CropWatch No. 96-8, May 17, 1996

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Start scouting cornfields for cutworms regularly after plants emerge

Each year several species of cutworms cause some damage to Nebraska field corn. The severity and the area affected varies greatly, and is dependent on the cutworm species involved, previous crop history, and weather conditions.

Cutworms that attack corn can be divided into two general categories based on seasonal life cycles. Black cutworms do not overwinter in Nebraska. Dingy, claybacked, darksided, sandhills, pale western, and other species overwinter as partially grown larvae in the soil.

Since black cutworms do not overwinter in Nebraska, they are dependent on spring weather conditions, primarily prevailing southerly winds, to bring adult moths into our state. Nebraska is on the western edge of the black cutworm’s area of influence. These cutworms are rarely found west of the 100th meridian.

Because of their cutting habits and the possibility that large numbers can be transported to Nebraska if favorable weather conditions occur, they have the most potential to cause a widespread problem. We monitor black cutworm flight by a series of pheromone traps located across the state. The presence of moths in a trap only indicates potential problems and is no guarantee that extensive damage will occur. Trap counts are more useful in alerting growers and consultants as to when to begin scouting. This year, trap counts are near normal, and extensive black cutworm injury is NOT expected.

Black cutworm moths prefer to lay eggs in green vegetation or heavy surface residue, and seem to prefer soybean residue over corn residue. When weeds are destroyed mechanically or by herbicides, they will feed on the newly emerging corn.

Cutworms that overwinter as larvae generally prefer to lay eggs

(Continued on page 59)
Heavy rains erase deficits; profile still low

Severe weather and heavy rain were prominent across east central, south central, and southeast Nebraska during the last 10 days. Lighter amounts fell across the remainder of the state. Precipitation for the weekend ending May 13 averaged 250-350% of normal across the southeast quarter of the state. However, precipitation was 50-75% of normal over northern Nebraska. The heaviest rain fell east of a line from Kearney to Hastings and south of a line from Kearney to Omaha. Rainfall over 3 inches was common, with a small area of 7-inch or greater rain between Lincoln and Beatrice. Areas north of there received 0.50-1.00 inch of precipitation.

Precipitation deficiencies for the year over southeast Nebraska were eliminated during this four-day event. Some locations even made up their precipitation deficiencies accumulated since last September. However, a heavy price was paid in severe soil erosion and flooding which was common across south central and southeast Nebraska. Many southeast Nebraska farmers now face replanting.

It is likely that these rains increased soil moisture reserves, but to what extent is still unknown. Most soils across the southeastern quarter of the state can absorb up to 0.50 inches of rain an hour. The rain fell at rates exceeding 2.00 inches per hour, so most of the water probably ended up in low lying fields or river systems. In some areas, erosion problems most likely will outweigh the benefits of increasing soil moisture reserves.

Field work came to a virtual standstill with the rains. In addition, soil temperatures at the 4-inch depth remained below normal. Weekly average soil temperatures through May 13 range from the low 50s across northern Nebraska to the upper 50s across extreme southern locations. Corn emergence has been slow, but should rapidly increase with a few warm sunny days.

Medium range forecasts are still calling for a return to conditions that are warmer and drier than normal across the Midwest. Short-term forecasts offer little relief — clouds and thunderstorms should dominate the state through May 20. This will probably force additional planting delays due to inadequate field drying and minimal soil warming.

Al Dutcher
State Climatologist
Agricultural Meteorology

Crop update

The Nebraska Agricultural Statistics Service reported Monday that corn planting, while delayed, was still ahead of normal with 76% completed Sunday, compared to a five-year average of 52%.

Soybean planting also was hindered by wet conditions. Seven percent of the intended soybean acres had been planted, slightly behind the five-year average of 9%.

Sorghum planting progressed slowly with 5% complete, compared to a five-year average of 6%.

Lisa Brown Jasa, Editor

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CropWatch

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

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Cutworms (Continued from page 57)

in the fall in green vegetation such as small grain stubble, legumes, rye, and pasture. The eggs hatch and the larvae feed on the vegetation present before overwintering. In the spring, after the previous crop is removed and the corn emerges, the cutworms will transfer their feeding activity to the corn. Recent experience indicates that corn planted into alfalfa killed in the spring has a potential for cutworm problems. Some research has shown that if the food source has been removed for more than 10 days, most of the cutworms will have starved. However, that is no guarantee.

