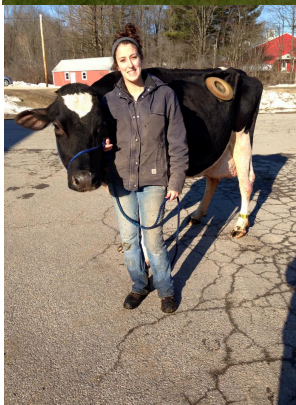




A DAIRY GOOD YEAR

The Last CREAM Newsletter of 2015



SPRING BILL BERNDTSON SPEAKER



The Cream class recently heard from guest speaker Dr. Bill Berndtson, a professor and reproductive physiology specialist here at UNH. He gave his talk on reducing the carbon footprint on animal agriculture. Some of the topics he covered included factors influencing green house gas emissions, the rising global demand for animal products, and many of the misconceptions of animal agriculture. He also touched on how we can meet the challenge of reducing green house gas emissions. It was very interesting to hear Dr. Berndtson's take on the role agriculture plays in the environment. The class learned about the many misconceptions people have regarding big versus small farms in the United States. Dr. Berndtson explained the common misconception that large dairy farms in the U.S. are the reason for global

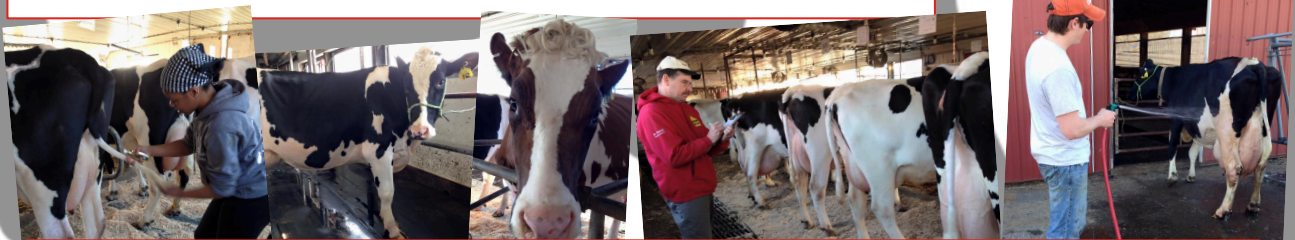
warming and play a huge role in green house gas emissions. It turns out, that even though the United States has many large dairy farms, these farms tend to be more environmentally efficient than small farms in less developed countries. It was really cool to learn more about a topic the class had not touched on. Thank you so much Dr. Berndtson, we really enjoyed your talk!



SPRING CLEANING

April 2nd was the CREAM class's second Clean Cow Contest! It was a long, cold winter and the cows were the dirtiest they had been all year. It was evident that this contest would be no easy win. The CREAMers had to bring out the big guns this time around if they wanted to impress the judge, Drew Conroy. Starting at the beginning of the week, the barn was once again filled with CREAMers all day and night slaving over their cows to make sure that last bit of caked on poop would be nonexistent. Besides bathing them in warm water, CREAMers took many different approaches to attain spotless euphoria. Many clipped their cows' entire bodies head to toe, legs and tails were scrubbed down with baby wipes, and a secret weapon—baby powder—saved the day for many last minute emergencies. At 6:00 pm sharp, Drew came down and scored the cows as the anxious CREAMers awaited the results. CREAM really stepped up their game this time because Drew, who is a perfectionist judge, had an extremely hard time placing cows. He couldn't believe how clean these cows were! After much struggle with placing everyone, places 1-10 were awarded to CREAMers across the board.

- 1st:** Emma Downing with her crazy little cow Roo!
- 2nd:** Megan Ferentino who somehow managed to get every inch of Chipotle clean! (She must have used a ladder)
- 2nd 1/2:** Brianna Stoye with her spotless Willow! After a recalculation from the judge, Brianna was actually tied for second!
- 3rd:** Evie Bolton who slaved over Razz to make her look like she had never touched the ground!
A special mention to those who placed 4th- 10th:
- 4th:** Elaina Enzien- Soy
- 5th:** Tia Couture- Sprinkles
- 6th:** Stephanie Finch- Perdita
- 7th:** Kacey Cooper- Poupon
- 8th:** Kristina Spencer- Faith
- 9th:** Caroline Reckelhoff- Mirage
- 10th:** Allison Stone- Jessemæe



A big pat on the back to all our CREAMers and their cows! Their hard work paid off once again as our string was the best looking group of cows at the UNH Fairchild Dairy Barn!

