



CREAM



“MOOS” LETTER



December 2016



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The 2016-2017 CREAM class pictured at their first class of the year in late August.



A Day in the Life of a CREAMer

By: Rachel Moore

CREAM is intense, classes I We are a range of had barely



probably one of the most rewarding, difficult, and fun have ever experienced at UNH. group of 25 students with a wide dairy experience. Some of us touched a cow before this class,

while others have worked at the Fairchild Dairy Teaching and Research Center for years. Nevertheless, we have one main goal in this class: to ensure the health, safety, and happiness of a herd of 25 milking Holsteins which produce about 26,000 pounds of milk a year for the dairy industry-giving thousands of New Englanders access to high quality milk right from Durham, New Hampshire. The day in the life of a CREAMER isn't always an easy one or a short one but it is worth it because at the end of the day we know that we are doing the best job we can to take care of our cows. In this article, I will highlight the day in the life of the CREAM class- not just one student because we are a collective group that must work together to achieve our goal.



4:15 AM: Courtney K, Tori, and I arrive at the Fairchild Dairy center ready (well sort of-we're still a little tired but waking up) for the early shift. The chores in the early shift are divided into feeding, milking and tying. The milker milks the cows while the feeder makes the highly specific diet for our cows- which weighs out to nearly 1200 pounds.



The person tying makes sure the cows make their way to the milking parlor while also cleaning each cow's stall and putting down fresh bedding. By around 5:30, all of our cows have been milked and make their way back to the clean stalls to

enjoy their breakfast of corn silage, hay silage, protein and other important ingredients, which improve milk production and quality.

5:30 AM: Kyle and Bailey arrive for their mid-morning shift (there are 2 shifts every morning and afternoon). While Bailey feeds all of the heifers on the farm (using the Jaylor machine), Kyle cleans all of the calf stalls and gives them feed, water and milk. They also clean and bed the maternity pens- for cows who are expected to calve soon. The calves outside in the superhutches are also taken care of.



11:00 AM Hannah, who is a member of our production committee, comes in for the mid-day check on our cows. She pushes up the feed, cleans behind the cows, and makes sure that our herd is doing well and nothing is out of the ordinary. At a normal dairy farm, the farmer would check on his/her herd multiple times a day which is why we have morning and night checks.

3:15 PM: Vivien, Cassidy, and Mellissa come in for the afternoon shift; the chores are the same in the morning: milking, feeding and tying. On nice days, we will let the cows outside so they can enjoy the sun and fresh air before getting milked.

4:30 PM The mid PM shift is like the early shift; Kyah and Courtney L clean all the calves and maternity. They also clean the pack barn, which is where all of our dry (non-lactating) cows are.

6:00 PM Time for CREAM class! Our class meets every Tuesday and Thursday from 6:10-8:00 PM. It is a Tuesday class today, so in the first hour we split into our committee meetings. We then have our business meeting- we discuss finance, breeding, and production among other topics. We also discuss old and new business.



9:00 PM It is time for the night check! Ari comes in to push up feed and scrape behind the cows. She also records how many are chewing their cud or laying down. The night check is to make sure that our herd is healthy and happy before the next morning.

10:00 PM The day is done! CREAMers get to go to sleep for a bit and then wake up tomorrow where it starts all over again!

CREAM Guest Lectures

By: Courtney LeCuyer



CREAM brings in guest lecturers every semester to allow students to gain insight into the various aspects of the dairy industry. Topics presented by lecturers are relevant to the work CREAM'ers do at the barn and in their field of study thus enhancing their experience in and out of the classroom. Some highlights of the guest lecturers and their topics from this semester are presented below.

André Brito, Ph.D., UNH associate professor (11/10/16)

Topic: Feeding Sugars to Lactating Cows

Dr. Brito's work focuses on dairy nutrition with special interest in nitrogen utilization in lactating dairy cows, forage cutting management, and enhancing pasture nutrient utilization via supplementation with an energy source. He introduced the benefits and detriments of feeding sugar and flaxseed to dairy cattle to the CREAM class. This is particularly relevant to the UNH dairy as a study has just begun in the barn feeding flaxseed to a portion of the herd.



