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## CropWatch No. 97-25, Nov. 7,1997

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# CROP WATCH

University of Nebraska Cooperative Extension  
Institute of Agriculture and Natural Resources

No. 97-25  
Nov. 7, 1997

*Despite urea's possible cost cut*

## Anhydrous preferred for fall nitrogen application

### Should urea be applied in the fall?

First, preplant applications of any form of nitrogen (N) on sandy soils are not recommended. Secondly, on non sandy soils, regardless of nitrogen form, no application should occur until the soil temperature is 50 F or below.

Apparently a temporary situation exists in parts of Nebraska where the nitrogen price per pound applied is about equal for urea and anhydrous ammonia. *However, from an economic and environmental standpoint, there are some important reasons why urea should not be substituted for anhydrous ammonia this fall.*

**1. Leaching Potential.** Urea is water soluble and leachable until hydrolyzed to ammonium, a process

likely to take 5-10 days or longer after fall application. Anhydrous ammonia is immediately non-leachable.

Once hydrolyzed to ammonium, the nitrogen in urea will have the same low leaching potential as anhydrous ammonia. Both can convert to nitrate-N which is leachable; however, with elevated pH and fertilizer concentration in the anhydrous ammonia band the conversion is slower.

**2. Immobilization Potential.** Because it is broadcast rather than injected into a band, urea has greater potential to be tied up in decomposing residue than anhydrous ammonia. This may be particularly accentuated because of fall residue volume. Although only a temporary process, the nitrogen may be tied up long enough to impact yield next year.

**3. Volatilization Potential.** Urea is subject to ammonia volatil-

ization when surface applied, especially when there is significant residue. Incorporation by tillage, rainfall or sprinkler irrigation (1/2 inch or greater) will minimize the potential for volatile loss. Cooler soil temperatures also will reduce the potential for loss. Applying a urease inhibitor will momentarily stop hydrolysis of urea to ammonia, however, the inhibitor cost ranges from \$7 to \$10 per acre.

Although the likelihood of these factors resulting in substantial urea-nitrogen loss is fairly low in any one year, they collectively result in greater risk for reduced availability of nitrogen from fall application from urea as compared to anhydrous ammonia. While there may appear to be a short-term economic advantage by applying urea, the potential for leaching and overall nitrogen loss outweighs any seem-

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## Tell us what you think about *Crop Watch*

Attached with this week's newsletter is a copy of a readership survey. We want to know what you like about *Crop Watch* and what you would change if you could. We review this information and make improvements based on your suggestions. Since this is our post-harvest and next-to-the-last issue, please be sure to consider the whole year of issues when making your suggestions.

**Take a moment to complete your survey and mail it back postage free. We're listening.**

Lisa Jasa, Editor



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



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## Reports from the field

**Ray Weed, Extension Educator in Kimball-Banner counties:** The moisture we received here in Kimball-Banner counties Oct. 24-25 is helping our winter wheat crop. We've had snowfall here ranging from 8" to 18", which provided a snowcover to insulate the wheat from the unseasonably cold temperatures. Unfortunately, the storm stopped corn and sugarbeet harvest. Sugarbeet growers really face the greatest difficulty now because they will either have to go in and "mud the beets out" or wait for things to dry out. Waiting may affect beet quality and take too much time.

A few head of cattle died as a result of the storm.

**Ralph Anderson, Extension Educator in Buffalo County:** The combines started running again Saturday, Nov. 1. Headlands and bottoms are still pretty soggy, but the fields are mostly firm. The high wind over Saturday and Sunday probably caused more stalk breakage than the previous snow, but if the combines run slowly, we still can pick up most of the crop. The lines at the elevators are discouraging and even a week with no harvest did not help as much as we had hoped. With the field ends so wet, we are having to haul the grain to the trucks on the road, further slowing harvest. However, we are thankful that most of our moisture did come in the form of rain and the snow that we did receive was not nearly as wet and heavy as we were fearing. We have had no reports of quality problems and hope many producers will have completed harvest by this weekend.

**Gary Hall, Extension Educator in Phelps and Gosper counties:** About 90% of the corn in Phelps County has been harvested and soybean and sorghum harvest are almost done. Wind blew over many corn stalks that were damaged by stalk rot and corn borers, complicating harvest for some.

