

2008 University of Vermont Combined Research and Extension Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

Vermont is a small, predominantly rural state, making the goal of UVM Extension and the Vermont Agricultural Experiment Station AES working collaboratively with state agencies, private corporations, and other funding sources the natural path to success for all. This has been the explicit goal of UVM's Agricultural Innovations Initiative -- to fund basic research by faculty innovators who turn their research into external projects, in many cases working with Vermont farmers to conduct tests on site, and as future resource suppliers with new markets opened for their products. A successful example includes Hardwick, Vermont, a town self-described as being "saved by food," as agricultural entrepreneurs working with UVM and other institutions and businesses are expanding production, reaching out to investors and collaborating to create a collective strength that revitalizes the town's economy. Over 100 jobs have been created through innovative local food enterprises and now these entrepreneurs are investing in a Center for an Agricultural Economy, a non-profit industrial center for agricultural businesses. The goal for the Center is to lead the way in generating a comprehensive food system that creates healthy communities and a revitalized economy. UVM is one of many players in this picture, having contributed through research and outreach to develop opportunities for farm by-products, such as whey used to produce a patented, safe wood finish now commercially sold through a Hardwick company and supplied by local farms, and by adding value to organically grown foods, such as innovative soy-based food and beverage products.

Over the past ten years, UVM Extension has seen the annual amount awarded for sponsored programs more than double. During FY2008, of 62 proposals submitted, UVM Extension received 53 awards totaling nearly \$5 million. VT AES conducted 52 programs in 2008, with 14 programs utilizing both Hatch and Smith-Lever funding and personnel. VT-AES research has led to ten new patents, including technology that has enabled Vermont maple producers to increase quality sap extraction by up to 20 percent. Another is for a lysine molecule isolated in a phage (a bacterial virus) which acts as an effective antibiotic for certain bacteria. This discovery is especially helpful in a time when many strains of bacteria are developing resistance to conventional antibiotic treatment. UVM has also developed a way to help address rising phosphorus levels in surface waters that promote algal growth. A patented UVM system uses an inexpensive and portable series of filters to trap 95% of phosphorus using molecules to which the element is naturally attracted. UVM Farms are being renovated after a thorough development plan and vetting, followed by in-depth stakeholder involvement over a full year, in order to provide farms with a direct link to 21st century design alternatives, and to share model on-farm systems, farms can observe in operation and adopt, as needed.

Vermont's Extension and Agricultural Experiment Station exceeded 2008 goals in reaching underserved audiences. Due to Vermont's low ethnic diversity (3 to 5 percent, depending upon the census definition used), and high economic and resource access disparity, outreach efforts in Vermont often focus on the latter groups, as well as working to increase nontraditional representation in agricultural, technology and science fields. During FY 2008, UVM outreach personnel recorded approximately 37,000 direct contacts, including contacts with more than 6,000 youths. Over 1200 volunteers provided about 24,000 hours of volunteer time toward projects.

UVM research and outreach efforts are augmented by UVM's Centers of Excellence which help to coordinate, conduct and promote research supported by Hatch funds, and leverage competitive private and public grants, sponsorships, and donations. These centers also utilize citizen advisory boards to inform and guide a research and outreach agenda that is responsive to local, state, and national needs and priorities. UVM's Center for Sustainable Agriculture provides an interdisciplinary approach to integrating university and community expertise to promote sustainable farming systems throughout Vermont and the region. Research addresses consumer needs, includes mapping farm stands and Community Supported Agriculture distribution across the state, and identifying local food "hot spots" and food "deserts" where fresh, local foods are difficult to access, around Vermont. Also, technical assistance is provided for groups working to develop urban and rural regional foods hubs. Center for Sustainable Agriculture's Extension staff members address farmer needs through programs such as the Farm Enterprise program, Beginning Farmer and Land Access program and the Pasture program, which work to increase farm success through business planning, land access, and offer novel opportunities to reduce farm costs through cooperative animal feed and labor ventures. There is an increasing interest in diversified, small scale farming practices and their economic impact on Vermont's economy and its 1,250,000 acres of farmland. The latest USDA census indicates that nearly 5,000 of the 6,571 Vermont farms included in the most recent USDA census were grossing less than \$50,000, and almost 94% of Vermont farms are classified as "small farms", with only 451 of Vermont 6,571 farms (<7%) grossing more than \$250,000. UVM's Farm Viability team has provided direct on-farm diversification exploration services to nearly 200 farms, representing 82,600 productive farmland acres, in the past two years, with 90 percent

reporting they had taken action on their plans that increased farm income. A collaborative effort with Northern Forest partners compares two community-based firewood programs for home heating as part of an overall goal of achieving energy independence in heating and power generation. Local sustainability indicators are being developed to assess impacts. Results will be used to develop biomass models for other communities, as well as support university-community partnerships for more effective adaptive decision-making in the Northern Forest. UVM's Center for Rural Studies connects information and technical expertise with communities, businesses and policy makers in researching rural issues and information dissemination. UVM's Proctor Maple Research Center (PMRC) applies research to the production of maple sap and syrup for Vermont's "winter crop." Research through the PMRC has shown annual mapling production records to be a useful long term climate change information source.

Interdepartmental research and education collaborations also contribute to expanding outreach and entrepreneurial capacity. For example, a new Food Systems Research Collaborative being developed is forging public-private partnerships not previously explored. One internal manifestation of this is UVM's quality accredited dietetics program offered a new program for its first five students -- an M.S. in Dietetics that expands student knowledge and career capacity by combining human nutrition expertise in obesity with food science expertise in food safety and food systems. UVM also has a Memorandum of Understanding with the town of Hardwick for conducting research on local food system entrepreneurship opportunities. VTrim, a UVM concept taken from seed to patented business status, provides millions of people worldwide the opportunity to lose weight based on 14 years of research demonstrating a program made for success (<http://www.uvm.edu/vtrim/>). Since the program shows significant weight loss occurs within six months of entering the program, whether conducted in-person (average loss of 21 pounds) or online (average loss of 10 pounds), the program can reach many more people to address obesity concerns. UVM's Vermont Institute for Artisan Cheese (VIAC) is the nation's first and only comprehensive center devoted to artisan cheese has created a framework for new research and outreach opportunities to improve cheese safety, cheese milk quality, and sensory evaluation of cheeses. Researchers have determined better methods for detecting pathogens in raw milk and farmstead cheeses; demonstrated low incidences of pathogens in raw milk farmstead cheeses, especially when produced on farm, and identified points of control in monitoring and controlling for pathogens during cheese production. Recent research has also noted how the 60-day aging requirement does not ensure safety of certain soft cheeses, whether manufactured from raw or pasteurized milk if a pathogen is introduced after the processing stage. VIAC offers cheesemaking certification courses and public programs to increase understanding of the cheesemaking process and products.

UVM Extension's outreach programs provide farmers with skill development in on-farm soil and crop health, and animal care and husbandry, as well as on-site business plan development and implementation, and value-added entrepreneurship.

Through programs such as Healthy Eating, Senior Farm Share, and Growing Connections, toddlers, youths, low-income families, and seniors on fixed incomes are target audiences for programs designed to increase access to, skills in preparing, and rates of consuming, fresh fruits and vegetables. Community and youth development programs focus on rural issues, including a Migrant Education Recruitment Program ensuring children of migrant farm workers are aware of the educational support services available to them; a Vermont AgrAbility Project to assist farmers with disabilities to maintain employment by developing of accommodations for their disabilities; a Rural and Agricultural VocRehab Program to assist individuals with disabilities living in rural areas by providing them with a variety of services tailored to their needs in order to maintain or obtain their selected employment outcomes; UVM's 4 H program to deliver educational programs to all youth developing life skills, with extra effort in place to target urban areas and activities for teen audiences, as well as limited resource families and at-risk youth; and Women's Agricultural Network to assist women enter the business successfully.

A total of \$856,100 was spent by UVM Extension and VT-AES on integrated projects. These include projects that are:

- increasing sap yields for maple producers with vacuum technologies
- reducing phosphorus runoff into waterways through portable wastewater management technology;
- helping Vermonters to identify food-related behaviors associated with healthy weights, including how dinners are produced, the percent of time eating out, and the number of hours TV is watched. and monitoring their weight and calorie intake using daily journals;
- providing more Vermont towns with useful planning data and resources, decision-making tools and training
- providing artisanal cheesemakers with new certification programs, courses and events that help them gain skills in cheesemaking, safety, tasting and sensing, and promoting their products; and developing new markets and value-added products for farmers throughout the state through research, on-farm testing, marketing links and connections with entrepreneurs, and patenting products.

UVM Extension and VT AES multistate projects are increasing the level of coordination and cooperation among rural development specialists in northeastern land grant universities. UVM's Equine program "HorseQuest" developed the first eXtension site of its kind has provided users from across the country with resources and advice on horse care. UVM's IPM, apple, wine-grape and vegetable and berry programs work regionally with other New England states and New York, as well as with other states having similar climates to develop cold-hardy varieties resistant to pests encountered. VT AES is working in Washington, D.C. to create markets and regional hubs for agricultural specialty crops, such as those that immigrants from more tropical parts of the world than Vermont would find familiar and easier to use in food preparation. Results of a multistate health project involving Vermont and Arkansas, built upon 14 years of weight loss research conducted by UVM, demonstrate the copyrighted VTRim program leads to weight loss after 6 months for a majority of participants, regardless of whether they participate using internet only (average loss 10 pounds), internet and in-person meetings (average loss 15 pounds), and in-person meetings only (average loss 21 pounds).

Extension Faculty and staff at the University of Vermont Extension and Agricultural Experiment Station (VT-AES) are focused on meeting the needs of the state's citizens. These experienced and innovative professionals continually work to integrate higher education, research and outreach services to protect and enhance a quality of life characterized by a thriving natural environment, a strong sense of community, and a deeply rooted connection to agriculture. Though our research conclusions offer lessons nationwide, even globally, Extension and the VT-AES apply the results closer to home, in our own communities, helping people where they live, cultivating healthy communities.

Total Actual Amount of professional FTEs/SYs for this State

Year:2008	Extension		Research	
	1862	1890	1862	1890
Plan	59.7	0.0	13.8	0.0
Actual	50.4	0.0	13.9	0.0

II. Merit Review Process

1. The Merit Review Process that was Employed for this year

- External University Panel
- Expert Peer Review

2. Brief Explanation

Maine, Massachusetts, New Hampshire and Vermont Cooperative Extension entered into a formal partnership in 2004. As a result of this partnership the four states agreed to provide Merit Review for each other on a rotating basis. One state will be reviewed each year. A merit review score sheet was developed so the process would be similar in each state. This process gives each state, on a four year cycle, input from three different state's review teams. Vermont is second in the rotation and will have a completed Merit review by January 2009.

In each state, staff volunteer to be on a review team of 2-4 individuals for one Planned Program using the criteria developed by the four states. Because Vermont files a joint report with Ag Experiment Station (AES) reviewers from AES from the three states as well as one Northeast Representative were included on review teams.

It is each state's responsibility when being reviewed to provide a list of Planned Programs and access to those files for reviewers. This is facilitated by the New England Planning and Reporting system the four states share. Vermont chose to submit the planned programs in a format very close to what the federal software collects because that is how AES and Extension are combined in a planning and reporting format.

The merit review input will be considered as we update our 2010-2015 Plan of Work. We look forward to the outside review and have a January date to work with faculty and key program staff to consider the input in our next 5 year plan of work update.

III. Stakeholder Input

1. Actions taken to seek stakeholder input that encouraged their participation

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey of the general public
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals
- Survey of selected individuals from the general public
- Other (program participants)

Brief Explanation

The State advisory board for UVM Extension continues to meet with administration and key program staff. The advisory board members are stakeholders. Regular weekly communication is sent to them from the Director with an open invitation for feedback and discussion. Focus groups are used to gather additional input from traditional and non-traditional stakeholder groups.

Extension staff reaches out to partners, collaborators and program participants. The Department of Health and a variety of Vermont School food service managers participated in developing approaches to assist school cooks in the implementation of a food safety program. Numerous planning meetings regarding the Vermont Farm Safety Program were held to gain input from farmers, VT Agency of Agriculture personnel, Vermont Farm Bureau, the VT Dairy Task Force, AgriServices and others. In an agricultural marketing project, time was spent at a travel industry conference talking with farmers that are involved with agri-tourism, internet sales and other value-added products to assess their needs in terms of future marketing programs.

Questions are included in participant surveys and other communication gathering input on program relevancy and stakeholder interest and priorities.

VTAES is advised by the Board of Advisors for the College of Agriculture and Life Sciences. Board members, appointed by the Dean of the College of Agriculture and Life Sciences, represent leaders in agriculture, small business, sustainable agriculture, food and nutrition, biology and life sciences, rural community development, higher education, and public affairs. Terms for members are for three years, with members allowed to serve up to two consecutive terms. The Board meets two times each year to advise the College of Agriculture and Life Sciences and Vermont Agricultural Experiment Station, and other times at the discretion of UVM's president and provost. In addition to assisting Vermont Agricultural Experiment Station in identifying trends, issues and new developments in each of the CSREES-defined national goal areas, the Board advises the group on formulating strategies, setting priorities, developing resources, reviewing program plans, and cultivating relationships to bring about learning experiences, field-based research, and employment opportunities for students.

Each year working with UVM's Center for Rural Studies, the Vermont Agricultural Experiment Station and UVM Extension seek input from an annual Vermonter Opinion Poll. UVM Extension has supported conducting the representative survey of Vermonters since 1990.

This year, an extensive, in-depth stakeholder process including traditional and nontraditional groups provided additional input to assist VT AES and the College of Agriculture and Life Sciences to develop a UVM Farms development plan to bring 21st century farm technology to the public and farmers.

2(A). A brief statement of the process that was used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

1. Method to identify individuals and groups

- Use Advisory Committees
- Use Internal Focus Groups
- Use External Focus Groups
- Open Listening Sessions
- Needs Assessments
- Use Surveys

Brief Explanation

UVM Extension selects board members from a cross section of disciplines and program areas in which the organization provides educational opportunities, including one youth member. Members represent UVM Extension and not the individual disciplines or program areas from which they were selected for board discussions. Partners provide information about individuals and groups broadening our awareness of stakeholders and their needs. Extension field staff live and work in communities serving as links to existing and potential stakeholders.

Board members, appointed by the Dean of the College of Agriculture and Life Sciences, represent leaders in agriculture, small business, sustainable agriculture, food and nutrition, biology and life sciences, rural community development, higher education, and public affairs. Terms for members are for three years, with members allowed to serve up to two consecutive terms. Additionally, open listening sessions this past year informed VT AES of additional stakeholders to invite to provide feedback regarding how to best develop UVM farms for a 21st century audience.

2(B). A brief statement of the process that was used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them

1. Methods for collecting Stakeholder Input

- Meeting with traditional Stakeholder groups
- Survey of traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey of traditional Stakeholder individuals
- Survey of the general public
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional groups
- Meeting specifically with non-traditional individuals
- Survey specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public
- Survey of selected individuals from the general public

Brief Explanation

Stakeholder input is gathered with the on-line planning and reporting system. As individuals report work efforts they include any stakeholder input gathered during that effort.

Stakeholder input is gathered with a variety of surveys and evaluation tools (on-line, both pre and exit surveys), input from technical and advisory boards, the Vermonter Poll and the Extension web based reporting system. Feedback from program participants and collaborators are taken into consideration when program revisions are made. As extension staff report work efforts, they include any stakeholder input gathered during that effort. For example, a survey was distributed to the professional co-facilitators of Dining with Diabetes to solicit feedback with regard to the course. In one agriculture business management program, postcards were sent directly to farmers. These were people with previous experience working on finances with Extension, some at last year's clinic, some during the year, and some from phone conversations, or email. Twenty called back to say they were interested in meeting this year.

3. A statement of how the input was considered

- In the Budget Process
- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- In the Staff Hiring Process
- In the Action Plans
- To Set Priorities

Brief Explanation

The State Advisory board is communicated with on a weekly basis from the Dean in addition to meeting twice a year. They are encouraged to respond to the Dean so he may use their input as he considers issues at hand.

This past year, VT AES directly applied input gained from designed stakeholder events held over a full year to inform the design and adoption of a UVM Farms development plan.

Results from surveys and exit evaluations from previous years are used to develop programs for the current year. For example, in one program, staff heard from many growers that they really want a more hands-on format for their workshops. As a result we are essentially eliminating Powerpoint presentations. Input affects both content and delivery method.

In another farm share program, we received feedback from the meal-site managers on our Senior Farm Share project. They were not comfortable using the lesson plans we created which included food demonstrations (nor did they feel they had the time to devote to hands on teaching). Therefore this year we are using a different approach (Local Foods Celebration Day) with the hope of increasing participation and increasing the use of the educational materials developed.

In some community outreach programs, stakeholders have been pleased with the advances and level of participation of youth. School administrators were also interested in not only our supporting their efforts this year, but based on the success of the programs, have invited us back to provide programming again next academic year.

UVM Extension has several examples of outreach program shifts resulting from farmer input in FY 2008. For example, when beef producers contacted UVM Extension professionals, they expressed an interest in increasing pasture forage use as corn prices rose, UVM Extension professionals provided additional workshops on using pasture forage. In FY 2008, the Farmer's Watershed Alliance provided content recommendations for a "Growing by Design" field day. They also helped advertise to bring in farmers from the region. The Farmer's Watershed Alliance helped develop the assessment tool used to evaluate a farm's environmental risks, brought farms to the table for assessment, and helped to conduct the assessments.

UVM Extension water quality projects benefited from stakeholder input gathered. Municipal officials participating in workshops identified potential sites for application of bioengineering for erosion control and requested workshop on site evaluation. Lake association leaders set the agenda for meetings and identified priorities for trainings. Resident surveys identified education priorities. Water quality initiatives utilized feedback from the Lake Champlain Federal Partners Group, VT Agency of Natural Resources Water Quality Division, VT Agency of Natural Resources Basin planning groups, Regional Planning Commissions, watershed and lake organizations, university research community, and municipal officials, and from advisory committees for Lake Champlain Sea Grant, UVM Extension and UVM Rubenstein School to develop appropriate needs assessment, priority setting and project design.

Food safety programs, such as the Good Agricultural Practices (GAP) program, included formal stakeholder input gathering as part of the programming. A survey conducted in 2003 of master and home gardeners in New England showed that home gardeners, while acknowledging they could get sick from produce, did not understand that contamination could come from soil, compost, manure or water supplies. Using the feedback from home gardener surveys, a "train the trainer" program to prepare Master Gardeners (MG) to train home gardeners was developed.

4-H gathered stakeholder input at a State 4-H Leaders Forum from dairy producers, dairy industry representatives, 4-H leaders and members. The group strongly indicated the need for biosecurity guidelines for livestock at 4-H shows, fairs and field days. With fewer children growing up on farms, there is a growing population of 4-H members that depend on other farms that lease their animals, thereby increasing the need to practice good biosecurity measures so diseases are not brought back to farms. Vermont Fair Association chairs and members have expressed their concern to UVM Extension faculty and staff about children potentially becoming sick from petting the animals at the fair. This led to a training coordinated with the Vermont Agency of Agriculture to develop plans, good on-farm behaviors, and responses to animal disease outbreaks. UVM Extension also works with the Vermont Agency of Agriculture, Foods and Markets with the 4-H Embryology project to provide USDA materials such as DVDs, calendars and bookmarks to increase awareness of

biosecurity relating to poultry. This information is included in packets each participating school receives. These materials address stakeholder concerns and questions relating to biosecurity and avian influenza.

