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CropWatch No. 2003-20, August 8, 2003

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No. 2003-20, August 8, 2003

Drought worsens; dryland crops at their limit

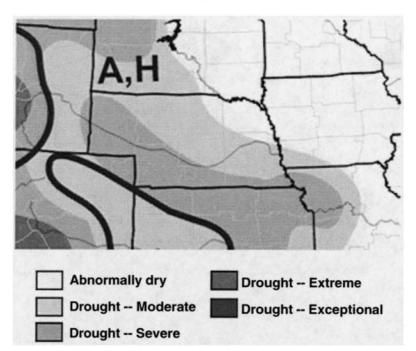
With minimal rains across much of Nebraska in July, dryland crops are continuing to decline and irrigators aren't getting a break. The numbers on *page 187* tell the statistical story and a view of the parched crops in many dryland fields, especially in southern and western Nebraska, tells the rest of the story. Unfortunately the picture may not be getting much rosier with temperatures in the 90s and little precipitation predicted for the next 10 days, according to Al Dutcher, NU state climatologist.

According to the National Drought Monitor, western Nebraska, most of the Panhandle, and southwestern, south central and southern Nebraska are in a severe drought, with much of the rest of the state in a moderate drought. In many areas subsoil moisture is limited or gone and crops are dependent on precipitation, which has been spotty. Scattered thunderstorm activity this week was beneficial, but limited.

Some fields have already been severely damaged by the drought

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Most of Nebraska received little rain in July and is now in a moderate to severe drought, according to the most recent National Drought Monitor record shown here. With little rain predicted for the next 10 days, the toll on dryland crops may be decisive. To see the situation in the rest of the United States, see *http://www.drought.unl.edu/dm/monitor.html*

and high temperatures, while others are now entering a critical time, said Bob Klein, Extension crops specialist at the West Central REC in North Platte.

In some cases, producers are assessing potential yields and considering whether to use dryland corn or sorghum for forage. (See this week's Market Journal broadcast for an indepth discussion of using drought-damaged corn; story, *page* 191.) Before changing intentions, Klein recommended that producers be sure to notify their insurance company and their Farm Services Agency office to ensure that they'll still be in compliance.

In July temperatures averaged as much as five degrees above normal with precipitation up to half of what it normally is.

In Valentine, there were four days with temperatures over 100°F, nine days over 95°F, and 18 over 90°F. On July 25, temperatures rose to 111°F.

(Continued on page 187)

UNIVERSITY OF NEBRASKA, COOPERATING WITH COUNTIES AND THE U.S. DEPARTMENT OF AGRICULTURE

Updates

Paul Hay, Extension Educator in Gage County: Dryland corn is yielding 8-11 tons per acre. A few bottom, no-till wheat stubble fields have a chance yet. Soybeans are showing more stress and spider mite injury each day. Milo is trying to head. Send rain!

Terry Hejny, Extension Educator in Fillmore County: July was extremely dry for the county -- some areas received very small amounts of precipitation, but not enough to really help. Dryland corn is "done." Dryland sorghum and soybeans are "hanging on" and look pretty sick in some areas. We need rainfall this week for the dryland crops or it's over. Farmers are irrigating nonstop and irrigated crops are looking good, however, farmers are concerned about rising energy costs and expected anhydrous fertilizer costs later this fall. Large grasshoppers are working field margins.

Registrations are still being accepted for the **NU Carbon Sequestration Field Day** to be held Aug. 22 at the NU Agricultural Research and Development Center near Mead. For more information see the July 25 *CropWatch* or call (402) 472-1547.

Soybean aphid alert

Within the last 1 - 1 1/2 weeks soybean aphids have been easy to find in numerous soybean fields in northeast and portions of southeast Nebraska. In most cases they are at very low levels, but they do warrant watching to determine whether management is necessary.

The June 20, 2003 *CropWatch* includes a comprehensive story on soybean aphid identification, scouting and management.

