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Common waterhemp found resistant to triazine and ALS

Based on recent greenhouse work, triazine and ALS resistance in common waterhemp is more widespread than previously believed. Seed was collected from common waterhemp plants across northeast and southcentral Nebraska. In northeast Nebraska, resistance to triazine herbicides was confirmed in three out of three samples and resistance to ALS inhibiting herbicides was found in two of the three samples. ALS resistance was also confirmed in a pigweed (probably palmer amaranth) from southcentral Nebraska. Previously, triazine resistance was confined to southcentral Nebraska and ALS resistance was most common in eastern areas.

The confirmation of cross-resistance to both triazine and ALS inhibiting herbicides in common waterhemp calls for a change in plans. Growers should be prepared to deal with both triazine and ALS resistance in common waterhemp even if they have not had a problem previously. Strategies involve using an effective non triazine or non ALS inhibiting herbicide in the program and monitoring fields after treatment. Herbicide families that are effective against common waterhemp and useful in managing the resistance include chloroacetamides, dinitroanilines, diphenylethers, benzoic acids, and phenoxyacetic acid. The table on page 34 lists members of each of these herbicide families and the crops they can be used in.

The main strategy to prevent or manage resistance is to diversify your cropping system and weed management strategy. Rotating herbicides alone will, at best, delay the problem. Sound cultural strategies such as crop rotation, tillage and cultivation, and promoting a competitive crop should remain or become the primary weed management strategy for handling herbicide-resistant weeds.

Alex Martin
Fred Roeth
David Holshouser

See table of replacement herbicides on page 34

Army cutworms in wheat, alfalfa; watch row crops

Infestations of army cutworms have been seen in some wheat and alfalfa fields in western Nebraska. Check fields for developing problems, especially where greenup has been delayed or is spotty.

Few economic situations have been seen yet. Most cutworms are less than half grown so feeding will continue for some time. Also, cutworms will be moving into row crops (sugarbeets and corn) as these crops begin to emerge.

The cutworms are most likely to move out of grassy borders and waterways and into row crops. They also may be present throughout fields that were planted to winter cereal cover crops. Sugarbeets are the most susceptible to damage because their growing point can be easily damaged by these grazing cutworms.

For more information, see EC 1509, Insect Management Guide for Corn and Sorghum, and EC 1561, Insect Management Guide for Nebraska Sugarbeets, Dry Beans, Sunflowers, Vetch, Potatoes, and Onions.

Gary Hein
Extension Entomologist
Panhandle R&E Center
Soil temperatures still low for planting

Nebraska soil temperatures are 4-10 degrees below normal for this time of year. Not surprisingly, soils are coldest in the northeast and warmest along the southern border.

With three to four days of temperatures in the 70s and night lows no colder than the mid 40s, soil temperatures should increase to those favorable for planting.

Last weekend’s wet snows were beneficial, but still didn’t bring the month’s precipitation up to average. Following the driest February on record and the 22nd driest March in 120 years, continued significant moisture will be needed.

Al Dutcher, State Climatologist, Agricultural Meteorology

Electronic information exchange offered

Crop consultants, producers and Extension specialists and educators wanting timely feedback are invited to participate in an electronic information exchange for crop production and pest management issues.

To join the list server send an e-mail message to: LISTSERV@UNLVM.UNL.EDU. In the message field enter: subscribe cropwach Firstname Lastname. To send information to list members, address e-mail to: CROPWACH@UNLVM.UNL.EDU. (Due to letter limits, there’s no “T” in “Cropwach”.)

With the writer’s permission, some reports may be used in the newsletter. The individual reporting would be identified with the information.

Lisa Jasa
CropWatch Editor

Midwest Biological Control News goes online on the World Wide Web

An online version of the monthly newsletter, Midwest Biological Control News, is available for those with Internet access. Both the current issue and back issues to the start of the newsletter (September 1994) are available at http://www.wisc.edu/entomology/mbcn/mbcn.html.

The online version has all the text, but not the graphics, of the paper version. The Midwest Biological Control News contains information on biological control of insects in field crops, as well as vegetable, ornamental and fruit crops.

