Chemical Weed Control in Soybeans 1980

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Chemical Weed Control in Soybeans 1980
Chemical Weed Control in Soybeans, 1980

By Leon J. Wrage, Extension agronomist—weed science
W. E. Arnold, associate professor, plant science

Weed losses in soybeans can be serious. A good rotation, proper seedbed preparation, timely cultivation and herbicides are useful control practices.

Most perennial weeds cannot be controlled without some losses by any method; and annual weeds such as sunflower, cocklebur or velvetleaf are more difficult to control in soybeans than in other row crops. Therefore cultivation and crop rotation are important parts of an efficient weed control program. Timely cultivation and the use of herbicides in other rotational crops are also helpful.

Narrow rows usually increase yields and improve competitiveness of the crop. However, solid-planted or close-drilled soybeans cannot be cultivated with conventional implements. Serious weed problems result with this planting system if herbicides do not perform satisfactorily or if weed species are present that are tolerant to the herbicide.

Cultivation for Weed Control

Proper tillage immediately before planting kills emerged weeds and prevents other weeds from getting a head start on the crop. A rotary hoe or flextine harrow is useful when the crop is small.

After planting, you can choose from several cultivation systems. In conventional row-spaced beans, you can use a row-crop cultivator. Do not "hill" the row during the last cultivation; this prevents harvesting of lower pods and results in an unnecessary loss of 2 to 5 bushels of beans per acre.

Special row cultivators designed for minimum-till planting systems reduce the problems caused by plant residue on the soil surface. Chopping or shredding the previous year's corn stalks also reduces cultivation problems.

Herbicides

Information in this publication is based on research by the South Dakota Agricultural Experiment Station and other research or observations. Herbicides are included only after the chemical is registered by the Environmental Protection Agency (EPA) as to residue tolerances in crops used for food or feed.

Information in this fact sheet is designed to provide a summary of herbicide uses and does not imply a guarantee or responsibility for results. You need the following information to secure the maximum benefits from the tables.

1. Weed problem. Weeds are classified as broadleaved weeds (includes the more common weeds such as lambquarters, pigweed, and kochia) and weedy grasses (includes green and yellow foxtail). A few special weeds are listed individually. Herbicide performance on specific weed species is given in Table 1.

2. Chemicals. Herbicide uses are based on the actual chemical (active ingredient) in each herbicide product. The common and trade name of most chemicals is listed. Product formulation is listed with the trade name. The label for specific products may vary as to crop, rate, application directions, etc. Crop tolerance to several herbicides is shown in Table 1. A summary of herbicide performance in experiment farm plots is shown in Table 2.

The treatments listed under "Soybean Herbicides" are those considered to be most promising for the range of weed problems and conditions in South Dakota. "Other Soybean Herbicides" may be useful for special weed problems, have experimental label or are useful within limitations.

3. Rates. The amount of actual chemical per acre for broadcast application is listed in one column and the amount of product per acre is listed with the trade name and formulation in another column. The amount of product, trade name and formulation are not listed for chemicals having numerous trade names.

The range in rates includes most minimum and maximum amounts listed on the product label. The rate for soil applied herbicides varies according to soil texture, soil organic matter and weed species. Additional comments about rates used in South Dakota field tests are included in the remarks column.

It is important to read the label for complete information on the rate to use for that product.

4. Time to apply. Time to spray is given for all chemicals with respect to the crop unless otherwise stated.

Preplant—treatments made before the crop is planted and, in most cases, incorporated with a disk. Some herbicides must be incorporated immediately after spraying to prevent loss of chemical to volatilization or breakdown from sunlight. The rainfall requirement is usually less critical and the seasonal variation in performance is usually less with preplant than with preemergence applied herbicides.

Recently, some herbicides have been labeled for use in conjunction with other herbicides applied at a different time, requiring two or more spraying operations. This usually involves a preplant treatment followed by one or more preemergence or post-emergence applications of another herbicide. Do not use herbicides that are not labeled for use in this way.

Preemergence—treatments made after planting, but before emergence of the crop and weeds. Weed control is usually better if tillage operations for seedbed preparation are performed immediately before planting and if the herbicide is applied immediately after planting. For best results, the soil should be free of large lumps and heavy amounts of plant residue.

These treatments require moisture within 1 week after application to move the chemical into the soil so it can be taken up by roots and shoots. More moisture is required if the soil is dry than if it is moist. A shallow cultivation with a rotary hoe or flextine harrow is suggested if weeds emerge before adequate moisture is received. Preemergence herbicides are not effective if the area is disturbed by deep cultivation.

