2007 NY State Agricultural Experiment Station Research and Cornell University Research and Extension Combined Annual Report

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I. Report Overview

1. Executive Summary

This is an integrated report for Agricultural Research and Extension Formula Funds received by Cornell University representing the work of the Cornell University Agricultural Experiment Station, the New York State Agricultural Experiment Station, and Cornell Cooperative Extension. Brief overviews of each partner are provided below followed by technical notes on the report itself.

Cornell University Agricultural Experiment Station

Founded in 1879, the Cornell University Agricultural Experiment Station was originally devoted to research for New York's burgeoning farm community. Today CUAES manages a $8.0 million federal formula funds portfolio, in close cooperation with Cornell Cooperative Extension and the New York State Agricultural Experiment Station, directing some of the most important research and extension in the state. The range of projects reflects the diverse needs of the state, including global climate change, bioenergy, commercial crops, forest resources, invasive species, conservation, land-use, urban planning, health, and rural economic development, to name a few. CUAES also manages 14,000 acres of farms and forests, providing critical research facilities and agricultural plots to scientists. Every aspect of our operation – from staff development to forest management to farm equipment – is viewed through the lens of sustainability.

CUAES promotes partnership among research faculty, extension educators, and community leaders. We seek constant input and guidance on research funding priorities from community-based networks and advisory bodies. With the help of our active stakeholder groups and a stringent peer review process, we maintain high-quality and responsive research and extension – bringing Cornell's resources and knowledge to the people of New York. The opportunities and challenges that face our state and our nation –global climate change, struggling rural communities, water quality, renewable energy to replace fossil fuels -- are all areas where Cornell's brightest minds are devoted to finding answers and to making a measurable difference in the lives of New Yorkers. Projects reflect our commitment to respond to today's needs and anticipate tomorrow's challenges and opportunities. A few projects highlighted below show the depth of our commitment to identifying and responding to real-world needs:

Super Cloth: Protecting emergency personnel and agricultural workers' health

About 40,000 certified pesticide applicators work with 4.5 million gallons of pesticide annually in New York alone. Accidents happen and unavoidable, accidental or incidental contact of pesticides with the skin can occur. Improvements in personal protective equipment (PPE) and information about the proper selection and use of PPE are needed for first responders (local police, firefighters, and emergency medical professionals) as well as first receivers (personnel in medical care facilities), and for pesticide applicators in the agricultural community. Researchers are creating a new fabric system that has both air-permeable properties for comfort and biocidal and chemical detoxifying functions for better hand and body protection.

Informed Citizens: Communicating Global Climate Change

How to best communicate complex scientific topics so the average citizen can form opinions based on fact, not fiction, is a frustrating task for the scientific community. A communications team is conducting ground-breaking research to assess how different demographic groups absorb and respond to information on climate change. The results will help scientists and policy makers concerned with environmental topics communicate evidence-based findings to the general public for maximum impact.

Outreach efforts are a focus, as well. Climate science researchers are creating online information systems for end-users, such as farmers and policy makers, to input specific data relative to crops to help them make more informed decisions about the impact of climate change based on predictive models and sound science.

Electrochemical Microbiosensor for Botulinum Toxin Detection on the Farm and in Food

Foodborne diseases continue to be a major concern in food safety and public health world-wide. Botulinum toxin is the most toxic natural compound known and has been listed as a dangerous bioterrorism agent by the Center of Disease Control and Prevention. Foodborne diseases, including those caused by botulinum and cholera toxin continue to pose a threat to our society. No sensors are currently available that allow a rapid and inexpensive screening of our food prior to consumption, during preparation and during production. This research has developed a rapid, sensitive, and reliable detection method for botulinum toxin in food and farm samples. The portable device will improve the safety of our food, from farm to table, and will enhance the safety and health of humans and livestock.

New York State Agricultural Experiment Station

The focus of both research and extension programs at New York State Agricultural Experiment Station Geneva is on the production, protection, and processing of horticulture food crops. The interests of the research scientists range from applied to basic science including biotechnology, with frequent cooperation between basic and applied scientists and among scientists in other disciplines. Research and extension faculty work closely with members of the agricultural community and encourage their graduate students and other visiting scholars to participate in this important activity.

The bare facts about the Geneva Experiment Station follow:
•The Station was established in 1880, making it the sixth oldest experiment station in the United States. •The Station's budget is approximately $21.1 million; $11.3 million is funded through SUNY's base budget . •Currently, 253 staff and 50 professors (18 with at least 20% extension appointments) are employed at the Station. •At any one time, 25-90 graduate students are conducting research for their theses under the guidance of professors at Geneva. •At any one time, there are around 15 visiting scientists, 10 postdocs, 20 research associates and 6 extension associates at the Station. •Academic programs are housed in four departments: Horticultural Scienced, Plant Pathology, Entomology, and Food Science and Technology. The focus is on improving the genetics, cultivation, protection, post-harvest handling, and processing of fruit and vegetable crops. •Two pilot plants at the Station provide opportunities for entrepreneurs, processors, and wine, beer, and cider makers to add value to New York State's raw products: the Fruit and Vegetable Processing Pilot Plant and the Vinification and Brewing Technology Laboratory. •The Northeast Center for Food Entrepreneurship, a joint program with the University of Vermont, provides comprehensive assistance to beginning and established food entrepreneurs, thus promoting sustainable economic development of rural communities. •The Station is the headquarters for the college's statewide Integrated Pest Management (IPM) program. •The U.S. Department of Agriculture's Plant Genetic Resources Unit, responsible for the U.S. collection of apple and cold-hardy grapes and selected seed-propagated crops, such as onion, garlic, broccoli, cabbage and winter squash, is located on the Geneva campus. •The station has a branch in the Hudson Valley at Highland, with three professors and six support personnel assigned there; five technicians are also located in western New York at the Vineyard Laboratory at Fredonia, where faculty from Ithaca and Geneva conduct research on grapes. •The central campus consists of 20 major buildings, several smaller buildings for storage and similar purposes, and 5 houses with apartments rented to graduate students, visiting scientists, and employees. •The station has eleven farms for experimental plot work close to the Geneva campus with a total of 870 acres. There is also one acre of glasshouse space on the campus.

Programs at Geneva cover the continuum from in-depth to applied research, to extension or outreach for user groups. A blend of classical methodologies and cutting-edge technologies is utilized to accomplish the mission of the Station. Cooperative efforts with faculty on the Ithaca campus are increasing, and thanks to new distance learning technologies, this linkage is expected to be strengthened greatly in the future. Many faculty at Geneva also work closely with county and regional extension personnel through the state.

Fruit and vegetable crops are a valuable part of the New York agricultural economy, and the value-added benefit of processed products increases their worth to the state. Growing horticultural crops is technically complex because of many factors, including: the perennial nature of some crops; the consumers' demand for cosmetically perfect fresh-market produce; and the public's perception that some methods used to control diseases and pests of these crops post risks to the environment, farm workers, and consumers. In addition, competition from other regions of the U.S. and from other countries poses challenges to this segment of New York's agricultural economy. Other challenges exist for the processors of these commodities, including disposal of processing waste in an environmentally acceptable manner.

The station has a strong commitment to strengthening the state's fruit and vegetable industries from 'the farm to the fork'. Many publications remind us of the importance of an adequate supply of fruits and vegetables in the human diet and the difficulty of producing these crops due to the loss of crop protectant chemicals. The ever-present challenges to the production of these crops and products provide a continual need for many of the programs at the Geneva Station.

Cornell Cooperative Extension
The Cornell Cooperative Extension educational system:

- Has an Association in every county in the state and an office in New York City. (In two instances, an Association covers more than one county.)
- Employs 1,700 staff and educators statewide. Employees work for their local CCE Associations, each of which is governed by a volunteer Board of Directors.
- Deploys some 50 specialists to carry out regional and statewide Extension programming in such areas as Integrated Pest Management and Fruit, Vegetable, and Field Crop Production and Management.
- Includes 40,000 volunteers who participate annually in CCE programs. Volunteer roles vary from advising and planning to teaching and mentoring. Many volunteers are trained to help carry out educational activities.
- Partners with approximately 200 faculty who have formal Extension work within their academic responsibilities.
- Engages a program development process that relies heavily upon local citizen input to identify issues of local importance. Local educators connect these needs with faculty resources. Often research is informed by the two-way flow of information and experience.
- Collaborates with thousands of organizations, agencies, institutions, and business interests. It is a powerful network that incubates positive community change and moves on to the next issue once sustainable solutions are established.
- Organizes programs across New York State under statewide program themes, or CCE initiatives. CCE has five priority program areas:
  - o Agriculture & Food Systems
  - o Children, Youth & Families
  - o Community & Economic Vitality
  - o Natural Resources & Environment
  - o Nutrition & Health.

Linking Campus to Communities

Cornell Cooperative Extension's educational system, which includes36 distance learning centers across New York State, is fully equipped to deliver events and instruction to remote audiences. These learning centers serve as a portal to Cornell University and other universities in the national land grant system.

Cornell Cooperative Extension Program Areas

4-H Youth Development

Building tomorrow's leaders

Healthy children and youth need knowledge, skills, and support to reach their potential as capable, competent, and caring citizens. Cornell Cooperative Extension's 4-H youth development programs engage young people and their families in the work of Cornell University and the land grant university system, teach knowledge and life skills that enhance quality of life, and create opportunities for positive youth development.

In classrooms, after school, and in community clubs and camp settings, 4-H youth learn by doing, and participate in practical, real life experiences that encourage them to experiment, innovate, and think independently.

In 2007, 470,000 youth from urban, suburban, and rural communities across New York joined in the 4-H experience. Major 4-H programs provide opportunities in science and technology, youth community action, and healthy living. Program work teams provide up-to-date resources and support professional development needs of county educators working with youth in local settings.

Agriculture & Food Systems

Maximizing the value of agricultural and natural resources

Agriculture and food systems must be efficient and profitable to remain viable and benefit the quality of life for individuals, families, and communities. Cornell Cooperative Extension's agriculture and food systems programs address the needs of New Yorkers by promoting sustainability, environmental stewardship, a safe, reliable, and healthy food supply, renewable energy,

recreation, and agri-tourism.

Cornell Cooperative Extension offers agricultural programs and resources in dairy and livestock, fruits, vegetables, viticulture and enology, field crops, nutrient management, food safety, and farm business economics and policy. Regional specialists and agriculture teams develop resources for small and large farms, beginning and established farmers, and commodity and specialty producer groups.

Community and Economic Vitality

Addressing quality of life, social cohesion, ecological integrity, and economic opportunity

Education that incorporates data and research can empower residents and communities to realize increased prosperity and self-sufficiency. Cornell Cooperative Extension's community and economic vitality programs seek to build the capacity of local leaders and communities to direct their own futures as they negotiate changes in economic structures, transportation and residential patterns, demographics, communication technologies, and other challenges and opportunities that effect communities.

Cornell Cooperative Extension educators help residents gather and synthesize knowledge, develop decision-making skills, and improve the use of community resources.

Cornell Cooperative Extension associations design community and economic development programming based on the context, issues, and needs of their communities. Community and economic vitality programs include land use training, inter-municipal collaboration on shared municipal services, leadership training, agroforestry workforce development, local food regional economic impact strategies, not-for-profit development, sustainable community-based initiatives, and small business agricultural education.

These and other programs help communities forge strong partnerships with campus faculty and staff, local government officials, community and economic developers, not-for-profit directors, community colleges, planners, policymakers, and informal leaders.

Environment & Natural Resources

Helping communities preserve and protect the environment

In order to sustain the environmental resources that are needed for healthy and pleasing communities, human beings must balance activities and needs with their associated impact. Cornell Cooperative Extension's environment and natural resources programs aim to develop knowledge that will help individuals and communities make decisions and take actions that preserve and enhance environmental quality and, therefore, human health.