Mail subscription are available for $12 a year, payable to the University of Wisconsin. Send subscription requests to Midwest Biological Control News, Department of Entomology, University of Wisconsin, 1630 Linden Drive, madison, WI 53706.

Bob Wright
Extension Entomologist
South Central R&E Center

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Each week information from CropWatch is featured on its World Wide Web Home Page at: ianrwww.unl.edu/ianr/pubs/crpwatch/crpwatch.htm.

For more information about many CropWatch topics, check out the Extension publications on the Web at ianrww/www/unl.edu/ianr/pubs/extnpubs.htm.

Lisa Brown Jasa, Editor

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UNL Department of Agricultural Meteorology
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Lincoln, NE 68583-0728
Management changes may be indicated

Evaluate alfalfa stands for winter-injury

Alfalfa in our region usually comes through winter pretty well, however the severe cold spells this year mixed with intermittent warming periods may have severely stressed some fields.

In late January we had bitter cold weather, with temperatures more than 20 degrees below zero. In many areas, there was little snow cover and soil temperatures also may have been very low.

Alfalfa scientists in Minnesota, Michigan, and Wisconsin say that when soil temperature at a 2-inch depth is below 10° F for several days, alfalfa roots will suffer winter injury. Damage also occurs if soil temperature declines rapidly; ice crystals can form inside alfalfa roots when temperature drops rapidly, destroying plant cells.

Automated weather stations across Nebraska record soil temperatures at a 4-inch depth throughout winter. If the soil temperature at 2 inches is about 5 to 10 degrees colder than at 4 inches, most alfalfa fields in Nebraska had soil temperatures at or below 10° F for several days. The coldest soils were in the Panhandle, northeast, east central, and south central Nebraska.

In late February many areas of Nebraska had temperatures around 70 degrees and stayed above freezing several nights in a row. This may have stimulated some alfalfa fields to break winter dormancy. This, followed by cold weather, may have severely weakened plants.

Many fields seeded to alfalfa last August and September have severe winterkill and are a total loss. Hardest hit were fields planted late (September) and dryland fields that grew slowly due to dry soils.

Few established alfalfa fields have enough growth to be evaluated easily. Most reports suggest little winterkill, but injured fields green-up slowly so reports may be delayed as growers await some growth. Also, injured plants may green-up but later die during the year.

Evaluation

Early diagnosis of severe winter-injury permits flexibility in response. Older, dryland fields need 40 shoots per square foot coming from two or three plants (crowns) for maximum yields. Very productive sites, such as irrigated and sub-irrigated fields, should have at least 55 shoots per square foot from four to six plants. About one tenth of a ton in yield potential is lost for every shoot below these numbers. New fields or other management alternatives may be needed if dryland alfalfa is thinner than 30 shoots or if irrigated alfalfa is thinner than 40 shoots per square foot.

Check for these densities in several areas of a field. Since some shoots begin growing later than other shoots, stands with adequate plant density but slightly low shoot density probably will be all right, especially if shoot height and distribution is fairly uniform. But if plant density is low, or shoot growth is not uniform, yields probably will be lowered.

In fields where winter-injury is suspected, dig and examine tap roots. Use diagrams in Figure 1-4 to diagnose degree of injury. Plants with only moderate injury have roots that are mostly solid and white, but they may have darker brown areas down 1 to 2 inches in the crown due to crown rot. Check texture: spongy roots suggest injury and a cold and mushy texture indicates diseases. If over 50% of root tissue is damaged, lengthy

(Continued on page 34)
Alfalfa (Continued from page 33)

survival is unlikely and production will be low.

Management options

Fields seeded last year
— Kill winter annual weeds with tillage or Gramoxone Extra.
— Direct drill (do not broadcast or use cultipacker-type seeders) new alfalfa seed no-till one-half inch into old stand as soon as possible.
— Control annual grass weeds with Poast Plus and annual broadleaf weeds with 2,4DB or Buctril.
— Manage harvest like a new seeding.

Injured but salvageable established stands
— Topdress 15 to 25 lbs N to help weakened roots and nodules.
— Topdress other nutrients according to soil test to avoid deficiencies.
— Control winter annual weeds with Pursuit, annual grass weeds with Poast Plus, and annual broadleaf weeds with 2,4-DB.
— Irrigate dry soils but avoid waterlogged soils.