Brief Explanation of what you learned from your Stakeholders

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1607419	0	1504365	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	1639345	0	1813955	0
Actual Matching	3823301	0	1921391	0
Actual All Other	2208237	0	0	0
Total Actual Expended	7670883	0	3735346	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous years				
Carryover	0	0	0	0

V. Planned Program Table of Content

S. NO.	PROGRAM NAME
1	Health
2	Agriculture and Environmental Sustainability
3	Community Development and the Personal and Intellectual Development of Youth

Program #1

V(A). Planned Program (Summary)

1. Name of the Planned Program

Health

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
501	New and Improved Food Processing Technologies	1%		1%	
502	New and Improved Food Products	0%		1%	
503	Quality Maintenance in Storing and Marketing Food Products	0%		3%	
511	New and Improved Non-Food Products and Processes	0%		2%	
512	Quality Maintenance in Storing and Marketing Non-Food Products	0%		1%	
703	Nutrition Education and Behavior	71%		46%	
704	Nutrition and Hunger in the Population	2%		39%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.	3%		1%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins	8%		1%	
802	Human Development and Family Well-Being	15%		4%	
903	Communication, Education, and Information Delivery	0%		1%	
Total		100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	8.0	0.0	2.0	0.0
Actual	3.2	0.0	2.6	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
179585	0	386962	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
418830	0	479596	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
23132	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Brighten my Life w/Fruits and Vegetables: Curriculum for use with WIC families. The primary goal is to increase the number of times fruits and vegetables offered each day to toddlers enrolled in WIC
- Coping with Separation and Divorce (COPE): Parent education for parents of minor children who have filed for separation, divorce, dissolving of a civil union, parentage, changes in rights and responsibilities concerning their children. This is a court mandated program.
- Diabetes Education: Dining with Diabetes (DWD) This class, designed for diabetics or those preparing food for diabetics, provides practical nutrition information and skills development on how to prepare healthy
 - Food Preservation, Safety and Sanitation: Food safety and sanitation program targeted at institutional food service managers and workers with the goal to increase knowledge of food safety and improve food handling practices in school foodservice operations. This course is a prerequisite for Hazard Analysis Critical Control Point (HACCP) program mplementation.
- Food, Culture, and Reading: A train-the-trainer session for volunteers/teachers to implement the 6 lesson curriculum for pre-kindergarten through grade 2
- GAP: Home owners good agricultural practices
- Growing Connections: A program for youth that teaches nutrition, food safety, and food security issues through gardening.
- Hazard Analysis Critical Control Point System (HACCP)-a mentoring model: Training and Implementation Pilot, for Vermont School Food Service, statewide: Determine "best practices" and implementation strategies for successful HACCP programs used in school foodservice operations.
- Healthy Eating: Nutrition classes designed for a wide range of people, with an emphasis on national Dietary Guidelines. Participants learn the latest information about how to choose a healthy diet, practice food safety and incorporate physical activity into their day
- Local Foods: Project focuses on access, quality, and preference of local foods.
- Senior Farm Share Nutrition Program: Nutrition education for low-income Senior Farm Share participants aimed at increasing their consumption of local, fresh produce by enhancing participants skills to prepare fresh fruits and vegetables and gain nutritional knowledge based on the Dietary Guidelines.

AES efforts:

- Internet based and telecommunication methods for weight control
- Development and evaluation of web-based instructional material for college-level teaching and delivery of such for nutritional education/management
- Nutritional management: increasing fruit/vegetable consumption and enhancing understanding of consumer food choices
- Childhood nutrition and obesity control research
- Detection and elimination of *Listeria monocytogenes*, *E. coli* and other pathogens in dairy products including raw milk cheeses
- Production methods to eliminate pathogen risk in raw milk cheeses

- Elimination of lactate crystals and other flaws from cheese production
- Elimination of pathogens in food production systems

2. Brief description of the target audience

4-H: Youth

- Adults
- Age 13 - 18 Youth
- Age 25 - 60 Adult
- Age 46 - 65 Adult
- Age 6 - 12 School Age
- Age 60 - Senior
- Age 8 - 18 Youth
- Agriculture: Home Gardeners
- Communities: Community Action Agencies
- Communities: Educators
- Communities: Local Officials/Leaders
- Communities: Non-Governmental Organizations
- Community leaders and citizens
- Extension: Advisors
- Extension: Faculty/Staff
- Food Industry: Food Service Workers
- Food Industry: Handlers
- Master Gardeners
- Public: Age 55+
- Public: Daycare Providers
- Public: Families with Limited Resources
- Public: General
- Public: Nonprofit Organizations

- Public: Parents
- Train-the-Trainer recipients:adults
- USDA personnel
- WIC Staff
- Youth

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	1000	1100	900	0
2008	1700	18000	400	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	1
2008 :	1

Patents listed

PCT/US2008/051631

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	1	1	
2008	0	1	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Bankruptcy ATF TV program

Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Bankruptcy article

Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Bankruptcy education planning discussion group

Not reporting on this Output for this Annual Report

Output #4

Output Measure

- Bankruptcy education: curriculum & application

Not reporting on this Output for this Annual Report

Output #5

Output Measure

- Bankruptcy radio

Not reporting on this Output for this Annual Report

Output #6

Output Measure

- Bankruptcy web articles

Not reporting on this Output for this Annual Report

Output #7

Output Measure

- Dining With Diabetes Workshop Series

Not reporting on this Output for this Annual Report

Output #8

Output Measure

- Dining With Diabetes website development

Not reporting on this Output for this Annual Report

Output #9

Output Measure

- Diabetes Education news columns

Not reporting on this Output for this Annual Report

Output #10

Output Measure

- Diabetes Education news radio shows

Not reporting on this Output for this Annual Report

Output #11

Output Measure

- Food, Culture, and Reading curriculum

Not reporting on this Output for this Annual Report

Output #12

Output Measure

- Food, Culture, and Reading training

Not reporting on this Output for this Annual Report

Output #13

Output Measure

- Five hour food safety and certification training

Not reporting on this Output for this Annual Report

Output #14

Output Measure

- Growing Connections training

Not reporting on this Output for this Annual Report

Output #15

Output Measure

- Healthy Eating consultation

Not reporting on this Output for this Annual Report

Output #16

Output Measure

- Expanded Food and Nutrition Program (EFNEP) home visits/small groups

Not reporting on this Output for this Annual Report

Output #17

Output Measure

- Nutrition and food safety news

Not reporting on this Output for this Annual Report

Output #18

Output Measure

- Pre diabetes workshops

Not reporting on this Output for this Annual Report

Output #19

Output Measure

- Revise evaluation instruments for certification training

Not reporting on this Output for this Annual Report

Output #20

Output Measure

- Senior Farm Share (SFS) workshops

Not reporting on this Output for this Annual Report

Output #21

Output Measure

- School preparation and implementation of Hazard Analysis Critical Control Points

Not reporting on this Output for this Annual Report

Output #22

Output Measure

- Serve New England newsletter

Not reporting on this Output for this Annual Report

Output #23

Output Measure

- Ten hour food safety and sanitation training

Not reporting on this Output for this Annual Report

Output #24

Output Measure

- Two hour food safety and sanitation training

Not reporting on this Output for this Annual Report

Output #25

Output Measure

- Food Safety Information consultation

Not reporting on this Output for this Annual Report

Output #26

Output Measure

- COPE Administrative Meetings

Not reporting on this Output for this Annual Report

Output #27

Output Measure

- Diabetes news articles

Not reporting on this Output for this Annual Report

Output #28

Output Measure

- Diabetes Education Training for lay leaders

Not reporting on this Output for this Annual Report

Output #29

Output Measure

- Diabetes Education website development

Not reporting on this Output for this Annual Report

Output #30

Output Measure

- Expanded Food and Nutrition Education Program (EFNEP) Administration

Not reporting on this Output for this Annual Report

Output #31

Output Measure

- GAP Master Gardeners train Vermont home gardeners

Not reporting on this Output for this Annual Report

Output #32

Output Measure

- GAP Master Gardeners training workshop series (2-2hr)

Not reporting on this Output for this Annual Report

Output #33

Output Measure

- Healthy Eating news articles

Not reporting on this Output for this Annual Report

Output #34

Output Measure

- Healthy Eating workshops (single session)

Not reporting on this Output for this Annual Report

Output #35

Output Measure

- Overweight Youth Community Engagement

Not reporting on this Output for this Annual Report

Output #36

Output Measure

- Expanded Food and Nutrition Education Program (EFNEP) youth groups

Not reporting on this Output for this Annual Report

Output #37

Output Measure

- Food Stamp Grant - youth groups workshop series

Not reporting on this Output for this Annual Report

Output #38

Output Measure

- Women, Infants & Children (WIC) Program - Analyze surveys by staff and families

Not reporting on this Output for this Annual Report

Output #39

Output Measure

- COPE Program curriculum update

Not reporting on this Output for this Annual Report

Output #40**Output Measure**

- COPE Program instructor observation (field visit)

Not reporting on this Output for this Annual Report

Output #41**Output Measure**

- COPE Program instructor trainings

Not reporting on this Output for this Annual Report

Output #42**Output Measure**

- Senior Farm Share (SFS) conduct and analyze pre and post evaluations

Not reporting on this Output for this Annual Report

Output #43**Output Measure**

- Class/course

Year	Target	Actual
2008	{No Data Entered}	19

Output #44**Output Measure**

- Consultation

Year	Target	Actual
2008	{No Data Entered}	207

Output #45**Output Measure**

- Educational/evaluation instrument

Year	Target	Actual
2008	{No Data Entered}	5

Output #46**Output Measure**

- Field day/fair

Year	Target	Actual
2008	{No Data Entered}	2

Output #47**Output Measure**

- Field site visit

Year	Target	Actual
2008	{No Data Entered}	14

Output #48**Output Measure**

- Funding request

Year	Target	Actual
2008	{No Data Entered}	6

Output #49**Output Measure**

- Presentation

Year	Target	Actual
2008	{No Data Entered}	2

Output #50**Output Measure**

- Newsprint article

Year	Target	Actual
2008	{No Data Entered}	72

Output #51

Output Measure

- Radio Spots

Year	Target	Actual
2008	{No Data Entered}	2

Output #52

Output Measure

- TV segment/Across the Fence

Year	Target	Actual
2008	{No Data Entered}	1

Output #53

Output Measure

- Train the trainer training

Year	Target	Actual
2008	{No Data Entered}	8

Output #54

Output Measure

- Trainee delivered programming

Year	Target	Actual
2008	{No Data Entered}	156

Output #55

Output Measure

- Web page development or update

Year	Target	Actual
2008	{No Data Entered}	1

Output #56

Output Measure

- Workshop - series

Year	Target	Actual
2008	{No Data Entered}	20

Output #57

Output Measure

- Workshop - single session

Year	Target	Actual
2008	{No Data Entered}	50

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	number of faculty who have materials to provide bankruptcy education
2	number of media providing information to the public regarding opportunities for bankruptcy education
3	Increase in number of child/adult care center managers passing food safety certification exam
4	Increase in number of participants who adopt at least three new dietary practices from US Dietary Guidelines. (Action)
5	Increase in number of participants who have blood sugar tested. (Action)
6	Increase the number of participants who increase the quality and/or quantity of fruits and vegetables
7	Increase in number of people who expand or change their preferences for or attitudes about healthy foods
8	number of people who follow recommended portion size and number of servings
9	Increase in number of people who improve food planning and shopping behaviors. (Action)
10	Increase in number of people who increase their knowledge about the US Dietary Guidelines. (Action)
11	Increase in number of people who increase their physical activity. (Action)
12	number of people with knowledge and skills to read labels and select good food
13	Increase in number of school food managers certified in food safety and sanitation (Action)
14	Increase in number of school food service workers using food safety 'best practices' when receiving, storing, handling, preparing and serving food
15	Increase in number of schools implementing Hazard Analysis Critical Control Point based food safety programs
16	Increase in number of people who show an improvement in healthful eating practices. (Action)
17	Increase the number of people who show improvement in food safety and preservation practices. (Action)
18	number of previously food-insecure people who eat adequate and balanced meals on a regular basis
19	Increase in number of people who develop a plan to improve dietary practices. (Action)
20	A greater variety of produce available at home. (Action)
21	Adopt at least one new practice related to a family meals approach. (Action)
22	An increased preference for at least one fruit or vegetable, (Action)
23	Increase in number of parents/caregivers who have more positive feelings about feeding their toddlers than they did prior to the intervention. (Action)
24	Increase the number of home gardeners who implement one or more good agricultural practices to minimize microbial food safety hazards such as using potable water and composted manure. (Action)
25	Increase the number of parents undergoing family transition through parentage, divorce or separation who understand the impact of these changes on their children. (Action)
26	Increase the number of parents who intend to apply knowledge and skills learned to influence their behavior with their children. (Action)

Outcome #1

1. Outcome Measures

number of faculty who have materials to provide bankruptcy education

Not reporting on this Outcome for this Annual Report

Outcome #2

1. Outcome Measures

number of media providing information to the public regarding opportunities for bankruptcy education

Not reporting on this Outcome for this Annual Report

Outcome #3

1. Outcome Measures

Increase in number of child/adult care center managers passing food safety certification exam

Not reporting on this Outcome for this Annual Report

Outcome #4

1. Outcome Measures

Increase in number of participants who adopt at least three new dietary practices from US Dietary Guidelines. (Action)

Not reporting on this Outcome for this Annual Report

Outcome #5

1. Outcome Measures

Increase in number of participants who have blood sugar tested. (Action)

Not reporting on this Outcome for this Annual Report

Outcome #6

1. Outcome Measures

Increase the number of participants who increase the quality and/or quantity of fruits and vegetables

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1310	221

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results**4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population

Outcome #7**1. Outcome Measures**

Increase in number of people who expand or change their preferences for or attitudes about healthy foods

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	250	387

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The problem of childhood obesity is on the rise. Several studies have shown that children who are involved in growing fruits and vegetables are more likely to try them.

What has been done

4-H Growing Connections is a hands-on garden program. Youth learn to garden, eat what they grow, discover fresh food, make healthier food choices, and learn about food safety. In 2008 more than 80 educators across the state of Vermont were trained to implement the program in their communities.

Results

412 youth participated in those programs with 387 of those youth expanding or changing their preferences for, or attitudes about healthy foods. One participant said, I had so much fun making calzones. I got to mix and to stir the mixture that goes between the crust. Kale was in it. -- Cody, 9 One unexpected outcome of the program is that not only do the youth participants make healthier choices as a result of the program, many of the adult volunteers do as well!

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population

Outcome #8**1. Outcome Measures**

number of people who follow recommended portion size and number of servings

Not reporting on this Outcome for this Annual Report

Outcome #9

1. Outcome Measures

Increase in number of people who improve food planning and shopping behaviors. (Action)

Not reporting on this Outcome for this Annual Report

Outcome #10

1. Outcome Measures

Increase in number of people who increase their knowledge about the US Dietary Guidelines. (Action)

Not reporting on this Outcome for this Annual Report

Outcome #11

1. Outcome Measures

Increase in number of people who increase their physical activity. (Action)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	389	30

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #12

1. Outcome Measures

number of people with knowledge and skills to read labels and select good food

Not reporting on this Outcome for this Annual Report

Outcome #13

1. Outcome Measures

Increase in number of school food managers certified in food safety and sanitation (Action)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	75	63

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

More than 28 million children receive meals daily through the federal school meal programs. Young children have a higher risk of complications from some foodborne illnesses. The US Government Accountability Office (GAO) found that 195, or about 3 percent, of the total of 7,390 foodborne outbreaks reported nationwide, between 1990 and 1999, occurred in schools. The Hazard Analysis Critical Control Point system (HACCP) is a systematic approach to the identification, evaluation, and control of food safety hazards at each step of the food preparation process from purchasing to serving.

What has been done

In 2005, USDA issued a mandate that school food authorities (SFAs) implement HACCP-based food safety programs for the preparation and service of school meals served to children. UVM Extension working with the Vermont Department of Education, developed a course to assist school food services in the implementation of HACCP. The course clarifies the concept and principles of HACCP and gives food service managers the tools to analyze and revise their current food safety programs to meet HACCP standards.

Results

235 Vermont school food service managers and their staffs have completed the course over a period of two years (2006-2008). Seventy-five percent of those schools who took part in the training have completed the implementation of a HACCP based food safety program complying with Federal Mandate for food safe schools.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins
703	Nutrition Education and Behavior

Outcome #14**1. Outcome Measures**

Increase in number of school food service workers using food safety 'best practices' when receiving, storing, handling, preparing and serving food
Not reporting on this Outcome for this Annual Report

Outcome #15**1. Outcome Measures**

Increase in number of schools implementing Hazard Analysis Critical Control Point based food safety programs
Not reporting on this Outcome for this Annual Report

Outcome #16**1. Outcome Measures**

Increase in number of people who show an improvement in healthful eating practices. (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	299	31

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Diabetes is the 7th leading cause of death in Vermont. An estimated 28,000 Vermonters suffer from diabetes (Source: VDH). A precipitous rise in Type 2 diabetes has occurred in concert with an increase in obesity. Complications of diabetes may be delayed or prevented by careful blood sugar control, the hardest step in diabetes control. Healthy eating behaviors and weight control can stem diabetes-related morbidity, and extend lifespan.

What has been done

The Dining with Diabetes program was designed to help Vermonters learn how to better manage their diabetes through healthful food choices. This three-part series of classes is taught in locations across the state. Pre and post surveys are distributed to all participants to capture changes occurring because of their participation. They also complete the post survey six months later to identify long-lasting behavior changes.

Results

Survey analysis of 80 matched sets of surveys showed a number of positive, statistically significant changes in food behavior, including consumption of fruits and vegetables to meet serving guidelines in the Dietary Guidelines for Americans; consumption of less fried food; consumption of adequate dairy to meet calcium needs; use of healthful fats (canola and olive oil); use of herbs and spices in place of salt; and control of carbohydrate-rich foods. Additionally, there was a significant increase in the understanding of the impact of carbohydrate-rich foods on blood sugar, and a significant increase in the days per week that program participants engaged in at least 20 minutes of physical activity.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #17

1. Outcome Measures

Increase the number of people who show improvement in food safety and preservation practices. (Action)

Not reporting on this Outcome for this Annual Report

Outcome #18

1. Outcome Measures

number of previously food-insecure people who eat adequate and balanced meals on a regular basis

Not reporting on this Outcome for this Annual Report

Outcome #19

1. Outcome Measures

Increase in number of people who develop a plan to improve dietary practices.