**Paul Jasa, Extension Engineer:**

With the wet weather and field conditions, some producers are asking about drying soybeans. Good quality soybeans should be dried to 14% for winter storage or below 12% for summer storage. If quality is poor, the moisture content should be reduced an additional percentage point. High moisture beans, up to 18%, can be successfully harvested and dried, but they require special care and handling.

Too much heat while drying soybeans causes excessive seed coat cracking, which results in splits and increased breakage during storage and handling. **The key factor in avoiding splits is to keep the relative humidity of the drying air above 40%.** This creates a significant limitation on heat input, allowing less

than 20°F added heat for most conditions. As an example, 50°F outside air with 80% relative humidity can only be heated to 70°F in order to maintain humidity above 40%. Thus, high temperature drying is not an option when drying soybeans. If splits are not as much of a concern, more heat can be used to increase drying capacity but the **drying air temperatures should be kept below 120°F to avoid heat damaged beans.** Avoid stirrators and dryers that recirculate the beans, since they increase the potential for splitting.

Natural air drying is a good option for drying soybeans. The equilibrium moisture content (EMC) of soybeans with air at 40°F and 70% relative humidity is 13.6%. Warming

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## CROP WATCH

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Lisa Brown Jasa, Editor

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# Corn rootworm insecticides rated

Most of the commercially available soil insecticides tested by the University of Nebraska this summer provided acceptable control of corn rootworms.

Lance Meinke, UNL Associate Professor of Entomology, evaluated the efficacy of soil insecticides controlling corn rootworm larvae in an irrigated corn field at the UNL Agricultural Research and Development Center near Ithaca.

The trial was planted May 6 using Pioneer 3394 seed and a 30-inch row spacing. The soil was a silty clay loam, pH 6.4, with 2.8% organic matter. Granular insecticides were applied at planting using a planter-mounted V-belt system, and at cultivation using a Noble metering system mounted on a bicycle applicator. Liquid insecticides were applied using a carbon dioxide pressurized sprayer. Plots were one row by 35 feet, except for the Furadan 4F plots which were three rows wide. Plots were replicated four times in a randomized complete block design.

Initial rootworm egg hatch was detected June 13. Five roots were dug from each plot on July 21 and rated for injury using a 1-6 scale. At this site, the western corn rootworm was the predominant species present.

The data presented here were analyzed statistically using analysis of variance. One replicate was excluded from the analysis because the mean root rating of the untreated rows was < 3.0. Letters after the root injury ratings reflect the results of an LSD test for mean separation. Means sharing the same letter are not statistically different at the 5% probability level.

Traditionally, a root rating below 3 is considered to be commercially acceptable control. This trial documents that many commercially available soil insecticides provided acceptable control of corn rootworms under the conditions of this trial. Results from this site should not be applied to areas where insecticide resistance has been documented in Nebraska (i.e. York, Phelps and surrounding counties).

Insecticide	Rate oz ai/1000 row-ft	Placement	Mean root damage rating (1-6 scale)
Chlorfos 15G	1.2	TB	2.07 a
Furadan 4F	1 lb ai/acre	BPH	2.13 ab
AC 166002 20CR	1.2	TB	2.13 ab
Counter 20CR	1.2	TB	2.13 ab
C-FOS 30G	1.2	TB	2.20 ab
NUFOS 15G	2.4	TB	2.40 abc
Fortress 5G	0.15	I	2.40 abc
Furadan 4F	1 lb ai/acre	BH	2.40 abc
Regent 80WG	see footnote		2.40 abc
Force 3G	0.12	TB	2.40 abc
Dyfonate II 15G	1.2	TB	2.47 abc
Aztec 2.1GR	0.141	TB	2.47 abc
Force 3G	0.12	C	2.47 abc
NUFOS 15G	1.2	TB	2.47 abc
Aztec 2.1GR	0.141	C	2.53 abc
Force 3G	0.12	I	2.53 abc
Lorsban 15G	1.2	TB	2.53 abc
Thimet 20G	1.2	TB	2.53 abc
Counter 20CR	1.2	I	2.60 abc
AC 166002 20CR	1.2	I	2.67 abcd
Regent 4SC	see footnote		2.73 abcd
Chlorfos 15G	1.2	I	2.73 abcd
Fortress 5G	0.15	TB	2.73 abcd
Labs 116 15G	1.2	TB	2.80 bcd
Aztec 2.1 GR	0.141	I	2.80 bcd
C-FOS 30G	1.2	I	3.00 cde
Lorsban 15G	1.2	I	3.33 def
Untreated			3.93 fg
Untreated			4.40 g

I=placement directly into open seed furrow; TB=T-band, 7-inch band placed over an open seed furrow, C=first cultivation application on June 11, BH=broadcast application on June 11, BPH=broadcast application on June 19.

