2007 University of Vermont Combined Research and Extension Annual Report

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I. Report Overview

1. Executive Summary

Since its founding in 1912, University of Vermont (UVM) Extension has worked to make research findings available as actionable information for its stakeholders. In a similar fashion, the Vermont Agricultural Experiment Station (VT-AES), established in 1886, stresses projects that leverage its research into collaborative programs.Our goal is to advance scientific research to serve Vermont's rural and agricultural needs. Vermont is a small, predominantly rural state, and as such the efforts of both Extension and the AES are best expended in partnership with federal and state agencies, private companies, and other funding sources.

UVM Extension and VT-AES serve not only the agricultural community, but an assortment of underserved groups, including families and seniors with limited incomes, migrant youth and families, women hoping to begin business' and rural communities.Of 83,500 direct contacts, 2.51 % were with people self-identifying as ethnic minorities, while the state ethnic minority rate is 3.4% based on the latest census.For two of three planned program areas, programs reached higher than average ethnic minority audience members – Community and Youth Development programs made direct contacts with 8.97% ethnic minority participants, and Health and Food Safety programs reached audiences with 4.4% minority group representation.The goals of that work include improved nutrition, food access and safety, sustainable community economic development, and youth life-skills education.Extension concentrates much of its agricultural and environmental efforts with disabled farmers and rural citizens, Spanish speaking workers, and small family farmers.

Health: focuses on healthy choices, food security for limited resource children, families and seniors. Program examples include:

- Community Farm Partners: enhance the amount of locally grown produce that is consumed by Vermonters with limited resources and sold by small scale Vermont producers

- Growing Connections: a program for at□risk youth that teaches nutrition, food safety, and food security issues through gardening

- Healthy Eating:especially targeted at increasing the amount of fruits and vegetable offered to toddlers by parents enrolled in WIC (Women, Infants, Children)

- Senior Farm Share Nutrition Programs: nutrition workshop for low□income seniors to increase 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

Community Development and Youth: addresses community strengths and challenges, focusing programs to build assets through its citizens who may be of limited resources, a community struggling to thrive, migrant workers and disabled workers wanting to stay in the workforce. Program examples include:

- Migrant Education Recruitment Program (MEP): ensure that children of migrant farm workers, and qualifying youth under age 22, are aware of the educational support services available to them

- Northern New England AgrAbility Project: make recommendations that can be used by farmers with disabilities to maintain employment, through development of accommodations in support of recommendations made

- Rural and Agricultural VocRehab Program: 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

- 4□H: delivers educational programs to all youth developing life skills, with extra effort in place to target urban cities and activities for the teen audience as well as limited resource families and youth who are at□risk

Agriculture & Environmental Sustainability: Agriculture is a struggling industry, its workers are at risk and entering into the business with needed supports can be a challenge especially for some audiences, especially women. Program examples include:

- Women's Agricultural Network: provide educational and technical assistance to individuals starting or expanding agricultural businesses; targeted primarily at women

- Migrant Ed, AgrAbility, and Rural and Agricultural VocRehab: address the need of the audiences as identified in each of these programs.

In addition scholarships are available to those wishing to participate in Extension programs, but do not have necessary resources.

UVM was only one of 62 institutions fulfilling the Carnegie Foundation's rigorous definition for "Community Engagement" in 2007. This was accomplished by UVM satisfying two sets of engagement activities, which are core issues for both Extension and the AES.These include first, curricular engagement, which is a collaboration between the community and the University's faculty and students to address community identified needs.Examples may include community service programs, extension activities, continuing education and community-based research and outreach and partnerships.The second component is outreach and partnership, involving using institutional resources to benefit both the community and the institution through research, economic development, and capacity building. As will be clearly evident below, UVM proudly aligns its goals and actions to these guidelines.

The FY07-11 One Solution plan of work was constructed from draft plans during our transition to the recently implemented New England Planning and Reporting system created by the New England Planning and Reporting Consortium (NEPRC). This resulted in many One Solution entries being blank for this accomplishment report. The move to the NEPRC system has enabled us to ask important questions about program effort results and accountability for outputs. In the 07 federal fiscal year, the 08-12 plan of work that we reported in One Solution was built based upon approved individual plans of work, logic models, refining the 07-11 list of outputs, and outcome measures. Program development and evaluation training for faculty and program staff during this past year has allowed us to review individual logic models, further refining program focus and outcome measures that we expect will be reflected in future reporting. The 09-13 POW update will further reflect the organization's effort to have results collected and reported at the action level, eliminating most of the lower value knowledge level outcome indicators from individual plans.

Please note that during FY 2007 UVM combined two of the original four planned program areas – Community Development and Personal and Intellectual Development of Youth – into one program. Except for output and outcome numbers, where these do not duplicate those in the Community Development planned program, all data related to youth has been incorporated into the Community Development sections of the report. The FY2008 POW Update reflects these three planned programs as well as a refined listing of outputs and outcome measures. This combination resulted in less duplication especially due to the major program effort in our work where community engagement by youth and building life skills for youth are so closely related.

In this past year, UVM Extension employees secured over $1.3 million and VT AES faculty secured nearly $2 million in grants and contracts for research and outreach work, in addition to monies supplied through federal programs. About one-third of all research funds involved integrated research and outreach programs, reaching approximately 83,500 direct personal contacts by UVM faculty and program staff.Programs touched the lives of more than 6,000 youth.UVM Extension promoted volunteerism, with more than 3,000 volunteers contributing 29,000 hours of their time, including 1,300 volunteers providing opportunities for youth to develop and practice life skills.UVM Extension offered nearly 1,000 significant educational events (6 hours minimum) to the citizens of Vermont covering a wide range of subject areas. There were about 12,500 non-traditional Vermont clients who were beneficiaries of the knowledge shared in these events.VT-AES conducted more than 180 research programs during FY2007. Approximately half of these were Hatch-funded with most additional projects leveraged, at least in part, as a result of previous Hatch-funded research.UVM Extension and VT-AES employees collaborated on 17 projects.

A total of nearly $1 million was spent by both UVM Extension and VT-AES on integrated projects. These include projects that are:

- Improving water quality with alternative annual forages rotated with corn silage

- Creating, refining, and applying a Phosphorus Index to Assess P Runoff Potential from Agricultural Fields in Vermont

- Measuring phosphorus run-off from manured fields using multiple scales of measurement

- Limiting reductions in sap yields using vacuum installations

- Defining consumer preferences, retailer attitudes and marketing strategies for locally grown foods

- Identifying factors affecting the success for Vermont dairy farms transitioning to organic milk production

- Analyzing how to best close the digital divide in Vermont using a process approach

- Utilizing new IPM methods for biological control of thrips in greenhouses
- Developing a web-based Energy Balance curriculum and tutorial for middle school adolescent students

There were a number of initiatives dealing with the high costs of fossil fuel that are an increasing burden to Vermont farms. These efforts include a program to assess the potential production and processing of oil seed and sugar-containing crops for use as a renewable energy source. Other work identified that biodiesel from oilseeds are economically feasible in the current economic context.There are clear benefits from developing cost-effective on-farm energy sources, including increased energy independence, promoting rural economic development, enhanced farm profitability, and reduced air pollution.

Under UVM's Agricultural Innovations Initiative a number of projects were provided funds to help faculty innovators turn their research into agricultural business ventures.These in turn would use Vermont farms as both testing grounds and suppliers once these new businesses were up and running.For example, one project involved soybean growing trials with the goal of increasing soybean production to match Vermont needs.Another soybean project combined research information developed and patented by UVM professor Mingruo Guo that found commercial application in the production of organic tofu and soy milk using beans grown in Vermont.

In a similar fashion, the work of UVM researchers is furthering the artisanal cheesemaking industry in Vermont.The Institute for Artisan Cheese -- the first organization in the country dedicated to providing professional education, research, technical, food safety and marketing support to makers of hand-crafted cheese was recently launched.Among the research and development programs fostered, UVM staff has described various alternative usages of whey, which had previously been a waste product, and made it into a value added by-product.These new uses are as varied as a component of wood finishes to an ingredient to a number of IPM strategies. Even better, many of these new uses are less harmful to health and the environment than the products they replaced.

Another iconic Vermont industry is maple syrup production.Vermont is the largest producer of pure maple syrup in the U.S.There is increasing concern however that global warming may change that.In response, UVM's Proctor Maple Research Center conducted a regional study of the effects of global change on the maple sugaring industry. Weather studies have shown that the climate necessary to sustain maples would move 120 miles north, from the 45th parallel near Vermont's northern border into Canada. Already, the syrup season has shrunk 10% because of the warmer winters.

UVM researchers and outreach specialists are assistingfarmers in reducing negative environmental impacts by developing their own nutrient management plans. In keeping with the collaborative spirit of our work, UVM Extension conducted a curriculum and needs assessmentfor farmers.As a result of participation in the nutrient management courses, half of the participating farmers plan to apply less nitrogen and phosphorus, reduce phosphorus in feed, implement whole farm phosphorus management and improve waste management.Management of excess phosphorus from both point and non-point pollution sources, including from farms, has received increased atten-tion due to its significant role in deteriorating water quality issues, particularly in Lake Champlain.UVM researchers invented a unique filtration system that efficiently removes 75-90% of phosphorus.An important component to this system is electric arc furnace steel slag, a waste byproduct of the steel industry.

In order for Vermont farmers to keep up with the rapidly changing agricultural industry, there is a critical need for them to better understand and manage their farms' finances. Financial management services targeted established farmers, new farmers needing improved financial management skills, and those in transition or exploring alternative agricultural opportunities.For example, through economic planning and an enterprise budget, one farmer found that by transitioning from green beans to raspberries and asparagus he could improve his lot, from losing $500 per acre to profiting as much as $5,000 per acre.Direct sales of farm produce are another way that Vermont farmers are increasing their economic well-being.Vermont has by far the highest per capita direct farm sales of any state, 80% higher than the second state (ME) and almost four times the national average.UVM Extension and VT-AES continues to support farm incomes through direct sales, such as Farmers Markets, by surveying market managers, stakeholder needs assessments, and organizing meetings.

UVM is committed to fight the scourge of obesity and poor nutrition.It is a problem for children, where the incidence has doubled in just two decades, and for the elderly where the problem is exacerbated by limited mobility, access, and the side effects of medications. More than half of the seniors participating indicated that their food budget wasn't as tight when they were getting the produce farm share and two thirds indicated that they had more produce variety when they were participating in the program.Overall, among this, our most vulnerable age group, there were improvements in food security and diet quality.Food education is central to maintaining an appropriate diet. A curriculum, "Food, Culture, and Reading Afterschool," written by a University of Vermont Extension faculty member, is currently being used in a pilot project for youth in grades 4-6 at 140 sites across the United States and at military bases in Korea.

UVM Extension's 4-H programs address children's educational needs. These programs work to develop life skills and youth leadership skills, but also assist children in overcoming, for example, the unique stresses and tribulations of having a parent off to war.Eight-hundred and thirty-nine youth attended fairs, field days and camps provided by 4-H staff, 741 youth showed gains in life skills and 217 youth reported increases in self-confidence by participating in public speaking events.

ldquo;Environmental Health" comprises those aspects of human health, disease, and injury that are determined or influenced by factors in the environment, both natural and built. Aspects of the built environment may include the availability and accessibility of bicycle or walking paths, exercise facilities or farmer's markets.These impact a person's health, from their physical

activity level to the amount of fresh fruits and vegetables they eat.To determine the situation in Vermont, the Vermont Department of Health'sFit and Healthy Vermonters Obesity Prevention Program, in collaboration with the UVM Center for Rural Studies conducted a survey of public resources related to physical activity and nutrition.They then developed a website, (http://crs.uvm.edu/townhealthresources/), describing in detail the situation in Vermont's cities and towns.

The accomplishments of UVM Extension and VT-AES over the last year act as a precursor to the many future initiatives to fulfill the needs of our fellow Vermonters. Future efforts for AES will center around enhancing economic opportunities for the agricultural sector, enhancing protection and safety of the nation's agriculture and food supply, and improving the nutrition and health of Vermonters.Alternative energy sources will remain a focus for Extension effort.As energy prices continue to rise over time, and as small-scale biodiesel technology is refined, the economic advantages associated with on-farm biodiesel will likely increase. In fact, 400 gallons of biodiesel were produced in February 2008 on one Vermont farm.The biofuels initiative will create significant opportunities for farms that have land and know-how but have been lacking a profitable crop to grow. To remain competitive farmers are becoming more entrepreneurial and more involved in developing value-added products and alternative markets such as organic and farm-branded products. The continuation of these changes is likely given the increasing interest among consumers in fresh, local food that contributes to healthy lifestyles and strong communities. To be successful with new markets, new practices, and new consumer interests requires new knowledge on the part of farmers. Extension will assist them to prosper in this changing environment by playing a key role through compiling and disseminating pertinent scientific findings along with information about emerging trends.UVM will then collaborate with the many innovative farmers in Vermont to promote sustainable production, marketing, and management.