Tillage may not have a significant effect on cutworm populations. If fields are tilled before black cutworm migration, it may limit egg laying in those fields. Cutworms already in the field may suffer some mortality by mechanical action, but there is no guarantee that tillage by itself will eliminate cutworm problems. Many cutworm problems have occurred in fields that have been conventionally tilled. Previous vegetation is probably the most important factor in cutworm potential.

It is extremely rare to experience cutworm problems in continuous corn. Corn residue is not a preferred egg laying site. Potential problems in continuous corn may be the result of a previous year’s late season flush of weeds or an interseeding of a fall cover crop such as rye, which would possibly attract fall egg laying moths.

Managing cutworms in corn

Several options exist for managing cutworms in corn. Since most corn acreage is not affected by cutworms, the most economically sound practice is to scout for cutworm damage as soon as the corn emerges and apply a rescue treatment if necessary. Early detection of a problem is essential because most of the cutting occurs within seven days of plant emergence. Because many of our cutworm problems are caused by overwintering species, check every field for cutworm problems regardless of black cutworm pheromone trap counts. Consider a rescue treatment if 5% of the plants are damaged, cutting is observed and the worms are one inch or less in length.

Rescue treatments can effectively control soil cutworms. Ambush 2E, Asana XL, Lorsban 4E, Pounce 3.2EC and Warrior 1EC have given satisfactory control as postemergence sprays. If the soil is dry or crusted, rotary hoeing immediately before or after Lorsban application may enhance control. The other insecticides are pyrethroids and should not be incorporated.

There is some use of planting time treatments for cutworm control. The use of granular soil insecticides and broadcasting or banding liquids has met with mixed success. In the case of black cutworms, the material may deteriorate before the black cutworms migrate into an area. Planting time treatments may work better on cutworms that overwinter in the soil, since they are present at the time of treatment. Excessively dry conditions may limit the activity of granular insecticides. The primary risk to using planting time treatments is economic. Since there is no way to know whether a field is or will be infested with cutworms, most of these “insurance” type treatments are applied when nothing is present, resulting in an unnecessary expense.

In tests at several sites in northeast Nebraska, Force has provided consistently better results for cutworm control at planting time than the other granular insecticides. Lorsban 15 G also will work well but may be a little more moisture dependent. In the same tests, banded treatments of Ambush worked as well as Force but at less cost. We suspect that the other pyrethroid liquids would perform similarly at planting.


Keith Jarvi, IPM Extension Assistant, Northeast Research and Extension Center
Estimate wheat yields, assess options

High grain prices and poor wheat stands have many growers asking whether they should tear up their wheat. What they really want to know is what kind of yield they can expect from their reduced stand. Equipped with this kind of knowledge, they can put the pencil to the economics and predict if it is in their best interest to tear up and plant a summer crop or leave the wheat alone. Unfortunately, predicting winter wheat grain yield in mid-May may be as much art as science.

Two formulas are available to the grower to help predict yield. Both require a number of assumptions at this point in the production season that may, or may not, be appropriate. Add to this uncertainty, wheat’s plasticity or ability to compensate for changes in the environment, and you have one tough time making anything more than an educated guess.

Having said all that, here are the two formulas that may help in the guessing process.

**Formula No. 1**

\[
\text{Yield} = \left( \frac{\text{No. of tillers/ft} \times \text{No. of spikelets/head} \times \text{No. of kernels/spikelet}}{\text{Row space (inches)}} \right) \times 0.48
\]

An “average” site(s) and head(s) should be used when gathering input for this formula. This formula requires that the wheat grain be formed or estimates need to be made. On average, winter wheat heads in Nebraska contain 30 kernels/head (the product of number of spikelets/head x number of kernels/spikelet). This average number of kernels/head should probably be adjusted downward for wheat that is doing poorly. How far downward is a matter of speculation.

Wheat does not have to be headed to use **Formula No. 2**. Estimates developed over several years can be used to predict grain development. If estimates are used instead of actual field data, the accuracy of the results is reduced, but it does allow the formula to be used earlier in the production season.

**Formula No. 2**

1. Count the number of stalks (they are just tillers at this time) per foot of row in at least five sites within the field and calculate an average number of stalks per foot for the selected field (sites should be representative of the field).

2. Use the formula in Table 1 to estimate the number of heads. Select the number that represents the area of the state where the counts are being made.

