

2005

## *Crop Watch* No. 2005-26, December 16, 2005

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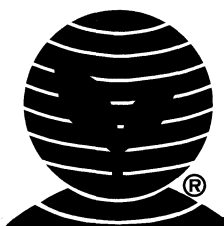


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# CROP WATCH

University of Nebraska Cooperative Extension  
Institute of Agriculture and Natural Resources

UNIVERSITY OF  
**Nebraska**  
Lincoln

No. 2005-26, December 16, 2005

*Learn the changes that pay big rewards*

## Attention to detail can boost profits

You've heard the saying, "You can't see the forest for the trees?" Meaning you need to see the big picture, I suppose. Well, there is another side to that issue and you might say "Don't trip over the stumps on your way to the woods." By that I mean, sometimes we miss the little pieces that are essential to the overall goal because we are too focused on the big picture. For many people, it is that way with farming. The little things that are the essential parts of profit are often overlooked.

*Ten Easy Ways to Boost Profit \$20/Acre* is a UNL Extension program that pieces several concepts together, adding real profit to grain production. *Ten to Twenty*, as we call it, looks at proven concepts that have a solid research base and have been shown to work in the field. These are the little pieces that are

overlooked. In fact, many people think they are doing these things, but we find that isn't true. It includes simple things like using the proper credit for soil nitrogen and legumes. NRD data shows that many people fail to properly credit soybeans in a rotation, typically costing them \$5 to \$10 per acre. Are you using the UNL formula which credits organic matter? If not, you could be overlooking something that might save you another \$8 to \$12 per acre. How about leaky gates and gaskets on irrigation systems. Those little dribbler leaks that may seem insignificant may be costing you a set, every time you irrigate. These are just a few of the items that you will learn about at *Ten to Twenty* workshops. We will show you the research that supports these con-



cepts and the on-farm research that proves it in the field.

*Ten Easy Ways to Boost Profit \$20/Acre* workshops scheduled for 2006 are:

January 19 - Laurel  
January 26 - Blair  
January 31 - North Platte  
February 1 - Lexington  
February 9 - Blue Hill  
February 14 - Grand Island  
February 15 - Lincoln  
February 16 - Seward  
February 21 - Fremont  
February 22 - Henderson  
February 23 - Milligan  
February 24 - Nebraska City  
February 27 - Elwood  
March 2 - David City

Contact your local Extension Office for specific times and locations or to register. Pre-registration is due three working days prior to the workshop.

**Andrew Christiansen**  
Extension Educator

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### Get the latest ag recommendations

University of Nebraska-Lincoln Extension offers a wide range of winter agricultural programming, many of which are available for continuing education credits. This issue and the last issue of *CropWatch*

feature information on many of these meetings.

For further information or updates and additions throughout the winter, check the *Crop-Watch Events* Web site at [cropwatch.unl.edu/events.htm](http://cropwatch.unl.edu/events.htm)

## Ag update

### Four-State Beef Conference

The 22nd annual Four-State Beef Conference will be held Jan. 11 at the Community Center in Tecumseh to update cattle producers on current cow-calf and stocker topics. The conference, sponsored by UNL Extension, Iowa State University, Kansas State University and the University of Missouri, will provide a forum of specialists from leading beef cattle and land-grant universities, said Rick Rasby, UNL

beef specialist. The conference begins with registration at 9:30 a.m. and speakers at 10 a.m.

Topics and presenters include Simple Sire Selection — Interpreting EPDs, Dan Moser, KSU genetic specialist; Marker-Assisted Selection — Tenderness and Marbling, Bob Weaver, MU beef cattle genetics specialist; Calf Health — Minimizing Losses, Gerald Stokka, DVM, MS Pfizer Animal Health; and Summer Feed Alternatives for the Cowherd by Rasby.

The same conference will be held in each of the sponsoring states: 4 p.m. Jan. 11 in Holton, Kan.; 10 a.m. Jan. 12 in Savannah, Mo.; and at 4 p.m. Jan. 12 in Lewis, Iowa.

Registration of \$25 is due by Jan. 6. Registration includes a meal and a copy of the conference proceedings. For more information or to register, contact Rasby at (402) 472-6477 or e-mail rrasby@unlnotes.unl.edu, contact a local extension office or visit the Web at [www.extension.iastate.edu/feci/4StBeef/](http://www.extension.iastate.edu/feci/4StBeef/).

## Grain marketing workshops offer strategies, models

With many producers choosing to store some of their grain harvest, this winter could be an optimal time for exploring the ins and outs of profitable grain marketing.

University of Nebraska-Lincoln Extension will be hosting 37 grain marketing programs, each including one or both of the workshops: Winning the Game and Marketing Stored Grain.

In *Winning the Game: Profitable Strategies for Marketing Grain* (WTG), producers play a one-year interactive marketing simulation game and then compare their results to an actual case farm to see how they would have done in the market. Discussion will include: seasonal price patterns in cash grain marketing decisions; using crop revenue insurance and loan deficiency payments (LDPs) as part of a grain marketing plan, and a "real life" test of participant skills using actual historical grain prices.

After learning about forward pricing and the role of crop insurance in the Winning the Game session, participants can attend the *Marketing Stored Grain* (MSG) session. This program takes a practical approach to post harvest marketing by monitoring the current environment and adapting

to market signals and incentives through a market simulation. Discussion will cover post harvest seasonality of grain prices, carrying charges and selling the carry, and evaluating the cost of stored grain.

