**Programs for Crop Producers**

At the Saunders County Extension Office located at the ARDC August N. Christenson Research & Education Building unless otherwise noted...

### Improving the Profitability of Fertilizer and Manure Use

**Jan. 16 (9:00-11:30)**

* With high fertilizer prices, fine-tuning nutrient management is important to profitability. This workshop will review recommendations and research findings. Several new tools are available to aid producers in making timely decisions. Topics include: corn fertilizer/nutrient needs, overview of CSRESS P reduction project and results, management and availability of nutrients from manure, on-line calculator demonstration, the value of manure, and software tool demonstration; composting, other manure handling options, transport; reading manure test lab reports; crop residue harvest; and controlled release nitrogen, managing with high cost P; and fertilizer for soybean, wheat, and milo. The workshop is brought to you by the Nebraska Corn Board and USDA's Cooperative State Research, Education, and Extension Service (CSRESS) in partnership with University of Nebraska-Lincoln Extension. Please pre-register - lunch included at noon.

### Nitrogen Management Training

**Jan. 16 (1:00-4:00)** and **Mar. 19 (7:00-10:00 p.m.)**

* All producers using fertilizer in the LPN-NRD must attend nitrogen certification at least once every four years.

### Pesticide Applicator Training

**Feb. 3 (1:00-4:00)**; **Feb. 4 (6:30-9:30)**; **Feb. 5 (9:00-12:00)**; and **Mar. 31 (1:00-4:00)**

* Certification as a private applicator allows farmers to purchase and use restricted use pesticides in their farming operations. Private pesticide applicators with expiring certification and those seeking first-time certification will need to attend a certification training session in 2009. UNL Extension provides the educational program, while the state ag department is responsible for certification. The training cost is $30 per person.

### Nebraska No-Till Conference

**Feb. 10 - ARDC and Feb. 11 - Holdrege** (9:00-3:00)

* UNL Extension will give corn and soybean producers information on how to be successful with minimum and no-till at the Nebraska No-Till Conference. Producers will learn the benefits of no-till and how it can work for them. Speakers include no-till farmers, university specialists and industry representatives.

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**In Memory of August N. Christenson**

**by Dan Duncan, Assistant Dean and Director**

U NL Agricultural Research Division

The Beef Research and Education Building at the ARDC is named in honor of August N. Christenson for his outstanding loyalty and commitment to the students, faculty and programs of the University of Nebraska-Lincoln.

We were sad to say goodbye to our friend “Augie” recently. He passed away on Friday, November 28, 2008 at his home in Omaha. Augie was born on October 11, 1923 in Wahoo. He was 85 at the time of his passing.

August “Augie” Christenson grew up on his family’s farm near Colon, Nebraska, in Saunders County. He graduated from the University of Nebraska-Lincoln College of Business Administration in 1945 and was member of Delta Upsilon fraternity.

He dedicated his career to the Standard Chemical Manufacturing Company, a livestock feed and supply firm in Omaha, and retired as the senior vice president and treasurer.

A member of the University of Nebraska-Lincoln Chancellor’s Club with Distinction and the University of Nebraska President’s Club, Augie was a loyal supporter of the university who had given annually since the 1950s.

On August 25, 2004, he committed a substantial planned gift to the University of Nebraska Foundation to provide perpetual support for the College of Business Administration and the Agricultural Research and Development Center near Mead.

Augie’s memory will reside in the hearts and minds of those who knew him. However, his name and story will not perish with us. It will live on for generations within the August N. Christenson Research and Education Building.

A tribute slide show and downloadable file can be found on the ARDC website at [http://ardc.unl.edu/christensontribute.shtml](http://ardc.unl.edu/christensontribute.shtml).

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**Programs for Beef Producers**

**In This Issue...**

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- Extension Provides Programs for Beef Producers
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- Master Gardener Training for Local Gardeners
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BEEF PROGRAMS - Cont. from P 1

BEEF PROFITABILITY WORKSHOPS

How a beef operation is managed can make a significant difference in how profitable it is. With so many variables to consider, such as feed and fuel costs and up-and-down markets, maintaining a healthy bottom line can present an ongoing challenge.

UNL Extension will offer beef profitability workshops in January and February to help producers meet these challenges.

The sessions will be held at two different locations on each workshop date. Afternoon sessions will be held at the Washington County Extension Office, 597 Grant St., Blair, NE. Afternoon workshops begin at 1:00 p.m. – 3:00 p.m. with a 12:30 p.m. registration.

Evening sessions will be held at the Saunders County Extension Office at 2321 152nd St., Christiana. Research & Education Building at the ARDC. The workshops run from 7:00 p.m. – 9:00 p.m. with a 6:30 p.m. registration.