Tom Hunt Extension Entomologist Northeast REC

Nebraska office of the USDA Agricultural Statistics Service:

Corn condition declined again last week and rated 6% very poor, 11% poor, 26% fair, 39% good, and 18% excellent, above last year but slightly below average. Irrigated fields rated 76% good and excellent while dryland fields declined to 31. Fields were 93% silked, near last year at 91% and the same as average.

Soybean condition declined and rated 5% very poor, 13% poor, 32% fair, 41% good, and 9% excellent, above last year and near average.

Sorghum condition declined and rated 7% very poor, 25 poor, 43% fair, 24% good, and 1% excellent, above last year but below average.

Dry bean condition rated 3% very poor, 7% poor, 25% fair, 52% good, and 13% excellent. Eightyseven percent of the fields were blooming, ahead of last year at 75% and average at 79%.

Alfalfa condition declined and rated 7% very poor, 18% poor, 34% fair, 34% good, and 7% excellent, above last year and near average.

York corn tour Aug. 21

The Annual York County Corn Plot Tour will be Thursday, Aug. 21, at the Jerry Stahr farm 3.5 miles east of the York County Fairgrounds. The program will begin at 6 p.m. and include a tour of corn variety plots and discussions with seed company representatives.

Program topics and speakers will include:

• Nebraska Natural Resource Conservation Service (NRCS) Carbon Sequestration Activities with Tim Schaaf, NRCS;

• 2003 On-farm Test Plots with Andrew Christiansen and Gary Zoubek, NU Cooperative Extension educators; and

• Considerations to Improved Soil Health with Schaaf, Christiansen and Zoubek.

There also will be a machinery display and supper. The program is being presented by the York County Corn Growers and York Chamber of Commerce Agri-Business Committee.

For more information, contact Zoubek at the York County Extension Office at (402) 362-5508.



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

Drought (Continued from page 185)

The high temperatures also are contributing to high evaporation of available irrigation water in some reservoirs, Dutcher said, noting that in a couple instances water levels were lower than at this time last year even though irrigation had been severely restricted or not been available from these reservoirs.

The temperatures and lack of rainfall also are taking a toll on irrigation systems, some of which may have limited water or pumping capactiy at this point, Klein said. "A lot of wells were deepened after 2002 and should be better this year," Klein said.

If irrigation water is becoming limited, Klein said irrigators may want to consider prioritizing what they irrigate. It may be better to fully irrigate half a field then to provide limited water to the whole field, he said. If water to center pivot systems is limited, irrigators also may want to consider turning off the end guns. These are the most inefficient part of the system and should be the first to be cut off when water is limited, he said.

For daily updates of precipitation, GDD and ET data and comparisons to normals, check:

CropWatch Weather Web site at http://cropwatch.unl.edu/weather.htm; or

NU's High Plains Climate Center Automated Data Weather Network at http://hpccsun.unl.edu

July precipitation

	(Inches)
Alliance	1.63
Broadwater	2.10
Chadron	0.16
Dalton	2.58
Fort Robinson	0.18
Gering	0.45
Grand Island	0.22
Hastings	0.47
Harrisburg	2.24
Harrison	0.14
Kearney	0.11
Kimball	3.39
Lincoln	1.39
Lodgepole	2.25
North Platte	1.90
Omaha	2.49
Plainview	1.00
Potter	3.23
Scottsbluff	0.47
Sidney	2.05
Valentine	1.69

Soil moisture estimates*

Ainsworth	2
Alliance	Dry
Arapahoe Prairie	1
Elgin	Dry
Gundmudnsen	Dry
Indian Cave**	1.5
McCook	1
Mead	1
Mitchell	2
O'Neil	Dry
Ord	3-3.5
West Point	2.5

*These are based on readings taken under grass; conditions under corn may be drier.

**Had 7 inches moisture June 15.

Tips for baling summer annual grasses

Summer annual grasses like sorghum-sudan hybrids, pearl millet, and forage sorghums are a challenge to bale or stack. Stems are low in protein and energy and slow to dry. With these grasses cut early when plants are waist high. Then the stems are smaller, have higher feed value, and are eaten readily. Also, with smaller and fewer stems, the hay will dry quicker. Regardless of when you harvest, cut it high, leaving 8 to 10 inches of stubble. Tall stubble pays off three ways — it helps plants begin regrowth quicker, holds hay off the ground so air can help dry underneath, and keeps many nitrates out in the field rather than in the bales.

