Figure 1. Weed seedlings can be identified by early growth characteristics:

John D. Byrd, Mississippi State University, Bugwood.org

a) common lambsquarters

Joe DiTomaso, University of California-Davis, Bugwood.org

b) field pennycress

Steve Dewey, Utah State University, Bugwood.org

c) whitetop

Steve Dewey, Utah State University, Bugwood.org

d) barnyardgrass

ALL IN THE TIMING

There's a season for everything and one is weed management

By Brian Mealor

Mechanical, biological, or chemical options are usually the topics of choice when discussing weed control.

Treating weeds at the time of year that provides maximum control can influence results of any weed management program. The best time to control a particular weed species largely depends on its biology. Understanding plant growth stages and susceptibility to treatment throughout the growing season allows weed managers to efficiently plan for controlling weeds at the right time of year.

Spring/Summer

Spring is a great time to control many weeds for several reasons: 1) individual plants are small, 2) controlling annual or biennial weeds in spring prevents them from producing seeds or at least reduces the amount of seed produced, and 3) spring treatments may be followed with summer or fall treatments for some perennial weeds to increase the level of long-term control.

Each spring, plants are either beginning to grow from seed or from perennial roots, which persisted from the previous year's growth. In either case, tender, rapidly growing plant tissues are susceptible to damage by physical or chemical means. Weeds can be controlled at the earliest stages of growth – the time of germination but before plants emerge aboveground – by using preemergent herbicides. Some preemergent herbicides commonly used in lawn and ornamental settings include products containing DCPA (sold under many brand names), benefin (Balan) and pendimethaline (Halts Crabgrass Preventer). These herbicides control annual grass weeds like goosegrass, annual bluegrass, and annual crabgrass in established lawns. If a lawn had these weeds last year, a preemergent application to the affected area may reduce the problem this spring.

On range and pasture, preemergent applications are often used for annual weeds such as cheatgrass (downy brome), halogeton, and annual mustards. Cheatgrass and many species of mustard, however, are winter annuals that often germinate and emerge in the fall. A preemergent herbicide would be applied in the fall to reduce weed populations the following spring.

In many cases, weeds must be controlled after emergence. One benefit to postemergent weed control is that target weeds can be identified, and the area for treatment is recognizable due to the aboveground presence of the weeds (Figure 1). Hand-pulling, hoeing, mowing or other physical methods of control can be used once weeds are identified. Such physical methods are often effective if repeated throughout the growing season and are very selective because the target weed can be removed with little damage to surrounding vegetation. Controlling annual or biennial weeds at this time will prevent or reduce seed production and reduce the weed population in successive years.

Postemergent herbicide applications can provide effective control of many broadleaf weed species. Some of the most common herbicides available to homeowners for selective control of broadleaf weeds like chickweed, lambsquarters, henbit, and field pennycress include products containing 2,4-D, dicamba, MCPP, or combinations of these active ingredients.

These herbicides are most effective when weeds are actively growing in the spring and early summer. Use special care when using herbicides, especially dicamba, under or around desirable trees and shrubs to avoid damaging them. Treating lawn weeds at this time will also improve control effectiveness and reduce the potential to damage or discolor the lawn as long as label directions are carefully followed. Range and pasture weeds best controlled in the spring include whitetop (hoary cress) and several poisonous plants like the larkspurs and death camas.

Many perennial weeds are susceptible to control further into summer, and the recommended timing of herbicide application is often associated with flower production. Chemical control of prickly pear cactus is usually much more effective when plants are flowering. Control of several knapweed and thistle species is effective when flower buds are being produced throughout flowering. A class of herbicides known as growth regulators (2,4-D is a common example) is effective when plants are actively growing – such as during much of the summer.

Fall, Winter

Fall and even winter are good times to control weeds. Preemergent herbicide application to control winter annuals was discussed earlier. Weeds like field bindweed, leafy spurge, Russian knapweed, and Canada thistle are quite susceptible to herbicide applications in the fall. As summer ends, perennial weeds store carbohydrates in root reserves to prepare for shoot production the next spring. Fall-applied herbicides may be carried into the roots with the prevailing flow of nutrients at this time and can impact the plant at the roots, potentially resulting in more effective control. In warmer parts of Wyoming, winter applications of herbicide carried by basal bark oil can effectively reduce resprouts from cut Russian olive or saltcedar trees.

As spring precipitation (or snowmelt in much of Wyoming) and warmer temperatures initiate new plant growth, taking the time to assess weed populations may improve effectiveness of weed control efforts throughout the season.

For more information on weed identification and control methods, contact your local University of Wyoming Cooperative Extension Service office or weed and pest control district. Online resources for weed identification include www.uwyo.edu/CES/WYOWEED/wyoweed.htm and www.forestryimages.org/.

An annual weed? Biennial? Here are some definitions

Annual: a plant that germinates from seed, flowers, produces new seed and dies in one growing season

Biennial: a plant that lives for two years, reproducing from seed at the end of its second growing season

Perennial: a plant that survives for more than one year by underground root reserves and may produce repeated seed crops in successive years

Preemergent application: herbicide applied to the soil before the weed has emerged, affecting germinating seeds

Postemergent application: herbicide is applied to weeds after emergence, affecting plants after they have begun growing aboveground

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