June 2003

Extended Visions May-June 2003

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Moving Forward in Challenging Times

Two months have passed since my last column and the budget picture is still really fuzzy. Some of the potential cuts have been announced with more to come as the legislative process continues to unfold. While nothing is certain, we do know that a proposal has been made to eliminate the Nebraska Forest Service. This reduction would affect four employees at the Fire Equipment Safety Shop. This shop obtains Federal Excess Property vehicles, reconditions them, retrofits them with fire fighting equipment and makes them available to rural fire districts around the State. The shop also provides mechanic services for all the units operating at the ARDC.

Budget cuts in other areas are also impacting workloads at the ARDC, mostly in the administrative support and business management area. Processes are being eliminated at a centralized level and the responsibility for the processes moved to departments. With this increased workload, we are reviewing our business functions and will make changes to cope with the increased workload. What this means, especially in the long-term, is that some services will be eliminated and some will be performed only on a fee basis. These changes will affect services to ARDC entities and the general public.

While this all sounds like doom and gloom, it is not. We will survive and continue to move forward. In the midst of all of this we have funding to replace a building at the Dairy Unit and one used by the Facilities and Farm Operations. We are moving forward with mandated upgrades of our municipal water system, planning for an expansion of the Beef Feedlot, and many other smaller scale projects designed to improve and increase our research capabilities.

Some may question moving forward with these projects while we are in a budget reduction cycle. However, these projects are critical to support the priorities of IANR. The Units involved in funding these projects have planned and made sacrifices in other areas to ensure we move forward. This type of funding is usually “saved” over a period of years. If we were to use these funds to address the budget reductions, we would only be stilling the inevitable. Using non-recurring monies to fund yearly needs is somewhat akin to eating your seed corn… it may seem like a good idea at the time, but it doesn’t make for a very promising future.

ARDC Director’s Comments

E-mail us and get a $10 off coupon

We’ll e-mail you updates on:

- Workshops that offer CCA Credits
- Crop Management Diagnostic Clinics
- Integrated Crop Management Winter Programs
- No-Till Conference, Crop Production Field Day, and many others!!

E-mail us at cdunbar2@unl.edu.

You will not only receive monthly program updates, but you will also receive a coupon for $10 off your choice of programs listed on our website.

Do you want to know when Cooperative Extension ag-related workshops and conferences are held at sites across Nebraska? In this time of reduced budgets and rising costs, we are looking for the most cost-efficient and timely way of reaching our clientele. We would like to e-mail you information on upcoming programs. Sign up at http://ardc.unl.edu/training.htm or e-mail us at cdunbar2@unl.edu.

Training for Beginning Scouts - May 12

Field scout training course will provide scouts the opportunity to enhance skills needed on the job. This training is designed for entry level scouts who will be working for crop consultants, industry agronomists and farm service centers across Nebraska and neighboring states.

The one-day training session will be held at the NU ARDC on Monday, May 12 from 8:30 am - 5 pm. The introductory course will help build confidence, enhance scouting techniques and provide continuing education credits.

Topics include: corn and soybean growth and development - how to stage the growth of corn and soybeans and the importance it has on the management of pest control; corn and soybean insect pests - identification, damage, and life cycles; natural enemies - predators, parasites and pathogens; weed identification; crop diseases; nutrient deficiencies; and sampling methods - scouting de’s and don’ts.

Past participants have given the training high marks. In fact, 100% of last year’s participants rated this training as ABOVE AVERAGE or as ONE OF THE BEST programs available! 100% of last year’s participants rated this training as ABOVE AVERAGE or as ONE OF THE BEST programs available! 100% of last year’s participants rated this training as ABOVE AVERAGE or as ONE OF THE BEST programs available! 100% of last year’s participants rated this training as ABOVE AVERAGE or as ONE OF THE BEST programs available!

The website: http://ardc.unl.edu/training.htm also contains details about other upcoming programs and training opportunities, as well as online registration.

You’ll want to bookmark the site and check back regularly!
Seeing Stars...and More!

Articles by Dr. Edward Schmidt and Dr. Martin Gaskell, Department of Physics and Astronomy

Behlen Observatory was established at the ARDC in 1972 to provide an up-to-date research facility for astronomers at the University of Nebraska. Walter Behlen, president of Behlen Manufacturing Co. of Columbus, NE donated $200,000 to purchase the 30-inch telescope and construct a dome to house it. Mr. Behlen had a long standing interest in astronomy and the telescope which he used at his home in Columbus, NE is now on display at the observatory. The observatory has been used by faculty and students to gather data that has contributed to nearly 45 refereed articles in professional journals and four PhD dissertations. Much of the research and most of the improvements to the instrumentation have been supported by the National Science Foundation.