CROPWATCH

Resistant waterhemp (Continued from page 31)

Herbicide families effective against common waterhemp and useful in managing resistance to ALS and triazine.

<table>
<thead>
<tr>
<th>Family</th>
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</table>

April 19, 1996

Bruce Anderson
Extension Forage Specialist

More information

Extension publication CC 360, Reacting to winter-injury to alfalfa, can guide evaluations and management options.
New insecticides offer alternatives

Several insecticides were introduced in 1995 and more are to be introduced this year. These insecticides will give growers more options to deal with insect problems in crop production. In general these materials have a much lower percent of active ingredient than their predecessors.

Two new offerings, Aztec and Fortress, give corn growers additional soil insecticide options. In general, they have performed adequately in our tests and would be good choices.

Aztec 2.1 G (Bayer Corporation)

Aztec 2.1 G is a granular combination of an organophosphate (2% tebuirimphos) and a pyrethroid (0.1% cyfluthrin). It is a planting time treatment labeled to control corn rootworms, cutworms, wireworms, white grubs, seedcorn maggots and seedcorn beetles in corn.

Aztec may be applied as in-furrow, band, or T-band applications to corn at planting at 6.7 oz per 1000 foot of row (.14 oz active ingredient per 1000 foot of row) in all types of tillage systems. It is registered on field corn, sweet corn, popcorn, seed corn and silage corn and has no plant back restrictions. It will be a Restricted Use product due to toxicity of aquatic invertebrates.

Fortress 2.5 G or 5 G (DuPont Agricultural Products)

Fortress is a granular organophosphate (chlorethoxyphos) planting time treatment labeled to control corn rootworms, cutworms, wireworms, white grubs, seedcorn maggots and symphylans in corn. It will be available in a 2.5% or a 5% formulation. The 5% formulation is available only in the Smartbox, a new closed handling and application system. Fortress may be applied as a T-band over the row or in-furrow. DO NOT apply as a surface band behind the press wheel. The use rate for Fortress is 6 oz per 1000 foot of row for the 2.5 G material and 3 oz per 1000 foot of row for the 5 G material (both are .15 oz active ingredient per 1000 foot of row). Fortress is registered for field corn, sweet corn, popcorn and seed corn. Fields can be rotated to corn at any time. All other crops may be planted 30 days after application. It is a Restricted Use product due to acute human, avian, and aquatic invertebrate toxicity.

Warrior 1 EC (Zeneca Ag Products)

Warrior (formerly known as Karate) is a pyrethroid (cyhalothrin). It is an emulsifiable concentrate registered for use on corn, peanuts, grain sorghum, soybeans, wheat, wheat hay, triticale, broccoli, cabbage, head lettuce, onions, garlic and tomatoes. Warrior is registered in field corn, sweet corn, popcorn and seed corn for a wide variety of insect pests including cutworms, European corn borer, western bean cutworms, corn earworms, stalk borers, armyworms, grasshoppers, corn rootworm beetles, grasshoppers, aphids and chinch bugs. In grain sorghum it is registered for cutworms, armyworms, sorghum midge, webworms, flea beetles, grasshoppers, and chinch bugs. It is NOT registered for greenbugs in sorghum. Most soybean pests are registered for control including beetles and grasshoppers. In wheat, Warrior is registered to control cutworms, armyworms, chinch bugs, aphids (including Russian wheat aphid and greenbugs), and grasshoppers.

Warrior use rates range from 1.92 to 3.84 oz formulation per acre (.015 to .03 lbs active ingredient per acre) and vary depending on the type of pest to be controlled and field conditions. Warrior may be applied by ground or air equipment or chemigated through an irrigation system. It is a Restricted Use Pesticide due to toxicity to fish and aquatic organisms.

Warrior has done well in our trials and is a good addition to our choices for control of a wide variety of insect pests.