Due to the small size and population of Vermont, collaboration with other states is of particular importance.UVM Extension conducted a number of multistate projects including the following projects for Agricultural and Environmental Sustainability:

- The Northeast Center for Community and Rural Development focuses its attention on increasing the level of coordination and cooperation among rural development specialists in the northeastern land grant universities. It works to foster collaborations with other groups interested in rural development and land use issues. UVM has a board representative working to insure the Center meets its mission to expand partnerships in the northeast.
- The Northeast Extension initiatives include the eXtension Energy CoP that has been established, as well as an energy survey that is currently being circulated in the region.
- UVM Extension’s AG Business Management project jointly planned a Labor Management workshop with Cornell and Penn State.
- The Maine/Vermont Organic milk research study, analyzed financial data and presented the findings at national conferences
- The Pest Management Education project organized and held greenhouse IPM workshops in conjunction with and in Maine, New Hampshire and Vermont
- Leadership for the Equine: eXtension Community of Practice (CoP)

An exciting multistate health project is being conducted by Jean Harvey-Berino, who has been conducting multi-year research on the effects of weekly internet only, internet and in-person meetings, and in-person meetings only on weight loss for overweight participants in Vermont and Arkansas.Research results are still being analyzed. Extensions Master Gardener program coordinator co-developed program materials with four other states for Good Agricultural Practices (GAP) to reduce the risk of microbial contamination of produce.

Community Development and Youth multistate enterprises include:

- 4-H Lifeskills Development program: Vermont 4-H Shooting Sports Volunteer Leaders took part in a weekend training in collaboration with New Hampshire 4-H Shooting Sports Leaders
- Vermont participated in the eXtension CoP: Entrepreneurs and Their Communities as well as the Youth Financial literacy CoP
- A Take Charge/Recharge community development program was held with New Hampshire

Vermont administrative efforts include participation in regional and national committees. Vermont is also a partner in the New England planning and reporting consortium which continues to support planning and reporting efforts. The electronic tool, NEPRC system, has been used this year for the first time to produce this accomplishment report having a complete years worth of data. The group continues to meet to support further development of the tool, merit review of plans and sharing of evaluation

efforts including professional development in this area.

VT-AES spent $315,401 to conduct ten multistate research and outreach activities this year, all in the area of Agriculture and Environmental Sustainability, including the following:

- Utilizing several approaches to examine problems and issues in the food system, including how markets, consumers, and the government interact with regard to issues of genetic modification of food and obesity.Studies document emerging trends in attitudes, knowledge and behavior related to genetic modification of food and willingness to pay for information about agricultural biotechnology.The food system is just that, a system. Problems are not discipline based. This project has yielded 5 new peer-reviewed publications.
- Investigating the immune response of young dairy calves to early vaccination, providing critical information informing decisions regarding cost-effectiveness of early vaccination on commercial dairy replacement raising operations.
- Research that has revealed a large number of genes that are rapidly activated in bovine mammary cells in response to a model of E. coli infection. These genes will become the targets for further investigation that will potentially assist in selecting disease resistant animals through breeding strategies, or in development of novel therapeutic agents to treat or prevent bovine mastitis.
- Laying the groundwork for future studies aimed at unraveling the functional roles of bovine glucose transporters in supporting milk synthesis and maintaining glucose homeostasis during lactation. This work has contributed to the knowledge base on glucose utilization, and, ultimately, to the improvement of dairy productivity and efficiency.
- Developing new and innovative practices to both minimize losses caused by soybean cyst nematode (SCN) and decrease risk to other invasive species that are not currently of significance in the northeast region by understanding and impacting factors that reduce or eliminate biological disease suppression.This work involves collaboration with faculty at five universities around the country.
- Working with a multistate technical committee, a research vineyard containing eight wine grape varieties was planted at the University of Vermont (UVM) Horticultural Research Center to help generate important cultivar information. A Cold Climate Winegrape Workshop was held at the •UVM Horticultural Research Center in August, 2007, where information was disseminated about winegrape cultivars. Participants reported that they will be using the information from the workshop in their own vineyards

Much of UVM Extension and VT-AES work is done recognizing that the welfare of Vermont's citizens is directly influenced by our environment, both that of the natural world, such as air, food, and water, but also the built environment, our roads, homes, jobs, and schools.All of this affects human health, happiness and productivity.Two children go to the lake for a swim one summer morning, a lake made safer with improved water quality because phosphorus pollution is reduced, resulting in fewer or no algal blooms. Walking or bicycling home after their swim, they satisfy their hunger eating local, fresh, low-input-grown apples and carrots.Their parent(s) can work locally at satisfying jobs and have access to sufficient income and healthy, fresh foods all year long.Community members participate in their local governments as part of their ongoing civic duties, and gain skills from work that Extension does to ensure that public bodies and participating town officials can make informed decisions.The children have access to life skills development opportunities with their local 4-H club after school.So, as this report has shown, the varied efforts of Extension and AES are tied together to improve Vermonters lives.

Total Actual Amount of professional FTEs/SYs for this State

Year:2007	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	59.7	0.0	13.8	0.0
Actual	43.8	0.0	13.3	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

New Hampshire entered into a formal partnership with Cooperative Extension in Maine, Massachusetts, and Vermont in 2004 to develop and implement a web-based planning and reporting system. As a result of this very successful (and unique) partnership we share a planning and reporting system that allows each of use to view plans and reports of the other states. We have also agreed to provide Merit Review for each other on a rotating basis so that each state in the partnership gets a thorough, expert-review of their state plan of work every four years. In addition to providing feedback to one another, this rotation asks staff to volunteer to be reviewers to look carefully at plans from other states with similar goals and outcomes to their own. For example, 4-H youth development staff in ME, VT, and MA volunteered to review the 4-H youth development plans for NH in 2007 and Agriculture staff reviewed Agriculture plans. This system not only provided New Hampshire with valuable expert-review, but also increased the level of awareness of potential shared programs in neighboring states and helped the reviewers to reflect more critically on their own plans.

New Hampshire was the first state to undergo review in 2007 and Vermont will be reviewed in 2008. A merit review score sheet was developed jointly so that a similar process would be used for each state. Because New Hampshire was being reviewed, it was our responsibility to provide a list of planned programs and a logical grouping of 2-3 planned programs for a single reviewer to review. This resulted in a single group of reviewers to examine and make comments on only 2 or 3 planned programs in a subject matter they had some knowledge in. The states responsible for the review recruited a team of 2-4 staff members for each grouping. Because the plans were accessible to all staff in the four states through our common planning and reporting system, this made electronic access to the plans they needed to review easy.

Each of the three states reviewing collected data using a common merit review score sheet, then one person from each of the states summarized reviewer scores and comments and prepared the report for the state being reviewed. The reports are shared with staff who are developing the planned programs and suggestions are incorporated into next year's plan.

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 the general public

Brief Explanation

A State advisory board, restructured with new members who are stakeholders for UVM Extension, met for the first time as a group. The board members are given weekly updates on the actions of the director and are encouraged to provide feedback to the director on an on-going basis. Focus groups will be used to gather additional input from both traditional and non-traditional stakeholder groups. This information will be included in the review process by the statewide citizen advisory board.Extension faculty and staff continue to listen to stakeholder input as they develop programs throughout the state.

The Vermont Agricultural Experiment Station 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.

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. UVM utilizes responses to poll figures, in addition to recommendations made by other stakeholder groups and expert sources, to define research and outreach program foci on agricultural, economic, health, and environmental issues.

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
- Use Surveys

Brief Explanation

UVM Extension has a state advisory board with representatives from across the state. The members of this board were drawn from a cross section of disciplines and program areas in which the organization provides educational opportunities.The board includes at least one youth member, currently the Vermont Agricultural Ambassador for the State of Vermont that is selected annually. The members represent UVM Extension and not the individual disciplines or program areas from which they were selected for board discussions.

The Vermont Agricultural Experiment Station 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.

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

{NO DATA ENTERED}

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

Stakeholder input was used to redirect programming for research and outreach projects.Much of this was addressed immediately, through changes made in content, audiences targeted, and/ or methods of delivery used to convey information.Research and outreach-based proposals were also written in response to stakeholder described needs.

Brief Explanation of what you learned from your Stakeholders

Beef and slaughter needs: Researched, wrote, obtained peer and stakeholder reviews, and modified a white paper on VT slaughter capacity and implications for future land use in the wake of two slaughterhouse fires. The paper was presented to the VT Agency of Ag while they were formulating an "Action Plan", and it was presented to the VT State Senate and House Ag Committees for reference during discussions on livestock infrastructure needs. It was also placed on my VT Meat website.See http://www.uvm.edu/livestock/meat/VermontMeatProduction.pdf .Beef producers were interested in increasing pasture forage use, especially in the light of higher corn prices; we provided additional workshops on using pasture forage.

Farm viability teams: Farmers participating in a farm advisory team request the team and meetings.They also determine "who" will be on their team.The farm dictates when and how often we meet. The meeting agenda is based on the needs and questions by the farm family.

Biosecurity: The New England Extension In-Service planning committee chose the topic of Biosecurity as their 2 day training and requested Extension faculty to conduct the training.THe VT/NH Fairs Association requested from the state vet a workshop on Disease Prevention.Dr. Kerry Rood asked Extension to address Biological Risk Management and Consumer Protection.VT State 4-H Dairy Committee requested Biosecurity workshop for State 4-H Dairy Show participants. UVM Extension met all of these requests.

Growing by Design field day: The Farmer's Watershed Alliance suggested content for the field day. They also helped advertise to bring in farmers from the region.

Development of FarmAssessments:The Farmer's Watershed Alliance helped develop the assessment tool used to evaluate a farm's environmental risks. In addition the group also brings farms to the table for assessment and often helps with the assessments.

Growers frequently indicate that they learn best by hands on demonstrations, or if that isn't possible with publications having lots of pictures. These info cards reinforce information presented at greenhouse IPM workshops.

Sustainable Forests Manuscript: We have an excellent representation of stakeholder input from the interviews.There is considerable interest nationally in the book and the US Forest Service is hoping it will spearhead an effort to increase the amount of planning that forest owners do.

Shoreline Erosion workshops: Municipal officials participating in workshop has identified potential sites for application of bioengineering for erosion control and requested workshop on site evaluation.Lake association leaders set agenda for meeting and identified priorities for training. Resident surveys identified education priorities.

Pasture Walk Content: We developed ideas for pasture walks with much input from the VT Grass Farmers Association, which helps provide the vision for our efforts.VGFA board members attended some of the walks and assisted us.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
1672531	0	2523510	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	1617326	0	1357595	0
Actual Matching	3323661	0	1990133	0
Actual All Other	2020369	0	0	0
Total Actual Expended	6961356	0	3347728	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

Program #1

V(A). Planned Program (Summary)

1. Name of the Planned Program

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
801	Individual and Family Resource Management	5%		5%	
806	Youth Development	95%		95%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	10.0	0.0	0.0	0.0
Actual	0.0	0.0	0.0	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
0	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	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.

Delivery Methods: 6-8 sequential learning hours using experiential learning techniques for in- school, afterschool, or out-of-school settings.

Expand CaringCommunities (ECC) grant funded program: 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.

Delivery Methods: 6-8 sequential learning hours using experiential learning techniques for in-school, afterschool, or out-of-school settings.

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

Delivery Methods: Exhibit at professional development meetings and public events to promote and teach the use of the free curriculum and support materials.

2. Brief description of the target audience

•4-H: Adult Volunteers •4-H: Youth Volunteers •Adults •Communities: Local Officials/Leaders •Communities: Non-Governmental Organizations •Communities: Schools •Extension: Faculty/Staff •Public: Families •4-H: Youth •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	400	575	1350	2400
2007	0	0	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- 4-H Adult New volunteer training

Year	Target	Actual
2007	1	6

Output #2

Output Measure

- 4-H Adult Volunteer training

Year	Target	Actual
2007	40	52

Output #3

Output Measure

- 4-H Adult volunteer contest implementation training

Year	Target	Actual
2007	1	1

Output #4

Output Measure

- 4-H Educator training

Year	Target	Actual
2007	4	2

Output #5

Output Measure

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

Year	Target	Actual
2007	150	220

Output #6

Output Measure

- 4-H volunteer review (program, forms, policies, prodedures)

Year	Target	Actual
2007	2	0

Output #7

Output Measure

- Academic year program

Year	Target	Actual
2007	2	1

Output #8

Output Measure

- Afterschool site program

Year	Target	Actual
2007	7	2

Output #9

Output Measure

- CYFAR presentation

Year	Target	Actual
2007	1	0

Output #10

Output Measure

- CYFERnet review of publications

Year	Target	Actual
2007	1	1

Output #11

Output Measure

- Collaborations with project site

Year	Target	Actual
2007	3	1

Output #12

Output Measure

- Dairy interviews

Year	Target	Actual
2007	150	0

Output #13

Output Measure

- ECC Annual Report

Year	Target	Actual
2007	1	1

Output #14

Output Measure

- ECC close out report

Year	Target	Actual
2007	1	0

Output #15

Output Measure

- Embryology project

Year	Target	Actual
2007	2	52

Output #16

Output Measure

- Evaluation of beginner record book

Year	Target	Actual
2007	1	0

Output #17

Output Measure

- Financial Literacy adult-presentation

Year	Target	Actual
2007	3	2

Output #18

Output Measure

- Financial information review

Year	Target	Actual
2007	1	0

Output #19

Output Measure

- Financial literacy - ATF-television

Year	Target	Actual
2007	1	0

Output #20

Output Measure

- Financial literacy - radio

Year	Target	Actual
2007	6	0

Output #21

Output Measure

- Health Rocks

Year	Target	Actual
2007	1	25

Output #22

Output Measure

- Jumpstart website

Year	Target	Actual
2007	12	0

Output #23

Output Measure

- Livestock contest evaluation

Year	Target	Actual
2007	1	1

Output #24

Output Measure

- Personal Financial Literacry - youth class

Year	Target	Actual
2007	3	7

Output #25

Output Measure

- Youth Educator support

Year	Target	Actual
2007	1	0

Output #26

Output Measure

- Summer Work and Learn program

Year	Target	Actual
2007	2	4

Output #27

Output Measure

- Teen Leadership project

Year	Target	Actual
2007	1	0

Output #28

Output Measure

- VT State 4-H day session

Year	Target	Actual
2007	1	0

Output #29

Output Measure

- Working Steer project book evaluation

Year	Target	Actual
2007	1	1

Output #30

Output Measure

- Youth Horticulture project

Year	Target	Actual
2007	2	0

Output #31

Output Measure

- Youth educator support

Year	Target	Actual
2007	2	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	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	number of youth that develop financial literacy life skills
3	number of club members who exhibit self-confidence (a skill for everyday living) by participating in a communications or public presentation opportunity
4	number of volunteers self reporting an increase in their ability to implement a 4-H lifeskill development opportunity for youth
5	in-kind and cash contributions in support of programming
6	number of individuals who implement financial security strategies
7	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
8	youth who have at least 50 contact hours of life skills programming
9	Increase the number of youth who set and reach goals identified at the beginning of the 4-H year.