Post-emergence—treatments applied after the crop and weeds have emerged. These are for special weed problems or a rescue operation if other weed control measures have failed. The weeds should be controlled as early as possible to prevent yield losses due to early season weed competition. Post-emergence treatments which must be directed so only the weeds are sprayed require special equipment and usually a height differential between the crop and the weed.

Follow The Label

Federal regulations make it unlawful for any person to use an herbicide in a manner inconsistent with its labeling. This includes the kind of crop and weed; rate, carrier and other application directions; storage, disposal and protective clothing; or other precautions stated.
### Soybean Herbicides

<table>
<thead>
<tr>
<th>Weeds</th>
<th>Common name</th>
<th>Rate lb/A Actual*</th>
<th>Product/A-Trade name-Formulation (Broadcast)</th>
<th>Time to Spray and Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerous annual grasses; some annual broadleaved</td>
<td>fluchloralin</td>
<td>½-1½</td>
<td>1-3 pt Basalin-4 #/gal</td>
<td>Preplant incorporated. Immediate incorporation preferred but may be delayed up to 8 hours. Incorporate with a tandem disk set to cut 2-4 inches deep. Cross disking ensures thorough mixing. The low rate is for light, low organic matter soils and the high rate is for heavy, clay soil. The 1 lb/A active rate has been satisfactory for susceptible weeds in most SDSU tests. No label restrictions for crop rotation the following year. Do not graze or harvest forage from treated fields.</td>
</tr>
<tr>
<td></td>
<td>pendimethalin</td>
<td>½-1½</td>
<td>1-3 pt Prowl-4 #/gal</td>
<td>Preplant incorporated. Immediate incorporation preferred but may be delayed for 7 days. Incorporate with a tandem disk set to cut 2-4 inches deep. The lower rates are for light, sandy soil and the higher rates for heavy, clay soil. The 1½ lb/A active rate has been satisfactory for susceptible weeds in most SDSU field tests. No label restrictions for crop rotation the following year.</td>
</tr>
<tr>
<td></td>
<td>profluralin</td>
<td>½ - 1½</td>
<td>1-3 pt Tolban-4 #/gal</td>
<td>Preplant incorporated. Immediate incorporation preferred but may be delayed up to 4 hours. Incorporate with a tandem disk set to cut 4-6 inches deep. Cross disking ensures thorough incorporation. The low rate is for light, sandy soil and the high rate for heavy, clay soil. The 1 lb/A active rate has been satisfactory for susceptible weeds in most SDSU tests. No label restrictions for crop rotation the following year.</td>
</tr>
<tr>
<td></td>
<td>trifluralin</td>
<td>½-1</td>
<td>1-2 pt Treflan-4 #/gal</td>
<td>Preplant incorporated. Immediate incorporation preferred but may be delayed up to 24 hours. Incorporate with a tandem disk set to cut 4-6 inches deep. Cross disking ensures thorough incorporation. Use low rate on sandy soil and the high rate on heavy clay soil. The 2½ lb/A active rate has been satisfactory for susceptible weeds in most SDSU tests. Plants usually outgrow leaf malformation noted at emergence. Vernam-100% granules applied preemergence after planting and incorporated with shallow tillage have been less consistent than spray formulations. No carryover. May be used with a preemergence overlay of Amiben, Lorox, or Dynap.</td>
</tr>
<tr>
<td></td>
<td>vernolate</td>
<td>2-3</td>
<td>2½-3½ pt Vernam-7 #/gal</td>
<td>Preplant incorporated. Incorporate immediately with a tandem disk set to cut 4-6 inches deep. Cross disking ensures thorough incorporation. Use low rate on sandy soil and the high rate on heavy clay soil. The ¾ lb/A active rate has been satisfactory for susceptible weeds in most SDSU tests. Carryover may injure oats or sorghum planted the following year.</td>
</tr>
<tr>
<td>Numerous annual grasses and annual broadleaved</td>
<td>trifluralin</td>
<td>½-1</td>
<td>1-2 pt Treflan 4 #/#/gal</td>
<td>Split application. Apply trifluralin or profluralin or pendimethalin preplant and incorporate as for each herbicide alone. Apply linuron preemergence. Useful where broadleaved weeds are serious. The lower rates are for lighter soils and high rates are for heavy, clay soil. The 1 lb/A active rate of linuron has been satisfactory for susceptible weeds in most SDSU tests. Combined effects of linuron and atrazine carryover can cause serious crop injury. Do not use on sands. Do not incorporate linuron. Plant seed ¾ inch deep.</td>
</tr>
<tr>
<td></td>
<td>or profluralin</td>
<td>½-1</td>
<td>1-2 pt Tolban 4 #/#/gal</td>
<td>Preemergence tank-mix. Pendimethalin plus linuron may be applied preemergence. However, weed control has been less consistent than with the split application. Note precautions stated above.</td>
</tr>
<tr>
<td></td>
<td>or pendimethalin</td>
<td>½-1¼</td>
<td>1-2½ pt Prowl 4 #/#/gal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and linuron</td>
<td>½-1¼</td>
<td>1-2½ lb Lorox 50% wp</td>
<td></td>
</tr>
</tbody>
</table>
trifluralin \( \frac{1}{2} - 1 \) or profluralin \( \frac{1}{2} - 1 \) or pendimethalin \( \frac{1}{2} - 1 \frac{1}{4} \) or fluchloralin \( \frac{1}{2} - 1 \frac{1}{2} \) and/or metribuzin \( \frac{1}{4} - \frac{1}{2} \) 1-2 pt Treflan 4#/gal or 1-2 pt Tolban 4#/gal or 1-2\frac{1}{2} pt Prowl 4#/gal or 1-3 pt Basalin4#/gal and/or \( \frac{1}{2} - 1 \frac{1}{2} \) lb Sencor, Lexone 50% wp or \( \frac{1}{2} - 1 \) pt Sencor, Lexone 4#/gal