Environment and natural resources programs consist of water resources, agricultural environmental management, including manure management, waste management, land use management, forestry, wildlife habitat and human interactions, fisheries, lawns and turf, invasive species, and energy, both conservation and renewable energy sources.

Cornell Cooperative Extension environment and natural resources programs serve the general public, resource managers, such as foresters, water and wastewater treatment plant operators, and farmers, and policy makers.

Nutrition and Healthy Families

Supporting healthy and active communities

Human health, well-being, and relationships are vital to the interests of communities. Cornell Cooperative Extension promotes knowledge, skills, and behavior change that support human development and welfare across social, emotional, physical, and psychological dimensions. Cornell Cooperative Extension's nutrition, health, and resource management programs address the interaction between individuals and the world around them to help people achieve their potential, solve problems, and strengthen their families and communities. Cornell Cooperative Extension educators use multidisciplinary academic approaches and apply varied cultural, social, and economic perspectives to provide learner-focused education.

Nutrition and health programs work to reduce the incidence of childhood obesity and alleviate chronic disease prevalence through improved nutrition and the promotion of healthy lifestyles. Programs foster developmentally appropriate parenting and child care as well as elder care, address environmental hazards, and support education in financial literacy, health care issues, and energy costs and conservation.

Reporting Notes

Planned programs 1.2 Viable and Sustainable Agricultural Production –Animals and 1.3 Viable and Sustainable Agricultural Production –Plants were separated for this year only due to limitations on assigned Knowledge Areas in the first iteration of the planning software. We do not address animal and plant production as independent programs; many NY enterprises include both.

The plans were combined for FY08 and subsequent years. This also influences reporting data in that educators needed to disaggregate data often without a valid basis for doing so.

A variety of data sources and documentation procedures were used to generate this report. The significant majority of data presented is collected through annual reporting structures. For extension, the primary sources were system-wide annual accountability reports and fiscal and personnel accounting records. Extension annual reports include participation data, reports against our approved performance indicators, and program impact statements. For research, The CRIS reporting system, annual faculty activity reports, and fiscal and personnel accounting records were the primary sources. These extension and research data are supplemented by targeted evaluation studies in selected areas.

One state generated output indicator included for each of the planned programs is number of funded projects directed to each plan. Note that many projects cut across more than one plan so the total number of projects cited across plans is significantly higher than the actual number of individual plans (108 in FY07).Note also that this plan is significantly more detailed than preceding plans and therefore we had limited data history upon which to base targets.A number of targets were signifiantly over estimated and a number were underestimated.Adjustments have been made in upcoming plans.

Lastly, all of our impact statements are reported as cross-cutting outcomes associated with individual planned programs rather than parsing them out against individual outcomes.We promote integrated programming that cuts across individual outcomes and expect that reports be structured in that same way.All impact statements are associated with appropriate knowledge areas so should still be accessible for CSREES reporting needs.

Total Actual Amount of professional FTEs/SYs for this State

Year:2007	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	247.7	0.0	120.5	0.0
Actual	1626.4	0.0	1118.0	0.0

II. Merit Review Process

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

- Combined External and Internal University External Non-University Panel
- Expert Peer Review

2. Brief Explanation

We use one integrated process for merit review for applied research and extension projects, including integrated and multistate activities. Key elements of the process are described here followed by statistics from the 2007 proposal cycle.

Review Process (Research Projects and Extension Projects with Designated Funding)

1. Principal investigators are asked to consult program priorities (established as outlined in the stakeholder involvement section) and develop short pre-proposals for new or revised projects funded by Federal Formula Funds.

2. Pre-proposals are reviewed for purpose and relevancy by advisory Program Councils (see stakeholder involvement section) and other external stakeholders, the principal investigator's department chair, Extension Program Associate/Assistant Directors, and the Experiment Station directorates (Ithaca and Geneva). Reviews are submitted via a secure website.

For research proposals:

3. Pre-proposals are accepted/rejected; Principal Investigators develop accepted preproposals into full proposals.

4. The Department Chair recommends two or three peer reviewers to the Director's Office.

5. The Director's Office obtains the necessary reviews in accordance with CSREES rules using standard format.

6. Changes suggested by the peer reviewer are conveyed to the Principal Investigator. Peer reviewer names are not revealed to the Principal Investigator.

7. The revised proposal, with required CRIS forms, is submitted to the Director's Office.

8. The Director's Office submits the package to CSREES along with an attached statement certifying the peer review was completed.

9. Reviews are kept on file in the Director's Office.

10. The Director's Office attaches a statement to the proposal and sends this with the proposal and Form 10 to the CALS Research Office.

11. After approval by CSREES, funds are allocated to the appropriate research account.

For extension proposals:

3. Extension Program Directors rank/recommend extension preproposals.

4. Extension Program Directors meet with Experiment Station (Ithaca and Geneva) staff to discuss potential R-E linkages among extension preproposals.

5. Extension Program Directors finalize Smith-Lever funding recommendations and communicate decisions and needed modifications.

Cornell Review Criteria

1. Anticipated significance of results relative to current priority needs or opportunities

2. Scientific merit of objectives

3. Clarity of objectives

4. Appropriate methodology

5. Feasibility of attaining objectives

6. Accomplishment during preceding project (for revisions)

7. Research performance and competence of investigator(s)

8. Relevance of the proposed work to regional or national goals

9. Level of research-extension integration

For ongoing extension work not captured in current funded projects, we rely on our structure of Program Councils and Program Work Teams for input and conduct regular program conferences with academic units to review program progress and direction. For FY-2007, of a total of 156 preproposals were submitted to the two Experiment Stations and to Cooperative Extension, of which 108 were funded.

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 non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey of the general public
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals
- Survey of selected individuals from the general public

Brief Explanation

Gaining stakeholder input and encouraging stakeholder participation is a system-wide expectation of all levels and units. Across those levels and units, all of the stakeholder participation methods listed are employed (no single unit uses them all).

At the state level, membership in our five program councils (Community and Economic Vitality, Quality of Life for Individuals and Families, Natural Resources and Environment, Youth Development, and Agriculture and Food Systems) is intentionally monitored to ensure involvement and ties to traditional and non-traditional constituents. These councils provide guidance for CCE, CUAES and NYSAES by setting broad priorities for applied research and extension programming.

In 2005 and 2006, we experimented with convening the program councils via electronic means and updated priorities through an on-line survey process. In 2007, we reinstituted a face-to-face program council conference feeling that was needed to re-establish a system perspective and encourage cross-council priority setting. About 90 people attended and the event was seen as highly valuable and will be repeated in 2008.

In addition, we have 30 active Program Work Teams comprised of extension educators, faculty, and stakeholders who work together to develop, implement and evaluate priority programs. More than 900 individuals were involved in the work of these teams in 2007. Since 2001, forty-one (41) program work teams have been authorized and supported to develop and deliver integrated applied research and extension programming across the state. The fact that 11 have completed their work and "decommissioned" indicates they are serving as intended, as a flexible program development mechanism responsive to needs. PWTs are expected to nurture research-extension integration, to encourage campus-field interactions and collaborations, to take multi-disciplinary approaches, to evaluate their efforts, and to involve their external members in all aspects of their work.

Beyond this state-level program development and stakeholder input structure/process, each of Cornell Cooperative Extension's 55 county extension associations continued to work closely with stakeholders in their counties via participation in their local governance (i.e. board of directors) and program guidance (i.e., advisory committee) structures. Formal advisory committees are also used to guide New York City Extension programs. In 2007, over 40,000 stakeholder volunteers from all walks of life participate and assist in the direction, priority setting, and delivery of extension programs throughout the state.

By definition, "under-represented or under-served" require additional outreach steps be taken. One of the most effective strategies for gaining input and developing working relationships is by networking and partnering with organizations that do have credible relationships with target groups. Our local boards of directors and advisory committees include at least 300 such representatives statewide. On both the program councils and program work teams, we target representatives of organizations working effectively with groups with whom we should strengthen ties.

Effective involvement of youth in program determination and implementation is of particular concern. All of our local advisory committees are expected to include youth members as part of the needs assessment and decision making structure. In 2007, more than 3100 youth served in governance and program delivery roles statewide. Our Youth Community Action program, a coordinated effort to develop active youth voice and meaningful partnerships between youth and adults, reached about 30,000 youth in 2007.

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

1. Method to identify individuals and groups

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

Brief Explanation

Across all levels of the system, all of the techniques listed were used; the mix of methods varied from site to site and program to program. All of our units are required to have active and diverse advisory processes and to intentionally consider audiences not currently served. Activities of our state level councils and work teams re described in other questions in this section. Needs assessments, focus groups, and use surveys are conducted at the level of individual program units as well as in our statewide plan of work process. In 2007 we began a specific focus on needs of agriculture in the "North County" the geographically isolated fringe of the Adirondack Mountains which includes a wide range of agricultural operations some of which are not currently being served effectively. Active partnerships are forming with the growing Amish and Mennoite populations across NYS.

Leadership and staff of both extension and research were heavily involved in a task force reviewing the Land Grant Mission of the College of Agriculture and Life Sciences, an important part of which was stakeholder analysis. Work groups arising from the task force are conducting additional analyses at the present time and identifying strategies for better identifying and connecting with new audiences and constituencies.

Extension educators are expected to submit narrative reports of efforts to engage underserved populations. For the 2007 reporting year, more than 125 such stories were submitted representing all five of our broad program areas. Example titles included: Horse Drawn Sprayer Calibration Workshop, Albany County Healthy Neighborhoods Program, Celebrate Urban Birds-NYC! Strengthening Fathers Initiative, Facilitating a Switch to Low Fat Dairy Foods at a Shelter for Youth, Cortland Family Fun & Resource Center, Urban Community Forestry, and, No Child Left Inside.

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
- Meeting with the general public (open meeting advertised to all)
- 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

Again, all of the techniques listed were used in 2007 but methods varied across the system site to site and program to program. Structures and processes for aggregating data are described in other questions in this section. The most active data gathering occurred in three venues – local advisory bodies, the program work teams, and program councils. Example outreach mechanisms include a series of private woodlot owner discussions delivered via Adobe Connect, focus groups of families regarding food interests and needs, a small farms conference, and an interactive web site for new farmers.

3. A statement of how the input was considered

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

Brief Explanation

The stakeholder input process for statewide program development jointly utilized by Cornell Cooperative Extension (CCE), the Cornell University Agricultural Experiment Station (CUAES), and the New York State Agricultural Experiment Station (NYSAES) was established in February 2001. The process informs federal formula funding priorities and provides project specific input on relevance and value of proposed work. In other words, our program councils and program work teams work to improve program focus, relevance, and planning activities. Members of our program councils have direct input on decisions regarding funding of current extension and research projects contributing ratings of perceived relevance. Each year, we review funding decisions versus advisory input and can confidently conclude that stakeholders are having a powerful voice in the direction of our programs. Our program councils also advise the directors of CCE and CUAES on annual statewide program priorities, review Program Work Team performance and identify "gaps" in programmatic coverage. Our statewide applied research and extension priorities are updated annually, communicated to faculty and staff, and used as a primary criterion in funding decisions.

For example, for the 2006-07 funding year, 82 percent of the preproposal that were highly rated by the stakeholder-reviewers were ultimately funded, and 75 percent of the preproposals rated moderately high were also funded. The majority of the preproposals receiving lower ratings were not funded. Lastly, in the integrated (research-extension) funding category, 26 of the 31 preproposals submitted for 2007 were funded. Regular communications with Program Council members, especially focused on off-campus and external members, have been used each year to keep these stakeholders abreast of the decision-making process, and notified about the projects that were funded. In May 2007, all Program Council Members, representing each of the five program areas, had an opportunity to attend an all-day meeting focused on emerging issues and discussions about research and extension priorities.

Perhaps even more important is the influence of stakeholder input in determining local programming. Our county extension associations and multi-county programs are semi-autonomous, much more so than in many states. The program of work of each unit is established under guidance of stakeholders in local advisory structures and governing boards and through environmental scanning activities conducted as part of our plan of work process. Such input has immediate and specific influence on program direction and strategy.