Capture 2 EC (FMC Corporation)

Capture is also a pyrethroid (bifenthrin). It is registered to control many insects and mites in cotton and corn. It is labeled for field corn, popcorn, seed corn, and silage corn. Pests controlled are of European corn borer, western bean cutworm, corn earworm, corn rootworm beetles, banks grass mites and two-spotted spider mites. Capture use rates are 5.1 to 6.4 oz per acre (0.08 - 0.10 lb active ingredient per acre).

Keith Jarvi
Extension Assistant, IPM
Northeast R&E Center

Extension resources on the Web

UNL Cooperative Extension is in the process of adding its publication inventory to the IANR World Wide Web. Check out these addresses:

Publications: http://ianrwww.unl.edu/ianr/pubs/extnpubs.htm

NebGuides: http://ianrwww.unl.edu/ianr/pubs/preview/preview.htm

NebFacts: http://ianrwww.unl.edu/ianr/pubs/nebfacts/nebfacts.htm
Get the most from your starter fertilizer

Most Nebraska farmers have learned that starter fertilizer will usually increase early growth and improve crop uniformity. With the cool soil temperatures across much of the state this year the benefits of a starter fertilizer may be evident in many situations. More early rapid growth can allow earlier cultivation and ridging. Early season growth response does not always result in increased yields, however. Starter fertilizer is defined as the placement of a small amount of fertilizer in a concentrated band beside the seed at planting. Even though broadcast applications of fertilizer contain phosphorus, potassium or sulfur they are not considered true starters. Broadcast fertilization can increase the overall soil nutrient level, however. Because the material is broadcast, the concentration effect of a small amount of banded fertilizer does not have the same effect.

Under Nebraska conditions a combination of nitrogen (N) and phosphorus (P_2O_5) is usually sufficient as a starter. Liquid 10-34-0 and dry 18-46-0 or 11-52-0 are popular starter materials. However, liquids and dry material with the range of analyses containing additional potassium (K), zinc (Zn) and sulfur are also used and may be desirable under some conditions. Nitrogen alone, under some conditions, may give a sufficient early growth response and starter effect on soils that are adequate in phosphorus, zinc, and sulfur.

Research from a series of studies in the late 1980s on 83 Nebraska sites showed early growth response on 62% of the locations in corn and at 53% of the locations in grain sorghum. Yield responses would be expected when soil test levels of phosphorus are below 16 ppm. Corn yield was increased by starter fertilizer at six out of 22 sites that were low in phosphorus. Starter fertilizer that contained nitrogen and sulfur increased grain yield on four sandy sites where phosphorus was medium to high. Grain yield was increased at only three other sites out of 36 when soil test phosphorus was above 16 ppm. Overall a yield increase from starter fertilizer on corn occurred on 21% of the sites.

Starter fertilizer increased grain sorghum yield about 17% of the time. Starter fertilizer reduced grain moisture at harvest on 31% of the corn sites and 18% of the grain sorghum sites. In most cases the moisture reduction was 1-2%.

Most starter fertilizers have a 1:3 ratio of nitrogen to P_2O_5. This is a good ratio for soils low in phosphorus. For soils medium to high in soil phosphorus (16-24 ppm Bray 1P), a starter may increase early growth but the ratio of N to P_2O_5 can be changed. For fine textured soils (loams, silt loams, silty clay loams, and silty clays) 1:2 or 1:1 ratio of N to P_2O_5 should be effective and will be less expensive than 1:3. On soils that test above 24 ppm phosphorus a straight nitrogen starter (liquid or dry) should be sufficient to provide a “starter” effect.

For sandy soils high in phosphorus a ratio of 11 or 2:1 N to P_2O_5 would be a good choice. In addition, for low organic matter sandy soils (<1%) adding 5 to 7 pounds of sulfur per acre will improve early growth. Most Nebraska soils contain sufficient amounts of potassium and it is usually not required in a starter fertilizer unless the soil test for potassium is 125 ppm or less. The other nutrient to consider in row applied starters would be zinc when the DTPA soil test is less than 0.8 ppm. For more information on starter fertilizers see NebGuide G77-361, Using Starter Fertilizer for Corn.

Gary Hergert, Extension Soils Specialist, West Central R&E Center
State Ag Committee assesses the situation

Pasture quality, low soil moisture cause concern

Counts in southwest Nebraska have begun applying for emergency grazing on CRP acres, members of a state agricultural climate team learned Monday.

