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European and American farmers can help solve the world’s growing food crisis, but they need to be able to take full advantage of genetically modified crop technology, one of Europe’s leading agricultural officials said while visiting the ARDC. Neil Parish, chairman of the European Parliament’s agriculture committee, made his comments while reviewing University of Nebraska-Lincoln research and extension efforts at the Agricultural Research and Development Center. The tour was part of a two-day visit to Nebraska sponsored by the Nebraska Department of Agriculture. “We want to showcase Nebraska agriculture,” Gov. Dave Heineman said as he introduced Parish next to UNL plots used for tillage and carbon sequestration research. Parish, a member of Britain’s Conservative party, was particularly interested in UNL’s work on genetically modified crops. He has been a leading advocate for biotechnology in Europe, where the public has been more skeptical.

Duncan Recognized for Service to ARDC

Dan Duncan was recently recognized at a reception held in his honor for his service to the ARDC. Dan joined the ARDC as Director in 1991. He is now serving as Assistant Dean and Director in UNL’s Ag Research Division, focusing on non-academic issues. He is responsible for intellectual property, Husker Genetics, working with commodity boards, research land development, University of Nebraska Foundation projects and other special projects in the ARD office. The ARDC has seen many positive changes and grown into a world class research facility in the 16 years that Dan served as director. We wish Dan great success in this new position!

Carbon Sequestration Program

A state-of-the-art field research facility has been established at the ARDC to quantify carbon sequestration (storage) in agricultural systems. Agricultural crops have the potential to offset a significant amount of anthropogenic carbon dioxide emissions by sequestering carbon in the soil. The facility includes three field sites (1/4 section each): a dryland corn-soybean rotation, an irrigated corn-soybean rotation, and an irrigated continuous corn system. These fields are instrumented with sophisticated tower eddy covariance instrumentation and supporting sensors to allow year-round measurements of carbon dioxide uptake and emission, and evapotranspiration, as well as relevant meteorological variables. CSP is an interdisciplinary research effort which includes faculty, students, post-doctoral researchers, and technicians from six departments in UNL, focused on improving our understanding of processes controlling carbon sequestration (storage) in major dryland and irrigated ecosystems in the north-central USA. More details on CSP can be found at http://csp.unl.edu/.

Automated Weather Data Network

The Agrometeorology Laboratory at ARDC is home for the longest continuously operated automated weather station (AWS) in the United States. In 1981 the automated weather station was established in the grassy area just east of the Agrometeorology Lab. This site served as a test bed for the Automated Weather Data Network (AWDN), where new sensors and operating procedures were tested. Once the testing was completed, the remaining stations in the AWDN were updated with the sensors and procedures that proved to be the best performance. Today there are over 60 AWS in Nebraska and another 110 in the surrounding states providing comprehensive data for use in agricultural decision making for our region. This is a unique non-federal network formed by cooperation between climatologists in the various High Plains states. The sensors

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Ultraviolet-B (UVB) Radiation Monitoring

One of 34 climatological UV-B (Ultraviolet-B) stations of the USDA UV-B Monitoring and Research Program is located at the ARDC. UV-B radiation is known to have damaging effects on plants. The severity of damage is related to how much radiation beyond the UV-B is present. Data from the monitoring program provides information important for assessing the local impact of UV-B radiation on human health, plants, the environment, and materials.

The ARDC UV-B station consists of over 250 sites nationally. Following a strict protocol, data are averaged every 3 minutes and are retrieved daily via internet from the program's home page at http://uvb.nrel.colostate.edu/UVB/home_page.html.

The station has five instruments which measure incoming sunlight (in discrete wavebands over the ultraviolet, visible, and near-infrared), temperature, humidity, and reflected light from the surface (the latter is reflected from the surface surrounding the station for determination of the presence or absence of snow cover). The data are averaged every 3 minutes and are retrieved daily via internet from the program’s home at Colorado State University. The central focus of the instrument suite is the Multifilter Rotating Shadowband Radiometers (MFRSR), one measuring in the ultraviolet part of the spectrum (300, 305.5, 311.4, 317.6, 325.4, 332.4 and 368 nm) and the other measuring in the near-infrared (305, 305.5, 313, 316, 322, 329, 355, 366, and 388 nm) and the other measuring in the visible-near-infrared part of sunlight (415, 500, 610, 665, 862 and 940 nm). The unique computer-controlled, automatic rotating shadow band on these two instruments permits the near simultaneous determination of total sunlight, direct (sun’s beam) and diffuse (skylight) at each waveband.

