CropWatch No. 97-3, April 11, 1997

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Sorghum ergot found in southern Texas

Until 1995, ergot disease of sorghum was reported only in Asia and Africa. In 1995 it was identified in Brazil — the first reported occurrence in the western hemisphere. The number of sorghum growing areas affected by the disease increased rapidly within Brazil and in adjacent countries. In 1996, the disease was observed in Australia, in several countries in South America, and in Honduras in Central America. By early 1997, the disease was reported on sorghum in the Dominican Republic and Puerto Rico in the Caribbean. It also was observed in Mexico; the first report in North America. On March 25 the pathogen was detected in the lower Rio Grande Valley near Progresso, Texas. It has subsequently been observed at two more sites in the Rio Grande Valley of Texas.

Initial response

Soon after this disease was discovered in Central and North America, many plant breeders from US universities and commercial seed companies agreed not to import sorghum seed from breeding nurseries in countries reporting the disease, possibly resulting in the loss of one generation. This should slow the spread of ergot within the United States, but also may affect the availability of hybrid seed this season. Farmers should check with their seed company representative. USDA APHIS is developing appropriate quarantine guidelines and importation restriction recommendation.

If you find a field of sorghum which you suspect has ergot, please contact Jim Stack, South Central Research and Extension Center, Clay Center, 402-762-3535 (jstack@unlvm.unl.edu); Dave Wysong (Plant Pathology, UNL, 402-472-2559), or Stan Jensen (Plant Pathology, UNL, 402-472-2858) immediately.
Plant & Pest Diagnostic Clinic

Reduced field and garden activity due to recent cooler weather is reflected in fewer submissions to the Plant & Pest Diagnostic Clinic.

An interesting sample from Lincoln involved identifying a mushroom similar to one eaten by a child. We determined that it was probably not poisonous. The staff at the Plant & Pest Diagnostic Clinic have limited knowledge and experience in mushroom identification. Unfortunately the University of Nebraska-Lincoln does not have an expert in mushroom ID on staff.

We are currently trying to find an expert in mushroom ID at a neighboring university so we can forward samples for more accurate identification. In the mean time, send mushroom samples to the P&PD Clinic and we will do our best to correctly identify the mushroom. Response time may be slowed; however, at this time this is our only means for positive identification.

Several samples of nutrient and environmental stress were submitted and found to be mostly due to the dry winter.

Insect identifications included the elm sawfly and pomace or vinegar flies which are closely related to the common fruit flies.

Weed identifications included iris and day lilies that were believed to have been eaten by a cow.

Reminder

Pruning of trees and shrubs should be completed by now or as soon as possible. Any one with fruit trees needs to begin spraying apples and crabapples for rust, fireblight or scab (especially in western Nebraska). Consult your local extension office for specific information.

Diane Merrell, Extension Assistant, Plant Pathology

Soil temperatures

Soil temperatures, which have been well below average, took a further dip midweek with many sites reporting temperatures in the mid to upper 30's. Following is a table of the seven-day average soil temperature at 4 inches (4/3-4/9); departure from normal; and soil temperature on April 9. As we add GDD's this material will appears in previous years.

<table>
<thead>
<tr>
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<th>Dep</th>
<th>4/9</th>
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<tr>
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<td>43.1</td>
<td>-7.8</td>
<td>36.3</td>
</tr>
<tr>
<td>Alliance</td>
<td>39.3</td>
<td>-10.4</td>
<td>33.2</td>
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<tr>
<td>Beatrice</td>
<td>45.2</td>
<td>-9.0</td>
<td>38.6</td>
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<tr>
<td>Elgin</td>
<td>42.5</td>
<td>-9.4</td>
<td>35.7</td>
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<tr>
<td>Holdrege</td>
<td>45.0</td>
<td>-8.0</td>
<td>38.8</td>
</tr>
<tr>
<td>McCook</td>
<td>49.4</td>
<td>-3.1</td>
<td>42.2</td>
</tr>
<tr>
<td>Mead</td>
<td>44.6</td>
<td>-9.1</td>
<td>38.3</td>
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<tr>
<td>Concord</td>
<td>38.5</td>
<td>-13.4</td>
<td>32.3</td>
</tr>
<tr>
<td>North Platte</td>
<td>42.8</td>
<td>-9.0</td>
<td>36.7</td>
</tr>
<tr>
<td>Ord</td>
<td>41.9</td>
<td>-10.6</td>
<td>34.1</td>
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<tr>
<td>Red Cloud</td>
<td>46.8</td>
<td>-6.3</td>
<td>38.9</td>
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<tr>
<td>Scottsbluff</td>
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<td>32.8</td>
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<tr>
<td>Sidney</td>
<td>40.1</td>
<td>-9.9</td>
<td>34.3</td>
</tr>
<tr>
<td>York</td>
<td>45.0</td>
<td>-8.1</td>
<td>39.5</td>
</tr>
</tbody>
</table>