The first workshop will be held on January 26. Dr. Rick Rasky, UNL Beef Specialist will cover Cow-Calf Producer Profit Tips. Topics will include: cow/calf management systems to attack feed costs; testing forages for quality can save dollars and makes “cents” when designing feeding programs, understanding a forage analysis and purging, protein supplements after comparing options on a cost per pound of protein basis.

February 17, Dr. Darrell Mark, UNL Livestock Marketing Specialist will present “The Economics of Calf Finishing & Backgrounding Systems: Breakeven, outlook, and Co-Product Feeding.” Topics include: calculating breakeven and its role in making; backgrounding and yearling systems; calf feeding versus background and yearling finishing systems; and the economics of feeding and freezing pelleted co-products.

Pre-registration is encouraged by phone, fax, e-mail or mail one week in advance – discounts apply. Cost is $10 for registrations received one week in advance (by Jan. 20 for the first session and by Feb. 10 for the second workshop). After that, the fee is $15.

Fees include reference materials and refreshments. Make checks payable to: UNL Extension in Saunders County and mail to 1071 County Road G, Room B, Ithaca, NE 68033-2234.

The workshops are sponsored by UNL Extension in Douglas/Sarpy, Saunders, and Washington Counties.

BIOLOGICAL SYSTEMS ENGINEERING - Cont. from P 1

Biotechnology, in processing GMO soybeans (including oil extraction and biodiesel production).

Dr. Dean Eisenhauer teaches UNL’s Mechanized Systems Management 452 class, Irrigation Management. The class visits the ARDC to evaluate and compare efficiencies of center pivots and linear move systems, as well as to learn about the computer controlled systems of center pivots at the ARDC.

Dr. Slava Adamchak teaches UNL’s Site-Specific Crop Management (Agronomy, Mechanized Systems Management and Agricultural Engineering). The class visits the ARDC to attain hands-on experience with combine yield monitors. The students will ride in an ARDC combine and observe yield monitors in use and then examine the maps created from the monitors. They also learn about Veris mapping fields. The Veris electrical conductivity mapping unit records electric conductivity of the soil at different depths to identify different soil types. And the class performs soil sampling while at ARDC.

The department is also involved in the Carbon Sequestration Project. The project involves research on how best to store carbon in soil, improve crop production efficiency in the Western Corn Belt and protect the environment. Dr. Derrel Martin is involved with the tillage effects and water management components.

Biological Systems Engineering faculty are also often involved in Extension programs at the ARDC. They specialize in areas such as irrigation, precision agriculture and reduced/no-tillage practices and share their experience and studies via programs such as the Crop Management Diagnostic Clinics and others.

Faculty, staff and specialists present information at Extension programs such as the Crop Management Diagnostic Clinics and other training sessions.

Rogers Memorial Farm

The Rogers Memorial Farm also plays an important role in research, extension and academic programs provided by the Biological Systems Engineering Department. The Rogers Memorial Farm is a no-till research farm owned by the University of Nebraska-Lincoln and is operated by Biological Systems Engineering in cooperation with several other University departments and USDA agencies.

Located approximately 10 miles east of Lincoln, the 320-acre farm is typical of many small dryland farms in southeast Nebraska. Several University classes use the farm as an outdoor laboratory for real life situations and experiences.

Biological Systems Engineering has designed the farm to soil and water conservation activities, evaluating and demonstrating both cultural and structural practices. Crops are raised using a 100% no-till cropping system with various rotations of corn, soybeans, grain sorghum and wheat, from single year to multiple year rotations using two to all four crops in the rotations. With crop rotation, hybrid seeds from different suppliers and different agriculture pesticides are rotated for control of weeds and diseases in crops. Acres are distributed as follows: corn (40), soybeans (130), grain sorghum (30) and wheat (40).

In 1947, the Rogers Memorial Farm was bequeathed to the University of Nebraska as a memo- rial to Edward Rogers for the purpose of teaching University students and research of conser- vation farming. Rogers was a UNL graduate who died in service during World War II.

Cattle breeding experiments were conducted at the farm from 1947 to 1966. Biological Systems Engineering (formerly known as Agricultural Engineering) began management of the farm in 1966. In 1985, the University Institute for Agriculture and Natural Resources and the Board of Regents entered into an agreement with the U.S. Soil Conservation Service (now known as the National Resources Conservation Service) which designated the Rogers Memorial Farm as the “Conservation Demonstration Farm.” Today, the Rogers Memorial Farm stands not only as a living memorial, but also as a center for soil and water conservation research and educational programs.