Furadan 4F applied at 43.4 gpa, 30 psi, Teejet 8004 nozzle tips

Regent applied at 0.13 lb ai/acre, infurrow at 4 qt/acre, 25 psi.

The following products are experimental treatments which are NOT registered for use: C-FOS (DowElanco), Regent (Rhone Poulenc), NUFOS (Cheminova), Chlorfos (Griffin Corporation), LABS 116 (Lehigh Agric. and Biological Services) and AC 166002 (American Cyanamid).

**Bob Wright**  
Extension Entomologist  
South Central Research and Extension Center

## Fall nitrogen applications *(Continued from page 189)*

ing benefit. Producers also may want to consider this risk of nitrogen loss when deciding to apply urea in the fall.

For those producers who believe the cost of the fertilizer justifies the risks, and fall apply urea, the surest way to minimize potential nitrogen loss is to incorporate the broadcast urea.

**If urea is spring broadcast on ridge till fields with no mechanical incorporation until ridge tops are removed at planting and there is no additional tillage until cultivation, what factors need to be considered relative to volatilization loss of nitrogen as ammonia?**

Basically, the same principles apply as discussed in the previous question.

1. Volatilization increases when urea is surface applied, and contacts residue, and/or soil temperatures are above 50F and there is moisture to wash the urea off the residue and into the soil.

2. If sufficient moisture occurs before the urea is hydrolyzed, the potential to leach urea from the root zone is less in the spring than in the fall.

3. An inhibitor can be used to reduce urease activity as long as the time span between urea application in the spring and planting time is not excessive.

Producers need to estimate the probability of receiving at least ½ inch of moisture in the spring after broadcasting and weigh that against the cost of applying inhibitor.

Under ridge till, at least two alternatives to broadcasting urea exist. Anhydrous ammonia (with or

without ammonium polyphosphate if phosphorus is needed) can be knifed into the ridge sides this fall. Or, knife anhydrous ammonia or nitrogen solution (with or without ammonium polyphosphate) on the ridge sides prior to planting. Both alternatives will significantly reduce the risk of any nitrogen volatilization.

For more information on fall application of fertilizers, contact Richard Ferguson, Extension Soils Specialist at the South Central Research and Extension Center; Charles Shapiro, Extension Soils Specialist at the Northeast Research and Extension Center, and Ken Frank, director, UNL Soils Laboratory.

**Richard Ferguson, Extension Soils Specialist, Southeast Research and Extension Center  
Ken Frank, Director, UNL Soils Laboratory**

# Agricultural land values increase again

Agricultural real estate values in Nebraska rose an average of 7.6% during the year ending Feb. 1, according to the Nebraska Farm Real Estate Report, published annually by the UNL Department of Agricultural Economics.

The all-land average value climbed to \$654 per acre. This represented the tenth consecutive year of value increases, but the percentage increase was the largest for the all-state average since 1988.

Land value increases occurred across the entire state, although largest gains were associated with cropland in the predominantly cash-grain areas. A combination of favorable crop prices, good yields in 1996, and transition payments from USDA's new farm program set the stage for gains in cropland values. But even grazing land values

showed some recovery during 1996 from the previous year's declines.

In some areas, values for some types of agricultural land are now at historic highs — having exceeded previous peak levels experienced at the height of the "land boom" in the early 1980s. However, the 1997 all-state nominal average value is still only 87 percent of previous peak value which occurred in 1981. And in real (inflation adjusted) terms, the 1997 average value for the state is essentially identical to the real value levels of 25 years ago.

Cropland cash rental rates for 1997 were also up substantially from year-earlier levels—in most areas 5 to 10 percent or higher. Landlord interest in capturing some of the cash payments from the new federal farm program led to some of this increase in cropland rental rates.