3. Measure the distance in inches between the rows.

4. Use your finding from Steps 2 and 3 in the following formula. Use the average head weight from Table 1.

\[
\text{Yield} = \left( \frac{\text{No. of heads/ft} \times \text{Head weight} + \text{Row space (inches)}}{\text{Row space (inches)}} \right) \times 19.213
\]

Both formulas tend to overestimate yields. They do not account for test weight or harvest loss. But if you need to guess your future wheat yield, you might as well guess with some confidence.

**Wheat update**

As of Monday Nebraska’s winter wheat condition had improved slightly. It was rated 8% very poor, 24% poor, 43% fair, 24% good, and 1% excellent. About 39% of the wheat acreage had jointed, which is 11 days behind the average.

**Table 1.** Data to estimate average head number and weight for winter wheat for five regions of Nebraska.

<table>
<thead>
<tr>
<th>District</th>
<th>Panhandle</th>
<th>Southwest</th>
<th>Central</th>
<th>South Central</th>
<th>Southeast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of heads/foot</td>
<td>(stalks x 0.505)</td>
<td>(stalks x 0.505)</td>
<td>(stalks x 0.433)</td>
<td>(stalks x 0.433)</td>
<td>(stalks x 0.535)</td>
</tr>
<tr>
<td></td>
<td>+8.2</td>
<td>+8.2</td>
<td>+8.8</td>
<td>+8.8</td>
<td>+5.0</td>
</tr>
<tr>
<td>Head weight</td>
<td>0.529</td>
<td>0.475</td>
<td>0.492</td>
<td>0.489</td>
<td>0.414</td>
</tr>
</tbody>
</table>

Drew Lyon, Extension Dryland Crops Specialist
David Baltensperger, Extension Crop Breeding Specialist
Tom Holman, Extension Educator
Scotts Bluff/Morrill counties
Tony Merrigan, Extension Educator, Box Butte County

Nebraska Agricultural Statistics Service
Assessing soybean stands for yield

Some soybeans were planted prior to the recent onslaught of cool, rainy conditions. Farmers were counting on predicted warm temperatures and mild weather to result in quick germination and emergence. This has not happened. No one knows for sure how long soybeans will remain viable under the current conditions. Soil type, soil temperature, soil moisture content, original seed quality, soil and seed borne diseases, and other factors affect soybean emergence.

Once conditions look more favorable and soybeans have had a chance to emerge we should be prepared to evaluate stands. If some plants have emerged, use Table 1 to assess yield potential (for 30 inch rows). Dig in areas where stands are marginal to assess the viability of ungerminated seeds. Viable seeds will be relatively firm and the embryo light yellow in color. Viable seeds may still emerge.

Soybeans can compensate for stand gaps that are closer than 12 inches. Don’t count these as stand reductions. Consider only gaps greater than 12 inches as stand reductions. For example if stands in the good portions of the field are eight plants/foot and there is a 30% stand reduction overall, the yield potential is 93%. The yield potential in that field is 93% of what would be normal for you with the same original planting date, variety, etc.

For other than 30-inch rows, Table 1 does not apply; however the recommendation to ignore gaps less than 12 inches does apply. The following are some general ideas that should help regardless of your row spacing:

1. Soybeans can compensate for stand gaps less than 12 inches.
2. Uniform stands of 70,000 to 80,000 plants will generally yield as well as higher plant stands assuming there is good weed control. This holds for either irrigated or nonirrigated fields.
3. Soybean yield potentials are highest when soybeans were planted May 10-20; yield potentials slowly decrease into the first week in June. We still have time to replant soybeans if stands are poor. Seed supply of particular varieties may be limited (see Crop Watch article “Delay soybean planting....”, May 10, 1996).

4. Compare estimated yield from present stand to that of a replant, considering replanting date and all additional costs.

5. Some may consider planting another row beside existing rows (offset rows) in an attempt to repair poor stands. Offset rows in most situations are not a good option because of increased difficulty with cultivation, furrow irrigation, harvest (with row crop head), and uneven maturity dates. In a few cases where these factors are not important to the producer, offset rows may enhance yield. The places where offset rows have helped are those where less than one-third of a stand remained.

Roger Elmore, Extension Crops Specialist, South Central Research and Development Center

Are spring rains causing preplant nitrogen losses?

The possibility of losing preplant nitrogen to excessive spring rains always exists. Any nitrogen loss that does occur will probably be through leaching and not due to surface run-off from excess rainfall.