(Action)

Not reporting on this Outcome for this Annual Report

Outcome #20**1. Outcome Measures**

A greater variety of produce available at home. (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	450	103

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

According to the Vermonter Poll, 30% of Vermonters cannot afford to buy nutritious food. The elderly and disabled account for a greater share of food stamp recipients in Vermont than they do nationally: 27% compared to 16 % nationwide. Food security is particularly a problem for seniors given their limited mobility and health issues. They also often subsist on fixed incomes.

What has been done

Senior Farm Share provides fresh produce to older and disabled adults on a weekly basis during 10 weeks of the Vermont growing season. This program is available to residents of senior housing projects by connecting them to the farm through Community Supported Agriculture - a food distribution program where members purchase a "share" of the seasonal harvest. Senior "shares" are subsidized through the program. Each senior is eligible for a \$50 coupon which entitles them to about \$5 worth of vegetables each week from the farm.

Results

Over Two-hundred respondents indicated that the Senior Farm Share produce was fresher, tastier, better looking, and 199 indicated that it provided greater variety than the produce that they otherwise consumed. Out of these 212 participants, 103 had a greater variety of produce available in the home at the end of the program, compared to at the beginning. For the 203 people the mean number of vegetables available significantly increased. Together these measures reveal the positive impact on participants' diet quality. Specifically, fresher produce of a greater variety has more nutrients, and encourages consumption. Additionally, almost half of the program participants indicated that they froze produce to use later, allowing them to reap the nutritional benefits of the program throughout the year.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population

Outcome #21**1. Outcome Measures**

Adopt at least one new practice related to a family meals approach. (Action)

Not reporting on this Outcome for this Annual Report

Outcome #22

1. Outcome Measures

An increased preference for at least one fruit or vegetable, (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	400	262

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population

Outcome #23

1. Outcome Measures

Increase in number of parents/caregivers who have more positive feelings about feeding their toddlers than they did prior to the intervention. (Action)

Not reporting on this Outcome for this Annual Report

Outcome #24

1. Outcome Measures

Increase the number of home gardeners who implement one or more good agricultural practices to minimize microbial food safety hazards such as using potable water and composted manure. (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	20	53

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Understand and respond to home gardener awareness levels and practices regarding food safety principles when planting, harvesting and handling produce to reduce the risk of pathogenic contamination of fresh fruits and vegetables. Home gardeners, including Master Gardeners, were surveyed in 5 New England states. Results indicated low knowledge and awareness levels regarding food safety knowledge of fresh fruits and vegetables, with fewer than half of survey questions answered correctly.

What has been done

122 volunteer Master Gardeners (53 in VT) are now trained in garden-to-table food safety skills. The collaboration between the Master Gardener volunteer network and food safety educators has strengthened.

Results

Master Gardeners apply this training in their outreach efforts as part of their volunteer hours. By increasing knowledge, awareness and best practices from garden to table, gardeners will decrease the risk of pathogenic contamination of fresh fruits and vegetables they grow. A CD, complete with training materials, has been sent to all USDA/ CSREES offices in the network.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

Outcome #25

1. Outcome Measures

Increase the number of parents undergoing family transition through parentage, divorce or separation who understand the impact of these changes on their children. (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1560	612

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

When parents file for separation, divorce, dissolution of a civil union or parentage they are often experiencing turbulent feelings of grief, and anger. These emotional states are perpetuated by focusing on grievances with each other and can be alleviated when parents prioritize their children's well being. Case Mangers in the Family Courts have the task of helping parents find their way through the Court process as the individuals rearrange their family life.

What has been done

After parents file in the Family Courts they are informed that Coping with Separation and Divorce: a parenting seminar(COPE) is required as part of the Court process. The four hour educational seminar is provided by UVM Extension, co-led with instructors, in the Family Courts. The COPE curriculum utilizes the vast array of research on parenting/family systems and grieving that can help parents navigate the changes in their family life with the least negative impact on their children.

Results

This parental shift from their grievances with each other, to the needs of their children, is one of the main goals of the COPE Program. The benefit of parents keeping their focus on their children's needs is captured in the parent's self reporting collected at the end of each COPE class. Participants comments include: "The most important thing I learned was not to vent to your child ..., letting them know that you understand and sympathize with them, also to take time to step back and think before you say something that is not helpful." "self-control, hearing from an outside party how children are affected makes a big difference"

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #26

1. Outcome Measures

Increase the number of parents who intend to apply knowledge and skills learned to influence their behavior with their children. (Action)
Not reporting on this Outcome for this Annual Report

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Competing Public priorities
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- Time series (multiple points before and after program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Evaluation Results

Toddlers in families enrolled in the Special Supplemental Nutrition Program for Women, Infants, and Children ("WIC") consistently eat fewer fruits and vegetables than recommended. The Vermont Department of Health and UVM Extension partnered to pilot an intervention aimed at increasing the fruits and vegetables offered to WIC toddlers. The "Brighten My Life with Fruits and Vegetables" project incorporated staff training and development of new resources to address this need, followed by staff counseling with WIC parents. WIC staff recently completed a reflective (before-after) survey designed to capture their professional growth over the 18 months of the intervention. Survey results show significant improvements in the staff's ability to:

- Ø Encourage parents to talk about child's eating behaviors;

- Ø Dialogue with parents about the importance of family meals;

- Ø Use reflective listening and summarizing techniques to bring together what a parents says about family feeding issues;

- Ø Provide nutrition counseling that is engaging, convincing, motivating, and culturally appropriate; and

- Ø Help WIC parents make positive changes around the offering of fruits and vegetables and/or using family meals practices.

With the upcoming shift in the WIC food package to include fresh fruits and vegetables, and our knowledge of the negative relationship between fruit and vegetable consumption and overweight/obesity, it is critical that WIC families receive appropriate guidance regarding feeding toddlers fruits and vegetables.

Key Items of Evaluation

Program #2**V(A). Planned Program (Summary)****1. Name of the Planned Program**

Agriculture and Environmental Sustainability

V(B). Program Knowledge Area(s)**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	1%		4%	
104	Protect Soil from Harmful Effects of Natural Elements	0%		2%	
112	Watershed Protection and Management	11%		10%	
123	Management and Sustainability of Forest Resources	3%		0%	
133	Pollution Prevention and Mitigation	5%		6%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		2%	
204	Plant Product Quality and Utility (Preharvest)	4%		5%	
205	Plant Management Systems	5%		2%	
206	Basic Plant Biology	0%		2%	
216	Integrated Pest Management Systems	8%		8%	
302	Nutrient Utilization in Animals	0%		2%	
305	Animal Physiological Processes	1%		3%	
307	Animal Management Systems	6%		7%	
313	Internal Parasites in Animals	2%		0%	
315	Animal Welfare/Well-Being and Protection	0%		4%	
601	Economics of Agricultural Production and Farm Management	28%		18%	
602	Business Management, Finance, and Taxation	13%		14%	
605	Natural Resource and Environmental Economics	4%		3%	
723	Hazards to Human Health and Safety	4%		4%	
801	Individual and Family Resource Management	5%		4%	
	Total	100%		100%	

V(C). Planned Program (Inputs)**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	27.7	0.0	10.0	0.0
Actual	22.0	0.0	8.8	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c 887704	1890 Extension 0	Hatch 1005717	Evans-Allen 0
1862 Matching 2070315	1890 Matching 0	1862 Matching 1186481	1890 Matching 0
1862 All Other 1036613	1890 All Other 0	1862 All Other 0	1890 All Other 0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Project listed in **bold** followed by delivery methods:

- Ag Business Management. Conferences, courses, consultations and farm visits.

- Agricultural safety. Courses, consultations and farm visits.

- Beef Program. Conferences, workshops, discussion groups, individual consultations, articles, web site.
- Bio-security Education. Workshops, discussion groups.
- Calf and heifer program. Workshops, discussion groups.
- Dairy Management. Conference.
- Equine program. Annual equine event, publications, workshops.
- Farm and Forest Transfers. Workshops, consultations, farm visits
- Farm Viability. Farm visits, consultations.
- Farming Alternatives. Workshops, consultations, farm visits.
- Forage and Pasture Management Education. Conference, farm visits, consultations.
- Germ City. Demonstration.
- Maple Program. Conference, workshops, newsletter.
- Nutrient Management Program. Farm visits, consultations.
- On-farm vegetable and biodiesel. On farm demonstration sites.
- Organic Grain Project. Demonstrations, data gathering.
- Pest Management Education. IPM and Pesticide Education and Safety Program (PESP) training.
- Sheep program. Hands-on workshop, applied research, newsletter.
- Healthy soil. Workshops and various media.
- Vegetable and Berry Growers. Consultations, farm visits, meetings, various media, presentations, website.
- Vermont New Farmer Network. Conference, networking, consultations.
- Vermont Pasture Network. Pasture walks, demonstrations and trials, conference, consultations, various media.
- Vermont Tourism and Recreation. Research, conference.
- Women's Agricultural Network. Newsletters, website, classes, workshops, individual and small group consultations.
- Master Gardener. Course, train the trainer
- Private/commercial Landowner and Industry Professional Education: Consultations, media
- Small Ruminant Dairy Project. Conference, newsletter, workshops, consultations

- Sustainable Forests. Workshops, newsletter, consultations
- Urban Watershed and Water Quality. Presentations, demonstrations, media, in-school program
- UVM Tax School. conference, tax book
- Watershed & Water Quality Education. In-school program, curriculum development, presentations
AES efforts.

- Develop of affordable, portable, easily integrated animal manure treatment systems
- Design effective, affordable storm and wastewater management systems
- Explore perturbation of soil ecosystems by anthropomorphic interventions
- Test soil nutrient effect on forest ecosystem productivity and lake water quality
- Reduce soil fertility/chemistry/physical problems associated with waste disposal
- Examine economics of organic dairy production, transition, distribution

- Explore economics of organic farming, crop management and alternative energy

- Describe ecological services provided through treed farmland habitats

- Develop and share knowledge about heifer nutrition, rearing and management

- Reduce dairy mastitis through genetic and nutritional options

Improve small ruminant production, product development, and management systems

- Develop strategies to address applied equine issues
- Explore on-farm energy sources uses, and impacts of production
- Examine ways to create just policies and tenure systems for longterm sustainable management of ecosystem services for forestlands and watersheds

- Identify genetic traits that make species invasive
- Survey, increase awareness, and prevent northward spread of Asian Longhorned Beetle
- Manage thrips pests in forests and greenhouses
- Develop fungal means of biological pest management for common crops
- Explore microbial pesticides and fungal components as IPM strategies

- Explore innate immunity, DNA-based vaccines and mastitis prevention
- Develop means for hormonal regulation of glucose synthesis and milk production
- Develop functional foods from diverse array of farm products
- Develop technologies from recycled, environmentally safe farm by-products
- Develop new markets and local producers and distributors for farm-based products
 - Explore local food systems as food landscapes and foodsheds change
- Develop new technologies to increase maple sap collection and quality
 - Examine impacts of global climate change on forest and montane habitats
 - Explore genetic diversity among new world ferns and geographic distribution
 - Test cold hardiness of horticultural perennials, wine grapes, and organic apple varieties

2. Brief description of the target audience

- Adults
- Age 13 - 18 Youth
- Age 19 - 24 Young Adult
- Age 25 - 45 Adult
- Age 25 - 60 Adult
- Age 46 - 65 Adult
- Age 6 - 12 School Age
- Age 60 - Senior
- Age 8 - 18 Youth
- Agriculture/Natural Resources: Watershed Based Organizations
- Agriculture: Apple Growers
- Agriculture: Beef Producers
- Agriculture: CCA & Crop Consultants
- Agriculture: Crop Producers
- Agriculture: Dairy Processors
- Agriculture: Dairy Producers
- Agriculture: Equine Producers/Owners
- Agriculture: Farm Employees
- Agriculture: Farm Families
- Agriculture: Farmers
- Agriculture: Goat & Sheep Producers
- Agriculture: Greenhouse Ornamental Growers
- Agriculture: Home Gardeners

- Agriculture: Industry Professionals
- Agriculture: Livestock producers
- Agriculture: Maple Sugar Producers
- Agriculture: Ornamentals Industry Professionals
- Agriculture: Service Providers
- Agriculture: Small Fruit & Vegetable Growers
- Agriculture: Value added Dairy processors
- Agriculture:Dairy Goat, Meat Goat and Dairy Sheep Producers
- Agriculture:Government Agency Personnel
- Communities: Cities and Towns
- Communities: Educators
- Communities: Local Officials/Leaders
- Communities: Non-Governmental Organizations
- Communities: Schools
- Community leaders and citizens
- Dairy Professionals
- Environmental Professionals: Environmental Managers
- Extension: Advisors
- Extension: Faculty/Staff
- Food Industry: Handlers
- Food Industry: Processors
- Forestry: Landscape Industry
- Forestry: Loggers
- Forestry: Wood Products Businesses

- Forestry: Woodland Managers/Foresters
- Forestry: Woodland Owners
- Master Gardeners
- Policy Makers: Legislators
- Public: Age 1-5 (Preschoolers)
- Public: Age 13-18 (Youth)
- Public: Age 3-21
- Public: Age 6-12 (Children)
- Public: College Students
- Public: Families
- Public: General
- Public: Homeowners
- Public: Media Outlets
- Public: Nonprofit Organizations
- Public: Parents
- Public: Small Business Owners/Entrepreneurs
- Train-the-Trainer recipients:adults
- USDA personnel
- Youth

V(E). Planned Program (Outputs)**1. Standard output measures****Target for the number of persons (contacts) reached through direct and indirect contact methods**

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	30000	55000	3000	200
2008	27000	615000	3300	0

2. Number of Patent Applications Submitted (Standard Research Output)**Patent Applications Submitted**

Year	Target
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Plan:	1
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2008 :	9
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Patents listed

PCT/US2007/086838

60/848,438

11/862,765PCT/US2007/079883

60/974,951

Maple Spout with vacuum check valve -- not yet assigned

Maple check valve with antimicrobial -- under review

Maple booster spout -- under review

Whey-based paper glue -- under review

3. Publications (Standard General Output Measure)**Number of Peer Reviewed Publications**

	Extension	Research	Total
Plan	1	1	
2008	2	3	5

V(F). State Defined Outputs**Output Target**

Output #1

Output Measure

- 4-H biosecurity program

Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Addison County Agriculture Legislative Farm Tour

Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Ag Business Management Course

Not reporting on this Output for this Annual Report

Output #4

Output Measure

- Ag Engineering farm visits

Not reporting on this Output for this Annual Report

Output #5

Output Measure

- Agricultural Profitability Team meetings

Not reporting on this Output for this Annual Report

Output #6

Output Measure

- Asian Longhorned beetle (ALB) information distribution

Not reporting on this Output for this Annual Report

Output #7

Output Measure

- Asian Longhorned beetle website

Not reporting on this Output for this Annual Report

Output #8

Output Measure

- Avian influenza - ATF-television

Not reporting on this Output for this Annual Report

Output #9

Output Measure

- Avian influenza drill

Not reporting on this Output for this Annual Report

Output #10

Output Measure

- Balance Sheet/Budgeting Clinics

Not reporting on this Output for this Annual Report

Output #11

Output Measure

- Beef - print media

Not reporting on this Output for this Annual Report

Output #12

Output Measure

- Beef Conference

Not reporting on this Output for this Annual Report

Output #13

Output Measure

- Beef consultations

Not reporting on this Output for this Annual Report

Output #14

Output Measure

- Beef factsheets

Not reporting on this Output for this Annual Report

Output #15

Output Measure

- Bio-security recommendations for farm visits

Not reporting on this Output for this Annual Report

Output #16

Output Measure

- Bio-security training communication

Not reporting on this Output for this Annual Report

Output #17

Output Measure

- Business plan implementation

Not reporting on this Output for this Annual Report

Output #18

Output Measure

- Business plans completed

Not reporting on this Output for this Annual Report

Output #19

Output Measure

- Calf and Heifer Conference

Not reporting on this Output for this Annual Report

Output #20

Output Measure

- Classes for Master Gardener and Master Composter

Not reporting on this Output for this Annual Report

Output #21

Output Measure

- Completed soil health database

Not reporting on this Output for this Annual Report

Output #22

Output Measure

- Crop Insurance workshop

Not reporting on this Output for this Annual Report

Output #23

Output Measure

- Forage and Pasture Consultations

Not reporting on this Output for this Annual Report

Output #24

Output Measure

- Crop Insurance articles

Not reporting on this Output for this Annual Report

Output #25

Output Measure

- Dairy Reproduction and Forage Quality on-line training

Not reporting on this Output for this Annual Report

Output #26

Output Measure

- Dairy Stewardship Alliance article

Not reporting on this Output for this Annual Report

Output #27

Output Measure

- Dairy Stewardship Alliance data summarization
Not reporting on this Output for this Annual Report

Output #28

Output Measure

- Dairy Stewardship Alliance farm visits
Not reporting on this Output for this Annual Report

Output #29

Output Measure

- Dairy Stewardship Assessment
Not reporting on this Output for this Annual Report

Output #30

Output Measure

- Dairy commodity grant articles
Not reporting on this Output for this Annual Report

Output #31

Output Measure

- Dairy price education articles
Not reporting on this Output for this Annual Report

Output #32

Output Measure

- Dairy price education newsletter
Not reporting on this Output for this Annual Report

Output #33

Output Measure

- Dairy/Forage Research Day
Not reporting on this Output for this Annual Report

Output #34

Output Measure

- Development of Farm Assessments
Not reporting on this Output for this Annual Report

Output #35

Output Measure

- Economic Analysis of Northern Forest Canoe Trail
Not reporting on this Output for this Annual Report

Output #36

Output Measure

- Edit State Support Function 11
Not reporting on this Output for this Annual Report

Output #37

Output Measure

- Fair & Field Day staff education
Not reporting on this Output for this Annual Report

Output #38

Output Measure

- Farm Management plans -APT
Not reporting on this Output for this Annual Report

Output #39

Output Measure

- Farm Safety Task Force
Not reporting on this Output for this Annual Report

Output #40

Output Measure

- Financial Security/business Farm visits

Not reporting on this Output for this Annual Report

Output #41

Output Measure

- Farmedic class

Not reporting on this Output for this Annual Report

Output #42

Output Measure

- Farmer consults

Not reporting on this Output for this Annual Report

Output #43

Output Measure

- Farmer Nutrient Management Training presentation

Not reporting on this Output for this Annual Report

Output #44

Output Measure

- Farmers Market training

Not reporting on this Output for this Annual Report

Output #45

Output Measure

- Farming Alternatives presentations

Not reporting on this Output for this Annual Report

Output #46

Output Measure

- Feeder sales

Not reporting on this Output for this Annual Report

Output #47

Output Measure

- Forage and Pasture Mgt education presentation

Not reporting on this Output for this Annual Report

Output #48

Output Measure

- Germ City at Sheep Camp

Not reporting on this Output for this Annual Report

Output #49

Output Measure

- Germ City train the trainer

Not reporting on this Output for this Annual Report

Output #50

Output Measure

- Grain Growing workshops

Not reporting on this Output for this Annual Report

Output #51

Output Measure

- Grain Research project

Not reporting on this Output for this Annual Report

Output #52

Output Measure

- Greenhouse IPM workshop

Not reporting on this Output for this Annual Report

Output #53

Output Measure

- Greenhouse IPM handouts

Not reporting on this Output for this Annual Report

Output #54

Output Measure

- Greenhouse IPM manual

Not reporting on this Output for this Annual Report

Output #55

Output Measure

- Growing Places II course

Not reporting on this Output for this Annual Report

Output #56

Output Measure

- Grow Your Business consultations

Not reporting on this Output for this Annual Report

Output #57

Output Measure

- Growing Places course

Not reporting on this Output for this Annual Report

Output #58

Output Measure

- Growing Places on-line class

Not reporting on this Output for this Annual Report

Output #59

Output Measure

- Growing by Design cropping systems trial

Not reporting on this Output for this Annual Report

Output #60

Output Measure

- Growing by Design field day

Not reporting on this Output for this Annual Report

Output #61

Output Measure

- Incident Command System training workshop

Not reporting on this Output for this Annual Report

Output #62

Output Measure

- IPM/PESP (for farmers and Certified Private Applicators)

