Postemergence Herbicides for Soybean Production

The following herbicides are used to control established weeds following soybean emergence. Some products are labeled for both preemergence and postemergence applications.

<table>
<thead>
<tr>
<th>Trade Name</th>
<th>Common Name</th>
<th>Formulation</th>
<th>Rate/Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aim</td>
<td>carfentazone-ethyl</td>
<td>2EW</td>
<td>0.25 – 1.6 oz/A</td>
</tr>
</tbody>
</table>

### Mode of Action
PPO

### Application Timing
Apply up to 30 days before planting until soybeans reach the third trifoliolate. Weeds should be emerged and actively growing but no more than 4 inches tall or rosettes are less than 3 inches in diameter. Apply Aim at 0.25 oz/A broadcast for velvetleaf control. Aim may be applied at 0.5 to 1.6 oz/A as a post-directed treatment.

### Comments
- Aim can be applied broadcast only at a rate of 0.25 oz/A. Apply higher rates as a post-directed application.
- Do not apply when wind speed is greater than 10 MPH.
- Do not tank mix with EC formulations or use crop oil concentrate.
- If spray contacts soybean foliage, severe injury can occur.

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Assure II</td>
<td>quizalofop-p-ethyl</td>
<td>0.8 EC</td>
<td>5 to 10 oz/A</td>
</tr>
</tbody>
</table>

### Mode of Action
ACCase

### Application Timing
Apply to young, actively growing grasses with size range listed on label. Apply prior to 80 days before harvest. Do not apply after soybean pod set.

### Recommended Spray Additives
Crop oil concentrate-1% v/v; or nonionic surfactant-0.125-0.25% v/v.

### Comments
- Refer to the label for specific additive recommendations.
- Use lower rate of surfactant with Pinnacle tank mixes.
- Tank mixing with broadleaf herbicides may reduce grass control. Rates may be increased by 2 oz when used in tank mixes to overcome antagonism for some grass species.
- May be applied aerially.
- Do not graze treated fields or harvest for foliage or hay.
- Do not tank mix Assure II with other herbicides when treating yellow foxtail, woolly cupgrass, barnyardgrass, crabgrass, quackgrass, or wirestem muhly.
- When making a sequential application, apply Assure II and delay application of broadleaf herbicide 24 hours, or apply the broadleaf herbicide and delay Assure II application 7 days.
- Do not use vegetable-based oils as adjuvants with Assure II.
- Do not cultivate within 7 days prior to or after Assure II application.
- Assure II is rainfast within 1 hour of application.
Comments–Assure II, continued

• Do not apply more than 18 oz/A Assure II per season.
• Do not apply Assure II within 80 days of harvest or after pod set has begun.
• May be applied early preplant as a burndown tank-mix with Authority, Canopy, Canopy XL and/or 2,4-D. Refer to the specific labels for restrictions.

<table>
<thead>
<tr>
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<th>Formulation</th>
<th>Rate/Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basagran</td>
<td>bentazon</td>
<td>4 L</td>
<td>1 to 2 pt/A</td>
</tr>
</tbody>
</table>

Mode of Action
PSII

Application Timing
Apply when weeds are small and actively growing and before weeds reach maximum size listed on label.

Recommended Spray Additives
Crop oil concentrate-1 to 2 pt/A; UAN-0.5 to 1 gal/A; or ammonium sulfate-2.5 lb/A or 3 qt/A.

Comments
• Additive selection should be based on weed species present. Do not use both COC and UAN.
• Thorough coverage of foliage required for adequate control. Apply in a minimum of 20 gal of water/A and a minimum of 40 PSI.
• Do not cultivate within 5 days before or after application.

<table>
<thead>
<tr>
<th>Trade Name</th>
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<th>Formulation</th>
<th>Rate/Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blazer, Ultra Blazer</td>
<td>acifluorfen</td>
<td>2 L</td>
<td>0.5 to 1.5 pt/A</td>
</tr>
</tbody>
</table>

Mode of Action
PPO

Application Timing
Apply early when weeds are small and actively growing and before weeds reach maximum size listed on label. Do not apply within 50 days of harvest.

Recommended Spray Additives
Nonionic surfactant-1 pt per 100 gal water; higher rates may be used for specific weeds. UAN-0.5 to 1 gal/A. Crop oil concentrate-1 to 2 pts/A.