Participants can attend the Winning the Game session or both sessions, and those who took the Winning the Game session last year are encouraged to take the Marketing Stored Grain this year.

For more information about the programs or to register, contact Beth

Eberspacher, program coordinator, UNL Department of Agricultural Economics, (402) 472-2039.

### Program schedule

Jan. 9, Council Grove, KS, 8:30 a.m. - 4:30 p.m., both

Jan. 11, Ravenna, 10 a.m. to 2:30 p.m., MSG

Jan. 11, North Bend, 8:30 a.m. to 12:30 p.m., MSG

Jan. 12, Syracuse, 8:30 a.m. to 4:30 p.m., both

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# CROP WATCH

[cropwatch.unl.edu](http://cropwatch.unl.edu)



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Lisa Jasa, Editor; Email: [ljasa1@unl.edu](mailto:ljasa1@unl.edu)

# Crop Technology Conference & Expo Jan. 4-5 in Gering

Greg Ibach, director of the Nebraska Department of Agriculture, is one of two keynote speakers to be at the 2006 Crop Technology Expo and Conference (Crop TEC).

The conference will be Jan. 4-5 at the Gering Civic Center. Ibach is scheduled to speak about the 2006 Farm Program on Jan. 5. The Jan. 4 featured speaker, Larry Johnson, vice president of fuels, CENEX/Land o' Lakes, will discuss the outlook for future fuels trends.

Crop TEC will provide ag producers with a unique opportunity to learn from university and industry specialists, interact with business leaders, and network with other producers from the region, according to the event chair, Dean Yonts, Extension irrigation systems engineer at the UNL Panhandle Research and Extension Center.

Crop TEC brings together ag industry leaders and UNL experts for the region's largest agricultural conference, combining a trade show and educational program. Organizers include representatives of ag businesses, producers, and the Panhandle Research and Extension Center.

Registration forms are available at the Panhandle Research and Extension Center at 4502 Avenue I, Scottsbluff or by calling the center at (308) 632-1316.

The preregistration fee is \$25 per person if received by December 30. For certified crop advisers who want to receive continuing education credits for attending Crop TEC, the registration fee is \$45 if received by December 30. Registration at the door, if space is available, are \$35 or \$55 (for credit) per person. Further information and registration forms are also available on the PHREC's Web site at [www.panhandle.unl.edu/croptec](http://www.panhandle.unl.edu/croptec). This form can be printed, completed, and returned to the office. Checks for registration fees should be made payable to Crop Tec.

To reserve a booth or become a conference or meal sponsor contact Debra at the PHREC at 308-632-1316.

Both mornings will be devoted to general sessions, followed by featured speakers at lunch. Afternoon sessions will be devoted to technical sessions that will provide detailed, current, practical information for producers from UNL personnel, USDA NRCS, farmers, and regional agri-business leaders. During the entire conference, the expo area at the Civic Center will be filled with booths and displays by agri-businesses.

The Jan. 4 general session will feature irrigation and water issues. Al Dutcher, UNL state climatologist, will speak at 9 a.m. about the likelihood of the drought continuing. At 9:40 a.m., Ann Bleed, interim director of the Department of Natural Resources, will provide an update on state water issues. At 10:20 a.m. Derrel Martin, extension irrigation specialist, will speak about irrigation issues and decisions.

The Jan. 5 general session will be geared toward competition in today's agricultural climate and how external factors such as energy,

ag products and government policies, can heavily influence these issues. At 9 a.m., Jim Caraccio, manager of fertilizer supply and acquisition for Helena Chemical Co. of Des Moines, will address energy and fertilizer procurement. At 10 a.m., Adam Vrabel of Man Financial of the Chicago Board of Trade, will speak about the corn and futures outlook for 2006.

The topics of the afternoon concurrent technical sessions will include:

- Strip Tillage
- Reduced Tillage Farmer Panel
- Pest Management in Reduced Till (weed control, insect problems, disease issues)
- Fertilizer Application in Reduced Till and Direct Harvest of Dry Edible Beans - Application for No-till
- Developing Water Efficient Crops through Biotechnology;
- Where Water Savings Occur - Dean Yonts
- Maximizing Corn Production
- Surviving through effective marketing
- Crop Rotation Changes with Limited Water

## Grain marketing *(Continued from page 240)*

Jan. 12, Gothenburg, 8:30 a.m. to 12:00, WTG

Jan. 13, Weeping Water, 8:30 a.m. to 4:30 p.m., both

Jan. 14, Lisco, 8:30 a.m. to 4:30 p.m., both

Jan. 18, Stuart, 1-4:30 p.m., MSG

Jan. 19, Sutton, 8:30 a.m. to 12:00 p.m., WTG

Jan. 23, O'Neill, 8:30 a.m. to 4:30 p.m., both

Jan. 23, York, 8:30 a.m. to 4:30 p.m., both

Jan. 24, Ainsworth, 8:30 a.m. to 4:30 p.m., both

Jan. 24, Hartington, 8:30 a.m. to 4:30 p.m., both, snow day: Jan. 27

Jan. 24, McCook, 8:30 a.m. to 4:30 p.m., both

Jan. 25, Arapahoe, 8:30 a.m. to 4:30 p.m., both

Jan. 25, Randolph, 1 to 4:30 p.m., MSG

Jan. 26, Milligan, 8:30 a.m. to 4:30 p.m., both

Jan. 26, North Platte, 8:30 a.m. to 4:30 p.m., both

Jan. 27, Stapleton, 9 a.m. to 4:30 p.m., both

Jan. 30, Lexington, 8:30 a.m. to 4:30 p.m., both

Jan. 31, Geneva, 8:30 a.m. to 4:30 p.m., both

Jan. 31, Aurora, 8:30 a.m. to noon, WTG

See [cropwatch.unl.edu](http://cropwatch.unl.edu) for additional dates and locations.

