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# PRONG BINDER

Analysis

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## Weed Control in Alfalfa

As with any crop, weeds compete with alfalfa for light, nutrients, and moisture. As a result, alfalfa growth is reduced by weed competition. Noxious or toxic weeds (tansy ragwort, black nightshade, poison hemlock, or thistle) can make a hay totally unacceptable as feed. Even non-noxious weeds will reduce the quality of alfalfa hay, as they are lower in palatability, crude protein, and digestibility. This reduced quality is often reflected in lower prices for the hay.

### Cultural Control

Vigorous, dense stands of alfalfa seldom have serious weed problems. Vigorous stands are obtained and maintained by: (1) liming and fertilizing as recommended by soil analysis; (2) seeding properly inoculated, well-adapted, vigorous, long-lived varieties; (3) buying weed-free seed; (4) seeding on well-drained fields; (5) cutting the forage at first flower; (6) allowing sufficient regrowth in the fall to replenish root reserves; and (7) rotating crops to interrupt the buildup of certain weeds.

These practices will help keep alfalfa competitive with most weeds. However, some weed species may become established in spite of preventative efforts, and treating with a herbicide or returning to a cultivated row crop for several years may be necessary at times. Herbicide treatment in the absence of good cultural practices will seldom give desired results. Maximum benefits are obtained when herbicides are used in conjunction with recommended establishment and management practices.

### New Seedings

#### Preplant herbicides

Many weed problems in alfalfa can be avoided by the use of preplant herbicides. EPTC (Eptam), benefin (Balan), and profluralin (Tolban) are preplant herbicides that require incorporation;

that is, they are applied before planting and incorporated within the soil to a depth of 1 to 2 inches. These herbicides control many annual grasses (annual ryegrass, annual bluegrass, barnyardgrass, foxtails, wild oats, volunteer grains) and some annual broadleaf weeds (common chickweed, purslane, lambsquarters, knotweed, pigweed, shepherdspurse). EPTC also helps to control black nightshade, a weed that can be toxic to livestock.

Glyphosate, another herbicide that may be applied before planting to control existing vegetation, does not need to be incorporated and will not control weeds that germinate after application. It is a nonselective herbicide and controls almost all annual and many perennial grasses and broadleaf weeds if sufficient top growth is present when application is made.

#### Post-emergence herbicides

Broadleaf weeds (lambsquarters, pigweed, shepherdspurse, mustards) that escape preplant herbicides can be controlled with a post-emergence application of 2,4-DB or dinoseb when the weeds are small and the alfalfa has two or three true leaves. Application of propham (IPC) or chlorpropham (CIPC) when alfalfa has at least three true leaves will control many annual grasses (annual ryegrass, annual bluegrass, cheatgrass, volunteer grain, wild oats) and common chickweed. Chlorpropham will also control a number of broadleaf weeds, including carpetweed and dodder, and small plants of mustards and black nightshade.

Pronamide (Kerb) can be applied to seedling alfalfa that has at least one true leaf and will effectively control annual and perennial grasses (annual bluegrass, cereals, downy brome or cheatgrass, annual ryegrass, quackgrass, barnyardgrass, foxtails, crabgrass) and some broadleaf weeds (chickweed, sheep and red sorrel, and mustards). Chlorpropham, propham, and pronamide are most effective when applied in November or December.

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### Established Stands

In established stands, alfalfa competes effectively with most annual weeds. If annual weeds are a problem in established stands, poor growing conditions or thin stands are usually the cause. Harvesting alfalfa before weeds mature their seed will keep the weeds from spreading. However, if weeds are the result of inadequate soil fertility, low soil pH, or poor drainage, these situations should be corrected or an alternative crop should be selected. Birdsfoot trefoil is a legume that is well adapted to poor drainage, low soil pH, and lower fertility levels.

Many herbicides are available for use on established alfalfa stands. Some of the compounds most commonly used in Oregon are diuron (Karmex), simazine (Princep), terbacil (Sinbar), and metribuzin (Sencor, Lexone). These materials are applied to the soil during the dormant season and will control annual weeds for a few months. Some of the weeds controlled are annual bluegrass, annual ryegrass, prickly lettuce, downy brome (cheatgrass), shepherdspurse, mustards, chickweed, lambsquarters, and dog fennel. Pronamide (Kerb) also can be used in established alfalfa stands to control many annual and perennial grasses.

In dormant alfalfa, paraquat alone or in combination with one of the soil-applied herbicides will provide effective control of annual grass and broadleaf weeds. However, extra caution is necessary when using paraquat as it is a highly toxic, restricted-use herbicide.

A complete list of herbicides registered for use in established alfalfa is provided in the *Oregon Weed Control Handbook*. Most herbicides should be applied to established alfalfa during a period of dormancy. In areas with mild winters, it is difficult to determine when plants are dormant, but a late December or January application usually results in no injury to the alfalfa.

### Follow Label Directions

Good control of selected weeds can be obtained in new or established alfalfa fields by using an effective herbicide in combination with good cultural and management practices. By so doing the potential for raising high-quality, weed-free alfalfa will be increased.

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