For more information about a particular subject, write the authors at the addresses below:

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Crop Watch is published from March to November by the University of Nebraska Institute of Agriculture and Natural Resources Communications and Information Technology, PO Box 830918, 108 Agricultural Communications Bldg., UNL, Lincoln, NE 68583-0918. To order either a printed or electronic (web) subscription or to change your address, write to Crop Watch at the above address or call (402) 472-7981.

Lisa Brown Jasa, Editor
Sorghum ergot (Continued from page 21)

Brief description of disease

Sorghum ergot, also known as Sugary Disease, is a disease of the sorghum flowers. The pathogen, *Claviceps africana*, colonizes the ovary by the same pathway as a pollen tube, preventing pollination. Only unfertilized flowers are susceptible. In time, the pathogen completely replaces the ovary and exudes a sticky liquid in which conidia are produced under conditions of high humidity. As the sticky exudate drips down the panicle, these conidia can initiate infections of additional florets on the same panicle or be wind and insect transmitted to adjacent plants. As colonization progresses, the fungal mass can develop into a sclerotium (overwintering structure) from which additional infective spores can be produced. More detailed symptom information and color photos will be on the CropWatch web site and at http://www.cgiar.org/icrisat/ergot.htm.

Unlike ergot diseases of other grains (rye and wheat), sclerotia produced by the sorghum ergot pathogen are believed to be of low toxicity. Further research is planned to characterize the mycotoxin risk.

Potential risk to Nebraska

As mentioned above, this pathogen only attacks unfertilized flowers. Hybrid seed production areas in Texas appear to be at greatest risk from this disease since male steriles would represent a high percentage of the plant population. The impact to sorghum grain production in Nebraska would appear to be low. However, factors that delay fertilization or prolong the receptivity of the floret to fertilization can increase the risk of infection. These factors include low night temperatures (<60° F) during the three to four weeks before flowering and five days after flowering as well as high relative humidity (>90%) or free moisture following stigma emergence. The same environmental conditions that slow development and fertilization of the sorghum flowers favor infection by the pathogen. Conditions that lower pollen fertility or slow pollen tube growth will favor infection. Forage sorghum is at higher risk than grain sorghum because of the asynchronicity of flowering and the low pollen production.

The greatest potential for disease impact will be for forage sorghum coupled with the optimum weather conditions for infection.

Management recommendations

Recent reports indicate that ergot has now been observed in all major sorghum seed production areas of South, Central and North America. Although fields within these areas may be free of the pathogen, its ability to be aerially dispersed over long distances would indicate that all sorghum seed should be treated with fungicide prior to planting.

Secondary sporulation of ergot honeydew on sorghum leaf.

Sorghum seed may be limited

It’s still too early to determine the impact of ergot on Nebraska’s sorghum production. Initially, some seed production may have been affected.

Last year’s drain of sorghum seed to compensate for replanting in Kansas at a point when this year’s seed was already planned or planted, left some companies with a smaller surplus than they would like. In addition, some winter production outside the continental United States may have been withheld from the U.S. market. Sorghum seed producers contacted this week said they expect there to be an adequate seed supply; however, producers may not always be able to get the hybrid they want.

While most of the nation’s sorghum seed is produced on the High Plains of western Texas where there was no evidence of sorghum ergot last year, some may have been produced elsewhere. Producers should inquire about where their seed was produced and what kind of fungicide treatment it had. And as always, researchers recommend buying from a reputable seed dealer.

