

ANNUAL REPORT

for the Fiscal Year 2008





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FRONT COVER

Apple blossoms herald Vermont spring and one of the state's signature crops. UVM's "OrganicA" apple research harvested its first crop of organic apples in 2008. Also this year, from left, UVM Proctor Maple Research Center's Mark Isselhardt oversaw production of 1,002 gallons of syrup. Shelburne 4-H members showed cattle at the Champlain Valley Fair. Growing Vermont, a student-run, entrepreneurial experiment on campus put in its first year. Photos by Cheryl Dorschner and Stephen Mease.

THIS PAGE

A farm in Richmond wears barn red, white and blue. In 2008 the number of Vermont farms dropped by only 19 – fewer than any year in decades – bringing the total to 1,078.

BACK COVER

(clockwise, from top left) Judy Branch, Michael Vayda, Richard LeVitre, Deborah Neher, Jennifer Colby, Robert Parsons, Linda Berlin, Timothy Wilmot, Donald Ross, Aleksandra Drizo, David Barrington, Yolanda Chen, Dale Steen, Stephen Pintauro, Sid Bosworth, Frederick Schmidt



AGRICULTURE

Comfort for Cows, Savings for Farmers

Researchers Test Methods Toward Mastitis Prevention

When, in 2005 a silky brown Jersey cow was the cover girl on *Nature Biotechnology*, she became the “poster bovine” for success in mastitis-resistance through genetic modification. University of Vermont Molecular Biologist David Kerr produced the gene that enabled that Jersey to ward off the common form of mastitis, *Staphylococcus aureus*.

But many species of bacteria cause mastitis; Kerr continues to find additional ways to prevent this widespread bacterial infection that is both painful to cattle and results in an estimated \$2 billion dollars annually in lost income to farmers due to veterinary costs, lower milk production, discarded milk and treatment costs. Despite advances in the control of mastitis caused by some species, other important bacterial species and strains continue to emerge.

Even with Kerr’s breakthrough in 2005 – a scientific advancement does not necessarily translate into a practice adopted commercially – he and other UVM research scientists continue to look for additional, and perhaps simpler, more affordable treatments of use to farmers.



UVM Holsteins

Kerr’s current work looks for ways to improve cows’ ability to resist mastitis through traditional breeding. By studying cows challenged with mastitis, and their bodies’ response, he monitors the inflammatory response at the cellular level to tease out the details of the relationship between the host defense mechanism and the disease. By identifying the critical points during an infection, he hopes to identify targets for genetic selection of resistance.

In 2008, the *Veterinary Microbiology* journal published results of Kerr’s progress in identifying an enzyme that may target the form of mastitis known as *Streptococcus uberis*, another significant pathogen.

While Kerr’s research takes a cellular-level look at the disease, John Barlow studies mastitis at the population level. By identifying the characteristics of pathogens, Barlow explores both the diversity of bacterial strains within herds and how



Cheryl Dorschner

UVM Research Scientists David Kerr, left, and John Barlow made progress this year toward identifying causes of mastitis at the cellular and population levels.

specific strains respond to control practices such as antibiotic treatments.

Barlow, a veterinarian who recently completed a Ph.D. and is the faculty advisor for UVM’s CREAM program (Cooperative for Real Education in Agricultural Management), is interested in how antibiotic use for mastitis control influences resistance to antibiotics, and how specific species and strains of bacteria may survive in the mammary gland.

His current work focuses on the major pathogens, *Staphylococcus aureus* and *Streptococcus uberis*, and a recently accepted publication in the journal *Preventive Veterinary Medicine* demonstrates how treatment of mastitis may be applied in dairy herds to reduce pathogen transmission. That means by identifying the molecular characteristics of dominant bacterial strains in herds, Barlow’s work provides information that can be used by farmers to optimize control practices.

Kerr’s and Barlow’s work is complementary in that each investigator examines different aspects of the host and pathogen interaction during mastitis, and both aim for ways that scientific discovery can be applied in the dairy barn.

“The research done in our labs and on the farm is of great benefit to farmers from Vermont to New Mexico – and everywhere in between,” says John Burke, interim chair of animal science in UVM’s College of Agriculture and Life Sciences. “Our size advantage as a small research university is that we can more quickly change, try new methods and shift our research emphasis as new information becomes available. John and David’s work continues our long history of mastitis research, and that we’re always looking at new ways to thwart this persistent problem.”



