ALFALFA WEED CONTROL - STRATEGIES FOR SUCCESS

James R. Martin
Extension Weed Science Specialist
University of Kentucky

Field evaluation, cultural and chemical practices are key ingredients of a successful weed control program in alfalfa. A weak link in any of these components could lead to reduced profits and possibly shorten the life of an alfalfa stand.

FIELD EVALUATION

In order to make wise management decisions it is important to be familiar with potential problems in a field. Assessment of the field is an ongoing process that begins before rotating to alfalfa and continues throughout the life of an alfalfa stand.

Some of the herbicides used in corn, soybeans, and tobacco may persist at low concentrations in soil and injure alfalfa as a follow crop. Therefore, emphasis should be placed sowing alfalfa in fields the are not at risk to potential carry-over problems with herbicides. More information about herbicides that have the potential to injure alfalfa can be obtained for the local county Extension office or on the herbicide label.

Field maps or records of weed infestations can provide a historical perspective of weed problems and may indicate the need to avoid sowing alfalfa in fields having such weeds as yellow nutsedge, curly dock, musk thistle, and wild garlic. Fields infested with these weed species should be planted to a crop that allows the use of practices that will help reduce the population to an acceptable level.

Scouting fields periodically throughout the life of an alfalfa stand will help track the development of weed infestations and is especially helpful in detecting weeds at a time when they can be managed. Fall and early winter are critical times to detect such problem weeds as common chickweed, yellow rocket and field pennycress. These weeds are more difficult to control if they overwinter. Monitoring fields during late winter and early spring can help detect late emerging cool season plants that tend to be problems during the first harvest. As a general rule, a good time to monitor and treat such weeds as large crabgrass, pigweeds, and common ragweed is soon after the first harvest of each season. These warm season annuals are capable of emerging throughout the summer, therefore, constant monitoring may be necessary in fields that have a history with these species.

A scouting method used to determine the overall weed infestations in alfalfa involves estimating the percent ground cover occupied by weeds. Select at random one site per 10 acres (a minimum of 3 sites is needed for fields less than 30 acres in size). At each field site of approximately 30 feet by 30 feet, determine the percentage of weeds present. A field that appears relatively weed-free would have about 5 percent infestation. Only in extreme cases would weed-ground cover exceed 50 percent. Also, a record of the major weed species and
their size for each site can aid in selecting the proper herbicide and its rate per acre needed for optimum control.

**CULTURAL WEED CONTROL PRACTICES**

We sometimes take for granted the benefits that cultural practices offer in regards to weed control in alfalfa. The objective is provide a competitive alfalfa stand through the management of such things as soil pH, and fertility levels, time of seeding, seed contamination, and clipping.

**Liming and Fertilization:** Maintaining proper soil pH and nutrient balance during the establishment phase and throughout the life of the alfalfa stand will often prevent the introduction and spread of weeds. However, these practices are not very effective in eliminating established weed infestations, especially such weeds as chickweed and crabgrass. These weeds respond favorably to fertilization and may require other management practices in order to be effectively controlled.

**Spring vs Fall Seeding:** The time of sowing alfalfa can affect weed control. Seeding in late summer or early fall will enable the crop to become established and compete with such weeds as large crabgrass, yellow foxtail, and common lambsquarters that emerge the following spring. A spring seeding is vulnerable to these weeds. Common chickweed, henbit, and yellow rocket are examples of cool season weeds that begin to emerge in late fall and early winter and can be very competitive to alfalfa seeded in the fall.

**Weed-Free Seed:** The use of weed-free seed is the first step to prevent the introduction of weeds. Growers should check the seed tag to determine the purity of the seed. Noxious weeds such as dodder or johnsongrass should be listed on the label if seed analysis has determined that they are a contaminant in the seed.

**Clipping:** Clipping can be beneficial for establishing new seedings or maintaining alfalfa fields used for pastures. Close mowing can limit early competition from seedling cocklebur or jimsonweed in new stands of alfalfa. This method controls weeds by removing the leaves and lateral buds that develop new growth. Annual broadleaf weeds have buds that develop above the soil surface and are therefore more easily controlled with clipping compared to grasses which have crown buds near the soil surface. Clipping as low as possible (i.e. 2 to 3 inches stubble height) will not injure alfalfa but is necessary for effective weed control. A major concern with clipping deals with smothering the alfalfa plants with heavy residue. Removal of clipped vegetation may be necessary when weed infestations are severe.

With the increased interest in grazing alfalfa, growers will want to consider the benefits of routine clipping. Livestock tend to selectively graze alfalfa and may leave such weeds as musk thistle or chicory. Mowing soon after livestock have been removed from the pasture can help control these weeds and prevent seed production and further spread of infestations.
Also, mowing the field borders and adjacent fields can prevent production and spread of weed seed from these areas into alfalfa fields. This is a particularly important for such weeds as musk thistle which is capable of producing a large number of seed that are easily spread to new areas.