The Climate Assessment Response Committee, chaired by Pat Ptacek, Nebraska assistant secretary of agriculture, met Monday to learn about the climate situation. Two areas are of growing concern: insufficient soil moisture for the upcoming growing season and inadequate pasture growth.

Counties wanting to apply for emergency grazing rights on CRP acres must have had average precipitation levels 60% or less of normal in the last four months. December, February, and March precipitation has been significantly below normal across most of the state and many areas across the southern half of the state probably qualify for the exemption now.

The Committee recommended that local agencies begin the application process immediately. Depending on the location, precipitation can average from 0.60 to 1.00 inches a month from December through February. A couple moderate rains could put the four-month precipitation totals over the threshold. Such rains could promote pasture greenup, however, little additional growth could be expected if dry conditions returned.

Soil moisture levels have improved little with the recent storms. According to Nebraska Agricultural Statistics Service, over 90% of the producers across the southern third of the state are reporting both surface and subsoil moisture levels as either short or very short. The recent moisture has been welcome and should allow for adequate stand emergence, but little if any subsoil moisture is available for sustained growth.

Corn needs about 25 inches of moisture to produce an adequate dryland crop. Areas across east central, south central, and southeast Nebraska generally have less than 5 inches of soil moisture. If rainfall runoff is considered, these areas will need 25 to 30 inches of precipitation from now through the end of August to produce an average crop.

Typical average rainfall from April through August ranges from 16 inches across western areas of south central Nebraska to 21 inches in extreme eastern Nebraska. In other words, precipitation will need to be much above average throughout the season. Since last June, most locations only received above normal precipitation in October and January. Unless the atmosphere undergoes a dramatic change from the past nine months, below normal precipitation is likely.

Soil moisture levels and precipitation deficits haven't been this bad since the late 1980's when dryland yields were well below average. Producers should weigh their planting options carefully.

Al Dutcher
State Climatologist
Agricultural Meteorology

<table>
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Earliest/Latest = Earliest/latest date event occurred 1950-94
Median = 50% of freezes occur before/after indicated date
20%/80% = 20%/80% of freezes have occurred after indicated date

Based on the period 1950-1994. For additional locations refer to NebGuide G96-1281 Spring Freeze Probabilities
An in-cab pesticide filter — is it for you?

Many applicators are within the protected environment of the tractor cab while agricultural pesticides are being applied. It is assumed that, with the proper chemical filter installed, the pesticide applicator is safe and free from possible exposure to pesticides. For the most part, this assumption is true. There are, however, several things to consider when using an in-cab filter.

Not all pesticide filters are certified by NIOSH (National Institute of Occupational Safety and Health) or MSHA (Mine Safety and Health Administration). Cartridge filters used in personal respirators are certified, but NIOSH and MSHA do not certify the tractor cab type of chemical filter. This doesn't necessarily mean the filters aren't effective, but the pesticide applicator isn't given the same assurances as with the respirator cartridge filters. The manufacturer of the in-cab filters have tested their filters using California EPA standards and have shown them to have an effective lifetime of 1200 hours. Two types of in-cab activated charcoal filters are available.

The first type is the respirator-quality in-cab filter. These filters remove nearly 100% of the pesticide from the air drawn in from the outside. The efficient performance of these filters can continue throughout the entire growing season. The drawback to these filters is that its dense construction requires an absolute air-tight seal throughout the cab. If any leaks exist, the filter's effectiveness is drastically reduced. As you can imagine, air drawn into the cab that doesn't pass through the filter will contain high concentrations of the pesticide being applied. The manufacturer recommends that these filters only be used in high pesticide concentration environments such as orchards.

The second filter type is the nuisance in-cab filter. These filters perform at an excellent level, removing 90-95% of the pesticide from the air drawn in from the outside. These filters can be left in the cab all season, filtering pesticides and standard dust. The nuisance filter is more forgiving in that some small air leaks can be allowed, without reducing the performance of the filter. This filter is recommended by the manufacturer for most agricultural pesticide applications.