AGRICULTURE

Farming: First and Foremost a Business

UVM Extension Builds Business Plans, Brainstorms Options

Cheese lovers from Weston to Boston and beyond nod appreciatively when they hear the words “Woodcock Farm.” Weston Wheel, True Blue and, of course, Timberdoodle farmstead cheeses come to mind.

Farm owners Mark and Gari Fischer graze East Friesian sheep on 45 acres of organic pasture in Weston. By the time the Fischers first approached the UVM Extension Farm Viability Program for help in 2005, they had already produced nationally award-winning cheeses, distributed them throughout the Northeast and attracted the attention of *The New York Times*.

What the Fischers didn't have was a business plan and long-term goals. Allen Matthews, coordinator of the Farm Viability Program which is funded by a grant from the Vermont Housing Conservation Board, set up an advisory team for the Fischers – a team of experts in business, marketing, health regulations, estate planning and other fields.



“Farmers give us their information. We try to understand their accounting practices, financial plan, resources, conservation practices and objectives,” explains Matthews. “Then we look at expenses, potential income and opportunities. Each farm is a highly individual situation,” he adds.

“Allen Matthews described our business financially... what changes we'd like to incorporate for greater profitability,” Mark Fischer told the audience on UVM Extension's *Across the Fence* TV program in 2008.

While Woodcock Farm's cheese quality was undisputed, it is their business plan created with the UVM Extension Farm Viability Program that demonstrated the Fischers' seriousness to lenders and landed them a grant and a loan that they matched in order to expand their line of cheeses. Two years later, the Fischers landed a USDA Rural Business Enterprise grant through Vermont Housing and Conservation Board (VCHB) for Vermont Cheese Council members to learn French cheesemaking from a specialist from UVM's Vermont Institute for Artisan Cheese.

“Without Farm Viability we may not have done what we're doing now, it definitely was instrumental in getting us where we are,” said Mark Fischer.

“Long-term relationships are what Farm Viability does best,” says Rick LeVitre, principal investigator for the program, and associate dean of UVM Extension. “Acceptance takes time, building a



Cheryl Dorschner

UVM Extension's Farm Viability Program helps farmers create detailed and forward-looking business plans. Allen Matthews, back right, discusses a farmer's business plan with several team members. From front left, Betsy Miller, Alan Curler, and Tony Kitsos; from back left, Yvon Lanoue and Mike Dolce.

team may take two months, then we work closely for a year to develop initial recommendations.

“Follow-up is another hallmark of the Farm Viability Program,” LeVitre adds. “We always check back regularly after the initial plan.”

While not every farm experiences such rapid growth and success, Farm Viability records are full of cases where folks “may have been good farm managers, but they just haven't been making a profit,” says Matthews. “If they know how to ask for help, we can get in there in time.”

Program eligibility includes annual revenues of at least \$10,000, a history of at least three years farming and plans to continue. “We also look at their level of financial recordkeeping at the outset and how serious they are,” says Matthews. “If they don't meet these criteria, we may refer them to a different UVM Extension program that is a better match.”

“We have so many UVM Extension programs, we don't let anybody go without giving them something,” agrees LeVitre, listing the Women's Agricultural Network, farm management teams, fruit and berry specialists, farmers' hotline and other UVM Extension services tailored for particular farm needs. Farm Viability also works closely with VHCB to match farmers to sources. “Some farms need whole farm review, so we refer them to our dairy management teams. Others just need one mentor. We're so well connected that we are the ultimate referral system, too.” LeVitre continues.

Five years ago, Farm Viability began with just two specialists. Today it has served over 200 farms and focused in depth on 100 farms – including 74 percent dairy. Farm Viability team members include Mike Ghia, Greg Mruk, Steve Paddock, Betsy Miller, Yvon Lanoue, Alan Curler, Mike Dolce, Tony Kitsos and Dennis Kauppila. “Through leveraging our relationships with other organizations, we have more capable people working across the state for UVM Extension on farm business management than ever before,” says LeVitre.



ENVIRONMENT

Trees: On The Move

What Makes Hardwoods Climb Into Conifers' Territory?

In J.R.R. Tolkien's *Lord of the Rings: The Two Towers* the mythological forest of Ents marched across the land to overcome a foe and save the forest. Perhaps that's less of a leap from reality than it seems, according to new research findings published in March 2008 by UVM ecologist Brian Beckage and his colleagues.