Outcome #1

1. Outcome Measures

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
2007	11	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
806	Youth Development

Outcome #2

1. Outcome Measures

number of youth that develop financial literacy life skills

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	142	0

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
801	Individual and Family Resource Management

Outcome #3

1. Outcome Measures

number of club members who exhibit self-confidence (a skill for everyday living) by participating in a communications or public presentation opportunity

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1500	512

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 volunteers self reporting an increase in their ability to implement a 4-H lifeskill development opportunity for youth

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	450	319

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 #5

1. Outcome Measures

in-kind and cash contributions in support of programming

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	12500	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
806	Youth Development

Outcome #6

1. Outcome Measures

number of individuals who implement financial security strategies

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	27	500

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 #7

1. Outcome Measures

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
2007	1800	1122

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Communication and inter-personal skills are important for people throughout their lifetime. Focused camps can address challenges associated with youth identifying and pursuing their goals. Additionally, working through problems in a group can help children cope with grief and loss while their loved ones serve overseas. For example, learning to nurture animals can help troubled youth.

What has been done

UVM Extensions 4-H program works through fairs, festivals, field days and foundation-building with youth to develop life skills, confidence, civic engagement and youth leadership skills. 4-H partnered with schools to conduct after-school technology education courses, and with the YMCA and VT National Guard to host overnight summer camp for children of military personnel, providing coping skills for handling stress and difficult times in youths lives.

Results

More than 1,100 youth were reached across the state through 4-H programs, 741 youth showed gains in life skills and

- 217 youth reported increases in self-confidence by participating in public speaking events.
- 96 clubs now conduct at least 6 hours of community service and
- 5 youth now serve as Foundation trustees, stating the experience has been positive.
- More than 500 youth have increased technology skills including GPS, GIS, and computer technology and web page development.

One youth stated she feels much more confident in presenting her thoughts in class and at meetings because she has learned how to organize herself and thoughts in a logical order.

- 79 percent of participants responding to a survey from Operation Purple Camp stated they had made gains in life skills such as communication, accepting differences, useful/marketable skills, healthy lifestyle choices, and self-responsibility.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #8

1. Outcome Measures

youth who have at least 50 contact hours of life skills programming

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	225	44

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 #9

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
2007	{No Data Entered}	357

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Competing Public priorities
- Competing Programmatic 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)

Evaluation Results

captured in outcome indicators -- highlight bullet list

stakeholder input

w/in each planned program maple did this

Key Items of Evaluation

captured in merit review review process

Program #2

V(A). Planned Program (Summary)

1. Name of the Planned Program

Community Development

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	5%		7%	
604	Marketing and Distribution Practices	0%		3%	
605	Natural Resource and Environmental Economics	0%		2%	
608	Community Resource Planning and Development	29%		13%	
609	Economic Theory and Methods	0%		1%	
723	Hazards to Human Health and Safety	13%		14%	
724	Healthy Lifestyle	0%		14%	
801	Individual and Family Resource Management	3%		0%	
805	Community Institutions, Health, and Social Services	16%		23%	
806	Youth Development	34%		18%	
903	Communication, Education, and Information Delivery	0%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	14.0	0.0	1.6	0.0
Actual	8.7	0.0	0.7	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
399632	0	40168	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
821258	0	108707	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
539885	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. Delivery Methods: 6-8 sequential learning hours using experiential learning techniques for in- school, afterschool, or out-of-school settings.

Downtown 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.

Delivery Methods: Group meetings and discussion groups in 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.

Delivery Methods: 6-8 sequential learning hours using experiential learning techniques for in-school, afterschool, or out-of-school settings.

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

Delivery Methods: Outreach to schools, agricultural employers, and social service agencies throughout the state.

Northern New England AgrAbility Project: To make recommendations that can be used by farmers with disabilities to maintain employment, through development of accommodations.

Delivery Methods: Process involves recruitment of eligible individuals through referrals. Intake information is recorded on farms provided by the National AgrAbility Project. Site visits are the primary means of contact.

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

Delivery Methods: Process involves recruitment of eligible individuals through referrals, assessment, writing up a plan of action, and providing services for eligible individuals. Printed materials and individual technical assistance are offered to strengthen the capacity of individuals to maintain or to prepare for meaningful work.

Take Charge(TC/RC): Helping community adult members to gain the skills necesary to be confident enough to take part in town government by ultimately competing for town government leadership positions.

Delivery Methods: Meetings, discussion groups.

Town Officers Education Conference & Municipal Officers Management (TOEC/MOMS): Local town officers, decisionmakes and officials receive education and tools to improve job performance and mangement, addressing topics from new legislation to handling difficult customers.

Delivery methods: Each one-day conference is held annually, at multiple sites.

Vermont Urban and Community Forestry program :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.

Delivery Methods: Classes, meetings, various media, community volunteer projects.
Personal Financial Literacy: Promote, teach and support personal financial literacy education for youth.

Delivery Methods: Exhibit at professional development meetings and public events to promote and teach the use of the free

curriculum and support materials.

Growing Connections: this youth focused program teachesthat teaches nutrition, food safety, and food security issues through gardening.

Delivery Methods: Presentation

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: Youth •Adults •Age 13 - 18 Youth •Age 25 - 45 Adult •Age 25 - 60 Adult •Age 46 - 65 Adult •Age 6 - 12 School Age •Age 60 - Senior •Age 8 - 18 Youth •Communities: Educators •Communities: Schools •Extension: Faculty/Staff •Food Industry: Food Service Workers •Food Industry: Handlers •Master Gardeners •Policy Makers: Legislators •Public: Age 55+ •Public: Age 65+ (Seniors) •Public: Childcare Workers •Public: Families •Public: Families with Limited Resources •Public: Food Stamp Recipients •Public: General •Public: People with Limited Resources •Train-the-Trainer recipients:adults •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	2330	2500	1000	0
2007	7007	216822	2970	4142

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

Patent Applications Submitted

Year	Target
Plan:	1
2007 :	0

Patents listed
Green Ribbon -- On-line Database

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	1	0	1

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- AgrAbility - on-farm assessments

Year	Target	Actual
2007	20	33

Output #2

Output Measure

- AgrAbility - peer support groups

Year	Target	Actual
2007	1	0

Output #3

Output Measure

- AgrAbility - public presentations

Year	Target	Actual
2007	4	0

Output #4

Output Measure

- AgrAbility-identify prospective consumers

Year	Target	Actual
2007	30	20

Output #5

Output Measure

- Club service projects

Year	Target	Actual
2007	72	54

Output #6

Output Measure

- Committee projects implemented

Year	Target	Actual
2007	6	14

Output #7

Output Measure

- Community Assistance and Support

Year	Target	Actual
2007	20	17

Output #8

Output Measure

- Foundation trustees trainings

Year	Target	Actual
2007	3	17

Output #9

Output Measure

- Journal of Extension Article

Year	Target	Actual
2007	1	0

Output #10

Output Measure

- Migrant Education Program Identification and Recruitment Certificate of Eligiblity review

Year	Target	Actual
2007	1	81

Output #11

Output Measure

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

Year	Target	Actual
2007	5	1

Output #12

Output Measure

- Migrant Education Program Recruiter Training & Support

Year	Target	Actual
2007	4	0

Output #13

Output Measure

- Migrant Education Program Recruiter Training & Support

Year	Target	Actual
2007	1	0

Output #14

Output Measure

- Marketing Study report

Year	Target	Actual
2007	1	0

Output #15

Output Measure

- Migrant Education Program Public Relations articles

Year	Target	Actual
2007	10	0

Output #16

Output Measure

- Rural and Ag VocRehab assessments

Year	Target	Actual
2007	165	299

Output #17

Output Measure

- Rural and Ag VocRehab service plans

Year	Target	Actual
2007	75	148

Output #18

Output Measure

- Rural and Ag VocRehab services delivered

Year	Target	Actual
2007	75	139

Output #19

Output Measure

- Site project programs

Year	Target	Actual
2007	45	49

Output #20

Output Measure

- State Council meetings

Year	Target	Actual
2007	4	0

Output #21

Output Measure

- Stewardship of the Urban Landscape class

Year	Target	Actual
2007	5	6

Output #22

Output Measure

- Study Committee Research group meetings

Year	Target	Actual
2007	6	8

Output #23

Output Measure

- Take Charge/ReCharge Steering Committee members

Year	Target	Actual
2007	12	44

Output #24

Output Measure

- Take Charge/ReCharge committee teaching

Year	Target	Actual
2007	6	31

Output #25

Output Measure

- Take Charge/ReCharge presentations -National Extension Tourism conference

Year	Target	Actual
2007	1	1

Output #26

Output Measure

- TakeCharge/ReCharge workshops

Year	Target	Actual
2007	3	9

Output #27

Output Measure

- Teen board for Teen congress meetings

Year	Target	Actual
2007	6	6

Output #28

Output Measure

- Tree Warden training

Year	Target	Actual
2007	1	1

Output #29

Output Measure

- Volunteer Training

Year	Target	Actual
2007	4	32

Output #30

Output Measure

- Voter responsibility and public policy training in 36 towns

Year	Target	Actual
2007	6	0

Output #31

Output Measure

- Town Officers Education Conference and Municipal Offficers Management Seminars conferences

Year	Target	Actual
2007	1330	4

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	number of Certificatesof 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	number of clubs doing at least 6 hours of community service
4	number of hours contributed by trained adult volunteer Site Staff
5	number of hours of community service received by community organizations by youth involved in club programs
6	number of programs led or supported by trained volunteer Site Staff
7	number of youth serving as Foundation trustees who indicate a positive experience
8	number of youth serving on Boards
9	number of Rural and Ag VocRehab consumers who report increased satisfaction with actual or potential employment
10	number of Rural and Ag VocRehab consumers who have maintained or increased income, or decreased monetary losses
11	number of Stewardship Of the Urban Landscpes participants who advocate for their communities' public tree resources
12	number of Take Charge/ReCharge participants are satisfied with the process used as a means meeting community planning needs
13	number of Tree Warden and Tree Board members proactive in management of their urban forest
14	number of communities establishing or expanding community tree program
15	number of farm and rural residents with disabilities successfully served (ie case is closed)
16	number of farmers with disabilities maintaining employment
17	number of Take Charge/Re Charge participants who are satisfied that the project does or will meet the community need(s) it was designed to fulfill
18	number of agricultural business owners increasing skills in e-commerce
19	Increase in extension and agency personnel gaining new skills that can be applied in their work
20	Increase in number of TOEC participants who report increased skills in leadership and decision making.
21	Increase of in-kind and cash contributions in support of programming
22	Increase the number of committee members implementing or enhancing broad-based decision-making skills. (Action)
23	increase the number of individuals who know what is expected from them in a disaster
24	Increase the number of schools that offer financial literacy education.
25	Trainers self report increased confidence and efficacy in setting and achieving personal goals for health and financial security.

Outcome #1

1. Outcome Measures

number of Certificatesof Eligibility reviewed by the Dept. of Education that will be 100% accurate and reflect eligible migrant students

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	255	0

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 #2

1. Outcome Measures

number of community level town government positions that are contested on town ballot

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	0

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
903	Communication, Education, and Information Delivery

Outcome #3

1. Outcome Measures

number of 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
2007	72	97

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 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
2007	1500	1305

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 #5

1. Outcome Measures

number of hours of community service received by community organizations by youth involved in club programs

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	432	14

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

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
2007	55	44

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 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
2007	30	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
806	Youth Development

Outcome #8

1. Outcome Measures

number of youth serving on Boards

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	44	0

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 #9

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	54

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #10

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	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
723	Hazards to Human Health and Safety
805	Community Institutions, Health, and Social Services
724	Healthy Lifestyle

Outcome #11

1. Outcome Measures
number of Stewardship Of the Urban Landscpes 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
2007	20	0

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

Outcome #12

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	81	339

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 #13

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	0

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
124	Urban Forestry
608	Community Resource Planning and Development

Outcome #14

1. Outcome Measures

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
2007	25	11

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
124	Urban Forestry

Outcome #15

1. Outcome Measures

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
2007	75	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
805	Community Institutions, Health, and Social Services
724	Healthy Lifestyle
723	Hazards to Human Health and Safety

Outcome #16

1. Outcome Measures

number of farmers with disabilities maintaining employment

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	49

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
723	Hazards to Human Health and Safety

Outcome #17

1. Outcome Measures

number of Take Charge/Re Charge participants who are satisfied that the project does or will meet the community need(s) it was designed to fulfill

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	81	0

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
903	Communication, Education, and Information Delivery

Outcome #18

1. Outcome Measures
number of agricultural business owners increasing skills in e-commerce

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	30

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Agricultural micro-businesses are numerous in Vermont, but research shows that many of these entrepreneurs are unaware of, or intimidated by, the prospects of incorporating e-commerce and information technology into their marketing and business practices. The potential of e-commerce to help these entrepreneurs span rural distances to market and sell their products is largely untapped.

