SOYBEAN WEED CONTROL

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Revised

Allan H. Kates, O. E. Rud, Extension Specialists, Plant Physiology and Henry P. Wilson*

Weeds are a major problem in soybean production. Effective weed control is necessary throughout the growing season. Some advantages of weed control in soybeans are:

1. Higher yields per acre of better quality seed
2. Reduced loss of soybeans due to inefficient combine operation
3. Reduced combine trouble and repair
4. Reduced natural habitat for insects

Early weed control in soybeans is particularly important. Weeds emerging with the beans decrease yields and are most troublesome to remove. Weeds have a competitive advantage for the first 5-7 weeks after planting. The longer they are allowed to grow, the more yield is reduced. The soybean plant has the competitive advantage over those weeds emerging after this 5-7 week period.

It requires only a few weeds to reduce yields. Following is data collected in Virginia, 1967-1969. All plots had been cultivated at least once and the broadleaf weeds were permitted to grow the full season.

<table>
<thead>
<tr>
<th>Weeds/0.001 Acre</th>
<th>Yield reductions bu/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.7</td>
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<tr>
<td>2</td>
<td>4.6</td>
</tr>
<tr>
<td>4</td>
<td>6.5</td>
</tr>
<tr>
<td>8</td>
<td>8.6</td>
</tr>
<tr>
<td>16*</td>
<td>11.5</td>
</tr>
</tbody>
</table>

* Equals about one weed per foot of row

CULTURAL CONTROL

CROP ROTATION

Crop rotations, not only assist with disease control, but also aid in weed control. Seeds of weeds such as cocklebur, fall panicum, jimsonweed, morningglory and pigweed have a tendency to build-up in the soil under continuous soybean production. If corn is grown in your rotation, these weeds can be readily controlled and build-up of weed seed in the soil is reduced.

SEED-BED PREPARATION

Weed control for the crop should start in seed-bed preparation. Prepare the seed-bed early; many weed seeds germinate and start to grow. Weed seeds that germinate at planting time are usually within the top 1/2" of soil. Immediately before planting, a shallow tillage will kill these weeds. Don't work the soil deep as more dormant weed seeds will be brought to the surface. This is one of the most effective cultivations in soybean production.

DELAY PLANTING

Use soybean seed of good germination and delay planting until the soil is warm. Soybeans will germinate faster and better, insuring a good stand. Rapidly growing beans will shade the soil quicker, which helps to suppress weed seed germination.

EARLY CULTIVATION

The rotary hoe or weeder is most effective after the majority of weeds have germinated and are just beginning to emerge. Used during the heat of the day helps destroy weeds and there is less chance of injury to the soybeans. When soybeans are too large for the rotary hoe, use sweeps to cultivate shallow. Cultivate no deeper than necessary to uproot the weeds.

*Plant Physiologist, Virginia Truck and Ornamentals Research Station, Eastern Shore Branch, Painter, Va. 23410

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CHEMICAL CONTROL

Adverse weather conditions and available time and equipment will not always permit the grower to maintain the soybeans weed-free. Herbicides are available to help control weed seeds germinating at the same time as the beans. Herbicides should be considered as a supplement to and not as a substitute for good cultural weed control practices.

Most small seeded annual weeds germinate within the upper 1/2" of soil. Know your weed problem, then select the herbicide and apply correctly. The margin of selectivity between dependable weed control and crop damage is narrow for all soybean herbicides. Calibrate your sprayer before you start and check often to insure the proper rate of application. The herbicide will never be any better than the application.

PREPLANT INCORPORATED HERBICIDES

The main advantage of these herbicides is that the herbicide is moved mechanically into the area of weed-seed germination. Most preplant herbicides require thorough mixing of the chemical into the surface of the soil. The most common method is to disk twice with a tandem disc. Each herbicide has its ideal depth and method of incorporation suggested on the label.

Moving the chemical into the soil area where weed seeds germinate also prevents evaporation and breakdown losses of the herbicide from the soil surface. Some injury of soybeans has been experienced, but it has been of short duration and low frequency.