In less than one generation, Vermont's deciduous hardwoods are taking steps up the mountainsides, invading territory previously claimed by the boreal conifers above.

While the Vermont trees don't literally take a hike, their population is on the move via seed dispersal and/or underground runners. Researchers conclude the hardwoods are taking advantage of a decline in health of the conifers and warmer temperatures that indicate rapid climate change and increased precipitation. As a result, the range of maple, beech and birch hardwoods has increased while the population of cold-climate spruce and balsam fir higher up the mountain is on the decrease – an upward shift of as much as 350 feet.

At about an elevation of 2,600 of the 4,083-foot landmark Camel's Hump, an abrupt transition to evergreen defines the ecotone – a narrow band that the hardwoods now find hospitable at the expense of the conifers. Beckage's team calculated that the population of conifers in the ecotone dropped from 43 percent to 18 percent. The hardwoods increased from 57 percent to 82 percent as the average air temperature warmed about 2 degrees F since the early 1960s.



George Cook

Camel's Hump and Lake Champlain: ecosystems in trouble.

"The fact that we found shifts here may be indicative that forests are changing throughout the region," Beckage told *The Boston Globe* reporter Beth Daley last spring as they hiked Camel's Hump for her March 17, 2008 article.

"Acid rain may be killing off trees and creating opportunity for other species," he says. Indeed, Beckage and colleagues' work has tracked this phenomenon on two other Vermont peaks: Bolton Mountain and Mount Abraham.

These peaks are similar in make up to many others in the 26 million-acre Northern Forest region that stretches from eastern Maine through New Hampshire, Vermont and northern New York State.



Joshua Brown

UVM Ecologist Brian Beckage, right, and his graduate student Carrie Pucko discovered rapid changes in Vermont's high elevation forests, to the detriment of the boreal ecosystem.

The implications are greater than just a shift in tree species. "The changes are likely indicative of broad changes in the distribution of entire ecological communities in the region," Beckage says.

This new information of the rapid change, its affect on ecosystems and the potential that this shift is occurring throughout the Northern Forest made the discovery worthy of publication in the *Proceedings of the National Academy of Sciences* (PNAS) in March 2008.

The work is also significant because of its collaboration, building on the work of Beckage's University of Vermont predecessors to create a body of work harking back to 1964. It was then that Hubert (Hub) Vogelmann and Thomas Siccama were professor and graduate student, respectively, researching how trees and vegetation changed with altitude. The duo had marked 5-by-100-foot study plots on four of Vermont's mountains. The data formed the foundation for their well-known discoveries that acid rain is damaging the mountains' spruce forests.

The change recorded on those study plots then formed the foundation for Beckage's work on which he built new data beginning in 2004 when his grad student, Ben Osborne, again surveyed a number of the Vogelmann/Siccama plots. This and additional studies of aerial photographs and satellite images by Beckage and his students gave them a 40-year window of study into the lives of trees whose life spans in ideal conditions can be measured in centuries.

Work and grant support in this area continues. "We are also modeling the future response of regional forests to future climate change," says Beckage.

Siccama, now a professor of forest ecology at Yale University; Osborne, a forester with the New York City Parks Department; grad student Carrie Pucko, UVM Proctor Maple Research Center Director Tim Perkins and Beckage are among those who share co-authorship of the PNAS article.



ENVIRONMENT

Fueling the Fire: Renewable Energy Warms Vermont Greenhouses

Biomass Furnace Project “Greens” Local Economy and Environment

Kermit the Frog said it best, “It’s not easy being green.”

But just ask Vermont greenhouse growers participating in UVM Extension’s Biomass Furnace Project what they think and they will tell you going green helps them operate in the black.

UVM Extension has developed a comprehensive approach to helping Vermont farmers make good decisions about renewable energy. On-farm workshops, energy conferences, case studies and field trials are ongoing, in collaboration with innovative farmers and other organizations.

One such program offered by Extension is the Biomass Furnace Project for greenhouse heat. “Greenhouses offer a significant opportunity for greater use of renewable energy on Vermont’s farms,” says Vern Grubinger, Extension vegetable and berry specialist, “because our greenhouse production is on the increase, as demand for local products increases.”

The 2007 Census reports 111 farms growing greenhouse vegetable crops worth \$4 million, and 226 farms growing floriculture crops worth \$15 million. The vast majority of these greenhouses currently rely on fossil fuels for heating. UVM

Extension is helping greenhouse growers adopt clean-burning biomass furnaces as an alternative to oil and propane, with a focus on fuels that can be produced locally.