Split application. Apply trifluralin, profluralin, pendimethalin, or fluchloralin pre-plant and incorporate as suggested above for each herbicide used alone. Follow the rates and other precautions suggested above for each herbicide used alone. Apply metribuzin preemergence. Useful where broadleafed weeds are serious. Metribuzin rates of \( \frac{3}{4} - \frac{1}{2} \) lb/A active have been satisfactory for susceptible weeds in most SDSU tests. Some crop injury may occur on low organic matter knolls or soils with pH of over 7.4. Do not use on sands. Plant seed 1\( \frac{1}{2} \) inch deep. Combined effects of metribuzin with atrazine carryover can cause serious crop injury. Do not graze or harvest forage from treated fields.

Preplant tank-mix. Incorporate as suggested for trifluralin, profluralin, or fluchloralin used alone. More risk of crop injury on lighter soils than for split application. Maximum rate of metribuzin suggested is \( \frac{3}{4} \) lb/A active for most soils.

Preemergence tank-mix. Pendimethalin plus metribuzin may be applied preemergence; however, weed control has been less consistent than for preplant applications. Note precautions stated above.

Numerous annual grasses and annual broadleaved

<table>
<thead>
<tr>
<th>Trifluralin</th>
<th>1-2 pt Treflan 4#/gal or 1-2 pt Tolban 4#/gal or 1-2\frac{1}{2} pt Prowl 4#/gal or 1-3 pt Basalin4#/gal and/or ( \frac{1}{2} - 1 \frac{1}{2} ) lb Sencor, Lexone 50% wp or ( \frac{1}{2} - 1 ) pt Sencor, Lexone 4#/gal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bifenox</td>
<td>2\frac{1}{2} lb Modown 80% wp or 1 gal Amiben-2#/gal</td>
</tr>
<tr>
<td>Chloramben</td>
<td>2 gal Amiben-2#/gal</td>
</tr>
</tbody>
</table>

Split application. Apply trifluralin and incorporate as for trifluralin alone. Apply bifenox or chloramben preemergence. Improves control of certain broadleaved weeds. Weed control and crop injury affected less by variation in soil texture and pH than for some other treatments. Bifenox can cause serious early season leaf malformation; however, yields have not been affected in normal growing conditions. Do not graze or harvest forage from treated crop.

Preplant incorporated. Preplant incorporated tank-mix reduces bifenox leaf malformation; however, weed control may be reduced except under very dry conditions.

Pendimethalin plus metribuzin may be applied preemergence; however, weed control has been less consistent than for preplant applications. Note precautions stated above.

Numerous annual grasses and annual broadleaved

<table>
<thead>
<tr>
<th>Pendimethalin</th>
<th>1-2\frac{1}{2} pt Prowl 4#/gal and/or 1 gal Amiben-2#/gal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloramben</td>
<td>2 gal Amiben-2#/gal</td>
</tr>
</tbody>
</table>

Preemergence. Must have \( \frac{1}{2} - \frac{3}{4} \) inch rainfall within 1 week after application. Rates of 2\( \frac{1}{2} - 3 \) lb/A active have been satisfactory for susceptible weeds in most SDSU field tests. Use the higher rates on heavy, clay soil and to improve control of lambquarters or pigweed. Granules and spray appear to be equally effective. No carryover.