PREEMERGENCE HERBICIDES

The degree of weed control with preemergence herbicides is often dependent either upon soil moisture and/or rainfall within 5-10 days after treatment. The herbicide must be carried into the upper 1/2" of soil, where the majority of weed seeds will be germinating. When rainfall does not occur within the 5-10 day period and weeds start to germinate and grow, rotary hoe to kill existing weeds and to partially activate the herbicide. Regardless of the herbicide used, if weeds are emerging early, tillage should be practiced. Under certain conditions of excessive rainfall or adverse growing conditions, crop injury may occur. The weed control outweighs the risk and extent of crop injury.

NO-TILLAGE HERBICIDES

The no-tillage method of planting in small grain stubble has been used successfully in Virginia since 1968. Uniform distribution of straw behind the combine is the first requirement to success. This aids in planting at the proper depth, conserves moisture and the soil, and helps to suppress weeds. Paraquat is used to kill all existing weeds and one of the preemergence herbicides for weed control until the soybeans can actively compete with the weeds. The contact action of paraquat necessitates the use of 35-40 gallons or more of water per acre plus the suggested wetting agent. Herbicides are not available using this method successfully on perennial sods or full season soybeans.

COMBINATION OF HERBICIDES

Combination of herbicides are used to control a wider range of weeds over a wider range of soil and weather conditions, over a longer period of time or to reduce the possibilities of either crop injury or soil residue problems. Know your weed problem and consider the combination that has the potential for your situation. Use the approved combinations with label clearance rather than your own mixtures. There are many combinations with label clearance for tank mixes.

BAND APPLICATIONS

All herbicides are relatively expensive. Band application is a way of reducing the cost of application. Band application will permit the soybeans to get ahead of weeds in the row at a reduced cost. Reduce the amount of herbicide used per planted acre in proportion to the area actually sprayed. Attach the sprayer to the planter and save a trip across the field. It will not substantially reduce the number of cultivations necessary. Shallowly cultivate those weeds between the rows as they will reduce yields and interfere with harvesting.

POSTEMERGENCE HERBICIDES

Timeliness and coverage of weeds are most important considerations in using these herbicides. Each herbicide must be applied at the proper stage of soybean development for minimum amount of crop injury and for maximum weed control. Directed applications of this group of herbicides has a definite place in soybean production. They are effective on such weeds as cocklebur, jimsonweed, and morningglory, which are missed by other treatments. Use precision directed spray application equipment; skid mounted nozzles, special nozzles, leaf lifters, etc., to insure better weed control and to minimize crop injury.
### WEED CONTROL RESPONSE

#### ANNUAL GRASSES

- Fall Foxtail
- Foxtail
- Johnson
- Texas Signal
- Cock-
- Barnyard
- Crab
- Panicum
- (Giant)
- (Yellow)
- Goose
- from seed
- Panic
- Grass
- lebur
- Jimson
- quarters
- glory
- Pigweed
- Sida
- Purslane
- Ragweed
- weed
- leaf

#### ANNUAL BROADLEAF WEEDS

- Pigweed
- Sida
- Purslane
- Ragweed
- weed
- leaf

### HERBICIDES*

#### PREPLANT

- Cobex
- Tolban
- Treflan
- Treflan+Lexone,
- Sencor
- Vernam

#### PREEMERGENCE

- Amiben
- Amiben +
  Dow Premerge
- Ancranck,Dyanap
- Dinoseb
- Enide +
  Lorox
- Lasso
- Lasso +
  Dyanap
- Lasso +
  Dow
  Premerge
- Lasso +
  Lorox
- Lasso +
  Maloran
- Lexene, Sencor
- Loroq
- Solo
- Surfian
- Surfian +
  Lexone,
  Sencor
- Surfian +
  Lorox

#### POST EMERGENCE

- Basagran
- Butoxone
- Butyric
- Dinoseb
- Norex, Tenoran

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* Trade names - Does not imply endorsement of the product named or criticism of similar ones not mentioned.