To date, ten farms have taken part in the cost-share aspect of the project, funded by the Vermont Community Foundation/High Meadows Fund. The cost share is intended to help farmers take the risk associated with buying a new heating technology, and to compensate them for their time in setting it up and monitoring it. Farmers do research on systems most appropriate to the situation, decide what

to install, keep records of purchase price, fuel use and any operating issues that will help other farmers make good deci-



At New Leaf Farm in Dummerston, Elizabeth Wood uses a corn stove to heat her greenhouse.

Vern Grubinger

sions. They agree to provide this information to UVM Extension, so it can be shared through fact sheets, individual consultations, on-farm meetings and other educational events.

The biomass systems being explored by farmers in this program include: wood pellet furnaces, shell corn furnaces and stoves, a log wood gasifier, and a waste vegetable oil boiler; geothermal and automated pellet boilers are in the works. One of the farmers, David Marchant, of River Berry Farm in Fairfax, found that a wood pellet furnace cut his heating bill in half compared to propane. He shared that finding with dozens of other growers at an on-farm ‘twilight meeting.’ By facilitating a ‘learning community’ of farmers around renewable energy, UVM Extension is helping to enhance the economic and environmental health of Vermont’s agriculture.

There’s a growing consensus that farmers, along with the rest of us, need to reduce our reliance on fossil energy as well as our carbon footprint. Given the volatility in price and growing worldwide demand for a finite supply of fossil fuel, many farmers are eager to explore renewable energy options. The latest U.S. Census of Agriculture reports that gas, fuel and oil expenses for Vermont’s farms doubled in 5 years, from \$15 million in 2002 to over \$32 million in 2007. Switching to renewable forms of energy is a way for farmers to create some economic stability while doing their part to address climate change.

“Thanks for getting us kick-started down this path,” said Peter Griffin, of Old Shaw Farm in Peacham, who until recently was dependent on heating oil to heat his greenhouse tomatoes. “I think supplementing our petrol habit with wood pellets is a good fit for our scale and abilities.”

For more information visit www.uvm.edu/vtvegandberry/energylinks.html.



Cheryl Dorschner

Vern Grubinger works with farmers and agricultural entrepreneurs to cut on-farm costs with alternative energy sources.



NUTRITION, HEALTH & FOOD SAFETY

Keeping to Your Roots: A Growing Interest in Vermont Products

Researching the “Vermont” Brand

Hearing the phrase, “Vermont made” conjures up images of Holstein cows, maple syrup, farmstead cheese, wood products, and, of course, Ben and Jerry’s ice cream. But how effective are marketing strategies directed toward “Vermont made” labeling and how do they affect consumers’ purchasing choices?

Dr. Jane Kolodinsky, Chair of the Department of Community Development and Applied Economics, specializes in applied economics – the application of the concepts of demand, consumer behavior and marketing principles to improve consumer wellbeing. Most recently, her research focus has been directed at assessing the “buy local” approach to branding Vermont products.

When asked, “How does your research result speak to a ‘buy local’ approach to branding Vermont products?” Kolodinsky replied, “We have research dating back about six years that show the term ‘Vermont’ makes a difference. Consumers associate ‘Vermont’ with quality and good craftsmanship. And, they want to support the local economy when they can. Consumers understand that the working landscape can only be preserved if local agricultural products are produced here.”

The findings also indicate that ‘Vermont fresh’ agricultural products may be marketed at a premium price. “But this is a double-edged sword,” according to Kolodinsky. “Yes, there are products made in Vermont that can and should be bought at a premium. There are specific segments of consumers willing and able to pay for these. Yet 95 percent of Vermonters have said they buy local. This includes dairy, ‘pick your own’ and farmstand, not to mention maple syrup. I think that producers are recognizing there is a way to meet the needs of the ‘top of the market’ and make a profit large enough to sustain a living as a farmer, and also provide to the rest of us, who may not be able to afford

the niche products but certainly appreciate what Vermont has to offer.”



Jordan Silverman

Amy Trubek brings an anthropological perspective to Vermont agriculture and food issues. Her studies show distinctive regional flavor differences in Vermont maple, cheese and other products – differences Vermonters can bank on.

