Welcome and Welcome Back!
by Daniel J Duncan, ARDC Director & IANR Ag Research Division Assistant Dean and Director

We want to welcome Chad Lanik and Casey Holstein to the ARDC. Chad was hired into a new position that will work with Farm Operations and Foundation Seed. We are excited to have Chad become a part of our staff here at the ARDC but not the University. She is an Extension Assistant and serves Washington, Dodge and Saunders County in the Expanded Food and Nutrition federal grant-funded program. Casey provides nutrition education programming for limited resource families. We would also like to welcome back Ed Cunningham to the ARDC. Ed was on military leave serving in Afghanistan. We are glad that Ed is back safe and sound and thank him for his service to our country.

In the near future, we will also start construction on a new shop building with some office space for Farm and Facilities employees. This project is a modified design/build project. The building “shell” has been bid with a full lactation. Results indicated that when corn gluten feed replaced a portion of the corn silage, alfalfa, corn grain and soybean meal in the ration, both milk and protein yield increased. It appears that the increase in milk yield was due to an increase in intake of internal ARDC communications this project will bring.

In the last year, research has been conducted by the dairy industry plays an important role in the many successes of the Nebraska corn milling industries. Two distinct milling industries produce different feed co-products. In wet milling, water is added to the grain, and the steeping process aids in starch removal. The starch may be dried and sold, or it may be used to produce products such as corn syrups and high fructose sweeteners. It may even be further processed to produce fuel ethanol. The major feed co-product from this system is corn gluten feed. In dry milling, corn is cleaned, ground dry and the whole kernel is used in the fermentation process to produce ethanol and carbon dioxide. The major feed co-product from this system is distillers grains. Over the last year, research has been conducted to determine how nutrients contained in these products can be utilized by dairy cattle.

In the largest study cows were fed a diet containing 40% corn gluten feed for a full lactation. Results indicated that when corn gluten feed replaced a portion of the corn silage, alfalfa, corn grain and soybean meal in the ration, both milk and protein yield may increase. It appears that the increase in milk yield was due to an increase in intake that ultimately resulted in a higher peak milk yield. Laboratory analysis indicated that as much as 77% of the fiber contained in corn gluten feed may be available for rumen microbes. This is much higher than the either alfalfa haylage and corn silage where as much as 77% of the fiber may be available.

In a second study, we evaluated the effects of feeding diets containing 0, 10, 20, and 30% distiller’s grains to dairy cows. Results from this study demonstrated that intake and milk yield increased when distillers grains content of the diet increased, but the concentration of milk fat was not affected.

This research has contributed to the growing interest of co-products as a valuable feed for dairy cattle. This research has also been effective in meeting the needs of the growing milling industry of Nebraska by demonstrating the value of a products growing in supply across the state.

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A new educational program aimed at pork producers and sponsored by Extension at the University of Nebraska-Lincoln, Iowa State University, South Dakota State University and the University of Minnesota recently received national recognition.

Don Levits, Ph.D., UNL Extension Educator and Mike Brumm, Ph.D., Animal Science Professor along with Dale Ricker of Ohio State University, were instrumental in developing “PorkBridge”. PorkBridge is unique in that it is an on-farm delivered extension program. The program was designed to deliver educational opportunities directly to the farm on a repeated basis via their telephone and computer. Levits says this approach allows animal care-givers to acquire educational information without having to leave the farm.

Levits and Brumm were recognized for their part in developing this program at the Midwestern Section of the American Society of Animal Sciences. They were recipients of the National Pork Board Swine Innovation Award.

The PorkBridge swine grow-finish educational program consisted of 6 sessions that began last December. Once every two months, producers received a CD in the mail for the upcoming session. Included in the CD were a visual guide of the presenter’s presentation and other supporting materials that would be covered in the discussion. On noon the day of the session, producers called a toll-free number that connected them to the speaker and other participants.

Presenters were located at the University of Nebraska, Iowa State University, Purdue University, South Dakota State University, and the University of Missouri.

A moderator introduced the topic and presenter. For 45 minutes the presenter discussed pertinent materials and participants followed along with the presentation on their computer. Opportunities were available for participants to ask questions during the presentation and during a question and answer session at the end of each session. Participants participating in the current PorkBridge program are located in 12 states.