Lisa Jasa
Crop Watch Editor
Tips for determining dryland corn population

Corn does not tolerate stress from drought nearly as well as grain sorghum. This fact makes it particularly important to manage the water that is in the soil at planting, as well as the rain that comes during the growing season. The primary issue is to match the water available to the best plant population to optimize yields.

Four factors need to be considered when determining plant population:
1. Maturity range of the hybrid to be planted
2. Amount of residue on the field
3. Accumulated subsoil moisture
4. The percentage of the seed that will germinate and grow into plants.

Maturity range

Using a leaf area index (LAI) — a measure of the leaf surface in the field — can help you determine appropriate population for the maturity range of the hybrid.

LAI indicates how much of the potential evaporative demand will transpire from a crop. LAI is the ratio of leaf surface area to land surface area. For example, if we measure 15 square feet of leaf area (measuring only one side of the leaf) in a five-square-foot land area, the LAI would be 3.0. The plant leaf surfaces cover the land area three times.

An LAI of 2.7 or greater generally results in an effective full cover or canopy. When the LAI is greater than 2.7, the crop water use or evapotranspiration (ET) used by the crop equals atmospheric demand. The total ET would not be limited by the leaf surface area available to evaporate water. This means the ET should be approximately equal to the potential ET, if soil moisture is not limiting. The LAI value of 2.7 defines maximum water use for milo and soybeans, just like corn.

With an LAI below 2.7, the ET needed is determined by atmospheric demand, leaf area, soil surface wetness, and crop residue amount and cover. If the soil surface is dry or well protected by the prior crop’s residue, the actual ET will be lower than the potential value. This is why lower plant populations are planted on dryland acres.

This information is very useful to farmers in making risk management choices. The population chosen will determine how quickly the crop will reach an LAI of 2.7 or greater. On irrigated acres farmers are very aware that increased population means increased yield. LAI values between 3.5 and 4.0 are required to achieve full yield potential. This lures producers to take greater risk on dryland fields. Higher populations will reach the maximum water use level LAI of 2.7 earlier in the season. If water is limited, the risk is evident.

Research on several corn hybrids suggest that 13,000 plants per acre of long season hybrids (115-day) reached a peak LAI of 2.7 at full leaf emergence. Short season hybrids (95-day) required plant populations of 21,000 plants per acre to reach an LAI of 2.7 at full leaf emergence. Short season plants are smaller and have less leaf surface area.

To reduce the risk of water shortage for the crop, dryland farmers could choose plant populations lower than these levels. A farmer who plants a mid-season dryland hybrid at 22,000 plants per acre would expect the hybrid to reach maximum water use, an LAI of 2.7, at 4-5 feet of height, well ahead of tasseling. If summer temperatures are high and moisture is lacking, this would only enhance the plant stress level. Clearly, population is a factor in crop water use when you examine usual plant populations by farmers as one moves from eastern to western Nebraska.

Residue management

Secondly, residue management is the key to getting the precipitation into the soil and minimizing evaporation. Numerous research studies have shown no-till fields have less runoff than tilled fields. Also, each tillage pass will cost 1/3 to 1/2 inch of soil moisture. So, from a water management standpoint, dryland corn should be planted no-till if possible. Research has shown, that even in eastern Nebraska, this moisture conservation will usually result in a yield increase.

Soil moisture

Thirdly, consider the fact that corn or sorghum can usually retrieve soil moisture from a depth of about 6 feet, if the soil is moist and allows root growth to this depth. Use a soil probe or rod to measure subsoil moisture when determining your planting strategy. Usually when dry soil is reached, the probe or rod will become very difficult to push in any farther. Sometimes a compacted zone will cause this as well, so if it is close to the surface, check it out further.

Percent germination

And fourth, remember that not all of the seed that is planted will produce a plant. Warm, moist soils that are well packed around the seed will result in a high percentage of the seed establishing, maybe more than 90%. Cold, dry and/or loose soils will result in a lower final stand count. Experience has shown that on average, 15 percent of the seed planted will fail to produce harvestable plants.

