only.

SELECT MAX

SELECT MAX 0.97 EC	9 to 32 oz/A	(clethodim 0.068 to 0.24)
	+	+
NONIONIC SURFACTANT	0.25% v/v or	(additive)
CROP OIL CONCENTRATE	1 qt/A	

[Consult label for use of AMS for certain weeds such as rhizome johnsongrass or volunteer corn and use of non-ionic surfactant with glyphosate combinations.]

Weeds Controlled: Barnyardgrass, broadleaf signalgrass, crabgrass, fall panicum, foxtails, johnsongrass, shattercane, volunteer corn.

Crop Stage: Do not apply within 60 days of harvest.

General Comments: For volunteer corn apply at 6 to 12 oz/A on plants up to 12 inches tall; use 9 to 14 oz/A SELECT MAX when plants are up to 24 inches tall; use 12 to 16 oz/A when plants are up to 36 inches tall.

Environmental Statements: None.

Rain Delay: 1 hour.

Rotation Restrictions: Do not plant for 30 days after application, unless clethodim is registered for that crop.

Harvest & Forage Restrictions: Apply no later than 60 days before harvest. Do not use treated soybean plants for feed or forage.

Tank Mixtures for Select MAX: COBRA, FIRSTRATE, FLEXSTAR, HARMONY GT, PHOENIX, PURSUIT, RAPTOR, RESOURCE. Also glyphosate for RR soybean or SYNCHRONY (STS soybeans only). Consult other clethodim containing products for approved tank mix combinations.

Generic Formulations: Other clethodim containing products include ARROW, INTENSITY, INTENSITY ONE, SECTION, SHADOW, TRIGGER, VOLUNTEER. Consult label for rate and recommended additive.

SEQUENCE

SEQUENCE 5.25L	2.5 to 3.5 pt/A	(glyphosate:S-metolachlor)
		(0.7:0.94 to 1.0:1.3 lb ai/A)

Dry Ammonium Sulfate at 1 to 2% by weight (8.5 to 17 lb/100 gal) may be used as an additive to improve glyphosate activity during dry weather, when mixed in hard water or with certain herbicides, or for certain weed species.

Annual Weeds Controlled: Annual fleabane, barnyardgrass, black nightshade, brome spp., burcucumber, chickweed, cocklebur, common ragweed, crabgrass, fall panicum, giant foxtail, giant ragweed, henbit, johnsongrass (seedlings), lambsquarters, mustards, prickly lettuce, rye, sicklepod, smartweed, smooth pigweed, volunteer corn (except glyphosate resistant), velvetleaf, wheat

114 Soybean

SEQUENCE (continued)

Perennials: FOR SPECIFIC PERENNIAL WEED SPECIES CONSULT LABEL. Best control of perennials is usually achieved at late growth stages approaching maturity and when soil moisture is adequate for active plant growth. Perennial weeds may not be at the proper growth stage during normal application times for no-till soybeans. Control may be reduced if plants are mowed or grazed and not allowed to regrow to recommended growth stage. Perennial weeds may require multiple applications of glyphosate for optimum control.

Crop Stage: Applications may be made preplant, preemergence, all soybeans or postemergence to Roundup Ready soybeans. Apply postemergence at least 90 days before harvest.

General Comments: Apply SEQUENCE only OVER-THE-TOP OF SOYBEAN VARIETIES DESIGNATED WITH THE "ROUNDUP READY" GENE. Glyphosate is a translocated herbicide that controls emerged weeds, whereas, S-metolachlor is a soil-residual herbicide that controls weeds prior to emergence. For optimum control of most weed species, plant soybeans in narrow rows (≤ 15 inches). Consult label for rate for specific weeds. When applied postemergence, do not exceed 3.5 pt/A per season. Do not apply products with S-metolachlor or metolachlor after soybean emergence if SEQUENCE is applied preemergence.

Environmental Statements: SEQUENCE has GROUND and SURFACE WATER ADVISORY statements on the label. This product should not be mixed or loaded within 50 feet of any wells, sink holes, perennial or intermittent streams, rivers, and natural or impounded lakes and reservoirs, unless an impervious pad is used. Avoid drift of spray as this can result in injury to non-target plants.

Rain Delay: Rainfall soon after application may reduce control of emerged weeds.

Rotation Restrictions: Rotational crops that may be planted include corn or sorghum (with Concep treated seed) immediately; alfalfa after 4 months; wheat, barley, rye, or oats after 4.5 months; clover after 9 months; and tobacco in the spring following treatment.