CHEMICAL WEED CONTROL PRACTICES

The proper use of herbicides is essential to achieve desired results. The following tables contain guidelines on using herbicides for weed control in alfalfa. Always refer to the product label for specific rates and restrictions.

REFERENCES


## HERBICIDES RECOMMENDED FOR NEW SEEDINGS PURE STANDS

### BEFORE SEEDING

**ROUNDUP** Controls all existing vegetation. Allow 7 or more days before seeding. Consult label for rates and stages of weed growth. Do not feed or forage for 8 weeks after application.

**GRAMOXONE EXTRA** Controls annual grasses and broadleaf weeds and certain perennials. Apply postemergence to vegetation either before or after seeding but before crop emerges.

### PREPLANT INCORPORATED

**BALAN** Controls crabgrass, fall panicum, foxtails, and pigweeds. Do not sow grass or small grain nurse crop. Temporary stunting of alfalfa may result if conditions are not favorable for seed germination and plant growth.

**EPTAM** Controls crabgrass, fall panicum, and foxtails. Do not sow grass or small grain nurse crop. Temporary stunting of alfalfa may result if conditions are not favorable for seed germination and plant growth.

### POSTEMERGENCE

**BUTYRAC 200** Controls cocklebur, common ragweed, lambsquarters, pigweeds, and yellow rocket. For optimum control apply in the fall or spring before weeds exceed 3 inches in height. Poor weed control may occur if temperature is below 40° F. Conditions that may enhance alfalfa injury include: temperatures that exceed and remain above 90° F for 3 days following application; drought stressed plants; rainfall within 7 to 10 days following application; or tank-mixtures with oil concentrates or surfactants (especially when applied to established alfalfa). Do not graze or feed seedling alfalfa within 60 days after treatment.

**BUCTRIL** Controls cocklebur, common ragweed, field pennycress, jimsonweed, lambsquarters, smartweed, and wild mustard. Apply in the fall or spring when the crop has a minimum of 4 trifoliate leaves and before weeds exceed the 4 leaf stage, 2 inches in height, or 1 inch in diameter. For optimum results apply when temperatures are between 50 and 70° F. Conditions that may enhance crop injury include: temperatures that exceed and remain above 70° F for 3 days following application; tank-mixtures with oil or surfactants; or when Eptam is for preemergence weed control. Do not graze or use spring treated alfalfa for feed within 30 days after treatment; if fall or winter treated, wait until spring or 60 days following application.

**KERB** Controls chickweed, mustard, orchardgrass, quackgrass, red sorrel (from seed), and shepherd's purse. Apply after alfalfa has reached the trifoliate leaf stage. Optimum results occur when applied in fall or early winter when temperature is 55° F or less and before weeds emerge. Do not apply to frozen soil. Do not graze, cut, or harvest within 120 days after treatment.

**POAST or POAST PLUS** Controls crabgrass, fall panicum, foxtails, johnsongrass, shattercane and certain other grasses. An oil concentrate or DASH must be included as an additive. Some weeds such as rhizome johnsongrass may require an additional application when regrowth occurs or new plants emerge. Do not exceed 6.5 pt/A of POAST or 9.75 pt/A of POAST PLUS in one season. Do not harvest for hay within 14 days after application of POAST (20 days for POAST PLUS) or use treated fields for grazing until or for green-chop forage within 7 days after application of POAST or POAST PLUS.

### BETWEEN HARVEST

**GRAMOXONE EXTRA** Controls annual grasses and broadleaf weeds. Poor control may occur when weeds are beyond the seedling stage and when weed stubble is cut off during harvest. Apply immediately after alfalfa has been removed for silage or hay. Do not treat more than 5 days after cutting. Alfalfa stands may be reduced if alfalfa is allowed to regrow more than 2 inches. Do not graze, cut, or harvest within 30 days after application. Do not treat first year alfalfa with more than 2 application during the growing season.
### HERBICIDES RECOMMENDED FOR ESTABLISHED STANDS