#### Rating

<table>
<thead>
<tr>
<th>Level</th>
<th>% Weed Control</th>
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<tbody>
<tr>
<td>5</td>
<td>90-100</td>
</tr>
<tr>
<td>4</td>
<td>75-90</td>
</tr>
<tr>
<td>3</td>
<td>60-75</td>
</tr>
<tr>
<td>2</td>
<td>45-60</td>
</tr>
<tr>
<td>1</td>
<td>Below 45</td>
</tr>
</tbody>
</table>

*Expressed values are those expected under favorable rainfall, applied at optimum rates for soil texture and organic matter and at the correct time. If no rainfall occurs for 5-7 days after treatment, the effectiveness may be reduced 1-2 ratings. Large seeded annuals; cocklebur, Jimsonweed and morning glory germinate below the herbicide layer and are not consistently controlled.*
Know your weeds, then select the herbicide and method of application to use. All treatments are stated in pounds per acre of active ingredient (ai) and of product. If granular formulations are used, use the same rate of active ingredient. All of the following herbicides have been evaluated in Virginia. None of these have out-performed all others to permit the recommendation of only one or a few over all others.

Read the label and follow all directions for safe and effective use.

<table>
<thead>
<tr>
<th>Weed Problem</th>
<th>Chemical Rate/A (Product/A)</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>Johnsongrass (rhizomes)</td>
<td>dalapon 5 lb (Basfapon M or Dowpon M 7 lb + nonionic surfactant 1 pt/50 gal)</td>
<td>Apply in the early summer when johnsongrass is 8-12&quot; and bermudagrass is 6-8&quot; tall and growing vigorously. Plow 3 days later. Disc one or more times before planting. Wait 5 or more days after plowing; or if soil is dry, wait 5 days after 0.5&quot; rainfall before planting. Use a preemergence herbicide that will control johnsongrass coming from seed. Cultivate at least once with sweeps for better grass control. Do not graze livestock on treated areas before plowing or discing.</td>
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<td>Barnyardgrass, Brachiaria sp., carpetweed, crabgrass, foxtails, goosegrass, lambsquarters, redroot or pigweed, purslane, johnsongrass from seed; Texas panicum (will not effectively control jimsonweed, morningglory, ragweed and velvetleaf)</td>
<td>dinitramine 0.3-0.5 lb (Cobex 1.3-2 pt)</td>
<td>Apply immediately before seeding and incorporate within 24 hours to depth of 1.5-2&quot;. Follow soil incorporation directions on label. Do not incorporate too deep as crop injury may occur. Use lower rate on sand, sandy loam and loamy sand soil, higher rate on medium-heavy textured soil.</td>
</tr>
<tr>
<td></td>
<td>profluralin 0.5-1.0 lb (Tolban 4E 1-2 pt)</td>
<td>Apply to dry soil surface before planting and incorporate immediately or within 4 hours into the top 2-3&quot; of soil. Poor weed control may result from delayed incorporation, especially if applied to wet, warm soil surface or when wind speed is more than 10 mph, or by shallow incorporation (less than 2&quot; deep). Use lower rate on sand to sandy loam soil and higher rate on sandy clay loam to silt soils. Do not plant to any crop other than soybeans or cotton within 12 months after application. Root crops should not be planted in soils previously treated with profluralin.</td>
</tr>
<tr>
<td></td>
<td>trifluralin 0.5-1 lb (Treflan EC 1-2 pt)</td>
<td>To prevent activity loss, incorporate into the top 2-3&quot; of soil immediately or within 8 hours after application. Use a tandem disc set to cut 3-4&quot; deep and operated at 2 different directions (cross disc) at 4-6 mph or a power driven rotary tiller set to cut 2-3&quot; and operated at 4-6 mph. Can be used 10 weeks prior to and up to seeding. Use lower rate on sandy and sandy loam soils and heavier rates on loam and silt loam soils. Plant soybeans after early season adverse weather conditions have passed. Some early stunting has been observed. Do not plant deeper than 2&quot;. Trifluralin has label clearance for use as tank mix with metribuzin. Read and follow label for such use.</td>
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</tbody>
</table>
## Soybeans (Cont’d)