## Spring Seed Guide Released

The University of Nebraska-Lincoln Extension Spring Seed Guide for 2006 is available from Extension offices and will be delivered this week in the Midwest Messenger Bullseye edition.

It includes the results from a number of crop trials conducted across the state this year. In addition to sections on corn, soybean and grain sorghum, there will be sections devoted to alfalfa variety tests, grass forage tests, proso and foxtail millet, spring wheat, and oats. A section of the seed guide also contains variety descriptions and availability of certified seed being grown by members of the Nebraska Crop Improvement Association.

Trial results in the guide reflect another good year with excellent yields of both irrigated and dryland crops. Several areas of the state had some relief from several years of drought. In looking toward 2006, farmers are challenged to choose the best hybrid or variety for their farm. Identifying which ones will perform best under most conditions can be a challenge though. The top performer from one year is not always the top performer the next year. Only accumulated information from many locations, years, and sources will reveal truly superior varieties, and by then, the industry has moved on to new and improved types.

Several NebGuides are available to guide your use of the variety test information to select varieties and hybrids which can increase the profitability of raising crops.

- *Using Soybean Yield Data to Improve Variety Selection — Parts I & II (G1546 & 1547)*

- *Using Corn Hybrid Yield Data to Improve Selection of Rapidly Changing Hybrids (G1521)*

Time spent now to research the attributes of various hybrids and

(Continued at right)

## Nebraska No-till Conference at two sites Jan. 7-8

Corn and soybean producers can learn from researchers as well as the experiences of other farmers to successfully implement minimum and no-till systems at this year's Nebraska No-Till Conference.

The one-day conference will be held at two locations: Feb. 7 at the Ag Center in Holdrege and Feb. 8 at UNL's Agricultural Research and Development Center near Mead. Registration begins at 9 a.m. and the program ends at 4 p.m.

Producers will learn the benefits of no-till and how it can work for them, said Keith Glewen, UNL Extension educator.

"Some crop producers believe no-till won't work on their farm," Glewen said. "Some have failed with their no-till attempts. Yet, others have successfully implemented this process and increased their profits. This conference will help producers be successful."

Speakers include no-till farmers, university specialists and industry representatives and may vary by site.

Featured guest speaker at both sites will be Jill Clapperton of Alberta, Canada's Agriculture and Agri-Food Lethbridge Research Centre. She will speak on research findings and discuss how soil biology and ecology interact with cropping and soil management systems to facilitate long-term soil

quality and productivity. Clapperton is an internationally respected lecturer.

Other topics and presenters include:

*No-till – Making it Work in Southwest Iowa* with David Dukes, grain and livestock producer, Bedford Iowa (ARDC only);

*Water Infiltration Study in No-till and Tilled Nebraska Fields* with Paul Hay, UNL Extension Educator (both locations);

*Residue Management*, Paul Jasa, UNL Extension Engineer (Holdrege only); *Payments for Sequestering Carbon in Nebraska*, Randy Pryor, UNL Extension Educator (ARDC only);

*Ten Years Experience No-tilling in Irrigated Crop Production*, Mark Watson, grain producer, Alliance, NE (Holdrege only); and

*Grower Commentary*, discussion moderated by Chuck Burr, UNL Extension Engineer, (Holdrege) and Keith Glewen, UNL Extension Educator, (ARDC).

Pre-registration is due February 1. For more information or to register at the ARDC location, call (402)624-8030 or (800)529-8030 or e-mail [kglewen1@unl.edu](mailto:kglewen1@unl.edu). For more information or to register at the Holdrege location, call (308) 995-4222 or e-mail [cburr1@unl.edu](mailto:cburr1@unl.edu). Online registration is available at [ardc.unl.edu/notill.htm](http://ardc.unl.edu/notill.htm).

The free event is sponsored by UNL Extension in the Institute of Agriculture and Natural Resources, Nebraska Soybean Board, Sustainable Agriculture and Education (SARE), Lower Platte North Natural Resources District, Tri-Basin Natural Resources District, Central Nebraska Public Power and Irrigation District, USDA Natural Resources Conservation Service, Farm Credit Services of America and John Deere Risk Protection.

## Spring Seed Guide

(Continued from first column)

varieties and select a balance of traits can pay big dividends next fall at harvest.

To view the variety trial results online, go to [varietytest.unl.edu](http://varietytest.unl.edu)

**Lenis Nelson**  
Extension Crop Variety and  
Seed Production Specialist

# Skip-row corn trials prove valuable in dryland

This is the third year of our research on skip row corn and we continue to learn more about the advantages of this system and where and how to apply it successfully. The idea behind skip-row planting is to keep developing corn plants from using all of the available water too early in the growing season. Because water in the soil between widely spaced rows cannot be reached by the plants until later in the season, water is available to the plants in July and August. Corn is very sensitive to drought in the silking to blister stage of development.