<table>
<thead>
<tr>
<th>PURE ALFALFA STAND</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BUTYRAC 200</strong> Controls cocklebur, common ragweed, lambsquarters, mustard, pigweeds, and yellow rocket. For optimum control apply in the fall or spring before weeds exceed 3 inches in height. Poor weed control may occur if temperature is below 40°F. Conditions that may enhance alfalfa injury include: temperatures that exceed and remain above 90°F for 3 days following application; drought stressed plants; rainfall within 7 to 10 days following application; or tankmixtures with oil concentrates or surfactants (especially when applied to established alfalfa). Do not graze or use for hay from established alfalfa within 30 days after treatment.</td>
</tr>
<tr>
<td><strong>GRAMOXONE EXTRA</strong> Apply either as a dormant or between-harvest treatment for control of annual grasses and broadleaf weeds. <strong>Dormant treatment:</strong> Controls annual grasses and broadleaf weeds. Apply only to established alfalfa after last fall cutting when crop is dormant but before spring regrowth reaches 1 inch. Do not apply if fall regrowth is exceeds 6 inches. Do not apply more than 1 treatment/season. Do not graze, cut, or harvest within 60 days after application. <strong>Between harvest treatment:</strong> Apply immediately after alfalfa has been removed for silage or hay. Do not treat more than 5 days after cutting. Poor control may occur when weeds are beyond the seedling stage and when weed stubble is cut off during harvest. Do not graze, cut, or harvest within 30 days after application. Do not apply more than 3 applications to established alfalfa during the growing season (These sprays may be applied in addition to a dormant application).</td>
</tr>
<tr>
<td><strong>KERB</strong> Controls chickweed, mustard, quackgrass, red sorrel (from seed), and shepherd's purse. Optimum results occur when applied in fall or early winter when temperature is 55°F or less and before weeds emerge. Do not graze, cut or harvest within 120 days after treatment.</td>
</tr>
<tr>
<td><strong>POAST</strong> or <strong>POAST PLUS</strong> Controls crabgrass, fall panicum, foxtails, johnsongrass, shattercane and certain other grasses. An oil concentrate or DASH must be included as an additive. Some weeds such as rhizome johnsongrass may require an additional application when regrowth occurs or new plants emerge. Do not exceed 6.5 pt/A of POAST or 9.75 pt/A of POAST PLUS in one season. Do not harvest for hay within 14 days after application of POAST (20 days for POAST PLUS) or use treated fields for grazing or harvest for green-chop forage within 7 days after application of POAST or POAST PLUS.</td>
</tr>
<tr>
<td><strong>SEN COR</strong> or <strong>LEX ONE</strong> Apply either as a dormant or post-dormant treatment for control of chickweed, dandelion, field pennycress, henbit, shepherd's purse, yellow rocket, and wild mustard. Conditions that may enhance alfalfa injury include: winter injury at time of application, or excessive rainfall after application. Do not apply to alfalfa less than one year old. <strong>Dormant treatment:</strong> Apply when alfalfa growth ceases in late fall and before growth begins in spring. Do not graze or harvest within 28 days after treatment. <strong>Post dormant treatment:</strong> Apply (SEN COR only) after dormancy has broken but prior to three inches of new growth only when impregnated to dry fertilizer and alfalfa foliage is dry. When using this method, do not harvest or graze for 60 days after SEN COR treatment.</td>
</tr>
<tr>
<td><strong>SINBAR</strong> Controls chickweed, henbit, lambsquarters, mustard, field pennycress, shepherd's purse, and yellow rocket. For optimum control apply before weeds exceed 2 inches tall or across. Apply in the fall after plants become dormant or in spring before new growth begins. Do not replant treated areas to other crops within 2 years. Do not apply to frozen or snow-covered ground.</td>
</tr>
<tr>
<td>HERBICIDES RECOMMENDED FOR ESTABLISHED STANDS</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td><strong>PURE ALFALFA STAND</strong></td>
</tr>
<tr>
<td>VELPAR</td>
</tr>
<tr>
<td><strong>Dormant treatment:</strong> Apply in fall or winter after plants become dormant.</td>
</tr>
<tr>
<td><strong>Post dormant treatment:</strong> Apply in the spring before new growth exceeds 2 inches high.</td>
</tr>
<tr>
<td><strong>Between harvest treatment:</strong> Apply after cutting following hay removal and before regrowth exceeds 2 inches.</td>
</tr>
</tbody>
</table>

| **ALFALFA-GRASS MIXTURES** | **DOORMANT** | **NON-DOORMANT** | **BETWEEN HARVEST** |
| SENCOR or LEXONE | Controls chickweed, dandelion, field pennycress, henbit, shepherd’s purse, yellow rocket, and wild mustard. Partial reduction of forage grasses may occur with this treatment. Conditions that may enhance crop injury include: winter injury at time of application, or excessive rainfall after application. Do not apply to stands less than one year old. |
| **Dormant treatment:** Apply to alfalfa when growth ceases in late fall and before growth begins in spring. Do not graze or harvest within 28 days after treatment. | X |  |  |
| **Post dormant treatment:** Apply (SENCOR only) after dormancy has broken but prior to three inches of new growth only when impregnated to dry fertilizer and alfalfa foliage is dry. When using this method, do not harvest or graze for 60 days after SENCOR treatment. |  | X |  |