Preplant incorporated. Incorporate shallowly in top 2 inches of soil using field cultivator or multi-weeder type equipment. Preemergence application preferred except incorporation improves weed control under very dry conditions. Use highest alachlor rate for heavy soils.

Numerous annual grasses; few annual broadleaved

| Alachlor | 2-3\frac{1}{2} 2-3\frac{1}{2} qt Lasso-4#/gal or 16-26 lb Lasso-15% gran |

Preemergence. Tank-mix. Rainfall required. Useful where broadleaved weeds are serious. Marginal for cockleburs. Metribuzin best for velvetleaf. Check label rates for specific combination. Higher rates are for heavy, clay soil and lower rates for light, low organic soils. Rates of 2 (alachlor) plus 1 (linuron) or 2 (chloramben) or 1.6 (bifenox) or \( \frac{4}{3} - \frac{1}{2} \) (metribuzin) lb/A active have been satisfactory for susceptible weeds in most SDSU tests. Weed control and crop injury are affected less by soil variation with chloramben or bifenox than metribuzin. Metribuzin may cause injury on low organic matter knolls or soil with a pH above 7.4. Do not use linuron or metribuzin on sands. Plant 1\( \frac{1}{2} \) inch deep. Combined effects of linuron or metribuzin with atrazine carryover can produce serious crop injury. Do not graze or feed forage from metribuzin treated fields.

Numerous annual grasses and annual broadleaved

| Alachlor | 1\( \frac{1}{2} \)-2\( \frac{1}{2} \) 1\( \frac{1}{2} \)-2\( \frac{1}{2} \) qt Lasso-4#/gal or 1-3 lb Loroz-50% wp or 3-4 qt Amiben-2#/gal or 2-2\( \frac{1}{2} \) lb Modown-80% wp or \( \frac{1}{2} - 1 \) lb Sencor/Lexone-50% wp or \( \frac{1}{2} - 1 \) pt Sencor/Lexone 4#/gal |

Preemergence. Tank-mix. Rainfall required. Useful where broadleaved weeds are serious. Marginal for cockleburs. Metribuzin best for velvetleaf. Check label rates for specific combination. Higher rates are for heavy, clay soil and lower rates for light, low organic soils. Rates of 2 (alachlor) plus 1 (linuron) or 2 (chloramben) or 1.6 (bifenox) or \( \frac{4}{3} - \frac{1}{2} \) (metribuzin) lb/A active have been satisfactory for susceptible weeds in most SDSU tests. Weed control and crop injury are affected less by soil variation with chloramben or bifenox than metribuzin. Metribuzin may cause injury on low organic matter knolls or soil with a pH above 7.4. Do not use linuron or metribuzin on sands. Plant 1\( \frac{1}{2} \) inch deep. Combined effects of linuron or metribuzin with atrazine carryover can produce serious crop injury. Do not graze or feed forage from metribuzin treated fields.
Preplant incorporated. Alachlor tank-mixes with benfent or metribuzin may be incorporated shallowly in the top 2 inches of soil using field cultivator or multi-weeder type equipment. Preemergence preferred but incorporation will give better control under very dry conditions. Use 2 ⁷/₈ - 3 lb/A active alachlor for heavy soil.

Preemergence. Must have ½-⅞ inch rainfall within 1 week after application. Rates of 2 ⁷/₈ - 3 lb/A active have been satisfactory for susceptible weeds in most SDSU field tests. Use the higher rates on heavy, clay soil.

Preplant incorporated. Incorporate shallowly in the top 2 inches of soil using field cultivator or multi-weeder type equipment. Preemergence application preferred except incorporation improves weed control under very dry conditions.

Preemergence. Rainfall required. Tank-mix. Useful where broadleaved weeds are serious. Marginal for cocklebur. Metribuzin best for velvetleaf. Check label rates for specific combination. Higher rates are for heavy, clay soil and lower rates for light, low organic soils. Rates of 2 (metolachlor) plus 1 (linuron) or 2 (chloramben) or ⁵/₄ - ⅞ (metribuzin) lb/A active have been satisfactory for susceptible weeds in most SDSU tests. Weed control and crop injury affected less by soil variation with chloramben than metribuzin. Metribuzin may cause injury on low organic matter knolls or soil with a pH above 7.4. Do not use linuron or metribuzin on sands. Plant seed 1½ inches deep. Combined effects of linuron or metribuzin with atrazine carryover can produce serious crop injury. Do not graze or feed forage from metribuzin treated fields.