What has been done

UVM Extension developed a curriculum for agricultural entrepreneurs who want to incorporate e-commerce features – e.g. email lists, online marketing, online ordering – into their operations. Three sessions were held.

Results

75% of business owners with existing web sites made plans to rewrite text on their sites using keyword strategies learned in the workshop and to add photos based on skills learned in the hands-on session. 90% planned to set up full e-commerce sites with online ordering and/or have detailed product information. All other sites planned to make changes or get their new sites up and running within three to six months. Most participants stated they gained technical skills and an understanding of search engine procedure.

4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices
903	Communication, Education, and Information Delivery

Outcome #19

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	190

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

Outcome #20

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	538

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 #21

1. Outcome Measures

Increase of in-kind and cash contributions in support of programming

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	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
806	Youth Development

Outcome #22

1. Outcome Measures

Increase the number of committee members implementing or enhancing broad-based decision-making skills. (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{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
608	Community Resource Planning and Development

Outcome #23

1. Outcome Measures

increase the number of individuals who know what is expected from them in a disaster

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	11

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
723	Hazards to Human Health and Safety
608	Community Resource Planning and Development

Outcome #24

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
2007	{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
801	Individual and Family Resource Management
806	Youth Development

Outcome #25

1. Outcome Measures
Trainers self report increased confidence and efficacy in setting and achieving personal goals for health and financial security.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{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
801	Individual and Family Resource Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

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

1. Evaluation Studies Planned

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

Evaluation Results

Key Items of Evaluation

Program #3

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	0%		1%	
502	New and Improved Food Products	0%		2%	
503	Quality Maintenance in Storing and Marketing Food Products	0%		4%	
511	New and Improved Non-Food Products and Processes	0%		3%	
512	Quality Maintenance in Storing and Marketing Non-Food Products	0%		1%	
703	Nutrition Education and Behavior	77%		51%	
704	Nutrition and Hunger in the Population	5%		30%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.	1%		0%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	3%		6%	
723	Hazards to Human Health and Safety	1%		0%	
801	Individual and Family Resource Management	0%		1%	
802	Human Development and Family Well-Being	13%		0%	
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: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	8.0	0.0	2.0	0.0
Actual	2.7	0.0	5.4	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**
220676	0	210617	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
453497	0	353203	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

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 foods.

Delivery methods: four-part series of classes,

EFNEP(Expanded Food and Nutrition Education Program): Is not supported by 3B&C dollars so is no longer included in our planning and reporting in One Solution.

Food Safety and Sanitation Certification Program:Food safety and sanitation course 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 implementation.

Delivery methods: Ten hour course with certification exam.

Food, Culture, and Reading (FCR): A train-the-trainer session for volunteers/teachers to implement the 6 lesson curriculum for pre-kindergarten through grade 2.

Delivery methods: 1 3 hour class.

Growing Connections: A program for youth that teaches nutrition, food safety, and food security issues through gardening.

Delivery methods: group workshops, individual instruction, various media, demonstrations, experiential learning.

Hazard Analysis Critical Control Point (HACCP): 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.

Delivery methods: Course, consultation.

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.

Delivery methods: Classes, ranging from one to six sessions.

Senior Farm Share Nutrition : 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.

Delivey methods: Single or multi-session workshop.

Community Farm Partners: To enhance the amount of locally grown produce that is consumed by Vermonters with limited resources and sold by small scale Vermont producers.

COPE: Parent education for parents of minor children who have filed for separation, divorce, disolving of a civil union, parentage, changes in riights and responsibilities concerning their children.This is a court mandated program.

Delivery methods: workshop

GAP: Good Agricultural Practices (GAP) to reduce the risk of microbial contamination of produce.

Delivery Method:workshop

Restaurant Food Labeling : To test the effect of labeling food (with nutrient analysis) in a dining hall on the choices of consumers (in this case, students)

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: Adult Volunteers •4-H: Youth •Adults •Age 13 - 18 Youth •Age 25 - 45 Adult •Age 25 - 60 Adult •Age 46 - 65 Adult •Age 6 - 12 School Age •Age 60 - Senior •Age 8 - 18 Youth •Communities: Educators •Communities: Schools •Extension: Faculty/Staff •Food Industry: Food Service Workers •Food Industry: Handlers •Master Gardeners •Policy Makers: Legislators •Public: Age 55+ •Public: Age 65+ (Seniors) •Public: Childcare Workers •Public: Families •Public: Families with Limited Resources •Public: Food Stamp Recipients •Public: General •Public: People with Limited Resources •Train-the-Trainer recipients:adults •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	1500	10	900	0
2007	1560	0	100	0

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

Patent Applications Submitted

Year	Target
Plan:	1
2007 :	4

Patents listed
Application # 60/881,493 -- Rapid Assay Method for Microbial Contamination
Repair/ Enrichment Medium for Listeria Detection in Food
On-line Nutrition Curriculum
Sports Drink

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	2	7	9

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Bankruptcy ATF TV program

Year	Target	Actual
2007	2	0

Output #2

Output Measure

- Bankruptcy article

Year	Target	Actual
2007	1	0

Output #3

Output Measure

- Bankruptcy education planning discussion group

Year	Target	Actual
2007	3	0

Output #4

Output Measure

- Bankruptcy education: curriculum & application

Year	Target	Actual
2007	1	0

Output #5

Output Measure

- Bankruptcy radio

Year	Target	Actual
2007	2	0

Output #6

Output Measure

- Bankruptcy web articles

Year	Target	Actual
2007	4	0

Output #7

Output Measure

- Dining With Diabetes Workshop Series

Year	Target	Actual
2007	12	10

Output #8

Output Measure

- Dining With Diabetes website development

Year	Target	Actual
2007	1	1

Output #9

Output Measure

- Diabetes News

Year	Target	Actual
2007	8	4

Output #10

Output Measure

- Diabetes News-radio

Year	Target	Actual
2007	2	0

Output #11

Output Measure

- Food, Culture, and Reading curriculum

Year	Target	Actual
2007	1	9

Output #12

Output Measure

- Food, Culture, and Reading training

Year	Target	Actual
2007	2	1

Output #13

Output Measure

- Five hour food safety and certification training

Year	Target	Actual
2007	2	3

Output #14

Output Measure

- Growing Connections training

Year	Target	Actual
2007	2	2

Output #15

Output Measure

- Healthy Eating workshops

Year	Target	Actual
2007	25	30

Output #16

Output Measure

- Home visits/small groups

Year	Target	Actual
2007	256	0

Output #17

Output Measure

- Nutrition and food safety news

Year	Target	Actual
2007	60	0

Output #18

Output Measure

- Pre diabetes workshops

Year	Target	Actual
2007	14	6

Output #19

Output Measure

- Revise evaluation instruments for certification training

Year	Target	Actual
2007	1	0

Output #20

Output Measure

- Senior Farm Share workshops

Year	Target	Actual
2007	14	14

Output #21

Output Measure

- School preparation and implementation of Hazard Analysis Critical Control Points

Year	Target	Actual
2007	2	0

Output #22

Output Measure

- Serve New England

Year	Target	Actual
2007	12	0

Output #23

Output Measure

- Ten hour food safety and sanitation training

Year	Target	Actual
2007	4	0

Output #24

Output Measure

- Two hour food safety and sanitation training

Year	Target	Actual
2007	2	0

Output #25

Output Measure

- Information/consultation

Year	Target	Actual
2007	75	156

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	child/adult care center managers passing food safety certification exam
4	number of participants who adopt at least three new dietary practices from US Dietary Guidelines
5	number of participants who have blood sugar tested
6	number of participants who increase the quality and/or quantity or fruits and vegetables
7	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	number of people who improve food planning and shopping behaviors
10	number of people who increase their knowledge about the US Dietary Guidelines
11	number of people who increase their physical activity
12	number of people with knowledge and skills to read labels and select good food
13	number of school food managers certified in food safety and sanitation
14	number of school food service workers using food safety 'best practices' when receiving, storing, handling, preparing and serving food
15	number of schools implementing Hazard Analysis Critical Control Point based food safety programs
16	number the people who show an improvement in healthful eating practices
17	people who show improvement in food safety and preservation practices
18	number of previously food-insecure people who eat adequate and balanced meals on a regular basis
19	number of people who develop a plan to improve dietary practices
20	Increase in number the people show an improvement in healthful eating practices
21	An increased preference for at least one fruit or vegetable.
22	Increase the number of parents undergoing family transition through parentage, divorce or separation who understand the impact of these changes on their children.
23	Increase the number of parents who intend to apply knowledge and skills learned to influence their behavior with their children.

Outcome #1

1. Outcome Measures

number of faculty who have materials to provide bankruptcy education

2. Associated Institution Types

{No Data Entered}

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

{No Data Entered}

What has been done

{No Data Entered}

Results

{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	

Outcome #2

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	0

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

Outcome #3

1. Outcome Measures

child/adult care center managers passing food safety certification exam

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	35	0

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 #4

1. Outcome Measures

number of participants who adopt at least three new dietary practices from US Dietary Guidelines

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	159	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #5

1. Outcome Measures

number of participants who have blood sugar tested

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	83	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #6

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	93	203

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many people have trouble eating well. Studies show good diets reduce risk of serious ailments. For seniors, limited mobility, access, and side effects of medications exacerbate health problems, While eating well contributes to aging well and improvements in quality of life and mental capacity. For many seniors diet is affected by limited resources, and they face many barriers to a healthful diet, including access to healthy foods, low literacy and education levels, and limited income. Many people have trouble eating well. Studies show good diets reduce risk of serious ailments. For seniors, limited mobility, access, and side effects of medications exacerbate health problems, While eating well contributes to aging well and improvements in quality of life and mental capacity. For many seniors diet is affected by limited resources, and they face many barriers to a healthful diet, including access to healthy foods, low literacy and education levels, and limited income.

What has been done

Participants in the Senior Farm Share program for older and disabled adults received farm shares and attended nutrition education classes. Topics included the nutritional importance of eating fruits and vegetables, how to store and prepare produce, and tasting recipes. Six nutrition workshops were conducted in Chittenden, Franklin, and Addison Counties.

Results

500 seniors collected in farm shares. Of 242 responding participants, mean age was 74 years and 20% were new to the program. Nearly 75% of respondents stated they ate or froze for later use all produce received from shares. Participation in the program resulted in a statistically significant increase in number of vegetables on-hand, and 84 percent of respondents indicated that produce from shares was always or almost always fresher than produce they purchased in stores. Improvements in food security and diet quality were evident in responses:

- Fewer participants indicated that they had to cut the size of their meals or skip meals because there wasnt enough money for food;
- More than 50% indicated that their food budget wasnt as tight when they were getting CSA shares;
- 67% indicated they consumed more and a greater variety of vegetables and fruits while participating in the program (based on nutrient content analyses, this likely translates into improved nutrient intake).

4. Associated Knowledge Areas

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

Outcome #7

1. Outcome Measures

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
2007	53	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #8

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	53	0

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 #9

1. Outcome Measures

number of people who improve food planning and shopping behaviors

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	53	0

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 #10

1. Outcome Measures

number of people who increase their knowledge about the US Dietary Guidelines

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	237	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #11

1. Outcome Measures

number of people who increase their physical activity

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	306	4

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #12

1. Outcome Measures
number of people with knowledge and skills to read labels and select good food

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	53	0

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 #13

1. Outcome Measures

number of school food managers certified in food safety and sanitation

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	60

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #14

1. Outcome Measures

number of school food service workers using food safety 'best practices'
when receiving, storing, handling, preparing and serving food

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area

712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #15

1. Outcome Measures

number of schools implementing Hazard Analysis Critical Control Point based food safety programs

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #16

1. Outcome Measures

number the people who show an improvement in healthful eating practices

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	106	9

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 #17

1. Outcome Measures

people who show improvement in food safety and preservation practices

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	196	0

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
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #18

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	53	0

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 #19

1. Outcome Measures

number of people who develop a plan to improve dietary practices

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	310	14

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 #20

1. Outcome Measures

Increase in number the people show an improvement in healthful eating practices

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	9

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #21

1. Outcome Measures
An increased preference for at least one fruit or vegetable.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	550

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 #22

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.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	1560

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #23

1. Outcome Measures

Increase the number of parents who intend to apply knowledge and skills learned to influence their behavior with their children.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	1560

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Sabbatic leave affected program delivery for food safety education & Bankrupcy education

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

Key Items of Evaluation

Program #4

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	2%		0%	
112	Watershed Protection and Management	13%		12%	
123	Management and Sustainability of Forest Resources	4%		3%	
133	Pollution Prevention and Mitigation	5%		7%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	1%		0%	
204	Plant Product Quality and Utility (Preharvest)	5%		15%	
205	Plant Management Systems	3%		0%	
216	Integrated Pest Management Systems	7%		6%	
307	Animal Management Systems	4%		13%	
313	Internal Parasites in Animals	1%		0%	
402	Engineering Systems and Equipment	0%		2%	
601	Economics of Agricultural Production and Farm Management	19%		24%	
602	Business Management, Finance, and Taxation	17%		15%	
603	Market Economics	2%		0%	
604	Marketing and Distribution Practices	4%		0%	
605	Natural Resource and Environmental Economics	4%		0%	
723	Hazards to Human Health and Safety	1%		3%	
801	Individual and Family Resource Management	7%		0%	
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	1%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	**1890**	**1862**	**1890**
Plan	27.7	0.0	10.0	0.0
Actual	28.8	0.0	10.7	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**
997018	0	1106810	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
2048906	0	1528223	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
1480484	0	0	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. •Addison County Agriculture Legislative Farm Tour. Tour. •Farm Assessments. Develop assessments. •P-Reducing Slag Barriers. Publications, demonstrations. •Growing by Design. On-farm research and demonstration. •Farmer Nutrient Management. Training for dairy farmers, 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. •Pesticide Education and Safety. Course, consultations. •Sheep program. Hands-on workshop, applied research, newsletter. •Healthy soil. Workshops and various media. •UVM Extension emergency management plan. Personnel training via workshops, mock disaster drill. 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. • Apples and Grapes – workshops, consultations and survey •Land Link – website, consultations, visits •Master Gardener -- course •Private/Commercial Landowner and Industry Professional Education – workshops, course •Small Ruminant Dairy Project – workshops, newsletter, pasture walks •Soil Health – workshops, consultations, farm visits, soil testing •Biosecurity- conferences, display and exhibit, funding request, presentation, publication, workshop •Sustainable Forests- publication, website project management, workshops •Urban Watershed and Water Quality-consultation, demonstration, display, presentation, publication, workshops •UVM Tax School- class, conference •Vermont New Farmer Network- Discussion group, workshop •Watershed & Water Quality Education- conference, consultation, demonstration, presentation, publications, tours, trainer training, workshops

AES efforts.