My cab doesn't leak, you say, so I've got nothing to be concerned about. But, you may not realize that nearly all door-seal gaskets are constructed with open-cell foam. These gaskets can allow outside air to enter when using either one of the in-cab filter types. Replacement door-gasket kits, in most cases, are available when you buy the filter. Any other small holes in your cab must be repaired using a good quality silicone caulk.

How often do you need to replace these filters? The manufacturer recommends replacement either annually, or when odor, taste or other symptoms associated with the pesticide are detected. You, the pesticide applicator, are most familiar with the particular symptoms to watch for when using a certain pesticide. Some pesticides cause symptoms (red eyes, runny nose, sneeze, burning, etc.) before the odor is detected. If you choose to remove the filter between pesticide applications to extend its life, store in a dry location away from excessive organic vapor sources, like gasoline, oil, or pesticide storage areas.

Only one company manufactures in-cab pesticide filters for use in tractors, floaters and other application equipment with closed cabs. Contact Clean Air Filter® Inc. for a list of distributors (P.O. Box 212, Defiance, Iowa 51527-0212; phone - 800-488-4828).

Clyde L. Ogg, Extension Assistant, Pesticide Training
Larry D. Schulze, Extension Pesticide Coordinator
Water Center/Environmental Programs
Use bait stations to scout for wireworms

Wireworms have become an increasing worry for Nebraska producers. While there may not necessarily be a greater problem than in the past, increased awareness has led many to believe the problem to be more severe than it was several years ago. Regardless of overall wireworm populations, it is necessary to plan to manage this potential problem because there is no rescue treatment available.

Wireworms are the most common soil insect pests when corn has been planted into old pasture, small grain, or sod. CRP fields being converted to crops fit into this category. They are rarely seen in row crop rotations. Wireworm adults (click beetles) are attracted to grasses to lay their eggs. There are several species of wireworms, all of which have life cycles lasting more than one year. Fields damaged last year are likely to have wireworms this year; however, because of the sporadic nature of wireworm infestation, the odds are against an economic level of damage.

How can you reduce the uncertainty of infestation? Bait stations can be used to assess levels of wireworms before planting. The bait consists of germinating corn and wheat seeds.

Bait stations should be set up two to four weeks before the planned planting date. At least 10 bait stations should be randomly placed throughout each field. Be sure to place stations in different parts of a field (i.e. different soil types, rotational crops, etc.) to obtain a representative sample. Place more traps where you have had problems before to get a better representation of the potential for problems.

To construct a bait station, dig a hole about 4 inches deep and add a ½ cup mixture of untreated corn and wheat. Cover the bait with loosely packed soil, and cover the soil with 18-inch square pieces of black plastic (garbage bags work well) anchored on the edges with soil. The plastic helps heat the soil quickly and speeds seed germination. Substances produced by the seedlings attract the wireworms to the bait. Mark each station with a flag or stake. In 10 to 14 days, dig up the stations and count the number of wireworms.

If you find an average of one or more wireworms per bait station, use an infurrow application of a labeled soil insecticide. If wireworms are present at low levels (less than one per station), planter box treatment alone should be sufficient to prevent serious damage.

Keith Jarvi, Extension Assistant, IPM, Northeast R&E Center

Treat thistles before they go to seed

Late April is the perfect time to control the noxious weeds musk and plumeless thistles. These are often found in untilled areas such as CRP acres, pasture, rangeland, and rights of way along railroads and highways. Plants are now in the rosette stage and are most susceptible to herbicides. Control declines rapidly once plants begin flower stalk elongation (bolting). Although later applications may visibly damage the plant, seed is still produced which perpetuates the problem.

In eastern and southern Nebraska, apply treatments by late April. In northern and western Nebraska, apply treatments 10-14 days later. Effective treatments for pasture, range, and CRP acres include the following products and rates per acre:

- 2/10 to 3/10 ounce Ally plus surfactant
- 1 1/2 to 2 quarts 2,4-D
- 1 quart 2,4-D + 1/2 pint of Banvel
- 6 to 8 ounces of Tordon 22K + 1 quart of 2,4-D

Curtil at 2 to 4 pints also provides effective control of musk thistle and can be used on CRP acres and small grains.