### Preplant (Cont’d)

<table>
<thead>
<tr>
<th>Weed Problem</th>
<th>Chemical Rate/A (Product/A)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johnsongrass control and above annual weeds</td>
<td>trifluralin 1-2 lb (Treflan EC 2-4 pt)</td>
<td>Bring rhizomes to soil surface by chisel plow, spring tooth harrow, etc. Thoroughly disc soil, prior to treatment to cut all johnsongrass rhizomes to 2-3&quot; pieces. Apply in spring, at a rate suggested for your soil, 0-10 weeks before seeding, and thoroughly incorporate with a disc set to cut 4-5&quot; deep and operated in 2 different directions at 4-6 mph. Plant soybeans after early season adverse weather conditions have passed. Do not plant deeper than 2&quot;. Cultivate during growing season to assist in control. Repeat the second year. After the second year, only crops accepted for preplant applications of trifluralin may be planted.</td>
</tr>
<tr>
<td>Nutsedge suppression and above annuals</td>
<td>vernolate 2-2.6 lb (Vernam 7E 2.3-3 pt or Vernam 10G 20-25 lb)</td>
<td>Use lower rate on sandy soils and heavier rate on silts and clay loam soils. Apply to soil surface, which is dry enough to permit thorough incorporation to a depth of 2-3&quot;, just before planting and incorporate immediately. Use a power driven rotary tiller set to cut 3-4&quot; deep or use a tandem disc set to cut 4-6&quot; deep, and operated at 4-6 mph, then followed by spike-tooth harrow. Cross disc to insure good incorporation. Do not plant deeper than 2&quot;. Malformation of primary leaves is not usually detrimental.</td>
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### PREEMERGENCE