Any nitrogen loss from surface run-off would most likely be ammonium-nitrogen that was attached to the soil particles. Some nitrate-N could be lost if surface run-off occurred immediately after a surface application of nitrogen solution. This loss is significantly reduced with minimum or no tillage. The potential for nitrogen loss is greatest from preplant nitrogen on sandy soils where part of the nitrogen applied was already in the nitrate form. However, most producers are aware of the possible nitrogen losses from preplant nitrogen applications to sandy soils and little preplant should have been applied.

The amount of nitrogen that can be lost to leaching is influenced by several factors. First, soil temperatures across Nebraska this spring have stayed on the cool side. Anhydrous ammonia applied last fall or preplant this spring will

(Continued on page 64)
Herbicide applications in wheat may still be an option

**Is it too late to spray winter wheat fields?**

This was a favorite question last week. In most fields the wheat is in the jointing stage; however, some fields have areas where the wheat is only in the tillering stage. In these areas lambsquarters, kochia, common sunflower, waterpod, pigweed and annual grasses are emerging and the wheat will not be competitive enough to suppress the weeds. In other fields wild buckwheat is emerging and will be a problem by harvest. Other fields will have winter annual weeds such as field pennycress, shepherdspurse, or tansy mustard and the grower wants to kill them.

The winter annual broadleaf weeds must be controlled before they start to bolt. Most herbicides will not kill these plants without increasing the rate; however increasing the herbicide rate may cause a reduction in grain yield. Most of the damage from these weeds has already occurred; however a herbicide application now could help reduce seed production and future problems. These areas should be mapped so they can be sprayed in a timely manner the next time the field is planted to winter wheat.

For those wheat fields that winter killed, or areas that are behind in maturity, weeds will need to be controlled. The herbicides available for winter wheat are Ally, Amber, Buctril, Express, Finesse, Harmony Extra, MCPA, and 2,4-D. It is too late to use Banvel because it must be used before jointing. Buctril + Express may be applied until the flag leaf is showing. The problem with Buctril is that the wheat canopy may intercept the herbicide before the weeds are hit. The directions on the 2,4-D label suggest that application be made after the wheat is fully tillered (4 to 8 inches tall) but before jointing. Do not spray grain in the boot to dough stage because injury risk is greater at this time.

Regardless of the herbicide used on wheat there is some risk of grain yield reduction. When spraying late, weigh potential damage from the herbicide against weed competition if left uncontrolled. Also, consider spraying only the worst weed infested areas.

The advantage of using Ally, Amber, Express, and Harmony Extra is that they provide residual control of some weed species. However, this may be a disadvantage if the crop has to be destroyed or if one wants to change the crop rotation. These herbicides have recropping restrictions so labels need to be read in case the crop rotation is going to be changed.

Another option is to use a harvest-aid treatment before wheat is ripe. Apply 2,4-D ester at 1 qt/ A when grain is in the hard-dough stage to suppress large weeds that may interfere with harvest. Roundup RT at 1 to 2 pt/ A, Roundup RT + 2,4-D ester at 1 to 2 pt +1 to 2 pt/ A, or Landmaster BW at 54 oz/ A. The advantage of Roundup is that it also will control summer annual grasses. Ally + 2,4-D is another option. The problem with these treatments is that if weeds do not die they may be like ropes when they go through the combine.

Gail A. Wicks, Extension Weeds Specialist
Drew J. Lyon, Extension Dryland Crops Specialist

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**Have you seen ALS resistance?**

Nebraska weed scientists confirmed the field presence of shattercane resistant to ALS (aceto lactate synthase) herbicides in 1995. We are asking your help in locating fields with shattercane suspected to be resistant to ALS this year.

Existence of a resistant biotype is indicated when one plant of the same species while others were killed. Some resistant plants may show ALS symptoms such as leaf yellowing, leaf stripping, or stunting but do not die.

We are interested in observations from fields treated with an ALS-inhibiting herbicide in 1996. Corn herbicides of interest include Accent, Beacon, Basis, Contour, Exceed, Pursuit, and Resolve.

