

2-2009

Extended Visions, January/February 2009

Follow this and additional works at: <http://digitalcommons.unl.edu/ardcextendedvisions>



Part of the [Agriculture Commons](#)

"Extended Visions, January/February 2009" (2009). *Extended Visions Newsletter of ARDC*. 11.
<http://digitalcommons.unl.edu/ardcextendedvisions/11>

This Article is brought to you for free and open access by the Agricultural Research and Development Center at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Extended Visions Newsletter of ARDC by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

In This Issue...

- * ARDC FEATURE UNIT -
Biological Systems
Engineering
- * Extension Provides
Programs for Beef
Producers
- * In Memory of August N.
Christenson
- * Master Gardener Training
for Local Gardeners
- * Mead Magnet School
- Leadership Students
Learn by Serving
- Programs for Crop
Producers
- * The Clover Corner 4-H
Reaches BEYOND
- * Tree Diseases/Insects
- Bagworm
- Pine Wilt

**Extension Provides Programs
for Beef Producers**

To register or for more information for the **Beef Satellite Short Courses** or the **Beef Profitability Workshops**, please contact Sara Ellicott, UNL Extension Educator, at (402)624-8030, (800)529-8030, or sellicott2@unl.edu.

Beef Satellite Short Courses

UNL Extension's Beef Satellite Short Course continues in January. The sessions will look at issues currently facing Nebraska's beef producers. The Beef Short Course will present the latest research-based information on herd health and profitability.

The sessions will be held on Monday evenings, beginning at 7:00 p.m. at the Saunders County Extension office. The Extension office is located at the August N. Christenson Research & Education Building at the ARDC.

The satellite programs will also be broadcast at the ARDC on **January 12**. Recessive Genes in Beef Cattle Production will be presented by Matt Spangler, UNL Beef Specialist and on **January 19**,

Production Tips to Increase Profit Potential in the Cow/Calf Enterprise will be presented by Rick Rasby, UNL Beef Specialist.

There is no fee for this program, but pre-registration is requested. □



BEEF PROGRAMS - Cont. on P. 2



Bringing Engineering to Life

by Dean Eisenhauer, UNL Professor of Biological Systems Engineering and Stuart Hoff, UNL BSE Rogers Memorial Farm Manager

In this issue, we feature Biological Systems Engineering. UNL's Department of Biological Systems Engineering's research and extension programs provide education and information to the state, region, nation, and world. The department also offers undergraduate, masters, and doctoral programs in Agricultural Engineering and Biological Systems Engineering. The Mechanized Systems Management program in Biological Systems Engineering provides for undergraduate and masters education.

Biological Systems Engineering's involvement at the ARDC is found in many different areas. Undergraduate classes often visit to learn about technology, such as GPS and yield monitors. Students get a first-hand look at equipment, processes and integrated cropping systems, as well as irrigation systems. The following is a list of some of projects at the ARDC and some of the classes that obtain valuable class time at the center.

Dr. Milford Hanna, with the Industrial Agricultural Products Center Pilot Plant at the ARDC, has been involved with: manufacturing modified starch and processing cellulosic materials for bioenergy; cooperating with Dr. Dojin Ryu and Dr. Loyd Bullerman, Food Science and Technology Department, in processing mycotoxin contaminated grain; and assisting Dr. Thomas Clemente, Department of Agronomy/ Center of

BIOLOGICAL SYSTEMS ENGINEERING - Cont. on P. 2

**In Memory of
August N. Christenson**

by Dan Duncan, Assistant Dean and Director,
UNL Agricultural Research Division



The 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 good-bye 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>. □

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 (CSREES) 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

Febr. 3 (1:00-4:00); Febr. 4 (6:30-9:30); Febr. 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

Febr. 10 - ARDC and Febr. 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.

CROP PROGRAMS - Cont. on P. 3

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, managing profitability and 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 run from 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 the August. N. Christenson 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 Rasby, 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 purchasing protein supplements after comparing options on a cost per pound of protein basis.