Preplant incorporated. Metolachlor tank mixes with chloramben or metribuzin may be incorporated shallowly in the top 2 inches of soil using field cultivator or multi-weeder type equipment. Preemergence application preferred except incorporation improves weed control under very dry conditions.

Preemergence. Must have ½-⅞ inch rainfall within 1 week after application. The low rate is for lighter, sandy soils. Shallow tillage with rotary hoe or harrow is suggested if dry conditions persist 3-5 days after applying. Granules and spray formulation appear to be equally effective. May be applied as a band over preplant-incorporated Treflan. Follow label directions. No carryover.

Post-emergence. Primarily for special broadleaved weed problems. Weeds in 2- to 4-leaf stage. Larger weeds require the higher rate. Check weed species rating chart. Good coverage required. Labeled for Canada thistle topgrowth control or rescue treatment for large cocklebur using 1 ¹/₁₆ lb/A active. Do not apply within 65 days of harvest. Do not feed treated forage to livestock.
### OTHER SOYBEAN HERBICIDES

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Active Rate</th>
<th>Preemergence Treatment Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bifenox</strong></td>
<td>2-2 1/2 lb Modown-80% wp</td>
<td>Preemergence. Most useful in a combination or overlay treatment. Improves control of several serious broadleaved weeds. Poor on grasses. May be used at the low rate in combination with Lasso and at the high rate as an overlay with Treflan. Refer to the section above for details.</td>
</tr>
<tr>
<td><strong>Chlороpham</strong></td>
<td>2-3 qt Furlan-4#/gal</td>
<td>Preemergence. Primarily useful in combinations to improve control of smartweed. No carryover.</td>
</tr>
<tr>
<td><strong>Dinitramine</strong></td>
<td>1 1/3-2 1/3 pt Cobex-2#/gal</td>
<td>Preplant incorporated. Immediate incorporation preferred but may be delayed for 24 hours. Incorporate with a tandem disk set to cut 3-4 inches deep. Cross disking ensures thorough incorporation. Rate varies according to soil texture and organic matter. The 1/2 lb/A active rate is the maximum rate suggested for most soils. Crop stunting has been observed more frequently than for several other treatments that control similar weeds. No crop rotation restrictions on label. Is labeled for use as a tank mix or overlay application with Sencor or Lexone.</td>
</tr>
<tr>
<td><strong>Dinoseb</strong></td>
<td>2-2 1/2 gal Premerge-3#/gal</td>
<td>Preemergence. Labeled for combination with Lasso or Amiben. Improved broadleaved control has not been consistent.</td>
</tr>
<tr>
<td><strong>Linuron</strong></td>
<td>1-5 lb Lorox-50% wp</td>
<td>Preemergence. Most useful applied at lower rates as a combination or overlay treatment. Improves control of several serious broadleaved weeds. Weak on grasses. Note suggestion concerning rate and crop injury in the section above. May be tank-mixed with Lasso. Refer to the section above for details. Tank mixes with Amiben and Ramrod do not appear to fit most situations.</td>
</tr>
<tr>
<td><strong>Metribuzin</strong></td>
<td>3/4-1 lb Sencor, Lexone-50% wp or 3/4-1 pt Sencor, Lexone-4#/gal</td>
<td>Preemergence. Most useful as a combination or overlay treatment. Improves control of several serious broadleaved weeds. Weak on grasses. Note suggestions concerning rate, crop injury and other limitations for the treatments listed in the section above. Do not graze treated areas after harvest.</td>
</tr>
<tr>
<td><strong>Naptalam + Dinoseb</strong></td>
<td>6 qt Dynap-2+1#/gal</td>
<td>Preemergence to cracking. Commercial premix. Some erratic results reported compared to other treatments. Poor grass control. Good kochia control has been observed. Labeled for use in several combination treatments. Use special caution in handling.</td>
</tr>
<tr>
<td><strong>Oryzalin</strong></td>
<td>1-2 lb Surflan-75% wp</td>
<td>Preemergence. Chemically related to trifluralin but has given less consistent weed control than preplant incorporated trifluralin. Do not use on soils with more than 3% organic matter. Is labeled for use as tank mix with Lorox, Sencor or Dynap.</td>
</tr>
<tr>
<td><strong>Chloroxuron</strong></td>
<td>2-3 lb Tenoran-50% wp</td>
<td>Post-emergence. Apply when first trifoliate leaves form and weeds are less than 2 inches tall. Higher rate for velvetleaf and cocklebur. Use surfactant. Some inconsistent results have been reported. Some crop leaf burn usually noted. Do not treat plants under stress.</td>
</tr>
<tr>
<td><strong>Vernolate + Trifluralin</strong></td>
<td>2 1/2 pt Vernalon-7#/gal + 1 pt Treflan-4#/gal</td>
<td>Preplant incorporated. Tank-mix. Incorporate as for vernolate alone. Appears to be limited advantage for the combination when compared to either product alone.</td>
</tr>
<tr>
<td><strong>Cocklebur</strong></td>
<td>2,4-DB 0.175-0.22 Butoxone-1.75#/gal Butoxone, Butyrac-2#/gal</td>
<td>Post-emergence. Rescue for cocklebur control. Some twisting and malformation expected on crop. Weed canopy usually reduces injury. Apply from 7 days before blossom to mid bloom stage. Use the lower rate for early treatments.</td>
</tr>
</tbody>
</table>