We would appreciate knowing the location of fields with suspected ALS-resistant shattercane. We will follow up by collecting seed in the fall to verify the resistance with greenhouse tests. This effort should help us develop an understanding of the extent and distribution of ALS-resistant shattercane in Nebraska. By sharing information, all of us will be more effective in our work and service to Nebraska agriculture. Contact:

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Fax (402) 532-3823

**Alex Martin**
362 Plant Science Hall
University of Nebraska-Lincoln
Lincoln, NE. 68583
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Spring black stem may develop in alfalfa

Although the dry spring weather has inhibited disease activity, the recent cool, wet weather may trigger an outbreak of spring black stem. This disease can cause considerable loss of forage on first cutting alfalfa.

Symptoms occur on stems and leaves as irregular black spots. Infected leaves yellow and drop from the plant. As stem lesions enlarge, most of the stem becomes black. Severely infected stems may die.

Early cutting is recommended if spring black stem is prevalent on the lower portion of plants. Scout fields weekly in May to determine the extent of disease development. Decide whether to cut early based on the results of scouting fields and weather forecasts. Don’t delay the decision to cut early, otherwise most of the leaves may be lost by harvest. Ideally, one-tenth bloom is the optimum growth state for harvesting while maintaining forage quality and limiting premature leaf loss due to disease. If the field is recovering from winter injury, it may be necessary to delay the first cutting at the risk of foliage loss to spring black stem.

John E. Watkins
Extension Plant Pathologist

Frigid temps make winter survival unlikely

Stewart’s bacterial wilt not expected

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 corn this year in Nebraska.

The bacterium (Erwinia stewartii) was positively identified in several dent corn fields in east central and southeastern counties last year and, as a result, concern arose as to the likelihood of its reappearance this season. The forecast index relates to the overwintering survival of the corn flea beetle, which is the primary insect vector (and overwintering reservoir) of the bacterium. If the sum of the 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 index ranges from a low of 64.5 (O’Neill) to a high of 91.0 (Beaver City). This would suggest that the winter temperatures were generally too cold for successful survival of the flea beetle. The following table provides the monthly means and forecast index by cropping district:

<table>
<thead>
<tr>
<th>District</th>
<th>December</th>
<th>January</th>
<th>February</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panhandle</td>
<td>28.8</td>
<td>20.4</td>
<td>30.3</td>
<td>79.5</td>
</tr>
<tr>
<td>North Central</td>
<td>26.7</td>
<td>16.4</td>
<td>27.4</td>
<td>70.5</td>
</tr>
<tr>
<td>Northeast</td>
<td>26.3</td>
<td>16.3</td>
<td>27.7</td>
<td>70.3</td>
</tr>
<tr>
<td>Southwest</td>
<td>29.6</td>
<td>22.0</td>
<td>31.7</td>
<td>83.3</td>
</tr>
<tr>
<td>Central</td>
<td>26.7</td>
<td>17.9</td>
<td>29.2</td>
<td>73.8</td>
</tr>
<tr>
<td>South Central</td>
<td>28.6</td>
<td>20.8</td>
<td>32.0</td>
<td>81.4</td>
</tr>
<tr>
<td>East Central</td>
<td>27.8</td>
<td>18.3</td>
<td>29.0</td>
<td>75.1</td>
</tr>
<tr>
<td>Southeast</td>
<td>29.3</td>
<td>20.6</td>
<td>30.9</td>
<td>80.8</td>
</tr>
</tbody>
</table>

David Wysong
Extension Plant Pathologist

Jim Partridge, Associate Professor,
Plant Pathology
with Al Dutcher
State Meteorologist
Agricultural Meteorology
Pinto chase recommended variety for resistance

Cultural practices can help control dry bean rust

The threat of rust to Nebraska's dry bean crop is ever present, but can be limited through the use of cultural practices. Rust is caused by a fungus and appears initially on the upper and lower leaf surfaces as small yellow or white slightly raised spots. These spots rupture the leaf surface, enlarge and form rounded reddish-brown or rust-colored minute pustules. Pustules may be surrounded by a yellow border.

Severely infected leaves curl, turn brown, dry up and drop. A crop that is severely rusted appears scorched. Rust is caused by locally overwintered teliospores in old bean residue and airborne fungus spores (seeds) which are blown from distant bean fields. Volunteer beans infected by the rust pathogen can be a source of inoculum for grower's fields.

Several factors favor the initiation of rust development. Dew formation on days that average less than 85 F enhances infection and rate of disease development. In this region, a clear night usually will allow for more than the 10 hours of dew required for infection.

Rust can be prevented through crop rotation, soil incorporation of bean seed and debris to remove potential sources of rust spores, and use of a rust-resistant variety. Also, producers planting before June 15 can reduce exposure to rust late in the growing season when weather conditions often favor the disease.

