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CropWatch No. 2002-13, June 14, 2002

Lisa Brown Jasa
University of Nebraska-Lincoln, ljasa@unlnotes.unl.edu

CROP WATCH

University of Nebraska Cooperative Extension
Institute of Agriculture and Natural Resources

No. 2002-13
June 14, 2002

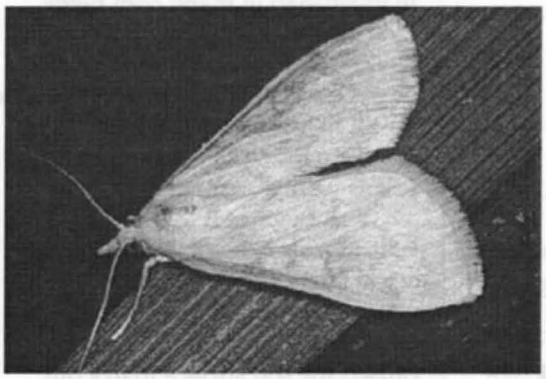
European corn borer moths are flying

Since 1998 European corn borer moth flights have been extremely low, however, it appears that populations are beginning to rebound. For the first time in four years our nightly black light trap catches for first flight corn borer cracked 100 moths/night at Concord (just barely).

Current information on black light trap catches for several sites in Nebraska can be found at *http://entomol/fldcrops/fldcrops.htm.* While not a bumper crop of moths, the increased catch this year indicates we should not be complacent about the European corn borer in non-Bt cornfields. It's time to review corn borer management and begin scouting for this insect.

Scouting

Timely and accurate scouting is the key to managing European corn borer in standard (non-Bt) corn hybrids. Remember that conditions are localized and fields must be scouted on an individual basis to make accurate decisions.



Black light traps in northeast Nebraska this week had the highest capture of first generation European corn borer moths that they'd had in the last four years -- slightly more than 100 in one night.

Survival of the corn borer larvae depends on several factors. High humidity and warm temperatures are ideal for establishment of larvae in the whorl. Egg masses are white, with 5 to 40 eggs in each mass, and laid on the underside of leaves near the midrib. The masses look like

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Inside

Insect pests appearing early in drought-stricken western areas

Spider mites (Bank's grass mites) have been seen in corn in southwestern Nebraska and in the Panhandle. We are not sure of the extent of the problem, but it is very early for damaging populations of spider mites to appear.

Reported problems have been in areas surrounded by wheat or grasses where the slow growing corn has had a difficult time staying ahead of the mites. Treatment would be necessary if plant survival is being threatened. It is important to treat only when necessary and only the area of the field that is affected. Mite problems this early can be serious, and we will need help from predators to keep these populations at bay for the summer. Widespread treatments will set predator populations back. Two years ago we had early sightings of mites, but they did not continue to be a problem through the summer as natural enemies helped to provide control; however, the prospect of water shortages and spider mites is a dangerous combination.

(For information on identifying and treating the Banks grass mite, see

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Updates

Management tips June14-30

♦ **Before you irrigate check soil moisture in the active root zone.** Below are the average root depths of selected corn and soybean stages.

Root depth (feet)	*Corn stage*	*Soybean stage*
1.0	4 leaf	Vegetative
2.0	8 leaf	Early bloom
2.5	12 leaf	Full bloom
3.0	16 leaf	Pod development
3.5	Silking	Seed development
4.0	Blister	Full seed fill

♦ **If liquid manure is applied by sprinkler irrigation to a growing crop, and if the electrical conductivity (EC) exceeds 3 mmho/cm, then dilute it with fresh water.** Sample the manure, and the mixture if adding water, after pumping several hours.

♦ **Irrigated wheat is using well over an inch of water per week in the Panhandle at this time.** It is imperative that with virtually no rainfall, irrigation be applied to meet this need.

♦ **Grass seed production will be at its largest water use during the next three weeks at around 1.2 inches per week.** With the low humidity, and limited rainfall it will require regular irrigation to avoid lodging and provide the needed moisture for optimal production. Conditions have not been favorable for fungal diseases such as ergot this season so fungicide applications should not be needed.

♦ **Generally earlier planting dates are recommended for proso millet, but it can be planted through the last week of June if you are waiting for moisture.** It has generally been observed that adequate fertility is even more valuable in crop-stressed years because it helps in the development of the root system.

Field updates

Keith Glewen, Extension Educator in Saunders County: The evening of June 10 a severe storm with winds up to 75 mph passed through Saunders County, resulting in greensnap in many corn fields. One field was reported to have 17% damage. In one case wind carried large quantities of cornstalks across a no-till field, stripping the leaves off small soybean plants. Numerous pivots were overturned.