William E. Berndtson, Ph.D., UNH professor (11/3/16)

Topic: The Carbon Footprint of Animal Agriculture

Dr. Berndtson is a reproductive physiologist with an interest in male reproductive physiology, testicular development and factors affecting spermatogenesis, and artificial insemination of farm animals. In addition to teaching reproductive classes at UNH, Dr. Berndtson also teaches careers in animal science, anatomy, and "agriculture today," a field trip based class in which students visit various farms in Durham and the surrounding areas. The CREAM class was particularly interested in how dairy and other agriculture was affecting the environment which so happens to be a section of Dr. Berndtson's "agriculture today" class and was the topic of his guest lecture.



**Dr. Elder, MS, DVM, veterinarian, director, animal resources officer
(10/6/16)**

Topic: Reproduction and Biosecurity

Dr. Elder is the veterinarian for the cows in the UNH dairy herds. Cows must continually be bred in order to produce milk so an understanding of the cow reproductive cycle and system is important as managers of a dairy herd. Dr. Elder also discussed biosecurity on farms. This is important for both the health of the herd and the health of the workers. It is critical to take safety measures such as washing hands after touching animals, not bringing food or drink into the barn, and not wearing boots or clothing to multiple farms in order to protect our health and the health of the animals.



Graduate Student Panel (10/13/16)

Many of the students in CREAM are interested in graduate school. The planning committee put together a panel of graduate students studying under Dr. Brito and Dr. Erickson to ask about life as a graduate student. A lot was said about long days and nights, motivation or lack thereof, reading journal articles, and the endless amount of work. But that did not seem to bother the graduate students because in the end their rewarding work on unique projects that are contributing to the advancement of the dairy industry make all the other stuff worth it.

Veterinarian Panel: Dr. Murdoc, Dr. Anderson, Dr. Young (11/17/16)

Many students in CREAM are interested in veterinary medicine for small and/or large animals. The veterinary panel put on by the planning committee included two mixed practice veterinarians and one small animal veterinarian. All were alumni of the UNH CREAM program and could offer unique insight into how this programs affected their careers. They all shared their journey to becoming a veterinarian, their most memorable patient, and their favorite memories of CREAM and school, among other things. Dr. Murdoc spoke about how CREAM was one of the best years of her life and told many entertaining stories. It was very exciting to be able to talk with alumni of the CREAM program and to hear all of the positive impacts it had on their lives.



What has the CREAM class been up to this semester?

By: The CREAM Planning Committee

The CREAM planning committee has been busy this semester planning extravagant events for our fellow CREAMers! As a committee, we are responsible for filling our Thursday night class meetings and spare time with educational and entertaining activities and events. Planning committee has orchestrated activities such as Jeopardy, potlucks, a cow costume contest, clean cow contests, a grad student panel, a veterinarian panel, and a class



night trip to the Deerfield fair! And of course we cannot forget the multiple wonderful guest lectures we have had the honor of listening to! For our cow costume contest, everyone in the class dressed up their cow for Halloween. Harmony (790) won the CREAM costume contest dressed as Honest Harmony. Other costumes included Tigger the tiger, Chobani the Greek yogurt, and Chipotle the "basic" cow! During our clean cow contest, the

entire class washed and clipped their cow! After hours and hours of diligent cleaning, the cows were judged by our professor, Dr. Drew Conroy. Tori Ashley and Hannah Mullen tied for first place with Allie Mae (766) and Tigger (761), respectively. A panel of graduate students advised by Peter Erikson or Andre Brito also came and answered questions for our CREAM class!