For more information on PorkBridge, please contact Don Levits at 402-624-8007 or dlevits1@unl.edu.
The Dairy Research Unit
by Erin Manroz, Dairy Unit Manager, UNL Department of Animal Science

The Dairy Research Unit consists of approximately 155 Jersey cows and 125 replacement heifers. Currently the milking cows are averaging 76 pounds of milk per cow per day. The cows are housed in two different types of environments. The cows not on research trial are housed in free stall barns. These cows have sand bedded stalls to lie in and are free to choose which stalls to use. These cows’ stalls are bedded weekly with fresh sand. Sprinklers are mounted over the feed line and fans are mounted over the free stalls to help alleviate summer heat stress.

The cows that are on research trials are housed in a comfort stall barn. These cows are tied in a stall that has a rubber filled mattress on the floor. The mattress has a ground rubber chips on it and is covered with a thick pad and top covering. This mattress provides about four inches of cushioned surface for the cows to lie on. These cows have individual feed boxes so we can feed them different diets. These cows are fed once daily and they are removed from the barn to be milked twice daily. While out of the barn their stalls are cleaned and re-bedded with a light dusting of sawdust to help absorb moisture. These cows also have fans over them to help with summer heat stress.

The milking parlor is equipped with automatic cow identification and milking meters to milk measure milk production on each cow every milking. This information is used in research data and is also used to aide in management decisions. The system also monitors the cows’ activity and the temperature of the milk. The activity of the cows helps to detect estrus activity and also health concerns.

The milking cows are fed a Total Mixed Ration (TMR) twice daily. Their feed is provided to them three times each day. This enables us to feed our cows over 100 pounds of feed per day. The TMR includes everything the cow needs to meet her nutritional needs. It consists of Corn Silage, Alfalfa Silage, Alfalfa Hay, Brome Hay, Corn Gluten Feed, Cottonseed, and a concentrate mix including minerals, vitamins, corn, and protein.

Our replacement heifers are cared for with great detail. They first get colostrum within hours after birth. They are then fed milk replacer for seven weeks along with a high protein calf starter and water while being housed in an individual calf hut. They are moved from the calf hut into a group pen and remain there for four to five months. They are then moved to pastures and larger groups until calving for the first time at about two years of age. During the growing season all replacements are rotationally grazed on the Dairy’s pastures.

Conducting Dairy Nutrition Research

Both graduate and undergraduate students play an important role in dairy nutrition research. The following is a list of students currently involved in dairy nutrition research.

Amanda Gehman is working on a Ph.D. in Dairy Nutrition and comes from Skippack, PA. Amanda’s research topic is to evaluate nitrogen utilization of dairy cows consuming corn milking c-products such as dried distillers grains with cob and wet corn gluten feed. Brandy Janicek is working on an M.S. in Dairy Nutrition and comes from Boise, ID. Brandy’s research topic is to evaluate increasing levels of dried distillers grains on milk production and fatty acid composition of milk.

Zach Alger is a junior from Ravenna, OH and helped to conduct a study that evaluated the nature of

Dr. Connie’s 6 Keys to Becoming a Successful Learner
by Dr. Connie Reimers-Hild, Ph.D.

I have learned a great deal about students by teaching and advising students at the University of Nebraska-Lincoln. The fact that I was working on my Ph.D. on a part-time basis while being employed full-time broadened my knowledge about how to be a successful learner. My professional and personal experiences in the world of higher education have enabled me to develop some powerful insights on what it takes to be a successful learner. I would like to share my insights with as many people as possible, so here are Dr. Connie’s 6 Keys to Becoming a Successful Learner:

1. Grow Your Self-confidence. I know that there are times when every learner thinks they just cannot do it anymore. I think this is especially true for individuals returning to school on a part-time basis, for learners who have not enrolled in school for a prolonged period of time or for individuals who have not had good educational experiences in the past. However, self-confidence is at the very root of success. Believe in yourself and your abilities. Learners really do have to believe it to achieve it when going to college.

2. Focus on Managing Your Time. This is a very serious issue. Students must develop a time management strategy that works for them. I personally believe that every time management strategy should have a “no” component. This means that learners must find a way to say “no” to people, issues and activities that are not contributing to their academic, personal or professional success. I realize this is easy to say and difficult to do; however, I firmly believe that learners must place their educational goals as a top priority in order to achieve them.