<table>
<thead>
<tr>
<th>Weed Problem</th>
<th>Chemical Rate/A (Product/A)</th>
<th>Remarks</th>
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</thead>
<tbody>
<tr>
<td>Barnyard grass, Brachiaria sp., crabgrass, carpetweed, Florida pusley, foxtails, goosegrass, fall panicum, redroot or pigweed. (Will not control cocklebur, jimsonweed, lambsquarters, morningglory, ragweed, and velvetleaf)</td>
<td>alachlor 2-3 lb (Lasso EC 2-3 qt or Lasso 15G 13.3-20 lb.)</td>
<td>Apply immediately after planting. Use lower rate on sandy and sandy loam soils, higher rate on silt loam soils. Incorporate lightly if rain does not occur in 5-7 days. If incorporated, increase desired rate by 0.5 lb/A and do not incorporate more than 2&quot;.</td>
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<tr>
<td>Above annuals, combination will control or suppress cocklebur, jimsonweed, lambsquarters, morningglory</td>
<td>alachlor 1.5-3.0 lb + dinoseb 2.25-4.5 lb (Lasso EC 1.5-3.0 qt + Dow Premerge 3-6 qt)</td>
<td>Apply tank mixture immediately after planting. Use lower rate on sandy loam soil; higher rate on silt loam soils. Do not use on light sandy soil as injury may occur. If used at early cracking stage, then reduce to alachlor 1.5 lb ai + dinoseb 2.25 lb ai on sandy loam soils and alachlor 2 lb ai + dinoseb 2.25 lb ai on silt loam soils. Better broadleaf weed control has resulted from the combination if weeds have started to germinate before treating. Do not use after first soybean leaves open, on wet soils, or if temperature is expected to exceed 90°F., as injury may occur. Do not graze or feed forage treated soybeans within 3 weeks after treatment. DINOSEB IS POISONOUS!</td>
</tr>
<tr>
<td>Weed Problem</td>
<td>Chemical Rate/A (Product/A)</td>
<td>Remarks</td>
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<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>Above weeds and buttonweed, galinsoga, lambquarters, ragweed, smartweed,</td>
<td>alachlor 1.5-2.5 lb + linuron 0.5 lb (Lasso EC 1.5-2.5 qt + Lorox 50W 1 lb)</td>
<td>Apply tank mixture after planting and before emergence of soybeans or weeds. Use alachlor 1.5 lb ai on sandy loam soils and 2.0 lb ai on silt loam soils plus linuron 0.5 lb ai. Thorough agitation is necessary for uniform application. Best results are obtained if rainfall occurs within 7 days. Plant soybeans uniformly at a depth of at least 1.75&quot; to reduce chances of injury to soybeans by the linuron. Do not plant to any crop not on the label within 4 months of treatment. Do not use on sand to loamy sand, or on soil with less than 1% o.m. as crop injury may occur.</td>
</tr>
<tr>
<td>teaweed, velvetleaf. Weak on cocklebur, jimsonweed, morning-glory, teaweed</td>
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<tr>
<td>Above weeds listed for alachlor and lambquarters, Florida pusley, ragweed,</td>
<td>alachlor 1.5-2 lb + naptalam 2-3 lb + dinoseb 1.5-2 lb (Lasso 1.5-2 qt + Dyanap 4-6 qt)</td>
<td>Used after planting and up to first soybean seedling starts to crack the soil. Delaying the application will usually give better weed control. Soybeans should be uniformly planted 1.5&quot; deep or more. Heavy rains after treatment may cause stunting or reduced stands. Do not use on light textured soils. Do not graze or feed forage from treated soybeans to livestock prior to crop maturity.</td>
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<tr>
<td>velvetleaf, cocklebur, bindweed, ground cherry, mustards, galinsoga,</td>
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<td>morningglory, beggarweed, prickly sida</td>
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<tr>
<td>Barnyardgrass, crabgrass, goosegrass, johnsongrass from seed, fall panicum,</td>
<td>chloramben 2-3 lb (Amiben EC 4-6 qt or Amiben Super 6 3.5-4 pt)</td>
<td>Apply immediately after planting and before weeds emerge. If rainfall does not occur within 3-4 days after treatment, and weeds start to germinate, use rotary hoe to uproot these weeds and to shallow incorporate herbicide.</td>
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<tr>
<td>foxtails, lambquarters, nightshade (black), prickly sida, ragweed, redroot</td>
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<tr>
<td>or pigweed, smartweed, wild mustard. Will not control cocklebur, jimsonweed,</td>
<td></td>
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<tr>
<td>morning-glory, velvetleaf</td>
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<tr>
<td>Barnyardgrass, Brachiaria sp., crabgrass, fall panicum, foxtails, geoosegrass,</td>
<td>chloramben 1.5 lb + dinoseb 2.25 lb (Amiben EC 3 qt + Dow Premerge 3 qt)</td>
<td>Apply immediately after planting and before weeds and soybeans emerge. Do not use on sandy soil. If rainfall does not occur within 7 days and weeds start to germinate, use rotary hoe to uproot these weeds and incorporate herbicide. Applications delayed until cotyledon stage are often more effective. Follow label directions for rates and warnings for this use. Do not graze or feed forage treated soybeans within 3 weeks after treatment. DINOSEB IS POISONOUS!</td>
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<td>lambquarters, mustards, nightshade (black), pigweed or redroot, purslane,</td>
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<tr>
<td>ragweed. May be weak on cocklebur, jimsonweed, morningglory, and</td>
<td></td>
<td></td>
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<tr>
<td>velvetleaf</td>
<td></td>
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<tr>
<td>Barnyardgrass, black nightshade, carpetweed, cocklebur, crabgrass, fall</td>
<td>chlorobromuron 1-1.5 lb (Maloran 50WP 2-3 lb)</td>
<td>Apply after planting and before beans germinate. Provide good agitation in tank before and during application. Plant beans uniformly to a depth of at least 1 3/4&quot;. Do not use on a light sandy soil or where organic matter is less than 1% as injury may result. If heavy rainfall follows soon after treatment, severe injury may occur. Do not plant to crops not on label within 6 months of application. Do not graze treated areas with livestock.</td>
</tr>
<tr>
<td>panicum, Florida pusley, foxtails, goosegrass, jimsonweed, lambquarters,</td>
<td></td>
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<tr>
<td>prickly sida, purslane, ragweed, red-root pigweed, smartweed, velvetleaf</td>
<td></td>
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<tr>
<td>and witchgrass</td>
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</tbody>
</table>
### Soybeans (Cont'd)