- Animal Manure Treatment Systems
- Storm and Wastewater Management Systems
- Perturbation of soil ecosystems by anthropomorphic interventions
- Soil nutrient effect on forest ecosystem productivity and lake water quality
- Soil fertility/chemistry/physical problems associated with waste disposal and bioremod faction
- Economics of organic dairy, crop management and alternative energy
- Heifer nutrition, rearing and management
- Dairy nutritional immunology
- Small ruminant production and management systems
- Development of strategies to address applied equine issues
- Biofuels from coconuts and other energy sources

- Identification of genetic traits that make species invasive
- Surveillance and prevention of spread of Asian Longhorned Beetle
- Management of thrips pests in forests and greenhouses
- Identification/control of fungal propagation
- Fungal biological plant protection, collection and management
- Explore microbial pesticides and fungal components as IPM strategies
- Innate immunity, DNA-based vaccines and mastitis prevention
- Hormonal regulation of glucose synthesis and milk production
- Functional genomics and photoperiod effects on hormonal cycles/milk production
- Explore ruminant lipid metabolism
- Impact of global climate change on forest species diversity
- Genetic diversity among new world ferns and geographic distribution
- Cold hardiness of horticultural perennials

2. Brief description of the target audience

Adults

Age 25 - 60 Adult

Agriculture: Apple Growers

Agriculture: Beef Producers

Agriculture: Dairy Producers

Agriculture: Farmers

Agriculture: Goat & Sheep Producers

Agriculture: Greenhouse Ornamental Growers

Agriculture: Home Gardeners

Agriculture: Industry Professionals

Agriculture: Maple Industry

Agriculture: Maple Sugar Producers

Agriculture: Small Fruit & Vegetable Growers

Agriculture: Veterinarians

Agriculture:Dairy Goat, Meat Goat and Dairy Sheep Producers

Communities: Schools

Community leaders and citizens

Extension: Faculty/Staff

Forestry: Woodland Owners

Policy Makers: Legislators

Public: Families

Public: General

Public: Small Business Owners/Entreprenuers

Public: Volunteers

4-H: Youth

Age 13 - 18 Youth

Youth

4-H: Adult Volunteers

Age 19 - 24 Young Adult

Age 46 - 65 Adult

Age 60 - Senior

Age 8 - 18 Youth

Agriculture/Natural Resources: Watershed Based Organizations

Agriculture: CCA & Crop Consultants

Agriculture: Equine Producers/Owners

Agriculture: Farm Families

Agriculture: Farm Managers

Agriculture: Non-Dairy Producers

Agriculture: Ornamentals Industry Professionals

Agriculture: Service Providers

Agriculture:Government Agency Personnel

Communities: Cities and Towns

Communities: Educators

Communities: Local Officials/Leaders

Communities: Non-Governmental Organizations

Dairy Herd Feed Consultants

Dairy Professionals

Dairy Veterinarians

Environmental Professionals: Environmental Managers

Extension: Advisors

Forestry: Loggers

Forestry: Wood Products Businesses

Forestry: Woodland Managers/Foresters

Master Gardeners

Public: Age 19-24

Public: Age 55+

Public: College Students

Public: Homeowners

Public: Nonprofit Organizations

Public: Women and Minorities

Train-the-Trainer recipients:adults

USDA personnel

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	12700	257000	900	10
2007	69631	1164313	3145	0

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

Patent Applications Submitted

Year	Target
Plan:	1
2007 :	16

Patents listed

Probiotic whey protein microspheres and methods of producing the same.
Colotrum cooler.
Whey-based biodegradable plastics production.
Whey-based fungal microfactories. (2)
Phosphorus retaining system and method. (3)
System and method for phosphorus removal from households in rural communities.
Sap processing technologies.
Production of fungi useful for pest control.
Production technology of microbial pesticides.
Equations for predicting metabolic maximum.
Maple spout with vacuum check valve.
Method for reducing volatile off-flavors in maple syrup.
Growing Places Curriculum.