Question topics consisted of life after undergrad, research opportunities, as well as UNH graduate work protocol! On Thursday September 29, 2016 our class went to the Deerfield Fair to look at the show animals and ask their handlers questions. Dr. Elder presented on the reproductive cycle of a cow. Dr. Drew Conroy talked to us about the milk price in the United States, and Dr. Bill Berndtson presented on the environmental impact of dairy cattle. Lastly our TA Erik Hatungimana talked to us about cows in Rwanda.



Cow Costume Contest!

In the Halloween spirit, the CREAMers dressed up their cows for a costume contest. Below are some of our favorites!



cow

"Pickles the Pirate"

"Amelia 'Dill' Heart"

"Tigger the Tiger"

"Bathing Beauty"

"Honest Harmony"

Committee Updates!

The CREAM class has a plethora of committees which help our herd, the barn, and our class stay healthy and happy! Here are a few highlights from committees this semester!

FACILITIES

Unfortunately, the barn does not take care of itself...but that is why we have the facilities committee! We are the ones that take care of the endless to-do list here at the Fairchild Dairy. We do everything from changing light bulbs to sanitizing calf stalls to scraping behind the cows. We are not the cleanest committee but we put a lot of hard work in to maintain the barn.



Fun fact: A cow in our herd produces an average of 80 pounds of milk a day! That is nearly 10 gallons of milk per cow per day.

FINANCE

The finances committee is responsible for keeping track of CREAM's expenses. There are multiple aspects of our accounting, and the first/biggest is paying for feed. Around 60% of our costs go into feeding the herd, as our diet has a recipe of countless ingredients. We also pay for the medical costs and treatments, renting the string in the lactating barn, renting space for our heifers and dry cows, as well as milk testing and breeding costs. Our expenses total to about \$2,500 a week, which are tracked utilizing a computerized accounting system. The majority of our time is spent calculating and paying bills but we also keep track of how our herd is earning money. Once a month we are paid for our milk, which ranges from \$5000-\$6000 for an entire month's worth of milk. We are also paid for the time we spend cleaning and tending to the calves in the nursery. Also, every week we are paid \$190 for our time tending to calves that aren't necessarily from CREAM cows, and together these incomes help balance out our account.

Here

We do health checks on all CREA in the herd. We track vitals, track rate, body score will do any extra



Gianna, a member of Herd Health, treats a cow with udder rot (pictured above). Chlorhexidine solution and iodine are used.

at least once a week to prevent mastitis due to the spread of bacteria from the teat during milking.

Production Committee

Furthermore, this committee is currently treating the cows with udder rot, which is an irritation between the clefts of the udder with Chlorhexidine and Iodine wipes every day. We have successfully treated 4 out of the 5 cows affected so far. Also involved in this committee is shadowing Dr. Elder, the campus veterinarian, on his herd health checks. Dr. Elder visits the barn about twice a month to address any issues with the animals as well as to complete pregnancy checks. He uses point of care ultrasound to determine pregnancy status. We also make note of our somatic cell count, which is the total number of cells per milliliter in milk, as well as noting our fat and protein content for our milk for the week. After determining who is ready to be bred, we watch Jon Whitehead, the manager, breed cows via artificial insemination.

