



2015-2016 Dairy Program Newsletter

Department of Animal Sciences,
University of Illinois at Urbana-Champaign

The U of I Dairy Program continues to function at a very high level. To contemplate where we are headed, it's always good to look in the rearview mirror. When I was in graduate school at the U of I back in the late 70's, dairy cows in Illinois averaged 14,000 lbs of milk/year. The average milk production for Illinois herds is now around 23,000 lbs. How did this happen? Where are we headed? I ask students in my Capstone class this question every semester: "When you are old like me, will cows average 50,000 lbs of milk/year?" Of course they can, if society invests in agriculture research and education. Research and education have contributed to these improvements. We make discoveries every day in the areas of nutrition, genetics, reproduction, health, behavior, equipment, and, facilities. We train students and graduate students to go out into the industry and do great things. We share our discoveries with producers and the dairy support industries. This is all part of the Land Grant Mission. In the past year, our Dairy research team has done research with 13 different companies and generated over \$800,000 in support. Our Dairy faculty generated 41 research publications this past year. These research funds have contributed to the support of 14 Masters students, 11 PhD students, and eight visiting scholars.

The U of I Dairy Farm is milking 130 cows now and we intend to increase the herd to 180 cows in milk by the end of 2017. Our rolling herd average continues to increase. The Dairy Farm supports our teaching and research efforts in the Animal Sciences Department and the College of Veterinary Medicine. We employ approximately 20 undergraduate students at the Dairy Farm and another 20 students in our dairy research labs. This is a great example of how research compliments our academic mission. These students get to work hand in hand with our Dairy Farm staff, graduate students, and our faculty. This gives them a chance to be mentored by literally, the top dairy experts in the world.

Last year our Dairy faculty gave a total of 27 invited presentations in the U.S. and 20 invited presentations at international conferences. Our faculty received five prestigious national awards for their accomplishments in research, teaching, and/or extension education.

I'm proud of what the U of I Dairy Team has accomplished. I hope some of these highlights make you smile and say: "Wow, I didn't know all this was happening at the University of Illinois!"

– Dr. Steve Loerch, Department Head

DAIRY FOCUS LAB

The Dairy Focus Lab is Dr. Cardoso's dairy nutrition and reproduction research laboratory. It was created in 2012 when Dr. Cardoso accepted a position in the Department of Animal Sciences at the University of Illinois. Dr. Cardoso teaches four courses with focus in dairy:

1) ANSC 201—Principles of Dairy Production: Surveys the dairy industry; examines principles of breeding, selection, reproduction, feeding, milking and management of dairy cattle.

2) ANSC 400—Dairy Herd Management: The technology of modern milk production practices; application of principles in nutrition, physiology, economics, health and hygiene, waste management, and facilities design for efficient dairy herd management systems.

3) ANSC 471—Leaders & Entrepreneurs: designed to familiarize students with the tools and skills necessary for successful business operation in industry and entrepreneurial environments (including food animal production farms). Its overall aim is to explore how enhanced interpersonal and leadership skills may facilitate positive relations in business. Students design a business plan—an entrepreneurial enterprise—that will be read by an external committee (professors, community members, business owners) and evaluated for its viability and creativity.

This course is relevant for leaders as well as future entrepreneurs interested in acquiring a valuable skill set that may be applied to many careers. This course includes trips to the UIUC Dairy Cattle Research Unit to allow students to observe management tools used by the facility.

4) ANSC 100—Introduction to Animal Sciences: a one week section on dairy; including a visit to the UIUC Dairy Cattle Research Unit.

Since 2012, Dr. Cardoso has been named 12 times to the “List of Teachers Ranked as Excellent by their Students.”

The Dairy Focus Team has developed two free electronic tools to help dairy farmers to be more profitable (<http://dairyfocus.illinois.edu/content/dairy-focus-toolbox>). The Dairy Focus Somatic Cell Count Calculator allows producers to analyze their test day milk numbers and take appropriate action regarding somatic cell count. The main goal of the Dairy Focus Somatic Cell Count Calculator is to assist dairy producers in making management decisions on an individual herd level, which will improve overall health and decrease economic losses due to mastitis. Making these beneficial management decisions may then allow the dairy to improve milk quality and dairy efficiency, all while increasing overall economic gain. The Dairy Efficiency Calculator enhances farmers' understanding of income over feed cost (IOFC). Understanding of IOFC is pivotal in defining the best margin level and coverage percentage for your farm.

Recently, we have decided to issue a survey to all dairy farmers in the state of Illinois to assess the issue of food safety.

“Every farmer in the state of Illinois was mailed a 21-page survey addressing questions on farmer demographics, milk quality, facility conditions, feed, and field to allow the Dairy Focus Team some insight on producer practices regarding food quality,” says Maegan Weatherly, Dairy Focus Team president. “The results of the survey may help ensure that future research on the best practices of dairy farms in Illinois is relevant to producers in the Midwest and throughout the country.”

Responses to the survey will remain confidential. The Dairy Focus Team emphasizes that while producers’ participation in the survey may benefit their farms directly by potentially helping to increase profitability and sustainability, their identities will never be revealed in research results.

– *Dr. Phil Cardoso*

DAIRY INSTRUCTION

The department offers a wide array of classes to dairy undergraduate and graduate students.

- Two campus based classes: ANSC 201—Principles of Dairy Science (3 credits) and ANSC 400—Dairy Management (3 credits). Both classes are led by Dr. Phil Cardoso.
- ANSC204—Introduction to Dairy Cattle Evaluation (2 credits) and ANSC 314—Advanced Dairy Judging (2-4 credits). Both classes are led by Dr. David Miller and Gene McCoy.
- Four internet based classes: ANSC 423—Advanced Dairy Nutrition (2 credits), ANSC 499—Forage Production (1 credit), ANSC 499—Ration Balancing (1 credit), and ANSC 499—Calf and Heifer Management (1 credit). These classes are led by Dr. Mike Hutjens.
- Three internet based classes: ANSC 437—Advanced Reproduction (2 credits), ANSC 435—Milk Quality and Mastitis (2 credits), and ANSC 499—Disease Prevention (1 credit). These classes are led by Dr. Dick Wallace.

If students complete five classes or 11 credits, they can earn a “Dairy Certificate” awarded by the University of Illinois Graduate School.

These classes are complemented by traditional classes in nutrition, reproduction, immunity, and genetics.