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Crop Watch No. 2004-10, May 21, 2004

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CROP WATCH

University of Nebraska Cooperative Extension
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No. 2004-10, May 21, 2004

Some corn and soybeans may be replanted

Wheat and alfalfa vulnerable to freeze

Cool, wet conditions across much of the state this week brought valuable soil moisture, but complicated recovery of those crops injured by a May 14 freeze.

Sunny, dry conditions would have been just what the doctor ordered for injured plants to recuperate. This week's cloudy, damp conditions should benefit healthy crops, but may contribute to the development of soft rots or diseases in injured crops, said Roger Elmore, Extension cropping systems specialist.

Freeze damage was likely most serious in west central and north central Nebraska where the temperatures dipped as low as 26°F for up to five hours. It's still too early to estimate the degree of crop damage and potential loss to the state's agriculture, however much of the wheat and alfalfa in the affected areas was at a stage quite vulnerable to frost. Corn and soybean seedlings also could be injured or killed, depending on their stage of development, the temperature, and the length of time the plant was below freezing.

Producers suspicious of freeze damage should be assessing their fields now and considering their options. (Further information on crop assessment is outlined below.) The timing for replanting is still good for corn and soybeans. If replanted soon, potential yields should be within 15% of those achieved with initial planting dates, said Bob Klein, Extension cropping systems specialist at the West Central REC in North Platte.

Before destroying any crop or replanting, consult your crop insurance agent and an FSA representative to determine how this action may affect your coverage or any farm programs you're participating in. Also check with your seed company to see if any reimbursement of technical fees is available for the previous seed.

Based on information in the University of Nebraska Extension NebGuide, *Spring Freeze Probabilities* (G1281), there was less than a 20% chance of a 28°F spring freeze occurring across most of Nebraska on May 14. (This NebGuide provides spring freeze probabilities for 48 Nebraska locations, based on 45 years of data.) The extreme northwest corner of Nebraska was the only area with slightly more than a 20% likelihood of getting a 28°F spring freeze by May 14.

Recorded temperatures in areas of central and west central Nebraska ranged from 26°F to 32°F with temperatures at ground level and in low lying areas expected to have been even lower.

Following is further information about how the frost may have affected four major crops: wheat, soybeans, alfalfa and corn.

Wheat

Robert Klein, Extension Cropping Systems Specialist at the West Central REC, and Drew Lyon, Extension Dryland Cropping Systems Specialist at the Panhandle REC: With crop development about 10 days ahead of normal, the wheat crop was vulnerable to a freeze.

Wheat in the west central area had already headed. A freeze at this stage can kill or damage the pollen-producing anthers, affecting kernel development and possibly causing the plant to become sterile. Under normal conditions, wheat would start to flower about five to seven days after heading. In the Panhandle, temperatures generally were not as low as in the west central area and wheat had not headed yet.

Both the temperature and the duration of the temperature determine the degree of plant injury. Areas recording temperatures below 32°F, sometimes for up to five hours Friday morning, included Ainsworth - 28, Alliance - 29, Broken Bow - 28, Chadron - 28, Imperial - 29, Lexington - 29, McCook - 29, North Platte -

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Inside

Ag briefs

Paul Hay, Extension educator in Gage County: There was some damage on corn from Friday's frost, but it appears to have had little effect on stands.

The following data is from the 2004 Southeast Nebraska Earthworm Evaluation of tilled and no-tilled fields.

12 Fields which have been in no-till from 5 to 11 years

- 5.6 earthworms/cu ft
- 0.7 earthworm cocoons/cu ft
- soil texture rated as very good to excellent

5 Tilled fields

- 0.6 earthworms/cu ft
- 0.1 earthworm cocoons/cu ft
- soil texture rated as fair

Earthworms are beneficial to the soil structure and the development of organic matter.

Del Hemsath, Extension educator in Dakota, Dixon, and Thurston counties: Rain is the main topic of consideration as of this week. The corn emerged and is trying to grow. Cool temperatures and rain have slowed farming practices to a snail's pace. Frost was not a serious crop problem in northeast Nebraska. Diseases are going to be a problem as the cool and wet conditions linger on. Alfalfa looks very good with adequate soil moisture to produce a first cutting. Storms have moved through the area with up to 3 inches of rain causing some limited erosion and replanting needs, so far on a minor acres.

Gary Zoubek, Extension educator in York County: Field crop operations have slowed down this past week as a result of some great rain. We've received nearly 2 inches since May 8. Temperatures did get down to near 32°F on the morning of May 14 and in the mid-thirties the day before and after. Hopefully that's our cold spell until this fall? Have had a few calls about beanleaf beetles in those early emerged soybean fields.