The 1997 rent levels for cropland represent historic highs in most areas of the state. In contrast to cropland, pasture rental rates for 1997 were more of a "mixed bag" of change. Rates on an AUM basis were stable with some slight increases.

Rental rates for grazing corn stalks after harvest — a common practice in several areas of the state were as much as \$1,000 for a center pivot quarter (if water and perimeter fencing are provided by the landlord). On a head-per-day basis, the average fee was \$.25 per head per day with a range of rates from \$.15 to \$.35. If a per acre basis is used the average fee is \$4.75 per acre.

**Bruce Johnson, Professor of Agricultural Economics**

# Tillage systems evaluated in soybean/sorghum rotation; no-till edges out

Research plots were established in 1981 on the University of Nebraska Rogers Memorial Farm 10 miles east of Lincoln to evaluate six tillage systems in a soybean/grain sorghum rotation. These dryland production plots have been maintained ever since and are showing that with proper management, no-till is the most profitable of the methods tested.

The 1997 yields for each of the tillage systems are shown in the table. (Full plot harvest with a combine and weigh wagon; corrected for moisture.) No-till again had a distinct yield advantage for grain sorghum and a slight yield advantage for soybeans. (See the Nov. 8, 1996 issue of *Crop Watch*, page 172, for the 1996 yield results.)

Very few differences were observed in plots early in the season except for a quicker emergence for the no-till treatments during the short dry spell that occurred after planting. Rainfall was adequate early in the season, replacing much of the soil moisture lost because of tillage. The month of August and the first half of September was fairly dry with the late September rains occurring after both crops had reached maturity. The low rainfall late in the growing season resulted in lower yields than expected based on the vegetative growth for both crops.

The no-till grain sorghum treatments headed about a week before the tilled treatments and were about 6 inches taller at harvest. The fall weather was warm enough and harvest was late enough that the tilled treatments dried down to the same moisture content as the no-till treatments (14.6%). This was unlike 1996 where the delayed growth on the tilled treatments resulted in wetter grain at harvest

Tillage system	Yield, bu/A	
	Soybeans	Grain sorghum
Fall plow, disk*, disk**	45.2	112.8
Fall chisel, disk**	44.4	112.0
Disk*, disk**	44.6	102.2
Disk**	45.2	112.6
No-till with cultivation	45.8	116.5
No-till without cultivation	46.0	120.0

Fall plowing and fall chiseling were on Nov. 1 (96); disk\* was on April 24, disk\*\* was on May 10. Dunbar soybeans were planted at 180,000 population on May 10, and Pioneer 8505 grain sorghum was planted at 95,000 population on May 13 (both crops in 30-inch rows).

(23% for fall tilled vs 18.5% for no-till).

In 1997, the soil moisture loss from row crop cultivation of the no-till grain sorghum reduced the yield by 3.5 bu/A (3.8 bu/A in 1996), similar to the average of the previous ten years, as reported in the

June 20, 1997 issue of *Crop Watch*, page 106. In both crops, the early preplant herbicide program without burndown controlled weeds so that cultivation or postemerge treatments were not necessary.

**Paul Jasa**  
Extension Agricultural Engineer

## Field reports/drying soybeans *(Continued from page 190)*

the air 5°F (using the heat given off by the fan motor) reduces the relative humidity to 58%. The EMC at 45°F and 58% RH is 10.9%. Minimum airflow rates are 2 cfm/bu for 18% beans and 1.5 cfm/bu for 16% beans. Drying times will be 20 to 30 days. Higher airflow rates result if the grain depth is reduced, so this should be considered to increase drying capacity.

Fans (and low heat burners) should generally be operated continuously as long as the average 24-hour air conditions are below 75% relative humidity and soybean moistures are above 15%. Generally, little rewetting occurs, and then only in the bottom 6 to 18 inches. The balance of good weather during the day or week more than off-sets short high-humidity

periods during the night, or one to two days of drizzle. Natural air drying becomes inefficient as average temperatures drop below 40 degrees. Beans can be cooled to about 25 degrees, stored over winter, and dried in the spring.