More details on the UV-B Monitoring Program and Research Program can be found at http://uvb.arel.colostate.edu/UVB/home_page.html. The data from the monitoring program has been valuable for UV-related research projects conducted in nearby ARDC fields and for classroom discussions and instruction regarding energy from sunlight at the earth’s surface.

Precipitation Chemistry Studies

The lab constitutes a field facility where precipitation chemistry is monitored year-round as part of the National Atmospheric Program/National Trends Network (NADP/NTN). The purpose of this network is to provide information on the chemistry (e.g., sulphate, nitrate, ammonium) to help monitor temporal and geographical trends. This ARDC site is one of 34 climatological UV-B stations of the USDA UV-B Monitoring and Research Program located at the ARDC. The station has five instruments which measure incoming sunlight (in discrete wavebands over the ultraviolet, visible and near-infrared), temperature, humidity, and reflected light from the surface (the latter is reflected from the surface surrounding the station for determination of the presence or absence of snow cover). The data are averaged every 3 minutes and are retrieved daily via internet from the program’s home at Colorado State University. The central focus of the instrument suite is the Multifilter Rotating Shadowband Radiometers (MFRSR), one measuring in the ultraviolet part of the spectrum (300, 305.5, 311.4, 317.6, 325.4, 332.4 and 368 nm) and the other measuring in the visible-near-infrared part of sunlight (415, 500, 610, 665, 862 and 940 nm). The unique computer-controlled, automatic rotating shadow band on these two instruments permits the near simultaneous determination of total sunlight, direct (sun’s beam) and diffuse (skylight) at each waveband.

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Midsummer and Late Season Crop Clinics Offered

Agricultural professionals and crop producers will take a look at the latest field conditions, research and techniques at the Midsummer Crop Management Clinics July 15-16. The UNL Extension clinics begin each day with 7:30 a.m. registration at the ARDC and start at 8 a.m. Participants will meet at the August N. Christenson Research and Education Building.

Participants can attend one or both of the clinics as subject matter will be different each day.

The July 15 clinic topics include: Corn Growth and Development - Who Cares?; Improving Nutrient Management; Irrigation Management; Web Soil Survey; Nitrogen Management Calculator; Soil Test Website; and Wheat - Relay Cropping - Double Crops - Forages.

The July 15 session features Bob Nielsen, a corn specialist at Peru State University and Nebraska native. Nielsen will help participants better understand normal corn growth and development. This information will help participants more clearly identify the symptoms of stress and interpret the potential effects of stress on yield.

The July 16 clinic topics include: Crop Production Jeopardy; Crop Scene Investigations (CSI Nebraska); The Art & Science of Crop Diagnostics; Liquid Pesticide Application Technology; Nebraska’s Potential Biofuels Crops; Nematodes of Corn and Soybeans; and Resistance Management of Weeds and Insects. Participants will also get to see the new soybean cyst nematode containment facility.

Organizers have applied for 6.5 Certified Crop Adviser credits; approval is pending. Presenters include UNL faculty and private industry agronomists.

Early registration is recommended to reserve a seat and resource materials. Cost for one clinic is $190. Cost for both clinics is $300. For more information or to register, contact the ARDC at (402) 624-8068.

Dairy Education Day and Open House - August 4

The Nebraska State Dairy Association (NSDA) and University of Nebraska-Lincoln dairy research faculty, staff, and graduate students will host a UNL Dairy Education Day and Open House on Monday, August 4. This event will be held from 10:00 a.m. - 2:00 p.m. at UNL Dairy Research Unit at the ARDC and at the August N. Christenson Research and Education Building.

The event kicks off at 10 a.m. with the UNL Dairy Research Unit open house and self-guided tours of the research facility. The open house will provide an opportunity to observe daily operations, view posters and informally interact with faculty and staff about ongoing research projects.

Topics include: live animal demonstrations to understand rumen fermentation, function and health, effective ways to feed corn distillers grains and gluten feed, forage quality and milk production, and understanding the chemical composition of distillers grains.