Comments
• Soybean leaves may exhibit burning, crinkling, and bronzing, particularly on young foliage. Injury is normally short lived.
• Do not cultivate within 5 days before or 3 to 7 days after application.
• Thorough coverage of foliage required for adequate control. Use a minimum of 20 gal of water and 40 PSI.
• Additive selection based upon target species and tank mix partner.
• Do not use flood, whirl chamber, or CDA nozzles.
• Do not use treated plants for feed or forage.
### Trade Name
- Classic
- Cobra
- Phoenix

### Common Name
- chlorimuron ethyl
- lactofen

### Formulation
- 25 DF
- 2 EC

### Rate/Range
- 0.25 to 0.75 oz/A
- 6 to 12½ oz/A
- 8 to 12.5 oz/A

### Mode of Action
- ALS
- PPO

### Application Timing
- Should be applied to young actively growing weeds. Can be applied after first trifoliolate until 60 days before harvest.
- Apply to small, actively growing weeds that are not larger than listed on label.

### Recommended Spray Additives
- Nonionic surfactant-0.25% v/v; or crop oil concentrate-1% v/v. UAN (2-4 qt/A), 10-34-0 (1-2 qt/A) or ammonium sulfate (2-4 lb/A) should be used in combination with a surfactant or COC for velvetleaf control. Use only 0.5% (v/v) COC with Cobra tank mixes and NIS with Roundup Ultra tank mixes.
- Cobra - COC-Use 0.25 to 1% (v/v); or NIS-Use 0.25% (v/v) when soil moisture is good and weeds are actively growing; or AMS-4 lb when weeds are actively growing. Additive recommendations are based upon weed size and environmental conditions. See label for specific recommendations.
- Phoenix - Add NIS at 0.125 to 0.25% v/v COC is recommended when weeds are stressed due to hot and dry conditions. Under these conditions, use COC at 1 pt/A or use COC at 0.125 to 0.5% v/v plus NIS at 0.125 to 0.25% v/v. When Phoenix is applied in combination with glyphosate, use AMS at 2 to 4 lb/A only.
**Comments–Cobra/Phoenix**

- Soybean injury is likely, although plants usually recover with no impact on yield potential.
- Apply in 20 to 30 gal water at 40-60 PSI. Do not use flood nozzles.
- Do not graze or harvest for feed or bedding.
- Do not apply after growth stage R6 (full seed) or within 45 days of harvest.
- Multiple applications may be made. Do not exceed 25 oz/A/season.
- Do not make band applications while cultivating or create excessive dust while spraying.

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Extreme</td>
<td>1.8% imazethapyr</td>
<td>2.17 E</td>
<td>3 pt/A</td>
</tr>
<tr>
<td></td>
<td>22% glyphosate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Mode of Action**

ALS + EPSPS

**Application Timing**

Apply to actively growing weeds within the recommended stage of growth on label.

**Recommended Spray Additives**

Use a non-ionic surfactant (0.125% v/v) and fertilizer such as a spray grade ammonium sulfate (2.5 lb/A) or a nitrogen-based liquid fertilizer such as 28% UAN (1 to 2 qt/A).

**Comments**

- 2,4-D may be added to improve perennial weed control when Extreme is applied as a burndown in no-tillage systems.
- Do not apply postemergence to non-glyphosate-resistant soybeans.
- Do not graze or feed treated soybean forage, hay, or straw to livestock.

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>FirstRate/Amplify</td>
<td>cloransulam-methyl</td>
<td>84% WDS</td>
<td>0.3 oz/A</td>
</tr>
</tbody>
</table>

**Mode of Action**

ALS

**Application Timing**

Apply from soybean emergence until soybeans reach 50% flowering.

**Recommended Spray Additives**

Nonionic surfactant (0.125 to 0.25%) plus UAN (2.5%), or crop oil concentrate or methylated seed oil (1.2%), or crop oil concentrate or methylated seed oil (1.2%) plus UAN (2.5%).

