

College students contribute to ag sector through hands-on seminar

Posted on December 5, 2016

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By Gaen Murphree



DAIRY FARMER MARIE Audet takes students from the Middlebury College Environmental Studies senior seminar through the main barn at Blue Spruce Farm in Bridport earlier this fall. Student analysis and data gathering will be used to help local dairy farmers. Courtesy photo

MIDDLEBURY — Fieldwork has taken on a new meaning for Middlebury College students enrolled in this fall's Environmental Studies senior seminar.

Nineteen students are taking an in-depth look at Vermont's dairy industry by working with local farmers and organizations such as the University of Vermont's Extension Service, the Natural Resources Conservation Service

(NRCS) and the Vermont Department of Environmental Conservation (DEC) to create reports and other end-of-course products with real-world applications.

“This project has really pushed me and my teammates beyond anything we’ve done for previous classes,” said Heather Tourgee, a senior from Peterborough, N.H. “It’s easy to drive past farms and forget that they are not only a foundation of the local economy, but they also represent a huge segment of knowledge and expertise. I personally feel more connected to Vermont now that I’ve seen these different perspectives beyond what can be taught in the classroom.”



MARIE AUDET FIELDS students’ questions about life as a dairy farmer, while students tour Blue Spruce Farm in Bridport. Middlebury College seniors in the Environmental Studies program are analyzing the Vermont dairy industry from multiple perspectives as part of their capstone seminar. The seminar includes field work and partners students with state and local organizations including the UVM Extension’s Middlebury Office, the Department of Environmental Conservation, the Agency of Agriculture, Green Mountain Power and Migrant Justice.

The purposes of the seminar, required of all seniors in Environmental Studies, are to provide a bridge between the worlds of work and academia and to give students hands-on opportunities to apply what they’ve learned to critical state and local issues.

Given that Vermont produces 63 percent of New England’s milk, and the dairy sector generates 6,000 to 7,000 jobs and occupies about 80 percent of the state’s farmland — dairy fills the bill for the course. This is especially true given that the college is in the heart of Addison County, the state’s largest generator of milk sales.

Diane Munroe, who is teaching the seminar this semester with Mez Baker-Medard, said it’s exciting for the seminar to be focusing on dairy as the state begins to implement the Required Agricultural Practices as part of Lake Champlain cleanup.

“They’re not only talking to farmers about what some of the potential changes and impacts will be for them but also having a tangible example of what a legislative process playing out on the ground looks like,” said Munroe, Coordinator for Community Based Environmental Studies at Middlebury College.

These Environmental Studies students chose dairy over such competing topics as climate change or Lake Champlain water quality, Munroe said.

“It’s very place-based, very specific,” Munroe said. Although students knew of the county’s dairy farms, she added, they didn’t have deep knowledge of the industry and “wanted to know more about their surrounding landscape.”

She also noted the growing Food Studies program at the college and increased student activism around food-related campaigns and other issues.

“With our partnership with Migrant Justice, the dairy focus had the most explicit opportunity for a justice-oriented project,” Munroe said.

DAIRY OPTIONS

For the dairy seminar, students chose one of four projects, each associated with partner agencies. The water quality group is partnering with local UVM Extension and Natural Resources Conservation Service offices and the DEC.

The farmworker rights group is working with the Migrant Justice advocacy group out of Burlington, the energy group with Green Mountain Power’s Cow Power program, and the farm viability group with the Agency of Agriculture, Food and Markets.



MIDDLEBURY COLLEGE STUDENTS visit the “Cow Power” methane digester at Bridport’s Blue Spruce Farm to learn about the link between cow manure and electricity generation.

From Middlebury’s UVM Extension office, students are working primarily with Agronomy Specialist Jeff Carter and Agronomy Outreach Worker Kristin Williams.

This collaboration focuses on a slice of western Addison County known as the McKenzie Brook watershed, named after a creek that enters the lake from New York. This watershed runs from near the Champlain Bridge in Addison to East Creek in Orwell. The NRCS has named the

McKenzie Brook watershed as one of its top focuses in its lake cleanup efforts, in part because it is intensely farmed and in part because all waterways in this watershed drain directly into the lake.

“We felt that a complimentary student project looking at the watershed would be a great way to enhance our work,” said Williams.

The McKenzie Brook collaboration began last spring with the last group of Middlebury seniors, who mapped watershed data, attended farmer meetings and workshops, and took water samples.

“This semester students are building on that work by developing a survey that we will distribute to farmers in Addison County on best management practices,” said Williams. “They are also mapping landscape and land use characteristics of sub-watersheds and analyzing how that may relate to water quality data.”

At a recent meeting, Carter and students discussed how the project could become ongoing, with students taking a regular role in tracking data from year to year.

“Each semester students will hopefully be able to build upon the work from previous semesters, while also using the opportunity to delve into particular aspects of the project that interest them,” said Williams.

Munroe said the challenge for the mapping part of the student project is to take complex data, often buried deep in DEC documentation, and make it usable and understandable through a visual display. One of the hoped-for outcomes is to provide a baseline of information about the watershed so that state agencies can track progress.

“We hope to quantify both NRCS- and non-NRCS-funded practices in McKenzie Brook to demonstrate conservation success over time,” said Williams.

OTHER EFFORTS

The group working with GMP Cow Power “guru” David Dunn is looking at phosphorus extraction technologies that can be part of a methane digester.

Given that the state’s comprehensive energy plan asks for what Munroe described as a tripling of the number of the state’s electricity-generating methane digesters, students are examining what the barriers are to adoption and whether the ability to extract phosphorus and sell it could give the state and its farmers a profit-generating way to address the state’s water quality issues.

Addison County farmers have pioneered methane digesters as electricity generators, with two of the earliest adopters statewide being Foster Brothers Farm in Middlebury and Blue Spruce Farm in Bridport.

The team working with Migrant Justice organizer Marita Canedo is creating curriculum on migrant labor in Vermont to be used in local elementary schools and podcasts that address farmworkers’ issues and experiences.

Senior Marissa Perez, a joint studio art-Environmental Studies major from Portland, Ore., said the “real world collaboration has been important because it gave me a taste of what it feels like to have people really relying on me. Knowing that I would be disappointing my community partner and the group that she is part of has been a great push for me to do my best work and make something that is useful and well crafted.”

The team is creating a series of podcasts to highlight these issues. The *Independent* plans to provide podcast links as they become available.

“We’ve conducted interviews and surveys that deal with the realities of farming’s future, including volatile milk prices, succession plans, and rising input expenses,” Tourgee said. “Our biggest task is to listen to farmers about what is working in the dairy industry and what could use improvement.”

Students in the senior seminar on Vermont’s dairy industry will present their work in a public forum on Dec. 8, at 12:30 p.m. in Room 103 at the Franklin Environmental Center. The presentation is free, open to the public, and is scheduled to end at 1:20 p.m.

Reporter Gaen Murphree is reached at gaenm@addisonindependent.com.