The Behlen Observatory 30-inch telescope is able to gather more than 5,000 times as much light as the human eye. Its sensitivity is further increased by the use of a cutting-edge electronic camera, known as a charged coupled device or CCD, at its focus. The result is a system which can accurately measure the brightnesses and colors of stars more than 10,000 times too faint to be seen by the unaided eye.

The 30-inch telescope was built before the automation of scientific instruments was common and was designed to be operated manually. In the early 1980's the observatory staff began computerizing the telescope and its scientific instruments. Consequently ours was one of the first research observatories in the United States to achieve computer control to the point where the observatory proceeds most of the night without operator intervention. The control system has recently been updated by the replacement of the aging microVAX computer with a PC and the development of mouse driven control software. Nearly 100 star fields can be observed in a single night giving Nebraska astronomers the ability to gather large amounts of data and pursue unique areas of research.

About the Research

While most stars shine steadily, like the Sun, perhaps one in a hundred oscillates in brightness in intervals as short as minutes or as long as 20 years. Among these variable stars we find a great diversity of types. They range from the coolest of stars to the hottest, from the biggest to the smallest, and from the brightest to the faintest. All they really have in common is an inner instability which causes them to vibrate. Since its founding a major research emphasis at Behlen Observatory has been the study of variable stars.

With support from the National Science Foundation, a new cutting-edge electronic camera was purchased in 2001 for variable star studies. Using this equipment Professors Edward Schmidt and Kevin Lee and students Dale Johnston, Shawn Langan and Joseph Henry have been observing a particular type of variable star called Population II Cepheids. While some variable stars repeat their variations in a very regular fashion, others seem to change randomly. The Population II Cepheids fall in between. They exhibit small changes from one cycle to another. When a sufficiently large database has been assembled, it will be possible to study the cause of the small irregularities and use them to determine the properties and the origin of these stars. The Population II Cepheids are also interesting because they appear to range widely in age. In fact, some are among the oldest stars in our galaxy, the Milky Way, while others appear to be associated with the youngest population of stars. When the properties of these stars are better established from the present observations, studies will be undertaken to use them to learn more about the history of the Milky Way galaxy.

Larger than the sun

Although the RR Lyrae stars are considerably larger than the sun, they change very rapidly. Some regular double in brightness in the course of an hour. Most of these stars repeat their light curves with remarkable regularity. However, some show a much longer secondary periodicity with gives rise to a variation attributed to changes from cycle to cycle. This behavior is known as the Blaiklock Effect and produces considerable scatter in their light curves. In his Ph. D. dissertation research and since, Dr. Kevin Lee has studied this phenomenon. The case of the Blaiklock Effect is still unknown. Observations from Behlen Observatory are being used to develop a database of the characteristics of Blaiklock Effect stars and regular monoperiodic RR Lyrae stars. Observations have recently been extended to include...
Simply OUTSTANDING!

Four Employees Receive IANR Award

We’ve always known that we have some very outstanding employees working at the ARDC, but now we are making it official! In recent months, four employees that work at the ARDC have received the NU Institute of Agriculture and Natural Resources Outstanding Employee Award (OEA).

This is a very high honor as recipients are selected from the statewide pool of University employees. Letters of nomination were submitted in support of the candidates’ qualifications by staff and faculty that work closely with the employees.

Jeff Bergman, ag research technician, at the ARDC Cow/Calf Unit, was selected to receive the OEA for managerial/professional staff for December 2002. Ruby Urban, administrative and computer operations manager at the ARDC, was selected to receive the award for managerial/professional staff for January/February 2003. Erin Marotz, ARDC dairy unit manager, was recipient of the March/April 2003 OEA for managerial/professional staff. Dan Chemel, ARDC Swine Unit ag research technician, was recipient of the April 2003 award for office/service staff.

We congratulate Jeff, Ruby, Erin and Dan on this honor!

(Left to right): Darrell Nelson, Dean and Director of the NU Agricultural Research Division. Erin Marotz, Dan Chemel, and Don Beermann, Animal Science Department Head.

Doug Gustafson Celebrates Retirement

Doug Gustafson, ARDC Farm Operations, retired in March 2003 after nearly 39 years with the University of Nebraska. Co-workers, friends, family and neighbors helped Doug celebrate his retirement at a reception and at a dinner attended by over 100 people.

Doug started his University career on April 20, 1964 as Beef Feedlot Manager at the ARDC. In September 1982, he became the Farm Manager of ARDC Farm Operations. Later his position, evolved into the Farm Operations Supervisor.