What spurred my interest in skip-row corn? In 2002 North Platte received less precipitation than in any year since 1907. (1907 was the first year precipitation information was gathered at the UNL dryland farm there.) An ecofallow corn and grain sorghum plot in Hayes County in 2002 showed the potential benefits of skip-row. This was created when a sorghum breeder asked me to plant some experimental grain sorghum hybrids. I told him that I would include them in my Hayes County plot. The only grain produced in the plot that year was where sorghum rows were missing. The missing rows were a result of some of the experimental hybrids not producing viable stands.

Advances in weed control technology also are a factor. Weeds could be a major problem in skip-row, but with Roundup Ready corn it would be possible to control weeds in a skip-row corn system economically.

In 2003 we started the first research with skip-row corn. In this trial, all rows of corn were planted and then plants were removed to reduce population, or one or two rows were removed on July 2. Corn by this time will have used 6 inches of soil water. Yields were:

1) Control - (19,500 population) 41 bu/ac.;

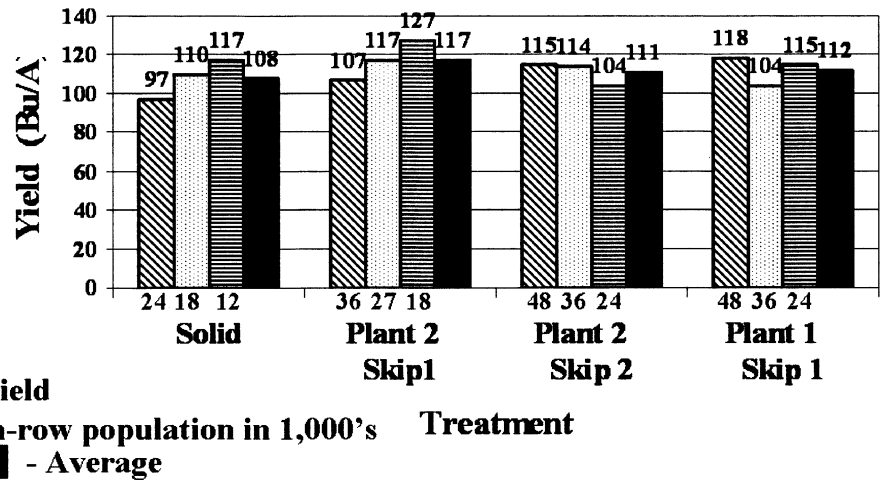


Figure 1. Yields of skip-row rainfed corn at North Platte in 2004.

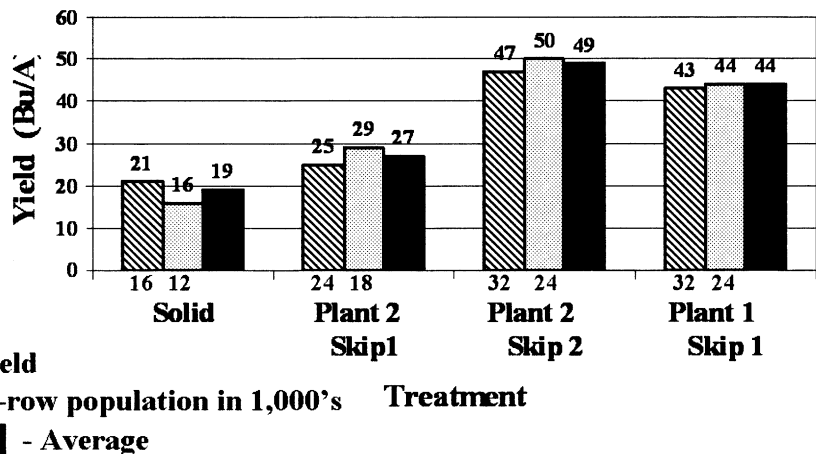


Figure 2. Yields of skip-row rainfed corn at Akron, Colorado in 2004.

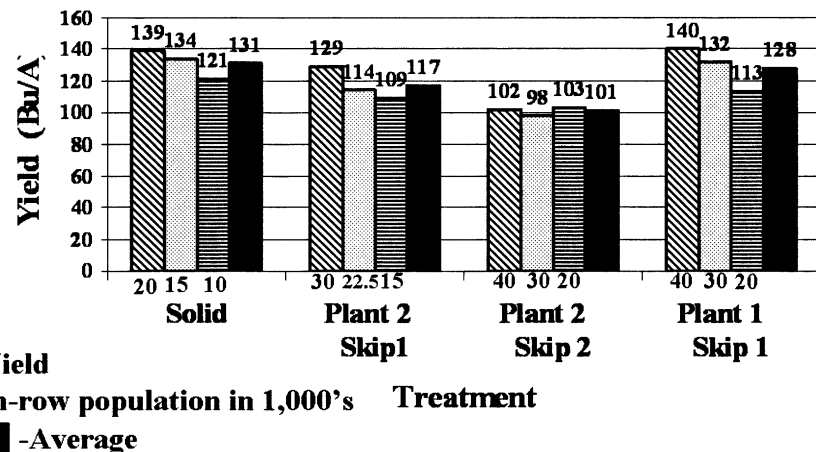


Figure 3. Yields of skip-row rainfed corn at North Platte in 2005.

(Continued on page 244)

### Skip-row corn *(Continued from page 243)*

2) Approximately every third plant removed, (14,700 population) 41 bu/ac.

3) Every other plant removed, (11,200 population) 45 bu/ac.