On **February 17**, Dr. Darrell Mark, UNL Livestock Marketing Specialist will present “The Economics of Calf Finishing & Backgrounding Systems: Breakevens, Outlook, and Co-Product Feeding.” Topics include: calculating breakeven and its use in decision making; backgrounding and yearling systems; calf feeding versus background and yearling finishing systems; and the economics of feeding and storing ethanol 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 Febr. 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. □



UNL Extension Educator, Sarah Browning notes that storms, insects and diseases have all taken their toll on evergreen trees in recent years, and some of the trees in our landscapes are looking pretty rough. Two of the most damaging problems have been pine

wilt and bagworms.

Pine Wilt

Most Nebraskans have heard of the new problem facing Nebraska's pine trees called pine wilt, which is caused by the microscopic pinewood nematode. This nematode is unusual, compared to other plant-parasitic nematodes, because it lives entirely in the above ground parts of the tree and never enters the soil. A separate native insect, called the pine sawyer beetle, acts as an insect vector carrying nematodes from tree to tree spreading the disease. Once the pine sawyer beetle introduces the nematode, the infected tree typically dies within a few months.

The initial symptom of pine wilt infection is ‘fading.’ Pine needles turn grayish-green, then tan and finally, brown, but remain attached to the branches. Needles can remain on a dead tree for a year or longer. Often the entire tree will fade all at once but sometimes the top of the tree may be affected first or some of the side branches. Typically trees begin to fade in mid-July, continuing through the fall and into spring.

Resin flow within the tree ceases and wood is dry when cut, compared to wood from healthy pine trees, which will quickly ooze resin and become sticky after cutting.

Scotch pine is the main host of pine wilt, but the disease also occurs in Austrian, Jack, Mugo and Red pine. As pines age, their susceptibility to pine wilt increases. Most cases appear in trees over 10 years old. Pine wilt does not affect other spruce, firs, or junipers.

This winter homeowners should check for trees that are completely dead or died suddenly in fall. There are no chemicals that can cure the disease at this time, but sanitation can prevent or slow its spread. Cut down infected trees and burn, bury or chip them, and remove the stump down to the ground. Do not hold the wood for firewood. Dead trees must be removed and destroyed by May 1 to minimize the presence of pine

TREE DISEASE/INSECTS - Cont. on P. 3

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 Adamchuk 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 electroconductivity of the soil at different depths to identify different soil types. And the class performs soil sampling while at ARDC.



UNL Extension Engineer, Paul Jasa, is eager to share research-based information at Extension-sponsored workshops and clinics.

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 dedicated 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. Along 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 memorial to Edward Alfred Rogers for the purpose of teaching University students and research of conservation 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's 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 production in 1991. Today, the no-till soil conditions make possible infiltration and runoff studies



Participants in the Rural Septic Waste Water Training learn how different soil profiles affect the efficiency of lateral waste water systems from Mark Kuzila, UNL School of Natural Resources.

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 Wittmus established four sub-watersheds with runoff stations for monitoring 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-scale 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 Dickey in 1981. Numerous projects have been conducted on these plots, with infiltration studies planned for the next three years as part of the Nebraska Environmental

Trust project titled “Coupling field measurements and remote sensing/satellite data to quantify crop evapotranspiration, evaporation, and water balance of tilled and untilled fields.” This project is



Riparian buffers (above) and stiffgrass hedges (below) are unique conservation practice being evaluated by Biological Systems Engineering.



BIOLOGICAL SYSTEMS ENGINEERING - Cont. on P. 3

CROP PROGRAMS - Cont. from P. 1

Irrigation and Energy Conservation Workshop for Corn Growers*Febr. 17 - Curtis; Febr. 18 - Alliance; Febr. 19 - Ord; and Febr. 20 - Columbus*

* Nebraska corn growers are constantly challenged to grow corn responsibly using proven best-management practices. Surface and groundwater 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 research report, refreshments and noon luncheon. Pre-registration is encouraged by Febr. 25.

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

BIOLOGICAL SYSTEMS ENGINEERING - Cont. from P. 2



Dr. Dean Eisenhauer shows a runoff sampling station located on field edge and riparian buffer strip to group from Argentina.