Congratulations and best wishes, Doug!
Compared to other educational opportunities available, 97% of the participants at the No-Till Conference rated the program as one of the best or above average. The Integrated Crop Management Winter Programs provided intensive training on the ins and outs of no-till farming at the No-Till Conference at the ARDC this spring. The free event was sponsored by Cooperative Extension in NU’s Institute of Agriculture and Natural Resources, Nebraska Soybean Board, Lower Platte North Natural Resources District, USDA Natural Resources Conservation Service and USDA Farm Services Agency. 210 people attended the conference with 88% indicating farming as their main occupation. Conservatively the conference impacted management of 227,259 acres of cropland. When asked to place a dollar value on what participants learned, they indicated a $9.41 per acre average value for estimated knowledge gained... bringing the value of this program to $2,138,507. The participating number of people was at least 1,915,019 acres of cropland or 12% of Nebraska’s corn, soybean, and hay acres. The average estimated value of knowledge gained and/or anticipated practice changes on a per acre basis by participants totaled $3.38 per acre. Total dollar impact on Nebraska’s cropland was at least 1,915,019 acres was $6,478,236.

When you look at the value participants place on programs, you can see that the participants believe there is a real profit in attending programs offered by NU Cooperative Extension - in knowledge gained and increased profits.

Students Learn About Agriculture

The Ag Awareness Coalition provides a fall agriculture awareness festival at the ARDC and also provides a spring festival in Lincoln for Lancaster County youth. Nearly 500 students attended this year’s spring festival. University of Nebraska, commodity groups, businesses, and producers led the sessions. NU Extension Educators, Lance Brown and Bob Meduna are shown on the right presenting at the festival. Bob presented information on grain production, while Lance taught the students about dairy calves. Local producer, Bruce Wolz also presented at the festival and taught the youth about swine production and byproducts.

A recent visit to the ARDC provided a similar educational experience for 36 third-graders from Millikan Park School of Fremont.

The Free Event Was Sponsored By Cooperative Extension In NU’s Institute Of Agriculture And Natural Resources, Nebraska Soybean Board, Lower Platte North Natural Resources District, USDA Natural Resources Conservation Service And USDA Farm Services Agency. 210 People Attended The Conference With 88% Indicating Farming As Their Main Occupation. Conservatively The Conference Impacted Management Of 227,259 Acres Of Cropland. When Asked To Place A Dollar Value On What Participants Learned, They Indicated A $9.41 Per Acre Average Value For Estimated Knowledge Gained... Bringing The Value Of This Program To $2,138,507.

M.E.A.D. Making Education in Agriculture Different

Members of the Mead FFA Chapter ventured to the 75th State FFA Convention held in Lincoln on April 3rd and 4th. While at convention, students participated in agriculture contests, leadership workshops, and attended awards and presentation sessions.

Students from Mead FFA Chapter represented the school in several contest areas. The following is a list of career development contest participants and results:

- Agriscience: Tim Ambrout (White), Krystal Even (Red), Justin Johnson (Blue), and Trisha Larson. The team received an overall red.
- Food Science: Sara Ballard (White), Shelby Morris, Chrisy Push, and Lisa Rasmussen (White). Floriculture: Breanne Biehl, Betsy Kruse (White), Ashley Miller (Red), and Erin Thilliander (White). Livestock Management: Kelsey Murray-Poultry (Blue), Dustin Barri-Dairy, Brendan Murray-Horse (Red), Eric Deerson-Beef (Blue), and Lindsey Hanson-Swine. Nursery and Landscape: Eric Deerson (Blue), Ashley Miller (White), Erin Thilliander, and Brandon Wolfe (Red). As a team, they received a red.
- Jr. Livestock Judging: Cody Moravec, Adam Rasmussen, Kelley Murray (White), Mark Tiptow (White).

Another contest area is Leadership Skills Events, which tend to be public speaking. Lisa Rasmussen qualified in Sr. Public Speaking and received a bronze medal. The Mead FFA Chapter was also recognized with a Governor’s Excellence Award and received a $1000 grant.

Four students also received the highest honor one can bestow at the state level, the State Degree. Those students were Eric Deerson, Lisa Rasmussen, Brandon Wolfe, and Brendan Murray. Way to go!

Twelve Jr. High students also competed in the Jr. High Ag Quiz Bowl that was held during State FFA Convention. Those students participating were Jaday Thomas, Chelsea Bergman, Emily Bergman, Dallas Vogt, Matt Heunus, Dan Parsons, Tyler Vaughan, Jessica Guyle, Colby Kontor, Lisa Kuhler, Tracy Ballard, and Rachel Glenn.

Congratulations to all the FFA members for their hard work and dedication!

Members of the floriculture career development team participated at the State Convention - from left: Ashley Miller, Erin Thilliander, Breanne Biehl, and Betsy Kruse.