**The Natural Hazards Research and Applications Information Center** reported recently: "Over a 20-year period from 1975 to 1994 the United States spent approximately \$250 million per week (\$13 billion per year) on meteorological natural disasters. During this period, insured property losses for damages amounted to \$72 billion."

# Get informed and updated:

## Winter Extension meetings and courses cover crops, pest management, marketing

### **Crop and Pest Management Update Conference**

The 1997 CPMU Conference will be held Dec. 2-3 at the Kearney Ramada Inn. The program starts at noon with a meal, with presentations beginning at 1 p.m. and ending 3 p.m. Dec. 3.

There will be a mix of general session and concurrent session workshops. Program topics will include: sorghum ergot update, site-specific strategies for nitrogen use, spider mite management on corn, Timing of post-emergence herbicides on soybeans, B.t. corn, conversion of CRP to crops, and managing irrigation systems.

Registration will be \$125. Registration information is being mailed to past participants. Registration forms also are available from Ralph Anderson, Extension Educator, Buffalo County Extension Office at 308-236-1235.

Certified Crop Advisor credits will be requested for this meeting.

To reserve a room at the Ramada Inn, call 308-237-5971 or 800-228-2828.

**Bob Wright, Extension Entomologist, South Central Research and Extension Center**

### **Crop Protection Clinics**

Extension specialists from across the state will present information on practical, economical and environmentally sound management strategies for pests at this year's Crop Protection Clinics. Twelve clinics will be held from Lincoln to Scottsbluff to address with problems specific to different areas of the state.

The \$20 registration fee includes proceedings, publications, refresh-

ments, and a noon meal. At each site, registration will begin at 8 a.m. with the meeting to be held from 9 a.m. to 4 p.m. Commercial recertification in the ag plant category will be available at all locations. For more information on individual meetings, contact the Extension Educator in the host county.

**Jan. 6, Norfolk, Learning Center, 602 East Benjamin**

**Jan. 7, Fremont, Holiday Lodge, 1220 East 23<sup>rd</sup> St.**

**Jan. 8, Lincoln, Lancaster County Extension Office Education Center, 444 Cherrycreek Road**

**Jan. 9, Auburn, Arbor Manor, 1617 Central Ave.**

**Jan. 12, Scottsbluff, Panhandle Research and Extension Center, 4501 Avenue I.**

**Jan. 13, Ogallala, Ramada Ltd., 201 Chuckwagon Road**

**Jan. 14, Broken Bow, Elks Lodge, 625 South 10<sup>th</sup> St.**

**Jan. 15, O'Neill, Allison's Restaurant, Fifth and Douglas streets**

**Jan. 20, York, Chances "R", 124 West Fifth St.**

**Jan. 21, Deshler, Legion Hall, 1109 Fourth St.**

**Jan. 22, Hastings, Garden Cafe at the Holiday Inn, 2201 Osborne Drive East**

**Jan. 23, Holdrege, Ag Center, 1308 Second St.**

### **Pesticide Applicator Education**

#### **Private applicators**

For information on dates and locations of educational opportunities for private pesticide applicators, contact your local Cooperative

Extension Office. The registration fee includes the program and materials.

### **Commercial and noncommercial applicators**

#### **Recertification**

Ag Plant category, Crop Protection Clinics, Jan. 6-23.

Forest, Ornamental and Turf categories, Omaha, Jan. 12, Nebraska Turfgrass Conference

Seed Treatment category, Nebraska Seed Improvement Conference, Columbus, Feb. 4

Structural, Fumigation, Public Health categories, Lincoln, Jan. 20-21, Urban Pest Management Conference.

Recertification Training will be held Feb. 10 and Feb. 19 at multiple sites across Nebraska. Advance registration and a fee are required. Categories included in the training are: ag animal, forest, ornamental and turf, right-of-way, structural, fumigation, wood preservation.

Initial training will be held at multiple sites across Nebraska on Feb. 3, 11, and 26. Advanced registration and a fee are required.

For more information on specific dates or to order study materials, call 800-827-7216 or contact your local Cooperative Extension Office.