4) Series of two rows of corn followed by one row removed, (equivalent to 13,800 population) 48 bu/ac (17% above the control); and

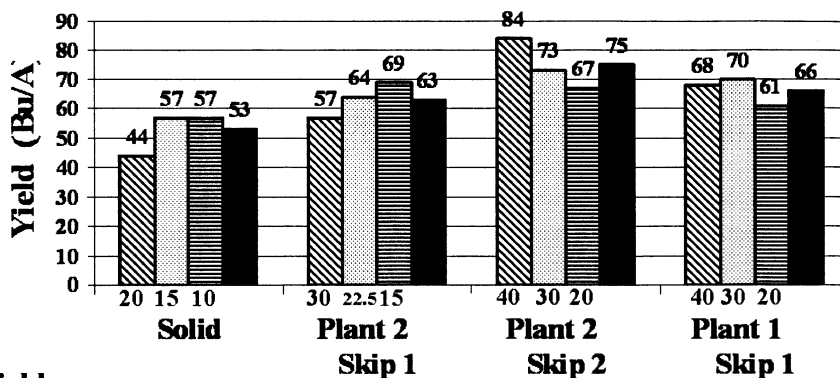
5) Series of two rows of corn with the next two rows removed (equivalent to 9,500 population) 54 bu/ac (32% above the control).

In 2004 and 2005 research trials were conducted at several locations across Nebraska (Concord, Lincoln, Clay Center, North Platte, Hayes Center, Ogallala, Sidney, and Scottsbluff) and Tribune, Kansas and Akron, Colorado. The treatments consisted of three corn populations and four skip-row configurations. The skip-row configurations are: 1) no skip rows (control), 2) a skip row every two planted rows, 3) a skip row alternating with a planted row (single-skip), and 4) two skip rows alternating with two planted rows (double-skip). There was no irrigation except at Scottsbluff where a reduced irrigation trial was compared to a non-irrigated.

The results of the 2004 skip-row plots at North Platte are shown in *Figure 1*. These are with very favorable precipitation during the growing season. June precipitation was 35% more than average, July 88% more than average, and August was average. Even with this very favorable precipitation the plant two skip one out-yielded the solid planting at all population levels. *Figure 2* shows the 2004 results from Akron, Colorado during a very dry year.

*Figure 3* shows the results from the 2005 skip-row trials. In North Platte, which had 65% more precipitation than average in June, 66% below average in July, and 79% above average in August, the plant one skip one yields were almost equal to solid planting.

**Bob Klein**  
Extension Crops Specialist

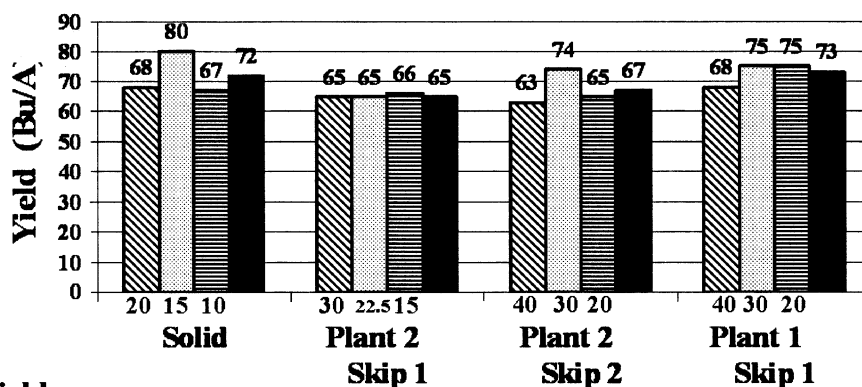


#### Yield

In-row population in 1,000's Treatment

■ -Average

Figure 4. Yields of skip-row rainfed corn at Trenton in 2005.

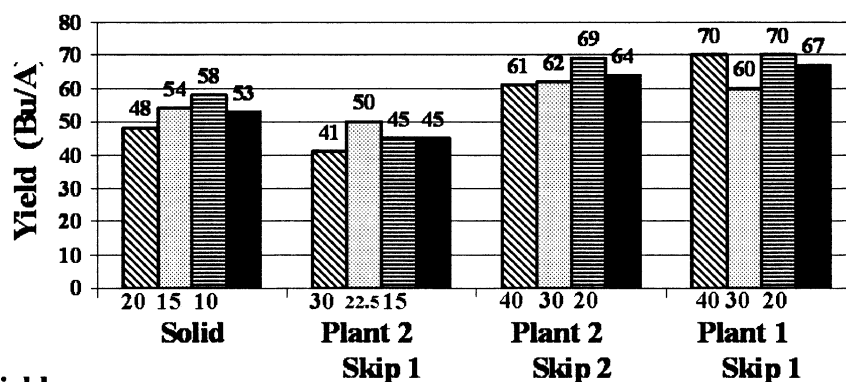


#### Yield

In-row population in 1,000's Treatment

■ -Average

Figure 5. Yields of skip-row rainfed corn at Sidney in 2005.



#### Yield

In-row population in 1,000's Treatment

■ -Average

Figure 6. Yields of skip-row rainfed corn at Ogallala in 2005.

(Continued on page 245)

## Developing a renewable energy source

# Researchers look at biomass for tomorrow's fuels

Biomass crops could play a big part in the future of Nebraska's biofuels industry, a U.S. Department of Agriculture scientist said at the University of Nebraska-Lincoln's annual Agronomy and Horticulture Highlights program.

Ken Vogel, a USDA Agricultural Research Service geneticist at UNL, is a leader in studying how best to produce biomass crops from native switchgrass. He was one of several agronomy and horticulture faculty members who spoke at the program featuring the department's Institute of Agriculture and Natural Resources extension, research and teaching activities.