Kolodinsky indicates that distribution is the most difficult challenge right now. “Producers can produce, but distributing is more difficult. We are beginning to see a variety of models, from increases in the number of year round farmers’ markets (direct to consumers) to increases in the number of CSA’s (Consumer Supported Agriculture) to mail order and trying to get more products into the institutional market place (schools, businesses, hospitals). Supermarkets remain a challenge and small producers need to ‘share a truck’ to enhance profitability.”

Working from the other side of the “buy local” effort, Dr. Amy Trubek’s research is identifying consumer knowledge and acceptance of what “local” means. She has evaluated the inherent attributes of “place-based” products, identifying those qualities that distinguish Vermont products, such as cheese, from those produced elsewhere in the world. Her work has also evaluated consumer ability to utilize these distinguishable characteristics and to incorporate them into their home consumption efforts.



Cheryl Dorschner
Products such as Vermont maple, cheeses, grapes and apples have a distinctive flavor. This concept, called “terroir,” can help the “Vermont” brand.



NUTRITION, HEALTH & FOOD SAFETY

Building Healthy Communities One Coalition at a Time

Taking a Seat at the Table, Improving Community Nutrition

Many hands make light work. In challenging economic times, partnerships provide the key to identify and solve community problems – and maximize resources.

In Rutland County, the incidence of health conditions related to poor nutrition continues to rise. For over a decade, numerous organizations tried independent approaches to improving nutritional awareness and practices. Yet, statistics show health benchmarks in Rutland County continue to deteriorate. Organizations often serve discrete populations, occasionally duplicate efforts, and are hampered by limited resources, making it difficult to have a comprehensive impact on the community.

Vermont Department of Health studies show Rutland County has extremely high rates of obesity. Nearly 17 percent of Rutland County children enrolled in the Women, Infants, and Children program (WIC) are identified as overweight – the state's highest rate. Studies also identify 21 percent of adults as obese. Obesity increases the likelihood of chronic diseases such as diabetes, high blood pressure, heart conditions, and anemia. However, cost-benefit analyses show that every dollar invested in nutrition education can save four to ten dollars in future health care costs. Weighty statistics.



File Photo

The health benefits of good nutrition start early and last a lifetime.

In early 2007, the Rutland County Nutrition Coalition formed to integrate programming and engage community awareness. Members represent a cross-section of professional organizations which recognize the critical role proper nutrition plays in improving physical health and mental wellbeing, and with the single mission to “identify, prioritize, respond to, and advocate for the nutritional needs of Rutland County residents.”

Funded by a \$35,000 grant from the James T. Bowse Community Health Trust, more than ten partners began to develop a clear picture of county programs. “Learning what other programs in the health and wellbeing profession are doing is another aspect of the Nutrition Coalition,” according to Bethany Yon, Public Health Nutritionist at the Vermont Department of Health in Rutland. “We can share resources and leverage our strengths.”



Lani Duke

Rutland County Nutrition Coalition members Karen Schneider, UVM Extension Community and Leadership Development Specialist, and Lisa Velasquez, of the Breastfeeding Project of Rutland County, discuss their common goals.

UVM Extension Community and Leadership Development Specialist Karen Schneider facilitated Coalition meetings, helping the group clarify goals and objectives, and make informed decisions. By bringing partners to the table to assess issues, gather and evaluate survey data (conducted by the UVM Center for Rural Studies as part of the grant funding), she utilized UVM Extension's infrastructure, connections and resources. Schneider is also a nutritionist which enabled her to speak expertly on obesity, health and nutrition.

A Rutland County resident, Schneider has first-hand awareness and understanding of community nutritional needs. “Karen has been most helpful in reminding the group members of the immediate need for action in our community in the area of improved nutrition. Karen is great at ‘connecting the dots’ of our common concerns and hope for improved nutrition in the future,” noted Sue Bassett, Coordinator, Rutland Community Cupboard, a Rutland Area Food Shelf.

Schneider helped the Coalition identify four long-term goals and potential impact each could have throughout the county: increasing awareness of nutritional issues; integrating good nutritional practices into residents' lifestyles; seeing steady decline in child and adult obesity rates, more in line with state and national levels; and increasing cooperation and coordination between organizations.

The Coalition realizes that inviting new partners is needed to maintain sustainability, fresh ideas and community engagement. “Karen has been instrumental in developing a partnership between the Rutland Area Physical Activity Coalition (RAPAC) and the Nutrition Coalition. Her experience, leadership and insight has helped these two organizations seek funding for collaborative projects to address the obesity epidemic in Rutland County. Her presence in Rutland is a valuable asset to these community-based organizations,” said Jennifer Nixon Carter, Executive Director, RAPAC.