Ron Seymour, Extension Educator in Adams County: Crops are in fairly good condition. The warm weather has induced rapid growth and windy conditions have caused the soil surface to dry out rapidly. Corn plants are generally in the 4- to 5-leaf stage and look good. First cultivation has been completed in many fields.

Most of the soybean crop has emerged and is in the unifoliate leaf stage. First cultivation operations have begun on some earlier planted fields. Bean leaf beetles continue to feed, but damage has been minimal.

Most wheat fields look very good. The heads are beginning to turn color as ripening begins. First cutting is complete in most alfalfa fields.

Gary Zoubek, Extension Educator in York County: Scouts are reporting some stink bug damage in our area. The bean leaf beetle has been feeding and they've seen some corn rootworm larva. Producers are busy cultivating and making herbicide applications. We received about 0.7 inch of rain Monday night.

Ralph Anderson, Extension Educator in Buffalo County: Corn crop remains on the fringe of serious drought problems. Some areas were able to catch a little rain and keep going, but others are in serious need. A lot of corn was cultivated, fertilized and sprayed the past week, although finding a calm day for spraying has been a real challenge. When you wake up with 15 mph winds, it's usually not going to be a good day.

Most hay has had its first cutting, with some yields cut by a third to a half of normal. Army cutworms are on their way to the Black Hills to honeymoon. We all wished them goodbye with hopes they don't come back. That makes checking the light trap easier, especially with a light catch on corn borer moths.

The corn crop is fairly uniform across the area and looking fairly good. Beans are up and growing

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CROP WATCH

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Lisa Jasa, Editor; Email: ljasa1@unl.edu

ECB 1st generation *(Continued from page 117)*

fish scales flattened against the leaf. In four to seven days the heads of the developing larvae will be visible, and the eggs will appear spotted. This is the "blackhead" stage, and these eggs normally hatch within 24 hours. As the larvae enter the whorl to feed on the developing tissue, the feeding scars (shot-holes) appear as the leaves emerge from the whorl. Larvae will remain within the whorl for 7 to 14 days before boring into the stalk.

Corn that is below about the 16-inch extended leaf height (distance from the tip of the leaf pulled up vertically to ground, about six-leaf stage) is unlikely to support young larvae because of the presence of a substance known as DIMBOA, a natural resistance factor. As the plants grow the level of DIMBOA decreases, so plants above the 16-inch extended leaf height will generally support corn borers. First generation corn borers prefer taller plants for egg laying, therefore, the earliest planted fields are more likely to have higher populations. Scout these fields first, but do not neglect other fields because any cornfield is a potential target and should be scouted.

Now that *Bt* corn is being planted widely, be sure you know whether the field you are scouting was planted to *Bt* corn. In *Bt* corn, corn borer injury to whorl stage plants should be limited to a few tiny pin holes where larvae initially fed before ingesting a lethal dose of *Bt* toxin. However, seed lots may contain a small percentage of off-type seed (typically less than 4%) which does not produce sufficient toxin levels to kill corn borer larvae. If greater than 4% of plants show significant leaf feeding damage in a *Bt* cornfield, check to confirm it is corn borer causing the injury (other caterpillars such as corn earworms, or common stalk borer are not controlled by *Bt* corns currently

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Worksheet for 1st generation European corn borer

(An on-line interactive version of this worksheet is available at http://ianrwww.unl.edu/forms/forms.skp/ecb_1st.html)

To estimate the cost/benefits of applying an insecticide for European corn borers, you also need to know the cost per acre of the insecticide application ($/acre), the anticipated price of grain ($/bu), and yield potential (bu/acre) of your hybrid. Assume 5% yield loss/borer/plant and a proportion of larval population reduction by insecticide application of 0.75.

Average number of larvae/plant (percent of injured plants X number of larvae/injured plant) _____ larvae/plant

Potential yield loss if all larvae survive (number of larvae/plant X 5% loss/borer/plant) _____ % loss

Potential bushel loss (potential yield loss X yield potential) _____ bu/acre

Potential dollar loss (potential bushel loss X estimated price of corn) _____ dollars loss /acre

Preventable loss (potential dollar loss X proportion of larval population reduction) _____ dollars/acre

All of the above numbers are variable and are unique to each field and farm management operation. Complete the worksheet calculations several times using different figures for yield, price, and cost of application to see how each one affects the outcome. Use the figures closest to your situation to make the final determination.