Lunch will be served at the Christenson building at noon - RSVP required. At 1 p.m., Dr. Paul Fricke of the University of Wisconsin Madison will give a presentation entitled, “Methods to Improve Reproductive Success of Your Dairy Facility.” Dr. Fricke is an Associate Professor and Extension Specialist in Dairy Reproduction and specializes in the study of the regulation of follicul growth and application and transmission of basic scientific research for practical use to improve reproductive efficiency in dairy operations. The event concludes at 2 p.m.

For more information or to RSVP, please call (402) 624-8068.
about the technology than Americans. Parish said the mood there may be changing with the pressure of higher food prices. Sallie Mackenzie, head of UNL’s Center for Plant Science Innovation, said UNL is the nation’s leading university in field testing genetically modified crops.

“Get them to feed up hearing all the promises from the lab and never seeing it taken to the field,” Mackenzie said. However, UNL is proving the effectiveness of biotech crops in real-farm situations.

The Institute of Agriculture and Natural Resources scientist pointed out several aspects of UNL’s biotech research, including development of crops resistant to the broadleaf herbicide dicamba; modified soybean oils for enhanced nutrition, animal-fish feed and biodiesel; and crop male sterility that keeps pollen from genetically modified crops from cross-pollinating with other crops.

Biotechnology also is key in making crops more resistant to disease and pests and more tolerant of cold and drought, Mackenzie added.

While industry leaders such as Monsanto also are immersed in this research, Mackenzie said UNL’s efforts are key because universities have relationships with producers that companies don’t have.”

Parish agreed that the unbiased research of land-grant universities such as UNL is more likely to convince Europeans of the safety of genetically modified crops than assurances from industry.

Parish also heard Thursday about UNL research on no-till farming and carbon sequestration, both of which are aimed at making agriculture more environmentally sensitive.

“We want him to understand that farmers are good stewards of the land,” said Dan Duncan, assistant dean of UNL’s Agricultural Research Division. “We’re working hard to conserve water and energy and save carbon.”

UNL Extension Engineer Paul Jasa pointed out to Parish that no-till farming, in which crops are planted in residue from the previous year’s crops, cuts equipment, fuel and herbicide costs; reduces soil erosion; conserves critical soil moisture; and reduces weed competition.

“Yes, there doesn’t seem to be much weed out there at all, does there?” Parish said as he reviewed a no-till university plot that was ready for planting.

UNL’s carbon sequestration research is “a revolutionary project,” said Soil Scientist Dan Walters. On fields in Mead, researchers are monitoring how much carbon is stored in the soil in various cropping systems. The more carbon can be captured in the soil, the less it contributes to global warming, Walters said.

“We’re still creating global warming potential in the agricultural systems we practice today. No doubt about it,” Walters told Parish. “But it’s reduced from what it was in the past. ... We’ve stabilized that loss (of carbon) and we know the components we need to work on to continue to improve.”

With the carbon in corn and ethanol and cattle is really important in Nebraska and it puts Nebraska at an economic advantage compared to other states,” he said.

Raikes said UNL’s work is critical to operations like his.

“We rely very heavily on research done at the University of Nebraska,” Raikes said.

Parish said he enjoyed his look at Nebraska agriculture, which

“We’ve got more in common than we think” between European and American agriculture – outside of "a hormone or two, perhaps a little GM (genetic modification) here and there," Parish said.

Fellow student workers play an important role throughout the ARDC. Others students working at the ARDC this summer, the area they are working with, and their hometowns include:

Cow/Calf - Casey Collins - Alliance
Cow/Calf - Corey Cable - Omaha
Extension Field Day Assistance - Aaron Bartek - Ithaca
Extension Field Day Assistance - Nathan Wulf - Valparaiso
Feedlot - Craig Fleming - Elsie
Feedlot - Jim Harris - Lincoln
Fire Shop & Facilities - Matt Scott - Lincoln
Horticulture/Turf - Sara Bucher - Lincoln
Horticulture/Turf - Taylor Cieslik - Weston
Horticulture/Turf - Jared Larson - Mead
Horticulture/Turf - Trisha Larson - Mead
Horticulture/Turf - Trisha Larson - Mead

For more information about Solution Days, call toll free 1-888-796-4368 or visit http://arcd.unl.edu/solutiondays. For more information about the Syngenta Learning Centers, visit www.learningcenters.farmassist.com.
Saunders County Fair 4-H Program