Paul Jasa, Extension engineer: Some producers are reporting problems getting their soybean seeds into the soil when no-tilling into heavy corn residue. This can be overcome by adding weight to the planter or drill and setting the planting depth deeper. The disk openers on most planters cut residue best when planting about 2 to 3 inches deep (remember, they were designed as corn planters).

While moist soils are easy to penetrate, extra weight is still needed for the disk openers to cut through heavy residue. Too often, planters and drills without sufficient weight will ride up and over the residue, leaving the seed either on top of the ground or in the residue itself. To make sure the seeds are placed in the soil, the planting depth should be set deeper, about 1.5 to 2 inches deep. This way, if the opener rides out of the ground slightly, the seeds will still be placed in the soil. Downpressure springs need to be set to transfer weight to the openers to keep them at the proper planting depth.

Ethanol checkoff to increase

Grain producers should expect a change this fall in their corn and grain sorghum settlement receipts due to a new Nebraska law increasing the ethanol production checkoff. Nebraska Department of Agriculture Director Merlyn Carlson said he wants to call attention to the legislatively mandated change now so farmers aren't surprised when they take their grain to elevators, feedlots, or other points of sale later in the year.

One of the main goals of the change is to cover the state's financial obligation under the Ethanol Development Act, which helps fund incentives for ethanol production. At present, corn producers pay 1/2 cent per bushel sold and grain sorghum producers pay 1/2 cent per hundredweight sold to help support the ethanol production incentive program. On October 1, 2004, that rate will increase by 1/4 cent, raising the total ethanol production checkoff on corn to 3/4 cent per bushel and the total ethanol production checkoff on grain sorghum to 3/4 cent per hundredweight.

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Freeze (Continued from page 87)

26. O'Neill - 30, Ord - 28, Sidney - 30, and Valentine - 26. These temperatures are air temperatures; however, the critical temperature when assessing damage is the temperature at the wheat head. Several factors can influence this microclimate, including density of canopy, soil moisture, humidity, and wind speed.

Determining wheat damage

The crop should be able to provide at least 10 bushels per acre to make harvest worthwhile. Accurate stand assessment will be key to continued management of fields where injury is suspected. Flowering should occur about five days after heading. Walk the fields daily to check for continued development of the heads and watch for pollen shed, a sign that the plant is developing normally.

Examine the anthers inside each floret from several wheat heads throughout the field. The anthers (male flower parts) are more sensitive to low temperatures than are the stigmas (female flower parts). Wheat is self-pollinated so live anthers are needed for development of each kernel. Anthers are trilobed and typically light green and turgid prior to flowering. They become yellow about the time they are extruded from the florets at flowering and then turn white. The anthers, still green, become twisted and shriveled within 48 hours after a freeze. They quickly turn white to whitish-brown and will not be extruded from the florets if they are frozen. Thus, if the anthers are still in the floret and are white to whitish brown, a kernel will not be produced.

A week or so after freezing, check the wheat heads for kernel development. Sometimes only a few florets are damaged while other times, the entire head is killed. If you have good kernel development you probably had little or no freeze damage. In this case, heads will continue to develop if sufficient moisture is available.

The most apparent freeze damage to a wheat spike that has just emerged from the boot is chlorosis or bleaching of the awns (beards), which results in a whitish color rather than the normal green color. Low temperatures that damage the awns also may damage the male flower parts.

Wheat in the boot stage probably did not suffer any significant damage unless the temperature was extremely cold for an extended time. If the spikes emerge normally from the boot but remain white or yellow instead of green, some damage occurred.

For more detailed information, see the University of Nebraska Cooperative Extension Circular, *Freeze Damage to Wheat*, available from your local Cooperative Extension Office or online at *http://ianrpubs.unl.edu/fieldcrops/ec132.pdf*

Producers who suspect extensive damage should talk with their crop insurance agents to see if the field might be released for haying or grazing. If growth has stopped and you need the crop for hay, cut it soon to maintain as much quality as possible. One of the best options, however, may be leaving as much standing residue as possible in the field to help conserve soil moisture, reduce soil erosion and capture snowfall. If your insurance allows, spray and kill the crop to avoid further use of moisture.

Much of the wheat in western Nebraska faces an even greater challenge than last week's freeze – drought. While many fields still appear healthy, little soil moisture is available and rain has been minimal at a time when the plant needs it the most. Fallow fields in western Nebraska are hanging on, but continuously cropped fields are quickly declining, Klein said.

Soybeans

Roger Elmore, Extension Cropping Systems Specialist: Emerged soybeans were susceptible to frost, however much of the state's crop hadn't emerged or wasn't in areas sustaining the lowest temperatures. Soybean growing points are above ground as soon as they emerge, which makes them more susceptible to frost than corn.