ECB 1st generation (Continued from page 117)

available). If you believe that corn corer is causing the injury, contact a representative of the company who sold the seed to investigate the situation more completely.

To determine whether treatment is necessary, scout at least 20-25 consecutive plants in at least 4-5 places in the field (100 plants minimum per field). The scouting locations should be randomly selected and representative of the field as a whole.

At each scouting location, randomly select the first plant that will be sampled. If you do not and always start sampling at an infested plant, the counts may be inflated by up to 5%. Count the number of plants showing shot-hole feeding and determine the percent of infested plants. Next, pull the whorls from at least two randomly selected infested plants in each set of 20-25 plants. Unroll the leaves and count the number of larvae in the whorl and determine the number of larvae per infested plant. Young corn borers usually suffer 60-85% or higher mortality due to natural enemies, weather and disease, Try to delay treatment decisions until most of the borers are second instar to take advantage of natural larval mortality.

Need for treatment

Use the information gathered from field scouting to complete the worksheet. This takes you through the calculations needed to estimate the preventable loss if an insecticide is used. Compare the preventable loss to the total cost of insecticide application. An insecticide application is economically justified if preventable loss exceeds the total cost of insecticide application. An interactive version of the worksheet is available at *http://ianrwww.unl.edu/forms/forms.skp/ecb_1st.html*

Treatments will be effective only if borers are still feeding in the whorl. Treatments made after corn borers begin to bore into the stalk (when they are about half grown) will not be effective. Based on research data, the best control is achieved with aerial or ground applied granular formulations or liquid applications through sprinkler irrigation systems, which provide the best penetration of insecticide into the whorl where the corn borer larvae feed.

Insecticide options

Many insecticides are registered for control of first generation European corn borers and most will do a good job if applied properly at the right time. The *Bt*-based insecticides Dipel, Condor, M-Peril and others are effective and do not reduce populations of corn borer natural enemies. Refer to the UNL Department of Entomology web site at *http://entomology.unl.edu/instabls/ecb1st.htm* for a list of suggested insecticides.

Additional information on first generation European corn borer management is available in *First Generation European Corn Borer Scouting and Treatment Decisions*, NebFact 98-364. This publication is available from your local Cooperative Extension office or on the Web at *http://entomol/ecb/ecb1.htm*

Tom Hunt
Extension Entomologist
Keith Jarvi
IPM Extension Assistant
Both at the Northeast REC

Stinkbugs damaging corn in central, eastern Nebraska

This week Extension Educator Keith Glewen reported cornfields in Saunders County where stinkbugs had caused "significant damage."

"We have a field where up to 50% of the plants show signs of stinkbug feeding. Seventeen percent of the plants in the same field have been stunted and it is expected that these plants will experience a severe yield reduction," Glewen said. "Stinkbug activity and damage was reported in tilled and no-till fields."

York County Extension Educator Gary Zoubek also reported finding some stinkbugs in corn fields.

Bob Wright, Extension entomologist at the South Central REC near Clay Center, said he had found some stinkbugs in NU corn plots there and "low levels of damage possibly caused by them."

While stinkbugs have not historically caused major crop damage in Nebraska, the following report from Phil Sloderbeck, a Kansas State University entomologist in southwest Kansas, is included to aid in identification and treatment.

Stinkbug found damaging corn in eastern Nebraska. *(Photo courtesy of Walker Luedtke, Precision Consulting of Wahoo)*

Sloderbeck reported finding unusual damage in a no-till corn field

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Leaving more standing wheat stubble now can contribute to higher corn yields next year

What you do in your wheat field in the next six weeks may significantly affect corn yields in that field next year, according to recent research conducted by Kansas State University.

With the recent heat waves wheat is filling rapidly, too rapidly, and harvest is quickly approaching. Due to a lack of moisture, much of the wheat is relatively short and producers may be tempted to do what they can to ensure they get every head of wheat; however, cutting the wheat too short may be costing you money in the long run.

Allan Schlegel, research agronomist at Kansas State University, conducted a study in 2001 at Tribune, Kansas to examine the effect of height of wheat stubble and time of spraying on no-till corn yields the next year. Moisture was very limited at Tribune in 2001.

With a stubble height of 15 inches vs 7.5 inches and initial weed control in July the corn yield increase was 15 bushels per acre or 2 bushels per inch of additional stubble height (Table 1). Each filled wheat head per square foot is equal to about 1 bushel per acre. If wheat is worth $3.00 my additional costs for custom harvest is $0.13 for harvest plus $0.13 to haul or a total of $0.26 cost per bushel for a return of $3.00 per bushel or a gain of $2.74.