**Comments**

- FirstRate can be applied preplant incorporated and preemergence. Refer to the label to determine the proper application rate.
- A post application of 0.3 oz/A FirstRate may follow a soil application of 0.75 oz/A or less.
- Do not apply more than 1.05 oz/A FirstRate per growing season.
- FirstRate may interact with other ALS herbicides applied to soybeans, thus increasing the potential for crop injury.
- Application prior to full emergence of the first soybean trifoliolate may cause temporary chlorosis.
- Giant ragweed populations resistant to FirstRate have been identified in Iowa and some adjacent states.
- Refer to the FirstRate label for specific rotational information.
- Cloransulam occasionally has injured corn the year following application. Late applications, below average precipitation after application, and interactions with other ALS herbicides increase the potential for adverse crop response.
### Flexstar
- **Common Name**: fomesafen
- **Formulation**: 1.88 ME
- **Rate/Range**: 1 to 1.25 pt/A

#### Mode of Action
PPO

#### Application Timing
Apply to actively growing weeds within recommended growth stages. Apply before soybeans bloom.

#### Recommended Spray Additives
- **Flexstar**: MSO or COC-0.5 to 1.0% v/v. Include a minimum of 2.5% v/v UAN or a minimum of 10 lb AMS/100 gal water.

- **Reflex**: Nonionic surfactant-0.25% v/v; or crop oil concentrate-0.5% to 1% v/v. UAN (1 gal/A), DAP (2 pt/A), or AMS may be used in addition to the NIS or COC.

#### Comments
- Do not apply fomesafen to any field more than once every two years. Refer to label for rotational restrictions.
- Apply in a minimum of 15 gal water with 30-60 PSI. Do not use flood nozzles.
- Do not graze treated areas or harvest for hay or forage.
- May be aerially applied.

### Reflex
- **Common Name**: fomesafen
- **Formulation**: 2 LC
- **Rate/Range**: 0.75 to 1.25 pt/A

#### Mode of Action
PPO

### Fusilade DX
- **Common Name**: fluazifop-p-butyl
- **Formulation**: 2 EC
- **Rate/Range**: 6 to 12 oz/A

#### Mode of Action
ACCase

#### Application Timing
Apply to actively growing grasses at recommended growth stages on label. Apply to soybeans prior to bloom.

#### Recommended Spray Additives
Crop oil concentrate-0.5 to 1% v/v; or nonionic surfactant-0.25 to 0.5% v/v. UAN (1 gal/A) or ammonium sulfate may be used in combination with either the COC or surfactant.

#### Comments
- Tank mixing may reduce grass control. Refer to label for directions regarding tank mixes.
- Apply in 5 to 40 gal water with pressure of 40-60 PSI. Do not use flood tips. May be applied aerially.
- Cultivation is not recommended within 7 days prior to or 7 days after application.
- Do not graze or harvest for forage or hay.
**Application Timing—Fusion 2.66 EC**
Apply to actively growing grasses within the stage of growth recommended on the label. Apply prior to soybean bloom.

**Recommended Spray Additives**
Crop oil concentrate-0.5 to 1% v/v; or nonionic surfactant-0.25 to 0.5% v/v. In addition to COC or NIS, UAN or ammonium sulfate may be added to the spray mixture. The fertilizer additives should not be a substitute for the COC or NIS.

**Comments**
- Tank mixtures with broadleaf herbicides may reduce grass control. Refer to the Fusion label for tank mix and sequential recommendations.
- Apply in 5 to 40 gal water/A with 40-60 PSI. Do not use flood tips.
- May be applied aerially.
- Cultivation is not recommended 7 days prior to or 7 days after application.
- Do not graze or harvest soybeans for forage or hay.
- May be tank mixed with 2,4-D (LVE) and applied preplant. Refer to label for directions.

<table>
<thead>
<tr>
<th>Trade Name</th>
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<th>Rate/Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galaxy</td>
<td>3.0 lb bentazon + 0.67 lb acifluorfen/gal</td>
<td>2 pt/A</td>
</tr>
</tbody>
</table>

**Mode of Action**
PSII + PPO

**Application Timing**
Apply when weeds are small and actively growing and before weeds reach the maximum size listed on label. Do not apply within 50 days of harvest.

**Recommended Spray Additives**
Crop oil concentrate-2 pt/A; or UAN-½ to 1 gal/A; or AMS-2.5 lb/A.

**Comments**
- Do not apply to soybeans under stress, or injury may occur.
- Thorough coverage of foliage is necessary for adequate control. Apply in a minimum of 20 gal water, 40 PSI.
- May be applied aerially.
- See remarks under Basagran and Blazer.