ECONOMIC DEVELOPMENT & QUALITY OF LIFE

Grapes: Vermont's Next Big Thing

Cold-Hardy Cultivars Change Vermont's Rural Landscape

In chilly April, when the landscape is leafless but not lifeless, only keen eyes notice buds swell along stems of 'La Crescent' wine grapes – a subtle harbinger of spring in a Vermont vineyard.

Sarah Kingsley-Richards has just such keen eyes. She records 'La Crescent's' and other cultivars' baby steps at UVM's Horticultural Research Farm. The dates of bud swell, bud break, new shoots, bloom, grape formation and other markers known as "phenology," form queues and columns in her notebooks. Nothing escapes her.

Kingsley-Richards is a research technician for the University of Vermont's new grape growing trials, which will become a multi-state research project in 2009. Directed by Professor Lorraine Berkett, she, Research Specialist Terry Bradshaw and other members of the "UVM Grape Team" prepared for this collaborative research.

"The vineyard really took shape this year," Kingsley-Richards told colleagues at a seminar on campus in December.

"In 2007, when we planted these pencil-like canes with their enormous roots, six feet between the vines and 10 feet between the rows, it looked like we planted a field of twigs," Kingsley-Richards remarked.



'Frontenac' grapes

Growth in 2008 was a contrasting story. Vines quickly covered high-wire, cordon trellises.

"We assess winter survival, prune out winter damage, monitor growth, train, train, train (the vines), assess disease and insect activity and monitor berry development for sugars, pH and total acidity," says Kingsley-Richards.

In August 2008, the payoff – the first crop ripened. But hold the corks. Birds beat the researchers to most of the harvest.

"We'll figure out how to deal with that," Kingsley-Richards said practically.

"The goal is to evaluate the performance of named, released, cold-hardy and disease-resistant wine-grape varieties to determine their potential for Vermont," explains Richards. UVM represents the coldest winters and coolest growing seasons of its research partners nationwide.



Lorraine Berkett

UVM Hort. Farm produced its first crop of cold-hardy, short-season wine grapes in 2008. Sarah Kingsley-Richards monitored the crop as part of a multi-state study that will help Northern wineries.

Eight cultivars – four reds and four whites – are on trial. Additionally, eight table-grape cultivars form a buffer around the wine grapes. While table grapes are not part of the study, they are of great interest to Vermont's expanding cadre of growers.

In 2008, records show that 'La Crescent' best survived the first winter, followed by 'Prairie Star.' More importantly, nearly all survived. This is great news for Vermont growers and wine lovers.

Berkett works closely with a number of Vermont vineyards and developed a UVM Extension program on cold-climate, wine-grape production for Vermont's 13 to 16 wineries.

Typical of those is Shelburne Vineyard and Winery, where Gail and Kenneth Albert grow five varieties also in the UVM trials. Their vines hark back a decade, yet as Kenneth says, "we're so far from grape-growing centers, that Lorraine Berkett has been a great help connecting us to resources and holding workshops with top experts. Her expertise in pesticide issues has been valuable as well. There's nothing like having a university gather data on varieties we're growing."

The feeling is mutual. UVM students have interned at Shelburne Vineyard and Winery for nearly a decade with the obvious benefit to both parties. An unexpected bonus that Kenneth notes is that early interns became welcome colleagues and resources. One owns a young Vermont vineyard; another is a prominent wine-maker in California's Napa Valley. "We couldn't have done this (business) without our UVM connections," says Kenneth.

"People here are either brave or crazy or both," wrote Mark Chien, wine grape educator for Pennsylvania State University Cooperative Extension, after visiting vineyards at UVM, the Alberts and a few others last August. "They are true pioneers, forging a commercial wine industry with real and really good wines in a place where it was not realistically possible even a decade ago. It is thrilling to be here and share in their enthusiasm."



ECONOMIC DEVELOPMENT & QUALITY OF LIFE

Safety First: Savings Second

Best Practices Cut Insurance Costs

In the barn, in the equipment shed, in the feed bills, in the employee roster – nowadays, dairy farmers must look every single place for ways to save money.

George Cook has identified an unexpected place to save on farm costs – farm safety.

As University of Vermont Extension's Farm Safety Specialist, Cook has worked with Vermont dairy farmers for 30 years to make farms safer places, because accidents are heart wrenching and life changing.