See wheat condition report
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These results indicate you can give up at least one head of wheat per square foot to get an additional inch of stubble height.

The table also indicates the value of starting weed control in July vs. mid-August with yield increases of 19 to 21 bushels depending on stubble height.

After harvest begin weed control as quickly as possible so weeds can't get an early foothold, stealing valuable moisture from the crop and producing seed. Consider using a glyphosate and adding 2,4-D, preferably an amine formulation to avoid volatilization with ester formulations.
Then in early September, apply atrazine and use a burndown herbicide to take care of winter annuals and volunteer wheat.

In summary, cutting the stubble at 15 inches instead of 7.5 inches and starting weed control in July vs. mid August combined for a yield increase of 34 bushels per acre. Standing residue offers more benefits than cut residue, which will deteriorate more quickly.

Stripper headers are best used with the semi-dwarf varieties with good straw strength and can leave more standing residue. When used with the taller wheat varieties and/or shorter varieties with poor straw strength the stubble tends to lodge, making it difficult to plant or seed.

Table 1. Winter wheat stubble height in 2000 and no-till dryland corn yields (bu/A) in 2001 at Tribune, KS; 2001 (A. Schlegel, KSU).

Treatment	Stubble height:	*Low, 7.5"*	*High, 15"*
		Corn/bu/acre the next year	
No-till, initial spraying in July		44	59
Delayed spraying until mid August		25	38
No post harvest weed control		13	40

Good distribution of the crop residue also is important to making this system work. This includes spreading both the long straw and fines. With poor crop residue distribution you lose twice. One, is you have too much residue in one area and two, not enough residue in another area. Too much residue makes planting difficult and complicates control of volunteer wheat. In areas with too little residue you lose the benefit of residue suppressing weeds and, in most of Nebraska in most years, dryland crop yields are maximized at crop residue levels of 5000 lbs or more if good crop stands are obtained.

Bob Klein, Extension Cropping Systems Specialist, West Central

High Plains Ag Lab field day June 20

Producers can learn the latest information about wheat production at the NU High Plains Ag Lab field day near Sidney June 20. Topics will include:

- Alternative spring crops, David Baltensperger, alternative crops specialist;
- The new farm bill, Paul Burgener, agricultural economist;
- Transitioning from summer crops to winter wheat, Drew Lyon, dryland cropping systems specialist; Jurg Blumenthal, soil fertility/nutrient management specialist; Bob Harveson, plant pathologist; and Paul Burgener, agricultural economist;
- Spread of wheat curl mites and occurrence of wheat streak mosaic virus, Gary Hein, entomologist;
- Wheat variety update, Stephen Baenziger, plant breeder; David Baltensperger, plant breeder, Bob Graybosch, plant breeder, and Drew Lyon, dryland cropping systems specialist.

For more information contact your local Extension office.

On-farm research tests planter speed, seed treatments, phosphorus in ridge-till and more

The proof is in the pudding or more realistically for a group of central Nebraska farmers, the proof of the success or failure of various new crop production strategies is right in their test fields. A group of farmers in central Nebraska have joined with their Cooperative Extension educators to plan and conduct a multi-year course of on-farm research.

Since 1998, the trials have grown from three farmers in Hamilton County learning more about technology to about 20 farmers in the four-county area. Coordinating Extension educators are Chuck Burr, Clay County, Terry Hejny, Fillmore County, Andy Christiansen, Hamilton County, and Gary Zoubek, York County.

Todd Roehrs, who farms corn and soybeans in Hamilton County near York, has been participating in the project since its inception and says he values the educational benefits it's provided.

"Every operation is a little different and I'm willing to try it here and see if there's a yield effect and if it would work for me."

This year Roehr is participating in three studies related to Gaucho seed treatment, planter speed, and anhydrous rates.

Each year the producers and educators join to discuss ongoing projects and plan new projects. Roehrs said the educators then work with producers to set up the protocols and how they wanted the research laid out and conducted so that the results are reliable.

"It takes a little more time, especially at harvest, but the harvest results are what you're after – that's the important information that helps you assess whether the practice affected yields and by how much," Roehrs said.

York farmer Jerry Stahr said the trials have helped cut his overall production costs and improve his bottom line.

"If you don't try different things, you don't learn anything. (Farmers) will be in trouble in the future if they're not willing to change."

Stahr said the research trial he conducted on nitrogen rates assured him that the university's recommended fertilizer rate was right.