SUNDAY, JULY 27
2:00 p.m. Tucson Pull

MONDAY, JULY 28
8:30 a.m. Fashion Revue Judging - 4-H Building
  9:00 a.m. Dog Show – Gayle Hattan Pavilion
  9:00 a.m. Open to All Livestock Entries (Beef, Dairy, Sheep, Swine, Goats, Poultry, Rabbits)
  10:30 a.m. Check-in for Cats - Open Air Auditorium
  11:00 a.m. Cat Show - Open Air Auditorium
  1:00 p.m. Favorite Foods Review - 4-H Building
  2:00 p.m. Dog Agility – Gayle Hattan Pavilion
  3:00 p.m. 4-H Shooting Sports Competition - Gayle Hattan Pavilion
  7:00 p.m. Public Fashion Revue - Open Air Pavilion
  8:00 p.m. Accordion Players - Open Air Pavilion

TUESDAY, JULY 29
8:30 a.m. Haller horses checked in prior to 8:30 a.m.
  9:00 a.m. 4-H Horse Show – Judging Halter Classes, Showmanship – Rodeo Arena
  11:00 a.m. Performance horses - checked in by 11 a.m.
  TBA that day
    4:00 p.m. 4-H Horse Show - Performance, Walk-Trot, Pleasure, Western Riding, Horsemanship
      - Rodeo Arena

8:00 a.m. Check-in 4-H Rabbit and Poultry - Poultry/Rabbit Barn
3:00-5:00 p.m. Home Ec and 4-H & FFA Exhibits Entry - 4-H Bldg
5:45 - 7:15 p.m. Weigh-in 4-H and FFA Sheep & Goats - Swine Barn
7:45 - 9:15 p.m. Weigh-in 4-H and FFA Beef - Swine Barn
8:00 p.m. All Livestock, Poultry and Rabbit Exhibits in place (including swine)

WEDNESDAY, JULY 30
8:00 a.m. Weigh-in & Ultra Sound Swine Entries - Swine Barn
8:00 a.m. ATV Safety Training - Gayle Hattan Pavilion
9 a.m. - 4 p.m. Judging of 4-H Exhibits - Interview Judging by Appointment - 4-H Building
12:00 p.m. 4-H Truck Driving Contest (or immediately following Tractor Driving contest)
6:00 p.m. 4-H Bicycle Safety Contest - (or immediately following Tractor Driving contest)

Meet at Gayle Hattan Pavilion
5:00 p.m. 4-H Building Open to Public
6:30 p.m. 4-H and FFA Hay Hauling Contest - Gayle Hattan Pavilion
7:00 p.m. Open Barrel Racing - Rodeo Arena

THURSDAY, JULY 31
8:30 a.m. 4-H Sheep Lead Class - Gayle Hattan Pavilion
6 a.m. - 9 a.m. 4-H Building Open to Public
9:00 a.m. 4-H Sheep Show - Judging Breeding & Market – Gayle Hattan Pavilion
(15 minutes after conclusion of Lead Class)
10:30 a.m. Dairy Cattle Show - Gayle Hattan Pavilion
(Only Milking Dairy Cattle released following the show)
12:00 p.m. 4-H Dairy Goat Show - Gayle Hattan Pavilion
(only following the Dairy Cattle Show)
1:30 p.m. 4-H Meat & Pygmy Goat Show - Gayle Hattan Pavilion
5:00 p.m. Saunders County Fair Parade - Downtown Wahoo
8:00 p.m. Beat Dress code Goat - Gayle Hattan Pavilion

FRIDAY, AUGUST 1
7:30-10:30 a.m. Check-in Jr Bulls, Fender & Bucket Calves
8:30 a.m. 4-H Rabbit Show - Judging - Open Air Pavilion
9:00 a.m. 4-H & FFA Rabbit Show - Judging Breeding & Market - Gayle Hattan Pavilion
9 a.m. - 9 p.m. 4-H Building Open to the Public
8:45 a.m. Register for Ice Cream Rolling - Open Class Para
9 a.m. Ice Cream Rolling Contest - Open Class Para
12:00 p.m. 4-H Poultry Show - Open Air Pavilion
7:00 p.m. Figure 8 Races - Rodeo Arena