Producers with emerged soybeans where there were prolonged temperatuares below 32°F should be assessing their fields as soon as possible to determine whether replanting would be beneficial. If there are fewer than 100,000 surviving plants per acre, the yield potential likely will be reduced. If so, seed treatments may be especially beneficial to provide extended protection from fungal infections. Soybeans could still be replanted this week without yield being penalized.

Alfalfa

Bruce Anderson, Extension Forage Specialist: Alfalfa growers need to be assessing their alfalfa stands for signs of plant injury. Well-established alfalfa plants where the top several inches or more wilted and dried out will stop growing. These fields should be harvested as soon as possible or shredded if there isn't enough to harvest.

New alfalfa seedlings could have been hit especially hard. Plants frozen all the way to the soil surface will not recover. At least one set of leaves must have escaped damage for recovery to be expected. Seedlings often possess good cold tolerance, so don't give up on them too soon.

Corn and sorghum

Roger Elmore, Extension Cropping Systems Specialist: Injury to corn and sorghum plants will depend on the plant stage, low temperatures and duration of the low temperatures. A light freeze after corn seedling emergence may damage leaves but is not likely to kill the plant because the growing point

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Freeze

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is below the soil, protected until plants are 6-12 inches tall. A freeze occurring after the growing point is above the soil surface can severely damage the plant.

With lower temperatures for longer periods of time, such as occurred in the North Platte area May 14, seedling corn can sustain serious damage, even though its growing point is below the surface. In 1992, the state's growers experienced serious problems associated with a late freeze on May 26. (Champion recorded a low of 25.9°F.) Cool, damp weather similar to this year's conditions followed that freeze and corn was slow to recover. Some did not survive due to bacterial soft rot fungal infections that developed post-freeze.

Corn producers in areas sustaining a moderate freeze for several hours should scout their corn for kernel and possible bacterial development about a week after the freeze. Surviving and healthy plants should be showing new leaf tissue growth. To scout for bacterial soft rot fungal injury in corn, dissect the plant down to the growing point. If the stalk tissue is brownish rather than a more vibrant white, a soft rot fungus may have entered the plant at the whorl and be progressing downward to the growing point.

Following a survey of corn fields in the North Platte area, Klein said he found early signs of soft rot and growing point injury, slow crop recovery and extensive stand loss in some fields. After assessing individual plants throughout the field, if you're questioning the viability of the crop and continued development, consider replanting as soon as possible.

Only 7% of the state's sorghum crop had been planted by May 10 and little if any had emerged. Sorghum plants one to three weeks old have recovered from a freeze as low as 25°F, according to the NebGuide, *Nebraska Spring Freeze Probabilities.*

Lisa Jasa, CropWatch Editor

USDA crop report

USDA Nebraska Agricultural Statistics Service crop report for May 16: Temperatures averaged from normal to 6 degrees below normals for the previous week. Precipitation was statewide, with southeast Nebraska receiving up to three inches.

Soil moisture levels at the topsoil and subsoil levels showed a 6% improvement in "adequate" levels from the previous week. This week topsoil moisture averaged across the state was rated at 15% very short; 36% short; 47% adequate; and 2% surplus. Average subsoil moisture was rated very short, 34%, short, 39%, adequate, 27%, surplus, 0%.

Crop report

Corn planting continued rapidly with 95% complete, about two weeks ahead of last year at 68% and 1.5 weeks ahead of average at 81%. Sixty-five percent of the crop was emerged, well ahead of last year at 26% and average at 39%.

Soybean planting jumped to 51% complete, about 10 days ahead of last year at 17% and a week ahead of average at 32%. Fourteen percent had emerged, ahead of last year at 2% and average at 9%.

Sorghum planting advanced to 17% complete, ahead of last year at 6% and average at 15%.

Wheat condition declined and rated 13% very poor, 21% poor, 35% fair, 28% good, and 3% excellent, below last year and average. Fields were 93% jointed, ahead of last year at 85% and average at 79%. Wheat was 38% headed, well ahead of last year at 7% and average at 13%.

Oat condition rated 5% very poor, 9% poor, 49% fair, 31% good, and 6% excellent. Dry bean planting was underway with 7% seeded to date.

Alfalfa conditions declined and rated 5% very poor, 14% poor, 34% fair, 40% good, and 7% excellent. First cutting activities were underway with 4% harvested to date, ahead of last year at 2% and average at 3%.

Pasture and **range** condition declined and rated 16% very poor, 26% poor, 31% fair, 25% good and 2% excellent, below a year ago and average. Some producers are still waiting for additional grass growth before returning cattle to pastures.

Ag statistics survey

To gather reliable, objective information about crop plantings and grain and oilseed stocks, USDA's Nebraska Agricultural Statistics Service will be surveying Nebraska farmers and ranchers from May 27 to June 16. Some will be contacted by phone, others in person. This survey will indicate the potential production of major commodities in 2004.