And, the fact is, accidents are also expensive. Medical bills, workers' compensation, lost time, reduced wages and insurance costs all make farm accidents costly for years to come.

The Vermont Farm Safety Pilot Program began in October 2007 as a partnership among UVM Extension, Vermont Dairy Task Force, Vermont Agency of Agriculture and Vermont Department of Labor to educate farmers on training their employees about safety issues in order to reduce farm injuries and accidents. With Cook coordinating the program groups have conducted educational programs at four sites statewide, performed farm safety audits, assisted farmers in developing custom farm safety plans and conducted follow-up sessions after the first year.



George Cook shows chainsaw safety gear.

Twelve farms signed on during the first year. Participating dairy farmers must commit to a farm-safety audit on their farm, agree to follow through on recommendations, identify someone as farm safety manager to implement the program on their farms, develop and implement an individualized plan and conduct monthly on-farm safety training meetings with their employees.

Aaron and Chantale Nadeau did all that on their farm in Derby: Top Notch Holsteins, named a Vermont Dairy of Distinction by the Vermont Dairy Promotion Council. The Nadeaus are always on the lookout for ways to improve.

"With the help of UVM Extension, we conducted a safety audit and made our farm a safer place for our employees," says Chantale. "For example we hung safety posters, showed employees DVD training sessions, and we include seasonal safety tip sheets in our workers' paychecks."

In May 2008, the Nadeaus and another participant in the



George Cook discusses safety hazards common in the farm shop and tool shed during an orientation workshop for farmers.

Vermont Farm Safety Pilot Program, Eric and Jane Clifford of Starksboro, reported to their insurance carriers on the changes they had implemented as a result of the program. The farmers asked whether they could realize insurance rate reductions in response to those changes.

It worked. Farmers dedicated to safety may be eligible for significant workers' compensation insurance savings. One farm reported a 15 percent discount; the other saved 25 percent per year on insurance premiums. The savings ranged from about \$8,000 to \$48,000.

"Both farmers say that an active safety program was the key factor that brought down their rates," according to George Cook. "Every farm is distinctive, so other considerations come into play in determining insurance needs and rates, but I am encouraged that insurance companies already recognize the value of our fledgling Vermont Farm Safety Pilot Program."

Meanwhile, during the 2008 state legislative session, lawmakers made changes concerning workers' compensation, first aid and regulation details that call for farm safety educational programs that help dairy farmers to reduce their workers' compensation costs and require farmers to assume an active role in making farms safer.

UVM Extension and its partner organizations are gathering data on the farms' claims and workers' compensation costs. The program was so successful that it continues in 2009 with new participants.

"Many people know well UVM Extension's reputation for helping farmers, but don't realize that we're always coming up with new programs tailored to farmers' needs," says Cook. "By listening to Vermont dairy farmers' needs and suggestions, UVM Extension, the Vermont Agency of Agriculture and the Vermont Department of Labor cooperatively developed the Vermont Farm Safety Pilot Program. We use follow-up conversations to update and improve the program."



DEANS' MESSAGE

Foundation: Research, Teaching and Extension

The Lines that Divide Us are Invisible

The Vermont Agricultural Experiment Station (VT-AES) and University of Vermont Extension tackle issues of agriculture, environment, nutrition and food safety, health, and community and economic development.

Our faculty and staff add new information to the body of knowledge in their areas, enliven classroom discussion and research practical solutions to rural and urban Vermonters' problems – extending the reach of research from campus to community.

Research, teaching and Extension – three separate missions that are, in practice, inseparable. Many VT-AES researchers are also teaching faculty members, and some have UVM Extension responsibilities. Likewise, some UVM Extension specialists have secondary college appointments. Many collaborate with state and nonprofit organizations to create research-based programs, workshops and educational materials for Vermonters. This Annual Report summarizes that work.

For the first time, this publication is just a sampler of the full report. Here we tell two important stories in each of our four primary research areas. Our readers are encouraged to visit our web pages for the entirety of our projects (see www.uvm.edu/extension and www.uvm.edu/vtaes).

The adjacent charts and our websites report our financial resources during fiscal year 2008 (Oct. 1, 2007 through Sept. 30, 2008). This year our numbers demonstrate success that far outperforms our resources.

The VT-AES budget represents nearly \$8.9 million in research funding – a \$1.6 million drop from the previous year. Proudly, more than \$5 million represents grants and contracts garnered by our research scientists themselves.