Not reporting on this Output for this Annual Report

Output #63

Output Measure

- IPM/PESP for Certified Commercial Applicators

Not reporting on this Output for this Annual Report

Output #64

Output Measure

- Introduction to Sheep Management workshop

Not reporting on this Output for this Annual Report

Output #65

Output Measure

- Lamb feeding trial

Not reporting on this Output for this Annual Report

Output #66

Output Measure

- Lambing Clinic

Not reporting on this Output for this Annual Report

Output #67

Output Measure

- Live Lamb Grading Workshop

Not reporting on this Output for this Annual Report

Output #68

Output Measure

- Livestock discussion group

Not reporting on this Output for this Annual Report

Output #69

Output Measure

- ME/Vermont Organic Dairy Analysis consultations

Not reporting on this Output for this Annual Report

Output #70

Output Measure

- Medium Farm Operation Nutrient Management Assessment tool

Not reporting on this Output for this Annual Report

Output #71

Output Measure

- Medium Farm Operation Nutrient Management Survey-BMP field site visit

Not reporting on this Output for this Annual Report

Output #72

Output Measure

- Medium Farm Operation Nutrient Management Survey-NRCS field site visit

Not reporting on this Output for this Annual Report

Output #73

Output Measure

- Managed Intensive Grazing Pasture workshop

Not reporting on this Output for this Annual Report

Output #74

Output Measure

- Maine/Vt. Organic Milk Research Study Field visit

Not reporting on this Output for this Annual Report

Output #75

Output Measure

- Maple - ATF- television

Not reporting on this Output for this Annual Report

Output #76

Output Measure

- Maple Mainline newsletter

Not reporting on this Output for this Annual Report

Output #77

Output Measure

- Maple research web material

Not reporting on this Output for this Annual Report

Output #78

Output Measure

- Maple Syrup Digest article

Not reporting on this Output for this Annual Report

Output #79

Output Measure

- Maple consultations

Not reporting on this Output for this Annual Report

Output #80

Output Measure

- Nutrient Management Plan (NMP) training course for farmers

Not reporting on this Output for this Annual Report

Output #81

Output Measure

- NRCS co-facilitated workshops

Not reporting on this Output for this Annual Report

Output #82

Output Measure

- National Extension Tourism Conference

Not reporting on this Output for this Annual Report

Output #83

Output Measure

- National Extension Tourism Conference presentation

Not reporting on this Output for this Annual Report

Output #84

Output Measure

- National Income Tax Book

Not reporting on this Output for this Annual Report

Output #85

Output Measure

- New England Agro-Security manual

Not reporting on this Output for this Annual Report

Output #86

Output Measure

- NxLevel Course

Not reporting on this Output for this Annual Report

Output #87

Output Measure

- On-farm biodiesel results publication

Not reporting on this Output for this Annual Report

Output #88

Output Measure

- On-farm vegetable oil/biodiesel project demonstration

Not reporting on this Output for this Annual Report

Output #89

Output Measure

- Organic apple production presentation/workshop

Not reporting on this Output for this Annual Report

Output #90

Output Measure

- P-Reducing Slag Barrier field day

Not reporting on this Output for this Annual Report

Output #91

Output Measure

- P-Reducing Slag Barriers research site

Not reporting on this Output for this Annual Report

Output #92

Output Measure

- PESP - Initial Certification for Pesticide Applicators workshop

Not reporting on this Output for this Annual Report

Output #93

Output Measure

- PESP Program School IPM Award of Achievement

Not reporting on this Output for this Annual Report

Output #94

Output Measure

- PESP newsletter

Not reporting on this Output for this Annual Report

Output #95

Output Measure

- PESP website

Not reporting on this Output for this Annual Report

Output #96

Output Measure

- Parasite fields study sites

Not reporting on this Output for this Annual Report

Output #97

Output Measure

- Parasite workshops

Not reporting on this Output for this Annual Report

Output #98

Output Measure

- Participatory Modeling workshop

Not reporting on this Output for this Annual Report

Output #99

Output Measure

- Pasture Walks

Not reporting on this Output for this Annual Report

Output #100

Output Measure

- Plant Diagnostic Clinic email/phone consultations

Not reporting on this Output for this Annual Report

Output #101

Output Measure

- Plant Diagnostic Clinic website

Not reporting on this Output for this Annual Report

Output #102

Output Measure

- Plant Insect Pest Diagnostic inquiries email/phone

Not reporting on this Output for this Annual Report

Output #103

Output Measure

- Plant Insect Pest Diagnostic identification and recommendations

Not reporting on this Output for this Annual Report

Output #104

Output Measure

- Poultry biosecurity workshop

Not reporting on this Output for this Annual Report

Output #105

Output Measure

- Poultry production conference

Not reporting on this Output for this Annual Report

Output #106

Output Measure

- Pubic Access for Tourism and Recreation on Private Lands web page

Not reporting on this Output for this Annual Report

Output #107

Output Measure

- Sheep communication inquiries (electronic; email / phone)

Not reporting on this Output for this Annual Report

Output #108

Output Measure

- Soil Health Assessment - field site visits

Not reporting on this Output for this Annual Report

Output #109

Output Measure

- Soil Health Assessment - orchards

Not reporting on this Output for this Annual Report

Output #110

Output Measure

- Soil Health Field days/workshops

Not reporting on this Output for this Annual Report

Output #111

Output Measure

- State Animal Response Team newsletter

Not reporting on this Output for this Annual Report

Output #112

Output Measure

- Maple Survey of sap collection methods and outcome

Not reporting on this Output for this Annual Report

Output #113

Output Measure

- Tractor safety course

Not reporting on this Output for this Annual Report

Output #114

Output Measure

- Transferring the Farm program

Not reporting on this Output for this Annual Report

Output #115

Output Measure

- UVM Tax Schools

Not reporting on this Output for this Annual Report

Output #116

Output Measure

- VT Large Farm Dairy Conference

Not reporting on this Output for this Annual Report

Output #117

Output Measure

- Veg. & Berry radio commentaries

Not reporting on this Output for this Annual Report

Output #118

Output Measure

- Veg. & Berry magazine columns

Not reporting on this Output for this Annual Report

Output #119

Output Measure

- Veg. & Berry technical publications

Not reporting on this Output for this Annual Report

Output #120

Output Measure

- Veg & Berry farmer consultations

Not reporting on this Output for this Annual Report

Output #121

Output Measure

- Vermont Grass Farmer's Association newsletter

Not reporting on this Output for this Annual Report

Output #122

Output Measure

- Vermont Maple conferences

Not reporting on this Output for this Annual Report

Output #123

Output Measure

- Vermont Maplerama conference

Not reporting on this Output for this Annual Report

Output #124

Output Measure

- Vermont New Farmer Network development training

Not reporting on this Output for this Annual Report

Output #125

Output Measure

- Vermont Tourism Data Center

Not reporting on this Output for this Annual Report

Output #126

Output Measure

- Vermont Travel Industry Conference

Not reporting on this Output for this Annual Report

Output #127

Output Measure

- Vermont vegetable and berry web site articles

Not reporting on this Output for this Annual Report

Output #128

Output Measure

- Womens Ag Network (WAgN) Newsletter

Not reporting on this Output for this Annual Report

Output #129

Output Measure

- Womens Ag Network (WAgN) website updates

Not reporting on this Output for this Annual Report

Output #130

Output Measure

- Womens Ag Network (WAgN) workshops, learning circles, etc.

Not reporting on this Output for this Annual Report

Output #131

Output Measure

- Winter Dairy Herd Mgmt meeting

Not reporting on this Output for this Annual Report

Output #132

Output Measure

- Conflict resolution in the Green Mtn Forest Canoe Trail - refereed journal article

Not reporting on this Output for this Annual Report

Output #133

Output Measure

- Municipal level Water Quality Protection Workshops

Not reporting on this Output for this Annual Report

Output #134

Output Measure

- "Harvest To Table" outreach education

Not reporting on this Output for this Annual Report

Output #135

Output Measure

- Starting a Goat Dairy Workshop(s)

Not reporting on this Output for this Annual Report

Output #136

Output Measure

- 2006/2007 New England Dairy/Meat and Dairy Sheep Directory

Not reporting on this Output for this Annual Report

Output #137

Output Measure

- AgTerror Responder Training

Not reporting on this Output for this Annual Report

Output #138

Output Measure

- America in Bloom judging

Not reporting on this Output for this Annual Report

Output #139

Output Measure

- An article describing research results collected from the Cover Cropping Trial

Not reporting on this Output for this Annual Report

Output #140

Output Measure

- Apple IPM Newsletter

Not reporting on this Output for this Annual Report

Output #141

Output Measure

- Apple IPM Presentation

Not reporting on this Output for this Annual Report

Output #142

Output Measure

- Apple IPM Website

Not reporting on this Output for this Annual Report

Output #143

Output Measure

- Apple IPM one-on-one Education

Not reporting on this Output for this Annual Report

Output #144

Output Measure

- Biofuel workshops to teach farmers how to grow, process, and produce biofuel.

Not reporting on this Output for this Annual Report

Output #145

Output Measure

- Business plan applications

Not reporting on this Output for this Annual Report

Output #146

Output Measure

- Clean beaches Program workshops

Not reporting on this Output for this Annual Report

Output #147

Output Measure

- Develop an Organic Dairy Website as part of the eXtension eOrganic project

Not reporting on this Output for this Annual Report

Output #148

Output Measure

- Farm Evaluation/Technical Assistance to current and new farmers

Not reporting on this Output for this Annual Report

Output #149

Output Measure

- Farm Transfer Workshop

Not reporting on this Output for this Annual Report

Output #150

Output Measure

- Farm Safety educational programs

Not reporting on this Output for this Annual Report

Output #151

Output Measure

- Farm Transfer farm visits

Not reporting on this Output for this Annual Report

Output #152

Output Measure

- Goat Dairy Farmer Discussion Groups

Not reporting on this Output for this Annual Report

Output #153

Output Measure

- Farmers: A New Generation

Not reporting on this Output for this Annual Report

Output #154

Output Measure

- Flower Trials

Not reporting on this Output for this Annual Report

Output #155

Output Measure

- Forage and Pasture Data Collection and analysis

Not reporting on this Output for this Annual Report

Output #156

Output Measure

- GAP "From Garden to Table"

Not reporting on this Output for this Annual Report

Output #157

Output Measure

- GIS Workshops for Municipal Officials

Not reporting on this Output for this Annual Report

Output #158

Output Measure

- GIS curriculum for teachers and for municipal officials prepared for VCGI use

Not reporting on this Output for this Annual Report

Output #159

Output Measure

- GIS training guidebook for teacher and municipal officials prepared for Vermont Center for Geographic information

Not reporting on this Output for this Annual Report

Output #160

Output Measure

- Germ City Educational leadership

Not reporting on this Output for this Annual Report

Output #161

Output Measure

- Germ City: revise evaluation

Not reporting on this Output for this Annual Report

Output #162

Output Measure

- Grape IPM Newsletter

Not reporting on this Output for this Annual Report

Output #163

Output Measure

- Grape IPM Presentations

Not reporting on this Output for this Annual Report

Output #164

Output Measure

- Grape IPM website

Not reporting on this Output for this Annual Report

Output #165

Output Measure

- Grape IPM one-on-one education

Not reporting on this Output for this Annual Report

Output #166

Output Measure

- Healthy Farms - Healthy Agriculture video distribution

Not reporting on this Output for this Annual Report

Output #167

Output Measure

- Horse Owner Technical Assistance

Not reporting on this Output for this Annual Report

Output #168

Output Measure

- Household Property management workshop

Not reporting on this Output for this Annual Report

Output #169

Output Measure

- IPM/PESP for home gardeners

Not reporting on this Output for this Annual Report

Output #170

Output Measure

- Lake Champlain Live program: a unique science opportunity for students in grades 8-12 on UVM's Research Vessel Melosira

Not reporting on this Output for this Annual Report

Output #171

Output Measure

- Land Link Vermont Matching Service

Not reporting on this Output for this Annual Report

Output #172

Output Measure

- Low Impaact Development Workshop

Not reporting on this Output for this Annual Report

Output #173

Output Measure

- Low Input Landscape management training

Not reporting on this Output for this Annual Report

Output #174

Output Measure

- Maine/Vermont Organic Dairy Analysis

Not reporting on this Output for this Annual Report

Output #175

Output Measure

- Maintaining and providing articles and excel template programs for The Vermont Crops and Soils Homepage

Not reporting on this Output for this Annual Report

Output #176

Output Measure

- Maple electronic/email consultations

Not reporting on this Output for this Annual Report

Output #177

Output Measure

- Master Composter Course

Not reporting on this Output for this Annual Report

Output #178

Output Measure

- Master Composter Outreach

Not reporting on this Output for this Annual Report

Output #179

Output Measure

- Master Gardener Outreach

Not reporting on this Output for this Annual Report

Output #180

Output Measure

- Montreal Gardens Tour

Not reporting on this Output for this Annual Report

Output #181

Output Measure

- NPS pollution prevention training

Not reporting on this Output for this Annual Report

Output #182

Output Measure

- New England Greenhouse Conference

Not reporting on this Output for this Annual Report

Output #183

Output Measure

- New England Grows workshop

Not reporting on this Output for this Annual Report

Output #184

Output Measure

- Nutrient Management consultation

Not reporting on this Output for this Annual Report

Output #185

Output Measure

- Organic Apple Website

Not reporting on this Output for this Annual Report

Output #186

Output Measure

- Pest management presentations

Not reporting on this Output for this Annual Report

Output #187

Output Measure

- Producer/exhibitor education fact sheet publication

Not reporting on this Output for this Annual Report

Output #188

Output Measure

- Professional Development workshop - single session

Not reporting on this Output for this Annual Report

Output #189

Output Measure

- Public education display/exhibit

Not reporting on this Output for this Annual Report

Output #190

Output Measure

- Rain Garden demonstrations

Not reporting on this Output for this Annual Report

Output #191

Output Measure

- Rain Garden installation

Not reporting on this Output for this Annual Report

Output #192

Output Measure

- Rain Garden workshops

Not reporting on this Output for this Annual Report

Output #193

Output Measure

- Ration balancing for goat dairies consultation

Not reporting on this Output for this Annual Report

Output #194

Output Measure

- Reduced P on Lawns presentations

Not reporting on this Output for this Annual Report

Output #195

Output Measure

- Scoop on Poop internal parasite workshops

Not reporting on this Output for this Annual Report

Output #196

Output Measure

- Sheep newsletter

Not reporting on this Output for this Annual Report

Output #197

Output Measure

- Sheep Nutrition Workshop with Sheep Ruminant Nutritionist

Not reporting on this Output for this Annual Report

Output #198

Output Measure

- Sheep Parasite Workshops

Not reporting on this Output for this Annual Report

Output #199

Output Measure

- Small Ruminant Dairy Newsletter and Calendar of Events

Not reporting on this Output for this Annual Report

Output #200

Output Measure

- Pasture / grazing technical assistance consultations

Not reporting on this Output for this Annual Report

Output #201

Output Measure

- Pasture / grazing workshop, single session on the farm

Not reporting on this Output for this Annual Report

Output #202

Output Measure

- Town residential surveys workshop series

Not reporting on this Output for this Annual Report

Output #203

Output Measure

- Maple Treenet: web page demonstrating sap flow physiology

Not reporting on this Output for this Annual Report

Output #204

Output Measure

- Urban Watershed Education curricula

Not reporting on this Output for this Annual Report

Output #205

Output Measure

- Vermont Master Gardener Basic Course

Not reporting on this Output for this Annual Report

Output #206

Output Measure

- Vermont Master Gardener Helpline (electronic/phone)

Not reporting on this Output for this Annual Report

Output #207

Output Measure

- Vermont Water Quality Gateway

Not reporting on this Output for this Annual Report

Output #208

Output Measure

- Vermont Flower Show seminar

Not reporting on this Output for this Annual Report

Output #209

Output Measure

- Watershed Alliance (WSA) Education & Monitoring Program --intern training

Not reporting on this Output for this Annual Report

Output #210

Output Measure

- Watershed Alliance (WSA) Education & Monitoring Program --outreach projects

Not reporting on this Output for this Annual Report

Output #211

Output Measure

- Watershed Alliance (WSA) Education & Monitoring Program -- workshops and activities