Harvest & Forage Restrictions: For preplant or preemergence applications, do not feed for forage or hay for 30 days after treatment. For post applications in RR soybean, do not harvest grain for 90 days after treatment and do not graze or feed forage or hay.

Tank Mixtures: Dual Magnum, Fusion, Touchdown Hi-Tech, Touchdown Total.

SYNCHRONY XP

SYNCHRONY XP 0.75 oz/A

+

CROP OIL CONCENTRATE 8 pt/100 gal
[Consult label for using nonionic surfactant]

+

28% UAN 4 to 8 pt/A or
AMS 2 to 4 lb/A

(chlorimuron:thifensulfuron
0.01:0.003 lb ai/A)

+

(additive)

+

(additive)

Weeds Controlled: Burcucumber, cocklebur, lambsquarters, smooth pigweed, sicklepod, smartweed, velvetleaf.

Crop Stage: Postemergence after first trifoliolate has expanded until 60 days before harvest. May also be applied PRE, PPI or Burndown prior to soybean emergence.

General Comments: SYNCHRONY XP at 0.75 oz/A must be applied only to STS soybeans purchased from an authorized seed dealer; otherwise, severe crop injury and/or yield loss may occur. Applications may be made to non-STs soybeans when using the reduced rate of SYNCHRONY XP is 0.375 oz/A. Follow label directions for herbicide rate and stage of weed growth for optimum results.

Environmental Statements: None.

Rain Delay: 1 hour.

Rotation Restrictions: When SYNCHRONY is applied at 0.75 oz/A and soil pH is < 7.0 , rotational crops which may be planted include wheat, barley, fescue, or ryegrass after 3 months; field corn or alfalfa after 9 months; and popcorn, sorghum or tobacco, after 15 months following treatment. Consult label when maximum rate used for SYNCHRONY XP is 0.375 oz/A; or when SYNCHRONY XP is applied alone or followed by Classic after August 1. Follow the most restrictive label when SYNCHRONY is used the same season with other long-residual herbicides.

Harvest & Forage Restrictions: Apply no later than 60 days before soybean maturity. Do not use treated plants for feed or forage.

Tank Mixtures: Assure II, Ultra Blazer, Cobra, FirstRate, Flexstar, Harmony GT. Also, glyphosate for Roundup Ready soybean.

ULTRA BLAZER

ULTRA BLAZER 2L 1.5 pt/A

(acifluorfen 0.38 lb ai/A)

+

 SURFACTANT (NON-IONIC 80%) 1 to 2 pt/100 gal
 [Consult label for using 28% UAN (4 to 8 pt/A),
 AMS (2.5 lb/A) or Crop Oil Concentrate (1 to 2 pt/A).]

+

 (additive)

Weeds Controlled: Black nightshade, common ragweed, hophornbeam copperleaf, giant ragweed, morningglories, smooth pigweed, smartweed, waterhemp.

Crop Stage: Do not apply within 50 days of harvest.

General Comments: Follow label directions for optimum stages of weed growth

Environmental Statements: ULTRA BLAZER has a GROUND WATER advisory statement on the label.

Rain Delay: 4 hours.

Rotation Restrictions: In case of crop failure only soybean may be immediately replanted. Allow a minimum rotational interval of 40 days for small grains and 100 days for other crops.

Harvest & Forage Restrictions: Do not apply within 50 days of harvest. Do not use treated soybean plants for feed or forage.

Tank Mixtures: Assure II, Basagran, Classic, 2,4-DB, FirstRate, Fusion, Poast, Poast Plus, Pursuit, Raptor, Resource, Scepter, Select, (glyphosate for Roundup Ready Soybean), or (Synchrony for STS soybean).