Although moisture on the leaves may contribute some to disease development, irrigation must be continued because severely rusted plants may require twice as much water to complete pod fill and maintain acceptable seed weight.

Most dry bean varieties grown in this region are susceptible to the prevailing races of rust. Pinto chase, developed through UNL Professor Dermot Coyne's plant breeding program, is one of the few rust resistant bean cultivars available to producers. Resistant varieties may yield nearly 200% more than susceptible varieties when exposed to severe rust epidemics. Fungicides can prevent or reduce rust infection if applied early during the season at the first signs of infection. They should be applied in at least five gallons of water per acre to thoroughly cover

(Continued on page 65)

Nebraska Weed Tour
June 17-20

Following is the schedule for the Nebraska Weed Tour.

Monday, June 17
1 p.m.
Northeast Research and Extension Center, Concord

Tuesday, June 18
9 a.m.
Lincoln at 84th and Havelock sts.
3 p.m.
South Central Research and Extension Center at Clay Center

Wednesday, June 19
8:30 a.m. (MDT)
West Central Research and Extension Center at North Platte
3 p.m. (MDT)
High Plains Agricultural Laboratory near Sidney

Thursday, June 20
8:30 a.m. (MDT)
Panhandle Research and Extension Center near Scottsbluff
John McNamara, Extension Assistant, Weed Science

Nitrogen (Continued from page 61)

probably not be completely converted to nitrate nitrogen. Very little nitrogen is available in the nitrate form for leaching. Second, the top three feet of most Nebraska soils were not at field capacity for moisture this spring. Considerable moisture will be needed to bring the top three feet of the soil to field capacity. As moisture moves through the top soil, some nitrogen can be carried deeper. However, very little nitrogen should be moved completed below the root zone.

In areas of heavy rainfall, producers still have time to check for leaching of any preplant nitrogen. The pre-sidedress nitrogen test (PSNT) is a reliable method to determine how much nitrogen is available to the crop in early June before the crop is too tall to sidedress nitrogen. For producers with pivot irrigation, the PSNT test can be done later since nitrogen can be applied through the pivot.

Nebraska research shows that a representative sample down to two feet supplies more information than a one foot sample; however, a one-foot sample is more reliable than guessing.

Ken Frank, Director, University of Nebraska Soil Testing Laboratory
Crop options after corn herbicide use

Recent hail, lowland flooding or delayed corn planting may cause some farmers to consider planting something other than corn in fields where a corn herbicide had been used. Planting options vary according to the herbicide applied.

The table lists planting options based on our judgment for various herbicides with the time delay required between application and planting. These estimates can be influenced by several factors including application rate, soil organic matter content, and pH.

One method of planting into soil containing damaging herbicide residues is to set furrow openers on the planter to remove the surface soil. A heavy rain after planting would negate this technique and may result in the crop being "silted under." Use herbicides only "as needed" on the replant crop.

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

Dry beans

(Continued from page 64)

plant foliage. A spreader sticker also should be applied with the fungicide because sprinkler irrigation and frequent rains may wash protectant fungicides off leaves, reducing protection.

Jim Stedman
and Eric Kerr
UNL Professors of Plant Pathology
Howard Swartz
Professor of Plant Pathology
Colorado State University
Dale Lindgren
Professor of Horticulture