After considering these factors, producers in south central Nebraska may consider planting 16,000-20,000. The higher number applies if you consider yourself to be a risk taker and the following conditions are present: 1) planting a mid-season corn recommended for dryland production in south central Nebraska; 2) no-tilling into good residue cover, with 5 feet of subsoil moisture in a silt loam soil; and 3) getting reasonable seed to soil contact with 2 inch soil temperatures above 50 degrees. Producers in eastern Nebraska may want to plant 18,000-22,000 seeds per acre. In the North Platte area, producers should consider planting 12,000-16,000. Adjust the population for your conditions.

The population for sorghum or soybeans is much less critical due to the fact that grain sorghum will tiller more and soybeans will just bush out if the conditions are better. A good seeding rate for sorghum is 60-70,000 seeds per acre and for soybeans, 150,000 seeds per acre.

Steve Melvin
Extension Educator Chair
Nuckolls County
'96-97 winter too cold for survival of Stewart's wilt

Good news! Based on the sum of the mean temperatures for December, January, and February, there should be little or no risk of Stewart's bacterial wilt developing in our corn crop this year in Nebraska.

The bacterium (*Erwinia stewartii*) was positively identified in several dent corn fields in east central and southeastern Nebraska in 1995 and, as a result, concern arose as to the likelihood of its reappearance. The forecast index relates to the overwintering survival of the corn flea beetle, the primary insect vector (and overwintering reservoir) of the bacterium. If the sum of the average monthly temperatures is 90 or less, survival of overwintering adult beetles is greatly reduced and, hence, there is little risk of Stewart's wilt the following season. If the index is above 100, risk of the disease is high since large numbers of the beetles could emerge and spread the bacterium while feeding on young corn seedlings.

We just finished compiling the forecasting index from about 140 weather stations scattered across Nebraska. The table would suggest that the winter temperatures were generally too cold for successful survival of the flea beetle. Table 1 provides the monthly means and forecast index by cropping district.

Diane Merrell and David Wysong
Extension Plant Pathology

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| Table 1. Average monthly temperatures for three areas of Nebraska. If totals equal 90 or more Stewart’s Wilt bacterium is likely to have survived. |
|-----------------|--------|--------|--------|---|
|                 | December | January | February | Total |
| Panhandle        | 26.0    | 23.0    | 30.6    | 79.6 |
| North Central   | 19.4    | 18.5    | 28.9    | 66.8 |
| Northeast       | 16.9    | 16.3    | 27.0    | 60.2 |
| Central         | 22.6    | 27.4    | 28.9    | 72.9 |
| East Central    | 21.3    | 19.5    | 29.1    | 69.9 |
| Southwest       | 26.5    | 23.9    | 30.4    | 79.9 |
| Southeast       | 25.4    | 22.1    | 30.4    | 77.9 |
|                  | 183.7   | 169.2   | 235.4   | 588.3 |

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Herbicide software updated; offers new services

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

WeedSOFT<sup>SM</sup> 2.0 provides in-depth information to help you decide which herbicides are best in which conditions — including postemergence and soil-applied herbicides and the potential environmental impact. WeedSOFT<sup>SM</sup> has four sections: ADVISOR, MappVIEW, WeedVIEW, and EnvironFX.

With ADVISOR, the user provides the data — crop, soil moisture, climate, and number and type of weeds — and ADVISOR analyzes contributing conditions and ranks available 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 later. 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 research and ranks available treatments based on economic return and weed control.

MappVIEW, new to this version of WeedSOFT, provides color coded maps depicting groundwater vulnerability to herbicide contamination on a county by county basis within Nebraska. The easy to use WeedVIEW option provides a visual display of various weeds on the computer screen.

EnviroFX alerts you to potential environmental issues by determining the potential of herbicide reaching the groundwater. 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<sup>SM</sup> 2.0 contains updated label information on more than 40 herbicide active ingredients and more than 100 treatments that can be used for pre and postemergence weed control in corn, sorghum, wheat, soybeans and sugarbeets.

The cost for the program is $185, plus $10 shipping and handling. It is available from the University of Nebraska Agronomy Department and runs on IBM compatible computers that are loaded with Windows 3.1 or greater and have 8 MB of available hard drive space. For more information, contact John McNamara at (402) 472-1544.