Not reporting on this Output for this Annual Report

Output #212

Output Measure

- Womens Ag Network (WAgN) Startup Manual

Not reporting on this Output for this Annual Report

Output #213

Output Measure

- Farm finance article/publication

Not reporting on this Output for this Annual Report

Output #214

Output Measure

- Bio-security Team effort coordination

Not reporting on this Output for this Annual Report

Output #215

Output Measure

- Lawn/garden care, low input, publication/article

Not reporting on this Output for this Annual Report

Output #216

Output Measure

- Urban Watershed: middle school curricula

Not reporting on this Output for this Annual Report

Output #217

Output Measure

- Lawn/garden supply nursery staff training

Not reporting on this Output for this Annual Report

Output #218

Output Measure

- Water Quality - youth team training

Not reporting on this Output for this Annual Report

Output #219

Output Measure

- Class/course

Year	Target	Actual
2008	{No Data Entered}	42

Output #220

Output Measure

- Consultation

Year	Target	Actual
2008	{No Data Entered}	1796

Output #221**Output Measure**

- Conference

Year	Target	Actual
2008	{No Data Entered}	15

Output #222**Output Measure**

- Demonstration

Year	Target	Actual
2008	{No Data Entered}	29

Output #223**Output Measure**

- Discussion Group

Year	Target	Actual
2008	{No Data Entered}	33

Output #224**Output Measure**

- Display or exhibit

Year	Target	Actual
2008	{No Data Entered}	20

Output #225**Output Measure**

- Education, evaluation instrument

Year	Target	Actual
2008	{No Data Entered}	1

Output #226**Output Measure**

- Electronic communication/phone

Year	Target	Actual
2008	{No Data Entered}	5600

Output #227**Output Measure**

- Field day/fairy

Year	Target	Actual
2008	{No Data Entered}	19

Output #228**Output Measure**

- Field site visit

Year	Target	Actual
2008	{No Data Entered}	301

Output #229**Output Measure**

- Funding Request

Year	Target	Actual
2008	{No Data Entered}	4

Output #230**Output Measure**

- Presentation

Year	Target	Actual
2008	{No Data Entered}	272

Output #231**Output Measure**

- Curriculum

Year	Target	Actual
2008	{No Data Entered}	2

Output #232**Output Measure**

- Fact sheet

Year	Target	Actual
2008	{No Data Entered}	10

Output #233**Output Measure**

- Magazine articles

Year	Target	Actual
2008	{No Data Entered}	32

Output #234**Output Measure**

- Manual

Year	Target	Actual
2008	{No Data Entered}	4

Output #235**Output Measure**

- Newsletter

Year	Target	Actual
2008	{No Data Entered}	91

Output #236**Output Measure**

- Newsprint article

Year	Target	Actual
2008	{No Data Entered}	75

Output #237**Output Measure**

- Referred journal article

Year	Target	Actual
2008	{No Data Entered}	2

Output #238**Output Measure**

- Research project

Year	Target	Actual
2008	{No Data Entered}	1

Output #239**Output Measure**

- TV segment/Across the Fence

Year	Target	Actual
2008	{No Data Entered}	20

Output #240**Output Measure**

- Technical Publication

Year	Target	Actual
2008	{No Data Entered}	33

Output #241**Output Measure**

- Tours

Year	Target	Actual
2008	{No Data Entered}	3

Output #242**Output Measure**

- Train the Trainer trainings

Year	Target	Actual
2008	{No Data Entered}	11

Output #243

Output Measure

- Webpage/webpage updates

Not reporting on this Output for this Annual Report

Output #244

Output Measure

- Workshop - series

Year	Target	Actual
2008	{No Data Entered}	54

Output #245

Output Measure

- Workshop single session

Year	Target	Actual
2008	{No Data Entered}	157

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	beef producers report information and services improved their profitability, stewardship and/or management
2	customers that receive organic grain production research data will integrate results into production systems
3	extension employees will know what is expected from them in a disaster
4	farmers will make a change by: growing oil seed crops, using local on-farm vegetable oil or biodiesel, and/or planning an individual or cooperative on-farm vegetable oil or biodiesel facility.
5	extension and agency personnel gain new skills that can be applied in their work
6	number of businesses or organizations who report better decision making
7	number of dairy farmers who adopt a best management practice they learned from another farmer participant
8	number of dairy farmers who adopt best management practices to improve weak areas of the farming operation
9	number of dairy farmers who indicate intent to make at least 1 change
10	Increase in number of dairy farms increasing forage quality as measured by ADF, NDF, Protein, and NEL
11	Increase in number of dairy farms that increase pregnancy/fertility rates
12	number of farm families who take action on a recommendation made by an Extension team after the APT plan is developed
13	Increase in number of farmers having a greater understanding of the costs associated with organic farming
14	Increase in number of farms completing Dairy Stewardship assessment who adopt at least two sustainable practices
15	Increase in number of maple producers who adopt recommended practices that increase overall system efficiency and syrup quality
16	Increase in number of producers who have increased understanding of avian influenza risk, signs of disease, and who to contact
17	Increase in number of sheep farmers demonstrating better livestock management skills who report an increase in the number of healthy sheep
18	Increase in number of sheep producers who report a reduced parasite load in animals
19	Increase in number of sheep farms who report decreased lamb mortality
20	Increase in the number of communities that integrate the participatory modeling tool into long-term town planning
21	Increase in the number of vegetable and berry growers who implement changes in production, pest control, and/or management practice resulting in the desired outcome
22	number of growers implementing IPM practices reducing reliance on pesticides
23	Increase the number of commercial applicators implementing IPM practices
24	Increase in number of farm and forest landowners who report greater understanding of farm and/or forest transfer issues and options
25	Increase the number of farm and forest landowners who implement or change their estate plan and/or transfer plan
26	number of farmers selling directly to consumers implementing marketing, production and record keeping skills
27	Increase the number of farmers who implement at least one cropping practice to improve productivity, forage quality and profitability
28	number of farmers with business plans who use financial statements to address management problems in farm operation increasing farm profitability
29	Increase the number of maple producers adopting a recommended practice increasing their sap yields by 5%
30	Increase the number of maple producers making use of research findings to better estimate best tapping date
31	number of participants who maintain direct involvement in promoting the importance of Vermont Agriculture
32	Increase the number of participants passing the required applicators licensing test
33	Increase the number of planners reporting increased feelings of competency in understanding requirements in NMP and assisting farmers in implementation of Nutrient Management Plans
34	Increase the number of maple producers adopting most effective sap collection techniques

- 35 number of forest owners who plan for long term disposition of woodlands
- 36 participants will begin growing organic grains as a part of their farming operation
- 37 participants will have gained knowledge on how to grow organic grains
- 38 acres of forest land will be opened for tourism and recreation access
- 39 participants will implement information learned from Grain Growing workshops
- 40 equine facilities incorporate biosecurity, safety and preventative measures
- 41 increase in collaboration with agency and industry personnel to address farm safety
- 42 Increase in number of Growing Places graduates who make an intentional, informed decision not to start a business after completing the course
- 43 Increase in number of Growing Places graduates who go on to start a business within 18 months of course completion
- 44 number of fair and field days, and similar events that incorporate assessment and implementation of practical safeguards
- 45 number of fair, field days or event attendees who demonstrate an increased understanding of the health risks associated with the failure to wash hands by using safeguards provided (such as hand sanitation stations)
- 46 Increase in number of farmers who develop water quality protection plans
- 47 Increase in number of farmers who indicate increased knowledge about forage and grazing practices
- 48 Increase in number of farmers who create and implement business plans
- 49 Increase in number of farmers who use financial statements to identify farm management problems
- 50 number of farms that have current plans for use by emergency first responders
- 51 Increase in number of farms that incorporate biosecurity, safety and preventative measures
- 52 Increase in number of new/aspiring farmers who have a completed goal statement and an action plan for a new agricultural business
- 53 number of new/aspiring farmers who have a completed goal statement and an action plan for a new agricultural business
- 54 Increase in number of participants who have a greater understanding of their expenses and profit centers
- 55 Increase in number of participants who show a 5% or more increase in farm profitability after implementing recommended management changes
- 56 Increase in number of participants who will understand what pieces are in a plan, and will have a better focus for their farm business
- 57 Increase in number of participating service providers report increased understanding of services provided by other agencies and organizations
- 58 Increase in number of program participants who make informed decisions about crop insurance
- 59 Increase in number of service providers who use the legal guide as a reference
- 60 Increase in number of tax school participants stating improved accuracy of tax reporting for their clients
- 61 Increase in number of farmers who identify and use a tool (such as Quicken) for farm financial records
- 62 Increase in number of tax schools participants understanding federal and state tax laws and requirements
- 63 Increase in number of farmers who use financial reports with another person for business purposes
- 64 Increase in number of farmers who implement a practice that improves soil quality resulting in improved crop yield and quality
- 65 Increase in number of farmers who implement at least one change as outlined in the water quality protection plan
- 66 Increase the number of businesses who expand as a result of canoe trail recreation
- 67 number of beef farmers participating in consignment sales and value added beef markets who report an increased net profit
- 68 number of businesses who report expected increases in profitability directly related to tourism
- 69 Increase in number of farmers that develop a nutrient management plan for their farm
- 70 Increase the number of farmers who implement at least one change in nutrient management plan practices
- 71 Increase the number of farmers who implement grazing plans
- 72 Increase the number of farmers who increase their knowledge of slag barrier technology
- 73 Increase the number of farmers who increase their understanding of current requirements for planning and implementation of nutrient management plans for farm compliance with the Vermont medium farm operation permit
- 74 Increase the number of legislators and key decision makers who increase understanding of current local agricultural issues

75	Increase the number of school facilities that implement IPM strategies
76	Increase the number of sheep producers who supply lamb to Vermont Quality Meats
77	Decrease in number of days of beach closures in pilot areas.
78	Farmers will make a change by learning how to: grow oil seed crops, harvest oil seed crops, process oil seed crops into oil, produce biofuel, and plan a cooperative on-farm biofuel facility
79	Increase growers who will save time (therefore money from labor savings) as a result of learning how to access information they need more readily, and from new knowledge of pest-control sites, be able to provide better, more cost effective, and least toxic controls.
80	Increase in number of dairy/diverse livestock farmers who indicate intent to make at least 1 change
81	Increase in number of tour leaders and organizers that enforce biosecurity measures when visiting farms
82	Increase in small ruminant dairy farmers who will use information to make decisions, change management or purchases to improve animal health/production and farm profitability.
83	Increase in small ruminant farmers who intend to use information to make decisions, change management or purchases to improve animal health/production and farm profitability.
84	Increase in the number of Extension Nonprofit organizations who express an interest in the manual implement programming for women farmers.
85	Increase in the number of Watershed Alliance (WSA) interns who report increased knowledge and skills related to environmental education and watersheds.
86	Increase the number of Vermont Maple Producers who have improved knowledge about how to meet Vermont Maple Quality Standards.
87	Increase in number of farms that implement business plans resulting in increased profitability.
88	Increase number of gardeners and growers provided results will change knowledge, grow new crops.
89	Increase number of towns using stormwater management and non-point source pollution prevention/ best management practices.
90	Increase the knowledge and skills of youth to raise healthy animals. (Action)
91	Increase the number of growers implementing Integrated Pest Management (IPM) practices reducing reliance on pesticides.
92	Increase the number of participants who understand current local agricultural issues related to dairy farming and environmental protection.
93	Increase the number of participants who average 8 hours each in seminars who will change business practices
94	Increase the number of participants who maintain direct involvement in promoting the importance of Vermont agriculture
95	Increase the number of private landowners who will change their gardening practices to save money, be more environmentally sustainable as a result of education provided.
96	Increase the number of private landowners who will change garden practices
97	Increase the public's awareness of the threat of ALB
98	Increased towns use of geospatial data relating to water resource protection
99	Increase/maintain the USDA NRCS support for Sustainable Ag practices
100	Increased delivery of organic dairy information to dairy farmers across the nation that is accessible, reliable, credible and up-to-date.
101	Local retail lawn and garden centers are sources of information about low input lawn care options
102	Growers increase knowledge of IPM strategies and techniques and how to prevent pest management problems.
103	Increase in number of Master Gardener participants earning certification
104	Increase in number of community watershed organizations developing pollution prevention outreach effort
105	Increase in number of educators in Watershed Alliance Program increasing knowledge and use of new teaching tools and techniques
106	Increase in number of growers intending to use biorational pesticides
107	Increase in number of households adopting low input lawn/garden care practices
108	Increase in number of lakeshore households aware of link between residential practices and coastal water quality
109	Increase in number of middle school students demonstrating increased awareness of the importance of urban watersheds
110	Increase in number of participants who report making a change in on-farm production, marketing, financial management, legal or human resource aspects of their business

111	Increase in number of schools that continue to participate in Watershed Alliance (WSA) Program in subsequent years
112	Increase in number of sheep farmers who increase knowledge about grazing practices
113	Increase in number of students demonstrating increased knowledge of watersheds
114	Increase in number of towns adopting residential domestic NPS surveys to develop pollution prevention education
115	Increase in the number of horse owners who improve pasture management practices
116	Increase in the number of horse owners with increased knowledge of pasture management as it relates to surface water runoff
117	Increase in the number of student led community service watershed/water quality outreach projects
118	Increase knowledge of organic apple production techniques
119	Increase or maintain the number of growers who will make informed decisions regarding best integrated pest management (IPM) options to reduce economic, health and/or environmental risks
120	Increase the number of commercial properties reducing landscape inputs
121	Increase the number of home gardeners who implement Integrated Pest Management (IPM) practices
122	Increase the number of home gardeners who increase their knowledge of Integrated Pest Management (IPM) practices
123	Increase the number of people who show improvement in food safety and preservation practices
124	Increase the number of sheep farmers who implement grazing plans
125	Increase the number of sheep producers who increase knowledge and skills in Managed Intensive Grazing
126	Increase the number of student interns teaching backyard composting
127	number of beach pilot areas who reduce the number of days of beach closures
128	farms plan for and incorporate biosecurity, safety and preventative measures
129	producers make a facility change to improve either herd health, herd productivity, the environment, community relations, labor, efficiency, and/or crop quality/quantity
130	farmers implement cover cropping on their farm
131	growers report cost savings from more cost effective and less toxic pest control due to easy access to pest control information sites
132	Number of equine experts actively contributing to eXtension CoP- HorseQuest
133	Increase mastitis treatment options for dairy farmers
134	Increase the publics awareness of the threat of invasive threats (i.e. Asian Longhorn Beetle)
135	Increase the number of available nutrient management system options available to dairy farmers
136	Increase adoption of integrated pest management for thrips in greenhouse ornamentals
137	Increase number of cost effective pest control options available to farmers

Outcome #1

1. Outcome Measures

beef producers report information and services improved their profitability, stewardship and/or management
Not reporting on this Outcome for this Annual Report

Outcome #2

1. Outcome Measures

customers that receive organic grain production research data will integrate results into production systems

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	50	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #3

1. Outcome Measures

extension employees will know what is expected from them in a disaster
Not reporting on this Outcome for this Annual Report

Outcome #4

1. Outcome Measures

farmers will make a change by: growing oil seed crops, using local on-farm vegetable oil or biodiesel, and/or planning an individual or cooperative on-farm vegetable oil or biodiesel facility.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	45	34

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #5

1. Outcome Measures

extension and agency personnel gain new skills that can be applied in their work

Not reporting on this Outcome for this Annual Report

Outcome #6

1. Outcome Measures

number of businesses or organizations who report better decision making

Not reporting on this Outcome for this Annual Report

Outcome #7

1. Outcome Measures

number of dairy farmers who adopt a best management practice they learned from another farmer participant

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	3	250

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
133	Pollution Prevention and Mitigation
601	Economics of Agricultural Production and Farm Management

Outcome #8

1. Outcome Measures

number of dairy farmers who adopt best management practices to improve weak areas of the farming operation

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	3	28

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
313	Internal Parasites in Animals

Outcome #9

1. Outcome Measures

number of dairy farmers who indicate intent to make at least 1 change
Not reporting on this Outcome for this Annual Report

Outcome #10

1. Outcome Measures

Increase in number of dairy farms increasing forage quality as measured by ADF, NDF, Protein, and NEL
Not reporting on this Outcome for this Annual Report

Outcome #11

1. Outcome Measures

Increase in number of dairy farms that increase pregnancy/fertility rates

Not reporting on this Outcome for this Annual Report

Outcome #12

1. Outcome Measures

number of farm families who take action on a recommendation made by an Extension team after the APT plan is developed

Not reporting on this Outcome for this Annual Report

Outcome #13

1. Outcome Measures

Increase in number of farmers having a greater understanding of the costs associated with organic farming

Not reporting on this Outcome for this Annual Report

Outcome #14

1. Outcome Measures

Increase in number of farms completing Dairy Stewardship assessment who adopt at least two sustainable practices

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	28	31

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #15

1. Outcome Measures

Increase in number of maple producers who adopt recommended practices that increase overall system efficiency and syrup quality

Not reporting on this Outcome for this Annual Report

Outcome #16

1. Outcome Measures

Increase in number of producers who have increased understanding of avian influenza risk, signs of disease, and who to contact

Not reporting on this Outcome for this Annual Report

Outcome #17

1. Outcome Measures

Increase in number of sheep farmers demonstrating better livestock management skills who report an increase in the number of healthy sheep

Not reporting on this Outcome for this Annual Report

Outcome #18

1. Outcome Measures

Increase in number of sheep producers who report a reduced parasite load in animals

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	20	23

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
313	Internal Parasites in Animals

Outcome #19

1. Outcome Measures

Increase in number of sheep farms who report decreased lamb mortality

Not reporting on this Outcome for this Annual Report

Outcome #20

1. Outcome Measures

Increase in the number of communities that integrate the participatory modeling tool into long-term town planning
Not reporting on this Outcome for this Annual Report

Outcome #21

1. Outcome Measures

Increase in the number of vegetable and berry growers who implement changes in production, pest control, and/or management practice resulting in the desired outcome
Not reporting on this Outcome for this Annual Report

Outcome #22

1. Outcome Measures

number of growers implementing IPM practices reducing reliance on pesticides
Not reporting on this Outcome for this Annual Report

Outcome #23

1. Outcome Measures

Increase the number of commercial applicators implementing IPM practices

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	80	28

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The public is extremely concerned about the status of the environment and their exposure to chemical pesticides. Greenhouse grower are also concerned. IPM offers a viable solution to these concerns, though rarely do they use this as a way to add value to their products. However, if growers are to be duly compensated for growing their plants according to IPM practices, the public must know why that is important to them and why it is worth the extra cost.

What has been done

A survey was conducted among customers at greenhouses, garden centers and nurseries in Maine, New Hampshire and Vermont to determine what proportion of the general public knew about IPM. This survey served two purposes, 1. to gain insight into the knowledge level of the public about IPM and 2. to spread the word about IPM on an individual basis.

Results

Among the 260 people interviewed, we found that only 20% of had heard the term. Of those who thought they had heard of IPM, only 5% gave an accurate general definition. Over 68% of those questioned said they would be willing to pay more for plants grown according to IPM practices, now that they knew its value to the environment and human health. This indicated that significant public education about IPM is needed and that IPM grown products could generate added revenue for growers. We handed out IPM brochures to all those who took part in the survey and encouraged growers to continue to promote the concept though posters and distribution of educational materials.

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

Outcome #24

1. Outcome Measures

Increase in number of farm and forest landowners who report greater understanding of farm and/or forest transfer issues and options
Not reporting on this Outcome for this Annual Report

Outcome #25

1. Outcome Measures

Increase the number of farm and forest landowners who implement or change their estate plan and/or transfer plan
Not reporting on this Outcome for this Annual Report

Outcome #26

1. Outcome Measures

number of farmers selling directly to consumers implementing marketing, production and record keeping skills
Not reporting on this Outcome for this Annual Report

Outcome #27

1. Outcome Measures

Increase the number of farmers who implement at least one cropping practice to improve productivity, forage quality and profitability
Not reporting on this Outcome for this Annual Report

Outcome #28

1. Outcome Measures

number of farmers with business plans who use financial statements to address management problems in farm operation increasing farm profitability

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	20	24

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
601	Economics of Agricultural Production and Farm Management

Outcome #29

1. Outcome Measures

Increase the number of maple producers adopting a recommended practice increasing their sap yields by 5%

Not reporting on this Outcome for this Annual Report

Outcome #30

1. Outcome Measures

Increase the number of maple producers making use of research findings to better estimate best tapping date

Not reporting on this Outcome for this Annual Report

Outcome #31

1. Outcome Measures

number of participants who maintain direct involvement in promoting the importance of Vermont Agriculture

Not reporting on this Outcome for this Annual Report

Outcome #32

1. Outcome Measures

Increase the number of participants passing the required applicators licensing test

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	50	69

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
216	Integrated Pest Management Systems

Outcome #33

1. Outcome Measures

Increase the number of planners reporting increased feelings of competency in understanding requirements in NMP and assisting farmers in implementation of Nutrient Management Plans

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	15	13

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

Outcome #34

1. Outcome Measures

Increase the number of maple producers adopting most effective sap collection techniques

Not reporting on this Outcome for this Annual Report

Outcome #35

1. Outcome Measures

number of forest owners who plan for long term disposition of woodlands

Not reporting on this Outcome for this Annual Report

Outcome #36

1. Outcome Measures

participants will begin growing organic grains as a part of their farming operation

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	20	20

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Organic grains may be used for human and animal feed and increasingly oilseeds. More farmers are learning to grow homegrown grains as they face escalating costs and volatile markets.