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Replant crops</th>
<th>Time delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accent</td>
<td>Corn</td>
<td>None</td>
</tr>
<tr>
<td>Atrazine</td>
<td>Corn, Sorghum</td>
<td>None</td>
</tr>
<tr>
<td>Banvel</td>
<td>Corn, Sorghum</td>
<td>15-30 days</td>
</tr>
<tr>
<td>Clarity</td>
<td>(depending on rate)</td>
<td></td>
</tr>
<tr>
<td>Beacon</td>
<td>Corn</td>
<td>None</td>
</tr>
<tr>
<td>Bicep/Bicep Lite</td>
<td>Corn, Sorghum (safened seed)</td>
<td>None</td>
</tr>
<tr>
<td>Bladex</td>
<td>Corn</td>
<td>None</td>
</tr>
<tr>
<td>Broadstrike + Dual</td>
<td>Corn</td>
<td>None</td>
</tr>
<tr>
<td>Broadstrike Plus</td>
<td>Corn</td>
<td>None</td>
</tr>
<tr>
<td>Broadstrike + Treflan</td>
<td>Soybeans</td>
<td>None</td>
</tr>
<tr>
<td>Buctril/Atrazine</td>
<td>Corn, Sorghum</td>
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</tr>
<tr>
<td>Bullet</td>
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</tr>
<tr>
<td>Cycle</td>
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<tr>
<td>Dual/Dual II</td>
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<td>0-15 days</td>
</tr>
<tr>
<td>DoublePlay</td>
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</tr>
<tr>
<td>Eradicane</td>
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</tr>
<tr>
<td></td>
<td>Sorghum</td>
<td>30 days</td>
</tr>
<tr>
<td></td>
<td>Soybeans</td>
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</tr>
<tr>
<td>Extrazine II</td>
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</tr>
<tr>
<td></td>
<td>Sorghum</td>
<td>15-30 days</td>
</tr>
<tr>
<td>(depending on rate)</td>
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</tr>
<tr>
<td>Frontier</td>
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</tr>
<tr>
<td>Guardsman</td>
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<td>Harness Plus</td>
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<td>Harness Xtra</td>
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<td>Laddok</td>
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<td>Lasso</td>
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<tr>
<td>Micro-Tech</td>
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<td>Marksman</td>
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<td></td>
<td>Sorghum</td>
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<td>Micro-Tech</td>
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<tr>
<td>Princep</td>
<td>Corn only</td>
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<td>Prowl</td>
<td>Soybeans, Sunflowers</td>
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<tr>
<td>Pursuit</td>
<td>Corn (IR, IT), Soybeans</td>
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</table>

(Continued on page 66)
Eliminate potential for chinch bug damage before planting sorghum near wheat

Several factors may contribute to increased chinch bug problems this year, especially for growers planting sorghum into destroyed wheat fields. Producers should remember that dry weather, poor wheat stands, and volunteer wheat can contribute to increased damage.

Chinch bugs have not been a widespread, serious problem in Nebraska for several years, but slightly higher numbers of chinch bugs were observed last year compared to 1993 and 1994. The Kansas Cooperative Economic Insect Survey Report indicated some areas in northeast and eastern Kansas had overwintering chinch bug populations that could cause scattered serious to severe early season damage.

The best recommendation to reduce chinch bug damage is to avoid planting sorghum next to wheat. If you plan to plant sorghum directly into wheat, provide as much time as possible between killing the wheat and planting the sorghum. If the wheat was destroyed prior to chinch bug migration from overwintering sites (by mid to late April), the field should have few chinch bugs. If chinch bug eggs have already been laid in the wheat field, survival of immature chinch bugs will be less as the interval between wheat destruction and sorghum emergence increases. Consult University of Nebraska extension publication EC-130 for herbicide recommendations for destroying wheat.

Planting time insecticides are effective on light to moderate chinch bug populations. For insecticide recommendations consult University of Nebraska EC-1509, Insect Management Guide for Nebraska Corn and Sorghum and consider these recommendation updates. Gaucho® seed treatment and Furadan® 15G may be used to reduce chinch bug damage. Gaucho treated seed provides early season protection from a variety of insects including chinch bugs and greenbugs. There is a 12-month plant-back interval for fields treated with Gaucho. The only crops you can plant back into a Gaucho treated field for 12 months are sorghum, wheat, barley, canola, cotton, or sugar beets. Gustafson Inc., hopes to have labels or tolerances for corn and soybeans by next year. If these additions to the Gaucho label are approved, it will provide more rotation flexibility.

Furadan 15G has been approved for use in parts of Kansas and in 14 southeastern Nebraska counties for chinch bug control in 1996. FMC Corporation indicates that 1996 is the last year they will sell Furadan 15G for chinch bug control. The EPA has not ruled on use or disposal of residual stocks of Furadan 15G. Dealers must have new 1996 permits to sell Furadan 15G and any bird or wildlife incidents related to its use must be reported to the Nebraska Department of Agriculture (402-471-2394).

For more information see University of Nebraska NebGuides G86-806, Chinch Bug Management, and G87-838, Management of Greenbugs in Sorghum.

Z B Mayo
Entomology professor

Crop options after corn herbicides (Continued from page 65)

<table>
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<th>Herbicide</th>
<th>Replant options</th>
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<tr>
<td>2,4-D</td>
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<td>Ramrod</td>
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<tr>
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<td>Surpass</td>
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<td>Sutazine</td>
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