The information gathered is used for production, marketing, and investment decisions. Agribusinesses, government personnel, legislatures, consultants, and farm organizations use the information.

"We safeguard the confidentiality of all individual survey responses," said Mark Harris, director of the Nebraska office in Lincoln. "Information from individual operations is combined with other responses to produce the published reports."

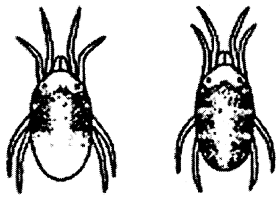
The June Hog report will be released June 25 and the Acreage and Grain Stocks reports will be released June 30.

For more information or agricultural reports, visit the Nebraska Agricultural Statistics Service Web site at *http://www.nass.usda.gov/ne/*

Pests already moving into corn

Managing early season mites

A crop consultant reported Monday that spider mites had been found moving from wheat into seedling corn near Ogallala in western Nebraska. Because of the warm and dry spring resulting in poor grass growth, spider mites are more likely to be moving out of wheat and grass areas much earlier than normal and thus early scouting may be warranted in young corn seedlings.



Comparison of twospotted spider mite (left) and Banks grass mite (right).

Management

Management of spider mites in corn at such an early stage can be difficult because of the uncertainty involved. The impact of mites at these early stages is unknown, and no treatment guidelines are available. However, an explosion of mite populations when plants are this small would clearly threaten plant survival. Natural enemies often help control mite populations later in the season, so early treatments may affect spider mite natural enemies and interfere with this control. Perhaps the most important factor in determining the potential for problems is the impact of environmental conditions.

Continued hot and dry weather will make the situation more difficult to manage as these conditions are beneficial to the mites and more detrimental to the corn. All of these factors need to be considered in managing Bank's grass mites at these early corn stages.

We have seen this situation occur in recent years, and the result often has not been disastrous. In some situtations serious mite damage and buildup has required treatment, but most often the problem has not become serious. Often these early infestations are an opportunity for natural enemies to build up and provide good mite control later in the season. However, miticide applications must be kept to a minimum and those used must be managed well for this to happen.

Miticides

There are no thresholds for miticide applications at this time of year, but some guidelines can be used. On seedling corn the major consideration might be to keep the corn alive if mite damage threatens stands. On four- to eight-leaf corn treatments should be considered if the top two leaves begin to be invaded by mites. On older corn, the top half of the plant should be protected, so treatments should be considered if mite colonies are beginning to establish on the upper half of the plant. These guidelines are more liberal perhaps than later thresholds for mites on corn, but should maximize the potential for the buildup of natural enemies. In making decisions consider the weather forecast as predicted hot and dry conditions will favor rapid mite buildup.

Three miticides have been effective against spider mites in Nebraska, including dimethoate (several formulations), Capture 2EC, and Comite. If miticides are used, resurgence of mite populations is a very real possibility with all products, including Comite. This is perhaps the most serious situation that could require growers to apply repeated applications to keep the mite numbers low enough to reduce the impact on the plants through the season. The use of repeated applications of insecticides, besides being extremely costly, will also increase the potential for mite populations to develop resistance to the miticides.

The dynamics of mite treatments at this time of year are really unknown; however, with limited foliage, chemical coverage will be improved and control should be better than later season treatments. However, we have seen heavy egg numbers in many of these colonies on young corn, and a dimethoate treatment, which will not kill eggs, has increased potential of resulting in resurgence when the eggs hatch and the residual of the chemical is past.In the past, Bank's grass mites in most areas of the state have been controlled reasonably well with dimethoate, which is the least expensive product.

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On smaller corn (four to eight leaves), treatments should be considered if mites invade the top two leaves. In making decisions consider the weather forecast as predicted hot and dry conditions will favor rapid mite buildup.

Spider mites *(Continued from page 90)*

The disadvantages of dimethoate are its toxicity to natural enemies and its inability to control mite eggs. There will be few natural enemies left in a field after a dimethoate treatment. When this is considered along with the potential of resurgence of mites from eggs to re-establish mite colonies, dimethoate is not the best choice for early season control. However, if dimethoate is chosen for control, spot treatments, leaving areas of the field that are not seriously infested, should be left to allow for natural enemy buildup.

Capture 2EC has provided good control of both Bank's grass mites and two-spotted spider mites in the past; however, Capture 2EC will also be hard on the natural enemies, and the additional cost of Capture 2EC is likely not warranted for control of only Bank's grass mites.

Comite should be considered for controlling these early season infestation even though it is costlier than dimethoate. With good coverage that should result from limited foliage, Comite provides good control of adult mites plus it will also control mite eggs. Most importantly, Comite does not kill natural enemies, but will allow for their buildup; however, if entire fields are treated, mite populations may be nearly eliminated and natural enemies will leave the field due to lack of food. Because this can occur, the best treatment for these early infestations will be to apply Comite in spot treatments to the most serious areas of a field and leave those areas with low infestations as a reservoir of mites for natural enemy buildup. Comite can only be applied once each season.