SPOT-TREATMENTS FOR SOYBEANS

AMOUNT OF PRODUCT PER GALLON OF SPRAY MIXTURE				
GRAMINICIDES				
PRODUCT	RATE	ADDITIVES		COMMENTS
		COC.	NIS	
ARROW ¹	0.65 oz +	1.3 oz	or 0.3 oz	¹ Label directions for application timing; restrictions for preharvest interval; and use of forage for spot treatments are the same as those for broadcast applications for ARROW, ASSURE II, FUSION, SECTION, SELECT, and SELECT MAX. ² Do not apply spot treatments of POAST or POAST PLUS in addition to broadcast treatments.
ASSURE II ¹	0.5 oz +	1.25 oz	or 0.3oz	
FUSION ¹	0.75 oz +	1.5 oz	or 0.5oz	
POAST ²	1.9 oz +	1.3 oz	-----	
POAST PLUS ²	2.9 oz +	1.3 oz	-----	
SECTION ¹	0.65 oz +	1.3 oz	or 0.3 oz	
SELECT ¹	0.65 oz +	1.3 oz	or 0.3 oz	
SELECT MAX ¹	0.85 oz +	1.3 oz	or 0.3 oz	
VOLUNTEER ¹	0.65 oz +	1.3 oz	or 0.3 oz	
GLYPHOSATE				
GLYPHOSATE FORMULATION ³	RATE		COMMENTS	
3 lb ae /gal	0.64 to 2.56 oz		³ Apply GLYPHOSATE products as a spot-treatment before initial pod set of soybean. Susceptible plants in the treated area may be killed or injured. Do not treat more than 10% of the total area to be harvested. Mix the low rate for annuals <6" tall and the high rate for certain hard-to-control perennials. Higher rates may be warranted for certain weeds. Consult label for rates for specific weeds. See Page 21 for list of glyphosate products.	
3.75 lb ae/gal	0.51 to 2.05 oz			
4 lb ae /gal	0.48 to 1.92 oz			
4.5 lb ae/gal	0.42 to 1.7 fl oz			
PARAQUAT				
PRODUCT	RATE	SURFACTANT		COMMENTS
GRAMOXONE	0.33 to 0.67 oz	0.33 to 0.5 oz		Thoroughly wet foliage but not to the point of runoff. Do not use around home gardens, schools, recreational areas, golf courses, or playgrounds.
FIRESTORM	0.33 to 0.67 oz	0.33 to 0.5 oz		
PARAZONE	0.33 to 0.67 oz	0.33 to 0.5 oz		

PREHARVEST

GLYPHOSATE

GLYPHOSATE 3 lb ae/gal	Up to 5 or 6 qt/A depending on specific product (for Non Roundup Ready soybean)	(3.75 or 4.5 lb ae/A)
	1qt/A (for Roundup Ready soybean)	(0.75 lb ae/A)

The above rates are based on 3 lb ae/gal formulation. See page 21 when comparing rates for other formulations. Consult specific label.

Additives: For products that require a surfactant, a non-ionic surfactant at 0.25% v/v is often used. Consult the herbicide product label to verify if a surfactant is needed and the type and rate of surfactant to include. Dry Ammonium Sulfate at 1 to 2% by weight (8.5 to 17 lb/100 gal) may improve glyphosate activity during dry weather, or when mixed in hard water or with certain herbicides, or applied to certain weed species. The equivalent amount of AMS in a liquid formulation may be used.

Weeds Controlled: To suppress growth or kill certain perennial weeds.

Crop Stage: Apply after pods have set and lost all green color.

General Comments: Do not apply to soybean grown for seed production due to potential for reducing germination or seed vigor. Care should be taken to avoid excessive seed shatter loss caused by ground application equipment. Consult label for applications with airplane

Environmental Statements: Take precautions to prevent spray drift to desirable plants.

Rain Delay: Rainfall soon after application may reduce effectiveness. Some labels indicate 6 hrs.

Rotation Restrictions: There are no rotational restrictions following normal use of glyphosate. Wait at least 30 days before planting of crops not listed on the label.

Harvest & Forage Restrictions: Consult specific product label for preharvest intervals.

PARAQUAT

FIRESTORM 3S or PARAZONE 3S	5.4 to 10.7 oz/A	
	Or	(paraquat 0.126 to 0.25 lb ai/A)
GRAMOXONE SL 2.0	8 to 16 oz/A	
	+	+
NONIONIC SURFACTANT	1 to 2 pt/100 gal	
	or	(additive)
CROP OIL CONCENTRATE	4 qt /100 gal	

Weeds Controlled: For harvest aid and desiccation of green weed foliage.

Crop Stage: Apply to indeterminate varieties when at least 65% of seed pods have a mature brown color or when seed moisture is 30% or less. Apply to determinate varieties when seed are fully developed, at least half of the leaves have dropped, and remaining leaves are turning yellow. Immature soybean will be injured.

General Comments: Mature cocklebur, especially drought stressed plants, may not be completely desiccated

Environmental Statements: Drift of spray can desiccate green tissue and result in injury to non-target plants and render them unfit for sale, use, or consumption.

Rain Delay: 30 minutes for FIRESTORM; 15-30 minutes for GRAMOXONE.

Rotation Restrictions: All rotational crops may be planted after last application.

Harvest & Forage Restrictions: Do not apply within 15 days of harvest. Do not use treated plants for forage or hay.