What has been done

Outreach programs were developed to consider selection of feed grain species, soil factors in grain production, yield considerations, production costs, livestock feed value, weed management, and disease control. Additionally, extension faculty researched soybean varieties best suited to Vermont; purchased seed for six farms in a growing trial; designed the trials; trouble-shot during the growing season; helping find an organic pesticide; and ran "field days" for farmers that demonstrated good growing techniques.

Results

Outreach, education, and research efforts resulted in improved economics (35%), increased acreage (40%), improved weed control and soil health (45%), improved yields (30%), and improved farmer to farmer networking (65%). Six farmers learned how to grow, clean and process organic soybeans for a lucrative Vermont soy company. Two other attendees are building organic grain production into their operations as a new enterprise. Acreage in organics has doubled in the last two year as a result of the efforts of Extension and other state-wide organizations and the improved economies of organic farming.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #37**1. Outcome Measures**

participants will have gained knowledge on how to grow organic grains

Not reporting on this Outcome for this Annual Report

Outcome #38**1. Outcome Measures**

acres of forest land will be opened for tourism and recreation access

Not reporting on this Outcome for this Annual Report

Outcome #39**1. Outcome Measures**

participants will implement information learned from Grain Growing workshops

Not reporting on this Outcome for this Annual Report

Outcome #40

1. Outcome Measures

equine facilities incorporate biosecurity, safety and preventative measures

Not reporting on this Outcome for this Annual Report

Outcome #41

1. Outcome Measures

increase in collaboration with agency and industry personnel to address farm safety

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	10	16

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety

Outcome #42

1. Outcome Measures

Increase in number of Growing Places graduates who make an intentional, informed decision not to start a business after completing the course

Not reporting on this Outcome for this Annual Report

Outcome #43

1. Outcome Measures

Increase in number of Growing Places graduates who go on to start a business within 18 months of course completion

Not reporting on this Outcome for this Annual Report

Outcome #44

1. Outcome Measures

number of fair and field days, and similar events that incorporate assessment and implementation of practical safeguards

Not reporting on this Outcome for this Annual Report

Outcome #45

1. Outcome Measures

number of fair, field days or event attendees who demonstrate an increased understanding of the health risks associated with the failure to wash hands by using safeguards provided (such as hand sanitation stations)

Not reporting on this Outcome for this Annual Report

Outcome #46

1. Outcome Measures

Increase in number of farmers who develop water quality protection plans

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	0	7

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
133	Pollution Prevention and Mitigation

Outcome #47

1. Outcome Measures

Increase in number of farmers who indicate increased knowledge about forage and grazing practices

Not reporting on this Outcome for this Annual Report

Outcome #48

1. Outcome Measures

Increase in number of farmers who create and implement business plans

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	10	16

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

Outcome #49

1. Outcome Measures

Increase in number of farmers who use financial statements to identify farm management problems

Not reporting on this Outcome for this Annual Report

Outcome #50

1. Outcome Measures

number of farms that have current plans for use by emergency first responders

Not reporting on this Outcome for this Annual Report

Outcome #51

1. Outcome Measures

Increase in number of farms that incorporate biosecurity, safety and preventative measures

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	50	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Farming remains one of the most dangerous jobs in the United States. Farmers have many health and safety hazards, including chemicals and pesticides, tools, equipment, and hazardous areas, such as grain bins, silos and wells. Finally livestock can spread diseases or cause injuries. An active safety program can result in lower workers compensation premiums.

What has been done

UVM Extension, the VT Agency of Ag. and the VT Dept. of Labor developed a Farm Safety program for dairy farmers to train farmers to educate their employees on farm safety issues in an effort to reduce injuries and accidents and to reduce worker compensation premiums. The first year saw 12 farms participate. Each farmer received a farm safety audit, agreed to develop a Farm Safety Plan, to take corrective steps, and conduct monthly training programs.

Results

As a result of participating in the program, 2 of 12 farms have already experienced a reduction of their Workers' Compensation premium. They approached their workers' compensation insurance carriers upon receipt of their invoice. The farmers reviewed with their insurance carrier the situations on their individual farms, the safety program that they have implemented and other relevant information. One farm received a discount of 25% off the premium and the second farm received 15% off the premium rate. Both farms saved several thousand dollars. It is anticipated that more farms will be encouraged into action.

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
602	Business Management, Finance, and Taxation

Outcome #52

1. Outcome Measures

Increase in number of new/aspiring farmers who have a completed goal statement and an action plan for a new agricultural business
Not reporting on this Outcome for this Annual Report

Outcome #53

1. Outcome Measures

number of new/aspiring farmers who have a completed goal statement and an action plan for a new agricultural business
Not reporting on this Outcome for this Annual Report

Outcome #54

1. Outcome Measures

Increase in number of participants who have a greater understanding of their expenses and profit centers
Not reporting on this Outcome for this Annual Report

Outcome #55

1. Outcome Measures

Increase in number of participants who show a 5% or more increase in farm profitability after implementing recommended management changes
Not reporting on this Outcome for this Annual Report

Outcome #56

1. Outcome Measures

Increase in number of participants who will understand what pieces are in a plan, and will have a better focus for their farm business

Not reporting on this Outcome for this Annual Report

Outcome #57

1. Outcome Measures

Increase in number of participating service providers report increased understanding of services provided by other agencies and organizations
Not reporting on this Outcome for this Annual Report

Outcome #58

1. Outcome Measures

Increase in number of program participants who make informed decisions about crop insurance
Not reporting on this Outcome for this Annual Report

Outcome #59

1. Outcome Measures

Increase in number of service providers who use the legal guide as a reference
Not reporting on this Outcome for this Annual Report

Outcome #60

1. Outcome Measures

Increase in number of tax school participants stating improved accuracy of tax reporting for their clients

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	520	334

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

State and federal income tax laws change yearly. Farm taxation involves aspects beyond those of most non-farm taxpayers, with considerations such as income and expense tracking, employment taxes, and commodity buyout programs. Typically assistance is done through consultations with CPA's and other tax advisors. The accuracy and currency of tax advisors knowledge therefore effects eventual tax costs to farmers and tax receipts to governments.

What has been done

UVM Extension conducted 2-day Income Tax Schools for 387 people, 'people who do taxes for others.' One-third of participants were Certified Public Accountants, another third were non-registered tax preparers, and 15% are enrolled agents. Tax school trainers included an extension staff person who is a member of the "National Farm Income Tax Extension Committee" that edits the IRS Farmer's Tax Guide. This guide explains federal tax laws related to farming and how farmers and their tax preparers can calculate taxes and file a farming tax return.

Results

Attendees of the tax school file nearly one-third of the tax returns in the State of Vermont. Three quarters of attendees responded that the tax school helped them improve the accuracy of the returns they file and helped improve their understanding of federal and state tax laws and requirements. Because of the vagaries of the economy and annual tax law changes, it is not possible to put a dollar sum on the direct effects of the tax school, but its penetration into the states tax preparers and the stated effects in terms of increased knowledge and filing accuracy speaks well to the effectiveness of this program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

Outcome #61

1. Outcome Measures

Increase in number of farmers who identify and use a tool (such as Quicken) for farm financial records
Not reporting on this Outcome for this Annual Report

Outcome #62

1. Outcome Measures

Increase in number of tax schools participants understanding federal and state tax laws and requirements

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	680	297

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

Outcome #63

1. Outcome Measures

Increase in number of farmers who use financial reports with another person for business purposes
Not reporting on this Outcome for this Annual Report

Outcome #64

1. Outcome Measures

Increase in number of farmers who implement a practice that improves soil quality resulting in improved crop yield and quality
Not reporting on this Outcome for this Annual Report

Outcome #65

1. Outcome Measures

Increase in number of farmers who implement at least one change as outlined in the water quality protection plan
Not reporting on this Outcome for this Annual Report

Outcome #66

1. Outcome Measures

Increase the number of businesses who expand as a result of canoe trail recreation
Not reporting on this Outcome for this Annual Report

Outcome #67

1. Outcome Measures

number of beef farmers participating in consignment sales and value added beef markets who report an increased net profit
Not reporting on this Outcome for this Annual Report

Outcome #68

1. Outcome Measures

number of businesses who report expected increases in profitability directly related to tourism

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	100	83

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics

Outcome #69**1. Outcome Measures**

Increase in number of farmers that develop a nutrient management plan for their farm

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	8	84

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
112	Watershed Protection and Management

Outcome #70**1. Outcome Measures**

Increase the number of farmers who implement at least one change in nutrient management plan practices

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	6	62

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation
104	Protect Soil from Harmful Effects of Natural Elements
205	Plant Management Systems

Outcome #71

1. Outcome Measures

Increase the number of farmers who implement grazing plans

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	20	22

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
204	Plant Product Quality and Utility (Preharvest)
307	Animal Management Systems

Outcome #72

1. Outcome Measures

Increase the number of farmers who increase their knowledge of slag barrier technology

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	30	26

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
602	Business Management, Finance, and Taxation
112	Watershed Protection and Management

Outcome #73

1. Outcome Measures

Increase the number of farmers who increase their understanding of current requirements for planning and implementation of nutrient management plans for farm compliance with the Vermont medium farm operation permit
Not reporting on this Outcome for this Annual Report

Outcome #74

1. Outcome Measures

Increase the number of legislators and key decision makers who increase understanding of current local agricultural issues
Not reporting on this Outcome for this Annual Report

Outcome #75

1. Outcome Measures

Increase the number of school facilities that implement IPM strategies

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	10	13

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

Outcome #76

1. Outcome Measures

Increase the number of sheep producers who supply lamb to Vermont Quality Meats

Not reporting on this Outcome for this Annual Report

Outcome #77

1. Outcome Measures

Decrease in number of days of beach closures in pilot areas.

Not reporting on this Outcome for this Annual Report

Outcome #78

1. Outcome Measures

Farmers will make a change by learning how to: grow oil seed crops, harvest oil seed crops, process oil seed crops into oil, produce biofuel, and plan a cooperative on-farm biofuel facility

Not reporting on this Outcome for this Annual Report

Outcome #79

1. Outcome Measures

Increase growers who will save time (therefore money from labor savings) as a result of learning how to access information they need more readily, and from new knowledge of pest-control sites, be able to provide better, more cost effective, and least toxic controls.

Not reporting on this Outcome for this Annual Report

Outcome #80

1. Outcome Measures

Increase in number of dairy/diverse livestock farmers who indicate intent to make at least 1 change

Not reporting on this Outcome for this Annual Report

Outcome #81

1. Outcome Measures

Increase in number of tour leaders and organizers that enforce biosecurity measures when visiting farms

Not reporting on this Outcome for this Annual Report

Outcome #82

1. Outcome Measures

Increase in small ruminant dairy farmers who will use information to make decisions, change management or purchases to improve animal health/production and farm profitability.

Not reporting on this Outcome for this Annual Report

Outcome #83

1. Outcome Measures

Increase in small ruminant farmers who intend to use information to make decisions, change management or purchases to improve animal health/production and farm profitability.

Not reporting on this Outcome for this Annual Report

Outcome #84

1. Outcome Measures

Increase in the number of Extension Nonprofit organizations who express an interest in the manual implement programming for women farmers.

Not reporting on this Outcome for this Annual Report

Outcome #85

1. Outcome Measures

Increase in the number of Watershed Alliance (WSA) interns who report increased knowledge and skills related to environmental education and watersheds.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	9	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management

Outcome #86

1. Outcome Measures

Increase the number of Vermont Maple Producers who have improved knowledge about how to meet Vermont Maple Quality Standards.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	30	154

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The maple industry remains an important component to Vermont's agricultural industry, impacting more than 2,000 landowners. It employs thousands each spring, with significant downstream employment for many retailers, packers, and equipment manufacturers. It results in about \$15 million in direct sales each year. Syrup that meets Vermont Maple Quality Standards is an important aspect of maintaining these sales.

What has been done

The Maple Conferences are a series of educational meetings held around the state for the purpose of bringing the latest scientific and technological information to sugarmakers from Vermont and surrounding regions. Research described at the conference focused on new spout designs to improve maple sap yields and taphole management critical in achieving high sap production rates.

Results

UVM scientists have developed a spout that reduces the backward movement of sap, improving sap production rates up to 25%. This spout is under patent review, with expected licensing to a Vermont-based maple equipment manufacturer for production by the spring maple season of 2010. Almost all (97%) of attendees responded that they make changes after attending the conference that help improve their mapping efficiency.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #87**1. Outcome Measures**

Increase in number of farms that implement business plans resulting in increased profitability.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	20	35

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Large or small, farms are important to Vermont's working landscape. Nearly 5,000 Vermont farms gross less than \$50,000 (Source: USDA census). Almost 94% of Vermont farms are classified as "small farms", with only 451 of Vermont 6,571 farms grossing more than \$250,000. Agriculture is a significant influence in the workforce and economics of the state. Farmers benefit from technical support and practical assistance to help them adapt to rapid and dramatic changes in agriculture to enhance the long-term viability of Vermont farms.

What has been done

Since inception of UVM's Farm Viability Enhancement program, more than 193 farms have completed business plans representing over 82,600 acres of productive farmland and 700 jobs. This year, the Farm Viability team provided direct on-farm services to 96 farms, with 24 completing whole farm business plans, and 7 others completed an enterprise analysis for diversifying their farm operation. Summer of 2009 a formal program evaluation will be completed.

Results

More than two-thirds (~130) farmers plan to use their plan: as a baseline to measure financial progress; to help decide the feasibility of expansion, diversification or specialization; as a guide in making management changes and as a reminder of where they can cut costs or boost production. 35 farmers contacted with follow up visits have taken action on their business plans and indicated an increase in farm profits over 2006. The 2008 farms utilize more than 13,000 acres; provide 95 jobs for farm family members and 58 non-family employees – an average of 3.6 jobs (FTEs) per farm. One farmer says, "As I said above, this was the single most helpful support I've received from any organization, public or private!"

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

Outcome #88**1. Outcome Measures**

Increase number of gardeners and growers provided results will change knowledge, grow new crops.

Not reporting on this Outcome for this Annual Report

Outcome #89**1. Outcome Measures**

Increase number of towns using stormwater management and non-point source pollution prevention/ best management practices.

Not reporting on this Outcome for this Annual Report

Outcome #90**1. Outcome Measures**

Increase the knowledge and skills of youth to raise healthy animals. (Action)

Not reporting on this Outcome for this Annual Report

Outcome #91**1. Outcome Measures**

Increase the number of growers implementing Integrated Pest Management (IPM) practices reducing reliance on pesticides.

Not reporting on this Outcome for this Annual Report

Outcome #92

1. Outcome Measures

Increase the number of participants who understand current local agricultural issues related to dairy farming and environmental protection.

Not reporting on this Outcome for this Annual Report

Outcome #93

1. Outcome Measures

Increase the number of participants who average 8 hours each in seminars who will change business practices

Not reporting on this Outcome for this Annual Report

Outcome #94

1. Outcome Measures

Increase the number of participants who maintain direct involvement in promoting the importance of Vermont agriculture

Not reporting on this Outcome for this Annual Report

Outcome #95

1. Outcome Measures

Increase the number of private landowners who will change their gardening practices to save money, be more environmentally sustainable as a result of education provided.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	300	111

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
801	Individual and Family Resource Management

Outcome #96

1. Outcome Measures

Increase the number of private landowners who will change garden practices

Not reporting on this Outcome for this Annual Report

Outcome #97

1. Outcome Measures

Increase the public's awareness of the threat of ALB

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	2000	2000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems
605	Natural Resource and Environmental Economics

Outcome #98

1. Outcome Measures

Increased towns use of geospatial data relating to water resource protection

Not reporting on this Outcome for this Annual Report

Outcome #99

1. Outcome Measures

Increase/maintain the USDA NRCS support for Sustainable Ag practices

Not reporting on this Outcome for this Annual Report

Outcome #100

1. Outcome Measures

Increased delivery of organic dairy information to dairy farmers across the nation that is accessible, reliable, credible and up-to-date.

Not reporting on this Outcome for this Annual Report

Outcome #101

1. Outcome Measures

Local retail lawn and garden centers are sources of information about low input lawn care options

Not reporting on this Outcome for this Annual Report

Outcome #102

1. Outcome Measures

Growers increase knowledge of IPM strategies and techniques and how to prevent pest management problems.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	50	100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

Outcome #103

1. Outcome Measures

Increase in number of Master Gardener participants earning certification

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	100	316

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
216	Integrated Pest Management Systems
204	Plant Product Quality and Utility (Preharvest)
102	Soil, Plant, Water, Nutrient Relationships

Outcome #104

1. Outcome Measures

Increase in number of community watershed organizations developing pollution prevention outreach effort

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	5	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

Outcome #105

1. Outcome Measures

Increase in number of educators in Watershed Alliance Program increasing knowledge and use of new teaching tools and techniques
Not reporting on this Outcome for this Annual Report

Outcome #106

1. Outcome Measures

Increase in number of growers intending to use biorational pesticides

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	30	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

Outcome #107

1. Outcome Measures

Increase in number of households adopting low input lawn/garden care practices

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	150	62

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Non-point source pollution from lakefront development, intensification of agricultural production and watershed residential development remains a risk source for water quality deterioration in New England lakes. Most lakeshore residents are unaware that gardening and landscape efforts are an important potential pollutant source.

What has been done

Pollution prevention education initiatives began in several Vermont lakes through a collaboration with LEAP youth teams, local conservation districts and interns from Green Mt College. Outreach personnel work with households to increase awareness, provide options for behavioral modifications that will reduce waste entering waterways, and increase local monitoring efforts of waterways.