Brief Explanation of what you learned from your Stakeholders

These are the priorities established by our program work team and council structure.

Agriculture and Food Systems Priorities

•Sustainable Agricultural Systems that Minimize Environmental Impact and Maintain Dynamic Farm Profitability

•Managing Human Resources Especially Related to Identifying, Hiring, and Retaining New Workers and the Education of Middle Management and Owners •Identifying Value Added Products and Associated Market Channels •Agriculture and Food Systems Responsiveness to Human Health Needs

Community and Economic Vitality Priorities

•Effective and sustainable land use decisions consistent with multiple goals related to health, housing, transportation, energy, and economic opportunities; •Community based decision making that includes an engaged and educated citizenry representative of the community; •Inter-municipal and regional collaborations, and new public-private partnerships, that spur innovative strategies to address complex community development issues; •Economic development that promotes both community support for entrepreneurship and agricultural and food system development.

Natural Resources and Environment Priorities

1. Improving Watershed and Water Resource Protection and Management, in Agricultural, Rural and Developed Systems
2. Improving Management Practices for Sustainable and Compatible Agricultural, Natural Resource, and Energy Systems
3. Improving Policy Makers' and Individual Citizens' Understanding of Different Planning and Management Practices to Make Natural and Agricultural Systems More Sustainable
4. Prevention, management, and education on aquatic and terrestrial invasive species.
5. Management options for addressing impacts of climate change on NYS water resources (flooding, drought, impacts of land use on riparian zones, urban and rural), invasive species, environment in general, and agriculture; including how to implementing effective and timely (before it is too late) community comprehensive plans in the face of property rights concerns by rural landowners.
6. Renewable energy, including as an agricultural niche; local, alternative energy sources; and carbon/air quality issue.

Quality of Life for Individuals and Families Priorities

1. Nutrition, Health and Wellness

a. dvancing Healthy Lifestyles, Safety, and Wellness

. Improving food security & healthy food systems

2. Strengthening family support and care across the life course--young to aging families and elders.
3. Improving the quality of housing, home, school, and workplace environments and the horticulture environment in communities.
4. Enhancing personal skills in household economics, financial literacy, and resource management

Youth Development Priorities

1. Science, Engineering and Technology Literacy
2. Youth Community Action/Citizenship
3. Healthy Living
4. Positive Youth Development and Life Skill Development

IV. Expenditure Summary

Institution Name: Cornell University

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
7684796	0	7773870	0

Institution Name: NY State Agricultural Experiment Station

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	1364266	0

Institution Name: Cornell University

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	7143359	0	4266284	0
Actual Matching	7143359	0	4266284	0
Actual All Other	76982096	0	10178792	0
Total Actual Expended	91268814	0	18711360	0

Institution Name: NY State Agricultural Experiment Station

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	0	0	877139	0
Actual Matching	0	0	877139	0
Actual All Other	0	0	11691571	0
Total Actual Expended	91268814	0	18711360	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous years				
Carryover	0	0	1035625	0

V. Planned Program Table of Content

Program #1

V(A). Planned Program (Summary)

1. Name of the Planned Program

1.1 Agricultural and Horticultural Business Vitality

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
511	New and Improved Non-Food Products and Processes	20%		20%	
601	Economics of Agricultural Production and Farm Management	7%		7%	
602	Business Management, Finance, and Taxation	10%		10%	
603	Market Economics	5%		5%	
604	Marketing and Distribution Practices	8%		8%	
605	Natural Resource and Environmental Economics	10%		10%	
606	International Trade and Development	10%		10%	
609	Economic Theory and Methods	15%		15%	
610	Domestic Policy Analysis	10%		10%	
611	Foreign Policy and Programs	5%		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	16.7	0.0	5.0	0.0
Actual	105.7	0.0	12.0	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
464318	0	254972	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
464318	0	254972	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
5003836	0	408619	0

2. Institution Name: NY State Agricultural Experiment Station

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	6577	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	6577	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	181243	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

This is a comprehensive, statewide educational program entailing a wide variety of applied research and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

2. Brief description of the target audience

Key audiences served, directly and indirectly, in enhancing agricultural and horticultural business viability include: Established producers; new and young producers, consultants and service providers, input suppliers, cooperative directors and managers, marketing firms, governmental agencies, lenders, and local/state/federal governmental leaders.

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	12000	35000	0	0
2007	55873	3539268	7358	63272

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	1

Patents listed

eClips@cornell.edu

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	229

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # persons completing education programs on the labor needs of agriculture/horticulture businesses and and/or the needs of potential employees. (1.1.3a)

Year	Target	Actual
2007	0	31381

Output #2

Output Measure

- # producers/horticulture business persons completing education programs on business management, finance, business planning and marketing, human resource management, risk management, production economics, and business transitions. (1.1.1a)

Year	Target	Actual
2007	0	0

Output #3

Output Measure

- # producers/horticulture business persons completing programs to expand profitability, develop marketing options, diversify or substitute alternative products or enterprises, and/or increase operational efficiencies. (1.1.2a)

Year	Target	Actual
2007	0	359

Output #4

Output Measure

- # of non-credit instructional activity contact hours directed to this plan.

Year	Target	Actual
2007	0	493739

Output #5

Output Measure

- # of non-credit instructional activities directed to this plan.

Year	Target	Actual
2007	0	2113

Output #6

Output Measure

- # funded applied research projects directed to this program.

Year	Target	Actual
2007	16	30

Output #7

Output Measure

- # refereed publications directed to this program

Year	Target	Actual
2007	85	229

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# participants demonstrating knowledge or skill gains re business management, finance, business planning and marketing, human resource management, risk management, production economics, inter-generational transfer and other business transitions. (1.1.1b)
2	# participants demonstrating knowledge or skill gains related to expanding profitability, develop marketing options, diversify or substitute alternative products or enterprises, and/or increase operational efficiencies to solve immediate concerns. (1.1.2b)
3	# participants who demonstrate knowledge gains related to needs of potential employees and/or availability of qualified employees. (1.1.3b)
4	# participants documented to have applied knowledge or skills gained to strengthen existing business operations. (1.1.1c)
5	# participants documented to have initiated one or more alternative or expanded ventures. (1.1.2c)
6	# participants or producer groups who adopt practices of value-added production through retaining control of their product further in the processing chain, starting their own value added business, or forming alliances. (1.1.2d)
7	# participants documented to have made one or more changes in human resources practices to enhance labor availability or retention. (1.1.3c)
8	# participating family-owned agricultural/horticultural businesses that plan for succession, transfer, or sale of their business. (1.1.1d)
9	# participants reporting improved agricultural/ horticultural business profitability attributed at least in part to program participation. (1.1.1e)
10	# of new food, horticultural, and agricultural businesses and/or new enterprises within existing businesses reported by program participants and attributed at least in part to program participation. (1.1.2e)
11	# producers/horticultural businesses reporting improved labor availability, performance, and/or retention of higher skilled and more valuable human resource team members attributed at least in part to program participation. (1.1.3d)
12	# business owners successfully completing an intergenerational transfer or other desired dispensation of their business attributed at least in part to program participation. (1.1.1d)
13	Long-term viability and well being of the agricultural/horticulture industry and rural communities in Central New York State.
14	Integrated Risk Management Decision Strategies for Dairy Farmers
15	Better Weed Management Improves Profitability for Vegetable Growers

Outcome #1

1. Outcome Measures

participants demonstrating knowledge or skill gains re business management, finance, business planning and marketing, human resource management, risk management, production economics, inter-generational transfer and other business transitions. (1.1.1b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

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

Outcome #2

1. Outcome Measures

participants demonstrating knowledge or skill gains related to expanding profitability, develop marketing options, diversify or substitute alternative products or enterprises, and/or increase operational efficiencies to solve immediate concerns. (1.1.2b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
602	Business Management, Finance, and Taxation
604	Marketing and Distribution Practices
603	Market Economics

Outcome #3

1. Outcome Measures

participants who demonstrate knowledge gains related to needs of potential employees and/or availability of qualified employees. (1.1.3b)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

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

Outcome #4

1. Outcome Measures

participants documented to have applied knowledge or skills gained to strengthen existing business operations. (1.1.1c)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	4000	2631

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 #5

1. Outcome Measures
participants documented to have initiated one or more alternative or expanded ventures. (1.1.2c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	376

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices

Outcome #6

1. Outcome Measures

participants or producer groups who adopt practices of value-added production through retaining control of their product further in the processing chain, starting their own value added business, or forming alliances. (1.1.2d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	212

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices
511	New and Improved Non-Food Products and Processes

Outcome #7

1. Outcome Measures

participants documented to have made one or more changes in human resources practices to enhance labor availability or retention. (1.1.3c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3000	266

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 #8

1. Outcome Measures

participating family-owned agricultural/horticultural businesses that plan for succession, transfer, or sale of their business. (1.1.1d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	138

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

participants reporting improved agricultural/ horticultural business profitability attributed at least in part to program participation. (1.1.1e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2500	1234

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
604	Marketing and Distribution Practices
511	New and Improved Non-Food Products and Processes
601	Economics of Agricultural Production and Farm Management

Outcome #10

1. Outcome Measures

# of new food, horticultural, and agricultural businesses and/or new enterprises within existing businesses reported by program participants and attributed at least in part to program participation. (1.1.2e)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	159

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
511	New and Improved Non-Food Products and Processes
602	Business Management, Finance, and Taxation

Outcome #11

1. Outcome Measures

producers/horticultural businesses reporting improved labor availability, performance, and/or retention of higher skilled and more valuable human resource team members attributed at least in part to program participation. (1.1.3d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2000	207

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 #12

1. Outcome Measures

business owners successfully completing an intergenerational transfer or other desired dispensation of their business attributed at least in part to program participation. (1.1.1d)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

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

Outcome #13

1. Outcome Measures

Long-term viability and well being of the agricultural/horticulture industry and rural communities in Central New York State.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As technology, market and economic conditions change agricultural and rural business are faced with the need to transition there businesses to deal with these changes. In addition new business owners or existing businesses adding new enterprises need training and assistance to adapt and thrive. The Rural and Agricultural Business Enterprise Center of Central New York provides the needed training and assistance to help them be successful.

What has been done

Since its inception in November of 2005 the Rural and Agricultural Business Enterprise Center of Central New York has provided technical assistance and business skills training to 259 individual businesses. Initial work began with the development of new curriculum to support the business skills training workshop. This curriculum provided 16 hours of instruction in marketing, business operations, human resource management and finance. Basic skills in these areas are covered with additional technical information provided as additional reading and through guest speakers. Four business skills workshops have been provided with additional workshops with specific focus on accounting using both QuickBooks and the Cornell Farm Account Book and Labor Management. One-on-one technical assistance has been provided to individual businesses in Onondaga, Oswego, Cayuga, Cortland and Tompkins County.

Results

As a result of these efforts 526 jobs have been retained including 244 full time, 159 part time and 123 seasonal positions. In addition 14 new jobs have been created. Participants in the workshops have been able to apply the skills they have learned directly to their business to achieve there goals. Business owners receiving technical assistance have used the information they received to create business plans and have used financial analysis provided to secure finance. A 100 cow family dairy farm facing the challenge of supporting 3 families with the farming operation was able to obtain financing to purchase an existing 1100 cow dairy that was being liquidated. As a result the family supports 5 families through the farming operation and an additional 8 full time employees. The Chief Executive Officer of the family business commented this just would not have happened if it hadn't been for our help. Technical Assistance provided support for the award of a $300,000 grant for the construction of a one million gallon per year wheat to ethanol plant in Cayuga County.

4. Associated Knowledge Areas

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

Outcome #14

1. Outcome Measures

Integrated Risk Management Decision Strategies for Dairy Farmers

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As dairy producers continue to move toward a more market-oriented environment, it is necessary to gain a better understanding of the various sources of risk facing dairy farmers, and to identify effective and efficient management strategies for the transfer and reduction of risk.