"From an environmental standpoint, it's ridiculous to put on an extra 50 pounds of nitrogen," he said.

This season the group is conducting research on several topics, some of which were continued from previous years.

Several producers have planted replicated, field length plots to evaluate the effect of planter speed on plant spacing and yields. This is the second year of the study; the 2001 results were reported in the May 17 *Crop Watch*.

The effectiveness of Gaucho for wireworm control and its effect on yield also will be studied in six fields in the four-county area this season. Prior to planting, wireworm bait stations were placed in the participants' fields to access the level of wireworms before planting. Stand counts and signs of wireworm damage were recorded for each field and harvest yields will be recorded this fall.

One of this year's projects resulted from a local crop consultant's question: "Would we see an effect from phosphorus fertilizer between rows in fields with a history of ridge-till and banded phosphorus application?" Six sites were sampled at 0-4 inches and 4-8 inches on the ridge and in the furrow *(see below)*. Three sites with furrow phosphorus averaging less than 13 ppm were selected. The multi-year study will test three treatments: 1) ridge starter band, 2) furrow surface applied, and 3) furrow sub-soil band of phosphorus.

Another project is studying the effect of planting date on soybean yields. Five repetitions of soybeans

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Phosphorus trial

Preliminary soil tests from the phosphorus trials being conducted in central Nebraska *(above)* indicated that phosphorus levels were as expected following years of banded application on ridge-till, except for Site 6, which had unusually high levels of phosphorus in the furrow. Current UNL thinking would predict that high phosphorus levels in the ridges of Sites 2 and 4 would negate the effect of furrow phosphate fertilization. The plots will test the hypothesis that under high yield situations, corn and soybean yields will not be increased by supplemental phosphorus between rows when phosphorus is adequate in the ridge.

Table 1. Bray P1 phosphorus levels on six fields at 0" to 4" and 4" to 8" on the ridge and in the furrow. Samples drawn April 2002, as part of the Quad-County Research Project.

Location	*0-4" Ridge*	*4-8" Ridge*	*0-4" Furrow*	*4-8" Furrow*
Site 1	13	6	12	5
Site 2	43	43	11	5
Site 3	29	12	16	9
Site 4	78	38	28	8

Western wheat needs rain, temperature relief

With high temperatures, flowering and grain fill in winter wheat in much of western Nebraska was proceeding quickly under stressful conditions. Generally we hate to see temperatures above 85° F during the filling period because it diminishes the quality and shortens the filling period, but unfortunately high temperatures have been widespread. Recent cooler temperatures and moisture will help extend and improve grain fill.

Much of the wheat is short of moisture or out of moisture, with fields rock hard. Yields will be low. The dry spring has resulted in very short plant stature. This will make it difficult to leave good wheat stubble for soil moisture retention following harvest. It would be a good year to use a stripper header if one is available. The short wheat will also be noncompetitive with late emerging weeds, which could cause harvest problems if we get some late rains.

The one advantage to the high temperatures and recent high winds is that disease problems have been limited. Generally, wheat in the northern Panhandle where they received rain is looking better while that in the southern Panhandle and southwestern Nebraska is in poor to fair condition. Wheat planted after summer fallow has fared better so far this spring than wheat planted into stubble following the 2001 summer crop. However, even wheat behind summer fallow will perform poorly if no rain is received in the next week or two. Rain would help.

Bob Klein, Extension Cropping Systems Specialist, West Central REC

On-farm research

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were planted on April 15 and again on May 1. With all the cold weather, this should be a good year to evaluate this.

Most studies on mid-season application of nitrogen to soybeans have indicated that the greatest potential for effect is under high yield conditions. Many irrigated growers have broken the 70-bushel mark with soybeans, making them prime candidates for a nitrogen supplementation study. Several sites will have replicated plots testing the yield effect of applying supplemental nitrogen at the R3 growth stage.

The need to demonstrate nitrogen rates based on soil samples also is being addressed. Three locations will demonstrate the UNL approach with replicated plots comparing the UNL recommendation with other recommendations that are generally 30 to 50 pounds higher.

Other trials are informational or for demonstration. These include: using an ultrasonic meter to measure irrigation well output, checking center pivots for water distribution patterns, conducting anhydrous ammonia applicator uniformity checks and comparing the effect of narrow vs wide row spacing on soybean yields. The research plots are designed and analyzed with support from UNL Extension specialists and results are published locally and shared at county educational events.