Vogel discussed the status of biomass energy crops and biomass industry developments as well as current cooperative USDA-IANR research on developing the native prairie grass into a viable renewable fuel source.

Switchgrass, a high-yielding prairie grass, can be fermented to produce ethanol similar to corn. Farmers would plant the perennial grass and then harvest growth annually, making it an environmentally friendly and renewable fuel source.

"With rising gas prices, the cost of fuel has gotten everyone's

attention," Vogel said. "By 2010, the U.S. Department of Energy hopes to have the technology available and affordable" to convert biomass into ethanol.

Right now, a gallon of ethanol produced from biomass costs about \$1.35 per gallon.

Vogel continues to develop switchgrass cultivars with improved yields and altered composition for biomass fuel production and improved establishment practices including weed control and improved seed quality.

"Our goal is for farmers be able to get switchgrass established and have full production in the second year," he said. "If we can do that, we can be very successful."

In 2000, field trials were established in Nebraska, South Dakota and North Dakota. Trials in Nebraska continued from 2001 to 2004. Trials in North Dakota and South Dakota began in 2001 and will finish in 2005.

Results of these trials should provide more specific information on biomass switchgrass production for farmers in the northern Great Plains.

Vogel said the DOE ultimately wants to produce a billion tons of

biomass per year. This would supply 30% to 40% of the nation's liquid fuel needs using domestically grown biomass.

By 2010, the DOE also hopes to have 300 million tons of sustainably grown biomass available and aims to build three biorefineries in the U.S. with an annual capacity to produce 5 million gallons of ethanol made from biomass.

"This means three new ethanol plants," Vogel said.

Growing switchgrass for biomass production is a natural for Nebraska, South Dakota and North Dakota. Switchgrass most likely would be produced on marginally productive land, such as that in the Conservation Reserve Program.

Research shows switchgrass production is economically feasible in the region so biomass production could boost farmer's net farm income.

In opening remarks, department head Mark Lagrimini highlighted news about the agronomy and horticulture department.

He said that although enrollment in agronomy has declined since 1999, it took a slight jump in 2005. The number of students majoring in horticulture has steadily increased since 1990.

In a discussion about the department's future, Lagrimini told the crop consultants, industry professionals, farmers, UNL Extension educators and alumni at the meeting what the department is doing to better promote what it has to offer students. That includes doing a better job of communicating about available jobs for people with majors in agronomy and horticulture, adjusting curriculum, talking to employers, attracting students from urban areas and teaching more real-world skills.

**Sandi Alswager Karstens**  
IANR News Service

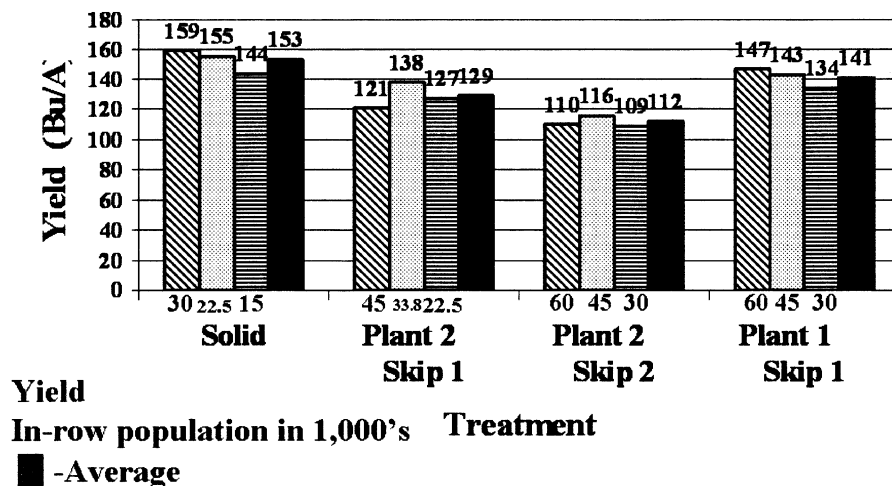


Figure 7. Yields of skip-row rainfed corn at Concord in 2005.



## Comprehensive nutrient management workshops

Several UNL Extension programs related to Comprehensive Nutrient Management Planning (CNMP) will be held across the state this winter. Following are details on individual programs. For further information contact your local Extension office or the Extension office in the host county.

### Land Application Training

**Description:** This class will help a permitted operation meet the certification requirements in Title 130. The class will introduce producers to Title 130 regulations, software available to assist in manure nutrient planning and record keeping expectations. Best management practices related to land application also will be discussed.

**Target audience:** producers and their employees who land apply

manure; crop consultants, permitted operations required to complete a land application certification program. Attendance of 10 to 25 is preferred.

#### Locations:

1) Norfolk, Lifelong Learning Center; 9 a.m. to 4 p.m., Feb. 22; cost is \$35

Contact: John Hay, [jhay2@unl.edu](mailto:jhay2@unl.edu), (402) 329-4821 or Larry Howard at [lhoward1@unl.edu](mailto:lhoward1@unl.edu), (402) 372-6006.

### Manure Merchandising

**Description:** This class will help feeding operations better understand the value of manure, and cover marketing strategies for selling manure and stories from other producers who have done it successfully.

