Three cheers for our Undergraduate and Graduate students who will be graduating this Sunday (May 17, 2015)! This tremendous accomplishment represents a lot of hard work and effort by our students and their faculty mentors. I believe that President Easter will be able to join us at Commencement. As you know, Dr. Easter is retiring (again). His career at the University of Illinois represents a wonderful legacy of scholarship and leadership. If you see President Easter on campus, make sure to welcome him back as Emeritus Professor of Animal Sciences!

Although we are winding down a very busy Spring semester, the work of the Animal Sciences Department continues. Here is a sampling of the impact of our programs. Debra Hagstrom (Equine Extension Specialist) delivered educational programs to over 2,000 4-H members last year. Metrics indicate a very high impact of these programs. Jamie Evans has completed the 2014 Animal Sciences Annual Report. Here are just a few tidbits of information I pulled from the report: Our faculty were awarded over $3.7 million in grants and gifts in 2014. During 2014 our graduate program provided education for 68 MS and 67 PhD students. We have 534 UG majors and our Freshman enrollment for Fall 2015 is up 27% from a year ago. In addition to these data, some other indices of excellence for Animal Sciences have been generated by Academic Analytics. Academic Analytics is a company that tracks performance of departments and universities across the U. S. In their recent assessment of 62 animal science departments, the Department of Animal Sciences at the University of Illinois was ranked 1st in total articles, total citations, and total number of grants received. We ranked 2nd in total number of awards received. It’s not an idle boast to say we have a preeminent research and graduate program! Congratulations to our faculty, staff, and students.

We received more good news this week regarding 2 of our faculty. Dr. Anna Dilger was selected to receive the 2015 North American Colleges and Teachers of Agriculture (NACTA) Teacher Fellow Award. Dr. Dilger rocks in the classroom! We also learned that Dr. Rob Knox has been promoted to the rank of Professor, effective August 16, 2015. He can celebrate his promotion along with the graduation of his daughter Allison. Allison is a U of I ANSC major who is graduating with great distinction and will be entering vet school next fall. Congrats to the Knox family!

Steve
The Illini Dairy Club Banquet was held on Saturday May 2 at the Hawthorn Suites.

We would like to thank our award donors, as well as everyone who came out for the banquet.

Congratulations to our Dairy Club award winners!

ADSA Student Recognition Award – Molly McGhee (Soph); Katy Kaufman, Jessica Telgmann (Jrs); Alex Tebbe, Alyssa Brodsky, Claire Nkhikhssi (Srs)

Jerry Cash Memorial Awards: 4-H – Emily Irwin; Collegiate – Samantha Ropp

Club Outstanding Sophomore – Logan Kimmel

Club Outstanding Senior – Alex Tebbe

PDCA Book Award – Samantha Ropp

Illini Dairy Club Academic Scholarships: Sophomore – Molly McGhee and Alyssa Volland; Junior – Jacob Meisner

Outstanding Senior Scholar – Alex Tebbe

Richard and Charlotte Lundgren Scholarship – Alex Tebbe, Claire Timlin

J. George & Anna M. Smith Undergraduate Scholarship – Chelsea Jean

Douglas-Kalmar Scholarship – Chelsea Jean

Dairy Extension & Youth Programs Award – Chelsea Jean

Leo Fryman Leadership Award – Alex Tebbe

Jimmy H. Clark Dairy Achievement Award – Claire Nkhikhssi

Bingham Awards – Ashley Anderson, Dylan Reed, Erik Sheppelman, Jessica Telgmann

In the picture, L-R are: Charlotte Bingham, Erik Sheppelman, Ashley Anderson and Dylan Reed. Missing was Jessica Telgmann.
DAVID H. AND NORRAINE A. BAKER GRADUATE FELLOWSHIP

Congratulations to Neil Jaworski, who was awarded the David H. and Norraine A. Baker Graduate Fellowship at this year’s Spring Social and Awards Luncheon. Neil is pictured with Norraine and his adviser, Dr. Hans Stein. Neil graduated with his BS in December, 2010 and then started his graduate program in Dr. Stein’s Monogastric Nutrition Laboratory. Neil defended his MS program in December, 2012 and continued as a PhD. student. As a graduate student, he has traveled to Denmark and China. He is on track to complete his degree in 2016.