Grazing restrictions vary with the herbicide and the type of livestock. Ally has no grazing restrictions. With 2,4-D, lactating dairy animals should not be grazed on treated areas within seven days.

(Continued on page 40)
Software gives 3 levels of aid for making herbicide decisions

Until now, deciding whether to treat your crops with a herbicide and what product to use has been pretty subjective, based on your experience and tolerance level. Now you can calculate your pre and postemergence treatment cost and return per acre with WeedSOFT<sub>SM</sub> developed by University of Nebraska weed scientists.

If you’re familiar with NebraskaHERB, you’ll realize the new WeedSOFT<sub>SM</sub> takes up just where NebraskaHERB left off. WeedSOFT<sub>SM</sub> offers all the information and analysis capability of NebraskaHERB, plus it helps implement both proactive and reactive treatments. WeedSOFT<sub>SM</sub> provides in-depth information so you can make the best weed management decisions for specific conditions — including postemergence and soil-applied herbicides and the potential environmental impact. The program has three response areas: ADVISOR, WeedVIEW, and EnviroFX.

ADVISOR takes the guesswork out of weed management by providing real numbers specific to a real problem. The user provides the data — crop, soil moisture, climate, and number and type of weeds — and ADVISOR analyzes the conditions and recommends effective herbicide treatments.

Because ADVISOR incorporates both soil applied and postemergence treatments, it is a strategic planning tool that supports pro-active, pre-season weed management measures, as well as reactive measures if problems develop in season. In addition, for each recommendation, ADVISOR will calculate the cost to treat the problem versus the expected dollar loss if the crop goes untreated. It will provide a complete damage estimate based on the latest scientific research, including reduced rates and resistant weeds, to help you assess treatment cost and effectiveness.

WeedVIEW shows various weeds to help with identification. EnviroFX alerts you to potential environmental issues. The new EnviroFX application determines some of the potential environmental impacts of specific herbicide treatments. By selecting product names and providing information about your soil, EnviroFX evaluates relative herbicide mobility, relative soil vulnerability to leaching, as well as combined herbicide/soil ranking and the potential for a herbicide to reach ground water.

WeedSOFT<sub>SM</sub> contains updated label information on more than 40 herbicide active ingredients and more than 100 treatments which can be used for pre and postemergence weed control in corn, sorghum, wheat, soybeans and sugarbeets.

WeedSOFT<sub>SM</sub> costs $185, plus $10 shipping and handling. The program is available through the University of Nebraska Agronomy Department and runs on IBM compatible computers loaded with Windows 3.1 or greater. It requires 8 MB of available hard drive space. For more information on program updates or ordering, contact John McNamara at (402) 472-1544.

John McNamara
Extension Assistant, Weeds

Thistles
(Continued from page 39)

after application. However, certain manufacturers and formulations have more restrictive guidelines. Check the label of the product you’re using. In pastures treated with Tordon, do not move grazing livestock to broadleaf crop areas without first allowing seven days grazing on nontreated pastures.

With Banvel, the grazing restrictions vary with the application rate and the type of livestock. Remove meat animals from treated areas 30 days before slaughter. For dairy animals the grazing restrictions are seven days for a 1 pint per acre application and 21 days for a 1 quart per acre application. Do not harvest hay for dairy animals within 37 days of a 1 pint per acre application and within 51 days of a 1 quart per acre application. There is no restriction on hay fed to meat animals. When Banvel is used with 2,4-D, grazing restrictions are the same as for Banvel alone.

Curtail has grazing restrictions for lactating animals of 14 days prior to grazing after treatment and 30 days after application before the hay can be harvested for dairy use. For beef and non-lactating animals, there is no restriction before grazing and 30 days before hay can be harvested. Animals should be removed seven days prior to slaughter from an area treated with Curtail.

John W. McNamara
Extension Assistant, Weeds
Alex R. Martin
Extension Weeds Specialist

Soil moisture facts

• The average soil holds 2 inches of water per foot.
• Some areas have received just 2-4 inches of moisture since last harvest, providing for just 1 to 2 feet of moist soil.
• Tillage can reduce soil moisture 3/4 to 1 inch per trip.