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	7	32	39

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- 4-H biosecurity program

Year	Target	Actual
2007	1	0

Output #2

Output Measure

- Addison County Agriculture Legislative Farm Tour

Year	Target	Actual
2007	1	1

Output #3

Output Measure

- Ag Business Management Course

Year	Target	Actual
2007	5	3

Output #4

Output Measure

- Ag Engineering farm visits

Year	Target	Actual
2007	45	27

Output #5

Output Measure

- Agricultural Profitability Team meetings

Year	Target	Actual
2007	12	36

Output #6

Output Measure

- Asian Longhorned beetle (ALB) information distribution

Year	Target	Actual
2007	200	0

Output #7

Output Measure

- Asian Longhorned beetle website

Year	Target	Actual
2007	2	3

Output #8

Output Measure

- Avian influenza - ATF-television

Year	Target	Actual
2007	3	0

Output #9

Output Measure

- Avian influenza drill

Year	Target	Actual
2007	1	0

Output #10

Output Measure

- Balance Sheet/Budgeting Clinics

Year	Target	Actual
2007	1	8

Output #11

Output Measure

- Beef - print media

Year	Target	Actual
2007	6	21

Output #12

Output Measure

- Beef Conference

Year	Target	Actual
2007	1	1

Output #13

Output Measure

- Beef consultations

Year	Target	Actual
2007	50	125

Output #14

Output Measure

- Beef factsheets

Year	Target	Actual
2007	4	0

Output #15

Output Measure

- Bio-security recommendations for farm visits

Year	Target	Actual
2007	1	0

Output #16

Output Measure

- Bio-security training communication

Year	Target	Actual
2007	1	0

Output #17

Output Measure

- Business plan implementation

Year	Target	Actual
2007	32	68

Output #18

Output Measure

- Business plans completed

Year	Target	Actual
2007	20	19

Output #19

Output Measure

- Calf and Heifer Conference

Year	Target	Actual
2007	1	1

Output #20

Output Measure

- Classes for Master Gardener and Master Composter

Year	Target	Actual
2007	2	1

Output #21

Output Measure

- Completed soil health database

Year	Target	Actual
2007	1	0

Output #22

Output Measure

- Crop Insurance workshop

Year	Target	Actual
2007	6	7

Output #23

Output Measure

- Consultations

Year	Target	Actual
2007	1500	0

Output #24

Output Measure

- Crop Insurance articles

Year	Target	Actual
2007	6	0

Output #25

Output Measure

- Dairy Reproduction and Forage Quality on-line training

Year	Target	Actual
2007	1	0

Output #26

Output Measure

- Dairy Stewardship Alliance article

Year	Target	Actual
2007	3	0

Output #27

Output Measure

- Dairy Stewardship Alliance data summarization

Year	Target	Actual
2007	1	0

Output #28

Output Measure

- Dairy Stewardship Alliance farm visits

Year	Target	Actual
2007	8	6

Output #29

Output Measure

- Dairy Stewardship Assessment

Year	Target	Actual
2007	54	64

Output #30

Output Measure

- Dairy commodity grant articles

Year	Target	Actual
2007	6	10

Output #31

Output Measure

- Dairy price education articles

Year	Target	Actual
2007	6	2

Output #32

Output Measure

- Dairy price education newsletter

Year	Target	Actual
2007	12	15

Output #33

Output Measure

- Dairy/Forage Research Day

Year	Target	Actual
2007	4	0

Output #34

Output Measure

- Development of Farm Assessments

Year	Target	Actual
2007	30	26

Output #35

Output Measure

- Economic Analysis of Northern Forest Canoe Trail

Year	Target	Actual
2007	1	1

Output #36

Output Measure

- Edit State Support Function 11

Year	Target	Actual
2007	1	0

Output #37

Output Measure

- Fair & Field Day staff education

Year	Target	Actual
2007	2	8

Output #38

Output Measure

- Farm Management plans -APT

Year	Target	Actual
2007	10	26

Output #39

Output Measure

- Farm Safety Task Force

Year	Target	Actual
2007	2	0

Output #40

Output Measure

- Farm visits

Year	Target	Actual
2007	95	0

Output #41

Output Measure

- Farmedic class

Year	Target	Actual
2007	1	3

Output #42

Output Measure

- Farmer consults

Year	Target	Actual
2007	80	0

Output #43

Output Measure

- Farmer Nutrient Management Training presentation

Year	Target	Actual
2007	2	13

Output #44

Output Measure

- Farmers Market training

Year	Target	Actual
2007	2	1

Output #45

Output Measure

- Farming Alternatives presentations

Year	Target	Actual
2007	12	18

Output #46

Output Measure

- Feeder sales

Year	Target	Actual
2007	2	2

Output #47

Output Measure

- Forage and Pasture Mgt education presentation

Year	Target	Actual
2007	4	5

Output #48

Output Measure

- Germ City at Sheep Camp

Year	Target	Actual
2007	1	1

Output #49

Output Measure

- Germ City train the trainer

Year	Target	Actual
2007	1	2

Output #50

Output Measure

- Grain Growing workshops

Year	Target	Actual
2007	3	3

Output #51

Output Measure

- Grain Research project

Year	Target	Actual
2007	1	1

Output #52

Output Measure

- Greenhouse IPM workshop

Year	Target	Actual
2007	3	0

Output #53

Output Measure

- Greenhouse IPM handouts

Year	Target	Actual
2007	1	6

Output #54

Output Measure

- Greenhouse IPM manual

Year	Target	Actual
2007	1	1

Output #55

Output Measure

- Growing Places II course

Year	Target	Actual
2007	1	0

Output #56

Output Measure

- Grow Your Business consultations

Year	Target	Actual
2007	60	1

Output #57

Output Measure

- Growing Places course

Year	Target	Actual
2007	1	1

Output #58

Output Measure

- Growing Places on-line class

Year	Target	Actual
2007	20	1

Output #59

Output Measure

- Growing by Design cropping systems trial

Year	Target	Actual
2007	1	3

Output #60

Output Measure

- Growing by Design field day

Year	Target	Actual
2007	1	2

Output #61

Output Measure

- Incident Command System training workshop

Year	Target	Actual
2007	1	0

Output #62

Output Measure

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

Year	Target	Actual
2007	4	3

Output #63

Output Measure

- IPM/PESP for Certified Commercial Applicators

Year	Target	Actual
2007	1	1

Output #64

Output Measure

- Introduction to Sheep Management workshop

Year	Target	Actual
2007	1	3

Output #65

Output Measure

- Lamb feeding trial

Year	Target	Actual
2007	1	2

Output #66

Output Measure

- Lambing Clinic

Year	Target	Actual
2007	1	1

Output #67

Output Measure

- Live Lamb Grading Workshop

Year	Target	Actual
2007	1	1

Output #68

Output Measure

- Livestock discussion group

Year	Target	Actual
2007	6	1

Output #69

Output Measure

- ME/Vermont Organic Dairy Analysis consultations

Year	Target	Actual
2007	30	20

Output #70

Output Measure

- Medium Farm Operation Nutrient Management Assessment tool

Year	Target	Actual
2007	1	0

Output #71

Output Measure

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

Year	Target	Actual
2007	50	0

Output #72

Output Measure

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

Year	Target	Actual
2007	25	0

Output #73

Output Measure

- Managed Intensive Grazing Pasture workshop

Year	Target	Actual
2007	1	1

Output #74

Output Measure

- Maine/Vt. Organic Milk Research Study

Year	Target	Actual
2007	30	10

Output #75

Output Measure

- Maple - ATF- television

Year	Target	Actual
2007	1	1

Output #76

Output Measure

- Maple Mainline newsletter

Year	Target	Actual
2007	2	2

Output #77

Output Measure

- Maple research web material

Year	Target	Actual
2007	1	0

Output #78

Output Measure

- Maple Syrup Digest article

Year	Target	Actual
2007	1	2

Output #79

Output Measure

- Maple consultations

Year	Target	Actual
2007	23	48

Output #80

Output Measure

- Nutrient Management Plan training course for farmers

Year	Target	Actual
2007	1	0

Output #81

Output Measure

- NRCS co-facilitated workshops

Year	Target	Actual
2007	2	0

Output #82

Output Measure

- National Extension Tourism Conference

Year	Target	Actual
2007	1	1

Output #83

Output Measure

- National Extension Tourism Conference presentation

Year	Target	Actual
2007	2	2

Output #84

Output Measure

- National income tax book

Year	Target	Actual
2007	1	1

Output #85

Output Measure

- New England Agro-Security manual

Year	Target	Actual
2007	1	0

Output #86

Output Measure

- NxLevel Course

Year	Target	Actual
2007	2	3

Output #87

Output Measure

- On-farm biodiesel results publication

Year	Target	Actual
2007	1	0

Output #88

Output Measure

- On-farm vegetable oil/biodiesel project demonstration

Year	Target	Actual
2007	0	14

Output #89

Output Measure

- Organic apple production workshop

Year	Target	Actual
2007	2	0

Output #90

Output Measure

- P-Reducing Slag Barrier field day

Year	Target	Actual
2007	1	1

Output #91

Output Measure

- P-Reducing Slag Barriers research site

Year	Target	Actual
2007	1	4

Output #92

Output Measure

- PESP - Initial Certification for Pesticide Applicators workshop

Year	Target	Actual
2007	2	0

Output #93

Output Measure

- PESP Program School IPM Award of Achievement

Year	Target	Actual
2007	1	0

Output #94

Output Measure

- PESP newsletter

Year	Target	Actual
2007	4	0

Output #95

Output Measure

- PESP website

Year	Target	Actual
2007	4	0

Output #96

Output Measure

- Parasite fields study sites

Year	Target	Actual
2007	4	1

Output #97

Output Measure

- Parasite workshops

Year	Target	Actual
2007	3	4

Output #98

Output Measure

- Participatory Modeling workshop

Year	Target	Actual
2007	2	1

Output #99

Output Measure

- Pasture Walks

Year	Target	Actual
2007	20	42

Output #100

Output Measure

- Plant Diagnostic Clinic email/phone consultations

Year	Target	Actual
2007	3000	1000

Output #101

Output Measure

- Plant Diagnostice Clinic website

Year	Target	Actual
2007	1	1

Output #102

Output Measure

- Plant Insect Pest Diagnostic enquiries email/phone

Year	Target	Actual
2007	200	58

Output #103

Output Measure

- Plant Insect Pest Diagnostic identification and recommendations

Year	Target	Actual
2007	50	11

Output #104

Output Measure

- Poultry biosecurity workshop

Year	Target	Actual
2007	3	0

Output #105

Output Measure

- Poultry production conference

Year	Target	Actual
2007	1	0

Output #106

Output Measure

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

Year	Target	Actual
2007	1	1

Output #107

Output Measure

- Response to inquiries (email/phone)

Year	Target	Actual
2007	1000	0

Output #108

Output Measure

- Soil Health Assessment - field site visits

Year	Target	Actual
2007	20	100

Output #109

Output Measure

- Soil Health Assessment - orchards

Year	Target	Actual
2007	2	4

Output #110

Output Measure

- Soil Health Field days/workshops

Year	Target	Actual
2007	3	4

Output #111

Output Measure

- State Animal Response Team newsletter

Year	Target	Actual
2007	2	0

Output #112

Output Measure

- Tapping Survey (Maple)

Year	Target	Actual
2007	1	1

Output #113

Output Measure

- Tractor safety course

Year	Target	Actual
2007	1	1

Output #114

Output Measure

- Transferring the Farm program

Year	Target	Actual
2007	1	9

Output #115

Output Measure

- UVM Tax Schools

Year	Target	Actual
2007	3	3

Output #116

Output Measure

- VT Large Farm Dairy Conference

Year	Target	Actual
2007	1	1

Output #117

Output Measure

- Veg. & Berry radio commentaries

Year	Target	Actual
2007	8	0

Output #118

Output Measure

- Veg. & Berry magazine columns

Year	Target	Actual
2007	12	0

Output #119

Output Measure

- Veg. & Berry newsletters

Year	Target	Actual
2007	18	0

Output #120

Output Measure

- Vegetable and Berry meetings

Year	Target	Actual
2007	10	0

Output #121

Output Measure

- Vermont Grass Farmer's Association newsletter

Year	Target	Actual
2007	4	7

Output #122

Output Measure

- Vermont Maple conferences

Year	Target	Actual
2007	5	1

Output #123

Output Measure

- Vermont Maplerama meetings

Year	Target	Actual
2007	1	4

Output #124

Output Measure

- Vermont New Farmer Network development training

Year	Target	Actual
2007	4	2

Output #125

Output Measure

- Vermont Tourism Data Center

Year	Target	Actual
2007	1	0

Output #126

Output Measure

- Vermont Travel Industry Conference

Year	Target	Actual
2007	1	1

Output #127

Output Measure

- Vermont vegetable and berry web site articles

Year	Target	Actual
2007	52	0

Output #128

Output Measure

- Womens Ag Network Newsletter

Year	Target	Actual
2007	4	4

Output #129

Output Measure

- Womens Ag Network website articles

Year	Target	Actual
2007	12	22

Output #130

Output Measure

- Womens Ag Network workshops, learning circles, etc.

Year	Target	Actual
2007	2	4

Output #131

Output Measure

- Winter Dairy Herd Mgmt meeting

Year	Target	Actual
2007	1	2

Output #132

Output Measure

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

Year	Target	Actual
2007	1	0

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	number of dairy farms increasing forage quality as measured by ADF, NDF, Protein, and NEL
11	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	number of farmers having a greater understanding of the costs associated with organic farming
14	number of farms completing Dairy Stewardship assessment who adopt at least two sustainable practices
15	number of maple producers who adopt recommended practices that increase overall system efficiency and syrup quality
16	number of producers who have increased understanding of avian influenza risk, signs of disease, and who to contact
17	number of sheep farmers demonstrating better livestock management skills who report an increase in the number of healthy sheep
18	number of sheep producers who report a reduced parasite load in animals
19	number of sheep farms who report decreased lamb mortality
20	number of communities that integrate the participatory modeling tool into long-term town planning
21	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	number of commercial applicators implementing IPM practices
24	number of farm and forest landowners who report greater understanding of farm and/or forest transfer issues and options
25	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	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	number of maple producers adopting a recommended practice increasing their sap yields by 5%
30	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	number of participants passing the required applicators licensing test
33	number of planners reporting increased feelings of competency in understanding requirements in NMP and assisting farmers in implementation of Nutrient Management Plans
34	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	number of Growing Places graduates make an intentional, informed decision not to start a business after completing the course
43	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	number of farmers who develop water quality protection plans
47	number of farmers who indicate increased knowledge about grazing practices
48	number of farmers who create and implement business plans
49	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	number of farms that incorporate biosecurity, safety and preventative measures
52	number of new/aspiring farmers who have a completed goal statement and an action plan for a new agricultural business
53	number of participants who have a greater understanding of their expenses and profit centers
54	number of participants who show a 5% or more increase in farm profitability after implementing recommended management changes
55	number of participants will understand what pieces are in a plan, and will have a better focus for their farm business
56	number of participating service providers report increased understanding of services provided by other agencies and organizations
57	number of program participants who make informed decisions about crop insurance
58	number of service providers who use the legal guide as a reference
59	number of tax school participants stating improved accuracy of tax reporting for their clients
60	number of farmers who identify and use a tool (such as Quicken) for farm financial records
61	number of tax schools participants understanding federal and state tax laws and requirements
62	number of farmers who use financial reports with another person for business purposes
63	number of farmers who implement a practice that improves soil quality resulting in improved crop yield and quality
64	number of farmers who implement at least one change as outlined in the water quality protection plan
65	number of businesses who expand as a result of canoe trail recreation
66	number of beef farmers participating in consignment sales and value added beef markets who report an increased net profit
67	number of businesses who report expected increases in profitabiltiy directly related to tourism
68	number of farmers that develop a nutrient management plan for their farm
69	number of farmers who implement at least one change in nutrient management plan practices
70	number of farmers who implement grazing plans
71	number of farmers who increase their knowledge of slag barrier technology
72	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
73	number of legislators and key decision makers who increase understanding of current local agricultural issues
74	number of school facilities that implement IPM strategies
75	number of sheep producers who supply lamb to Vermont Quality Meats
76	growers increase knowledge of IPM strategies and techniques and how to prevent pest management problems
77	number of participants understanding of current local agricultural issues related to dairy farming and environmental protection
78	number of private landowners who will change their gardening practices to save money, be more environmentally sustainable as a result of education provided
79	number of participants (who average 8 hours each in seminars) who change a business practice(s)

80	number of studies describing the sustainability of biofuels production in Vermont
81	increase in number of community watershed organizations developing pollution prevention outreach effort
82	increase in number of fair and field days, and similar events that incorporate assessment and implementation of practical safeguards (Action)
83	increase in number of farmers who reduce production inputs (Action)
84	increase in number of farmers who use financial statements to identify farm management problems to increase farm profitability (Action
85	increase in number of households adopting low input lawn/garden care practices (Action)
86	Increase in number of maple producers that adopt recommended practices that increase overall system efficiency and syrup quality (Action)
87	increase in number of Master Gardener participants earning certification (Action)
88	increase in number of participants report making a change in on-farm production, marketing, financial management, legal or human resource aspects of their business (Action)
89	increase in number of residents who use test kits to determine fertilizer levels (Action)
90	increase in number of schools that continue to participate in WSA program in subsequent years (Action)
91	Increase in number of sheep farmers demonstrating better livestock management skills who report an increase in the number of healthy sheep (Action)
92	Increase in number of small ruminant dairy farmers who use information to make decisions, change management or purchases to improve animal health/production and farm profitability. (Action)
93	increase in number of towns adopting residential domestic NPS surveys to develop pollution prevention education (Action)
94	increase in the number of farmers who implement a practice that improves soil quality resulting in improved crop yield and quality (Action)
95	increase in the number of farmers who improve pasture management practices (Action)
96	increase in the number of student led community service watershed/water quality outreach projects (Action)
97	Increase number of farmers who implemented at least 1 change in calf management (Action)
98	Increase number of towns using stormwater management and non-point source pollution prevent best managment practices. (Action)
99	increase the number of commercial properties reducing landscape inputs (Action)
100	Increase the number of growers who report cost savings from more cost effective and less toxic pest control due to easy access to pest control information sites. (Action)
101	Increase the number of participant town officers use bioengineering for prevention and erosions control (1 yr post training) (Action)
102	increase the number of sheep farmers who implement grazing plans

Outcome #1

1. Outcome Measures

beef producers report information and services improved their profitability, stewardship and/or management

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	15	0

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 #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
2007	50	0

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	15	11

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 #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
2007	100	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Vermont farms may derive an economic benefit from developing on-farm energy sources and using pressed seeds from these crops as a valuable component of cow feed. Feeds containing 30-60% available protein (as these by-products contain) can be valuable commodities. Such plans could increase energy independence, promote rural economic development, and enhance farm profitability. As fuel costs rose, farmer interest in on-farm bio-fuels grew.

What has been done

UVM conducted a pilot study to assess the production and processing potential of on-farm oil seed crops for use as a renewable energy source on a scale that would support small groups of local farmers working together. Trials of oil seed varieties determined which crops could successfully be grown here. Two farmers produced all ingredients for biodiesel -- oil and alcohol. They also grew sorghum to distill their own ethanol. 100 people attended an open house to learn about the project.

Results

Field trials demonstrated that the necessary oil seed can be successfully grown in Vermont. As a result of the interest produced from the project, a larger-scale oil pressing system will be installed that is capable of serving ten local farms.
Our goal is to have our own source of fuel and control of it, says one of the participating farmers, but the other side of that is growing your own grain. I see this project fitting into a lot of dairy farms. As a result of this project 6 farmers have begun growing oilseed crops and Extension is securing funding for an on-farm oil seed and biodiesel project in southern Vermont for ten farmers, with hopes of expanding to other sites in northern Vermont. Similar projects are being explored now in ME and NH. As part of the team that developed the collaborative web site, www.climateandfarming.org, UVM Extension continues to contribute on-line educational materials used by individuals and in classrooms and workshops nationwide.

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	120	190

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 #6

1. Outcome Measures

number of businesses or organizations who report better decision making

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	160	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

UVM Extension and Vermont Agricultural Experiment Station seeks to assist the economic development in Vermont, while meeting the needs of Vermont farmers.

What has been done

UVMs Ag Innovations initiative helps faculty turn research into business ventures and use Vermont farms as testing grounds for innovations. Funds go to faculty in two stages: seed grants to help faculty develop business plans or prototypes and larger innovation grants to help take ideas and products to market. UVM ran six soybean growing trials with Vermont farmers to match Vermont soybean manufacturing needs.

Results

A grain and organic dairy farm were among those participating in trials designed to test food-grade organic soybean suitability. At $900 a ton, compared to $450 - $500 a ton for corn, food grade organic soybeans are a cash crop for the Vermont farmers who participated in the Ag Innovations project. One farmer is working out how he can devote 50 or more acres to soy.
Research ideas developed and patented by UVM found commercial application at the Vermont Soy Company, which began producing tofu and soy milk. Central to the companys made-in-Vermont branding strategy is to manufacture its product using only organic beans grown in Vermont. They hope to buy all of the Vermont beans produced this summer. Im proud of UVM, says Todd Pinkham, Vermont Soys co-owner. This is what a land-grant school is all about. Its how you utilize whats in your state.
Other projects include making and selling a safe, whey-based wood finish, whey-based edible products, and bio-diesel products.