WE START OUT OUR PRODUCTION COMMITTEE MEETING BY GOING DOWN TO OUR STRING OF CREAM COWS AND BODY CONDITION SCORING ALL OF THEM. A SCORE OF 1 DENOTES A VERY THIN COW, WHILE 5 DENOTES AN EXCESSIVELY FAT COW, AND 3 IS AN AVERAGE BODY CONDITION. EVALUATION FOCUSES ON THE RUMP AND LOIN AREA AS WELL AS THE BARREL OF THE COW. WE ALSO SCORE THE COWS UDDERS BASED ON CLEANLINESS. DIRTY UDDERS ARE WRITTEN DOWN TO BE MADE NOTE OF IN OUR CLASS BUSINESS MEETING. WE THEN MEET IN THE BARN CLASSROOM TO GO OVER A SHEET OF REPRODUCTIVE STATUSES, MILK PRODUCTION, AND HOW MANY DAYS IN MILK OUR COWS ARE. WE CALCULATE OUR TOTAL MILK PRODUCTION FOR THE HERD AND AVERAGE MILK PRODUCTION PER COW FOR THAT WEEK. OUR AVERAGE MILK PRODUCTION IS CONSISTENTLY OVER 80 POUNDS PER COW PER DAY EACH WEEK. WE ALSO MAKE NOTE OF OUR SOMATIC CELL COUNT, WHICH IS THE TOTAL NUMBER OF CELLS PER MILLILITER IN MILK, AS WELL AS NOTING OUR FAT AND PROTEIN CONTENT FOR OUR MILK FOR THE WEEK.



Breeding Committee

Breeding Committee plays a crucial role in CREAM as dairy cows can only produce milk if they are bred and have calved. Breeding chooses the bulls to breed to the heifers as well as to the milking herd. At the University of New Hampshire, we use artificial insemination. When selecting a bull, you first consider the characteristics that you would want to improve in the cow you are breeding so that her daughter will have more desirable characteristics. The three main factors that we focus on are udder, feet and legs, and milk production. Ideally, you want to have a high milk production, high udder attachment, and correct set of feet and legs from the side and rear view. Since there is such a small gene pool for Holsteins, this committee also checks the inbreeding percentage of the proposed breeding pair to avoid health risks. Each week, we select 2-3 cows and we choose a bull that seems like the best fit based on the above criteria. In the business meeting, we explain to the class why we chose the bulls and how they will improve the next generation of the cow. Breeding Committee is essential to the dairy farm because we choose the genetics to improve the overall herd characteristics which effect total milk production.

The Northeast Regional Dairy Challenge By: Kyah Hardy

Several students from the University of New Hampshire were selected to compete at the 2016 Northeast Regional Dairy Challenge in Glens Falls, NY. The



goal of this competition is to evaluate student knowledge of how a dairy farm should operate and to do a S.W.O.T. analysis of the farm (strengths, weaknesses, opportunities, and threats). A few CREAMers were selected including Bailey Basiel, Kyah Hardy, and Shelby Jaffe. At this year's Northeast Dairy Challenge there were 128 students representing 13

Colleges and Universities. After a long day of travel (4 hours for UNH) students began the first night with an introduction to who their teammates would be for the next few days and attended educational seminars on Dairy Record Systems and Financial Management. After the seminars, everyone



participated in a team building activity that challenged students to build the tallest freestanding structure only using spaghetti, tape, and marshmallows (which is actually a lot harder than it looks). The next day, all teams were off to visit the farm they would be evaluating for the contest. This year's NE Regional contest farms included: Welcome Stock Farm, Schuylerville, NY, Toolite Farm, Granville, NY, Ideal Dairy, Hudson Falls, NY. After touring the contest farms for a few hours, students took the afternoon to prepare for their final presentations, including using industry professionals as resources in answering questions and finalizing those presentations. We ended the day playing backyard games and having a dodgeball tournament at the Adirondack Sports Complex a.k.a. The Dome. The final day was spent at a career fair where students could talk to industry representatives of their interest as well as touring King Ransom Farm in Schuylerville, New York for an educational tour. The last part of the final day was presenting our presentations made the day before in-front of a panel of judges from the dairy industry, farm managers, as well as one of the UNH advisors, Peter Erickson. After our presentations all students enjoyed a wonderful banquet and award ceremony. At the end of the banquet, we packed up the van and headed home! For me, this was a very long and exhausting trip. However, it was one of the best experiences I have ever had and very well-worth it! Next stop, the National Dairy Challenge in California! Stay tuned!!



Thanks for reading our December newsletter! Look out for newsletters in the months ahead. Until then, keep on drinking milk and happy holidays!