Western insects

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the Aug. 3, 2001 issue of *CropWatch* or visit the Department of Entomology web site at *http://entomology.unl.edu.*)

An expected problem over the next few weeks will be the occurrence of thrips in row crops. Thrips will be moving out of grasses and wheat as these hosts dry down. We don't know what to expect from thrip populations in stressed wheat and grasses, but thrips usually do quite well when rainfall is limited. As we saw two years ago, all crops could be at risk, but currently dry beans that have just emerged will be at the greatest risk.

We continue to get reports of numerous small grasshoppers, but have not established how widespread or severe the problem may be. Radio advertising for grasshopper control with Dimilin 2L has been common. Dimilin 2L is only registered on rangeland and soybeans. This is a relatively new product that works well for grasshopper control; however, users must realize that it is a growth regulator and will only be effective during the immature stages (for a couple more weeks) and will NOT control adult grasshoppers.

Control measures are best targeted to small grasshoppers. University of Wyoming researchers found it to be very effective, especially when used for the Reduced Agent and Area Treatments (RAATs) program. This treatment program will save substantial money with reduced rates and the treatment of alternate spray swaths reducing the area treated when treating rangeland. Comparable control to full rates and broadcast treatments have been seen; however, timing and application are critical to its success. Anyone considering rangeland treatments should look into this program. Further details are on the UW Web site: *http://www.sdvc.uwyo.edu/grasshopper/.*

Gary Hein, Extension Entomologist, Panhandle REC

Wheat tours June 17-21

NU wheat plot tours in western Nebraska will be next week:

June 17, 9:30 a.m., Scotts Bluff County/Wyoming
June 17, 3 p.m., Wyoming irrigated
June 19, 10 a.m., Box Butte County
June 19, 6 p.m., Morrill County
June 20, 8:30 a.m., High Plains Ag Lab
June 20, 3 p.m. Cheyenne County irrigated
June 20, 6 p.m. Garden/Deuel counties
June 21, 10 a.m., Dawes County

For directions to sites, visit the NU Panhandle REC Web site at *www.panhandle.unl.edu/wheatplot* or call 308-632-1230.

Conserve moisture; control volunteer corn

It's not surprising to see volunteer corn in soybeans since the two crops are often used in rotation; however, volunteer corn is a weed and should be treated accordingly. It reduces the amount of light soybean can intercept, uses valuable moisture, and interferes with harvest. Growth of corn is generally faster than that of soybean, so if it is left uncontrolled, it can overtop the soybean canopy.

Control can be achieved by mechanical means (eg. inter-row cultivation) and herbicides.

Timing of inter-row cultivation should depend on the weed pressure. If volunteer corn is a predominant weed, cultivate at about the 5- to 6-leaf growth stage. The growing point of corn remains in the ground until the 6-leaf stage. Any cultivation done much before that may result in corn regrowth and require a second cultivation. It is especially true with shallow cultivation.

If you have Roundup-Ready soybeans, Roundup will control volunteer corn, unless you planted Roundup Ready corn last year. Roundup will not control volunteer Roundup Ready corn.

Other herbicides can be used to effectively control volunteer corn. Several grass herbicides (graminicides) can be used postemergence in both conventional and RR-soybean: Assure, Fusilade, Fusion, Poast, Poast-Plus, and Select. Best control is achieved when herbicides are applied by the 3- to 4-leaf stage of corn. These herbicides also will control many grassy species, including barnyardgrass, green and yellow foxtail, fall panicum and sandbur.

Stevan Knezevic
Extension Weeds Specialist

Stinkbugs *(Continued from page 120)*

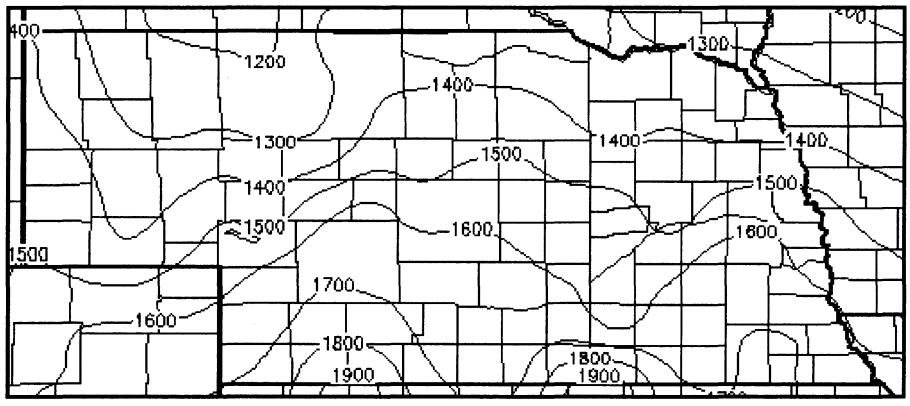
in Kingman County. Plants were buggy whipped, had holes with yellow borders in emerged leaves and "suckering" (the production of tillers from the base of damaged plants). Closer inspection revealed a few stinkbugs believed to be causing the damage.