Diane Merrell and David Wysong
Extension Plant Pathology

John McNamara, Extension Assistant, Weed Science
Expect some injury when applying postemergence liquid nitrogen/herbicide mix

Corn and sorghum in fields intended for liquid nitrogen-preemergence herbicide combinations sometimes emerge before herbicide application. While certain preemergence herbicides can be applied after crop emergence, they are not labeled for application with fluid fertilizer after emergence, due to risk of injury. Emerged corn is more tolerant than sorghum of fertilizer-herbicide mixtures. Some growers may accept the injury in return for accomplishing two jobs at once.

Dual, Frontier, Harness, Lasso, and Surpass applied with liquid nitrogen on emerged corn and sorghum would result in injury similar to the fertilizer alone. Injury is more serious with atrazine combinations and even more severe with Bladex. The tolerance of emerged corn and sorghum to liquid nitrogen and these herbicides is greatest in the spike stage and decreases as the plants grow.

Minnesota experiments have shown that atrazine applied to 4-leaf corn with 60 lbs N/acre caused heavy burning with widespread necrosis on the 2nd, 3rd and 4th leaves. This injury, from which the corn recovered, was similar to injury caused by 150 lbs N/acre applied by itself. Injury to emerged corn is usually more severe with herbicide combinations in liquid nitrogen than fertilizer alone and is particularly severe with Bladex or Extrazine in liquid nitrogen. If nitrogen must be applied as liquid nitrogen to emerged corn, early post herbicides should be applied in water several days prior to the application of liquid nitrogen.

Cool, wet weather can be expected to increase the injury caused by such treatment.

John McNamara
Extension Assistant, Weed Science
Alex Martin
Extension Weeds Specialist

Test compatibility before combining liquid fertilizers and herbicides

Combining liquid nitrogen with a preemergence herbicide may seem to save time during this rushed season. While liquid nitrogen may be compatible with most herbicides, compatibility should be checked before mixing large quantities.

Compatibility Test based on 25 gallon per acre application

1. Add one pint of fertilizer to each of two jars.
2. To one jar add 1/4 tsp (1.2 ml) of a compatibility agent and stir.
3. To both jars add the appropriate amount of herbicide(s). Add dry herbicides first, flowables second, and emulsifiable concentrates last. Stir after adding each material.
   
   **Dry herbicide:** For each pound per acre to be applied, add 1.5 level tsps.
   **Liquid herbicide:** For each pint per acre to be applied, add 1/2 tsp or 2.5 ml.
4. Shake or stir the contents of each jar thoroughly and let the mixtures stand for 15 minutes.

If either mixture separates but can be readily remixed, the mixture can be sprayed with good agitation. Comparing the two jars will indicate if a compatibility agent is needed.

Compatibility of mixtures can often be improved by
1) mixing the dry fertilizer with water before addition
2) adding 1/2 of the compatibility agent to the fertilizer; the other 1/2 to the emulsifiable or flowable herbicide before adding to the mixture.

**General mixing procedure:** Fill the spray tank 1/4-1/2 full with liquid fertilizer and start the agitation. Add a compatibility agent if needed. Add the dry herbicide to the spray tank. Dry herbicides and flowables often mix more readily if mixed with a small quantity of water before addition to the fertilizer. Continue filling the tank with liquid fertilizer until it is 90% full. At this point add flowable herbicide, followed by emulsifiable concentrates and oil concentrates.

Alex Martin
Extension Weeds Specialist
John McNamara
Extension Assistant, Weed Science

Correction

The last sentence of the wheat disease story in the March 28 issue of Crop Watch, page 19 should read:

"The greatest impact of tan spot, Septoria leaf blotch or leaf rust is their severity during grain fill, so a little yellowing now from tan spot or Septoria leaf blotch should not be of great concern.

Lisa Jasa
Crop Watch Editor
Answers to your questions on:

Starter fertilizers and nutrient absorption enhancers

How much fertilizer can I put with the seed?

Will it pay to use starter fertilizer?

What's the difference between 10-34-0 and 9-18-9?

These are some of the questions we continue to receive at the UNL Soil and Plant Analytical Laboratory, especially just before planting time.