ALUMNI SPOTLIGHT

ERIC JANICKI

Mr Janicki went to UNH from 2002 to 2006, did a Masters degree program in Microbiology, and participated in CREAM from 2003-2004. He is now a biology teacher at Phillips Exeter Academy in Exeter, NH.

1) What was your favorite part of the CREAM program? Least favorite part?

I have a lot of memories of "favorite" parts of CREAM. I enjoyed my Friday morning milking shift in the spring trimester. None of the undergrads in the class wanted Friday mornings. (I wonder why?) I would milk, shower, have breakfast at Young's and go over to my cubicle in Rudman. I could get in a post-breakfast nap and still be in the lab a full two hours before any of my lab mates.

I really loved having class with Dr. Conroy and Dr. Fairchild. Their enthusiasm, not just for dairy cattle, but more specifically for working with students around dairy cattle was infectious. I also really appreciated how well they understood how to move students out of their comfort zone. I had never shown a cow before, and the experience of showing a heifer - I think the event was called the Little Royal - made a big impact on me. I look at 4-H kids in the show ring in a whole new light now.

The element of the course that I remember least favorably was writing end of term comments on all of my classmates. The reason I have unpleasant memories of those is likely my own fault. I am sure I procrastinated on them and wrote them all in one very long setting - probably in the middle of the night.

2) What is the most valuable thing that you took away from CREAM, and how did the program influence your life after the class?

I took a lot of valuable things away from the CREAM experience. At the moment, I am wishing that agriculture played a larger role in my professional life. If I do decide to leave teaching at PEA, it will likely be to pursue something more directly related to agriculture.

In the meantime, there are some very real connections to my current job and the CREAM program. First of all, the CREAM class was the most student-centered class I had ever experienced. All of the classes at Phillips Exeter are taught using a pedagogy some people refer to as the "Harkness Method". What it boils down to is student-centered, discussion based classes. I often think about my CREAM experience, when I'm listening to students in my classes now.

Two years ago PEA decided to start a senior studies course titled "Agricultural Science, Practice and Policy". I got to teach the class last spring and again this spring. Naturally, there is a unit on dairy farming. This has allowed me to reconnect with certain parts of the CREAM course. Most specifically, we visit Stuart Farm in Stratham. I first met Nate and Judy Merrill, when I visited their farm as a CREAM student in 2004. It's been really wonderful reconnecting with them.

3) What is one piece of advice you have for current and future CREAMers?

I have no business giving advice to anyone. I am married to a wonderful and really smart woman and we have two wonderful, bright daughters. We keep a dog so that I am not always the dumbest animal in the house. Essentially, I have learned to listen to those around me. Maybe that's what I would suggest current and future CREAM students keep in mind.



ROOOOAAAAD TRIP!

This month, CREAM was here, there, and everywhere!

On April 18th - 19th, CREAM took its annual weekend trip throughout NH and VT. This year, CREAMers visited four

dairy farms (two run by former CREAM students), saw how Cabot makes Cheddar, and made a delicious stop at Ben and Jerry's. It was a mooogical time!



4:00 pm: UVM CREAM - Burlington, VT

We rounded out the afternoon with a visit to the country's only other CREAM program, at the University of Vermont. UVM CREAMers graciously gave up their afternoon to show us around their barn and show us how they do things. It was so cool to see the similarities and differences between the schools, and we took away some great ideas for our program. Hopefully they come visit us soon!



Overnight: Burlington Comfort Inn



10:00 am: Ben and Jerry's Factory - Waterbury, VT

What is a trip to Vermont without a trip to where everyone's favorite frozen indulgence was created? We learned all about (and tasted) how milk, cream, sugar, and a little fair-trade magic come together in the pints we swoon over through the grocery-store freezer window. The tour was finished with a generously portioned sample of Strawberry Cheesecake (Canada's #1 seller) and a trip to the scoop shop window! CREAMers also cleared the gift shop of all of their udder-shaped bowls.

1:00 pm: Sanctuary Farm - Sunapee, NH

Sanctuary Farm in Sunapee, NH is home to former CREAMer Jared Johnson, who will one day take over the family-run farm. He showed us their naturally ventilated milking barn, which provides a comfortable temperature year-round for their happy cows, who spend most of their time outside. The farm was beautiful, and truly looked like a sanctuary on a lovely spring day. The family makes and sells their own ice cream and other farm products on-site!



1:00 pm: Cabot Visitors' Center - Cabot, VT

If there's one thing [most] of us CREAMers have in common beyond our love for cows, it's our love for the dairy products that come from them. We enjoyed taking a tour through the Cabot factory and seeing how the milk from family farms all over New England becomes the cheese we love to stuff our faces with. While we were there, they were making Cheddar, which we learned is actually naturally lactose-free! Plenty of samples of all of Cabot's unique and delicious flavors were available to us, and devoured.