What has been done

This project develops and tests strategies within a spreadsheet application to provide dairy farmers with an integrated approach to risk management. Production theory implies that average profits would be greater with more variation in prices if farmers correctly adjust use of inputs and outputs to changes in prices. An empirical non-parametric analysis of farmers' profits under price variation over 12 years using an unbalanced panel of dairy farmers was completed

Results

NY dairy farmers receive milk payments based on the quantities of three main components: butterfat, protein, and other solids. These component prices vary significantly over time as the demand for various dairy products change. This provides opportunities for dairy farmers to increase profits by altering individual milk components in response to component price changes. The effects of inputs and business factors on the four milk outputs of aggregate milk, butterfat, protein, and other solids were estimated using a system of four individual functions with dairy farm data. Results show that 13 out of 22 independent variables display statistically significant effects on at least one of the four milk components. Impacts of some inputs indicate milk component composition can be modified by increasing those inputs. Profit increase potentials were computed for these inputs. For instance, results show the optimal level of RPMet to maximize milk protein production is 2.40% while the optimal level for maximizing profit is only 2.34%. The additional daily profit per cow is $0.29 from normal protein levels found in typical New York dairy rations without RPMet supplement.

4. Associated Knowledge Areas

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

Outcome #15

1. Outcome Measures

Better Weed Management Improves Profitability for Vegetable Growers

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Crucifer crops such as cabbage, broccoli, cauliflower and Brussels sprouts are significant and valuable products, grown by over 400 NY farms. With an industry valued at up to $80 million annually, NY is the second leading cabbage producer in the nation. These valuable crops are threatened by weeds, which can harbor insects and diseases, as well as reduce crop yields, quality and harvest efficiency. Effective weed management is an important strategy for growers, which includes accurate weed identification and knowledge of effective techniques and tools.

What has been done

Over a period of 2 years, data on the occurrence and density of weed species was collected in 47 fields of cruciferous crops on 8 farms in western, NY. The data was compared to field management practices and field history. On-farm herbicide trials were conducted in 2007 for growers to learn about strengths and weakness of products and to determine successful tank mixes for broad-spectrum weed control. In collaboration with other Cornell researchers, the role of cruciferous weeds in harboring the invasive insect swede midge and black rot disease was studied.

Results

Shepherd's purse was identified as the most significant problem, found in or around all fields; plus it can harbor the swede midge insect and the bacterium, which can cause black rot disease. Both of these are potentially devastating to crucifer crops, with one grower losing $60,000 as a result of black rot in 2005 An economic analysis identified the cost of several techniques used by growers to manage weeds, which will allow for more informed decisions. The value of field scouting was highlighted, with average costs of $12 per acre or $38 per hour. Cultivation, which was performed on 100% of the farms, ranged in cost from $4 to $70 per acre, with number of cultivations ranging from 3 to 8 times per season. The annual cost for herbicides ranged from $4 to $128 per acre, with an average of $37 per acre. Hand weeding was practiced on 86% of the farms, with cost ranging from $6 to $400/acre. As a result of the herbicide trials, new recommendations for control of shepherd's purse using Goal of Goal Tender herbicides, which provided 93% - 98% control, will provide growers with a new tool for control of this potentially destructive weed, which previously had no recommended herbicide.

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
- Public Policy changes
- Government Regulations
- Competing Public priorities

Brief Explanation

See plan.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Examples from impact statements:

- 526 agricultural jobs in Central NY have been retained including 244 full time, 159 part time and 123 seasonal positions.In addition 14 new jobs have been created.
- As a result of the herbicide trials, new recommendations for control of shepherd's purse on tomato crops which provided 93% - 98% control, will provide growers with a new tool for control of this potentially destructive weed, which previously had no recommended herbicide.

Program #2

V(A). Planned Program (Summary)

1. Name of the Planned Program

1.3 Viable and Sustainable Production Practices -- Plant

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
201	Plant Genome, Genetics, and Genetic Mechanisms	6%		6%	
202	Plant Genetic Resources	3%		3%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	11%		11%	
204	Plant Product Quality and Utility (Preharvest)	7%		7%	
205	Plant Management Systems	11%		11%	
206	Basic Plant Biology	1%		1%	
211	Insects, Mites, and Other Arthropods Affecting Plants	15%		15%	
212	Pathogens and Nematodes Affecting Plants	26%		26%	
215	Biological Control of Pests Affecting Plants	8%		8%	
216	Integrated Pest Management Systems	12%		12%	
	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	7.8	0.0	60.0	0.0
Actual	48.8	0.0	110.7	0.0

2. Institution Name: **Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
214301	0	1095415	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
214301	0	1095415	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2309463	0	4419316	0

2. Institution Name: **NY State Agricultural Experiment Station**

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	728379	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	728379	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	9442113	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

This is a comprehensive, statewide educational program entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

2. Brief description of the target audience

Key audiences served, directly and indirectly include: established producers; new and young producers, consultants and service providers, input suppliers, governmental agencies, and local and state agricultural leaders.

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	4500	15000	0	0
2007	31381	694269	1008	492

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

Patent Applications Submitted

Year	Target
Plan:	60
2007 :	14

Patents listed

A Bioherbicide from Festuca SPP
Beta-mannanase from Coffee Berry Borer, Hypothenemus Hampei, and Uses Thereof
Dehydrin Genes and Promoters from Coffee
HrpN Interactors and Uses Thereof
Method for Increasing Resistance of Monocot Plants Against Abiotic Stresses, TPS Plant Gene Constructs, and Transformants
Methods for Providing Optimal Light-CO2 Combinations for Plant Production
Oleosin Genes and Promoters from Coffee
Rc, Brown Pericarp and Seed Coat
Surgically Implanted Micro-platforms and Microsystems in Arthropods and Methods Based Thereon
Use of NAP Gene to Manipulate Leaf Senescence in Plants
Apple Rootstock CG202
Apple Rootstock NYCG4202
COROT NOIR NY70.0809.10 Red Wine Grape
NY1829 Strawberry 'L'Amour'

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	777

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	533

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2007	0	49066

Output #3

Output Measure

- # producers/horticulture business persons completing education programs on existing and new production-management practices and techniques. (1.3.1a)

Year	Target	Actual
2007	0	0

Output #4

Output Measure

- # producers/horticulture business persons completing education programs on potential environmental impacts of practices; requirements and opportunities of environmental regulations and programs; whole farm systems. (1.3.2a)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

- # funded applied research projects directed to this program.

Year	Target	Actual
2007	120	232

Output #6

Output Measure

- # refereed publications directed to this program

Year	Target	Actual
2007	600	777

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# program participants demonstrating knowledge or skill gains related to existing and new production-management practices and techniques. (1.3.1b)
2	# participants who demonstrate knowledge or skill gains related to potential environmental impacts of practices; requirements and opportunities of environmental regulations and programs; and/or whole farm systems. (1.3.2b)
3	# producers, horticulture businesses, and natural resource managers documented to have modified existing practices or technologies and/or adopted new production management practices/technologies to address current issues and improve efficiency. (1.3.1c)
4	# technical assistance providers documented to have incorporated current best management practices in their recommendations. (1.3.1e)
5	# producers, horticulture businesses, and natural resource managers documented to have assessed potential environmental impacts of their operations and developed and acted on plans to eliminate or minimize those concerns. (1.3.2c)
6	# producers, horticulture businesses, and natural resource managers who report improved ability to anticipate and respond to environmental and market variations through alternative crop or production management strategies. (1.3.1d)
7	# producers, horticulture businesses, natural resource managers documented to develop or modify and implement nutrient management/waste management plans to meet production and environmental goals and regulations. (1.3.2d)
8	# producers, horticulture businesses, and natural resource managers documented to have Improved profitability and/or vitality resulting from enhanced production management practices. (1.3.1f)
9	# producers, horticulture businesses, and natural resource managers documented to meet or exceed current environmental protection standards as a result of participating in relevant educational programs. (1.3.2e)
10	# resource managers reporting reduced environmental concerns for participating enterprises. (1.3.2f)
11	Breeding and Plant Development of Unique Geophytes
12	Breeding Vegetables for Pest and Stress Tolerance
13	Development of Crop Protection Technology for Fruit Crops - Improving Deposition, Reducing Environmental Pollution and Operator Contamination
14	Reducing Nitrogen Groundwater Contamination from Crop Production
15	Development and Field Testing Disease Resistant Tomatoes

Outcome #1

1. Outcome Measures

program participants demonstrating knowledge or skill gains related to existing and new production-management practices and techniques. (1.3.1b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems

Outcome #2

1. Outcome Measures

participants who demonstrate knowledge or skill gains related to potential environmental impacts of practices; requirements and opportunities of environmental regulations and programs; and/or whole farm systems. (1.3.2b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
204	Plant Product Quality and Utility (Preharvest)
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants
215	Biological Control of Pests Affecting Plants

Outcome #3

1. Outcome Measures

producers, horticulture businesses, and natural resource managers documented to have modified existing practices or technologies and/or adopted new production management practices/technologies to address current issues and improve efficiency. (1.3.1c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2200	2219

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
204	Plant Product Quality and Utility (Preharvest)
216	Integrated Pest Management Systems

Outcome #4

1. Outcome Measures

technical assistance providers documented to have incorporated current best management practices in their recommendations. (1.3.1e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	257

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)
205	Plant Management Systems
216	Integrated Pest Management Systems

Outcome #5

1. Outcome Measures
producers, horticulture businesses, and natural resource managers documented to have assessed potential environmental impacts of their operations and developed and acted on plans to eliminate or minimize those concerns. (1.3.2c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2000	745

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
215	Biological Control of Pests Affecting Plants
212	Pathogens and Nematodes Affecting Plants

216	Integrated Pest Management Systems
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants

Outcome #6

1. Outcome Measures

producers, horticulture businesses, and natural resource managers who report improved ability to anticipate and respond to environmental and market variations through alternative crop or production management strategies. (1.3.1d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1200	724

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)
205	Plant Management Systems

Outcome #7

1. Outcome Measures

producers, horticulture businesses, natural resource managers documented to develop or modify and implement nutrient management/waste management plans to meet production and environmental goals and regulations. (1.3.2d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	270

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #8

1. Outcome Measures
producers, horticulture businesses, and natural resource managers documented to have Improved profitability and/or vitality resulting from enhanced production management practices. (1.3.1f)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1800	768

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #9

1. Outcome Measures

producers, horticulture businesses, and natural resource managers documented to meet or exceed current environmental protection standards as a result of participating in relevant educational programs. (1.3.2e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	250	174

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems

Outcome #10

1. Outcome Measures

resource managers reporting reduced environmental concerns for participating enterprises. (1.3.2f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
216	Integrated Pest Management Systems
205	Plant Management Systems

Outcome #11

1. Outcome Measures

Breeding and Plant Development of Unique Geophytes

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The U.S. floral industry needs new flowering potted plants, cut flower crops and garden plants. The continuous demand for new and special products in the floricultural market encourages the discovery of genetic sources in areas that are less exploited, such as Chile. This project develops new, commercial ornamental plants that can be used to keep our agricultural production systems highly competitive in the global economy.

What has been done

This research is the only kind in the world with these South American species. Interspecific and intraspecific hybrids of several geophytes from Chile have been made. We are breeding novel, commercially valuable plants from these crosses. As new hybrids and cultivars are developed, research is completed to develop production protocols for them. There are approx. 5,000 seedlings now growing in the greenhouses as a result of the breeding program.