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<th>Formulation</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Harmony GT</td>
<td>thifensulfuron methyl</td>
<td>75 DF</td>
<td>½ oz/A</td>
</tr>
</tbody>
</table>

**Mode of Action**
ALS

**Application Timing**
Apply to weeds that are young but before they exceed size indicated on label. May be applied after first trifoliolate has fully expanded but no later than 60 days before harvest.

**Recommended Spray Additives**
Nonionic surfactant-0.125 to 0.25% v/v; or crop oil concentrate-0.5% v/v. UAN (2 to 4 qt/A), 10-34-0 (1-2 qt/A) or ammonium sulfate (2-4 lb/A) in addition to a surfactant is required for control of velvetleaf.
Comments–Harmony GT
• Harmony GT is a concentrated formulation of thifensulfuron, previously marketed as Pinnacle.
• May cause soybean injury under hot and humid weather conditions. Use of crop oil concentrate increases injury potential. Injury appears as yellowing of leaves, shortened internodes, red veins, and occasionally death of apical growing point.
• Do not tank mix with Poast Plus.
• Do not make more than one application of Harmony per growing season.
• Apply no later than 60 days before harvest.
• Apply after the first trifoliolate has fully expanded.
• Do not use Dash unless specified on other DuPont supplemental labeling.
• Harmony may interact with other ALS herbicides applied to soybeans, thus increasing the potential for crop injury.
• Do not cultivate before, during, or within 7 days after Pinnacle application.
• Do not graze or feed forage, hay, or straw from treated areas to livestock.
• Do not apply through chemigation systems.
• Do not tank mix Harmony with any other herbicide unless specifically labeled due to potential for excessive crop injury.

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Poast Plus</td>
<td>sethoxydim</td>
<td>1 EC</td>
<td>18 to 36 oz/A</td>
</tr>
</tbody>
</table>

Mode of Action
ACC\text{ase}

Application Timing
Apply to actively growing grasses within the recommended stage of growth on label.

Recommended Spray Additives
Crop oil concentrate-2 pt/A; or Dash HC-1 pt/A. May include AMS (2.5 lb/A) or UAN (4 to 8 pt/A). Use a silicon-based surfactant with the Galaxy tank mix (0.25% v/v).

Comments
• Application in tank mixes may reduce grass control.
• Treated fields may be used for hay but not for grazing or forage.
• Do not apply to soybeans within 75 days of harvest.
• Do not apply if rainfall is expected within one hour following application.

<table>
<thead>
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<th>Rate/Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pursuit</td>
<td>imazethapyr</td>
<td>2 AS</td>
<td>4 oz/A</td>
</tr>
<tr>
<td>Pursuit EcoPak</td>
<td></td>
<td>70 DG</td>
<td>1.44 oz/A (1 bag/5A)</td>
</tr>
</tbody>
</table>

Mode of Action
ALS

Application Timing
Apply when weeds are actively growing and before weeds exceed maximum size specified on label. For most species, maximum size is 3 inches.

Recommended Spray Additives
Nonionic surfactant-1 qt/100 gal, or crop oil concentrate-1% (v/v), or methylated seed oil-1% (v/v), and include 1 to 2 qt/A nitrogen-based liquid fertilizer or 2.5 lb/A ammonium sulfate.
**Comments—Pursuit**
- Pursuit may be applied preplant incorporated or preemergence up to 45 days ahead of planting. Incorporation improves consistency of soil-applied treatments.
- Pursuit has long soil residual characteristics and may occasionally carry over. Refer to label for specific restrictions.
- Do not apply products containing chlorimuron ethyl, flumetsulam, imazaquin, or imazethapyr the same year as Pursuit.
- Do not graze or feed treated soybean forage, hay, or straw to livestock.
- Pursuit may interact with other ALS herbicides applied to soybeans, thus increasing the potential for crop injury.
- Pursuit may interact with ALS herbicides applied to corn the following year, increasing potential for injury to corn.
- Do not tank mix Pursuit with clomazone products.
- Do not apply Pursuit within 85 days of harvest.
- Apply prior to soybean bloom.
- Apply combination of Pursuit plus Roundup Ultra to RR soybean varieties.