8:30 am: Tullando Farm - Orford, NH

NH's one and only robotic farm showed us their eight incredible robotic milkers that milk around 450 cows everyday, whenever the cows like. The incredible system has a programmed minimum interval that prevents cows from being milked too many times per day, alerts the Tullars when a cow has gone too long without visiting the robot, provides the Tullers with all sorts of detailed information about each cow's production and health, and alerts them if anything is out of the ordinary. Their farm also featured an eco-friendly manure separator, and robots that constantly push up feed. Their beautiful farm was an inspiration!

6:00 am: UNH Dairy Barn

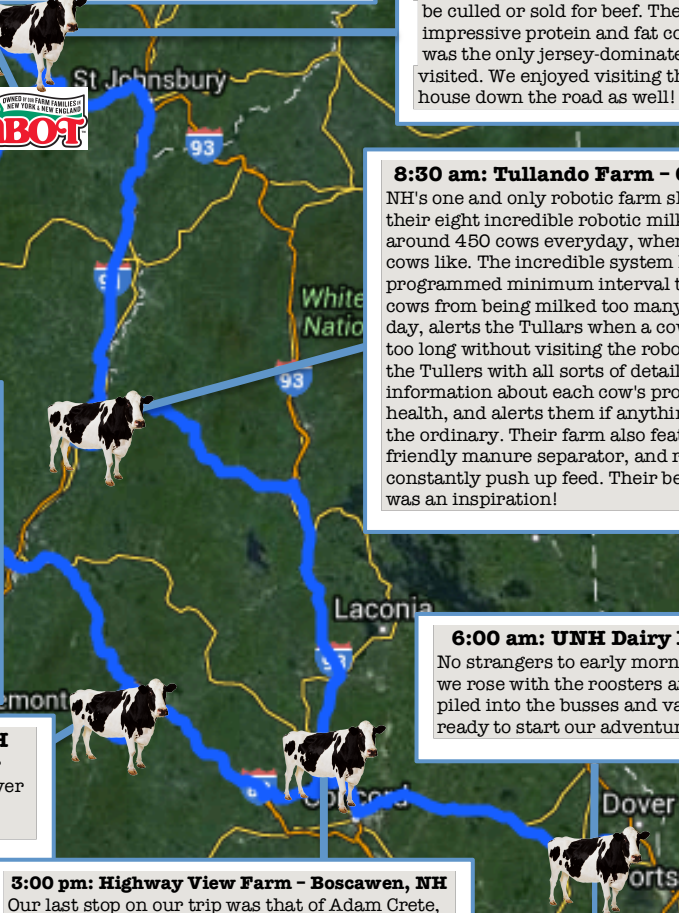
No strangers to early mornings, we rose with the roosters and piled into the busses and vans, ready to start our adventure!

3:00 pm: Highway View Farm - Boscawen, NH

Our last stop on our trip was that of Adam Crete, also a former CREAMer. He milks around 250 cows 3x a day. We enjoyed learning about his unique method for moving cows through the free stall barn, which is connected directly to the milking parlor and holds a double function as a big holding area! The cows were clean and happy with sand bedding, and fed with ingredients sourced on-site.

5:00 pm: Home Sweet Home

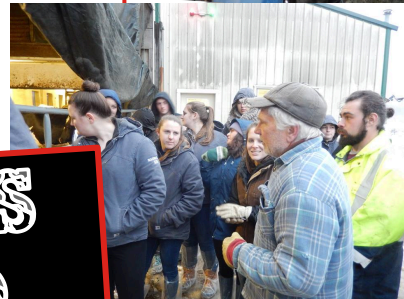
All good things must come to an end, and by the end of the afternoon on Sunday when we arrived back at the barn, we were all ready for a long nap filled with sweet dairy dreams.



APRIL AFFAIRS

STUART FARM

This month, CREAMers visited the Stuart Farm in Stratham NH, a fourth generation dairy farm. The Merrills have been farming the same piece of land since 1961. Currently Nathan, his wife Judy, and his parents John and Lorraine run the farm, which milks around 250 Holstein and Brown Swiss cows! The Stuart farm is a free stall facility, so it is very different from the UNH facility. They bed their cows with sand—John said that he likes the sand because it is very clean and comfortable for the cows, but very tough on his equipment. The calf barn was a thing of beauty! The calves were all extremely clean, adorable and well taken care of. It was fun for those CREAMers who had never seen a Brown Swiss to see the calves and cows. It was very exciting to see such a large local operation, and we learned a lot from our tour with John. Thanks for having us, Stuart Farm!