### **Soybeans in a Cropping System**

The use of soybeans in a cropping system will be the focus of six Cooperative Extension meetings to be held in January and February. The meetings, which will be cosponsored by the Nebraska Soybean Board and Association, will address a variety of topics, depending on

## Winter Extension meetings *(Continued from page 187)*

local needs, including fertility, specialty varieties, value in crop rotations, weed, insect, disease and nematode management, precision farming, planters and drills. For more information on individual programs, contact the host Extension educator for each meeting:

**Jan. 27**, West Point, contact Larry Howard, 402-372-6006.

**Jan. 28**, Columbus, contact Steve Pritchard, 402-563-4901.

**Jan. 29**, Auburn, contact Ken Burgert, 402-274-4755.

**Feb. 18**, O'Neil, contact Ralph Kulm, 402-336-2760.

**Feb. 19**, Lexington, contact Dave Stenberg, 308-324-5501.

**Feb. 20**, Hastings, contact Paul Swanson, 402-461-7209.

The registration fee of \$20 includes a noon meal, refreshments, and printed proceedings.

### ***Nebraska Crop Improvement and Nebraska Seed Trade Assn.***

The Nebraska Crop Improvement Association and Nebraska Seed Trade Association will co-sponsor the 1998 Nebraska Seed Improvement Conference. It will be held Feb. 3-4 at the New World Inn in Columbus. This conference is an educational and business forum for anyone interested in the dynamic and diverse Nebraska seed industry, regardless of the size or experience of the seed enterprise. CCA credits will be requested. The conference also will feature a trade show.

### ***Crop Management Winter Curriculum***

UNL Cooperative Extension will sponsor 13 intensive workshops to provide indepth education on a variety of topics pertinent to soil and water quality, crop production, and pest management. Taught by Extension specialists and research scientists, the workshops answer a need for higher level, more indepth

training on specific topics for agricultural professionals. CCA continuing education credits will be applied for.

The workshops will be targeted to agribusiness professionals, crop consultants, agronomists, seed and chemical dealers and employees and crop producers. Most workshops will be held at the Agricultural Research and Development Center (ARDC) near Mead, however several will take place at College Park in Grand Island. One workshop, *Fundamentals of Fungal and Nematode Pathogens*, will be held on the University of Nebraska's East Campus. Persons interested in attending should carefully note program locations.

One-day workshops will have approximately 6 hours of training and run from 9 a.m. to 4 p.m.

Registration fees will include lunch and reference materials. Brochures detailing these workshops will be available soon. For more information, call the ARDC at 402-624-8030.

**Jan. 28-29**, Managing Irrigation Systems; College Park, Grand Island. (Two-day workshop; nine hours of training.)

**Feb. 10**, Understanding Transgenic and Plant Breeding Techniques; ARDC, near Mead

**Feb. 12**, Making Sense of Site Specific Management; ARDC, Mead

**Feb. 13**, GIS/GPS Technology: Introduction to Farm-Level Mapping; ARDC; near Mead

**Feb. 17**, Alfalfa Management: Growing Superior Quality Alfalfa Hay; ARDC, near Mead

**Feb. 18**, Assessing Soil Quality; ARDC, near Mead

**Feb. 19**, Using Organic and Inorganic Fertilizers for Nebraska Crops; ARDC, near Mead

**Feb. 24**, Herbicide Mode of Action; College Park, Grand Island

**Feb. 25**, Weed Biology and Ecology, College Park, Grand Island

**Feb. 26**, Herbicide Mode of Action; ARDC, near Mead

**Feb. 27**, Field Crop Scout Training; ARDC, near Mead

**March 3**, Transgenic and Plant Breeding Techniques; College Park, Grand Island

**March 5**, Advanced Row Crop Sprayer School; ARDC, near Mead

**March 25**, Fundamentals of Fungal and Nematode Pathogens; UNL, East Campus.

### ***Sustainable Strategies***

Strategies and Ideas in Sustainable Agriculture will be held 9:30 a.m. to 3:30 p.m. Feb. 12 in the Activities Center of the Adams County Fairgrounds. For more information, contact Paul Swanson, Extension Educator in Adams County, at (402) 461-7209 or Email him at cnty4142@unlvm.unl.edu.

### ***Videotape/Internet courses***

Producers and agribusiness representatives wanting to improve their skills and agricultural education without being tied to a classroom setting have some excellent opportunities for taking college courses at home. Among those to be offered this winter through the UNL Institute of Agriculture and Natural Resources are: *Agricultural Marketing, The Good, the Bad and the Bugly*; and *Pest Wars*. All three classes are available via the Internet or videotape. The videotapes offer students the chance to progress at their own rate, reviewing information with a flip of the remote or arranging "classroom" time to best fit their schedule.