Meanwhile, UVM Extension's budget increased to \$12.2 million. Of this, nearly \$5 million came from grant and contract funded outreach programs which reached Vermonters through added personnel and volunteers in Extension offices across the state.

But it is not all good news.

As we write, we are experiencing plummeting state, federal and grant funding. It is not clear what cuts we will be forced to make, nor the effect these cuts will have on our nationally renowned research and outreach.

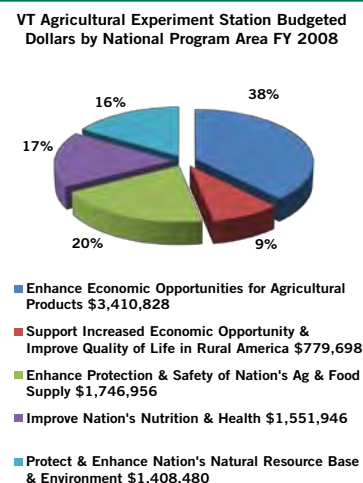
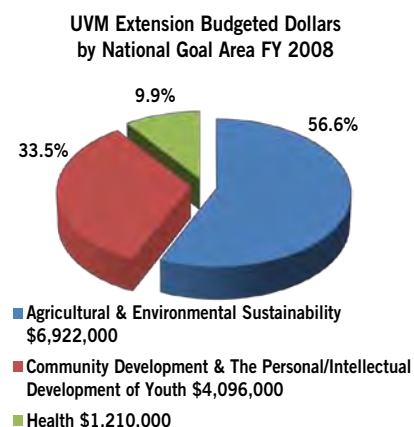
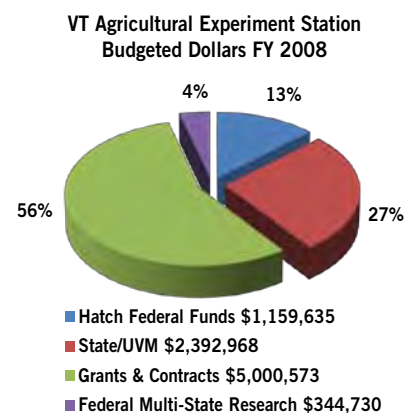
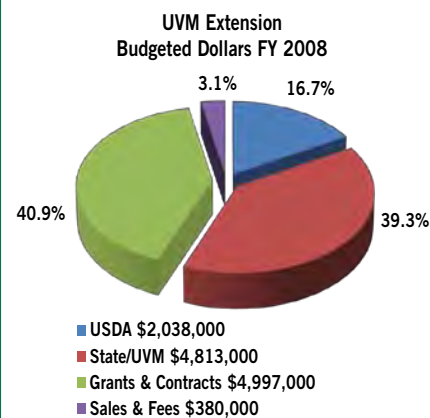
This we do know: in our history of more than a century, the State Agricultural College, Vermont Agricultural Experiment Station, UVM Extension and the University, have weathered every manner of change from the Civil War to the Great Depression. We are still here. We will continue to be here, and we will always make an important difference in Vermonters' lives. Our emphasis on farm, family, food, environment, energy and community makes our work even more valuable during difficult times.



Douglas O. Lantagne
Dean and Director
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Thomas C. Vogelmann
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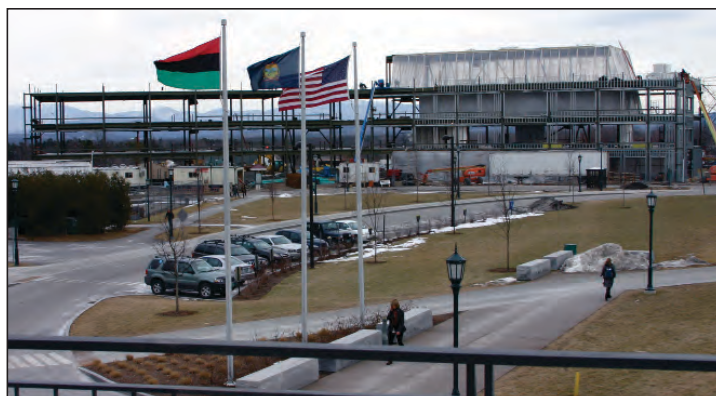
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Construction of James M. Jeffords Hall began on the UVM campus in 2008. The state-of-the-art plant biology laboratories, seminar space and classrooms will be a significant step forward for the research scientists of Vermont Agricultural Experiment Station and UVM Extension faculty.