Recommendations

The following recommendations will be important to managing the current mite situation in corn.

- **Reduce the moisture stress** on corn. Stressed corn will be impacted more by the mites and will be a better host for the mites.
- **Determine the level of infestations** in your fields immediately. Treatments may not be warranted at this time, but with continued hot dry weather, growers must continually monitor this situation.
- **Delay any miticide application** as long as possible. This will allow time for beneficial populations to build up and assist in controlling the mite populations.

During this early season period, it will be important to target miticide treatments to preserve and enhance natural enemy populations. This can be done by using a miticide that will not reduce natural enemy populations (Comite) and/or applying miticides on a spot treatment basis to only those areas of a field that are threatened by serious mite infestations.

Further information

For more information on spider mite management and control, refer to the Cooperative Extension NebGuide, *Spider Mite Management in Corn and Soybeans*, G93-1167, available online at *http://ianrpubs.unl.edu/insects/g1167.htm* For miticide rates, refer to the University of Nebraska Department of Entomology Web site at *http://entomology.unl.edu/fldcrops/pestipm.htm#Item2*.

Also check *CropWatch* on the Web at cropwatch.unl.edu for photos of beneficial and predator insects relative to spider mite control.

Gary Hein, Extension Entomologist
Panhandle REC, Scottsbluff

Boost summer pasture yields with spring nitrogen applications

Warm-season grasses provide good pasture and hay and use soil nutrients efficiently. Adding nitrogen now will help stimulate grass growth when summer comes for extra hay or grazing. Nitrogen should be applied now since these grasses will begin growing rapidly once soil and air temperatures increase.

The amount of nitrogen to apply will depend on your situation. Will the extra grass be used to graze more cattle or increase hay yields? It's surprising how often we apply fertilizer and then waste extra growth by poor grazing management. This may seem obvious, but unless you economically harvest extra growth as hay or through grazing, don't fertilize Also consider the ability of your warm-season grass to yield more.

Taller warm-season grasses like big bluestem, switchgrass, and indiangrass will respond to nitrogen better than shorter grasses like little bluestem, sideoats grama, or blue grama.

If applying nitrogen, be sure to adjust it for moisture conditions. In eastern Nebraska 50 to 60 pounds of nitrogen per acre works well for average or better moisture conditions, but with drought conditions, it may be better to skip fertilizing. In western Nebraska only subirrigated meadows have enough growth potential to respond to added nitrogen. In these areas about 40 pounds per acre would work well.

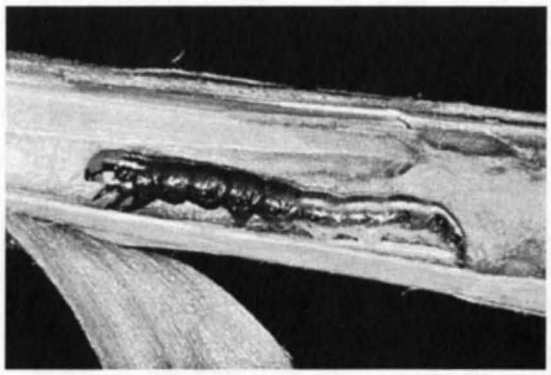
If you can benefit from extra growth on your warm-season grasses, fertilize now, in late May, for high yields. Then graze or cut hay on a timely basis for profitable returns.

Bruce Anderson
Extension Forage Specialist

Prepare to scout corn for common stalk borer

The life cycle of the common stalk borer (Paipema nebris) begins in the fall when moths lay their eggs on grassy plants and ragweed. Often these are in fence rows, grass waterways or terraces bordering crop fields. These eggs hatch in late April or early May and larvae bore into the grasses or other weeds such as ragweed and begin feeding. As the stalk borers grow or if the plants are mowed or burned down with herbicides, they move into adjacent corn plants to complete their development.

Corn stalks become weakened and easily broken from borer damage.



Common stalk borer tunneling through a corn stalk.

Table 1. Common stalk borer economic injury levels (% injured plants) (Assumes 80% insecticide efficacy, and $2 bu/acre grain value).

Corn leaf stage	*125 bu/acre yield potential*		
	Control costs/acre		
	$7	*$10*	*$13*
1	7	9	12
2	8	11	15
3	10	14	18
4	11	16	20
5	11	16	21
6	22	32	41
7	100	100	100

Corn leaf stage	*150 bu/acre yield potential*		
	Control costs/acre		
	$7	*$10*	*$13*
1	5	8	10
2	7	9	12
3	8	12	15
4	9	12	16
5	9	13	17
6	18	26	33
7	100	100	100

Identification

Common stalk borers are rather distinctive in appearance, with three white stripes on a background brownish-purple coloration. The two stripes on the side stop just behind the three pairs of true legs, then continue about half-way down the length of the caterpillar. Stalk borer feeding may kill the growing point if the caterpillar bores into the base of the stalk or it may produce ragged feeding holes in the leaves, if feeding starts in the whorl and then moves down into the stalk.