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Raptor</td>
<td>imazamox</td>
<td>1 AS</td>
<td>4 to 5 oz/A</td>
</tr>
</tbody>
</table>

**Mode of Action**
ALS

**Application Timing**
Apply postemergence when weeds and soybeans are actively growing and before the weeds exceed a height of 5 inches in height but prior to soybeans reaching the bloom stage of development.

**Recommended Spray Additives**
Crop oil concentrate-1% (v/v); or nonionic surfactant-0.25% (v/v); or methylated seed oil-1%(v/v). Nitrogen fertilizer solution—Always include a nitrogen-based fertilizer at 1 to 2 qt/A with either a COC or NIS. AMS at 2.5 lb/A may be substituted for 28% N or 10-34-0.

**Registered Tank Mixes**
Assure II, FirstRate, Flexstar HL, Fusilade DX, Fusilade 2000, Fusion, Option, Poast Plus, Prestige, Roundup Ultra, Select, Status

**Rates for Combinations with Raptor**
<table>
<thead>
<tr>
<th>Raptor</th>
<th>Combination Product</th>
<th>Rate/Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 to 5 oz/A</td>
<td>Blazer</td>
<td>8 to 20 oz/A</td>
</tr>
<tr>
<td>4 to 5 oz/A</td>
<td>FirstRate</td>
<td>0.15 to 0.3 oz/A</td>
</tr>
<tr>
<td>4 to 5 oz/A</td>
<td>Flexstar HL</td>
<td>10 to 20 oz/A</td>
</tr>
<tr>
<td>4 to 5 oz/A</td>
<td>Roundup Ultra</td>
<td>16 to 32 oz/A</td>
</tr>
</tbody>
</table>

**Comments**
- Use a soil-applied herbicide for grass control if a heavy infestation of annual grasses is present.
- Allow at least 85 days between application and soybean harvest.
- Raptor provides shorter residual control than Scepter or Pursuit.
- Do not apply after soybeans have initiated flowering.
- Raptor may interact with other ALS herbicides applied to soybeans, thus increasing the potential for crop injury.
- Do not make more than one application per year.
- Do not graze or feed treated soybean forage, hay, or straw to livestock.
- Tank mixing Raptor with selective postemergence grass and broadleaf herbicides may reduce grass control. A sequential program is recommended.
- Do not use liquid fertilizer as a carrier.
- Do not apply through any type of irrigation system.
- For maximum weed control, cultivate 7 to 10 days following application.
**Trade Name**  | **Common Name**  | **Formulation**  | **Rate/Range**  
--- | --- | --- | ---  
Resource | flumiclorac | 0.86 EC | 4 to 12 oz/A  

**Mode of Action**  
PPO  

**Application Timing**  
Apply postemergence to actively growing weeds within size recommendations.  

**Recommended Spray Additives**  
COC-1 qt/A; 28% N or AMS may be used in addition to COC for control of tall velvetleaf.  

**Comments**  
• Use 12 oz rate for late control of large velvetleaf.  
• Do not apply within 60 days of harvest or after pod set.  
• Do not graze treated fields or harvest for forage or hay.  

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**Trade Name**  | **Common Name**  | **Rate/Range**  
--- | --- | ---  
Rezult | Rezult B (bentazon 4 lb/gal) | 3.2 pt/A  
Rezult | Rezult G (sethoxydim 1 lb/gal) |  

**Mode of Action**  
PSII + ACCase  

**Application Timing**  
Apply when weeds are small and actively growing. Refer to the label for specific size restrictions.  

**Recommended Spray Additives**  
UAN (1 to 2 qt/A); COC (1 pt/A); DASH (1 pt/A); or ammonium sulfate (1 to 2 lb/A).  

**Comments**  
• Registered for aerial application.  
• Do not apply if rainfall is expected within one hour following application.  
• Do not apply to weeds or crops that are under stress.  
• Do not apply within 75 days of harvest.  
• Do not graze or cut treated soybean fields for hay for at least 30 days after application.  