Bruce Anderson, Extension Forage Specialist

West Nile returns; take precautions when outside

Officials with the Nebraska Health and Human Services System announced Tuesday that four Nebraska cases of West Nile virus have been confirmed by the federal Centers for Disease Control and Prevention. In addition, 17 probable cases are pending confirmation.

In addition to these cases, the American Red Cross reports 31 positive blood donors, giving Nebraska the highest number of positive blood donors in the country. None of these have been confirmed by the CDC but may be further tested if the donor has symptoms of West Nile fever.

Dr. Richard Raymond, the state's Chief Medical Officer, stressed that for most people the risk of becoming seriously ill with West Nile virus is low. West Nile is transmitted through the bite of a mosquito that has picked up the virus by feeding on an infected bird.

West Nile fever includes flu-like symptoms such as fever and muscle weakness. Symptoms of West Nile encephalitis include inflammation of the brain, disorientation, convulsions and paralysis. People over 50 and those with weak immune systems are especially vulnerable to the disease.

To reduce the risk of exposure:

• Avoid being outdoors when mosquitoes are most active -- dusk and dawn.

• While outdoors, cover up by wearing long-sleeved shirts and pants, shoes and socks and use mosquito repellent.

• Eliminate mosquito breeding sites, such as standing water in tires, plastic containers, or similar water-holding containers.

For more information visit the Nebraska Health and Human Services System's Web site at *www.hhs.state.ne.us/wnv.*

Cowpea aphids found in alfalfa

Cowpea aphids have been found on alfalfa in central Nebraska this week (July 29). Last year (2002) the aphid was found throughout

Nebraska alfalfa fields, resulting in treatment at some locations. In parts of northeast Nebraska, heavy rains in 2002 significantly reduced aphid numbers. The insect was first reported in Nebraska in Knox County in 1999. The following information is largely from Web sites hosted by the University of Texas, University of Arizona, and Oklahoma State University, where this pest has been more prevalent.

During the past few years, this insect, Aphis craccivora Koch, has been extremely abundant in alfalfa fields throughout arid parts of the Southwest, including Arizona, California, and Texas. Commonly referred to as the "black aphid", it has been in the south for many years, usually in low numbers on cotton, alfalfa, and weeds. In addition, outbreaks of cowpea aphid have been reported sporadically throughout Kansas and Oklahoma, all within the past year. Infestation levels in these areas reportedly ranged from 50-125 aphids per stem and there was noticeable yellowing and stunting. In Nebraska in 2002 the aphids were noticeable but were not quite at economic levels in most fields. Since many growers were in the process of harvesting the third cutting when the aphids popped up, we advised them to take the cutting and watch the regrowth.

Identification

The cowpea aphid is easily distinguished from other aphids in alfalfa largely because it would be the only black aphid. In general, it is a relatively small aphid, less than 2 mm long. Non-winged and winged adults are usually shiny black while the smaller nymphs may appear to be a dull gray to black. The first half of the antennae is white, and the legs are usually a creamy white color with blackish tips. In alfalfa, these aphids



Cowpea aphid (University of California IPM Project)

obviously feed on young terminal growth, but can be found infesting leaves, blooms, and stems. Damage symptoms include yellowing, wilting, and dieback. In general, legumes can be seriously damaged, either by direct insect feeding or by the transmission of virus diseases.

Distribution

The cowpea aphid is generally distributed across North America and has been reported in at least 28 states and in three Canadian provinces. This aphid species also has an extensive host range with a marked preference for legumes. Other known host plants are apple, carrot, cotton, cowpea, dandelion, dock, goldenrod, kidney bean, lambsquarters, lettuce, lima bean, pinto bean, peanut, pepperweed, pigweed, red clover, shepherds-purse, vetch, wheat, white sweet clover, and yellow sweet clover. These aphids live throughout the year without producing sexual forms and are always parthenogenetic viviparous females (ready to produce offspring at birth).