Before discussing these questions, a couple of definitions are in order:

1. **Starter Fertilizer**: Plant nutrients placed approximately 2 inches to the side and at equal depth with the seed or up to 2 inches below the seed. Normally, the starter contains nitrogen (N) and other combinations of phosphorus (P), potassium (K), zinc (Zn), and/or sulfur (S). It may either be liquid (solution) or solid.

2. **Pop-up Fertilizer**: A small quantity of major nutrients placed directly on the seed.

The pop-up method of applying a small amount of plant nutrients directly on the seed should not be used to supply the total nutrients needed if phosphorus and/or potassium are in the low to medium range. Consider the following precautions when applying fertilizer directly on the seed:

1. To avoid stand injury, the salt content should not exceed 6 pounds/acre,
2. Do not put ammonium thiosulfate directly on the seed,
3. Do not put fertilizer containing urea directly on the seed. This includes 28% and 32% nitrogen solutions, and some of the high quality liquids (9-18-9 liquids that use urea).

Starter fertilizer normally is used to provide nitrogen and phosphorus, and potassium, zinc, and sulfur if needed. Normally no more than 100 pounds of material per acre is applied. A starter fertilizer can be used to supply the total amount of phosphorus and/or potassium needed for a current year. Applying phosphorus as a starter is usually more efficient than broadcasting. Numerous experiments have shown that on a year to year basis, the recommended phosphorus rate can be cut in half if applied as a starter rather than broadcast.

From an economic standpoint, applying starter when nutrients are deficient almost always provides an economic return. However, when soil nutrients are adequate, applying a starter or pop-up will almost always provide an early growth response and will usually reduce grain moisture early in the harvest season. There may or may not be a yield response.

What is the difference between 10-34-0 and higher priced 9-18-9 liquids?

From the standpoint of influencing crop production, research has shown no differences. Most 9-18-9 liquids are manufactured with phosphoric acid as the phosphorus source and potassium hydroxide as the potassium source. In some cases, the 9-18-9 liquids may contain some urea. Ammonia produced from urea applied directly to the seed can cause seedling damage. The main difference between the two liquids is cost per pound of nutrient.

What about using pelleted lime with starter fertilizer?

There is no research data available to show any economical yield benefit from this practice.

Research results with Aglime, Pelletized and Fluid Lime broadcast on silt loam soils in northwest Iowa showed corn and soybean yields and soil pH change to be equally influenced by Aglime, Fluid, and Pellet Lime. On an ECCE (effective calcium carbonate equivalent) basis, pelleted and fluid lime are more expensive than Aglime.

A product being sold by Amilar International called "Amisorb" is reported to be a nutrient absorption enhancer. The product's influence in increasing corn, sorghum and soybean yields is mixed. Several experiments in Kansas and Nebraska showed responses that ranged from none to non-economical to economical. For those interested in trying this product, a practical approach would be to have at least five side-by-side replications with and without the product, measure the yield and determine the economics of the product.

Ken Frank
Director
UNL Analytical Soils Laboratory
Get the jump on thistles now while still small

Although musk and plumeless thistle may have been introduced into Nebraska as ornamental plants, both are considered noxious weeds by state law.

April is the perfect time to control these weeds, which are commonly 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
- (2,4-D rates are based on 4 pound formulations.)

Curtail 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 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 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 a 30-day restriction before hay can be harvested. Animals should be removed seven days prior to slaughter from an area treated with Curtail.

Alex Martin
Extension Weeds Specialist
John McNamara
Extension Assistant, Weed Science

1997 Nebraska Weed Tour set

The itinerary has been set for the 1997 Nebraska Weed Tour. The tour, which will begin in western Nebraska this year, provides a hands-on look at University research herbicide trials. While most participants often are from the agricultural chemical industry, the tour is free and open to the public. Individuals may attend all or any part of it.

Wednesday, June 18
2:00 p.m. (MDT), Sidney, High Plains Agricultural Laboratory

Thursday, June 19
8:30 a.m. (MDT), Scottsbluff, Panhandle Research and Extension Center

Tuesday, June 24
8:30 a.m. Lincoln, Havelock Research Farm

Wednesday, June 25
8:30 a.m. Clay Center, South Central Research and Extension Center

Thursday, June 26
8:30 a.m. North Platte, West Central Research and Extension Center

John McNamara
Extension Assistant, Weed Science