Scouting

As of May 17 900-1200 degree days (base 41°F) had accumulated since Jan. 1 in eastern Nebraska (*see map*). Based on research at Iowa State University, stalk borer egg hatch begins at about 575 degree days and should be complete by 750 degree days. Scout corn for common stalk borers when about 1,300-1400 degree days have accumulated. Updated degree day maps will be published in future issues of *Crop-Watch*.

Check corn plants bordering grassy areas. Examine several sets of 10 plants. Look for feeding damage and insect damaged plants to see if live larvae are present. If weedy grasses were common throughout the field in the previous year, the whole field may need to be scouted for common stalk borers.

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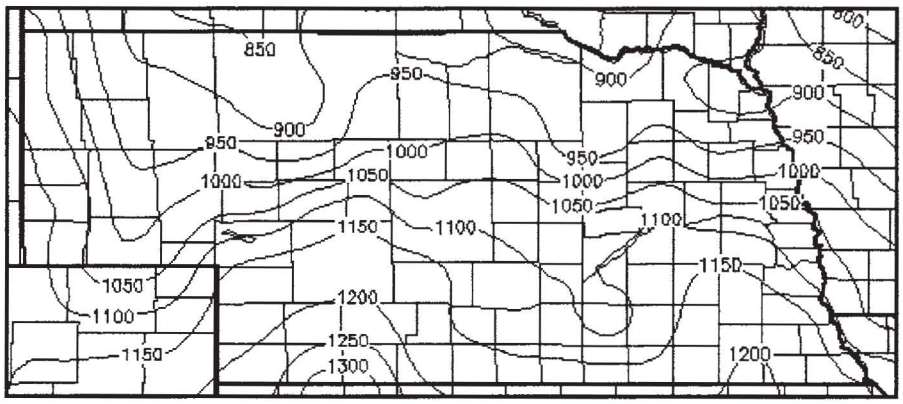

Estimating common stalk borer development

Growing degree day accumulations forecast development of the common stalk borer's life stages. Egg hatch begins at about 575 degree days and should be complete by 750 degree days. Scout corn for common stalk borers when about 1,300-1400 degree days have accumulated, which should occur soon in much of Nebraska.

Adjust pasture management for available moisture

Some folks have received needed rain in recent weeks and their pastures are green and growing thick. Others, however, have received little rain and their pastures are extremely dry. In this article the author addresses how to manage pastures under these two scenarios — extremely dry and sufficiently moist.

Pastures with moisture

When moisture is plentiful and temperatures get warm, grass grows rapidly. To reap maximum benefits from this extra grass, you need to control when and where your animals graze and plan for later use.

One option for using the extra grass is to cut hay for winter feed. If you select this option, choose the area you plan to cut for hay now and prevent animals from grazing there, both before and after cutting hay. Build or repair fences if needed.

Another option is stockpiling extra growth in a pasture for winter grazing. This can save on winter hay and is inexpensive to try. It also is a good way to strengthen plants following drought. On summer rangeland, you need to start accumulating growth no later than early July by fencing cows out of the planned winter pasture. If, instead, your winter pasture will be from cool-season grasses like bromegrass or wheatgrass, be ready to fence off and save the winter grazing portion by late July. Don't overgraze this area this summer or late season growth will be slow.

Finally, start a planned rotational grazing program this summer. Plants will recover well during rest periods, building deep and healthy root systems that will maintain production when it finally does turn dry.

Don't just be satisfied when abundant rain gives you extra grass. Take advantage of this growth for long-term benefits.

Pastures in drought

As pastures dry up, grazing management needs to adjust to get the most use out of what's available while protecting resources for future years. Have you ever heard the phrase "grass grows grass"? It describes leaving enough grass in a recently grazed pasture so it can regrow more quickly. Rapid regrowth occurs because remaining leaves absorb more sunlight and make nutrients to support faster regrowth. This assumes that sunlight, air, nutrients, proper temperatures, and moisture will be available for the grass to regrows.

As soils begin to dry out, I still suggest leaving grass behind to encourage regrowth. Regrowth will be slower than normal due to the increased moisture stress so be sure to wait until plants are fully recovered before grazing.

Once soils get so dry that regrowth won't occur without rain, change your grazing management. Graze off everything you intend to remove for the year because grass left behind will not regrow and probably will be gone or worthless by the time cattle return later.