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**Trade Name**  | **Common Name**  | **Formulation**  | **Rate/Range**  
--- | --- | --- | ---  
Roundup Ultra | glyphosate | 3SL | 24 to 48 oz/A  
Roundup UltraMax | | 4SL | 20 to 40 oz/A  
Roundup UltraDry | | 65DG | 9.5 to 28.8 oz/A  
Roundup WEATHERMAX | | 5.5L | 16 to 32 oz/A  
Roundup WeatherMax | | 4.5 SL | 22 to 44 oz/A  
Many others | | 3SL | 24 to 48 oz/A  
Touchdown IQ | | 3SL | 1 to 4 pt  

**Mode of Action**  
EPSPS
Application Timing—Roundup
Postemergence - Glyphosate may be applied from cracking through full flowering stage.

Recommended Spray Additives
AMS may be included if weeds are under stress or hard water is used as carrier. Certain glyphosate products recommend the use of a nonionic surfactant.

Comments
• Use only on Roundup Ready soybean varieties.
• Refer to label of product being used to determine specific recommendations for rates, spray additives, and restrictions.
• Multiple applications can be made during the growing season. Do not exceed 2 qt/A Roundup Ultra with postemergence applications. A total of 8 qt/A may be applied during the growing season, including preplant, preemergence, postemergence, and preharvest applications.
• Do not apply aerially.
• Take appropriate precautions to minimize off-target movement of spray droplets.
• The timing and rates of glyphosate used for annual weeds will not be optimal for most perennial weeds.

<table>
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</thead>
<tbody>
<tr>
<td>Scepter</td>
<td>imazaquin</td>
<td>70DG</td>
<td>1.4 to 2.8 oz/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.5AS</td>
<td>0.33 to 0.66 pt/A</td>
</tr>
</tbody>
</table>

Mode of Action
ALS

Application Timing
Postemergence—Apply postemergence to actively growing weeds within size recommendations.
Preplant incorporated—Apply preplant incorporated before planting and incorporate into the top 1 to 2 inches of soil. May be applied up to 45 days prior to planting. Incorporate within 7 days of application.
Preemergence—Apply preemergence up to 45 days before, during, or after planting but before the crop emerges.
Postemergence—Apply postemergence to actively growing weeds within size recommendations.

Recommended Spray Additives
When used alone, apply with COC, nonionic surfactant, or organo-silicone surfactant. See label for specific recommendations.

Comments
• Scepter has long soil residual characteristics and has demonstrated carryover to rotational corn.
• Do not graze or feed treated soybean forage, hay, or straw to livestock.
• Do not apply the Scepter + Prowl combination if soybeans have emerged.
• ISU does not recommend combinations with 2,4-DB or 2,4-D amine.
• ISU recommends the use of Clearfield hybrids following a 0.33 pt/A postemergence application of Scepter.
• Refer to Scepter label for specific rotational recommendations.
• IMI corn may be planted after 9.5 months following application of Scepter + Pursuit applications.
• Scepter may interact with other ALS herbicides applied to soybeans, thus increasing the potential for crop injury.
• Do not use products containing chlorimuron ethyl, flumetsulam, imazethapyr, or imazaquin the same year as Scepter application, unless labeled otherwise, due to carryover to rotational corn.
• There is an 18-month rotational period for non-Clearfield hybrids following a 0.66 pt/A Scepter application.
<table>
<thead>
<tr>
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<th>Formulation</th>
<th>Rate/Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select/Arrow</td>
<td>clethodim</td>
<td>2 EC</td>
<td>4 to 16 oz/A</td>
</tr>
</tbody>
</table>

**Mode of Action**
ACCase

**Application Timing**
Apply postemergence to actively growing grasses according to the Select label. Do not cultivate 7 days prior to or within 7 days after application. Apply prior to 60 days before harvest.

**Recommended Spray Additives**
Crop oil concentrate-1% (v/v) (but not less than 1 pt/A); 28% N (1 to 2 qt) or AMS (2.5 lb/A) may be used in combination with the COC.

**Comments**
- Do not apply more than 32 oz/A per season.
- Do not apply with flood nozzles.
- Do not graze treated fields or feed forage or hay to livestock.
- Do not apply if rain is expected within 1 hour of application.
- Apply 4 to 6 oz/A Select with glyphosate to control RR volunteer corn.