Monitoring and treatment

Because the cowpea aphid has only recently become a problem in alfalfa, no monitoring guidelines or economic thresholds have been developed for it. An Oklahoma State University entomologist provided the following information. "Normally, we do not worry much about cowpea aphid, and if temperatures increase, predators will feast heavily on them; however, if damage (yel-

lowing and stunting) is evident, then insecticide treatment may be appropriate." Based on his observations, cowpea aphids damage alfalfa and feed on the plant similarly to the pea aphid; therefore, thresholds are likely similar. OSU Cooperative Extension recommends that on alfalfa less than 10 inches tall, 50 aphids/stem should be used as a threshold. On alfalfa taller than 10 inches, 100 aphids/ stem may be used. The Texas Web site, however, suggests a threshold near or below that of blue alfalfa aphid: 1) plant height less than 10 inches: 10-12 aphids per stem or 50 per sweep; plant height more than 10 inches: 40-50 aphids per stem or 200 per sweep. These thresholds have not been verified locally, but may be helpful in making treatment decisions.

Control

Very little information is available on insecticide efficacy against cowpea aphids. We suggest using pea aphid management guidelines until more cowpea-specific information is available. A glance at a University of Arizona insecticide trial showed that Warrior at 2.6 oz/acre provided the best overall control. We established an insecticide trial at the Haskell Ag Lab near Concord in 2002, but heavy rains caused the aphid populations to crash right after insecticide treatment. Rain and possibly an abundance of lady beetles, a major aphid predator, appeared to have solved the aphid problem for us in our production fields. Early harvest is also suggested as a control method. Time will tell if this aphid becomes a more common pest of alfalfa in Nebraska. More information on the cowpea aphid can be found through the UNL Entomology Department Web site at: http:// entomology.unl.edu

> Tom Hunt, Extension Entomology Specialist Keith Jarvi, Integrated Pest Management Assistant Northeast REC

2nd Generation ECB moths inflight

The second European corn borer flight is occurring in much of Nebraska and just beginning in northeast Nebraska. If you haven't already started scouting, now's the time to begin scouting non-Bt cornfields for European corn borer egg masses.

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 individually to make accurate decisions. We have had it easy the last few years with relatively low ECB flights; however, this cannot last forever.

Last year's flights were up a little from the previous few years.

Fields with green silks during the peak moth flight period are most susceptible to second-generation egg laying. The white, flat eggs overlap each other like fish scales and are laid in masses of five to 40 eggs. Eggs are most likely found on the underside of leaves, near the mid-rib, on the ear leaf and the three leaves above or below the ear leaf. Approximately 90% of the egg masses will be found on these middle seven leaves. A black spot is visible on the eggs for about 24 hours before they hatch. The spot is the head of the developing corn borer; this stage is often referred to as the black head stage.

To determine whether control would be profitable, examine 25 plants at four sites per field (100 plants total). Record the number of egg masses and the number of plants sampled. If you sampled only the middle seven leaves, multiply the number of egg masses by 1.1 to estimate the total present over the whole plant. Use this adjusted mean in the worksheet. Go through the calculations outlined in the worksheet available from NebFact 98-365, Second Generation European Corn Borer Scouting and

NU light trap reports

(http://entomology.unl.edu/fldcrops/index.htm)

NEREC - Concord: http://nerec.unl.edu/ipm/lighttrap.htm

• South Central Ag Lab - Clay Center: screc.unl.edu/Entomology/Lighttrap/2003_LightTrapdata.htm

 WCREC - North Platte: http://westcentral.unl.edu/entomology/lighttrap.htm

• Hamilton County - Aurora: http://www.ianr.unl.edu/ianr/ triad/count.htm

• Adams County - Hastings: http://adams.unl.edu/ag/ LTREPORT.htm

Treatment Decisions) to determine if an economic infestation is present. You also will need to know:

1. crop stage

2. expected yield

3. expected market price for corn

4. percent control with insecticide

5. cost of control (insecticide plus application costs)

An interactive version of this worksheet also is available. This worksheet will help you better evaluate the factors influencing the cost/benefit relationship for second generation European corn borer treatments. Average values are suggested in the worksheet but may be modified for local conditions. Consider the following when using the worksheet:

1. Borer survival is suggested to be 15%. Larval survival varies with weather conditions and irrigation. In irrigated corn, larval survival may be 20% or more, while in dryland corn with no significant rainfall, it may be 10% or less. Survival of eggs and small larvae decreases greatly in hot, dry weather or with extended periods of heavy rain.