Results

In 2007, the first new commercial ornamental plant from this research was patented -- Mauve Majesty -- a lavender lily look-alike that can last for two weeks in a vase -- blooms all summer long until the first hard freeze in the fall. The new hybrid of the Inca lily (Alstroemeria), is a non-fragrant perennial that has a vibrant color, a strong, upright stem and its temperature resilience. In greenhouses, Mauve Majesty -- never goes dormant and grows year-round. It is also one of the first in its color class to be hardy to zone 6, and many parts of zone 5, of the USDA Plant Hardiness Zone. Ten selections from the Leucocoryne breeding program have been chosen for propagation and further evaluation toward introduction. Propagation protocols will be developed for the new cultivars to prepare them for introduction into the commercial market.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
206	Basic Plant Biology

Outcome #12

1. Outcome Measures

Breeding Vegetables for Pest and Stress Tolerance

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Growers need disease-resistant breeding lines to reduce the cost of product. Consumers are demanding reduced environmental consequences of agricultural production, especially with regard to pesticide applications. Increasing food quality and produce safety through improved flavor and yield are also critical issues.

What has been done

This project has generated disease resistant breeding lines and varieties of popular consumer vegetables, often with significantly improved flavor and yield. In 2007, we licensed our first variety for organic systems, a Cucumber Mosaic Virus- tolerant red bell pepper.

Results

The organic pepper adds to 55 commercial licenses, including several cucumber varieties in wide use, cantaloupe, honeydew, zucchini, yellow summer squash, butternut and, acorn squash.. Licensees include all the large seed companies and some small, regional companies that offer seed produced organically, untreated and treated. We have thousands of material transfer agreements, and distribute germplasm globally. We completed genetic mapping studies of several important disease resistance and quality traits, and have released a large public genetic map of pepper based on SSR markers. We have also mapped resistance to CMV and released CMV-tolerant breeding lines in jalapeno and bell backgrounds. Because of our work in the cucurbits and in Capsicum, many varieties are now in catalogs. With the availability of this germplasm to the public, we see reduced pesticide applications, and improved yields for growers and quality for consumers. We have also released a number of molecular markers, including allele-specific markers for the pvr1 (potyvirus resistance in the Solanaceae) and the pun1 (pungency in pepper) locus, that are widely used in commercial genotyping.

4. Associated Knowledge Areas

KA Code	Knowledge Area
201	Plant Genome, Genetics, and Genetic Mechanisms
216	Integrated Pest Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
202	Plant Genetic Resources

Outcome #13

1. Outcome Measures

Development of Crop Protection Technology for Fruit Crops - Improving Deposition, Reducing Environmental Pollution and Operator Contamination

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Pesticides protect crops from insects and disease but off-target drift poses a threat to people and the environment. Agricultural engineers have developed low-cost designs for two vertical patternators that measure the accuracy of pesticide sprayers for orchards and vineyards. Based on results, spray nozzles are redirected to deposit spray more efficiently within the canopy. This reduces overspray and drift while still protecting crops.

What has been done

This research has developed cost-effective and efficient technologies to target fruit spraying, directing the airflow and revising dose rates, thus allowing growers to reduce the amount of pesticides they use and, consequently, improving the economics of fruit growing. Reducing the risk to the operator and the environment are equally important and this project has reduced point-source pollution by showing growers effective ways of rinsing sprayer tanks in the field, directing the airflow to reduce drift, and improving spray deposition within the crop canopy.

Results

The designs developed to control pesticide spray, to increase efficiency and minimize drift were evaluated in the 2007 season using a fluorescent tracer. We increased deposition between 25-30% and drift was reduced approx. 75-80%. The air induction nozzle trials, fitted to commonly used airblast sprayers, was physically and biologically successful. Drift was reduced by up to 50% with no change in biological efficacy. Both projects resulted in better depostion within the canopy and reduced drift considerably. A number of growers are very interested in the deflectors and are making their own. Airflow adjustment has created much interest in the apple and grape growing community because of cost-savings from more effective targeting of pesticide. One apple grower was able to save $90-$100 per acre, or 20% on chemical costs. The environmental impact is also significant, with less drift over the canopy of the trees and vines, less pollution from drifting pesticide. More than 400 growers in NY and PA witnessed the deflectors at extension demonstrations in 2007. The information and impact is expected to multiply in coming years via the extension network in surrounding states.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems
212	Pathogens and Nematodes Affecting Plants

Outcome #14

1. Outcome Measures

Reducing Nitrogen Groundwater Contamination from Crop Production

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a need to implement comprehensive nutrient management programs for maintaining and strengthening farming in Suffolk County, while improving groundwater and surface water quality. The Peconic Estuary Program, Suffolk County Department of Health Services and EPA are requesting a reduction in nitrates in groundwater and surface waters. The Suffolk County Legislature and County Executive have provided funding for a Suffolk Co. Agriculture Stewardship Program.

What has been done

During the past three years replicated research trials were conducted in vegetable crops, sod, tree fruit and nursery crops to evaluate the effectiveness of controlled release fertilizers compared to conventional soluble fertilizers. Results of these trials indicated similar production (yields) with controlled released and conventional fertilizers. We conducted over 25 large-scale, on-farm demonstrations to evaluate the controlled release fertilizers on a commercial scale.

Results

Research trials have shown that the controlled release fertilizers produce similar or higher yields than the standard fertilizer programs. Over twenty on farm, large-scale demonstration trials have shown a reduction in nitrogen rates by 10 to 20 percent using controlled release fertilizers. Three sod growers, who produce over 90% of the sod on Long Island, have begun to use controlled release fertilizers as a standard practice. Ten vegetable growers have expressed a sincere interest in using controlled release fertilizer on their farms next year. Four growers have already purchased product for the 2008 season. The use of the more efficient controlled release fertilizer and lower rates of total nitrogen with these types of fertilizers will result in less nitrates leaching into the groundwater. Groundwater monitoring will continue over the next several years to determine if efforts are having the desired impact.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #15

1. Outcome Measures
Development and Field Testing Disease Resistant Tomatoes

2. Associated Institution Types

•1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Tomatoes are grown by nearly every diversified fresh market vegetable grower in New York State, representing nearly $9 million of total value and represent a significant grower investment of $2,000 to $5,000 per acre to grow. However, two main diseases, Early blight (Alternaria solani) and Late blight (Phytophthora infestans) result in yield and fruit quality losses every year. Vegetable growers, breeders and the seed industry, have been urging development of resistant tomato varieties due to the high cost of fungicide control and interest in organic production.

What has been done

For the last 3 growing seasons, we have been involved as a cooperator on a USDA Northeast Regional IPM Grant, Field Testing of Resistant Tomato Lines to Control Late Blight and Early Blight in Conventional and Organic Growing Systems. The overall goal of the project was to develop and identify several tomato lines that have Early Blight and Late Blight disease resistance that would be acceptable in the tomato industry/market.

Results

In the first year of trials, we identified a small fruited tomato (2.0-3.0 ounces) with outstanding eating characteristics, yield potential and excellent disease resistance. In 2006 and 2007 this variety was grown commercially on 2 organic farms in the Capital District and allowed these growers to harvest tomatoes well into October, without applying fungicides, which they had not been able to do with varieties they were currently growing. This line will be commercially available through several seed companies starting in the spring of 2008. During the 2007 growing season, we were able to identify 3 breeding lines that were very comparable in size, shape and eating quality, to already available and popular commercial varieties (Sunbrite and Mountain Fresh). Most importantly, these lines were not sprayed with fungicides and yet fruit quality and yields were excellent. Growers will save $200 to $300 per acre and have improved fruit quality as a result of these disease resistant lines. Several seed companies have shown interest in these lines and as a result could be made available in limited quantities for growers to conduct their own trials.

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Public Policy changes
- Government Regulations
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

Plans 1.2 and 1.3 were separated solely because the initial version of the plan of work software was limited to 10 Knowledge Areas per plan.That forced separation of what for us was a single, integrated program.We had no direct experience to draw from so many targets were nothing more than informed guesses and we did indeed miss a number.The two programs are merged in the FY08 plan.

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)
- Case Study
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

- New commercial ornamental plant from this research was patented -- Mauve Majesty -- a lavender lily look-alike that can last for two weeks in a vase.
- Generated disease resistant breeding lines and varieties of popular consumer vegetables, often with significantly improved flavor and yield.

Program #3

V(A). Planned Program (Summary)

1. Name of the Planned Program

1.4 Renewable/Alternative Energy and Conservation

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
401	Structures, Facilities, and General Purpose Farm Supplies	6%		6%	
402	Engineering Systems and Equipment	49%		49%	
404	Instrumentation and Control Systems	45%		45%	
	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	2.5	0.0	3.0	0.0
Actual	16.3	0.0	2.9	0.0

2. Institution Name: **Cornell University**

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

Extension		**Research**	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
71434	0	90669	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
71434	0	90669	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
769821	0	335524	0

2. Institution Name: **NY State Agricultural Experiment Station**

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	2835	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	2835	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	99637	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

This is a statewide educational program entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

2. Brief description of the target audience

Agricultural/horticulture/natural resource and supporting businesses are targeted both regarding biofuels production opportunities and information regarding alternative energy sources and conservation. Consumers, property managers, and community leaders are targeted for information regarding energy supply alternatives and energy conservation options for residential, facilities, and transportation needs. Citizens, community agencies and organizations are targeted for energy-related policy education efforts particularly as related to development of alternative energy sources and the interaction between land use and energy conservation.

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	17500	200000	1000	0
2007	24220	1249182	3729	48723

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	28

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	386

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2007	0	31650

Output #3

Output Measure

- # funded applied research projects directed to this program.

Year	Target	Actual
2007	6	0

Output #4

Output Measure

- # agricultural producers and agribusiness representatives completing educational programs on the potential for development of biologically-based fuels. (1.4.1a)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

- # local and state leaders completing educational programs on the potential for development of biologically-based fuels such as biodiesel, ethanol, methane, recycled vegetable oils, space heating fules etc. (1.4.1b)

Year	Target	Actual
2007	0	0

Output #6

Output Measure

- # agricultural producers and agribusiness, and natural resource business representatives completing educational programs about cropping for biofuels production. 1.4.1c)

Year	Target	Actual
2007	0	0

Output #7

Output Measure

- # agricultural/horticulture/ natural resource and supporting business representatives completing educational programs about the availability and pros and cons of alternative energy sources and/or about potential energy savings in operations. (1.4.2a)

Year	Target	Actual
2007	0	0

Output #8

Output Measure

- # consumers and community leaders completing educational programs about the availability and pros and cons of alternative energy sources and/or about energy conservation strategies and actions especially related to housing and transportation. (1.4.3a)

Year	Target	Actual
2007	0	0

Output #9

Output Measure

- # consumers, property managers, and/or housing officials completing education programs on energy conservation strategies and actions. (1.4.3b)

Year	Target	Actual
2007	0	0

Output #10

Output Measure

- # community members, leaders and officials completing education programs about the relationships between development patterns and energy use/costs. (1.4.4a)

Year	Target	Actual
2007	0	0

Output #11

Output Measure

- # refereed publication directed to this program.