* Acid equivalent or active ingredient.
Table 1 WEED CONTROL RATING AND CROP TOLERANCE SOYBEAN HERBICIDES

Table 1 gives a general rating of weed control and crop tolerance with recommended rates used under field conditions. The ratings are based on plot data and other observations. Weed control and crop tolerance vary with soil and weather conditions, the rate used and other factors. For some weeds, special rates listed on the label must be used to get indicated results.

A weed control rating of "1" is assigned those treatments giving the best control of the weed. Perennial control refers to top-growth suppression. Crop tolerance refers to visual effects; these do not necessarily cause a yield reduction.

<table>
<thead>
<tr>
<th>Broadleaved Weeds</th>
<th>Grass</th>
<th>Crop tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunflower</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Vetch</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Starweed</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Mustard</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Lambsquarters</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Barnyardgrass</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Foxtail</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Preplant Incorporated
- Basalin
- Trefflan
- Tolban
- Cobex

Trefflan, Tolban, Proil + Sencor/Lexone
- 2 | 1 | 1 | 1 | 1 | 1 | G

Preplant and Preemergence
- Trefflan & Lorox
- Trefflan, Tolban, Proil & Sencor/Lexone
- 2 | 1 | 1 | 1 | 1 | 1 | 1 | G

Preemergence
- Amiben
- Lasso
- Lasso + Lorox
- Lasso + Maloran
- Lasso + Sencor
- Lasso + Lexone
- Lasso + Modown

Post-emergence
- Basagran

Percent Weed Control

<table>
<thead>
<tr>
<th>Treatment</th>
<th>lb/A a.i.</th>
<th>Gr</th>
<th>Bdlf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preplant Incorporated</td>
<td>Vernum</td>
<td>2½</td>
<td>89</td>
</tr>
<tr>
<td>Trefflan</td>
<td>¾</td>
<td>91</td>
<td>86</td>
</tr>
<tr>
<td>Tolban</td>
<td>1</td>
<td>91</td>
<td>86</td>
</tr>
<tr>
<td>Trefflan + Sencor/Lexone</td>
<td>¾</td>
<td>92</td>
<td>92</td>
</tr>
<tr>
<td>Basalin</td>
<td>1</td>
<td>92</td>
<td>86</td>
</tr>
<tr>
<td>Preplant Incorporated and Preemergence</td>
<td>Trefflan + Sencor/Lexone</td>
<td>¾ &amp; ½</td>
<td>97</td>
</tr>
<tr>
<td>Preemergence</td>
<td>Amiben</td>
<td>3</td>
<td>90</td>
</tr>
<tr>
<td>Lasso</td>
<td>3</td>
<td>92</td>
<td>77</td>
</tr>
<tr>
<td>Lasso + Sencor/Lexone</td>
<td>2-1½</td>
<td>95</td>
<td>98</td>
</tr>
<tr>
<td>Lasso + Lorox</td>
<td>2-1</td>
<td>92</td>
<td>82</td>
</tr>
<tr>
<td>Lasso + Modown</td>
<td>2-2</td>
<td>90</td>
<td>90</td>
</tr>
</tbody>
</table>

Every effort has been made to avoid mechanical error in preparation of this publication. The label should be considered the final guide.

Trade names are used for reader convenience and do not imply product endorsement.

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