3. Ask for Help. Learners must talk to their instructors, advisors and fellow students. They must keep the lines of communication open and flowing and let other people know when they are struggling with something. I have always been pleasantly surprised by the willingness of others to help me when I asked for their assistance.

4. Develop Support Networks. My family provided me with a great deal of personal support throughout my entire educational career. Support from friends and relatives is critical. Further, I would encourage every learner to develop a support group consisting of fellow students. I happened to be lucky enough to be one of the original Dissertation Divas during the last year of my doctoral program. The Divas began as six nontraditional female graduate students who were all either entering or in the dissertation stage of their doctoral programs. The Divas met on a regular basis, and each Diva had to share her progress with the other Divas at each meeting. We also supported one another by answering questions, reviewing questionnaires and protocols and helping each other jump through the last “hoops” towards degree completion. We even helped support one another through the dissertation defense process. Perhaps the best thing about being a Diva was that someone was always there to support and encourage you, and you knew that a fellow Diva could really relate to what you were experiencing. The Divas were the secret to my success.

I developed an important personal and professional network through the Divas. I now encourage all students to develop their own support groups. Support groups, if structured correctly, are incredibly helpful, supportive and fun!

5. Build Your Social Capital (The “who you know” factor). I invested in my human capital (knowledge, skills and abilities) largely through formal education and training. However, in order to be truly successful, I also had to develop relationships and networks (social capital) with individuals who could help me achieve success. For example, I was an older undergraduate who had to work as much as possible to pay my way through college. My undergraduate advisor was aware of my situation, so he encouraged me to leave my job as a cashier to find a job on campus that would help me gain both professional experience and important contacts. His suggestion turned out to be a great piece of advice. I landed a part-time summer job in a small department on campus. The work experience itself was valuable; however, it was the mentoring and professional development opportunities that really helped me achieve success.

I was initially hired to do field work for a professor, who I will refer to as Dr. Edwards, during the summer. I did not know it at the time, but the seasonal job with Dr. Edwards would eventually lead me to graduate school and a career in academia. Dr. Edwards was instrumental in helping me invest in both my human and social capital while in graduate school.

Dr. Edwards constantly gave me, and all of his other students, advice on issues that people do not typically learn about in the classroom. Dr. Edwards told us what to wear, what to say, what not to say and how to act, and he encouraged his students to be extremely professional at all times. One key piece of advice he shared with all of his students was, “you are always being interviewed.” It

SIX KEYS TO BECOMING A SUCCESSFUL LEARNER - Cont. on P. 3
About the People

A

Paul Kononoff, Ph.D.

Paul Kononoff, Assistant Professor of Dairy Nutrition leads the group and investigations. Paul lives in Lincoln with his wife Mandy and daughter Grace.

He earned his Bachelor’s degree in 1995 and his Master’s degree in 1998 - both in Animal Science from the University of Saskatchewan. He obtained his Ph.D. in 2002 from Pennsylvania State University in Dairy and Animal Science.

Kononoff’s research is primarily focused on understanding the relationship between forage quality and ruminal fermentation in lactating dairy cattle. Over the past seven years he has studied manipulations on forage particle size and evaluated these effects on feed efficiency, milk production, composition and rumen fermentation. In these investigations, he employed fundamental principles and techniques used in the study of rumen fermentation. The primary objectives were to extend the current understanding of forage quality and the effect on rumen fermentation and milk production.

Don Fisher

Don Fisher, Ag Technician I/Swing Feeder, heads up the shop/maintenance, takes care of baby calves, and feeds the livestock and performs clean up duties. He has a degree from Western Iowa Tech in Cow/Calf and Feedlot Management. He and his wife, Rhonda, live near Memphis and have three sons. Gene enjoys horses, rodeos, and camping in his spare time.

Leo Sweet

Leo Sweet, Ag Research Technician II/Milker, is responsible for milking the herd, heads up the I/Swing Feeder, cleans stalls, works with fresh cows and heifers, cleans the equipment and barn, and does some bedding of cows. He and his wife, Sue, live near Swedesburg. They have two sons.