Year	Target	Actual
2007	10	28

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# agricultural/horticulture/ natural resource and supporting businesses who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources and/or potential energy savings in operations. (1.4.2b)
2	# consumers and/or community leaders who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources and/or energy conservation strategies and actions especially related to housing and transportation. (1.4.3a)
3	# consumers, property managers, and/or housing officials who demonstrate knowledge or skill gains related to energy conservation strategies and actions. (1.4.3b)
4	# community members, leaders and officials who demonstrate knowledge gains about the relationships between development patterns and energy use/costs. (1.4.4b)
5	# of program participants documented to have taken measures to improve energy efficiency of existing and new buildings. (1.4.3f)
6	# producers, economic development organizations and other groups collaborate to establish biofuels as a viable alternative crop. (1.4.1f)
7	# of existing or new producers documented to have modified existing practices or technologies and/or adopted new production management practices for biofuels production. (1.4.1g)
8	# of agricultural/horticultural/natural resource businesses documented to have adopted appropriate alternative energy sources and/or energy conservation practices. (1.4.2c)
9	# of consumers documented to have adopted appropriate alternative energy sources and/or energy conservation practices. (1.4.3e)
10	# of community agencies/organizations documented to have adopted appropriate alternative energy sources and/or energy conservation practices. (1.4.3g)
11	# communities documented to have assessed local energy development proposals and/or the relationships between current policies and regulations and energy conservation. (1.4.4c)
12	# of producers, horticulture businesses and/or natural resource managers reporting that cropping for and/or use of biofuels leads to increased economic returns to their enterprises. (1.4.1h)
13	# of producers/horticulture businesses/natural resource managers documented to have improved economic returns to agricultural/ horticultural business profitability and vitality resulting from adopting alternative energy sources and/or energy conservation. (1.4.2d)
14	# of consumers who report savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures. (1.4.3h)
15	# of community agencies/organizations reporting savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures. (1.4.3i)
16	# of communities documented to have established or modified land use and development policies to promote energy conservation. (1.4.4d)
17	# agricultural producers, agribusiness, or local and state leaders who demonstrate knowledge gains about the potential for development of biologically-based fuels. (1.4.1d)
18	# forest owners and purchasers of forest products who demonstrate knowledge or skills gains about current markets for firewood and chips/pellets and associated cropping practices. (1.4.1e)
19	Assessment of Climate-variety Interactions of Fast-growing Trees to Maximize Biomass Productivity
20	Productivity and Carbon Accumulation in Central New York Forests: Legacies of Past Agricultural Use
21	Growing Biofuel Crops

Outcome #1

1. Outcome Measures

agricultural/horticulture/ natural resource and supporting businesses who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources and/or potential energy savings in operations. (1.4.2b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
401	Structures, Facilities, and General Purpose Farm Supplies
404	Instrumentation and Control Systems
402	Engineering Systems and Equipment

Outcome #2

1. Outcome Measures

consumers and/or community leaders who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources and/or energy conservation strategies and actions especially related to housing and transportation. (1.4.3a)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
401	Structures, Facilities, and General Purpose Farm Supplies
404	Instrumentation and Control Systems
402	Engineering Systems and Equipment

Outcome #3

1. Outcome Measures

consumers, property managers, and/or housing officials who demonstrate knowledge or skill gains related to energy conservation strategies and actions. (1.4.3b)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge 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
401	Structures, Facilities, and General Purpose Farm Supplies

Outcome #4

1. Outcome Measures

community members, leaders and officials who demonstrate knowledge gains about the relationships between development patterns and energy use/costs. (1.4.4b)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Knowledge 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
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment

Outcome #5

1. Outcome Measures
# of program participants documented to have taken measures to improve energy efficiency of existing and new buildings. (1.4.3f)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5000	1630

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies

Outcome #6

1. Outcome Measures

producers, economic development organizations and other groups collaborate to establish biofuels as a viable alternative crop. (1.4.1f)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	150	387

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment

Outcome #7

1. Outcome Measures

# of existing or new producers documented to have modified existing practices or technologies and/or adopted new production management practices for biofuels production. (1.4.1g)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	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
402	Engineering Systems and Equipment

Outcome #8

1. Outcome Measures

# of agricultural/horticultural/natural resource businesses documented to have adopted appropriate alternative energy sources and/or energy conservation practices. (1.4.2c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2500	241

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment
404	Instrumentation and Control Systems

Outcome #9

1. Outcome Measures

# of consumers documented to have adopted appropriate alternative energy sources and/or energy conservation practices. (1.4.3e)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	8500	1889

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
404	Instrumentation and Control Systems

Outcome #10

1. Outcome Measures

# of community agencies/organizations documented to have adopted appropriate alternative energy sources and/or energy conservation practices. (1.4.3g)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment
404	Instrumentation and Control Systems

Outcome #11

1. Outcome Measures

communities documented to have assessed local energy development proposals and/or the relationships between current policies and regulations and energy conservation. (1.4.4c)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30	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
404	Instrumentation and Control Systems
402	Engineering Systems and Equipment

Outcome #12

1. Outcome Measures
# of producers, horticulture businesses and/or natural resource managers reporting that cropping for and/or use of biofuels leads to increased economic returns to their enterprises. (1.4.1h)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	35	24

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
404	Instrumentation and Control Systems
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment

Outcome #13

1. Outcome Measures

# of producers/horticulture businesses/natural resource managers documented to have improved economic returns to agricultural/ horticultural business profitability and vitality resulting from adopting alternative energy sources and/or energy conservation. (1.4.2d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1800	230

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment
404	Instrumentation and Control Systems

Outcome #14

1. Outcome Measures

# of consumers who report savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures. (1.4.3h)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5000	989

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
404	Instrumentation and Control Systems

Outcome #15

1. Outcome Measures

# of community agencies/organizations reporting savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures. (1.4.3i)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	600	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
404	Instrumentation and Control Systems
402	Engineering Systems and Equipment

Outcome #16

1. Outcome Measures

# of communities documented to have established or modified land use and development policies to promote energy conservation. (1.4.4d)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	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
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment

Outcome #17

1. Outcome Measures

agricultural producers, agribusiness, or local and state leaders who demonstrate knowledge gains about the potential for development of biologically-based fuels. (1.4.1d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
404	Instrumentation and Control Systems
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment

Outcome #18

1. Outcome Measures

forest owners and purchasers of forest products who demonstrate knowledge or skills gains about current markets for firewood and chips/pellets and associated cropping practices. (1.4.1e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
401	Structures, Facilities, and General Purpose Farm Supplies
404	Instrumentation and Control Systems
402	Engineering Systems and Equipment

Outcome #19

1. Outcome Measures

Assessment of Climate-variety Interactions of Fast-growing Trees to Maximize Biomass Productivity

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The bioenergy industry is expected to depend extensively on dedicated energy crops, such as fast-growing trees, for biomass feedstocks. There are an estimated 4 million acres of land within New York State, and a total of 11 million acres in the Northeast region, that could be converted to the production of fast-growing trees. Available soil moisture and soil nitrogen, both of which are a function of climate and soil type, limit potential yield of fast growing trees, as well as impact management costs.

What has been done

Estimating the long term available soil moisture and soil nitrogen for a given location from archived weather data and a dynamic simulation model, allows the creation of 'rankings' for locations according to their potential for biomass production and will improve biofuels and forest management and conservation.

Results

There have been two major outcomes, so far. The first is the development of soils input files for the PNM together with establishing a linkage between the Northeast Regional Climate Center's newly developed high resolution climate data and the PNM model. The second is the development of an additional crop module for the PNM model for the growth and nitrogen uptake by SRIC (short-rotation, intensively cultured) willow. Components of the willow crop module included calculation of potential and actual transpiration, seasonal development of leaf area, nitrogen (N) uptake by the willow crop, and N and carbon associated with leaf fall and root turnover, and optimal root depth and spacing. The new model will allow for the evaluation of the nitrogen and water requirements for optimal growth of SRIC willow for a given location and soil type. It will also will allow for an estimate of the additional nitrogen that would be required to achieve maximum biomass production. Simulation of biomass production and nitrogen requirements provide for more complete evaluations of the economic, energy and environmental balance sheets for a potential producer at a given location.

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment

Outcome #20

1. Outcome Measures

Productivity and Carbon Accumulation in Central New York Forests: Legacies of Past Agricultural Use

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The effects of fossil fuels on global warming can be partly offset by the net uptake of carbon into trees and soil, particularly in forests growing on abandoned farmland. The proposed research quantifies rates of carbon accumulation in old-field forests in Tompkins County, NY, and uses historical maps of changes in forest cover to quantify regional changes in carbon storage over the last century.

What has been done

Human activities, primarily combustion of fossil fuels, have caused a dramatic increase in the atmospheric concentrations of carbon dioxide and other greenhouse gases. Accumulation of carbon into trees, dead wood, and soil on former agricultural land can remove carbon dioxide from the atmosphere, partly offsetting fossil fuel emissions. However, substantial uncertainty exists regarding the rate and amount of carbon that can be accumulated. This work has provided measurements of rates of C accumulation in central NY forests.

Results

This information can be used in designing regional C trading schemes designed to buy and sell 'carbon credits' for emissions. Measurements indicate that substantial quantities of carbon have accumulated in trees re-growing on agricultural lands abandoned 50 to 100 years ago. Mature forests contain nearly 200 tons of C per hectare in aboveground vegetation and coarse roots, whereas forests plowed 50 to 100 years earlier contain half this amount. Litterfall averaged 1.7 tons C per hectare, with no significant difference by site or among age class. Dead wood pools were highly variable from site to site, but on average increased from 14 to 45 tons of C per hectare as sites aged from 60 years post plowing to primary forest. Soil C stocks average 59 tons of C per hectare and 4.9 tons of N per hectare across all sites, with no significant differences by region or site age. Together, these measurements indicate that carbon sequestration in central NY forests is accomplished mainly through regrowth of trees, with negligible C accumulation into detrital C pools (soils, dead wood). The previously plowed sites have accumulated carbon at rates of 1.2 to 1.4 tons of carbon per hectare per year into regrowing trees over stand lifetimes; they can continue to accumulate at this rate for approximately 60 to 70 years.

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment

Outcome #21

1. Outcome Measures

Growing Biofuel Crops

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

High fuel prices and a need for additional crops has created strong interest among farmers to consider growing traditional crops for biofuels (grass, corn, and soybean) as well as crops new to our region (canola, sunflower). The community is also interested in an energy supply that is local.

What has been done

Along with newsletter articles and workshops, CCE-Washington County organized a series of field meetings in which farmers were taught how to grow crops for biofuels (corn, canola, soybean, sunflower, grass).

Results

Biofuel interest has spurred at least 4 program attendees to pursue biofuels in one manner or another. One biodiesel plant investor is investigating ways to connect local agricultural production with the biodiesel plant. One farmer is looking to squeeze oil from soybeans. Use the oil for fuel and feed the protein meal to his dairy herd. One farmer has experimented growing canola and will be cooperating in a Cornell University project to establish and evaluate warm-season perennial grasses for biofuel. Another person has planted willow with the intent to sell it for biofuel in the future

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
401	Structures, Facilities, and General Purpose Farm Supplies

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

Brief Explanation

See plan.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Case Study

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

- Development of soils input files for the PNM together with establishing a linkage between the Northeast Regional Climate Center's newly developed high resolution climate data and the PNM model. Development of an additional crop module for the PNM model for the growth and nitrogen uptake by SRIC (short-rotation, intensively cultured) willow.
- Measurements indicate that carbon sequestration in central NY forests is accomplished mainly through regrowth of trees, with negligible C accumulation into detrital C pools (soils, dead wood).

Program #4

V(A). Planned Program (Summary)

1. Name of the Planned Program

1.5 The Agriculture/Community Interface

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
315	Animal Welfare/Well-Being and Protection	6%		6%	
803	Sociological and Technological Change Affecting Individuals, Families and Communities	94%		94%	
	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	6.3	0.0	2.0	0.0
Actual	40.7	0.0	4.6	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
178584	0	93038	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
178584	0	93038	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1924552	0	185203	0

2. Institution Name: NY State Agricultural Experiment Station

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

Program activities/outputs are situation-specific but typically involve the full range of public issues education roles and methods and more general individual, group and media approaches directed to promoting awareness of issues and opportunities.

2. Brief description of the target audience

Agriculture/horticulture/natural resource enterprise managers, community residents and visitors, youth, local media, local officials, and local planning and economic development staff.