<table>
<thead>
<tr>
<th>Trade Name</th>
<th>Common Name</th>
<th>Formulation</th>
<th>Rate/Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stellar</td>
<td>0.7 lb/gal flumiclorac + 2.4 lb/gal lactofen</td>
<td>3.1 EC</td>
<td>5 to 7 oz/A</td>
</tr>
</tbody>
</table>

**Mode of Action**
PPO + PPO

**Application Timing**
Apply postemergence to actively growing weeds within size restrictions on label.

**Recommended Spray Additives**
COC or methylated seed oil (1 to 2 pts/A); 28%N (1 to 2 qts/A); or AMS (2.5 lbs/A) may be used in combination with the COC or MSO to enhance weed control.

**Comments**
- Do not apply aerially.
- Do not apply after pod set or within 60 days of harvest.
- Do not use hay or straw for feed or bedding.
- Use RR soybean varieties for Stellar plus Roundup Ultra applications.
- The addition of 28% N or AMS with Stellar will increase the potential for crop injury.

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<tbody>
<tr>
<td>Synchrony STS</td>
<td>31.8% chlorimuron ethyl 10.2% thifensulfuron methyl</td>
<td>42 DF</td>
<td>0.5 oz/A</td>
</tr>
</tbody>
</table>

**Mode of Action**
ALS + ALS
**Application Timing– Synchrony STS**
Apply to actively growing weeds within the recommended growth stage. Apply after the first trifoliolate has fully expanded but no later than 60 days before harvest.

**Recommended Spray Additives**
Crop oil concentrate-1% (v/v) plus UAN (2 to 4 qt/A); 10-34-0 (1 to 2 qt/A) or ammonium sulfate (2 to 4 lb/A); NIS - 0.25% (v/v) with Blazer and 0.5% (v/v) with Cobra tank mixes; include UAN (2 to 4 qt/A) or ammonium sulfate (2 to 4 lb/A).

**Comments**
- Can be used on soybean varieties designated as STS in the variety name and non-STS varieties.
- Synchrony STS can be applied to non-STS soybean varieties. Use 0.25 oz/A and NIS at 0.25% (v/v) with UAN or AMS.
- Refer to label for soil pH and rotation restrictions.
- Apply in a minimum of 10 gal. water and use flat fan nozzles.
- Do not graze treated fields or harvest for forage or hay.
- Synchrony may interact with other ALS herbicides applied to soybeans, thus increasing the potential for crop injury.
- Chlorimuron may interact with ALS herbicides applied to corn the following year, increasing potential for injury to corn.
- ISU does not recommend 2,4-DB.
- Apply prior to 60 days before soybean maturity.
- Make only one application per growing season.
- Apply after the first trifoliolate has fully expanded.
- Do not apply with chemigation systems.
- Cobra may be applied in combination with Synchrony STS at a rate of 8 to 12.5 oz/A.
- Use the 4 to 6 oz/A Cobra rate for control of ALS-resistant common waterhemp and black nightshade; use 0.5% COC.
- Apply when common waterhemp is actively growing and less than 4 inches tall.
- Chlorimuron has a long soil residual life in soils with a high pH (7.0 or greater); refer to the label for specific restrictions concerning crop rotational intervals.
- Soils of concern for carryover are those in the Clarion-Nicollet-Webster and Hamburg-Ida-Monona associations, and soils in the Missouri River flood plain. Also, fields near limestone gravel roads may have a higher pH than typically anticipated.

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**Preplant and Preemergence Herbicides for Corn Production**

The following herbicides are used to control weeds as they emerge. Certain products require mechanical incorporation prior to planting, while others may be applied before, at, or after planting. Incorporation reduces the need for timely rainfall after application and may improve control of certain weeds. Adjust rate to soil type as specified on label. In no-till, an additional burndown herbicide may be required to control emerged weeds. Many herbicides used primarily for preemergence weed control may also be applied following crop emergence. Recommendations for post applications of these products are included in this section rather than in the postemergence section.

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<tbody>
<tr>
<td>AAtrex, atrazine</td>
<td>atrazine</td>
<td>4 L</td>
<td>2 to 4 pt/A</td>
</tr>
<tr>
<td>AAtrex, atrazine</td>
<td></td>
<td>90 DF</td>
<td>1.8 to 2.2 lb/A</td>
</tr>
</tbody>
</table>

**Mode of Action**
PSII