ILLINI EQUESTRIAN CLUB
ENGLISH RIDING TEAM

The Illini Equestrian Club English riding team qualified for zones! The club also had numerous equestrians qualify for zones on an individual level. Zones were the last step in the quest for Nationals. Riders representing UofI at zones included Kelsey Concklin, Emily Solan, Emily Blok, Mel Golden, Nina Blinick and Jess Budinger. Although the team’s fourth place finish at zones did not advance them to nationals many of the individuals rode to their personal best that day including Kelsey Concklin who did advance to Nationals as an individual in the open flat class. At nationals Kelsey rode to a top twenty finish.
STUDENT RECOGNITION

Kwame Asante Darfour-Oduro, a student working with Professor Schook, successfully defended his Ph. D. thesis on "Evolutionary analysis of Suidae TLR signaling pathway". We wish Kwame success as he takes a postdoctoral position in Dr. Schook's lab.

Congratulations Kwame!

Kelly Peper, a student working with Professor Stein, successfully defended her Ph. D. thesis on "The effect of origin on the nutritional value of soybean meal". We wish Kelly success as she starts working as Technical Support and Research Nutritionist with Ralco Nutrition.

Congratulations Kelly!

Stephen Fleming, a PhD student working with Professor Ryan Dilger in the UIUC Neuroscience Program has been notified that he will receive a fellowship through the Egg Nutrition Center. Stephen’s research proposal was entitled “Perinatal Whole-Egg Supplementation and Cognitive Development of Small-for-Gestational-Age Piglets.”

Congratulations Stephen!

Katie Haerr, a student working with Professor Cardoso, successfully defended her M. S. thesis on "The use of corn treated with various applications of foliar fungicide on corn silage quality, and performance of Holstein cows”. We wish Katie success as she starts as dairy technical service manager with Quality Liquid Feeds.

Congratulations Katie!

Matthew Gorski, a student working with Professor Parsons, successfully defended his M. S. thesis on "Nutritional evaluation of canola meal produced from a new variety of canola seeds in broiler chickens and laying hens”. We wish Matthew success as he finalizes his decision of pursuing a position in the poultry industry or a Ph.D. degree.

Congratulations Matthew!

It gives me great pleasure to announce that Jessica Brant is the recipient of a 2015-2016 Graduate College Dissertation Completion Fellowship.

Please join me in congratulating Jessica and Dr. Roca for their outstanding and impactful research collaboration that is being recognized at the campus level.

Congratulations Jessica!
Congratulations to Pam Utterback for being chosen as the Tyson Foods Inc. Support Personnel Award recipient for 2015. Pam was nominated for this award by Dr. Carl Parsons.

Congratulations Pam!

Vice President Joe Biden visited campus on Thursday, April 23rd in support of the “It’s On Us” campaign for sexual assault awareness. He stood before many students, faculty and staff at the Campus Recreation Center-East. Adam, Jessica, and Lily Brandt were able to meet with Joe Biden up close. Thank you to Adam and Jessica for sharing this photo of Lily’s visit with Joe Biden!
Dr. Anna Dilger was selected to receive the 2015 North America Colleges and Teachers of Agriculture (NACTA) Teacher Fellow Award. The award will be presented at the Annual NACTA conference on June 16-20, 2015.

Congratulations Dr. Dilger!

Dr. Robert Knox was has been approved for promotion to the rank of Professor, effective August 16, 2015.

Congratulations Dr. Knox!

Kabe Mitchell Hamlow was born on May 12, 2015 at 7:45. He was 7lbs, 14 oz. and 20.5 in. long. Congratulations Katelyn and Carl!
It's the change that matters

A cow’s body condition score at calving may not be as important as the change in body weight she experiences in early lactation.

by Phil Cardoso

Ultrient demand for milk synthesis climbs quickly in early lactation. If no compensatory intake of nutrients is provided to cope with such a requirement, physiological functions like synthesis and secretion of hormones, immune response and embryo development may be compromised. Since milk production rises faster than dry matter intake (DMI) in the first four to six weeks after calving, cows are likely to experience negative energy balance (NEB).

Energy balance during late gestation is largely a factor of DMI, as the variation in energy requirements is relatively small; an exception may be cows carrying twins. Even after calving, research indicates that the extent of early lactation energy balance is still more highly correlated with DMI than with milk yield.

The role of excessive body condition in transition difficulties has been studied for years but remains a problem in many dairy herds. It is more prevalent in modern TMR-fed dairy herds, particularly with the growing reliance on corn silage as a primary forage. High serum beta-hydroxybutyrate (BHBA) and nonesterified fatty acid (NEFA) concentrations before and after calving can lower DMI, lead to hepatic lipid accumulation and ketosis, negatively affect the immune system, and can cause oxidative stress and inflammation.