Don Fisher

Chad wrote his senior thesis on rumen fiber digestion of common dairy feeds. Chad Melching, is a junior from Falls City, NE. Chad is working on a UCARE project investigating the effects of low lignin corn silage on milk production of dairy cows. Jessie Warner is a junior from Allen, NE and helped to conduct a study that evaluated the effects of a low lignin corn silage on rumen fermentation of dairy cows. Wade Rathman is a sophomore with an undeclared major and helps care for research animals at the research facility in Mead, NE. Paul Kononoff, Assistant Professor of Dairy Nutrition leads the group and investigations. Paul lives in Lincoln with his wife Mandy and daughter Grace.

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Ken Cejka

Dairy employees - front (l-r): Ken Cejka and Melissa Thompson is a junior from O’Neill, NE and helped to conduct a study that evaluated the effects of the feed additive rumensin on feed intake and milk production of dairy cows. Melissa Thompson is a junior from O’Neill, NE and helped to conduct a study that evaluated the effects of the feed additive rumensin on feed intake and milk production of dairy cows. Wade Rathman is a sophomore with an undeclared major and helps care for research animals at the research facility in Mead, NE. Paul Kononoff, Assistant Professor of Dairy Nutrition leads the group and investigations. Paul lives in Lincoln with his wife Mandy and daughter Grace.

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James Palm

James Palm, Night Milker, is responsible for the evening shift of milking the herd. He attended the National School of Meat Cutting. He and his wife, Carolyn, live near Ithaca. They have a son and a daughter.

Erin Marotz, Dairy Unit Manager, provides overall management over Dairy Research Operations. He manages all employees, facilities and animals. He possesses a Bachelor’s degree in Animal Science that he received from UNL. He and his wife, Nancy, have a son and a daughter. Erin and his family live in the residence located on the dairy research area. In his spare time, Erin enjoys hunting, showing registered Holsteins, and fishing.

6. Be Entrepreneurial. An Entrepreneurial Learner can be defined as, "An innovative person who pursues educational opportunities irrespective of existing resources, such as time, money, personal support and/or technology" (Remmers-Hild, King, Foster, Fritz, Waller, & Wheeler, 2005). Entrepreneurial learners take control of their destiny. They possess a high need for achievement and take risks in order to achieve their goals. Entrepreneurial "learnership" is important for all students because it is ultimately up to the individual learner to achieve success.

I was walking to the car with my Mom after I graduated with my Ph.D. My Mom had tears in her eyes as she told me how proud she was of my accomplishment. Then, she talked about Dr. Edwards and how instrumental he was in making it all happen. My Mom was right. Dr. Edwards was one of the individuals who helped me move from an hourly worker to a person with a blossoming career, and he did it by helping me invest in both my human and social capital. Dr. Edwards, my family, my friends, the Dissertation Divas and a number of other individuals helped me get to where I am today. It literally took a village to help me achieve my personal and professional goals. Ultimately, it is the relationships and networks or the "who you know factor" that ultimately helps students earn jobs, grow careers and obtain the "right kinds" of qualifications, skills and experiences, which have the potential to increase their chances for success in the 21st Century.
Upcoming Crop Management Diagnostic Clinics
* Crop Field Scout Training - May 15
* Midsomer Diagnostic Clinics - July 13 & 14
* Late Season Diagnostic Clinic - Aug. 24

A University of Nebraska-Lincoln Extension crop scout training course will provide crop scouts an opportunity to enhance their skills. The training is designed for entry level scouts who will be working for crop consultants, industry agronomists or farm service centers across Nebraska and neighboring states, said Keith Glewen, UNL Extension educator.

The course is from 9 a.m.-5 p.m. with registration at 8:30 a.m. May 15 at the ARDC. “Past participants have given the training high marks,” Glewen said. “In fact, 93 percent of last year’s participants rated the program as above average or one of the best programs of its type available.”

Topics include: soybean growth and development; corn and soybean insect pests; natural enemies; weed identification; crop diseases; nutrient deficiencies; and sampling methods.

“A few of the benefits registrants stated the training provided included improved confidence in scouting and working with growers and acquisition of better identification skills,” Glewen said. “Other participants appreciated the hands-on, practical format.”

A total of 5.5 Certified Crop Advisor Continuing Education Units is anticipated in the integrated pest management (4.0), crop production (1.0) and soil fertility (1.5) categories.

Presenters include university specialists and industry professionals. The fee for this clinic is $75 which includes reference materials, lunch and refreshments.