Often the most efficient way to get as much as possible from these dried up pastures is to strip graze. Severely limiting the amount of pasture area cattle can graze to just the amount they need for a couple days will greatly reduce waste and increase the amount of grazing in these pastures.

Bruce Anderson
Extension Forage Specialist

Stalk borer *(Continued from page 92)*

Management

To be effective, insecticides must be applied before common stalk borer larvae enter the stalk. In cases where stalk borers begin feeding on grassy weeds or other vegetation in field edges, control is most effective if timed between 1400 and 1700 degree days, which corresponds to the first half of the period when stalk borers are migrating from weedy hosts into corn. If the infestation is restricted to the field margin, use a border treatment.

In cases where there is a history of fieldwide stalk borer damage at a site, insecticides applied to corn and timed for egg hatch may reduce damage. The disadvantage of this approach is that there is no effective way to sample for stalk borers at this time, so treatments are made without knowing whether they would be profitable that year.

Insecticides may be mixed with fast-acting herbicides being used to burn down early season weeds, or applied several days after use of slower-acting herbicides. Check the label for compatibility of different insecticide and herbicide mixtures.

A variety of foliar insecticides are labeled for control of common stalk borer in corn, including Ambush 2E (6.4-12.8 oz per acre), Asana XL (5.8-9.6 oz per acre), Baythroid 2 (1.6-2.8 oz per acre), Lorsban 4E (2-3 pints per acre), Pounce 3.2EC (4-8 oz per acre), Capture 2EC (2.1-6.4 fl. oz per acre), Mustang Max (2.72-4 oz per acre) or Warrior 1EC (2.56-3.84 oz per acre).

For a list of products, visit the UNL Entomology Web site at *http://entomology.unl.edu/instabls/stalkbor.htm* For more information check the University of Nebraska NebGuide, *Common Stalk Borer in Corn* (G521).

Bob Wright
Extension Entomologist

Choosing the right postemergence herbicide

As planting wraps up, many producers will start spraying for weeds. In this article we take a look at postemergence corn herbicide options.

Consider several factors when choosing a postemergence herbicide. The first and most important is its efficacy on the weed species present. You obviously want a herbicide that works well, but some herbicides provide better control on some weeds than others. Also consider crop safety and timing of the herbicide application. For example, one herbicide will have good activity on many grass and broadleaf weeds, but should not be applied to corn over 12 inches tall. All herbicides carry some type of timing restriction and pushing those limits can easily result in crop injury or reduced weed control. In the end that can mean lost dollars from yield loss.

Often, efficacy is influenced by the rate used. Choose a herbicide that will allow you to use the required rate for different weed sizes. For example, 24 ounces per acre of glyphosate will do well on most velvetleaf plants in the 1-3 inch stage; however, if you are dealing with 4-8 inch weeds, increase the rate to 1 quart per acre. Use caution when increasing rates of most herbicides because this can increase the possibility of crop injury. Finally, follow label recommendations regarding additives. Many labels will suggest adding crop oil (COC), AMS, or othe additives to enhance herbicide movement or uptake into the plant. The right additive can really help provide great weed control; however, the wrong additive can cause serious crop injury and/or poor weed control, which once again translates into yield loss. As always, read and follow the label recommendations and restrictions for maximum herbicide efficacy and crop safety.

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Extension Weed Science Educator

Postemergence corn herbicides

Herbicide	Primary Activity	Timing	Rate/a	Additive[1]
ATRAZINE	Broadleaf + Grass	Corn <12", BL[6] 2-6", grass <1"	1.4-2.2 lb	COC 1qt
ACCENT	Grass	Corn up to 20", BL <4", grass <3"	0.67 oz	COC 1gal/100[3]
ACCENT GOLD	Broadleaf + Grass	Up to V6, weeds 1-3"	2.9 oz	COC 1 gal/100 gal, 28%N 1-2 qt
AIM	Broadleaf	2 leaf to 48"	0.5 oz	NIS 1 qt/100 gal, COC 1 gal/100 gal, or 28% 2-4 qt/a
BANVEL	Broadleaf	Corn spike to 5"[2]	0.5-1.0 pt	Not often used due to crop injury
BASIS	Broadleaf + Grass	Corn spike to 2-collar, 4-leaf	0.33 oz	COC 1-2 gal/100 + UAN 1-2qt/100[3]
BASIS GOLD	Broadleaf + Grass	Up to V6, weeds 1-3"	14 oz	COC 1-2 gal/100[3]
BEACON	Broadleaf + Shattercane	Corn 4-20", BL <4", grass <3"	0.38-0.76 oz	COC 1 qt[3]
BICEP II MAGNUM	Broadleaf + Grass	Corn up to 12"	2.1 qts[7]	none
BUCTRIL	Broadleaf	Corn 2-leaf to V6, BL 2-6"	1.0-1.5 pt	Not often used due to crop injury
CALLISTO	Broadleaf	Corn 0 – 30"	3.0 oz	COC 1 gal/100 28% 2.5 qts/100 or AMS 1%
CELEBRITY	Broadleaf + Grass	Corn 4-36"[5]	6.67 oz	NIS 1-2 qt/100 gal + UAN 2-4 qt/a[3]
CELEBRITY PLUS	Broadleaf + Grass	Corn 4-24"[5]	4.7 oz/a	NIS 0.25-0.5% + UAN 1-2 at/a[5]
CLARITY	Broadleaf	Corn 8-24"[2]	0.5-1.0 pt	Not often used due to crop injury