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	3500	150000	5000	30000
2007	56061	2605246	10100	33000

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	5

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of agriculture/ horticulture/natural resource business persons participating in education programs on potential environmental, health, social, and cultural impacts of their operations from the perspective of the community. (1.5.1a)

Year	Target	Actual
2007	0	0

Output #2

Output Measure

- # of community members participating in education programs on the roles of agriculture/horticulture/ natural resource enterprises in the local community, tax base, and environment. (1.5.2a)

Year	Target	Actual
2007	0	0

Output #3

Output Measure

- # of local leaders participating in education programs on the roles of agriculture/horticulture/ natural resource enterprises in the local community and how they are affected by local policy. (1.5.2b)

Year	Target	Actual
2007	0	0

Output #4

Output Measure

- # of local community members and leaders participating in programs on the potential benefits of community-based agriculture and opportunities for promoting same. (1.5.2c)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

- # of youth participating in education programs on the agriculture and food system and/or natural resource enterprises. (1.5.3a)

Year	Target	Actual
2007	0	0

Output #6

Output Measure

- # of adults participating in education programs on the agriculture and food system and/or natural resource enterprises. (1.5.3b)

Year	Target	Actual
2007	0	0

Output #7

Output Measure

- # non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	920

Output #8

Output Measure

- # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2007	0	107787

Output #9

Output Measure

- # funded applied research projects directed to this program.

Year	Target	Actual
2007	10	18

Output #10

Output Measure

- # refereed publications directed to this program

Year	Target	Actual
2007	20	5

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of communities that initiate specific plans to address agriculture/ horticulture/natural resource enterprise related issues or capitalize on new opportunities including community agriculture initiatives. (1.5.2h)
2	# documented instances in which agricutlure/community onflicts are resolved locally. (1.5.1d)
3	# communities documented to adopt, maintain, or expand policies supportive of appropriate agriculture/horticulture/ natural resource enterprise development and/or community agriculture. (1.5.2i)
4	# of agriculture/horticulture/natural resource business persons demonstrating knowledge or skill gains related to potential environmental, health, social, and cultural impacts of their operations from the perspective of the community. (1.5.1b)
5	# of community members demonstrating knowledge or skill gains related to the roles of agriculture/horticulture/natural resource enterprises in the local community, tax base, and environment. (1.5.2d)
6	# of local leaders demonstrating knowledge or skill gains related to the roles of agriculture/horticulture/natural resource enterprises in the local community and how they are affected by local policy. (1.5.2e)
7	# of local community members and leaders demonstrating knowledge or skill gains related to the potential benefits of community-based agriculture and opportunities for promoting same. (1.5.2f)
8	# of youth demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises. (1.5.3c)
9	# of adults demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises. (1.5.3d)
10	# of instances in which producers/horticulture businesses/natural resource enterprises, residents and community leaders work together to address issues. (1.5.1c)
11	# of communities that assess how current policies and infrastructures sustain or impede agriculture/ horticulture/natural resource enterprises (such as farmland protection or including such enterprises in economic development planning). (1.5.2g)
12	Adirondack Harvest
13	Farm Truck Regulations
14	ral Land Trusts and Purchase of Development Rights

Outcome #1

1. Outcome Measures

# of communities that initiate specific plans to address agriculture/ horticulture/natural resource enterprise related issues or capitalize on new opportunities including community agriculture initiatives. (1.5.2h)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	93

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #2

1. Outcome Measures

documented instances in which agricutlure/community onflicts are resolved locally. (1.5.1d)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	23

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities
315	Animal Welfare/Well-Being and Protection

Outcome #3

1. Outcome Measures

communities documented to adopt, maintain, or expand policies supportive of appropriate agriculture/horticulture/ natural resource enterprise development and/or community agriculture. (1.5.2i)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	67

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #4

1. Outcome Measures

# of agriculture/horticulture/natural resource business persons demonstrating knowledge or skill gains related to potential environmental, health, social, and cultural impacts of their operations from the perspective of the community. (1.5.1b)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Knowledge 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
803	Sociological and Technological Change Affecting Individuals, Families and Communities
315	Animal Welfare/Well-Being and Protection

Outcome #5

1. Outcome Measures

# of community members demonstrating knowledge or skill gains related to the roles of agriculture/horticulture/natural resource enterprises in the local community, tax base, and environment. (1.5.2d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
803	Sociological and Technological Change Affecting Individuals, Families and Communities
315	Animal Welfare/Well-Being and Protection

Outcome #6

1. Outcome Measures

# of local leaders demonstrating knowledge or skill gains related to the roles of agriculture/horticulture/natural resource enterprises in the local community and how they are affected by local policy. (1.5.2e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Knowledge 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
315	Animal Welfare/Well-Being and Protection
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #7

1. Outcome Measures
# of local community members and leaders demonstrating knowledge or skill gains related to the potential benefits of community-based agriculture and opportunities for promoting same. (1.5.2f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Knowledge 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
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #8

1. Outcome Measures

# of youth demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises. (1.5.3c)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5500	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
315	Animal Welfare/Well-Being and Protection
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #9

1. Outcome Measures

# of adults demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises. (1.5.3d)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2500	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
315	Animal Welfare/Well-Being and Protection
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #10

1. Outcome Measures

# of instances in which producers/horticulture businesses/natural resource enterprises, residents and community leaders work together to address issues. (1.5.1c)

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	2075

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities
315	Animal Welfare/Well-Being and Protection

Outcome #11

1. Outcome Measures

# of communities that assess how current policies and infrastructures sustain or impede agriculture/ horticulture/natural resource enterprises (such as farmland protection or including such enterprises in economic development planning). (1.5.2g)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	200	323

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #12

1. Outcome Measures
Adirondack Harvest

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Adirondack Harvest's mission is to increase opportunites for profitable production, dale of high quality food and agricultural products, and to expand consumer choices for locally produced healthy food. Farmers benefit by reducing their shipping costs while increasing marketing possibilities. Restaurants and stores benefit by getting the freshest, most nutritious food possible. The community benefits by gaining a closer connection to agriculture while consuming fresh, nutritious local food.

What has been done

Adirondack Harvest maintains a web site so that consumers may easily find local products and farmers may receive exposure without having to set up their own web sites. We have held classes for farmers and consumers to educate them about the benefits of selling produce locally. Farmers markets are promoted on the web site and through news articles, thereby encouraging another outlet for the direct market farmer. Our mentoring program has connected new farmers with experienced ones. We joined the regional Come Farm With Us program to try to entice new farmers to settle in Essex County.

Results

Our grant kick-off was a 'Local Food Connections' day which attracted more than 100 farmers, chefs, store owners and others interested in local agriculture. Another springtime event funded by the agritourism grant was our collection of greenhouse tours. This was the first time we were able to offer tours focusing on North Country season extension and the challenges of having early crops in the Adirondacks. Farmers markets benefited from our matching grant program where we were able to provide them with up to $100 in funding for promotion of their markets. Most managers reported a 5% to 10% increase in customer traffic at their markets. Adirondack Harvest Farmers offered 38 fall farm tours during the Harvest Festival Week, which educated consumers about local farms and how food is grown. Grant money funded our new rack cards which were printed and distributed throughout the North Country. Finally, this grant allowed us to create 'farmer stories' to be printed and displayed at local restaurants and stores. This will allow the consumer to read about and view photos of the farmers who are providing local food to the chef or store owner.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #13

1. Outcome Measures

Farm Truck Regulations

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As cropping methods have changed and farms have increased in size, so has the size of their motor vehicle fleets. It is common for farms to now have a fleet of vehicles that rival a trucking company in size, but are dedicated only to moving feed, crops and animals for the farm.Licenses, endorsements, violations, changing regulations and misunderstandings all cause the farm community to be challenged as they seek to comply with these regulations and minimize conflicts with neighbors.

What has been done

Working cooperatively, educators from CCE Washington, Saratoga, Renesselear, and Albany Counties, along with NYS Troopers, conducted a farm truck school in two locations. These meetings provided farmers with an opportunity to speak with law enforcement in a neutral environment and discuss the expectations on both sides of the inspection stop. Demonstrating on an actual farm truck, troopers went over point-by-point what they look for at a traffic stop. CCE provided information about many of the regulatory changes as well as the tax implications they have for a farm business.

Results

175 people attended the free meetings asking questions and discussing some of the issues which have caused them to be cited for on-road violations. A series of newsletter articles discussed many of the issues that the NYS Troopers highlighted as concerns to the farmers. DOT numbers, fuel and the inspection status of trucks were the primary topics. Until the meeting and article series, most farmers were unaware that the weight limit requiring vehicles to have DOT numbers had been lowered to 10,001 pounds. Following the series, 20 farmers contacted CCE about the process of acquiring DOT numbers to post on their vehicles to make them road legal, especially when hauling trailers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #14

1. Outcome Measures

ral Land Trusts and Purchase of Development Rights

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Farmland preservation is important not only to farmers, but also to their neighbors, local government officials and elected leaders, agricultural businesses, and an assortment of community-minded citizens and organizations. However, these individuals approach the issue from different perspectives, yet have the potential to offer tools, skills, and other resources that can be shared and used in developing a successful, locally-based program. In order to build that capacity, individuals and groups need to know what others can offer to the collaborative effort.

What has been done

CCE-Madison, in collaboration with the Madison County Farmland Protection Board, invited representatives from two local, one state, and one nationally based land trust organizations to be part of an introductory information forum, where land owners, business owners, farmers, and citizens could learn what each has to offer in terms of developing and implementing farmland preservation programs. This is a first in what will be a series of forums designed to inform and educate the public and community leaders about local farmland preservation resources and how to use them locally.

Results

Twice as many town governments contracted with American Farmland Trust to develop and submit Purchase of Development Rights (PDR) proposals to New York State Department of Agriculture and Markets as had happened in prior years. Other local officials have expressed interest in updating their comprehensive plans and developing their own PDR proposals during the upcoming round. One local land trust expanded their service area to include Madison County's most populated towns in addition to their home base in the third most populated town. Local government officials have a clearer sense and are more motivated to consider farmland preservation programs and what they can offer. That realization came about, in part, from Extension's information forum, constituent requests, land trust advocacy, and Extension's quarterly newsletter designed specifically for town and county officials.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

See plan.

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)
- Case Study

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

- Adirondack Harvest Farmers offered 38 fall farm tours during the Harvest Festival Week, which educated consumers about local farms and how food is grown.
- Town governments contracted with American Farmland Trust to develop and submit Purchase of Development Rights (PDR) proposals to New York State Department of Agriculture and Markets.

Program #5

V(A). Planned Program (Summary)

1. Name of the Planned Program

2.1 Connecting People to the Land and Their Environment

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
131	Alternative Uses of Land	100%		100%	
	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	1.0	0.0
Actual	65.1	0.0	0.7	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
285734	0	107056	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
285734	0	107056	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
3079284	0	49874	0

2. Institution Name: NY State Agricultural Experiment Station

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

Cornell Cooperative Extension faculty, extension and research associates and educators partner with community leaders and elected officials to promote educational strategies which lead to informed land use and natural resource decisions in the context of balanced long-term outcomes. Training, research and resources focus on a number of issues including land use education, land use impacts, rural-urban interface, farmland preservation, community based agricultural economic development, involving youth in community mapping, place based education, pedestrian friendly communities, affordable housing, use of open spaces, leadership development and community decision-making, residential and community horticultural education, and integrated pest management. Yet another approach to connecting people to their environments is fostering locally relevant economic development that builds on local resources, including people, capital, access to markets and natural resources, in a way that strengthens community and environmental assets.

2. Brief description of the target audience

Targeted groups include local elected officials and engaged community citizens. There is interest in developing a land use education curriculum for general citizens.

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	10000	75000	0	0
2007	60384	3120011	10467	421717

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	4

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of residents and community leaders participating in programs on community assets, citizen involvement, property rights, land use, conservation, interaction between environmental, economic, issues, quality of life issues. (2.1.1a)

Year	Target	Actual
2007	0	0

Output #2

Output Measure

- # of non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	462

Output #3

Output Measure

- # of non-credit instructional hours directed to this program.

Year	Target	Actual
2007	0	208072

Output #4

Output Measure

- # of funded applied research projects directed to this program.