*Agricultural Marketing*, taught by UNL Agricultural Economist Jim Kendrick, covers historic price patterns, risk management tools, use of futures and options, and how to adjust your marketing strategy to take advantage of changes in the

*(Continued on page 189)*



## *Be patient in treating storm-damaged trees; first appearances may not tell whole picture*

The snow is gone but the devastation to woody ornamentals from the Oct. 25-26 storm in eastern Nebraska will have long-term effects. Thirteen inches of wet, heavy snow caused some areas to look like war zones.

Once majestic trees, many of which were still in full leaf, look like fallen twisted jungle gyms, a sight that is repeated throughout east central and southeastern Nebraska from Omaha to Red Cloud. Such severe storms create tree-repair problems that are neither easily nor quickly solved. Not until all emergency work is completed, can the less urgent task of treating trees to promote their future well-being be given full attention.

When a tree is so mutilated that no amount of repair will enable it to regain health and beauty, it should be removed and replaced. In borderline cases, however, a thorough knowledge of trees and their inherent growth potential is required to determine whether repair is justified. In my estimation, most of these damaged trees can be treated with good results.

Damage can be seen in several forms: split branch crotches, broken limbs, and stress fractures to major branches or even tree trunks. Splits of narrow, V-shaped crotches may vary from only a few inches in length to those that extend several feet below the fork. When severe, branch removal is required. When treating such wounds, torn and splintered wood should be smoothed and loosened bark trimmed away. The wound can then be shaped to promote uniform callus growth. Smaller splits can be repaired by drawing the limbs together until the edges of the crack meet, installing one or more tree rods to prevent further splitting, and placing wire cables well above the crotch to provide additional

strength to the weakened branch.

Many branches were broken some distance from their point of attachment, leaving stubs of varying length. If permitted to remain, these stubs will be invaded by wood-rotting fungi and bacteria. Over time, these organisms will move down into the scaffold branches and trunk and cause decay of the heartwood, which further shortens the tree's life. All stubs should be removed, taking care to prune cuts properly to minimize an invasion of wood decay microorganisms. Flush cuts are no longer acceptable: cuts should be made starting outside the branch bark ridge to just outside the swollen branch base (called the branch collar).

The weight of the snow also caused twisting and bending of major branches and tree trunks, causing longitudinal cracks and stress fractures. The extent of injury determines the treatment, but

examine such fractures carefully. If extensive, safety concerns may require removal. Less severely fractured limbs can be saved after rigid bracing and cabling.

Tree work is dangerous and should be done by a professional arborist. Hiring a tree service deserves careful consideration. A qualified arborist will do tree work properly and safely. An unqualified person may actually cause further damage to the tree. Homeowners may want to read a Cooperative Extension publication, NF93-112, *Damaged Trees: How to Select an Arborist or Tree Service*. It is available from local county extension offices. The Nebraska Arborists Association, Box 81414, Lincoln, NE 68501-1414 (Ph. 402/476-3852, e-mail: [assoc@navix.net](mailto:assoc@navix.net)) can provide a list of Nebraska certified arborists.

**David S. Wysong**  
Extension Plant Pathologist

### **Videotape/Internet courses** *(Continued from page 195)*

world market. In this 15-week course in a direct, producer-oriented style, Kendrick provides the information necessary to help participants aggressively market their commodities. Each week Kendrick also answers student questions *live* on the Internet, providing timely feedback on current markets.

Available via the Internet and videotape, *The Good, the Bad and the Bugly* offers practical pointers for people who need to know the basics of entomology and pest management. It's available noncredit or for three hours of college credit. The eight-week course, which begins Jan. 12, covers basic insect biology as well as the theory and practice of pest management, including management tactics, sampling, thresholds, pesticide properties, biological control and environmental risk. The class will be taught by Leon Higley, UNL

professor of entomology.