#### Preemergence (Cont'd)

<table>
<thead>
<tr>
<th>Weed Problem</th>
<th>Chemical Rate/A (Product/A)</th>
<th>Remarks</th>
</tr>
</thead>
</table>
| Same as above                                     | chlorobromuron 0.75-1 lb + alachlor 1.5 lb  
(Stomp 50WP 1.5-2.0 lb  
+ Lasso EC 1.5 qt) | Same as above. Combination is more effective on grasses, also lower rate of chlorobromuron increases safety factor to soybeans. |
| Lambsquarters, purslane, ragweed, redroot or pigweed | dinoseb 4-6 lb  
(Dow Premerge 5-8 qt  
or Helena Dinitro 5-8 qt) | Apply immediately after planting. Ample soil moisture at time of application or light rainfall soon after to insure rapid weed seed germination is necessary for weed control. Dry soil or heavy rain reduces effectiveness. Some stand reductions occur quite frequently. Do not use on light sandy soil. Do not graze or forage treated soybeans within 3 weeks after treatment. DINOSEB IS POISONOUS! |
| Barnyardgrass, carpetweed, corn spurry, crabgrass, fall panicum, foxtails, goosegrass, jimsonweed, lambsquarters, pigweed or redroot, purslane, smartweed and johnsongrass from seed | diphenamid 2 lb + linuron 0.5 lb  
(Enide 50W 4 lb  
+ Lorox 50W 1 lb) | Apply immediately after planting and before soybeans emerge. Shallow cultivation will not destroy effectiveness of the chemical. Provide good agitation in tank before and during application. DINOSEB IS POISONOUS! Do not graze or feed treated parts to livestock. Do not plant treated areas to livestock. Do not plant treated areas to crops not on label within 6 months after treatment. Before planting the small grain cover crop, plow to a depth of 6-8" and disc thoroughly to reduce the possibility of injury. Do not use cover crop for feed or cut for feed within 6 months of application. |
| Barnyardgrass, carpetweed, crabgrass, foxtails, goosegrass, fall panicum, galinsoga, lambsquarters, mustard, nightshade (black), redroot or pigweed, ragweed, smartweed, velvetleaf. Will not control cocklebur, jimsonweed, morningglory or velvetleaf. | linuron 0.5 lb  
(Lorox 50W 1 lb) | Apply after planting and before beans germinate. Provide good agitation in tank before and during application. Plant beans uniformly to or at 1.75". Do not use on light sandy soils with low organic matter as injury may occur. Do not plant to any crop not on the label within 4 months of application. Often provides short term grass control. |
| Barnyardgrass, Brachiaria sp., carpetweed, cocklebur, coffeeweed, crabgrass, fall panicum, Florida pusley, foxtails, jimsonweed, johnsongrass from seed, lambsquarters, prickly sida, (teaweed), ragweed (common), redroot pigweed, sicklepod, smartweed, spotted spurge, velvetleaf. | metribuzin 0.375-0.875 lb  
(Lexone 0.75-1.75 or Sencor 0.75-1.75 lb) | Apply immediately after planting. Plant at least 1.5" deep. Use on fine textured, darker colored soils and those with higher than 2% organic matter. If used on coarser textured soils with less than 2% organic matter or if heavy rainfall follows soon after application, severe stand losses have occurred. The lowest rates have not effectively controlled cocklebur, jimsonweed or morningglory. Rainfall (0.25-0.5") within 2 weeks after application is necessary to activate herbicide. Do not incorporate. Do not use treated vines for feed or forage. Do not replant treated areas to any crop other than soybeans within 4 months after treatment. Combinations with alachlor or trifluralin are cleared for use also. Read and follow the label for such use. |
### Soybeans (Cont'd)

#### Preemergence (Cont'd)

<table>
<thead>
<tr>
<th>Weed Problem</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Barnyardgrass, cocklebur, crabgrass, foxtails, goosegrass, jimsonweed, lambsquarters, morningglory, mustard (wild), purslane, redroot or pigweed, ragweed, smartweed, and velvetleaf</td>
<td>naptalam 2 lb + chlorpropham 2 lb (Solo EC 4 qt or 10G 20 lb)</td>
<td>Apply immediately after planting and before soybeans emerge. Naptalam should not be applied where seeds are exposed on shallow planted (less than 1.50 deep). Uniform planting will reduce chances of stunting to soybean seedlings. Do not graze or feed forage to livestock prior to crop maturity.</td>
</tr>
<tr>
<td>Above weeds and carpetweed, Florida pusley, galinsoga, ground cherry, prickly sida</td>
<td>naptalam 2-3 lb + dinoseb 1.5-2 lb (Dyanap 4-6 qt, or Ancrack 4-6 qt or Klean-Krop 4-6 qt or Marauder 4-6 qt)</td>
<td>Apply between planting and until first soybean seedling starts to crack the soil. The delayed application will usually give better weed control. Soybeans should be uniformly planted 1.5&quot; deep or more. Heavy rains after treatment may cause stunting or reduced stands. Do not use on light sandy soils. Dyanap may also be used following preplant incorporated herbicides as a sequential treatment. Do not graze or feed forage to livestock prior to crop maturity. DINOSEB IS POISONOUS! Handle with care!</td>
</tr>
<tr>
<td>Barnyardgrass, Brachiaria sp., carpetweed, crabgrass, fall panicum, Florida pusley, foxtails, goosegrass, johnsongrass from seed, lambsquarters, redroot pigweed</td>
<td>oryzalin 1-2 lb (Surflan 75W 1.3-2.6 lb)</td>
<td>Apply at planting or within 2 days. Do not use on soils with more than 3% organic matter. May cause brittleness of the stem at the soil line. Excessive stand losses have been experienced. Do not feed forage to livestock. Oryzalin has label clearance for use as tank mix with linuron and metribuzin. Read and follow the label for such use.</td>
</tr>
</tbody>
</table>