4. Associated Knowledge Areas

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

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
2007	3	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The changing economics of Vermont agriculture.

What has been done

The Vermont Housing & Conservation Board (VHCB) and the Vermont Agency of Agriculture, Food and Markets started the Vermont Farm Viability Enhancement Program in 2003. Since its inception, the Program has made grants of state and federal funds to more than 150 farmers. The Farm Viability Program offers assistance to farms that have completed business plans with the Program and want to implement changes that have been studied through the planning process.

Results

Since program inception 2003, 162 farms have completed business plans through the Program. These farms use more than 20,800 acres, provide over 350 jobs, and most practice diversified agriculture, growing everything from maple sugar, sheep, and goats to berries, flowers, vegetables and mushrooms; 16% process on-farm cheese and other products. In 2007 59 farms received assistance developing business plans; 44 farms received follow-up and evaluation; 12 farms received implementation grants. One cheesemaker, having improved cheese over 8 years, was ready to take the next step—grow the business. Their goal is to be producing 15,000 pounds of cheese per year within the next few years. With technical assistance and a grant the program thats up from 6,200 pounds in 2004 to 11,000 pounds of cheese in 2007. Their marketing plan showed a strong demand for their products, justifying a facility upgrade to allow them to pasteurize their cheeses and to expand the variety of cheeses they make.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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
2007	3	0

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 #9

1. Outcome Measures

number of dairy farmers who indicate intent to make at least 1 change

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	225	58

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As UVM Extension enters the 21st century, there is a need to have in-depth knowledge on the state's dairy industry for program direction. In Vermont, the dairy industry historically accounts for more than 80% of the states agricultural income. But the dairy industry has been undergoing dynamic changes. Today, Vermont has fewer than 1500 dairy farms which are larger, more productive, but still facing pressures of growing in the future to remain economically viable.

What has been done

UVM Extension conducted a survey of dairy farm operators. A mail survey instrument was developed to include questions on farmer and farm demographics, uses of technology, future plans, labor practices, satisfaction, and future needs. The mail survey followed the Dillman (1978) method. The mailing list included all Vermont dairy farmers. A total of 870 completed surveys were returned for analysis, for a response rated of 60.0 percent.

Results

Farmers were least satisfied with time away from farm and profits. Milk prices and real estate taxes were greatest future concerns. Survey results directed UVM Extension staff to respond by offering 90 workshops for farmers in how to increase profits through a variety of means. As a result,

- 127 farmers made at least one change to address farm profits,
- 87 reported making a change in on-farm production, marketing, financial management, legal or human resource aspects of their business
- 104 farmers had soil tested to reduce fertilizer used for amendments
- 11 farmers showed a 5% or more increase in farm profitability after implementing recommended changes

One farm family said, 'UVM Extension's VT Ag Profitability Team has been a very valuable asset in helping us get where we are today. In 6 short years we have gone from a rented conventional dairy, milking 9 animals, to a beautiful organic dairy that we own with 80 healthy and hearty cows…

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
307	Animal Management Systems

Outcome #10

1. Outcome Measures

number of dairy farms increasing forage quality as measured by ADF, NDF, Protein, and NEL

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)

Outcome #11

1. Outcome Measures

number of dairy farms that increase pregnancy/fertility rates

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	0

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 #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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	18

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
602	Business Management, Finance, and Taxation

Outcome #13

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30	0

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 #14

1. Outcome Measures

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
2007	30	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
601	Economics of Agricultural Production and Farm Management

Outcome #15

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	200	346

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
204	Plant Product Quality and Utility (Preharvest)

Outcome #16

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	0

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 #17

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	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
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #18

1. Outcome Measures
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
2007	20	0

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
307	Animal Management Systems

Outcome #19

1. Outcome Measures

number of sheep farms who report decreased lamb mortality

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	0

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
601	Economics of Agricultural Production and Farm Management

Outcome #20

1. Outcome Measures

number of communities that integrate the participatory modeling tool into long-term town planning

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	1

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 #21

1. Outcome Measures

number of vegetable and berry growers who implement changes in production, pest control, and/or management practice resulting in the desired outcome

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	150	0

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
204	Plant Product Quality and Utility (Preharvest)

Outcome #22

1. Outcome Measures

number of growers implementing IPM practices reducing reliance on pesticides

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	80	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Increase the level of knowledge and use of IPM for various agricultural products. To teach growers improved practices and skills related to IPM tools and methods, and the safe and judicious use of pesticides and alternatives, including organic options.
IPM is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks.

What has been done

The UVM IPM Program focuses on priorities identified through participatory assessments conducted in the state and region. Efforts center on apple, corn, grape, greenhouse ornamental, vegetable and berry. Methods include one-to-one communication, field validation trials, workshops, training sessions, presentations, and educational materials through newsletters and websites. Topics include pest management, record keeping and pesticide use, safety, and their impact on water quality. Includes training for certified commercial and private pesticide applicators (PESP).

Results

Viticulture
All of the survey participants stated that they increased their awareness and knowledge of grape IPM and all will be using the information in their vineyard operations.

A viticulturist writes, I have spent money and time searching for information that would assist me in growing grapes in northern Vermont. The information in your newsletters is far better than anything I have been able to find anywhere else. Thank you very much for providing this service to our state.

Apple IPM
I have been receiving your Vt. Apple IPM News for many years and now I just
want to thank you for such a great service. The newsletter has been a great help, so thanks again.

International
Not all of our work is here in Vermont. We received an email from Amman, Jordan requesting advice for an insect pest problem. Because of the current involvement of the Extension entomologist with IPM education and research in the Middle East, she was able to refer him to local experts who were particularly familiar with the region, and could help him directly.

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #23

1. Outcome Measures

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
2007	60	0

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 #24

1. Outcome Measures

number of farm and forest landowners who report greater understanding of farm and/or forest transfer issues and options

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	243	0

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 #25

1. Outcome Measures

number of farm and forest landowners who implement or change their estate plan and/or transfer plan

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	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
602	Business Management, Finance, and Taxation

Outcome #26

1. Outcome Measures

number of farmers selling directly to consumers implementing marketing, production and record keeping skills

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	90	178

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Farmers seek to understand and manage their farms finances. While UVM Extension has reached hundreds of farmers over the past year, survey data showed more in-depth farm business and management education was needed

What has been done

Financial management services targeted established farmers, new farmers needing financial management skills, and farmers exploring alternative agricultural opportunities. Services included:

- 1-2 day farm finance management courses;
- 12-session course on business planning for new and prospective farmers;
- Balance Sheet/Budgeting Clinics with farmers;
- Farm visits on topics such as buying or transferring a farm or farm planning.

Results

Of farmers participating in marketing, production, and record-keeping workshops:

- 178 sold directly to consumers after applying skills learned;
- 129 used financial statements to identify farm management problems;
- 43 showed increased farm profitability after applying skills to address management problems in farm operations;
- 20 completed evaluations, with all 20 ranking farm viability services as critical to their overall success.

Examples of successes:

- A sheep dairy and farmstead cheese operation increased retail sales after improved financial planning. With the extra income from ricotta, which utilizes the whey that had before been a waste product, they purchased a pasteurizer.
- A wholesale vegetable grower used gross farm receipts analysis to learn he was losing nearly $500 per acre and over 180 hours of his time by growing 11 acres of green beans. He gradually moved to higher value crops like raspberries and asparagus, where his net profit will be over $5,000 per acre.

4. Associated Knowledge Areas

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

Outcome #27

1. Outcome Measures

number of farmers who implement at least one cropping practice to improve productivity, forage quality and profitability

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	64	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
133	Pollution Prevention and Mitigation
601	Economics of Agricultural Production and Farm Management

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 Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	32	43

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
602	Business Management, Finance, and Taxation

Outcome #29

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	65	350

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
204	Plant Product Quality and Utility (Preharvest)

Outcome #30

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	200

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
204	Plant Product Quality and Utility (Preharvest)

Outcome #31

1. Outcome Measures
number of participants who maintain direct involvement in promoting the importance of Vermont Agriculture

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	85	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
601	Economics of Agricultural Production and Farm Management

Outcome #32

1. Outcome Measures

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
2007	75	50

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 #33

1. Outcome Measures

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	18	0

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

Outcome #34

1. Outcome Measures

number of maple producers adopting most effective sap collection techniques

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30	213

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Average winter temperature over the last generation have risen by almost three degrees. The New England Regional Assessment of the Potential Consequences of Climate Variability and Change warn of the growing possibility of future environmental problems. This raises the prospect that the necessary temperature changes for sap flow are less predictable and earlier in the year, resulting in a shorter maple sugaring season, and that the climate here may one day no longer sustain maple trees.

What has been done

UVM conducted a regional study of the effects of global change on the maple sugaring industry. Scientists asked sugarmakers for production records over the last four decades. They mapped hardwoods in the lower elevations of Camel's Hump and conifers in the higher ones. Sap returns from tapping maples at earlier dates were examined via survey (133 respondents).

Results

Early thaws in recent years have caused sugarmakers to have fewer than normal freeze-thaw cycles, resulting in reduced syrup production for some producers. Tests of whether earlier tapping resulted in lost production found that yields may actually improve with earlier tapping when multiple mid-winter thaws occur. Extension studies comparing gravity sap collection with vacuum collection showed that gravity collection had similar yields for taps in February and March, while vacuum collection could yield sap over a full 12 weeks from some tapholes. Results reported at eight conferences and workshops to more than 200 maple sugar-makers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
602	Business Management, Finance, and Taxation

Outcome #35

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

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
2007	20	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
601	Economics of Agricultural Production and Farm Management

Outcome #37

1. Outcome Measures
participants will have gained knowledge on how to grow organic grains

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	120	600

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 #38

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100000	0

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 #39

1. Outcome Measures

participants will implement information learned from Grain Growing workshops

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	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
601	Economics of Agricultural Production and Farm Management

Outcome #40

1. Outcome Measures

equine facilities 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
2007	0	0

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 #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
2007	10	1

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

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	8	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The field of agriculture is a complex, multi-dimensional area. Agriculture involves an array of diverse issues, such as human treatment of animals, watershed protection, and consumer concern for the safety of our food supply; farmers need to understand agronomy, animal science, horticulture, nutrition, hydrology, and resource economics. In today's competitive market, business owners must be savvy marketers, thorough business planners, efficient, and able to identify niche markets.

What has been done

Growing Places, organized into six different sessions, each addressing a different aspect of business development, was developed to assist individuals in exploring the idea of starting a farm or other ag-related enterprise. Growing Places ideally leaves participants with an increased level of confidence and clarity regarding their business idea/plan, and a better understanding of the steps necessary to insure success.

Results

Since 1995, there have been 12 Growing Places cycles and 158 graduates. Twelve individuals completed the course this year. An evaluation survey conducted after the conclusion of the course (75 percent response rate) showed that all participants found the course useful in helping them a) decide if agriculture is the right field for them, b) develop a comprehensive goal; and c)explore opportunities, and d) provide them with new skills they can use in their businesses.
Respondents said:
Every nugget of information was on target. The field trip was totally inspiring. The course showed its doable and likely to succeed.
Writing the goal was very helpful in defining exactly what we wanted as a farm and as a family. It has already helped us eliminate one idea because of the amount of time it would take away from our family at this point.
The most important thing I learned was about the Farm Service Agency and other lenders, and getting an outline of the business plan.

4. Associated Knowledge Areas

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

Outcome #43

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	0

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 #44

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	20

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 #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)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	800

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 #46

1. Outcome Measures

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
2007	20	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

Outcome #47

1. Outcome Measures

number of farmers who indicate increased knowledge about grazing practices

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	36	312

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 #48

1. Outcome Measures

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
2007	6	20

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 #49

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	129

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
602	Business Management, Finance, and Taxation

Outcome #50

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

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 #51

1. Outcome Measures

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
2007	40	51

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 #52

1. Outcome Measures
number of new/aspiring farmers who have a completed goal statement and an action plan for a new agricultural business

2. Associated Institution Types

{No Data Entered}

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	26	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

{No Data Entered}

What has been done

{No Data Entered}

Results

{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	

Outcome #53

1. Outcome Measures
number of participants who have a greater understanding of their expenses and profit centers

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	45	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Farmers need markets for products. Entrepreneurs need ready and marketable products. Consumers need useful, effective, and safe products. UVMs Ag Innovations helps all of these parties achieve their needs. Cheesemaking produces a whey by-product. UVM researchers created value-added products from whey, ranging from a safe whey-based wood finish to incorporating whey into a number of IPM strategies. New products may be less detrimental to health and environment than current products.

What has been done

UVM researchers used proteins from whey as the binder to develop natural and safe wood finish products, patented the product, and utilized the new Ag Innovations project to license and sell the product through a local merchant. Other research examined the effect of lactose and nitrogen-containing by-products from whey on the virulence and stability of certain fungi, and the utility of using whey-based matrices for sprayable and other formulations of these fungi as part of an IPM strategy.

Results

UVM has created and licensed products using Vermont farmers for production of key product components, and created markets by helping a local entrepreneur ready the product for sales in the North American market. One example is Vermont Natural Coatings, sold by a Vermont farmer and entrepreneur. The products use whey to make a water-based wood finish that is more environmentally friendly than finishes relying on solvents. These products have caught the attention of architects and builders. The whey-based products meet strict indoor air quality standards for volatile organic compounds, which measure less than 180 grams per liter, far less than the average 250 grams per liter of conventional water-based finishes. Traditionally, builders have shied away from water-based finishes, preferring those that are oil based. But the top coat, poly-whey floor finish and poly-whey furniture finish have overcome the shortcomings usually found in water-based products.