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

Few runoff research stations in the U.S. are terraced. The terrace systems at the Rogers Memorial Farm have both underground and grassed waterway outlets. In 1998, a 12 acre sub-watershed was planted to parallel stiff grass hedges. The hedges are 4-foot wide grassed strips planted at 100-120 foot intervals on the contour. This is another unique conservation practice being evaluated at the farm. Detailed topographic studies were conducted during the year of establishment and are periodically monitored for landscape changes caused by soil movement from erosion. The study area also includes a comparison between tilled and no-till treatments.

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 buffer system, and stiff grass hedges at the Rogers Memorial Farm are invaluable and could not be replaced easily, if at all.

Some production 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 examples of some of the 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, and to support Extension programs, such as Soybean Rust Sentinel Plots for the Plant Pathology Department. Stream meander movement and stream embankment erosion are also being studied with a tributary of Stevens Creek running through the property.

Residential wastewater treatment using a constructed wetland is another research endeavor at the farm. 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 training can be conducted onsite. Research on and demonstration of structural conservation practices 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 wildlife 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> then click on Nebraska, then 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. Students are often involved in these projects and gain valuable educational and professional experience.



Stuart Hoff

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. Sc. degree in Mechanized Systems from UNL in 1986. He worked in the department from 1989 to 1995, then was the irrigation technician at the ARDC until the March of 2004. Stuart has served as the manager of the Rogers Memorial Farm since that time. □

Calendar of Events

January

10	Organic Crop Improvement Association	8:00-5:00
12	Beef Satellite Short Course	6:30-9:00pm
16	Improving the Profitability of Fertilizer and Manure Use	9:00-12:00
16	Nitrogen Management Training	1:00-4:00
19	Beef Satellite Short Course	6:30-9:00pm
20	Saunders County Extension Board	7:00-9:30
26	Beef Profitability Workshop	6:00-9:30

February

3	Private Pesticide Applicator Training	1:00-4:00
4	Private Pesticide Applicator Training	6:30-9:30
5	Private Pesticide Applicator Training	9:00-12:00
10	Nebraska No-Till Conference	8:00-5:00
17	Beef Profitability Workshop	7:00-9:00pm

March

4	NSFGPP Annual On-Farm Research Review	8:00-5:00
16	Crop Scout Training for Pest Managers	
19	Nitrogen Management Training	7:00-10:00pm

TREE DISEASE/INSECTS - Cont. from P. 2

sawyer beetles in your trees next year.

To determine if dead trees are infected with the pinewood nematode, take a 1-inch thick sample from a branch 3 inches or more in diameter near the trunk or take a wedge-shaped sample of wood from the lower trunk or base of large lower limbs. Keep samples cool and moist in a plastic bag. Send samples for analysis to the Plant and Pest Diagnostic Clinic, University of Nebraska-Lincoln, 448 Plant Science Hall, P.O. Box 830722, Lincoln, NE 68583-0722.

**Bagworm**

Walk through your evergreen trees this winter and you may spot small, tan, oval-shaped, cocoon-like structures hanging down from your plant's branches. A closer inspection around the cocoons might also show that some of the leaves have been eaten away. What are these things, and what's damaging your plant? The answer is bagworms.

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 ornamental shrubs and perennials, however, severe attacks are unusual. Since deciduous plants regrow new leaves each year, the defoliation caused by bagworm feeding is usually not serious, although the growth of small or newly planted trees could be slowed by heavy leaf 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 she constructs during feeding. The larva is a brown or tan caterpillar with black markings. Bagworms overwinter in the egg stage inside the female bags, which are fastened to twigs. There may be as many as 300-1000 eggs in a single bag. Since female bagworms cannot fly, local populations can build up to damaging levels over the course of a few years as succeeding generations of insects emerge. Eggs hatch in late May and early June, and larvae feed until late August or early September. There is one generation per year.