#### POST-EMERGENCE

<table>
<thead>
<tr>
<th>Weed Problem</th>
<th>Chemical Rate/A (Product/A)</th>
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</tr>
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<tbody>
<tr>
<td>Cocklebur, Pennsylvania smartweed, wild mustard, velvetleaf, common ragweed, jimsonweed, giant ragweed</td>
<td>bentazon 0.75-1 lb (Basagran 0.75-1 qt)</td>
<td>Apply to thoroughly cover weeds when they are small and actively growing. Such weed growth stages generally corresponds to soybean growth stages of 1-4 trifoliate leaves. For best results, treat before weeds reach the size limits listed on the label. Soybeans may exhibit a slight yellowing, bronzing or speckled appearance which is generally soon outgrown. Do not apply to soybeans growing under unfavorable conditions. Rainfall within 8 hours of application may reduce effectiveness. Do not apply within 65 days of harvest. Do not feed forage or hay to livestock</td>
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## Soybeans (Cont'd)

### Post-emergence

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<th>Weed Problem</th>
<th>Chemical Rate/A (Product/A)</th>
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| Cocklebur, morningglory, and suppression of jimsonweed, redroot pigweed | 2,4-DB 0.22 lb  
(Butoxone 1 pt or Butyrac 175 1 pt or Butyrac 200 0.9 pt) | Apply as a directed spray into the row when soybeans are 8-12" and cocklebur, morningglory, jimsonweed, and redroot pigweed have not exceeded 3". Top of weed seedlings must be sprayed. Use precision directed spray application equipment. Apply with sprayer nozzles mounted on skids, gauge wheels, etc. Do not spray over 1/3 base of soybean as severe injury may occur. Do not harvest within 60 days after application. **ALTERNATIVE METHOD:** Apply from 7-10 days before bloom up to mid-bloom of soybeans. Cocklebur usually forms a canopy, this interception and preventing injury to soybeans. Do not harvest within 60 days of application. |
| Annual morningglory, black nightshade, cocklebur, Florida pusley, jimsonweed, lambsquarters, purslane, redroot or pigweed, ragweed, sicklepod, velvetleaf | chloroxuron 1-1.5 lb + surfactant  
(Norex 50WP 2-3 lb or Tenoran 50WP 2-3 lb + surfactant 1 pt) | Apply over top of soybeans or as semidirected spray after trifoliate leaves form and before broadleaf weeds are 2" and grassy weeds reach 1/2" high. Some foliar burn occurs on soybeans. The higher rate is needed for velvetleaf, cocklebur, annual morningglory. A second application may be used as a semidirected spray after 7-10 days if necessary. Do not make more than 2 applications. Do not graze treated fields with livestock. Do not apply within 120 days of harvest. |
| Small seedling grass, cocklebur, coffeeweed, jimsonweed, morningglory, ragweed, redroot or pigweed, smartweed, velvetleaf | dinoseb 1.5-2.25 lb  
(Dow Premerge 2-3 qt or Helena Dinitro 2-3 qt) | Apply at early crackling stage and to cotyledon stage but before first true leaf expansion. Do not spray if cotyledons unfold, if soil surface is wet, or if temperatures of 85°F occurs, as severe injury can result. **ALTERNATIVE METHOD:** Use as a directed spray when soybeans are 5-6" tall up to time they start to bloom. Use precision directed spray equipment -- nozzles mounted on skids, gauge wheels, etc. Sprayed soybean leaves will be injured. Do not permit spray to hit over 1/3 the height of soybeans as severe injury may occur. Do not use after soybeans begin to bloom. Don't use if air temperatures are expected of 85°F. Do not graze or forage treated soybeans within 3 weeks after treatment. **DINOSEB IS POISONOUS!** |
| Cocklebur, morningglory | dinoseb 0.375-0.75 lb  
(Premerge 1-2 pt) | This is a salvage program for use at the grower's risk as an alternative to replanting under ideal growing conditions, damage to soybeans will be limited to foliar burn. Occasionally, loss of economic stand may occur. Read label and follow directions for proper application. |
**Soybeans (Cont'd)**