#### Locations:

1) Albion, Knights of Columbus

Hall, 1-4 p.m. March 2 Contact: Steve Pritchard, [spritchard1@unl.edu](mailto:spritchard1@unl.edu), or call (402) 395-2158 (Boone County office) or (308) 536-2691 (Nance County office); cost is \$10

2) Wayne, Activities Center, 9 a.m. to 12 p.m. Feb. 23 Contact: John Hay, [jhay2@unl.edu](mailto:jhay2@unl.edu), (402) 329-4821; free

3) Atkinson, Rhonda's Café at the Road Runner, 9:30 a.m. to noon March 1, free Contact: Ralph Kulm, [rkulm1@unl.edu](mailto:rkulm1@unl.edu), (402) 336-2760 or Denny Bauer, [dbauer1@unl.edu](mailto:dbauer1@unl.edu), (402) 387-2213

### Manure and Fertilizer Use in Crop Production

**Description:** Covers the advantages and disadvantages to manure application, how to integrate manure use into your total fertilizer

(Continued on page 242)

## Kansas City training covers nutrient planning for potential technical service providers

The next CNMP Development Course has been scheduled for Feb. 13-15 at the Fairmont Hotel in Kansas City. It targets private sector technical service providers who are interested in developing CNMPs for USDA's Environmental Quality Incentives Program (EQIP) and Nutrient Management Plans required by EPA regulations specific to livestock and poultry producers. Registration for the course is now open.

Information about the course, lodging and registration is available on-line at: [www.ucs.iastate.edu/mnet/cnmp/home.html](http://www.ucs.iastate.edu/mnet/cnmp/home.html). If you have additional questions about the training, please contact Lara Moody with Iowa State University ([lmood@iastate.edu](mailto:lmood@iastate.edu) or 515-294-7355). The national curriculum has been jointly developed by the

national team listed below. The Kansas City presentation of this curriculum is sponsored by the Heartland Regional Water Quality Coordination Initiative which includes Iowa State University, Kansas State University, University of Missouri, University of Nebraska and EPA Region 7.

Iowa State University has a national MOU with NRCS to certify individuals to prepare CNMPs. Attendance at a USDA recognized training is a primary step in certification. Certified individuals can then be recognized by USDA as Technical Service Providers on TechReg in the CNMP Development areas. If you are interested in becoming a CNMP Technical Service Provider, certification information is available at the following web site:

[www.abe.iastate.edu/wastemgmt/cnmpcertification.htm](http://www.abe.iastate.edu/wastemgmt/cnmpcertification.htm) or you can contact Lara Moody at [lmood@iastate.edu](mailto:lmood@iastate.edu) or 515-294-7355.

The 2006 CNMP Development course will be taught using the CNMP Core Curriculum developed under a joint effort by Iowa State University, The University of Tennessee, Michigan State University, Purdue University, The University of Idaho, and the Natural Resources Conservation Service as part of a CSREES Extension Education Water Quality project. Members of the Heartland Regional Water Quality Coordination Initiative will serve as course instructors.

**Rick Koelsch**  
Extension Livestock  
Bioenvironmental Engineer

## CNMP workshops (Continued from page 241)

strategy, planning tools for insuring adequate nutrient availability from manure, and fertilizer use for high yield corn. The program is free and should last for two to three hours.

### Locations:

1) Deweese, Community Building, 9 a.m. Feb. 27 Contact: Jenny Rees, [jrees2@unl.edu](mailto:jrees2@unl.edu), (402) 762-3644

2) Clarkson, City Hall, 9 a.m., Feb. 21, Contact: Aaron Nygren, [anygren2@unl.edu](mailto:anygren2@unl.edu), (402) 352-3821

3) Atkinson, Rhonda's Café at the Road Runner, 1-4 p.m. March 1 Contact: Ralph Kulm, [rkulm1@unl.edu](mailto:rkulm1@unl.edu), (402) 336-2760 or Denny Bauer, [dbauer1@unl.edu](mailto:dbauer1@unl.edu), (402) 387-2213

## Phosphorus Index Training Workshop

**Description:** As of Jan. 1, 2007, all fields designated for manure application by a concentrated animal feeding operation (CAFO) will need to be assessed for the potential for P runoff to surface waters. The assessments are to be done using a P index. Producers will learn basic principles of P runoff from agricultural land and delivery to surface waters. They will learn to use and conduct practical exercises with two phosphorus indices. Computers will be used in conducting the exercises. The program is free and will last two to three hours.

### Locations:

1) Aurora, Technology Center, 1 p.m. March 17 Contact: Gary Zoubek, [gzoubek1@unl.edu](mailto:gzoubek1@unl.edu), (402) 362-5508, free

2) Beemer, Legion Hall, 7 p.m. February 15, Contact: Larry Howard, [lhoward1@unl.edu](mailto:lhoward1@unl.edu), (402) 372-6006, free

## Manure Use Planning Software Workshop

This workshop will introduce you to several free software tools for manure use planning, including

Manure Management Planner of Purdue University & NRCS together with document generators that meet NDEQ planning and record keeping requirements; the Nebraska Manure Value Calculator; the 1998 and 2005 Nebraska P indexes; and RUSLE2 for estimation of erosion losses. Participants should already be familiar with the basics of manure use planning and regulations and should bring a laptop computer if

possible. The target audience for this workshop will be crop consultants and advisors, but others also are welcome. Continuing education units are being applied for.