 Yield loss will be about 4% per borer for infestations occurring before silks turn brown and 3% per borer after silks turn brown but before blister stage. These averages are based on published research but only account for physiological yield losses (reduced grain production) and do not consider yield loss from stalk breakage or ear drop. These factors are difficult to predict and vary with hybrid, cultural practices and weather.

3. Percent control with insecticides is suggested to be 70%; change this value if you think that control will be different in your situation.

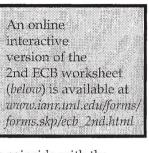
Infestations are most damaging when corn borers enter the stalk early in corn's reproductive cycle. There is a short time between first egg hatch and significant stalk tunneling when corn borers are best controlled. Concentrate scouting efforts in this early egg laying period and repeat every three to five days. Often, second generation egg laying may extend to 21 days or more. Although later hatching corn borers do not directly reduce grain yield as much, they may still cause stalk breakage or ear drop. Early harvest of fields damaged by corn borers and selecting varieties with good stalk strength and resistance to stalk rot can reduce this loss.

(Continued on page 190)

2nd ECB

(Continued from page 189)

If treatment is needed, insecticide applications should



be timed to coincide with the beginning of egg hatch to achieve acceptable control. Generally, liquid and granular formulations of the same insecticide are equally effective against corn borer larvae. However, in considering other pests that may need to be controlled at this time of year (western bean cutworms, rootworm beetles, grasshoppers, spider mites), liquids may be preferred. Rates and restrictions of registered insecticides for European corn borer control can be found on the label or at the UNL Entomology home page.

> Robert Wright Extension Entomologist South Central REC Tom Hunt Extension Entomologist

NU crop clinics Aug. 20 and Sept. 3

A Crop Management and Diagnostic Clinic on August 20 will provide a close-up look at lateseason field conditions. Agribusiness professionals and crop producers are invited to learn diagnostic techniques and recommendations from the latest research. The clinic will be held at the NU Agricultural Research and Development Center near Mead with registration beginning at 7:30 a.m. and the clinic starting at 8 a.m.

Topics will include: alfalfa management, disease identification, nitrogen management, plant breeding methods, soybean water use, and herbicide/weed resistance.

Early registration is \$115 until August 13. After that, registration is \$165. Approximately nine Certified Crop Advisor credits are expected in soil and water (1.5); soil fertility (1.5); pest management (3); and crop production (3).

An **Introductory Precision Farming Clinic** will be held on September 3 starting at 7:45 a.m. This program is designed for producers and consultants looking for assistance in launching their precision agriculture program. Anyone interested in implementing precision agriculture technologies or just beginning to use them should plan to attend this clinic.

Topics include: introduction to precision agriculture, GPS, GIS, new technologies, hardware and software; yield monitor set-up, calibration, and operation; handheld GPS/ GIS computer applications; accessing digital data sources; using aerial and satellite imagery for crop management; on-the-fly electrical conductivity and pH sensors; and light bar navigational aids.

Early registration is \$115 until August 27. After that, registration is \$165. Approximately six Certified Crop Advisor credits are anticipated in soil fertility (1) and crop production (5).

NU Cooperative Extension, a division of the Institute of Agriculture and Natural Resources, is sponsoring these clinic. To register, call (402) 624-8000 or (800)529-8030, via fax at (402) 624-8010, via e-mail at cdunbar2@unl.edu, or write to NU ARDC, CMDC Programs, 1071 County Road G, Ithaca, Neb. 68033.