**Post-Emergence (Cont'd)**

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<td>Cocklebur, jimsonweed, morningglory, pigweed and smartweed</td>
<td>naptalam 1-2 lb + dinoseb 0.75-1.5 lb (Dyanap 2-4 qt, Klean-Krop 2-4 qt, Marauder 2-4 qt)</td>
<td>Apply 2-3 quarts of product on weeds up to 3&quot; tall and 4 quarts on weeds 3-6&quot; tall. Use in 8-10 gal per acre over the top of soybeans after the second trifoliate leaf stage of growth and before flowering begins. The spray boom should be positioned 3' above tops of soybean plant, equipped with hollow cone or flat fan-type nozzles and operated at 60-70 psi during application. Follow all label suggestions for application procedures. Do not apply to wet soybean foliage. Avoid drift onto other crops. Do not use extra surfactants. Do not spray if rain is expected within 6 hours of spraying. Some foliar burn is to be expected. See Dyanap remarks above.</td>
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<td>Johnsongrass</td>
<td>ethylene glycol bis (trichloroacetate) 1 lb (Glytac 1 qt to herbicidal oil 5 gal)</td>
<td>Use as a spot treatment of johnsongrass when 12&quot; tall or more and actively growing. Treat only the lower stems of johnsongrass to point of runoff. Do not apply after soybean pods have formed. Chemical is toxic to soybeans and should be used with care. Handle chemical with care as it will cause burns to skin. Do not graze treated fields or feed forage to livestock.</td>
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**No Tillage - Small Grain Stubble Only**

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<td>Contact kill of most annual weeds and weeds listed on the previous page for specific herbicide. Will not control horseweed, wild lettuce, and perennials.</td>
<td>paraquat 0.25-0.5 lb + surfactant + linuron 0.5-0.75 lb (Ortho Paraquat CL 1-2 pt + Multifilm X-77 8 tbsp + Lorox 50WP 1-1.5 lb)</td>
<td>Apply to small grain stubble after planting and before emergence of soybeans. Uniformly plant soybeans at least 1.75&quot; deep to reduce injury from the linuron. Stand reductions may occur on sandy soils if an excessive rate of linuron is applied. Do not plant other crops not on linuron label within 4 months after treatment. PARAQUAT IS HIGHLY TOXIC!</td>
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<td>paraquat 0.25-0.5 lb + surfactant + alachlor 2-2.5 lb + linuron 0.5-0.75 lb (Ortho Paraquat CL 1-2 pt + Multifilm X-77 8 tbsp + Lasso 2-2.5 qt + Lorox 50WP 1-1.5 lb)</td>
<td>See above remarks concerning use of linuron and alachlor. Use 30-60 gal of diluted spray per acre. As density of stubble, crop residue, or vegetation increases, spray gallonage should be increased to insure complete coverage.</td>
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Trade and brand names are used only for the purpose of information and the Virginia Cooperative Extension Service does not guarantee nor warrant the standard of the product, nor does it imply approval of the product to the exclusion of others which may also be suitable.
KEYS TO PROPER USE OF PESTICIDES

1. Read the label on each pesticide container before each use. Follow instructions to the letter; heed all cautions and warnings, and note precautions about residues.
2. Keep pesticides in the containers in which you bought them. Put them where children or animals cannot get to them, preferably under lock and away from food, feed, seed or other material that may become harmful if contaminated.
3. Dispose of empty containers in the manner specified on the label.

SEE YOUR DOCTOR IF SYMPTOMS OF ILLNESS OCCUR DURING OR AFTER USE OF PESTICIDES

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