Research is centered around 100% no-till farming and ranges from no-till intercropping and relay cropping to side by side. The Rogers Memorial Farm was fully converted to no-till crop produc- tion in 1991. Today, the no-till soil conditions make possible infiltration and runoff studies applicable to modern long-term no-till agriculture.

The long-term no-till soil conditions and the rolling and terraced terrain make this a unique research site for rain-fed agriculture in the U.S.

In 1966, Dr. Howard Wittmuss established four sub-watersheds with runoff stations for mon- itoring runoff and soil loss. These sub-watersheds range in size from 12 to 40 acres. Three stations are currently being refurbished with modern monitoring equipment. Field and runoff studies are planned by Dean Eisenhauer under his ARD Project, “Improved prediction of infiltration and overland runoff in Nebraska’s watersheds.”

Long-term tillage plots were established by Paul Jasa and Elbert Diecky in 1981. Numerous projects have been conducted in these plots, with infiltration studies continuing for 27 years as part of the Nebraska Environmental

Recent years are cont. on Page 3
CROP PROGRAMS - Cont. from P. 1

Irrigation and Energy Conservation Workshop for Corn Growers

Feb. 17 - Curtis; Feb. 18 - Alliance; Feb. 19 - Ord; and Feb. 20 - Columbus

* Nebraska corn growers are constantly challenged to grow corn responsibly using proven best-management practices. Surface and subsurface water irrigation management is on the top of the list. The workshop is brought to you by the Nebraska Corn Board and the Nebraska Corn Growers Association in partnership with University of Nebraska-Lincoln Extension. This special training session will provide you with valuable information on irrigation management that will help you save water and money.

Nebraska Soybean and Feed Grains Profitability Project (NSFGPP)

On-Farm Research Update - March 4

* Producers will obtain valuable crop production-related information from on-farm research projects conducted on Nebraska farms by Nebraska farmers. The program runs from 9 a.m.-3 p.m. NSFGPP is an on-farm research project designed to provide farm operators with an understanding of how to conduct crop research on their farms using their own machinery. Comparisons are scientifically designed, statistically analyzed and conducted for three years to assure reliable, useful information. Registration is $25 for non-NSFGPP members and includes a copy of the annual on-farm report, refreshments and noon luncheon. Pre-registration is encouraged by Feb. 25.

Field Scout Training for Pest Managers - March 16 - Call for details.

Irrigation and Energy Conservation Workshop for Corn Growers

Extended Visions

BIOLOGICAL SYSTEMS ENGINEERING - Cont. from P. 2

Residential wastewater treatment using a constructed wetland is another research endeavor at the university. Plans are also underway for a operational training/demonstration septic waste water system for contractors and installers of these types of systems so that rural septic wastewater treatment can be conducted onsite. Research team members have included different terrace layouts, terrace types, terrace outlets, and drainage systems. Woodland and windbreak renovation and establishment practices are being evaluated using both the farmstead and the streamside riparian areas.

Studies by other departments and agencies include work on forestry (including woodlot management, development of a black walnut enterprise, and wildfire damage), soybean germplasm testing, carbon sourcing, and wind energy to produce hydrogen for fuel using a small wind turbine. The farm also is one of only two locations in the State of Nebraska for NRCS’s Weather Station Placement for the Soil Climate Analysis Network (SCAN). This weather station records weather information and soil information at different soil depths. Information is stored and can be retrieved back to 1994 for this location. For more information, go to http://www.wcc.nrcs.usda.gov/scan/ds area.html or click on Rogers Memorial Farm. Biological Systems Engineering faculty and staff conduct a variety of experiments including tillage and erosion studies, stiff-grass hedges and riparian buffer zones and runoff monitoring stations. Machine vision, Global Positioning Systems and other technologies are used in the research programs. Students are often involved in these projects and gain valuable educational and professional experience.

Research Project Coordination.

Stuart Hoff is the Rogers Memorial Farm Manager for the Biological Systems Engineering Department.

Hoff and his wife, Karla, reside in Lincoln. They have a son in middle school and a daughter graduating high school. He received a B.S. degree in Mechanized Systems from UNL in 1986. He worked in the department of soil and water conservation from 1989 to 1995, then was the irrigation management technician at the ARDC until the March of 2004. Stuart has served as the manager of the Rogers Memorial Farm since that time.

being conducted by Suat Irmak, Dean Eisenhauer, Paul Jasa and others.