How about thin cows? Researchers from the French National Institute for Agricultural Research (INRA) showed that cows that were thin (body condition score (BCS) less than 2.5) before calving mobilized more protein after calving than cows that were classified as fat (BCS greater than 3.75). These cows mobilized less body fat but had more intense muscle protein catabolism. Therefore, if thin cows don’t have high serum concentrations of BHBA or NEFA, it does not mean they are not at risk. Instead, perhaps the method we are using to try to assess their “thickness” is not adequate.

Cows have their own target

Recommendations for optimal BCS at calving have trended downward over the last two decades. A score of about 3.0 (on a 5-point scale) represents a good goal at present.

Researchers from the University of Nottingham (UK) showed that, over the first 12 weeks of lactation, cows that were fat at calving lost 0.9 to 1.0 BCS units; cows that were thin at calving gained 0.4 to 0.6 BCS units (see figure). For both groups of cows, BCS tended to converge at 2.5 in Weeks 12 to 15 of lactation, suggesting that cows have a target BCS that they try to achieve and maintain. Fat cows reached maximum DMI at Week 15, whereas thin cows reached maximum DMI at Week 9. It seems body fat had a direct effect on DMI.

If a cow’s BCS is above this genetically-programmed target, DMI is reduced, and she loses condition; if a cow’s BCS is below this target, DMI goes up, and she gains weight. Therefore, it seems that the theory of getting a cow to a “good condition” (BCS 3.50 to 3.75) at calving is counterproductive, as it will only reduce DMI and exacerbate NEB. We believe that more important than looking only at BCS at calving is to observe the BCS change from calving to about 12 weeks after calving.

Manage with nutrition

The ability of the cow to maintain a reasonable BCS change is affected by diet composition. Our group showed that cows fed high-energy (0.72 Meal NEL/lb; DMI) diets during the last four weeks before calving lost more BCS in the first six weeks postpartum than those fed control energy (0.60 Meal NEL/lb; DMI) diets (0.43 and 0.30, respectively).

Cows fed even moderate-energy diets (0.67 to 0.72 Meal NEL/lb; DMI) will easily consume 40 to 80 percent more energy than required during both the far-off and close-up periods. Allowing dry cows to consume more energy than required, even if they do not become noticeably overconditioned, results in responses that would be typical of overly fat cows. Because energy consumed in excess by cows must either be dissipated as heat or stored as fat, we speculate that, at least in some cows, the excess is accumulated preferentially in internal adipose tissue depots.

Our group recently demonstrated that moderate overconsumption of energy by nonlactating cows for 57 days leads to greater deposition of fat in abdominal adipose tissues than in cows fed a high-bulk diet to control energy intake to meet requirements. The NEFA and signaling molecules released by the various adipose tissues travel directly to the liver, which may cause fatty liver, subclinical ketosis and secondary problems with liver function.

The effect of BCS change on cows’ fertility is also clear. Recently, researchers from the University of Wisconsin found that cows that either gained or maintained BCS from calving to 21 days after calving had higher pregnancy rates (85.5 and 88.1 percent, respectively) per A.I. at 40 days than cows that lost BCS (25.1 percent) during that same period.

And previously, researchers from the University of Florida found that cows that had greater than 1.0 BCS unit change from calving to A.I. at approximately 70 days postpartum had lower pregnancy rates per A.I. (63 percent) than cows that lost less than 1.0 BCS unit (73.7 percent) or did not have a BCS change (41.6 percent).

Two simple letters

Ideally, BCS would be measured in every cow in the herd every month. If that is an unachievable commitment, we recommend that farmers measure individual cow’s BCS at least three times per lactation: at dry-off, calving and breeding. With these numbers in hand, you will be able to calculate BCS change and maintain the goal for a loss of no more than 0.6 to 0.75 BCS units.

The variation between individuals assigning BCS to cows can be another challenge. To make it simple, train yourself and your team the two letters of BCS: “V” and “L.” This is the shape of the dip between a cow’s hips and gins. It is easy to visualize and can be used to determine when to move cows from the fresh/high pen to the next group.

If a cow has a BCS of “V,” consider letting her stay a little bit longer in the fresh/high group. Whenever a cow achieves a BCS of “L,” she is ready to be moved to the next nutritional group. This strategy will most likely help your cows to achieve the right BCS at dry-off, allowing for a minimal and more ideal BCS change when she calves in again.