NEW CREAMERS WELCOME BBQ

This month, we welcomed the future of CREAM with a New CREAMers barbeque. It was very successful, and the majority of the 2015-2016 CREAM class was able to attend. We had some great food followed by some ice-breaker games for the new class. To end the night we had an informal question and answer/information session.

We all want to wish the best of luck to next year's class!



DISEASE OF THE MONTH:

This month, Fairchild Dairy had its regular Johne's disease blood testing done and was confirmed negative for Johne's in the herd! This, of course, was fabulous news as we learned very well this semester just how devastating Johne's disease could be to a herd.



The MAP bacterium is most likely to infect the cow at or after birth and no later than at 6 months of age. Calves usually become infected by one of three ways; calves can ingest fecal matter from the dam's teat or from stall floors, from contaminated milk or colostrum that came from a Johne's positive cow or from a positive pool of colostrum, or

Johne's disease, or *paratuberculosis*, is a chronic mycobacterial infection that infects the small intestine of mainly ruminant animals. According to the 1996 NAHMS, Johne's disease has affected over 22% of the nation's dairy herds with an estimated national loss of \$200 million for the U.S. Dairy Industry due to loss in milk production.

When ingested, the bacterium, *Mycobacterium avium* subspecies *paratuberculosis* (MAP), attaches itself within the surface of ileum of the small intestine and destroys the immune cells that normally function to kill foreign bodies such as these. The immune system then recruits additional immune cells, which in turn causes extreme inflammation and thickening of the small intestine wall, rendering the animal incapable of any nutrient absorption.

Symptoms of Johne's disease include extreme weight loss, decrease in milk production, diarrhea, and lethargy. One distinct symptom of Johne's disease is an intermandibular edema due to the protein loss from the blood stream into the digestive tract.

they can ingest MAP in-utero via the umbilical cord of an infected dam. Although animals are infected at a young age, clinical characteristics of the disease will usually not show before two years after infection. Some animals will not show clinical signs for 10 years or more.

Unfortunately, there is no cure for Johne's disease. In herds that struggle with Johne's disease, subcutaneous vaccinations can be given to calves in the first four weeks of age. Although there has been some success with this vaccine, it is not yet proven to have full efficacy in order to be reliable. Because there is no fully effective treatment for disease, the most proactive way to deal with a potential Johne's infected animal is confirming infection with diagnostic blood and fecal tests and promptly removing the animal(s) from the herd.

The most successful way to keep a herd Johne's free is by prevention with good biosecurity practices. Calves should have a clean, dry birthing environment and should be removed from the dam as soon as possible to avoid ingesting fecal matter from poorly sanitized teats. Additionally, calves should be fed colostrum within one to two hours after birth.

THANK YOU VERY MOOOCH

CREAM is made possible by some very important people who provide us with knowledge, support, advice, and guidance every day, and put in countless hours of effort in the name of dairy education. We'd like to take a moment to thank those people for all they have done (and for putting up with us!).



JON WHITEHOUSE

Whether it's a dead light bulb, a sick cow, a broken Jaylor, or an entire pen of heifers escaping from an unlatched gate, our farm manager Jon is the guy we go to. You can find him at the barn every day, keeping things running smoothly, and at our classes every Tuesday, reading off his announcements for us from his smartphone. No matter the weather or stresses of the day, he always has a smile on his face and a demeanor that puts you at ease. Words can't describe how valuable Jon is to CREAM and Fairchild Dairy as a whole. Thank you so much, Jon, we don't know what we'd do without you!

DR DREW CONROY

It is suspected that our professor, Dr. Conroy, has somehow developed time-warping skills and the ability to fit in 72 hours of activity into each 24-hour day. Between writing long manuals on raising and training oxen, teaching multiple classes, planning Fulbright research in Rwanda, and providing endless life advice and guidance to his students, Drew works tirelessly to give us the best educational experience that UNH has to offer. You name it, Drew has done it, and CREAM and UNH are unbelievably lucky to have you (in between trips across the world to Africa!)



DR PETE ERICKSON

Dr. Erickson, on top of giving multiple informative lectures throughout the year, was present at all of our Tuesday meetings with helpful advice and information. He provided us with so much knowledge about production and nutrition, and there was always a teaching moment with Pete! Thank you so much for your guidance!

Happy Birthday
to Moo...



May 2- Emma Downing
May 23- Tia Couture
June 1- Jess Byrne
June 26- Liz Robichaud
June 29- Kelly O'Connor
July 14- Evicse Bolton
and Misha Charlat

Thank you to all of our readers! It's been a great year full of a lot of hard work and even more fun. We appreciate you sharing it with us!