Grazing Management

Weed Management in Established Pastures

Illinois

Unless properly managed, weeds can reduce the quantity, stand life, and in some cases the quality and palatability of pastures. Certain weed species are also poisonous to livestock. Weed management begins with proper identification.

This fact sheet is a follow-up to an earlier version (November 2000) titled Weed Control.

This fact sheet will discuss various management practices so the grazing land operator can adopt an integrated approach for weed management in established pastures. No single practice will result in weed-free pastures.

Weed ID Critical

If you are unable to positively identify the plants in your pasture, take samples to a credible person who can help you. It is impossible to make sound management decisions on weed management until you know which weeds you have.

Soil Fertility

Performing soil tests every 4 years to determine pH and nutrient levels and to serve as a basis for application of essential plant nutrients and lime is a valuable management choice.

Having pH and nutrients (especially P and K) at proper levels will help increase the stand density of the desirable, adapted forages and help them out compete many undesirable plants. Proper soil fertility levels help grasses and legumes recover quickly after grazing.

In pure grass pastures, nitrogen applications at the proper time will maintain the vigor of the forage, ultimately helping to control weeds.

Grazing Management

Weed seeds germinate and become established whenever pasture stands are thin. In the early vegetative stage, many weeds can be a good source of nutrition. However, as the weed matures, the forage quality drops rapidly.

Continuous grazing at high stocking rates weakens the sod and allows for weed invasion. Continuous grazing at low stocking rates leads to selective grazing, which weakens desirable species, whereas in other areas of the pasture excessive growth will occur and forage will not be utilized or be of low quality.

A rotational grazing system, where a paddock is grazed again only when it has had time to recover, helps maintain a healthy, vigorous sward, which makes it more aable to compete with weeds. Utilizing a rotational grazing system helps keep most pasture weeds under control. However, certain weeds like thistles, brush, and poisonous weeds may still continue to be a problem and additional control practices will be needed.

Walk Your Pastures

This is a good way to detect weed problems before they become serious. It also provides an opportunity to observe changes in the spectrum of weeds present and to monitor the results of weed management practices.

Weeds can be hoed, pulled, or cut before they set seed and multiply. Biennial weeds (see partial list below) need to be cut an inch below the soil surface to prevent regrowth from buds in the crown. This approach is feasible in small areas or in large pastures with few weeds.

Mowing or Clipping

Annual and biennial weeds reproduce only by seed, so the key to long-term control is to prevent seed production.

Mowing annual weeds (lambsquarters, ragweed, foxtail, etc.) once will usually control them if the pasture is healthy and has vigorous growth. Annuals need to be mowed before flowers are produced.

Mowing biennial weeds (bull thistle, plumeless thistle, musk thistle, burdock, wild carrot, wild parsnip, etc.) when they are in the bud to early flower (bolting) stage is helpful. Timely, repeated mowings are beneficial since they reduce seed production. Biennial thistles should be cut as close to the ground as possible.

Mowing perennial weeds (Canada thistle, milkweed, horsenettle, goldenrod, etc.) will rarely eliminate an infestation since they spread by both seed and vegetative structures (rhizomes, tubers, budding roots, etc.). But, mowing to prevent seed production is encouraged and if done on an interval that allows perennials to regrow to 8 -12 inches between mowings will, over a few years, weaken and eventually kill these weeds. However, this degree of mowing will also weaken

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desirable pasture species.

Not all weeds are inhibited by mowing. Low-growing plants, like dandelions, tend to be more prevalent in frequently mowed pastures. Many annual and biennial plants also regrow after mowing, especially if they have not flowered when cut.

It is important to mow pastures that have been selectively grazed by livestock. This can reduce or prevent seed production of weedy plants and promote regrowth of desirable forage species.

Biological Methods

This technique uses living organisms to control pests (weeds in this case). One example is the use of the musk thistle weevil to control the musk thistle. The musk thistle weevil larvae (worm) feed on the developing tissue of the musk thistle seed head, thereby resulting in a sterile plant. The weevil will not eradicate musk thistle, but can somewhat reduce their numbers. This strategy has been used especially in hilly, rough terrain where mowing or herbicide application is not feasible. Musk thistle weevils can be ordered from biological insect supply companies for release onto existing musk thistles in early summer.

Herbicides

Herbicide selection depends upon the forage and weed species present, stage and severity of weed growth, time of the year, temperature and rainfall, potential damage to nearby sensitive crops, grazing/haying/slaughter restrictions following application, and cost.

Be sure to read and follow the label. For postemergence herbicides to be effective, the weeds must be actively growing when treated.

Herbicides that kill broadleaf weeds in pastures also kill legumes. Where possible, only treat areas with weeds as determined by careful pasture monitoring. Some legumes may reappear spontaneously in 12 - 24 months from hard seeds left in the soil that germinate. Otherwise, legumes can be reseeded once weeds are controlled.

Be sure to clean herbicide spray equipment thoroughly after use.

Annual weeds are easier to control when young. Spring and early summer applications are best for summer annuals. As previously mentioned, most annuals are successfully managed with timely mowing and a competitive forage stand.

Biennial weeds need to be treated with a translocated herbicide while in the rosette (a compact, low-growing cluster of leaves) stage. This is the entire growing season in the year they germinate and up to the time they begin forming a flower stalk (bolting) the next season. Many biennials will bolt by mid May, so application needs to be completed by that time in their second year of growth. Herbicides are not as effective when plants start to bolt—at this point mowing is a better option (see above). An early fall application, while biennial weeds are actively growing, will be effective since the biennial weeds are in the rosette stage and will actively translocate the herbicide to the crown and roots.

Perennial weeds should be treated with a translocated herbicide in the bud to early flowering stage (perhaps early July) or the fall regrowth stage. One strategy is to mow perennial weeds when the first flowers appear and then spray when regrowth is 18 - 24 inches tall (perhaps 25 - 40 days later).

Herbicide options (products, rates, effectiveness) and guidelines for pastures are listed in the latest edition of the Illinois Agricultural Pest Management Handbook. To order a copy, contact your local Extension office or the publications office at the University of Illinois (phone 1-800-345-6087, or on-line at www.PublicationsPlus.uiuc.edu)

Two on-line sources of information on pesticide labels are:

http://www.greenbook.net/ and http://www.cdms.net/manuf/manuf.asp

Summary

To be successful, weed management in established pastures needs an integrated approach involving a wide range of tactics and practices.

Where to Get Help

For more information about weed management in pastures contact the local office of the Natural Resources Conservation Service (NRCS) or University of Illinois Extension.

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