SATURDAY, AUGUST 2
8:30 a.m. 4-H Swine Show - Gayle Hattan Pavilion
9 a.m. - 9 p.m. 4-H Building Open to the Public
9:00 a.m. 4-H Small Pet Show - Open Air Pavilion
10:30 a.m. Clover Kids Show (or after Small Pet Show) - Open Air Pavilion
1:00 p.m. Livestock Round Robin Showmanship - Gayle Hattan Pavilion
(As needed by time)
5:00 p.m. Semi/Pickup Pull - Rodeo Arena

SUNDAY, AUGUST 3
8:00 a.m. Release of all 4-H and FFA livestock, rabbits and poultry
Noon-5:30 p.m. 4-H Building Open to the Public
1:00 p.m. Demo Derby - Rodeo Arena
4:00 p.m. 4-H BBQ - Gayle Hattan Pavilion
4:00 p.m. Meritiorious Award Recognition - Gayle Hattan Pavilion
5:00 p.m. Livestock Sale - Gayle Hattan Pavilion
5:30 p.m. Home Ec Exhibits released
6:00 p.m. State Fair & 4-A-Sue-Ben entries due

ANNOUNCEMENT - WAHOO SADDLE CLUB would like to announce that Saunders County 4-Hers can attend the rodeo at the County Fair on Thursday evening, July 24th for free. Parents will pay the normal admittance. Rodeo will start at 8:00 p.m. Tickets for 4-H’ers can be picked up at the Rodeo Arena Box Office 4-H window starting at 7 p.m. All 4-H’ers are asked to wear their 4-H T-shirts.

Area Youth Participate in Extensive Babysitting Training

Twenty-four area youth took part in 18 hours of classroom training to improve their babysitting knowledge and skills. The extensive “Babysitting Basics” training was conducted at the Saunders County Extension office.

Candie Jacobs, a Pediatric Nurse at Children’s Hospital in Omaha presented the session on baby care. “Back to Sleep” was the theme of the session and emphasized the importance of lying babies on their backs for naps and at bedtime. The focus was on cases where parents were not aware of the importance of lying babies on their backs for naps and at bedtime.

Sheriff Stakenholtz shared the important message of personal safety while babysitting and the information that is important to know when contacting 911. Taking the youth through real-life scenarios helped participants to think about their actions and react to a variety of situations.

Tonia Frank and Cathi Samson of the Three Rivers Public Health Department presented the CPR and First Aid sessions respectively. Utilizing the Family and Friends curriculum, youth were tested on their CPR skills.

Youth also learned about ages and stages of development, reading to children and playing with children. One highlight was the homemade games and activities that each participant developed during the three day sessions. Helping to build some skills in the kitchen, the prospective babysitters were responsible for helping to make their own lunch and snacks as well as the fun part of clean-up following meals.

When asked what these young babysitters would do differently as a result of what they learned from this clinic, responses included: “I learned what to do when I need a break,” “I will keep a closer eye on the children,” “I will make sure I get their phone number and address,” “I will stay calm in case of an emergency,” and “I’ll be able to sit down for a moment.”

Participants in this year’s Babysitting Basics class included: Emily Brabeke, Abi Carlson, Stephanie Cernick, Dylan Dam, Chloe Glass, Tami Hazen, Kendyl Heueritz, Anna Kastl, Holly Kubik, Tyler Marotz, Emily Menzel, Alyssa Parsons, Jill Paylor, Brooke Phillips, Amy Reisen, Libby Reisen, Kylee Sentstock, Gabby Shannon, Taylor Sherman, Jacob Spica, Cassidy Wall, Andrea Wiese, Emile Wilson, Tristin Zwienen.

FIELD DAYS - Cont. from P. 3

Irrigation and Energy Conservation Field Day

The Irrigation and Energy Conservation Field Day at the University of Nebraska-Lincoln’s South Central Field Laboratory - Clay Center will help producers save water and money.

The program, starts with 8:30 a.m. registration with training from 9 a.m.-4 p.m.

Participants will learn best management practices for corn production, achieve water conservation in irrigated and dryland corn production, learn how to reduce energy use production costs, find how to maintain and, in some cases, increase yield and profitability and learn to better manage surface and groundwater irrigation.

The complementary registration fee is provided in part through funding by the Nebraska Corn Board and the Nebraska Corn Growers Association. Certified Crop Advisor credits are available.

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