### Location:

1) Columbus, Wunderlichs Catering, 9 a.m. to 4 p.m. Jan. 27; Registration cost is \$70 before Jan. 14 or \$85 afterward; lunch is provided. Contact: Charlie Wortmann, [cwortmann2@unl.edu](mailto:cwortmann2@unl.edu), (402) 472-2909

## USDA ARS researchers identify soybean gene resistant to Chinese aphid

A key genetic discovery by Agricultural Research Service (ARS) and university scientists opens the door to breeding soybeans that can resist Chinese soybean aphids.

Since first being detected in Wisconsin in 2000, the soybean aphid (*Aphis glycines*) has spread across the Midwest and into the Deep South, causing millions of dollars of losses to the legume crop. Growers have fought back with insecticide spraying, a practice that adds \$12 to \$25 per acre to their production costs.

ARS plant pathologist Glen Hartman and University of Illinois (UI) collaborators at Urbana have worked to find cheaper, longer-term alternatives. In early 2004, their efforts paid off with the discovery of *Rag1*, a single gene conferring resistance to the exotic aphid in two southern cultivars that are no longer grown.

Normally, the sap-sucking pest causes harm in the form of stunted growth, disfigured leaves, poor pod formation, and the plant's eventual death. But in tests, neither wingless female aphids nor their nymph offspring survived for long when confined to the resistant beans' leaves. Typically, 94-100% of female aphids died within 10 days — compared to 17% on "Pana," a

nonresistant variety — reports Hartman, at ARS' Soybean/Maize Germplasm, Pathology, and Genetics Research Unit in Urbana. Nymphs suffered a similar fate, he adds.

Hartman and UI collaborators Curtis Hill, Shawn Carlson, Brian Diers and Yan Li identified the aphid resistance after screening 800 commercial soybean cultivars and 3,000 germplasm accessions managed by ARS in Urbana. Since publishing their finding in *Crop Science*, the team has mapped *Rag1*'s genetic whereabouts on the resistant beans' DNA (deoxyribonucleic acid). They've also identified marker regions and devised technology to detect them so that soybean breeders can rapidly identify resistant plants.

New, high-yielding cultivars bred to express *Rag1* could be available by 2008. Meanwhile, the team's search for other resistance genes continues.

Read more about their work in the November 2005 issue of *Agricultural Research* magazine, available online at [www.ars.usda.gov/is/AR/archive/nov05/soy1105.htm](http://www.ars.usda.gov/is/AR/archive/nov05/soy1105.htm)

Jan Suszkiw

USDA Agricultural Research Service

*For UNL CASNR student*

## Work experience reinforces classroom learning

*This is the second in a series of profiles on University of Nebraska-Lincoln students in the College of Agriculture and Natural Resources (CASNR) who have taken advantage of internships and other work experiences to expand their educations.*

Kyle Jackson, a UNL sophomore from Basset, is currently working as an intern in the Nebraska Attorney General's Office in the Agriculture and Natural Resources Section. His concentrated course work in environmental studies has been a benefit as he learns about the state's environmental laws and regulations through his work. He also has had the opportunity to work on Initiative 300 and learn how attorneys are acting to protect the amendment. When asked about his internship experience, Kyle states, "It is fascinating to me that I can witness and take part in how natural resource and agricultural laws are litigated through our court system."

Kyle's internship experience with the Attorney General's Office has helped him realize how to connect classroom concepts with real world experience while preparing for his future.

"This internship has given me experience and knowledge that I otherwise wouldn't have gotten in the classroom. It has reinforced my

positive perception of the environmental legal field and has given me the experience I will need for later in life."

Kyle certainly understands that experiential learning comes through internships as well as involvement on campus. During his time at UNL, Kyle has been involved in several organizations, including Ecology Now Club, Pi Kappa Alpha Fraternity, the UNL Publications Board and the CASNR Week Planning Committee, where he served as public relations chair. When asked about the unique activities at UNL that have helped him find his place on campus, Kyle cited the Dean's Scholars in Experiential Learning (DSEL) program.

"This experience was rewarding and comforting to me as a freshman because it gave me an opportunity to learn about UNL and to learn how to become a successful student on campus," he said.

### Check out UNL and CASNR

If you or someone you know is interested in learning more about UNL's College of Agricultural Sciences and Natural Resources, this would be a great time to schedule a campus visit and start making plans for next year. To get started, contact one of the offices listed.

### UNL Admissions

Visit their Web site at [www.admissions.unl.edu](http://www.admissions.unl.edu) or call 402-472-2023 to talk with a recruitment specialist.

### CASNR

For more information about the College of Agricultural Sciences and Natural Resources and the many opportunities that await students both in the classroom and through internships and research opportunities, visit the CASNR web site at [casnr.unl.edu](http://casnr.unl.edu) or contact one of the following:

**Recruitment:** Laura Frey at 402-472-4445 or 1-800-742-8800 (ext. 2541)

**Career Services:** Jill Brown at 402-472-8273

### Campus Visits

*(Please call ahead to schedule)*

Red Letter Days — all day, open house program for high school seniors and their families. When registering, indicate an interest in CASNR. The next one will be Feb. 20 from 8 a.m. to 3:30 p.m.

Personalized daily visits are available most weekdays at 9 a.m. and 1 p.m. Some Saturday visits also are available.

**Jill Brown**  
CASNR Career Services

Through the winter, be sure to check the *CropWatch* Web site for crop production and pest management stories, program and event updates, ag features, and other information. To receive an email when new stories are added to the site, subscribe on-line at [cropwatch.unl.edu/mailform.htm](http://cropwatch.unl.edu/mailform.htm)

***cropwatch.unl.edu***