Results

Two years following LEAP project education efforts, surveys show over 60% of lakeshore households at Lake St Catherine are aware of the link between lawn care and water quality. Over 25% of lakeshore households contacted adopted at least one pollution prevention practice; 11 owners agreed to conserve 1200 ft of lakeshore vegetation as a buffer rather than removing vegetation; buffers were installed on 85 properties and shoreline stabilization designs were provided to 62 homeowners with many pledging to complete improvements within a year. Lake St Catherine's had increased water clarity, a measure of water quality, along shorelines where buffer strips were installed or vegetation maintained.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

Outcome #108

1. Outcome Measures

Increase in number of lakeshore households aware of link between residential practices and coastal water quality

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	50	62

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management

Outcome #109

1. Outcome Measures

Increase in number of middle school students demonstrating increased awareness of the importance of urban watersheds
Not reporting on this Outcome for this Annual Report

Outcome #110

1. Outcome Measures

Increase in number of participants who report making a change in on-farm production, marketing, financial management, legal or human resource aspects of their business

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	61	17

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
601	Economics of Agricultural Production and Farm Management

Outcome #111

1. Outcome Measures

Increase in number of schools that continue to participate in Watershed Alliance (WSA) Program in subsequent years

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	20	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management

Outcome #112

1. Outcome Measures

Increase in number of sheep farmers who increase knowledge about grazing practices

Not reporting on this Outcome for this Annual Report

Outcome #113

1. Outcome Measures

Increase in number of students demonstrating increased knowledge of watersheds

Not reporting on this Outcome for this Annual Report

Outcome #114

1. Outcome Measures

Increase in number of towns adopting residential domestic NPS surveys to develop pollution prevention education

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	5	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
723	Hazards to Human Health and Safety

Outcome #115

1. Outcome Measures

Increase in the number of horse owners who improve pasture management practices

Not reporting on this Outcome for this Annual Report

Outcome #116

1. Outcome Measures

Increase in the number of horse owners with increased knowledge of pasture management as it relates to surface water runoff
Not reporting on this Outcome for this Annual Report

Outcome #117

1. Outcome Measures

Increase in the number of student led community service watershed/water quality outreach projects
Not reporting on this Outcome for this Annual Report

Outcome #118

1. Outcome Measures

Increase knowledge of organic apple production techniques
Not reporting on this Outcome for this Annual Report

Outcome #119

1. Outcome Measures

Increase or maintain the number of growers who will make informed decisions regarding best integrated pest management (IPM) options to reduce economic, health and/or environmental risks
Not reporting on this Outcome for this Annual Report

Outcome #120

1. Outcome Measures

Increase the number of commercial properties reducing landscape inputs

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	10	17

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management

Outcome #121

1. Outcome Measures

Increase the number of home gardeners who implement Integrated Pest Management (IPM) practices

Not reporting on this Outcome for this Annual Report

Outcome #122

1. Outcome Measures

Increase the number of home gardeners who increase their knowledge of Integrated Pest Management (IPM) practices

Not reporting on this Outcome for this Annual Report

Outcome #123

1. Outcome Measures

Increase the number of people who show improvement in food safety and preservation practices

Not reporting on this Outcome for this Annual Report

Outcome #124

1. Outcome Measures

Increase the number of sheep farmers who implement grazing plans

Not reporting on this Outcome for this Annual Report

Outcome #125

1. Outcome Measures

Increase the number of sheep producers who increase knowledge and skills in Managed Intensive Grazing

Not reporting on this Outcome for this Annual Report

Outcome #126

1. Outcome Measures

Increase the number of student interns teaching backyard composting

Not reporting on this Outcome for this Annual Report

Outcome #127

1. Outcome Measures

number of beach pilot areas who reduce the number of days of beach closures

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management

Outcome #128**1. Outcome Measures**

farms plan for and incorporate biosecurity, safety and preventative measures

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety

Outcome #129**1. Outcome Measures**

producers make a facility change to improve either herd health, herd productivity, the environment, community relations, labor, efficiency, and/or crop quality/quantity

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	27

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

Outcome #130

1. Outcome Measures

farmers implement cover cropping on their farm

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	29

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
104	Protect Soil from Harmful Effects of Natural Elements

Outcome #131**1. Outcome Measures**

growers report cost savings from more cost effective and less toxic pest control due to easy access to pest control information sites

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	24

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

Outcome #132**1. Outcome Measures**

Number of equine experts actively contributing to eXtension CoP- HorseQuest

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	25

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In 2007 Vermont had an estimated 13,000 horses. They are expensive to purchase and maintain. Horses often cost owners more than \$3,000 annually for boarding, food, health care and related costs. UVM Extension is committed to providing horse owners with the most current and useful knowledge dealing with proper equine care, management and enjoyment.

What has been done

HorseQuest was the first Extension Community of Practice to launch their site so that internet users can interact with experts to obtain customized answers to questions. Over 50 equine experts from over 35 universities worked together to provide this trusted resource for extension. Since 2006, HorseQuest has sponsored 8 online chats utilizing Equine Specialists from at least 14 Land Grant Universities. As of June 2008, eXtension's Horse Community of Practice has created and launched 12 comprehensive learning lessons.

Results

The HorseQuest eXtension website has demonstrated success in return on investment, as well as reaching and impacting the national audience. HorseQuest faculty produce a \$23 return for every new federal dollar invested in their eXtension Community of Practice. Eighty-nine percent (89%) of participants surveyed attributed finding answers to their problems through the chats. The HorseQuest eXtension website received the 2008 Communication Award in recognition of Excellence in Use of Communications Media from the National Association of County Agricultural Agents, with over 30 national entries. The site includes more than 50 horse experts from around the country.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

Outcome #133

1. Outcome Measures

Increase mastitis treatment options for dairy farmers

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Mammary gland infection is a problem for the dairy industry, leading to an estimated economic loss of \$2 billion/year in the U.S. These losses are due to reduced milk yield, reduced compositional quality, lower product quality, and increased veterinary cost along with increased suffering of the cow. Current mastitis treatments rely on sterilization techniques, selective culling of chronically ill animals, and the use antibiotics. There has been little success with vaccines, and sterilization techniques have only a 15% success rate.

What has been done

UVM scientists patented a genetic approach to treatment of staphylococcus infections causing mastitis. The invention provides methods for expressing in mammalian cells, proteins having anti-microbial, particularly anti-staphylococcal, activity. The outcome of the genetic alterations is that the anti-microbial protein is expressed within mammary cells that are sensitive to intracellular infection.

Results

The patented genetic approach to eliminating bovine mastitis and reduce per cow costs to dairy producers is now available worldwide. This invention results generally in an improved approach for the treatment of microbial infections in mammals.

4. Associated Knowledge Areas

KA Code	Knowledge Area
315	Animal Welfare/Well-Being and Protection
313	Internal Parasites in Animals

Outcome #134**1. Outcome Measures**

Increase the public's awareness of the threat of invasive threats (i.e. Asian Longhorn Beetle)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	2000

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The Asian longhorned beetle (ALB) is an exotic pest threatening the Northern hardwood forest. Maples are a major host of this beetle. Infested trees can be killed in 3-5 years. In 2009 a large infestation of ALB was detected 45 miles from the Vermont border in Worcester, Massachusetts. Thousands of trees will be destroyed in an attempt to eradicate it there.

What has been done

Early detection is critical to eradicate this exotic species from the US. Personnel from the UVM Entomology Research Laboratory and Extension administer a public awareness program to alert the public to this pest. In response to a request from sugarmakers, small id cards were designed containing photos, key identification information about the beetle and the UVM ALB hotline telephone number.

Results

More than 150,000 of these cards were printed, with more than 125,000 already distributed nationwide by sugarmakers throughout the maple syrup producing area. The hotline receives hundreds of calls annually from people reporting sightings of suspect ALB. Luckily, so far, these have been false alarms, but each call helps to spread knowledge throughout the state. Plans are underway to reprint these cards soon for other states.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
204	Plant Product Quality and Utility (Preharvest)

Outcome #135**1. Outcome Measures**

Increase the number of available nutrient management system options available to dairy farmers

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	2

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Farmland can be a significant pollution source and participation from dairy farmers in nutrient management programs is essential to improve overall water quality. Management of excess phosphorus (P) from agricultural and other wastewater runoff is important because P accelerates the oxygen depletion from eutrophication. This causes decreased water quality in nearby lakes.

What has been done

The prototype Constructed Wetland System (CWS) was built at the UVM Paul Miller Research Complex. It was designed for water pollution control by removing nutrients from rural and agricultural effluents. The prototype receives effluent from the milk house and barn yard, then bacteria colonies located on subsurface gravel beds and plants growing on the surface remove organic material and other nutrients from the effluent. This output is then fed into a new phosphorus filter, after which it flows into the water system.

Results

The filtration system, combining the CWS and the new P filter, is very effective, removing more than 90% of P and almost all pathogens. Similar systems could be used for agriculture to reclaim nutrients in an ecologically beneficial manner. A major advantages of this system is its portability and cost. Current phosphorus removal systems are cumbersome, making them ideal only for certain applications types. This new technology can be molded to fit most wastewater systems and integrates easily with current technology. Worldwide rights to this invention are available for purchase. There are no current governmental incentives for farmers to install these systems, similar to those already given for buffer strips. A patent for the P filter is pending.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
102	Soil, Plant, Water, Nutrient Relationships

Outcome #136**1. Outcome Measures**

Increase adoption of integrated pest management for thrips in greenhouse ornamentals

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The greenhouse industry is an important component of Vermont's diversified agricultural economy. Current pest control strategies are heavily reliant on chemical pesticides, which are neither sustainable nor desirable. Novel approaches that increase opportunities to use biological controls in the production of greenhouse ornamentals are badly needed.

What has been done

Experiments are underway testing a novel banker plant system to manage western flower thrips, a major greenhouse ornamental pest. This system uses marigolds as a banker plant, which attracts thrips out of the crop. Two biological control agents are used on the banker plants to reduce thrips: granular formulations of insect-killing fungi applied to the soil and predatory mites released on the foliage. The thrips are drawn from the crop to the banker plant where they remain at non-damaging levels.

Results

The first phase of this project is to test the fungal treatment in greenhouses. Scientific methods are being developed including how many thrips to release onto the caged plants and the suitable rate of fungal material to apply. Results were reported to greenhouse growers at our annual Tri-state Greenhouse IPM workshops held in January 2008 and 2009 in Maine, New Hampshire and Vermont. Based on exit evaluations in 2009, in the past year over 40% of the 150 attendees used some form of banker plant system. Over 58% used some form of biological control, an increase since 2001 of over 30%. Given that these workshops are the only educational event many of these growers attend annually, the high percentage of growers using biological control and banker plants demonstrates the impact of these sessions.

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

Outcome #137**1. Outcome Measures**

Increase number of cost effective pest control options available to farmers

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	1

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Pesticide failures and environmental concerns generate considerable incentive to commercialize the many fungi identified to target members of most pest classes affecting major U.S. crops. Cost for required space and substrates is prohibitive for most fungal methods adopted, limiting use to high value crops.

What has been done

UVM developed a whey-based fungal microfactory technology, relying on an inexpensive farm by-product to reduce production costs for biological pest management of insects, weeds, and plant diseases. This technology relies on the nutritive value of a farm by-product, sweet whey, which allows fungi sprayed into agricultural fields or forests to grow in tiny droplets. The tiny fungal factories spontaneously activate under suitable conditions and produce up to 100-fold increases fungal spores, and pest management dosages to plants.

Results

This patent-pending fungal microfactory approach allows greater opportunity for fungus/pest contact because of the high level of fungi produced and thus overcome physical and economic constraints of current strategies based on directly applying large amounts of fungi. In addition, some pests live in places that are difficult to reach and the additional fungi from microfactories would further enhance pest contact. When fully developed, whey-based fungal microfactory technology will enhance the effectiveness and commercial potential of the many beneficial fungi under development for pest management worldwide. The tailoring of this technology to different fungi should dramatically improve the cost effectiveness of fungal biological control agents and enhance their contribution to environmental quality by reducing pesticide usage.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
216	Integrated Pest Management Systems

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities

Brief Explanation

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- Case Study
- Other (other data sources)

Evaluation Results

Key Items of Evaluation

A survey was conducted among customers at greenhouses, garden centers and nurseries in Maine, New Hampshire and Vermont to determine what proportion of the general public knew about IPM. This survey served two purposes, 1. to gain insight into the knowledge level of the public about IPM and 2. to spread the word about IPM on an individual basis.

Among the 260 people interviewed, we found that only 20% of had heard the term. Of those who thought they had heard of IPM, only 5% gave an accurate general definition. Over 68% of those questioned said they would be willing to pay more for plants grown according to IPM practices, now that they knew its value to the environment and human health. This indicated that significant public education about IPM is needed and that IPM grown products could generate added revenue for growers. We handed out IPM brochures to all those who took part in the survey and encouraged growers to continue to promote the concept through posters and distribution of educational materials.

Program #3

V(A). Planned Program (Summary)

1. Name of the Planned Program

Community Development and the Personal and Intellectual Development of Youth

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
124	Urban Forestry	3%		4%	
601	Economics of Agricultural Production and Farm Management	0%		1%	
603	Market Economics	0%		1%	
604	Marketing and Distribution Practices	0%		1%	
605	Natural Resource and Environmental Economics	0%		1%	
608	Community Resource Planning and Development	17%		5%	
609	Economic Theory and Methods	0%		1%	
723	Hazards to Human Health and Safety	10%		9%	
724	Healthy Lifestyle	0%		9%	
801	Individual and Family Resource Management	2%		1%	
802	Human Development and Family Well-Being	13%		0%	
805	Community Institutions, Health, and Social Services	11%		15%	
806	Youth Development	44%		50%	
903	Communication, Education, and Information Delivery	0%		2%	
Total		100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	24.0	0.0	1.6	0.0
Actual	25.2	0.0	2.5	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
572056	0	421276	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1334156	0	255314	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1148492	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•4-H Lifeskills Development Program: Help youth acquire Life Skills in the following areas: Decision Making; Critical Thinking; Problem-Solving; Communication; Goal-Setting; and Skills for Everyday Living to succeed as adults.

•Abenaki Outreach Program: summer and school year program reaching Abenaki youth with life skill building opportunities

•Community Leadership:

•Downtown and Business District Analysis This program provides the community with analytical techniques that can be put to work immediately in economic revitalization efforts. The process requires input from local residents so that recommendations reflect both market conditions as well as the preferences of the community.

•EnviroQuest: Help youth acquire Life Skills in the following areas: Decision Making; Critical Thinking; Problem-Solving; Communication; Goal-Setting; and Skills for Everyday Living to succeed as adults

•Extension Leadership Institute:

•Financial Literacy: Promote, teach and support personal financial literacy education for youth

•Growing Connections: supported by base and EFNEP funds, this youth focused program teaches that nutrition, food safety, and food security issues through gardening.

•Migrant Education Program: To ensure that children of migrant farm workers, and qualifying youth under age 22, are aware of the educational support services available to them.

•Rural and Agricultural VocRehab: To assist individuals with disabilities living in rural areas and those in agricultural professions or self-employment by providing them with a variety of services tailored to their needs in order to maintain or obtain their selected employment outcome

•S.E.T. Activities: Science, Engineering and Technologie focused programming for youth. Part of a national initiative and 4 state multistate planning effort.

•Take Charge: Helping community adult members to gain the skills necessary to be confident enough to take part in town government by ultimately competing for town government leadership positions

•Town Government Project: Local town officers, decision makers and officials receive education and tools to improve job performance and management, addressing topics from new legislation to handling difficult customers.

•Urban and Community Forestry: A joint initiative between the University of Vermont Extension and the Department of Forests, Parks and Recreation. The mission of the program is to promote the stewardship of the urban and rural landscapes to enhance the quality of life in Vermont communities. The program provides educational, technical and financial assistance in the management of trees and forests, in and around the built landscape

•Vermont AgrAbility: To make recommendations that can be used by farmers with disabilities to maintain employment, through development of accommodations.

AES efforts:

- Community Development and planning
- On farm/community energy generation and secondary revenue generation
- Community and technology for rural community development
- Community market development and local foods distribution

- Communication methods and research studies for non-profit and profit organizations
- Agritourism
- Public land management
- Development of environmentally safe, non food product development (adhesives, plastics and road deicer) from whey
- Development of Artisan cheese markets
- Distinctiveness/marketing of regional foods
- Food by-product development
- Transportation initiatives

2. Brief description of the target audience

- 4-H: Adult Volunteers
- 4-H: Camp Counselors
- 4-H: Youth
- 4-H: Youth Volunteers
- Adults
- Age 1 - 5 Pre-School
- Age 13 - 18 Youth
- Age 25 - 45 Adult
- Age 25 - 60 Adult
- Age 6 - 12 School Age
- Age 8 - 18 Youth
- Agriculture: Crop Producers
- Agriculture: Dairy Processors
- Agriculture: Dairy Producers
- Agriculture: Farm Employees
- Agriculture: Farm Families
- Agriculture: Farm Managers
- Agriculture: Farmers
- Agriculture: Farmers w/disabilities
- Agriculture: Home Gardeners
- Agriculture: Maple Sugar Producers
- Agriculture: Non-Dairy Producers
- Agriculture: Service Providers

- Agriculture: Small Fruit & Vegetable Growers
- Agriculture: Veterinarians
- Agriculture:Dairy Goat, Meat Goat and Dairy Sheep Producers
- Agriculture:Government Agency Personnel
- Communities: Cities and Towns
- Communities: Community Action Agencies
- Communities: Educators
- Communities: Local Officials/Leaders
- Communities: Non-Governmental Organizations
- Community leaders and citizens
- Extension: Advisors
- Extension: Faculty/Staff
- Food Industry: Producers
- Forestry: Wood Products Businesses
- Forestry: Woodland Managers/Foresters
- Policy Makers: Legislators
- Public: Age 13-18 (Youth)
- Public: Age 19-24
- Public: Age 55+
- Public: Age 6-12 (Children)
- Public: College Students
- Public: Families
- Public: General
- Public: Nonprofit Organizations

- Public: Parents
- Public: People with Limited Resources
- Public: Small Business Owners/Entrepreneurs
- Public: Volunteers
- Train-the-Trainer recipients:adults
- Youth

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	2300	3800	1000	2000
2008	2300	62300	2315	3800

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	1
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	1	1	
2008	1	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- AgrAbility - on-farm assessments

Not reporting on this Output for this Annual Report

Output #2

Output Measure

- AgrAbility - peer support groups

Not reporting on this Output for this Annual Report

Output #3

Output Measure

- AgrAbility - public presentations

Not reporting on this Output for this Annual Report

Output #4

Output Measure

- AgrAbility-identify prospective consumers

Not reporting on this Output for this Annual Report

Output #5

Output Measure

- Club service projects

Not reporting on this Output for this Annual Report

Output #6

Output Measure

- Committee projects implemented

Not reporting on this Output for this Annual Report

Output #7

Output Measure

- Community Assistance and Support

Not reporting on this Output for this Annual Report

Output #8

Output Measure

- Foundation trustees trainings

Not reporting on this Output for this Annual Report

Output #9

Output Measure

- Journal of Extension Article

Not reporting on this Output for this Annual Report

Output #10

Output Measure

- Migrant Education Program Identification and Recruitment Certificate of Eligibility review

Not reporting on this Output for this Annual Report

Output #11

Output Measure

- Migrant Education Program Identification and Recruitment Certificate of Eligibility print materials