Number of e	egg masses per plar	nt x 3 borers per egg mass* =	borers per plant	
Borers per p	lant x 4% yield loss	per borer** = percent	yield loss	
Percent yield	d loss x	expected yield (bu per acre) =	bu per acre loss	
Bushels per	acre loss x \$	sale price per bu = \$	loss per acre	
\$	loss per acr	e x 70% control*** = \$	preventable loss per acre	
\$	preventable loss per acre			
- \$	cost of cont	rol (product + application costs)		
=\$	profit (+) or	r loss (-) per acre if treatment is applied		

* Assumes survival rate of three borers per egg mass; may vary with weather and egg mass size.
** Use 3 percent loss per borer per plant if infestation occurs after silks are brown. The potential economic benefits of treatments decline rapidly if infestations occur after the corn reaches the blister stage.
*** 70% is an average, you may use another value if desired.

Common smut more visible after stormy weather

This year's weather pattern has been conducive for the development of common smut in corn, at least for those parts of the plant that are infected when wounded. In general, we tend to see common smut in Nebraska corn fields when we have stormy conditions with hail and sandblasting or when we have very hot conditions at pollination. Both can be favorable for common corn smut development. Common smut is probably present in all Nebraska fields and will likely develop further, given the right conditions.

Factors favoring smut

Poor pollination: This would be for smut occurring on the ear. This also tends to be why we see smut at the ear tips when we have incomplete pollination.



Common smut on corn.

High nitrogen: it is possible that the drought last year resulted in higher nitrogen in the soil for some fields depending on the cropping history.

Physical injury: Hail or sandblasting or soil in the whorl can often result in more smut as any of these will create a wound and allow the fungus to infect.

Genetics: There are differences in hybrids. Most hybrids are not rated for common smut, but you will see differences among genetics.

At this point in the season there is no practical control measure for this disease. The main control is growing resistant hybrids. In some seed company catalogues there will be ratings for "head smut," which should not be confused with "common smut." We rarely see head smut in Nebraska at any significant level.

> Loren Giesler Extension Plant Pathologist

Market Journal Show features alternative uses for drought corn

For drought-stricken fields, it now may be more profitable to stop thinking about this year's corn crop in terms of grain and start thinking about it in terms of forage for cattle. This week's *Market Journal* and *Ag Almanac* include recommendations for assessing potential yield and alternative uses.

Presented by NU Cooperative Extension and the UNL Department of Agricultural Economics, *Market Journal* is an hour-long television program focusing on agricultural risk management and marketing issues. The program is hosted by Doug Jose, NU Extension farm management specialist.

On the showBruce Anderson, NU Extension forage specialist, suggests that when corn yields drop, producers may want to consider options to traditional harvest and marketing. Anderson is one of the guests scheduled to



In corn fields where yields are expected to be diminished, carefully sample and examine ears to help determine potential yield.

appear on the Aug. 8 broadcast.

"In a field that may only have 40 to 60 bushels of grain potential in it, harvest costs will very quickly minimize any possible return," Anderson said. "We can get a much larger return by using it as a forage crop rather than feeding excessive amounts of hay or other forages to animals after the pastures dry up." Unfortunately, the decision to abandon grain in favor of forage needs to be made relatively soon. As stunted corn sits in the field, said Anderson, it loses its nutritional value. And whether it is grazed or cut, as a forage crop, corn has some issues.

"Green chop, for example, is convenient, but it is also hazardous in terms of nitrate toxicity," Anderson said.

Also on the Aug. 8 Market Journal, Rick Rasby, NU Extension beef specialist, will talk about the nutritional benefits of corn cut for forage and describe safe handling and feeding methods. Audio and video clips from Market Journal are at http://marketjournal.unl.edu.

Radio interviews with NU Extension specialists on this and other topics are available online in Ag Almanac at *http:// agalmanac.unl.edu*

Soybean Management Field Days Aug. 12-15

Growing a quality crop at a profitable price in today's global economy will be a central theme of several presentations at this year's Soybean Management Field

Days. The fifth annual event, "Soybeans American Style" will provide unbiased and research-based information to improve soybean production and profitability, said Keith Glewen, University of Nebraska Cooperative Extension educator and event coordinator.

