

Control Winter Annuals in Fall

Winter Annual Broadleaf Weeds in Cropland

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Winter annual broadleaf weeds such as Henbit, Marestalk and the mustards (field pennycress, Shepherds purse, Tansy mustard, etc.) germinate in the fall, overwinter as a green plant, begin growing again in early spring, then complete their life cycle and go to seed in the spring or early summer. The best time to apply post-emergent control measures to winter annuals is in the fall when the seedling plants are small and the plant has not had time to store much energy in the root system. Timing is not critical, so there is an extended window to apply herbicides after harvest in most years. Best control will be achieved if daytime temperatures are above 60 degrees F, but good control can be obtained even when temps are in the '50s most years.

Too often, producers wait until spring to attempt control of winter annual weeds. Unfortunately, several factors are working against you in the spring. In the early spring, the weather is more unpredictable. It can be warm one day and cold the next. Second, is the growth stage of winter annual weeds. In the spring, winter annuals are in the reproductive mode. They bolt quickly, flower and before you know it, they are setting seed. The plant is larger with a more developed root system and is flowering, so is less likely to receive a lethal dose of herbicide from your application.

In the fall, the weather is usually more cooperative and weeds are in the rosette (vegetative) stage and more susceptible to herbicides. Winter annuals can typically be sprayed from late September to early December, weather permitting. As far as rates are concerned, fall applications typically require less herbicide and thus, less expense.

The common winter annual broadleaf weeds can be readily controlled with just 1.5–2 pints of 2,4-D ester or 1 pint 2,4-D plus 4 ounces dicamba, 24 ounces of glyphosate or 1 pint 2,4-D + 16 ounces glyphosate. Note that atrazine is not labeled for fall application in Nebraska.

Downy Brome in Pastures

Downy brome is a winter annual grass which tends to invade over-grazed areas of pastures. Downy brome is less palatable than most other grasses at all growth stages and is refused by grazing animals once it heads out. This gives Downy brome a competitive advantage over desirable grasses in grazed pastures, so the tendency is for patches of Downy brome to get bigger over time.

There are no selective herbicides registered for pre-emergent control of weeds in pastures. It is often suggested to kill Downy brome with a non-selective post emergent herbicide that has no residual soil activity, (Paraquat or Glyphosate) and then seed desirable grass species.

University researchers have not had success with killing a stand of Downy brome, then immediately planting grasses into the treated area. If the Downy brome is allowed to grow until spring, it has usually used up so much of the soil water, the new plants can't establish well. If you wait to plant the desirable grasses in late summer, Downy brome seeds near the soil surface germinate with the new grass and provide too much competition.

The best approach when renovating pastures, is to kill Downy brome in the fall, again the following spring and then plant the area to be renovated to a summer annual crop such as sudangrass, forage sorghum or a sorghum-sudan hybrid. Repeat these actions a second year to further reduce the number of Downy brome seeds in the soil.

In the third spring, kill any surviving Downy brome with chemicals or tillage, then plant permanent grass species. By this time, desirable species should have enough soil moisture to become established and should be able to compete with the remaining Downy brome seeds (now at least three years old) that may germinate in the fall.

Source: Downy Brome Control NebGuide <http://www.ianrpubs.unl.edu/public/live/g422/build/g422.pdf>



Close-up of Downy brome

Downy Brome in Wheat

Downy brome was present in many winter wheat fields this past spring and likely will be a problem again. Winter annual grass weeds are very competitive with winter wheat because they compete with the crop throughout the growing season. In order to minimize losses, growers must control Downy brome in a timely manner.

Only in the last few years has it been possible to selectively control winter annual grass weeds in winter wheat. Control of these weeds is best when herbicides are applied in the fall, shortly after emergence, when the plants are growing rapidly, but before they become well tillered. Winter wheat fields that look like a lawn from a distance, probably have winter annual grassy weeds filling in between the rows of wheat.

Maverick[®], Olympus[™], and Olympus[™] Flex herbicides provide selective control of Downy brome and other Bromus species in winter wheat. Maverick[®] and Olympus[™] provide similar control of Downy brome when applied in the fall. Downy brome control with these products applied in the fall has ranged from about 70 to 95 percent in University of Nebraska trials. Spring applications have been

less consistent and have ranged from 35 to 85 percent control. Plant growth rate and stage of development at the time of application, and weather conditions following application, influence the level of control.

Olympus[™] is priced slightly lower than Maverick[®], with 0.9 ounces per acre of Olympus[™] costing about \$9.90 per acre and 0.67 ounces per acre of Maverick[®] costing about \$10.70 per acre. Olympus[™] Flex, applied in the fall, has provided slightly better control (5-15 percent better) of downy brome than Maverick[®] or Olympus[™], but 3 to 3.5 ounces per acre will cost \$12-\$14 per acre. When applied in the spring, Olympus[™] Flex does not appear to provide better control than Olympus[™] or Maverick[®].

All three products have significant soil residual concerns that restrict crop rotation options. Olympus[™] Flex has a little less soil residual than Olympus[™], which allows a few rotational crops to be planted a little sooner than with Olympus[™], but the differences are small and may be of little practical significance in Nebraska. Growers who seeded a Clearfield wheat variety can use Beyond[™] herbicide to selectively control Downy brome and other winter annual grass weeds.

Sources: Crop Watch Newsletter articles and Downy Brome Control NebGuide G-422 <http://www.ianrpubs.unl.edu/public/live/g422/build/g422.pdf>



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Free Soybean Cyst Nematode Sample Kits Available

While soybean rust has been in the spotlight since November 2004, soybean cyst nematodes (SCN) cause the greatest losses to U.S. and Nebraska soybean producers. In many cases, producers are not familiar with SCN or only look for it when there is a problem in a soybean field and all other possibilities have been eliminated.

To increase the awareness of SCN and better define its distribution, the Nebraska Soybean Board provided funding for free sampling kits (\$20 value) to be distributed through extension offices to farmers in counties where soybeans are grown.

Each kit contains a bag for you to submit a sample to the Plant & Pest Diagnostic Clinic at the University of Nebraska-Lincoln and directions for collecting a soil sample. You will need to collect a soil sample and submit it to the clinic by December 31, 2007 to take advantage of the free offer.

You can sample for SCN any time during the year. After harvest is

a good time to sample if a field didn't yield as expected and you can't attribute the lower yields to any other factor such as weather, flooding, insect infestations or weed pressure.

During the growing season, if you notice areas in a field where the soybeans don't look as healthy and it can't be explained by any of the factors above, it is also a good time to sample.

Since there is a limited quantity of these kits available, they will be distributed on a first-come, first-served basis to farmers stopping by the extension office to pick them up. To benefit as many farmers as possible, limit one kit per farm operation.

FOR MORE INFORMATION

UNL Extension NebGuide G1383, "Soybean Cyst Nematode Biology and Management," available at the extension office online at <http://www.ianrpubs.unl.edu/sendIt/g1383.html>