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Postemergence corn herbicides *(Continued from page 95)*

Herbicide	Primary Activity	Timing	Rate/a	Additive[1]
CONNECT	Broadleaf	Corn after emergence, prior to tassel	1.25-1.87 lb/a	COC 1% v/v
DISTINCT	Broadleaf/ Some grass	Corn 4-24"[2]	4-6 oz	NIS 1 qt/100gal + UAN 5 qt/100 gal[3]
DUAL II MAGNUM	Broadleaf + Grass	Layby	0.67-1.5 pt	none
EQUIP	Broadleaf + Grass	Corn V4 – 12"	1.50 oz	MSO1.5 pt + (UAN 2 qt or AMS 2lb)
EXCEED	Broadleaf	Corn 4-20", BL 2-12"	1.0 oz	COC 1 qt[3]
GLYPHOSATE[4]	Broadleaf + Grass	Corn up to 24"	24-42 oz	8.5 -17lbs AMS/100gal
HORNET	Broadleaf	Corn spike to 20", BL <8"	1.6-4.0 oz	NIS 1qt/100gal COC 1gal/100gal
HORNET WDG	Broadleaf	Corn spike to 20", BL , 8"	2.0 –5.0 oz	NIS 1qt/100gal COC 1gal/100gal
LADDOK S-12	Broadleaf	Corn <12", BL 2-4"	1.3-2.3 pt	COC 1 qt[3]
LIBERTY[4]	Broadleaf + Grass	Weeds 1-4"	24-28 oz	AMS 3 lb
LIBERTY ATZ[4]	Broadleaf + Grass	Corn < 12"	40 oz	AMS 3 lb
LIGHTNING[4]	Broadleaf + Grass	Corn to 12", weeds up to 4"	1.28 oz	NIS 1qt + UAN 1-2 qt
MARKSMAN	Broadleaf	Corn before 5- leaf stage	2.0-3.5 pt	COC 1 qt[3]
NORTHSTAR	Broadleaf / Some grass	Corn 4-20"[5]	5 oz	NIS 1 qt/100 gal[3]
OPTION	Grass	Corn 0-16"	1.5 oz	MSO 1.5 pts 28% 1.5 qts or AMS 1.5 lbs
PERMIT	Broadleaf	Corn spike to 20", BL 2-6"	0.66-1.33 oz	COC 1 gal/100[3]
PRIORITY	Broadleaf	Corn up to 8-leaf collar	1.0 oz	NIS 1 qt/100 gal
PROWL	Some Broadleaf + Grass unemerged	Corn spike to layby,	1.8-3.6 pt	none
PURSUIT	Broadleaf + Grass	Weeds < 4"	4 oz	COC 1.5-2 pt + UAN 1-2 qt[3]
RESOURCE	Broadleaf	Corn 2-10 leaf, BL < 4"	4-6 oz	COC 1 qt[3]
SENCOR	Broadleaf	Corn up to 8", BL 2-4"	1.5-2 oz	28%N 2-4 qt
SPIRIT	Broadleaf / Some grass	Corn 4-20"	1 oz	NIS 1-2 qt/100 + 28%N .5-1 gal
STEADFAST	Grass	Corn up to 12" or < 6 collar	.75 oz	COC 1 gal/100 gal, 28%N 2 qt
STEADFAST ATZ	Broadleaves + Grass	Corn up to 12"	14 oz	(COC or MSO 1gal/100 gal or NIS 1qt/100 gal) + (UAN 2qt or AMS 2lbs)
TREFLAN	Grass	Corn 2-leaf to layby; weeds unemerged	1.5-2.0 pt	None
2,4-D AMINE	Broadleaf	Spike to 8"	1-2 pt	Not often used due to crop injury

[1]Rates for additives are on a per acre basis unless noted
[2]Corn over 8 inches, use drop tips
[3]Other additives may be used, check label
[4]Requires herbicide resistant corn hybrid
[5]Corn over 20 inches, use drop nozzles
[6]BL= broadleaf
[7]Do not apply over 3.25 qts/acre of Bicep II Magnum on a corn crop or apply more than 2.5 lbs active ingredient of atrazine on a corn crop.