In July, participants can choose to attend a soil and water management and nutrient management clinic on July 13 or a crop production and pest management clinic on July 14, or both. The July 14 also showcases the Field Diagnostic Manual. The August clinic provides a later season synopsis. All three clinics include the popular “CSI” - crop scene investigation - sessions providing participants the opportunity to take part in some hands-on diagnostic work.

The clinics will help participants stay informed about today’s everchanging world of crop production. Last year’s participants indicated that the average profits gained from attending were an additional $5.74 per acre. Those just out of school, well-seasoned producers and crop production professionals all will benefit from this clinic and be able to use the information daily.

Early registrations (received no later than 1-week in advance) for each one-day clinic in July and August is $135 per clinic. After that, registration is $185 each. For those wishing to attend both July 13 & 14 - registration is $235 per clinic. After that, registration is $185 each. For those wishing to attend both July 13 & 14 - registration is $235 each. For those wishing to attend both July 13 & 14 - registration is $235 each.

To register, call (402) 624-8030, via fax at (402) 624-8010, e-mail at cudba2@unl.edu, or write to UNL ARDC, CMDC, 1071 County Road G, Ithaca, Neb. 68033. Additional course information and registration available at http://ardc.unl.edu/encmd.htm.

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

Have You Checked Out REAL NEBRASKA?

Did you know that the University of Nebraska-Lincoln has a website containing video clips that allow you to get a real “slice of life” look at UNL? You can take a look and see how students are preparing for finals. Ever wondered what the “Big Red Road Show” is all about in Omaha - you can get a glimpse of what goes on at REAL NEBRASKA.

These aren’t just boring, old narrated clips, they are entertaining, yet informative. If you haven’t checked out REAL NEBRASKA - take a few minutes to bring up the website on your computer at http://admissions.unl.edu.

Here’s what you will find:
* Big Red Road Show
* Husker Basketball
* Buying Books
* Final Exams
* Exploring the East Campus Union
* Jones Scholars
* Study Tips
* Residence Hall Dining
* Greek Life
* Campus Recreation
* Moving In

And when you are done, you can even rate each episode - as each are assigned a rating of 1 to 5 stars. Check it out today and learn more about the University of Nebraska-Lincoln.

REAL NEBRASKA lets you see UNL through real students’ perspectives

Agriculture Curriculum Updates at Mead High School
by Jenny Kocijan, Agriculture Education Instructor

Continuing the efforts to enhance the Agriculture Magnet status of Mead Public Schools, the agriculture department has begun the development of a Companion Animal web-based course.

The course is currently taught on site and through distance learning, but is being modified for web-based instruction. This course will be available to students in schools across the state who may be unable to access our distance courses, do not have agriculture courses available or do not have a particular agriculture course offered in their school.

The web-based courses will be taken as an independent study through their home school but overseen by the Mead agriculture department. The goal is to have the Companion Animal course piloted next fall. Jenny Kocijan and Kristine Spath are working on the curriculum and will present the course in the early stages of development at the upcoming Nebraska Rural Community Schools Association conference in May.

In addition to the Companion Animal course, four additional courses will be integrated over the next three years. These courses include Employment Skills, Intro to Ag Business, Human Leadership and Animal Science. The e-learning technology currently being used in the Companion Animal distance course this spring has a web-based component which is the software chosen for the development of these courses. Each web based course will be a semester in length.

New On-site Agricultural Courses Offered Next Fall

C urriculum is an ever-changing thing. Beginning this fall, Mead High School will be offering a couple of new courses to enhance the agricultural pathways. Employment Skills is a semester course focusing on choosing of a career based upon a personality indicator, job applications, resumes, cover letters, job interviews, and employer expectations. Additional coursework would include personal finance topics such as budgeting, balancing a checkbook, and the responsible use of credit. Students will also explore careers in each of the six career fields, as identified by the Nebraska Department of Education.

Yet Science will also be offered to upperclassmen interested in animals. This semester course will cover in depth studies in animal anatomy and physiology. Topics will include cell biology, tissue types and functions, body systems, disease diagnosis and prevention of both meat and companion animals.

Advanced Ag Studies offers a semester to upperclassmen for an independent study on agricultural topics of personal interest. The intent is for students to use this as an opportunity for advanced study in any of the current pathways offered at the high school level.

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