"According to information from Illinois and Kentucky this problem was first recorded in Kentucky in 1985. Brown and one-spotted stink bugs are the most common ones in corn. Stinkbugs are 1/2-inch long, shield-shaped insects with piercing-sucking mouthparts. The upper side of the body ranges from light to dark brown.

"The underside varies from light yellow to green. Usually only a few fields are affected by these insects, however damage has been seen across a wide area of Kentucky and parts of neighboring states. They report that stink bug damage is most severe in no-till fields. Stink bug damage can be found in conventional fields, but the incidence of damaged plants is usually limited to border rows.

"Thresholds for stink bugs in corn have not been developed. Once injury becomes evident it is probably too late to treat. Most injury happens when plants are small and the pest can pierce the base of the plant and reach the growing point.

For more information and photos, visit the KSU Department of Entomology web site at: *http://www.oznet.ksu.edu/entomology/extension/topics.htm*



Predicting stalk borer activity

Accumulated growing degree days, using a 41°F base as of June 10. Producers should begin scouting for common stalk borers when 1,300-1,400 growing degree days have accumulated.

(Map courtesy of Al Dutcher, NU State Climatologist.)

Postemergence weed control in sorghum

Weeds in sorghum should be controlled by the 2-3 leaf stage of the crop. Weed removal at this time will give sorghum a competitive advantage over weeds and minimize yield loss. Delaying weed control beyond this stage will result in progressively greater yield losses.

Several postemergence herbicide treatments are available for sorghum with most providing broadleaf weed control. Postemergence grass control, especially green foxtail, is available with Paramount and Paramount + Atrazine.

The EPA has granted a Section 18 exemption (registration) for the use of Ally + 2,4-D amine on grain sorghum. This Section 18 requires the user to obtain a permit from the Nebraska Department of Agriculture before using this treatment.

Alex Martin
Extension Weeds Specialist

Postemergence herbicides for sorghum

Herbicide	*Weeds controlled*	*Rate per acre*	*Application timing*	*Additives*
Aatrex/atrazine DF[3]	Broadleaf	1.33 lb	Broadleaf weeds < 6" Sorghum < 12"	COC 1.25%
Aim EW*	Broadleaf	0.5 oz	Sorghum < 6" leaf Weeds < 4"	NIS 1qt/100gal
Ally + 2,4-D amine (Permit from NDA required)	Broadleaf	0.05oz + 0.5 pt	Sorghum 3-15* over 10 use drops	**NIS 1qt/100gal
Banvel/Clarity	Broadleaf	0.5 pt	Sorghum 3-5 leaves	——
Buctril/atrazine DF[3]	Broadleaf	2-3 pt	Sorghum 3-leaf to 12"	——
Buctril 2EC/4EC with Atrazine DF[3] or with Banvel/Clarity	Broadleaf	1-1.5 pt/0.5-0.75 pt *with* 0.55 lb *or* 0.12-0.5 pt	Broadleaf weeds 2-6"; sorghum 3-leaf to 12"	——
Buctril/atrazine DF[3] + Banvel/Clarity	Broadleaf	1.5-2.0 pt 0.12-0.25 pt	Sorghum 3-leaf to 12"	——
Laddok S-12[3]	Broadleaf	1.3-2.3 pt	Broadleaf weeds < 6" Sorghum < 12"	——
Marksman[3]	Broadleaf	2 pt	Sorghum 2-5 leaf Broadleaf weeds 2-4"	——
Paramount	Grass	5.3-8.0 oz	Emergence to 12" sorghum	COC / MSO + UAN 1.25% + 2-4qt/A
Paramount + Atrazine DF	Broadleaf & grass	5.3-8.0 oz 0.5-1.0 lb		
Peak alone or with 2,4-D amine (4L)	Broadleaf	0.25-1.0 oz 2.0-8.0 oz	Sorghum 5-30" 8"-24" use drops	NIS+UAN 1/4%+2-4qt/A or COC/MSO+UAW 1.25%+2-4qt/A
Permit	Broadleaf	0.66 oz	Sorghum 2-1eaf to layby (before head emergence)	May be tank mixed with AAtrex, Buctril, Banvel/Clarity, or 2,4-D. NIS+UAN 1/4%+2-4qt/A or COC+UAN 1.0%+2-4qt/A
2,4-D amine (4L) or 2,4-D ester (4L)	Broadleaf	1 pt 0.5 pt	After sorghum is 5" tall; if over 10", use drop tips	——