Some research related research is conducted using strip trials, just as many farmers would do on their own farms. Hybrid and variety testing, row spacing and population studies, planting date comparisons, and fertilizer trials are some of the many cultural production practices being evaluated. Results from this type of applied research are being used to fine-tune the farm’s general crop production, to demonstrate aspects of the farm’s operation to support Extension programs, such as Soybean Rust Sentinel Plots for the Plant Pathology Department. Stream meander movement and stream bank embankment erosion are also being studied with a tributary of Stevens Creek running through the property.

Another project currently underway at the Rogers Memorial Farm is the development and testing of a runoff simulator. The project, funded by the Williams Endowment, is being conducted by Tom Franti, David Shelton and graduate student Bill Alms. The goal is to develop a runoff simulator that will deliver water, sediment and chemical applications at variable rates to a conservation buffer plot or soil erosion research plot. The simulator will be used for a broad range of studies including studies of vegetative filter systems and erosion control practices.

The hydrologic, soil erosion, and water quality research potential of the hill slope areas with terraces, long-term no-till soils, riparian forest buffersystem, and stiff grass hedges at the Rogers Memorial Farm are invaluable and could not be replaced easily, if at all.

by a strong band of silk and begin to pupate. Adult male emerge in early to mid June. Bagworms are a native insect, common in eastern Nebraska, that have caused severe defoliation of evergreens in recent years. Juniper, arborvitae, pine, fir and spruce may be killed if completely defoliated and less severe attacks can slow growth. Bagworms also feed on shade, orchard, and forest trees of nearly every kind, as well as many ornamentals. Bagworms are not serious as bagworm feeding is usually not seri -ous, although the growth of small or newly planted trees could be slowed by heavy feeding.

The adult male bagworm is a small, furry gray moth with clear wings; the adult female does not have wings and never leaves the bag. A bagworm constructs a cocoon by feeding. The larva is bagged. The larva may hatch and return to the host plants next spring. Young insects are easier to kill than mature insects, so make your applications early in the season whenever possible.
Leadership Students Learn by Serving
by Kori Jensen, Mead High School

“Only a life lived for others is a life worthwhile,” said Albert Einstein. Students in the Human
Development class at Mead High School experienced this firsthand. While studying servant leadership the class was challenged to find a need within society and develop a plan to meet that need through serv-

ice. Amber Moerker said, “Service is a word you hear used a lot, but often don’t completely understand it. Service is when you do something that impacts another person, it can be anything from picking up trash to helping the needy.” The group worked together to plan a service project to help hungry people in Nebraska. The students called several agencies and organizations offering help. They decided to serve lunch at the Lincoln People’s City Mission and purchase a Christmas present for a little girl through Toys for Tots.

This experience had a huge impact on the students in Mead’s Leadership Class. “When we first arrived at the People City Mission, butterflies instantly took over my stomach. I was so nerv-
ous and a million ‘What Ifs’ were flying through my head,” explained Abby Wagaman. On Wednesday, November 19th, after putting on hair nets, aprons, and gloves, the students began to dish up lunch for hun-
dreds of hungry people. The first group to be served was the men. Next, the women and children were served. People walked through the line and were given one serving of bread, meat, and vegetables. Each face that walked through told a different story.

“Seeing these people lost, confused, and some looking completely hopeless was unsettling. I tried to put myself in their shoes and imagine myself on the other side of the serving line, that’s when it hit me. There is no time to be sad for these people, they are probably sad enough. What they need is someone who can take actions in helping them rebuild their lives,” Abigail Wagaman discovered. Students were surprised to see that many of the people didn’t fit into their stereotypical image of a person in need. Rhonda Wonder said, “If I walked past most of these people on the street, I wouldn’t have imagined the challenges they have faced in their lives. They looked and dressed just like me. I realized that anyone could be in this situa-
tion.”

The few hours these students gave to help others made an impact on the people they served; but more importantly it changed the students. Amanda Heinke explained, “I realized how much I take advantage of having a cell phone, computer, roof over my head, food in my stomach, and a family there for me every time I need them.” For many of the students this was an eye opening experience; they discovered the value of service. Amber Moerker summed it up well, “At the end of the day, I realized that service isn’t something I was forced to do. It is something I need to do and enjoy doing.”

Master Gardener Training for Local Gardeners

Do you love working in the garden? Would you like to learn more about plant culture, insect and disease problems? Then why not consider becoming a Master Gardener?

Anyone with an interest in plants or gardening is welcome. Master Gardener Training for Saunders and surrounding counties starts on January 31 at the UNL Extension office in Dodge County at 1206 W. 23rd Street in Fremont. The fee for Master Gardener training is $150. Request more information below, contact Sarah Browning at (800) 830-4855 or apply online at: http://extensionhorticulture.unl.edu/MG.shtml.