The event will be held at four sites across the state Aug. 12-15, with each site including demonstration plots, lunch and time for questions. Presenters include university specialists, educators and industry consultants.

Topics include: managing weeds to cut costs and increase yields (including how to turbocharge your glyphosate), strengthening financial position (how to act locally to compete globally), understanding soil water and managing irrigation (with recommendations on getting the most bang from your water inputs), and unlocking the mysteries of high soybean yields (including tips for getting the most from organic matter and soil nutrients).

"By attending the Soybean Management Field Days growers will take home unbiased, researchbased answers to these important topics that will have a direct impact on the profitability of their soybean enterprise," Glewen said. Past participants have placed an average value on the knowledge gained and/ or anticipated changes in practices at \$8.89 per acre, he said.

"Soybean Management Field Days is the premiere information source for the latest research management recommendations in Nebraska," said Norm Husa of Barneston, chairman of the Nebraska Soybean Board.

"By participating, producers will see their checkoff dollars at work brining leading technology and ideas to producers." The field days begin at 9 a.m. and conclude at 2:30 p.m. Free registration is available the day of the event. Dates, locations and directions are:

Aug. 12 -- Luther Farms, from Overton, located one mile south from Highway 30 and Road 44 intersection. From Interstate 80, Exit 248 and then 2 mile north on Road 444. Field site is on the west side of Road 444.

Aug. 13 -- Keith Neumann farm, from DeWitt, located four and threetenths miles south on Highway 103, west side of the road. Field site is half a mile south of Tricounty School or 1.6 miles north of the Highways 4 and 103 intersection.

Aug. 14 -- Greg Whitmore farm, from Shelby at the Highway 92 and 69 intersection, one mile west and half a mile north on County Road T. Field site is on the east side of Road T.

Aug. 15 -- Chuck Beermann

farm, from Dakota City, three miles west on Highway 35, one mile north on Highway 110 and half a mile east on 164th St. Field site is on the south side of the road, two miles west of the intersection of Highway 77 and 164th Street.

Continuing education credits for the Certified Crop Advisor program will be available.

For more information about the field days, visit the 2003 Soybean Management Field Days Web site at *http://ardc.unl.edu/soydays.htm* or call (800) 529-8030 or contact the Nebraska Soybean Board at (800) 852-BEAN. The field days are sponsored by the Nebraska Soybean Board (through checkoff dollars) in cooperation with Cooperative Extension in NU's Institute of Agriculture and Natural Resources.

High Plains Ag Lab Sunflower and Alternative Crops Field Day Aug. 12

The NU High Plains Ag Lab near Sidney will host a field day Aug. 12 to explore topics related to sunflower and alternative crop production in western Nebraska. University researchers and Extension specialists will present the latest information on a variety of topics.

Registration will begin at 11 a.m. and the program will begin at 11:30 a.m. with presentations by Dr. Harvey Perlman, chancellor of the University of Nebraska-Lincoln, and Dr. Charles Hibberd, director, NU Panhandle Research and Extension Center. Lunch will be provided by the National Sunflower Association.

Speakers and topics include: Crop Rotations Involving Sunflower with Drew Lyon, Extension dryland cropping systems specialist; Sunflower Bird Control with Leonard Askham, director of research and development for Bird Shield Repellent Corp.;

Sunflower Varieties: Irrigated and Dryland, Oil and Confection with David Baltensperger, Extension alternative crop specialist, and representatives of the

National Sunflower Associa tion and the sunflower industry;

Chickpeas with Tom Nightingale, farm manager, NU High Plans Ag Lab, and Baltensperger;

Waxy Proso with Rob Heyduck, UNL graduate student, and Baltensperger;

Summer Annual Forages with Jerry Volesky, Extension range specialist; and Baltensperger; and

Progressive Producers - Blue Sun with Karen DeBoer, Exension educator, Cheyenne County.