*Wet foliage increases crop injury
**Weed control and crop injury potential increased with NIS

Tax credit program aids beginning farmers

The Beginning Farmer Tax Credit Program was developed as an incentive to encourage owners of agricultural land, equipment, machinery, livestock and other agricultural assets to lease or rent to beginning farmers. Under the Beginning Farmer Tax Credit Act qualified owners of agricultural assets who agree to enter into a three year rental agreement with a qualified beginning farmers/ranchers are eligible to receive a state income tax credit. 5% of the annual rent will be granted to the asset owner in the form of a state income tax credit.

Owners of agricultural assets who can answer "yes" to each of these questions may be eligible.

- Are you a Nebraska resident?
- Did you derive at least 50% of your gross annual income for income tax purposes from farming or livestock production for more than 5 out of the last 15 years?
- Did you provide the majority of the day-to-day physical labor and management of your farm or livestock operation during 5 out of the last 15 years?
- Are you or your spouse **not** related to the beginning farmer to whom you will be renting or leasing?

Beginning farmers who can answer "yes" to each of these questions may qualify.

- Are you a Nebraska resident?
- Do you have a net worth less than $100,000?
- Do you have livestock/farming experience or education, plan to seek a livelihood in the sector, and plan to provide the majority of the day-to-day physical labor and management of the livestock/farming operation?
- Are you willing to participate in a board-approved financial management and educational program?
- Are you and your spouse **not** related to the owner of agricultural assets from whom you will be renting or leasing under this program?
- Have you farmed or raised livestock for less than 10 out of the past 15 years?

For more information visit the Nebraska Department of Agriculture Web site at *http://www.agr.state.ne.us* and click on *Beginning Farmer* or contact the Beginning Farmer Program staff at the Nebraska Department of Agriculture at 800-446-4071 or 402 471-6890 or Dave Goeller, NU transition specialist, 402-472-0661 or email dgoeller@unl.edu.

Dave Goeller
Transition Specialist

Field updates *(Continued from page 118)*

well, without any major problems so far, except a lack of moisture for some.

Bob Wright, Extension Entomologist at the South Central REC: Corn rootworm egg hatch was first detected at the NU Agricultural Research and Development Center near Mead and at Clay Center June 3. It is likely that hatch began during the previous weekend. Fields targeted for cultivation time application of an insecticide should be treated within the next couple of weeks to ensure that rootworms are controlled before they cause much damage. Labeled products for cultivation time application are listed at *http://entomology.unl.edu/instabls/crwlarv1.htm*

High numbers of grasshoppers are hatching and small grasshoppers can be easily found in many grassy field borders and road ditches. These small grasshoppers can be easily controlled with a variety of insecticides while they are small.

If more than 40 grasshopppers per square yard are found in field margins or 15 or more are found in crops, treatment may be necessary. If grasshoppers are just starting to move into crops, a border treatment may be possible. For more information on grasshoppers in crops, see NebFact 328, *Grasshoppers in Crops, http://www.ianr.unl.edu/pubs/insects/nf328.htm*

Weed science tour next week; 2 sites canceled

The 2002 University of Nebraska Weed Science Field Days, formerly known as the "Weed Science Tour", will be next week. The schedule has been changed from previous years so that tour dates are extended over more than a week, making it more appropriate to refer to them as a tour of "field days".

This year the "tour" will begin at the South Central Research and Extension Center near Clay Center. Two field days scheduled for June 19 have been canceled due to the dry weather – the 8:30 a.m. field day at the West Central Research and Extension Center at North Platte and the 3:30 p.m. field day at the High Plains Agricultural Laboratory near Sidney.

While most participants are from the agricultural chemical industry, the field days are free and open to the public. Individuals may attend all or part of the field day tour.

The revised itinerary is:

Tuesday— June 18
9:00 a.m., Clay Center, South Central Research and Extension Center

Thursday— June 20
8:30 a.m. (MDT), Scottsbluff, Panhandle Research and Extension Center

Tuesday – June 25
9:00 a.m., Lincoln, Havelock Research Farm

Wednesday – June 26
1:00 p.m., Concord, Haskell Agricultural Laboratory

Brady Kappler
Weed Science Educator