4. Associated Knowledge Areas

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

Outcome #54

1. Outcome Measures

number of participants who show a 5% or more increase in farm profitability after implementing recommended management changes

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	143	11

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 #55

1. Outcome Measures
number of participants will understand what pieces are in a plan, and will have a better focus for their farm business

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	45	1

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 #56

1. Outcome Measures

number of participating service providers report increased understanding of services provided by other agencies and organizations

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	40	0

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 #57

1. Outcome Measures

number of program participants who make informed decisions about crop insurance

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1750	0

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
602	Business Management, Finance, and Taxation

Outcome #58

1. Outcome Measures

number of service providers who use the legal guide as a reference

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

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 #59

1. Outcome Measures

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
2007	260	438

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 #60

1. Outcome Measures

number of farmers who identify and use a tool (such as Quicken) for farm financial records

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	24	0

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 #61

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	340	463

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 #62

1. Outcome Measures

number of farmers who use financial reports with another person for business purposes

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	15	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 #63

1. Outcome Measures

number of farmers who implement a practice that improves soil quality resulting in improved crop yield and quality

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	0

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 #64

1. Outcome Measures
number of farmers who implement at least one change as outlined in the water quality protection plan

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	15	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
133	Pollution Prevention and Mitigation

Outcome #65

1. Outcome Measures
number of businesses who expand as a result of canoe trail recreation

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	0

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 #66

1. Outcome Measures

number of beef farmers participating in consignment sales and value added beef markets who report an increased net profit

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30	0

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
307	Animal Management Systems

Outcome #67

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	120	209

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The travel and tourism industry in Vermont may soon become the largest industry in Vermont if growth trends continue (Albers 2000). This rapid growth provides challenges and opportunities related to the most pressing concerns of Vermonters: jobs and land use. Farm and nature tourism and recreation provide an opportunity to create jobs and simultaneously promote conservation in harmony with sustainable development.

What has been done

UVM delivered multiple programs integrating the latest research on tourism and marketing with practical applications at the community and individual business levels. 209 tourism operators and agency personnel participated at the National Extension Tourism Conference. Attendees were surveyed at the event and 6 months post-conference.

Results

33% filled out the evaluation form at the event. 96% of respondents reported an increase in contacts, 94% reported an increase in awareness of programs related to tourism, and 91% stated they would develop programs/products/services for tourism and recreation operators in the next 18 months. A follow-up survey 6 months post-conference showed significant gains made by attendees. Over 90% of participants reported improvements in programs, products, and services as a direct result of attending the conference. Specific comments include:
'I have used the idea of regional tourism to develop a program that brings 13 regional farmers market managers together to talk about the problems they all share in promoting their markets.'
'I developed a new program based on Bucket Head Bob from Kentucky.'
'Since the conference, we have held a Wildflower Conference and are developing a paddling trail.'

4. Associated Knowledge Areas

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

Outcome #68

1. Outcome Measures

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
2007	8	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
133	Pollution Prevention and Mitigation

Outcome #69

1. Outcome Measures
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
2007	6	36

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Phosphorus is one of the most troublesome pollutants in stormwater runoff and can lead to significant degradation of surface water quality. It is the primary cause of water quality problems in Lake Champlain. Phosphorus is found in fertilizers and manure. UVM sought to increase farmer awareness and use of best management practices by acting on knowledge gained through farmer to farmer networking, self evaluation, nutrient management plan development, and on-farm demonstration.

What has been done

UVM and the Farmers Watershed Alliance partnered to create a curriculum and needs assessment to teach farmers how to develop nutrient management plans to meet NRCS and VT Agency of Ag nutrient management standards.

Results

UVM Extensions nutrient management course gave farmers the tools they need to make key decisions. We teach them what they need to do, and they go home and have to do their homework, said Heather Darby, UVM Extension specialist. Most farmers … spend between 25 and 50 hours completing their plan, so it is quite a bit of time. When the plans are completed by the farmers, they will very likely need to update them every year, she concluded. Currently 36 farms have made significant reductions in the agricultural impact on water quality by applying less nitrogen and phosphorus, reduce P in feed, improve waste management, and implement whole farm P management. As of February 2007, 30 additional farms participated and 28 farms developed plans on a total of 14,342 acres.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation

Outcome #70

1. Outcome Measures

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
2007	40	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
601	Economics of Agricultural Production and Farm Management

Outcome #71

1. Outcome Measures

number of farmers who increase their knowledge of slag barrier technology

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30	65

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Management of excess phosphorus (P) from point and non-point pollution sources has received increased atten¬tion due to the role of P in accelerating the depletion of oxygen levels and increasing algal growth on surface waters, and relatively small amounts of P can cause water quality impairment. While as much as 40% of the P load into Lake Champlain comes from surface runoff, the management technologies and practices for P removal from surface runoff are very few.

What has been done

UVM researchers invented a uniquely designed and simple system consisting of one or more filter units placed at the pollution source. The system removes P by specific absorption on metal hydroxides and Ca-P precipitation via electric arc furnace steel slag material and bacterial uptake at specific hydraulic retention times.

Results

System efficiency is very high. Installation cost is minimal, little land is needed and no energy is required. The system con¬sequently is very flexible and can be applied to both rural and urban P removal needs. The system provides a long term solution for P removal via regeneration of the steel slag, and used slag has the potential to be re-used as a fertilizer or a soil amendment in acid contaminated waste sites.

Most currently available practices can not function if total suspended solids (TSS) are above 30 mg/L. This system can function efficiently (reducing P at about 75-90%) at TSS concentrations as high as 100 mg/L, is easily installed, can flexibly reduce P efficiently from various flow rates, has minimum land needs, can handle wide P concentrations, and is easily combined with existing drainage and treatment systems. UVM Extension helped 65 Vermont farmers to learn about this technology and how to implement it. Four farm test sites are currently underway.

4. Associated Knowledge Areas

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

Outcome #72

1. Outcome Measures
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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	40

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

Outcome #73

1. Outcome Measures

number of legislators and key decision makers who increase understanding of current local agricultural issues

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	14

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

VT is at the center of a renaissance of farmers markets, farm stands, and other forms of direct sales from farmers to consumers. Nationally, direct sales doubled between 1992 and 2002. VT has the highest per-capita direct sales of all 50 states, at 5.5 times the national average, and $15/person/year. This per-capita figure is 79% higher than the #2 state (ME), and 342% higher than the national average. UVM Extension and VT-AES seek to support farm incomes through direct sales.

What has been done

UVM surveyed farm market managers during 2007 to request information on sales, the status of their markets, and potential areas requiring assistance. A sample of 32 markets (54 percent response rate) responded.

Results

Vermont had 59 active farmers markets in 2006, up from 46 in 2005 . 78% of respondents were from women managers. In 2006 the estimated revenue for the 28 market reporting figures was $2,935,644. Total revenues ranged from $1,000 to over $500,000, with a median revenue of $51,881. The top seven grossing markets accounted for 73 percent of gross revenues. Market managers reported expenses ranging from $75 to nearly $30,000 with median expenses of $1,837. Market managers also reported income ranging from $100 to nearly $30,000, with a median income of $3,252. The seven largest grossing markets had, on average, 24 agricultural vendors and 27 non-agricultural vendors, while the remaining markets had an average of 10 agricultural vendors and 12 non-agricultural vendors. The top eight grossing markets also had market managers, while the bottom nine markets did not. A meeting was held with 14 farm market managers now working to form a VT Farmers Market Coalition in 2007.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation

Outcome #74

1. Outcome Measures

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
2007	15	1

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 #75

1. Outcome Measures

number of sheep producers who supply lamb to Vermont Quality Meats

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30	0

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
601	Economics of Agricultural Production and Farm Management

Outcome #76

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	50

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 #77

1. Outcome Measures

number of participants understanding of current local agricultural issues related to dairy farming and environmental protection

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	870

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

Outcome #78

1. Outcome Measures

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 Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	935

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
605	Natural Resource and Environmental Economics
216	Integrated Pest Management Systems

Outcome #79

1. Outcome Measures

number of participants (who average 8 hours each in seminars) who change a business practice(s)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	1887

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 #80

1. Outcome Measures

number of studies describing the sustainability of biofuels production in Vermont

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Biomass energy sources can reduce energy usage impacts on the environment. The production of electricity and fuels from biomass resources reduces pollution, greenhouse gases, energy usage and dependence on foreign energy. Vermonts agricultural economy is causing some traditional dairy farms to look at diversifying towards enterprises such as organic farming, and nursery and bedding crops. Energy produced from crops such as hay, corn soybeans or canola could keep Vermont agricultural viable.

What has been done

UVMs Center for Sustainable Agriculture conducted an ecological and economic assessment of a biodiesel industry to determine the feasibility and impact of Vermont farmers producing feedstock crops. They examined the:

- economic, environmental, and social sustainability of biomass crops production;
- pros and cons of various feedstock crops;
- social barriers to production of non-food crops; and
- economic impacts of a bio-refinery industry, in particular upon potential feedstock producers.

Results

Ethanol from corn and biodiesel from oilseeds were identified as economically feasible in the current economic context. Due to concerns about the environmental efficiency of ethanol from corn, the simulation model analyzed the economic feasibility and ecological, economic, and social impacts of biodiesel production, assessing profitability, macroeconomic impact, potential changes in Vermont land use, green house gas emissions, and energy utilization. Results indicate a private biodiesel plant would not be feasible. However a growers cooperative would benefit from a facility using Vermont-grown soybeans, with the meal used for dairy feed.

Benefits included the development of a renewable fuel source, a potential reduction in greenhouse gas emissions, and reduced air pollution. Disadvantages included significant environmental impact, including increased soil erosion, groundwater depletion, groundwater and soil contamination, and increased fertilizer applications to increase yields.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
307	Animal Management Systems
112	Watershed Protection and Management
102	Soil, Plant, Water, Nutrient Relationships
123	Management and Sustainability of Forest Resources
605	Natural Resource and Environmental Economics
603	Market Economics

Outcome #81

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
2007	{No Data Entered}	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
112	Watershed Protection and Management

Outcome #82

1. Outcome Measures

increase in number of fair and field days, and similar events that incorporate assessment and implementation of practical safeguards (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	20

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 #83

1. Outcome Measures

increase in number of farmers who reduce production inputs (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	20

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 #84

1. Outcome Measures

increase in number of farmers who use financial statements to identify farm management problems to increase farm profitability (Action

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	129

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
801	Individual and Family Resource Management
602	Business Management, Finance, and Taxation

Outcome #85

1. Outcome Measures
increase in number of households adopting low input lawn/garden care practices (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	35

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 in number of maple producers that adopt recommended practices that increase overall system efficiency and syrup quality (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	340

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
603	Market Economics
604	Marketing and Distribution Practices
204	Plant Product Quality and Utility (Preharvest)

Outcome #87

1. Outcome Measures

increase in number of Master Gardener participants earning certification (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	130

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
204	Plant Product Quality and Utility (Preharvest)
102	Soil, Plant, Water, Nutrient Relationships

Outcome #88

1. Outcome Measures

increase in number of participants report making a change in on-farm production, marketing, financial management, legal or human resource aspects of their business (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	87

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
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation

Outcome #89

1. Outcome Measures

increase in number of residents who use test kits to determine fertilizer levels (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	50

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 #90

1. Outcome Measures

increase in number of schools that continue to participate in WSA program in subsequent years (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	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
112	Watershed Protection and Management

Outcome #91

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{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
307	Animal Management Systems

Outcome #92

1. Outcome Measures
Increase in number of small ruminant dairy farmers who use information to make decisions, change management or purchases to improve animal health/production and farm profitability. (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	38

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 #93

1. Outcome Measures

increase in number of towns adopting residential domestic NPS surveys to develop pollution prevention education (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	1

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 #94

1. Outcome Measures

increase in the number of farmers who implement a practice that improves soil quality resulting in improved crop yield and quality (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	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

102	Soil, Plant, Water, Nutrient Relationships

Outcome #95

1. Outcome Measures

increase in the number of farmers who improve pasture management practices (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	70

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
205	Plant Management Systems
602	Business Management, Finance, and Taxation

Outcome #96

1. Outcome Measures

increase in the number of student led community service watershed/water quality outreach projects (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	9

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 #97

1. Outcome Measures

Increase number of farmers who implemented at least 1 change in calf management (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	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
307	Animal Management Systems

Outcome #98

1. Outcome Measures

Increase number of towns using stormwater management and non-point source pollution prevent best managment practices. (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	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
112	Watershed Protection and Management

Outcome #99

1. Outcome Measures

increase the number of commercial properties reducing landscape inputs (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{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
112	Watershed Protection and Management

Outcome #100

1. Outcome Measures

Increase the number of growers who report cost savings from more cost effective and less toxic pest control due to easy access to pest control information sites. (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	40

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #101

1. Outcome Measures
Increase the number of participant town officers use bioengineering for prevention and erosions control (1 yr post training) (Action)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{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
112	Watershed Protection and Management

Outcome #102

1. Outcome Measures

increase the number of sheep 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
2007	{No Data Entered}	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
601	Economics of Agricultural Production and Farm Management

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

High oil prices affected interest and implementation activity for biofuels growing.

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