

2023 Annual Report: Research & Impact



The College of Agriculture and Life Sciences assists and improves the lives of Vermonters



To our Vermont Legislators: As you work through the important issues facing our state, we want to share some stories of how the UVM College of Agriculture and Life Sciences (CALS), which includes UVM Extension, is working to improve the lives of Vermonters. As dean of the college, I am so proud of our hard-working faculty, staff, and students. We thank you for your support.

Leslie V. Parise, Ph.D.

Dean, College of Agriculture and Life Sciences, University of Vermont



Students in UVM's Community Development and Applied Economics department worked with Vermont mobile home parks and their residents to assess flood risks and create emergency evacuation plans. Helping the residents access the Vermont Emergency Management readiness exercises made Vermont the first state to have **mobile home park residents practice emergency drills**. CDAE students also conducted a research project that created a framework to assess whether towns were helping or failing their youth. As a case study the students looked at the town of Bristol and worked collaboratively with the town's youth center, The Hub, to implement changes suggested from their findings. Learn more at go.uvm.edu/doqu5.



UVM is the first college in the nation to offer **undergraduate, master's, and doctoral degrees in Food Systems**. UVM's Food Systems Research Center (FSRC) is the only USDA-funded Agricultural Research Service site dedicated to study the interconnectedness of all parts of a food system, from farm practices to food access, from soil health to food supply chain logistics. UVM welcomed over eighty researchers as part of this year's annual Food Systems Summit, which is dedicated to fostering collaboration across disciplines and to cultivating a strong, regional community of food systems researchers committed to team-based, stakeholder-engaged science. By fostering this community of inquiry, the FSRC hopes to strengthen collective efforts to drive positive change in food systems on both regional and global scales. Learn more at go.uvm.edu/ws20i.



Generations of Vermont farmers and gardeners have relied on UVM soil testing to make science-informed improvements to both their soil quality and their crop inputs. This year **soil testing at UVM will get a major technological upgrade** with the buildout of the Soil Health Research and Extension Center (SHREC). SHREC will be a cross-disciplinary research hub focused on integrative soil health, offering comprehensive testing services to address both stakeholder and researcher needs. SHREC will provide results, recommendations, and education to Vermont farmers and agricultural service providers. This addition to the scientific research facilities for soil testing will offer expanded possibilities for a more nuanced understanding of the soils in Vermont. Learn more at go.uvm.edu/a4ks3.



Joao Costa, Associate Professor in Animal and Veterinary Sciences, is pioneering **precision dairy technology use on Vermont farms**. These technologies provide science-based data that offers enhanced animal management, health, and welfare of herds. UVM partners with dairy farmers and other stakeholders to ask how to improve both monitoring and nutritional interventional for the individual animal. Bridging research with practical solutions, Costa and his research team actively work to meet the unique needs of regional dairy herds. Committed to collaboration, UVM faculty such as Dr. Costa unite academia with industry producers to drive impactful technological advancements that support change and improve dairy herd outcomes. Learn more at go.uvm.edu/7iy9v.

UVM Extension facilitates research, education and outreach with our partners for the people of Vermont



UVM Extension provides invaluable support to stakeholders and clients, and is an institutional asset to our state. As an organization that strives to be Vermont's premier institution of change, we are positioned to impact the individual, the family, business, community, and the natural environment, and we accomplish the goals of the land-grant mission by remaining reliably relevant to sustainable development.

Roy Beckford, Ph.D.

Associate Dean and Director, UVM Extension

Vermont 4-H and UVM's College of Engineering and Mathematical Sciences hosted **Discover Engineering**, a free, annual day-long event attended by 165 grade 5–12 students interested in exploring engineering fields and career pathways. Supported by more than 100 volunteers including UVM engineering faculty and students, the event introduced attendees to industry experts, different types of engineering, hands-on exploration, and the pathways they can take to pursue a future as an engineer. Job prospects in engineering are expected to grow and the future looks bright for young people entering the profession. Learn more about this workforce development initiative at go.uvm.edu/v6mtn.



Social sustainability is the “people side of agriculture,” contributing to farmers’ quality of life and positive impacts on the local economy and environment through five intertwined themes — social justice, equity and inclusion; pathways for the next generation; health and wellbeing; community connections; and entrepreneurship as an engine for innovation and adaptation. Efforts of a team of UVM Extension/College of Agriculture and Life Sciences faculty/staff to elevate farmers’ social issues led to the USDA bulletin *Resilient Farmers, Ranchers and Communities: Social Sustainability in Agriculture*. UVM Extension’s Women’s Agricultural Network (WAgN) and New Farmer Project Farm Labor Dashboard are highlighted as examples of effective, innovative approaches for addressing social sustainability in farmer education. Learn more at go.uvm.edu/zugos.