Changes in BCS in cows fed to be fat or thin at calving

Weeks relative to calving

Body condition score

Fat Lean
PIGLET NUTRITION AND COGNITION LAB
OPEN HOUSE

Over the past year, we’ve been very busy building biomedical research infrastructure for young pigs. Named the Piglet Nutrition & Cognition Laboratory (PNCL), this facility was designed to increase the campus capacity for pre-clinical research regarding how early-life nutrition influences brain development. There are so many people we’d like to thank for their assistance in getting this facility opened, and we look forward to working with research collaborators using the piglet as a biomedical subject. Before the facility is up and running, we would like to invite you to attend an open house at PNCL on Wednesday, May 20th.

Located adjacent to the UofI Beef Farm near the intersection of S. Race St. and Old Church Rd., PNCL is just 7 minutes south of campus. Please use the following Google Maps link for directions from campus: https://goo.gl/maps/IMruO, with more information found in the attached flyer. Considering parking space is limited, the doors of PNCL from 10am-5pm on Wednesday, May 20th. Dr. Dilger and his lab members will be available throughout the day to give tours and share with you the exciting possibilities of this research space.

Professor Ryan Dilger
For information, check out [go.illinois.edu/PNCL](http://go.illinois.edu/PNCL)

Designed as a high-throughput facility to artificially-rear newborn piglets and conduct behavioral testing, this unique infrastructure is designed to investigate how early-life nutrition influences growth and development of the brain.

PNCL is located adjacent to the University of Illinois Beef Farm at the intersection of Race Street and Old Church Road.

With a dedicated facility coordinator and capacity to raise 48 newborn piglets simultaneously, PNCL offers collaborative opportunities to use the piglet as a pre-clinical model in biomedical research.
SCIENCE
The Illinois 4-H Animal Science Experience

80% say they are good at science

81% say they want to learn more about science

79% say they like science

88% say science, engineering or technology is important to a future job

64% say they would like a job related to science

4-H Statewide Science programs are positively impacting science attitudes for youth at all ages, in contrast to national reports documenting sharp declines in science/STEM interest as youth get older.

98% say that caring for and exhibiting livestock projects in 4-H has taught responsibility and ethics

96% report that caring for and exhibiting livestock projects in 4-H has built confidence and social skills

83% report that science is useful for solving everyday problems

4-H provides a rigorous and engaging STEM science learning experience for youth.

95% report that because of their involvement with livestock projects, they have better understanding of biological sciences

74% say they helped with community service science projects

Based on a federal survey of youth across the nation, only 37% of 12th graders would like to have a job related to science compared to 66% of 4-H members surveyed across the three Illinois 4-H statewide science programs.

Based on a federal survey of youth across the nation, only 48% of 12th graders report that science is useful for solving everyday problems compared to 85% of 4-H members surveyed across the three Illinois 4-H statewide science programs.

* Results from 446 animal science project members surveyed in 2013.
ACADEMIC DEADLINES

Spring 2015 Academic Deadlines

May 2015

May 1
• Deadline to drop GRAD POT B course without grade of W
• Deadline to elect credit/no credit or change credit/no credit to regular grade basis for GRAD POT B course

May 6
• Last day of instruction

May 7
• Reading day (no classes, no final examinations)
• Last day for GRAD to add/drop POT B course
• Last day for GRAD to add/drop POT 1 course

May 8–15
• Final examination period

May 22 (noon)
• Faculty deadline for reporting grades

Summer 2015 Academic Deadlines

May 2015

May 17
• Deadline to CANCEL POT S1 and POT SF registration if not registered for any other summer session
• Deadline to CANCEL all summer classes via Student Self-Service. Students choosing not to attend summer classes they are registered for AFTER this date must manually request cancellation approval from their undergraduate academic affairs office or graduate department office

May 18
First day of instruction for POT S1 and POT SF classes

May 22
• Deadline for UG to add a POT S1 course
• Deadline for GRAD to add a POT S1 course via Student Self-Service
• Deadline for all students to drop POT S1 course for tuition refund if registered for any other summer POT course

May 25
• Memorial Day (all campus holiday)

May 29
• Deadline for UG to drop a POT S1 course without a grade of W
• POT SF deadline to drop course for refund of tuition and fees if reducing course enrollment to a lower number of credit hours
• Deadline for UG to add a POT SF course
• Deadline for UG to elect credit/no credit or to change credit/no credit option to regular grade in a POT S1 course
• Deadline to file intent to use the Campus Grade Replacement option in a UG POT S1 course