Not reporting on this Output for this Annual Report

Output #12

Output Measure

- Migrant Education Program Recruiter Training & Support

Not reporting on this Output for this Annual Report

Output #13

Output Measure

- Migrant Education Program Web Page

Not reporting on this Output for this Annual Report

Output #14

Output Measure

- Marketing Study report

Not reporting on this Output for this Annual Report

Output #15

Output Measure

- Migrant Education Program Public Relations articles

Not reporting on this Output for this Annual Report

Output #16

Output Measure

- Rural and Ag VocRehab assessments

Not reporting on this Output for this Annual Report

Output #17

Output Measure

- Rural and Ag VocRehab service plans

Not reporting on this Output for this Annual Report

Output #18

Output Measure

- Rural and Ag VocRehab services delivered

Not reporting on this Output for this Annual Report

Output #19

Output Measure

- Site project programs

Not reporting on this Output for this Annual Report

Output #20

Output Measure

- State Council meetings

Not reporting on this Output for this Annual Report

Output #21

Output Measure

- Stewardship of the Urban Landscape class

Not reporting on this Output for this Annual Report

Output #22

Output Measure

- Study Committee Research Tool Dev meetings

Not reporting on this Output for this Annual Report

Output #23

Output Measure

- Take Charge/ReCharge Steering Committee members

Not reporting on this Output for this Annual Report

Output #24

Output Measure

- Take Charge/ReCharge committee teaching

Not reporting on this Output for this Annual Report

Output #25

Output Measure

- Take Charge/ReCharge presentations -National Extension Tourism conference

Not reporting on this Output for this Annual Report

Output #26

Output Measure

- TakeCharge/ReCharge workshops

Not reporting on this Output for this Annual Report

Output #27

Output Measure

- Teen board for Teen congress meetings

Not reporting on this Output for this Annual Report

Output #28

Output Measure

- Tree Warden training

Not reporting on this Output for this Annual Report

Output #29

Output Measure

- Voter responsibility and public policy training in 36 towns

Not reporting on this Output for this Annual Report

Output #30

Output Measure

- Town Officers Education Conference and Municipal Officers Management Seminars conferences

Not reporting on this Output for this Annual Report

Output #31

Output Measure

- Advanced Stewardship of the Urban Landscape Training

Not reporting on this Output for this Annual Report

Output #32

Output Measure

- SOUL website

Not reporting on this Output for this Annual Report

Output #33

Output Measure

- 4-H Adult New volunteer training

Not reporting on this Output for this Annual Report

Output #34

Output Measure

- 4-H Adult Volunteer training

Not reporting on this Output for this Annual Report

Output #35

Output Measure

- 4-H Adult volunteer contest implementation training

Not reporting on this Output for this Annual Report

Output #36

Output Measure

- 4-H Educator training

Not reporting on this Output for this Annual Report

Output #37

Output Measure

- 4-H Lifeskill programming in clubs, afterschool, in-school and out of school

Not reporting on this Output for this Annual Report

Output #38

Output Measure

- Academic Year Program

Not reporting on this Output for this Annual Report

Output #39

Output Measure

- Afterschool site program

Not reporting on this Output for this Annual Report

Output #40

Output Measure

- Arbor Day Programming

Not reporting on this Output for this Annual Report

Output #41

Output Measure

- Citizen Pruner Program

Not reporting on this Output for this Annual Report

Output #42

Output Measure

- Citizen Educational Opportunity

Not reporting on this Output for this Annual Report

Output #43

Output Measure

- Community and Urban Forestry Newsletter Article

Not reporting on this Output for this Annual Report

Output #44

Output Measure

- Deliver Natural Resources Track for Town Officials

Not reporting on this Output for this Annual Report

Output #45

Output Measure

- ECC Annual Report

Not reporting on this Output for this Annual Report

Output #46

Output Measure

- ECC close out report

Not reporting on this Output for this Annual Report

Output #47

Output Measure

- Evaluation of beginner record book

Not reporting on this Output for this Annual Report

Output #48

Output Measure

- High School Financial Planning Program Train the Trainer

Not reporting on this Output for this Annual Report

Output #49

Output Measure

- Livestock contest evaluation

Not reporting on this Output for this Annual Report

Output #50

Output Measure

- Personal Financial Literacy - youth

Not reporting on this Output for this Annual Report

Output #51

Output Measure

- RAVR Program Administration

Not reporting on this Output for this Annual Report

Output #52

Output Measure

- Rural and Ag VocRehab outreach efforts

Not reporting on this Output for this Annual Report

Output #53

Output Measure

- Small Steps for Health and Wealth Program
Not reporting on this Output for this Annual Report

Output #54

Output Measure

- Summer Work and Learn program
Not reporting on this Output for this Annual Report

Output #55

Output Measure

- Technical Community Workshops
Not reporting on this Output for this Annual Report

Output #56

Output Measure

- Tree Care Public Service Announcements
Not reporting on this Output for this Annual Report

Output #57

Output Measure

- Urban Community Forestry AFT Program
Not reporting on this Output for this Annual Report

Output #58

Output Measure

- Volunteer Training Manual (SOUL)
Not reporting on this Output for this Annual Report

Output #59

Output Measure

- Working Steer project book evaluation
Not reporting on this Output for this Annual Report

Output #60

Output Measure

- Youth doing club service project
Not reporting on this Output for this Annual Report

Output #61

Output Measure

- Youth educator support
Not reporting on this Output for this Annual Report

Output #62

Output Measure

- Youth event presentations
Not reporting on this Output for this Annual Report

Output #63

Output Measure

- 4-H Afterschool

Year	Target	Actual
2008	{No Data Entered}	24

Output #64

Output Measure

- 4-H Clubs

Year	Target	Actual
2008	{No Data Entered}	335

Output #65**Output Measure**

- 4-H School enrichment

Year	Target	Actual
2008	{No Data Entered}	7

Output #66**Output Measure**

- Class/course

Year	Target	Actual
2008	{No Data Entered}	16

Output #67**Output Measure**

- Consultation

Year	Target	Actual
2008	{No Data Entered}	403

Output #68**Output Measure**

- Discussion Group

Year	Target	Actual
2008	{No Data Entered}	79

Output #69**Output Measure**

- Electronic communication/phone

Year	Target	Actual
2008	{No Data Entered}	222

Output #70**Output Measure**

- Field site visit

Year	Target	Actual
2008	{No Data Entered}	80

Output #71**Output Measure**

- Funding request

Year	Target	Actual
2008	{No Data Entered}	1

Output #72**Output Measure**

- Presentation

Year	Target	Actual
2008	{No Data Entered}	30

Output #73**Output Measure**

- Fact sheet

Year	Target	Actual
2008	{No Data Entered}	3

Output #74**Output Measure**

- Manual

Year	Target	Actual
2008	{No Data Entered}	1

Output #75**Output Measure**

- Newsletter

Year	Target	Actual
2008	{No Data Entered}	130

Output #76**Output Measure**

- Radio spots

Year	Target	Actual
2008	{No Data Entered}	9

Output #77**Output Measure**

- State level 4-H livestock events

Year	Target	Actual
2008	{No Data Entered}	4

Output #78**Output Measure**

- TV segment/ATF

Year	Target	Actual
2008	{No Data Entered}	3

Output #79**Output Measure**

- Train the Trainer training

Year	Target	Actual
2008	{No Data Entered}	68

Output #80**Output Measure**

- Web page

Year	Target	Actual
2008	{No Data Entered}	1

Output #81**Output Measure**

- Workshop Series

Year	Target	Actual
2008	{No Data Entered}	5

Output #82**Output Measure**

- Workshop - single session

Year	Target	Actual
2008	{No Data Entered}	28

Output #83**Output Measure**

- 4-H Short term/special interest

Year	Target	Actual
2008	{No Data Entered}	14

Output #84**Output Measure**

- Conference

Year	Target	Actual
2008	{No Data Entered}	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	number of Certificates of Eligibility reviewed by the Dept. of Education that will be 100% accurate and reflect eligible migrant students
2	number of community level town government positions that are contested on town ballot
3	Increase number of hours contributed by trained adult volunteer Site Staff
4	number of hours of community service received by community organizations by youth involved in club programs
5	Increase number of programs led or supported by trained volunteer Site Staff
6	Increase number of youth serving as Foundation trustees who indicate a positive experience
7	number of youth serving on Boards
8	increase in number of Rural and Ag VocRehab consumers who report increased satisfaction with actual or potential employment
9	increase in number of Rural and Ag VocRehab consumers who have maintained or increased income, or decreased monetary losses
10	increase in number of Stewardship Of the Urban Landscapes participants who advocate for their communities' public tree resources
11	increase number of Take Charge/ReCharge participants are satisfied with the process used as a means meeting community planning needs
12	Increase in number of Tree Warden and Tree Board members proactive in management of their urban forest
13	Increase number of communities establishing or expanding community tree program
14	increase in number of farm and rural residents with disabilities successfully served (ie case is closed)
15	number of farmers with disabilities maintaining employment
16	Increase the number of 4-H club youth doing at least 6 hours of community service.
17	Increase number of 4-H club members who participate as pages in state level government, as a result of their 4-H experiences.
18	increase knowledge of forest ecosystems and initiation of management opportunities related to small acreage woodlands.
19	85% of Certificate of Eligibility reviewed by the Dept. of Education will be 100% accurate and reflect eligible migrant students
20	Increase in number of MOMS participants who report increased skills in leadership and decision making
21	Increase in number of TOEC participants who report increased skills in leadership and decision making.
22	Increase number of 4-H staff self-reporting an increase in their ability to work with youth and adults to implement 4-H lifeskill development opportunities
23	Increase student enrollment in the Vermont Migrant Education Program
24	Increase the number of committee members implementing or enhancing broad-based decision-making skills
25	Increase the number of program participants serving as leaders on Committees
26	Increase the number of schools that offer financial literacy education
27	Increase the number of volunteers self reporting an increase in their ability to implement a 4-H lifeskill development for youth
28	Increase the number of youth who set and reach goals identified at the beginning of the 4-H year
29	4-H club youth doing at least 6 hours of community service
30	Youth have greater opportunities to access and learn financial planning skills
31	increase in number of individuals who implement financial security and health strategies
32	increase in number of youth reached with lifeskills development programming self-report an increase in mastery for targeted life skill area: Decision making; critical thinking; problem solving; communication; goal setting or skills for everyday living.
33	Increase in number of youths involved in Urban Community Forestry

34	Take Charge/re charge participants are satisfied that the project does or will meet the community needs(s) it was designed to fulfill
35	Apprentices who achieve preset professional development goals within 3 years.
36	Apprentices plan and implement a program evaluation.
37	Clubs doing at least 6 hours of community service.
38	Participants self report an increase of skills in leadership and decision making
39	People utilize community resources

Outcome #1

1. Outcome Measures

number of Certificates of Eligibility reviewed by the Dept. of Education that will be 100% accurate and reflect eligible migrant students
Not reporting on this Outcome for this Annual Report

Outcome #2

1. Outcome Measures

number of community level town government positions that are contested on town ballot
Not reporting on this Outcome for this Annual Report

Outcome #3

1. Outcome Measures

Increase number of hours contributed by trained adult volunteer Site Staff

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	2500	3508

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #4

1. Outcome Measures

number of hours of community service received by community organizations by youth involved in club programs
Not reporting on this Outcome for this Annual Report

Outcome #5

1. Outcome Measures

Increase number of programs led or supported by trained volunteer Site Staff

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	12	34

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #6

1. Outcome Measures

Increase number of youth serving as Foundation trustees who indicate a positive experience

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	30	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #7

1. Outcome Measures

number of youth serving on Boards

Not reporting on this Outcome for this Annual Report

Outcome #8

1. Outcome Measures

increase in number of Rural and Ag VocRehab consumers who report increased satisfaction with actual or potential employment

Not reporting on this Outcome for this Annual Report

Outcome #9

1. Outcome Measures

increase in number of Rural and Ag VocRehab consumers who have maintained or increased income, or decreased monetary losses

Not reporting on this Outcome for this Annual Report

Outcome #10

1. Outcome Measures

increase in number of Stewardship Of the Urban Landscapes participants who advocate for their communities' public tree resources

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	20	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
124	Urban Forestry
805	Community Institutions, Health, and Social Services
903	Communication, Education, and Information Delivery

Outcome #11

1. Outcome Measures

increase number of Take Charge/ReCharge participants are satisfied with the process used as a means meeting community planning needs

Not reporting on this Outcome for this Annual Report

Outcome #12

1. Outcome Measures

Increase in number of Tree Warden and Tree Board members proactive in management of their urban forest

Not reporting on this Outcome for this Annual Report

Outcome #13

1. Outcome Measures

Increase number of communities establishing or expanding community tree program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	10	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Urban and community forests provide ecological and other services that benefit the environment, economy and society. These include atmospheric CO2 reduction, protecting water quality by filtering pollutants and controlling stormwater runoff. They also improve economic development through increases in property values and rental occupancy rates. Zoning regulations often promote urban forests. However, communities now find themselves with urban forests with no oversight or management.

What has been done

The Stewardship of the Urban Landscape (SOUL) Tree Stewards program is a joint initiative between the Department of Forests, Parks and Recreation and the UVM Extension. It provides opportunities for Vermont citizens to enhance their forestry skills and become more involved in community forestry. At the completion of SOUL, participants can plan, plant, maintain and advocate for trees in the built environment. Similar programs are TREEage and Trees for Local Communities (TLC).

Results

92 local community members from 59 towns across the state increased their ability to advocate for trees in the built environment. This year, in efforts to improve their towns, ten Vermont communities established or expanded their community tree programs. One Vermont city wanted to address the declining condition of the city's urban forest but had limited funds and lack of city staff, they turned to a SOUL Tree Steward and Master Gardener, who in turn recruited fellow master gardeners and Tree Stewards to assess the city trees and green spaces. Another city provided a place to educate others in tree care where later the trees will be used throughout the city. In a neighboring city, many members of a committee working with an urban forester layer enrolled in the SOUL Tree Stewards Program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
124	Urban Forestry

Outcome #14

1. Outcome Measures

increase in number of farm and rural residents with disabilities successfully served (ie case is closed)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	76	72

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Agricultural production is one of the most hazardous occupations, where the fatal occupational injury rates averaged more than four times the rate for the private sector. Approximately 20% of farmers and other agricultural workers have disabilities. For these individuals, a disability can jeopardize their rural and agricultural futures.

What has been done

Collaborating closely on multiple cases Rural & Ag VocRehab's (RAVR) and VT AgrAbility staff served a combined case load of 225 Vermont farmers, farm families and rural residents living and working with disabilities ranging from arthritis to amputation and other medically documented chronic illness and disease. The program offers education and technical assistance to farmers with disabilities on safe and practical ways to continue their rural lifestyle.

Results

72 farm and rural residents with disabilities were successfully served by RAVR and AgrAbility. Successfully served is defined as having increased satisfaction with actual or potential employment and maintained or increased income. One dairy farmer who was referred to RAVR by the AgrAbility project was having difficulties with a prosthetic eye. He also had severe shoulder and back pain from a recent injury. These problems made it difficult for him to complete his required farm work. Services provided the balance due after insurance for a new prosthetic eye, custom eyeglasses, chiropractic care, counseling and guidance. These services made it possible for him to continue as a self-employed dairy farmer.

4. Associated Knowledge Areas

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services
723	Hazards to Human Health and Safety

Outcome #15**1. Outcome Measures**

number of farmers with disabilities maintaining employment

Not reporting on this Outcome for this Annual Report

Outcome #16**1. Outcome Measures**

Increase the number of 4-H club youth doing at least 6 hours of community service.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1112	136

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

A 4-H sponsored Positive Youth Development (PYD) study found that structured programs during out-of-school time are critical in helping young people achieve success. It showed that youth involved in structured programs are more likely to experience PYD than those not participating. It found that participants in programs such as 4-H are more likely to contribute to their communities, their families and to themselves by living a healthy lifestyle, supporting family activities and helping friends and neighbors.

What has been done

The UVM Extension 4-H/Youth Development program uses a learning-by-doing approach to enable youth to develop the knowledge, attitudes, and skills they need to become competent, caring, and contributing citizens of the world. 4-H Club members determine, design, and implement community projects.

Results

136 4-H club youth completed over 800 hours of community service in communities around the state, as well as 22 other clubs reporting service projects of at least 6 hours. Youth were painting public buildings, participating in Green Up Day, hosting senior citizen brunches, planting and weeding community gardens, and more. As one leader noted, "It's inspiring to see clubs making cookies for the elderly, fundraising for a youth injured in a serious car accident, and fundraising to rehabilitate neglected horses." These are the activities that today's committed youths and tomorrow's leaders do to build a community.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #17**1. Outcome Measures**

Increase number of 4-H club members who participate as pages in state level government, as a result of their 4-H experiences.

Not reporting on this Outcome for this Annual Report

Outcome #18**1. Outcome Measures**

increase knowledge of forest ecosystems and initiation of management opportunities related to small acerage woodlands.

Not reporting on this Outcome for this Annual Report

Outcome #19**1. Outcome Measures**

85% of Certificate of Eligibility reviewed by the Dept. of Educaiton will be 100% accurate and reflect eligible migrant students

Not reporting on this Outcome for this Annual Report

Outcome #20

1. Outcome Measures

Increase in number of MOMS participants who report increased skills in leadership and decision making

Not reporting on this Outcome for this Annual Report

Outcome #21

1. Outcome Measures

Increase in number of TOEC participants who report increased skills in leadership and decision making.

Not reporting on this Outcome for this Annual Report

Outcome #22

1. Outcome Measures

Increase number of 4-H staff self-reporting an increase in their ability to work with youth and adults to implement 4-H lifeskill development opportunities

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	11	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #23

1. Outcome Measures

Increase student enrollment in the Vermont Migrant Education Program

Not reporting on this Outcome for this Annual Report

Outcome #24

1. Outcome Measures

Increase the number of committee members implementing or enhancing broad-based decision-making skills

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	27	12

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
903	Communication, Education, and Information Delivery
608	Community Resource Planning and Development

Outcome #25**1. Outcome Measures**

Increase the number of program participants serving as leaders on Committees

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	6	3

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #26**1. Outcome Measures**

Increase the number of schools that offer financial literacy education

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	25	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
806	Youth Development

Outcome #27**1. Outcome Measures**

Increase the number of volunteers self reporting an increase in their ability to implement a 4-H lifeskill development for youth

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	586	187

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #28

1. Outcome Measures

Increase the number of youth who set and reach goals identified at the beginning of the 4-H year

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1622	307

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #29

1. Outcome Measures

4-H club youth doing at least 6 hours of community service

Not reporting on this Outcome for this Annual Report

Outcome #30

1. Outcome Measures

Youth have greater opportunities to access and learn financial planning skills

Not reporting on this Outcome for this Annual Report

Outcome #31

1. Outcome Measures

increase in number of individuals who implement financial security and health strategies

Not reporting on this Outcome for this Annual Report

Outcome #32

1. Outcome Measures

increase in number of youth reached with lifeskills development programming
 self-report an increase in mastery for targeted life skill area: Decision making:
 critical thinking; problem solving; communication; goal setting or skills for
 everyday living.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1900	1572

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #33

1. Outcome Measures

Increase in number of youths involved in Urban Community Forestry
Not reporting on this Outcome for this Annual Report

Outcome #34

1. Outcome Measures

Take Charge/re charge participants are satisfied that the project does or will
 meet the community needs(s) it was designed to fulfill

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	24

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #35

1. Outcome Measures

Apprentices who achieve preset professional development goals within 3 years.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #36

1. Outcome Measures

Apprentices plan and implement a program evaluation.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	8

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #37

1. Outcome Measures

Clubs doing at least 6 hours of community service.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	22

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #38

1. Outcome Measures

Participants self report an increase of skills in leadership and decision making

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	37

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #39**1. Outcome Measures**

People utilize community resources

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	10

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programatic Challenges

Brief Explanation

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study

Evaluation Results

Key Items of Evaluation