*Pest Wars*, also an eight-week course available via videotape and the Internet in January, blends the theory, history, and application of biological pest control. Participants will learn how to introduce, augment, and conserve natural enemies of common pests, including parasitoids, predators, herbivores, and pathogens; monitor and evaluate biological programs; and explore how to combine biological control methods with an integrated pest control plan. It's available noncredit or for three hours of college credit. The class will be taught by Steve Danielson, a UNL associate professor of entomology.

For more information about any of these classes, call 800-755-7765. Certified Crop Adviser (CCA) credits may be available.

## Crop Watch Reader Survey

Dear *Crop Watch* Subscriber,

We value your opinion and want to know what you think about *Crop Watch*. Is it meeting your needs? How can we improve it? Please take a moment and fill out this survey. Then fold, staple or tape it, and return it to us, postage free. **Thank you.**

1. What is your occupation? \_\_\_\_\_ (Please categorize below.)
 

Farmer _____	Business Manager _____	Sales/Applicators _____
Consultant _____	University Extension/Research _____	Farm manager/investor _____
Fert./Imp Dealer _____	Chemical Rep. _____	Other (specify) _____
  
2. If you are a **producer**, how many acres do you farm and what crops do you produce?  
 \_\_\_\_\_
  
3. What is most valuable about *Crop Watch*? \_\_\_\_\_  
 \_\_\_\_\_
  
4. Are there subject matter areas you would add or delete? If so, what?  
 Add: \_\_\_\_\_ Delete: \_\_\_\_\_
  
5. Do you use the "Field reports" from Extension educators and specialists throughout the state? Yes \_\_\_ No \_\_\_  
 How? \_\_\_\_\_
  
6. Have you changed any pest management or crop production practices as a result of information in *Crop Watch*?  
 Yes \_\_\_\_\_ No \_\_\_\_\_ If so, in what areas? (Please check all that apply.)
 

Pesticide selection _____	Pesticide timing _____	Weed scouting _____	Insect scouting _____
Disease scouting _____	Soil sampling for fertility _____	Reduced pesticide rates _____	
Reduced herbicide rates _____	Crop rotation _____	Split application of fertilizer _____	
Reduced tillage _____	Nonchemical controls _____	Other (Please describe) _____	
  
7. Can you assign a dollar value per acre of any savings that might have occurred because of these changes?  
 \$ \_\_\_\_\_/acre for \_\_\_\_\_ acres. For what changes? \_\_\_\_\_
  
8. Are you getting the information you need on a timely basis? \_\_\_\_\_ If not, please give specific examples.  
 \_\_\_\_\_
  
9. With "1" being most important and "11" being least important, please rank the following subject matter areas in the order of their importance for you.
 

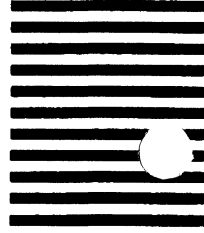
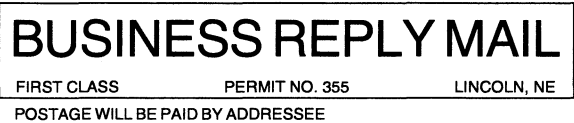
_____ Agronomic information	_____ Insect control	_____ Disease control
_____ Pesticide updates	_____ Meeting/training notices	_____ Weed control
_____ Fertility	_____ Variety trials	_____ Weather data
_____ Tillage issues	_____ Field reports	
  
10. Has your volume of pesticide or fertilizer use increased, decreased or remained the same in the last five years?  
 \_\_\_\_\_ If there has been a change, what is the reason for the change? \_\_\_\_\_  
 \_\_\_\_\_
  
11. How many other people read your newsletter after you're done? \_\_\_\_\_

12. Do you have a computer with access to the World Wide Web?  Yes  No
13. An expanded version of *Crop Watch* is now available by subscription on the Web. It includes crop water use data during irrigation season, expanded indepth reports, and ag-related news releases. If you answered "yes" to Question 12, would you subscribe to *Crop Watch* on the web? Why or why not?  
\_\_\_\_\_
14. If the Web version included an "Ask the Expert" section so subscribers could discuss current field or pest situations with University specialists, would you participate and why? \_\_\_\_\_
15. Do you plan to subscribe to *Crop Watch* next year?  Yes  No  Printed  Web
16. Please add any other comments? \_\_\_\_\_

Fold on this line.



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 To mail, fold as directed and tape.