After hatching, the larvae emerge from a hole at the base of the mother's bag and spin a strand of silk. The tiny insect is then blown by wind to nearby branches or plants. Once a suitable host is found, the new insect immediately begins to form a new bag over its body. Initially the young insect's bag is about 1/8 inch long, but at maturity will reach up to 2 inches long. By mid-August the mature larvae attach their bag to a branch with a strong band of silk and begin to pupate. Adult males emerge in September, mating occurs, and the females lay eggs inside their bags.

How can bagworms be controlled in winter? Handpicking is the best way to control light infestations on small plants. Be sure to remove the bags before eggs begin to hatch next May. Destroy bags by burning, immersing in kerosene or by crushing. If bags containing larvae are discarded on the ground, the larvae may hatch and return to the host plants next spring.

In windbreaks or on large plants, plan to apply insecticides to control next year's small larvae in early to mid June. *Bacillus thuringiensis*, BT, is available at nurseries and garden centers as Dipel, or Thuricide. Other insecticides labeled for bagworm control include bifenthrin, cyfluthrin, and permethrin. Affected plants must be thoroughly covered with the insecticide so the insects ingest the chemical as they feed. Young insects are easier to kill than mature insects, so make your applications early in the season whenever possible. □



The Clover Corner 4-H Reaches BEYOND

by Karna Dam, UNL Extension Educator

4-H is finding a place in the after-school program at the Raymond Central Elementary schools in Valparaiso and Ceresco. Once a month, Karna Dam, Extension Educator, provides an educational and fun experience for students who participate in the BEYOND After-School program.

In 2006, four Mission Mandates were identified by National 4-H Council as priorities for the next five years. Those mission mandates included: Healthy Lifestyles where youth will strengthen their nutritional and physical well-being by improving their physical, mental and emotional health and safety; Science, Engineering and Technology (SET) to help youth build an interest and identify opportunities for them to pursue the field of science and technology; Life-Skill Development would help to develop and utilize positive character traits, positive decision making, communication skills, citizenship, community service and leadership; and Career Development to help teach opportunity, connectivity and develop the skills necessary for acting on those opportunities.

In an effort to build the 2008-2009 BEYOND series around these mission mandates, a special series of programming has been developed to expose youth to each mandate. In October, Fun With Food was presented for the Kindergarten through third grade students. Students learned how to make a variety of snack foods that were age appropriate for their skill level. Apple Smile, Carrot Curls, Sparkling Juice and Monster Sandwiches were just a few of the creative ideas that the students were able to make. Each snack was also related to its place on the food pyramid.

The November program linked directly to the Science, Engineering and Technology mandate. SET is a strong focus area in Nebraska. Helping youth identify opportunities related to science is exciting. Fun With Physics was a program that did just that. Teaching the scientific process and providing five Physics Challenges gave each student an opportunity to learn about matter, energy, reaction time and momentum.

The December program again followed the SET mandate. Quilt Quest is a newly designed 4-H project and is gaining in popularity. Quilts have been used for centuries to log history. Learning the skills of piecing, design and color are only part of quilting. Students in 4th – 6th grade had the opportunity to make paper quilts and learn the skills necessary to design other quilt creations. For the younger students, they will have their opportunity on January 20 in Valparaiso and January 22 in Ceresco when Quilt Quest will be presented again for them.

If you would like 4-H to be a part of your classroom or after-school program, please contact UNL Extension in Saunders County at (402)624-8030, or (800)529-8030. □



Fun with Physics



QuiltQuest

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



M.E.A.D.

Making Education in Agriculture Different

Leadership 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 service. 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.

"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."

- Mead High School Student Comment

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 nervous and a million "What Ifs" were flying



MPS students provided meals and smiles at the Lincoln People's City Mission.

through my head," explained Abby Wageman. On Wednesday, November 19th, after putting on hair nets, aprons, and gloves, the students began to dish up lunch for hundreds 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," Abby Wageman discovered. The 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 situation."

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>. □

Send me information about becoming a Master Gardener!

Return to: University of Nebraska- Lincoln Extension
1206 West 23rd Street, Fremont, NE 68025 or call (800) 830-4855

Name _____

Address _____

City _____ State _____

Zip _____ Phone _____

E-mail Address _____