After July's **heavy rains and flooding impacted Vermont farms** an estimated 600 acres of vegetable/berry crops suffered complete loss. Many more acres sustained erosion, nutrient loss, rotting crops, road/infrastructure damage, and heavy disease pressure. UVM Extension provided immediate support to growers. Interventions included both addressing produce safety concerns and rebuilding soil health. Seventeen commercial vegetable farms received cover crop seed. 500 acres of flooded soil were seeded with cover crops to reduce risk of nutrient losses, retain soil, and revitalize soil health for future crop production. 175 soil tests were processed by UVM's Agricultural and Environmental Testing Lab, providing standard soil analysis as well as detection of heavy metals. Ten flooded farms received comprehensive pathogen/contaminant testing, and that data will provide future guidance to vegetable/berry growers. More info at go.uvm.edu/ukp8y.



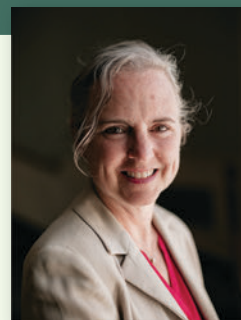
UVM Extension's **Community Nutrition Education program** offered multiple SNAP-Ed nutrition and cooking programs for residents in addiction treatment facilities. These four-part programs taught fifty-three people in recovery how to shop smarter and make healthier food choices. Individuals recovering from addiction face many barriers including homelessness, abuse, neglect, lost custody of their children, and mental health issues. While in residence they have treatment plans that focus on multiple aspects of their lives to help them get back on their feet. Addressing their health and dietary needs provides them with the skills and information to make more economical and better nutritional food choices for themselves and their families. Learn more at go.uvm.edu/edx4q.



The UVM Office of Engagement, and the Leahy Institute for Rural Partnerships

The UVM Office of Engagement, and the Leahy Institute for Rural Partnerships, are motivated by the vision of a Vermont where all communities can thrive, and we achieve this vision by fostering collaboration between community partners and entities at UVM. Some of our achievements from 2023 include the following:

- ▶ Provided workforce and economic development data reports to over fifty community partners, including Vermont's regional development corporations and regional planning commissions
- ▶ Administered \$5,000 in loan forgiveness (in collaboration with the Vermont Student Assistance Corporation) to 169 graduating seniors from Vermont colleges and universities who had landed a Vermont-based job and were planning to stay in the state
- ▶ Piloted an internship program in Central Vermont between local businesses and UVM students
- ▶ Solicited over 140 letters of intent from UVM-community partnerships to address rural challenges via the Leahy Institute for Rural Partnerships inaugural grantmaking program



"The Office of Engagement and the Leahy Institute for Rural Partnerships are dedicated to building partnerships between UVM and businesses, non-profits, and municipalities that provide direct and ongoing service to Vermonters. A key aspect of this work is seed and capacity grants — funding opportunities to support partnerships between UVM and Vermont organizations doing community and economic development work across the state."

Patricia Coates

Director, Institute for Rural Partnerships and Office of Engagement

The UVM Agricultural Experiment Station

As Vermont's land-grant institution, the University of Vermont's Agricultural Experiment Station (VT-AES) was created in 1886 in response to the Morrill and Hatch Acts. With a mission to address agricultural challenges in Vermont through research, the VT-AES is housed in UVM's College of Agriculture and Life Sciences. Funding for the VT-AES comes from the U.S. Department of Agriculture (USDA) and the University of Vermont through the State of Vermont's appropriation.

The research done at the VT-AES falls under the USDA goal areas of agricultural systems, food safety, nutrition, natural resources and the environment, and economic opportunities and quality of life. Our VT-AES activities are broad: research on all aspects of agriculture, including soil and water conservation and use; plant and animal production, protection, and health; processing, distribution, safety, marketing, and utilization of food and agricultural products; forestry, including range management and range products; multiple use of forest rangelands, and urban forestry; aquaculture; home economics and family life; human nutrition; rural and community development; sustainable agriculture; molecular biology and biotechnology. We aim to have an impact on problems of local, state, regional, and national concern.



"I hope to raise the profile of the impactful research done by our Agriculture Experiment Station, and its potential to address pressing challenges faced across Vermont's food system."

Eric Bishop von Wettberg

Director, UVM Agricultural Experiment Station