Year	Target	Actual
2007	1	5

Output #5

Output Measure

- # refereed publications directed to this program

Year	Target	Actual
2007	20	4

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of residents and/or community leaders demonstrating knowledge or skill gains related to community assets, property rights, land use, environmental conservation, interaction between environmental, economic issues, quality of life indicators. (2.1.1b)
2	# of community leaders documented to apply community economic development and quality of life indicators to support decision-making. (2.1.1c)
3	# of communities implementing projects that protect public health through sound environmental management. (2.1.1e)
4	# of municipalities adopting land use planning tools that incorporate environmental dimensions and/or develop new institutional arrangements to support land use planning and environmental management. (2.1.2a)
5	# of communities adopting or updating farmland preservation and/or agricultural economic development plans. (2.1.1b)
6	Increase in number of organizations and number of public/private partnerships with educational focus on environmental conservation (land, water, other natural resources). (2.1.2c)
7	# of communities that plan for development directed toward existing communities re broader range of housing types including affordable housing, focus on bikable and walkable communities, and/or a variety of transportation choices. (2.1.3a)
8	# of communities that have taken steps to foster a sense of place. (2.1.3b)
9	# instances in which communities are documented to have resolved agricultural-environmental conflicts and/or other land use/natural resource issues at least in part due to participation in the program. (2.1.1d)
10	# documented initiatives to increase public health and community well-being that take into account connections between work, civic life and residential patterns. (2.1.1f)
11	# of additional acres covered by open space preservation, environmental conservation and/or protection programs attributable at least in part to participation in the program. (2.1.2d)
12	Increase in percentage of food produced locally and regionally that is consumed locally or regionally. (2.1.2e)
13	# of instances in which communities institute changes leading to one of following: development directed toward existing communities, range of housing types, more bikable and/or walkable community, variety of transportation choices. (2.1.3c)
14	# of new or enhanced community organizations or networks linking diverse sub-groups and focused on enhancing community sustainability. (2.1.3d)
15	# of communities demonstrating greater balance of population across the age spectrum. (2.1.3e)
16	# of communities marketing what is distinct and unique about themselves. (2.1.3f)
17	# communities/regions adopting buy local campaigns. (2.1.3g)
18	AgViewer: An Internet Based Geographic Information System(GIS) to Query and Analyze NYS Agricultural and Environmental Data
19	Sprawl and Residential Preferences: Investigating and Building Educational Strategies on New Understandings of Land Use
20	Keuka Lake Land Use Leadership Training

Outcome #1

1. Outcome Measures

# of residents and/or community leaders demonstrating knowledge or skill gains related to community assets, property rights, land use, environmental conservation, interaction between environmental, economic issues, quality of life indicators. (2.1.1b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
131	Alternative Uses of Land

Outcome #2

1. Outcome Measures

# of community leaders documented to apply community economic development and quality of life indicators to support decision-making. (2.1.1c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	4500	213

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land

Outcome #3

1. Outcome Measures

# of communities implementing projects that protect public health through sound environmental management. (2.1.1e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	66

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land

Outcome #4

1. Outcome Measures

# of municipalities adopting land use planning tools that incorporate environmental dimensions and/or develop new institutional arrangements to support land use planning and environmental management. (2.1.2a)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	250	42

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land

Outcome #5

1. Outcome Measures
# of communities adopting or updating farmland preservation and/or agricultural economic development plans. (2.1.1b)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	46

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land

Outcome #6

1. Outcome Measures

Increase in number of organizations and number of public/private partnerships with educational focus on environmental conservation (land, water, other natural resources). (2.1.2c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

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
131	Alternative Uses of Land

Outcome #7

1. Outcome Measures

# of communities that plan for development directed toward existing communities re broader range of housing types including affordable housing, focus on bikable and walkable communities, and/or a variety of transportation choices. (2.1.3a)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	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
131	Alternative Uses of Land

Outcome #8

1. Outcome Measures

# of communities that have taken steps to foster a sense of place. (2.1.3b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	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
131	Alternative Uses of Land

Outcome #9

1. Outcome Measures

instances in which communities are documented to have resolved agricultural-environmental conflicts and/or other land use/natural resource issues at least in part due to participation in the program. (2.1.1d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	58

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land

Outcome #10

1. Outcome Measures

documented initiatives to increase public health and community well-being that take into account connections between work, civic life and residential patterns. (2.1.1f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	35	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
131	Alternative Uses of Land

Outcome #11

1. Outcome Measures

# of additional acres covered by open space preservation, environmental conservation and/or protection programs attributable at least in part to participation in the program. (2.1.2d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition 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
131	Alternative Uses of Land

Outcome #12

1. Outcome Measures
Increase in percentage of food produced locally and regionally that is consumed locally or regionally. (2.1.2e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition 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
131	Alternative Uses of Land

Outcome #13

1. Outcome Measures

# of instances in which communities institute changes leading to one of following: development directed toward existing communities, range of housing types, more bikable and/or walkable community, variety of transportation choices. (2.1.3c)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	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
131	Alternative Uses of Land

Outcome #14

1. Outcome Measures

# of new or enhanced community organizations or networks linking diverse sub-groups and focused on enhancing community sustainability. (2.1.3d)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	35	105

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land

Outcome #15

1. Outcome Measures

# of communities demonstrating greater balance of population across the age spectrum. (2.1.3e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
131	Alternative Uses of Land

Outcome #16

1. Outcome Measures

# of communities marketing what is distinct and unique about themselves. (2.1.3f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
131	Alternative Uses of Land

Outcome #17

1. Outcome Measures

communities/regions adopting buy local campaigns. (2.1.3g)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Condition 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
131	Alternative Uses of Land

Outcome #18

1. Outcome Measures

AgViewer: An Internet Based Geographic Information System(GIS) to Query and Analyze NYS Agricultural and Environmental Data

2. Associated Institution Types

•1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Even though the use of geographic information systems in New York is increasing, the successful use of GIS technology in environmental and agricultural science has often been elusive, due to many prohibitive factors (software cost, training needs, and data processing).

What has been done

The purpose of this project is to leverage the latest Internet GIS technology and available NYS environmental and agricultural data to provide an easy to use Internet Map Server (IMS) application for querying and analyzing environmental and agricultural data for New York state.

Results

A change in action/knowledge: - the Agviewer approach for Internet based mapping was used in a number of different organizations and projects. Demonstrations of our approach were then adopted into new research for the Lake Ontario Watershed, USDA Ditch monitoring, and the Onondaga Environmental Institute. Additionally, numerous private organizations used our approach to better respond to their customer's needs, including Architectural Engineering of Canada, REIS of New York, ImageCat of California, and Mohawk Valley GIS in upstate NY. Additionally, the Multidisciplinary Center for Earthquake Engineering adopted our approach for implementing GIS.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land

Outcome #19

1. Outcome Measures
Sprawl and Residential Preferences: Investigating and Building Educational Strategies on New Understandings of Land Use

2. Associated Institution Types

•1862 Research

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

During the 1980s and 1990s, rural sprawl accelerated in Upstate New York even as population growth declined. This trend of low density development with attendant sprawl-related problems requires research and outreach approaches that focus on the interplay among land use restrictions, residential siting, revealed and stated housing preferences, and demographic trends.

What has been done

This project supports improvement of broad land use and residential siting practices to enhance environmental sustainability in rural landscapes. Construction of the data set for the Rochester housing market and subsequent analyses led to the observation that a home buyer's preference for proximity to open space is a driving force that contributes to sprawl. This study indicates that home buyers' preference for proximity to open space can be accommodated through land use measures, such as cluster development, that retain open space without blocking development.

Results

This research formed the basis for a policy recommendation published in Housing and Society. Using 66,609 observed arms-length transactions of detached residential housing units, the implicit 'spillover' value for open space land located within a 400 foot radius of residential sales was estimated using separate property value equations for urban (34% of the total observations), suburban (39%) and rural (27%) residential areas in the commute-shed surrounding Rochester, NY. Separate measures for public, agricultural, private forested and developed open space are included to measure heterogeneity in open space values within each of the submarkets. Results indicate that implicit prices for open space differ across the study area, with the highest values occurring in suburban locations. The results also suggest that in the Rochester area, implicit prices for private forested open space land and cropland consistently exceed implicit prices for public open space. The results showed significant disamenities are associated with rural residential property in close proximity to Concentrated Animal Feeding Operations and wastewater treatment facilities and that similar disamenities exist for residential property in urban areas in close proximity to high traffic roadways.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land

Outcome #20

1. Outcome Measures

Keuka Lake Land Use Leadership Training

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Finger Lakes provide outstanding natural, cultural and rural agricultural landscapes. Increasing pressure of development along the lakes and hillsides threaten water quality, prime grape growing areas, and the natural beauty residents and tourists have come to enjoy. Lack of coordnated or comprehensive planning on a local and regional scale and an inability to resolve development conflicts prompted the Keuka Lake Association to ask Cornell Cooperative Extension for assistance.

What has been done

CCE has partnered with Pace University Land Use Law Center, Cornell Community and Rural Development Institute, Keuka Lake Association, Genesee Finger Lakes Regional Planning Council and the Keuka Watershed Improvement Cooperative. The group was successful securing an $88,000 NYS Quality Communities grant over two years to implement two training courses for 80 people and create a sustainable watershed plan.

Results

To date, a steering committee was formed, class participants representing diverse backgrounds were recruited and the first class was held in January 2008. Additionally, a local law review and gap analysis has been completed as well as the gathering of all available GIS data for the land use plan.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

See plan.

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)
- Case Study

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

- Demonstrations of our approach were then adopted into new research for the Lake Ontario Watershed, USDA Ditch monitoring, and the Onondaga Environmental Institute.
- Results showed significant disamenities are associated with rural residential property in close proximity to Concentrated Animal Feeding Operations and wastewater treatment facilities and that similar disamenities exist for residential property in urban areas in close proximity to high traffic roadways.

Program #6

V(A). Planned Program (Summary)

1. Name of the Planned Program

2.2 Strengthening Community Economic 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
608	Community Resource Planning and Development	40%		40%	
805	Community Institutions, Health, and Social Services	25%		25%	
903	Communication, Education, and Information Delivery	35%		35%	
	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	13.6	0.0	5.0	0.0
Actual	97.6	0.0	3.6	0.0

2. Institution Name: **Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
428602	0	139322	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
428602	0	139322	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
4618926	0	122530	0

2. Institution Name: **NY State Agricultural Experiment Station**

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

Cornell Cooperative Extension Associations are uniquely positioned to provide unbiased assistance and education to communities in order for them to pursue their goals. Educators can provide the kind of initial facilitation and organizational skills necessary for successful visioning and action planning processes thereby assisting communities to improve or enhance their quality of life. Specific approaches for which we have resources: main street revitalization; community based entrepreneurial development; and strategic planning and visioning; technology-led economic development (via the EDA University Center).

Program staff work with a variety of state and local groups to tackle projects that that vary in nature from applied research to pilot projects or case studies. These activities, which are demand driven (locally or regionally initiated usually with sponsored or self-financing), provide valuable insights, resources and materials for extension education. This project work also provides innovative local government practitioners, professionals who work with local governments, and practitioner-professionals all of whom serve as a resource for our training and educational outreach. A variety of Cornell faculty, instructors and other professionals also serve as instructors, provide existing written and web resources and help develop needed resources for local government extension education. We utilize a number of strategies in conducting local government education.

2. Brief description of the target audience

The educational approach to community and economic renewal suggest multiple audiences and stakeholoders working in a partnership mode (elected officials, community leaders, business leaders, not-for-profit agencies, youth serving agencies, schools, environmental groups, agribusiness leaders, etc.).

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	15000	0	50000	0
2007	3582	198761	807	1004

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	201

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	73

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2007	0	41607

Output #3

Output Measure

- # funded applied research projects directed to this program.

Year	Target	Actual
2007	12	19

Output #4

Output Measure

- # of residents, community leaders, entrepreneurs, econ. devel. professionals participating in programs re: workforce, entrepreneurial climate, diversification, economic impact analysis, e-commerce, market devel., business planning, partnerships. (2.2.1a)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

- # of community members participating in educational programs related to community decision-making, public participation, planning and monitoring processes, and collaborative approaches. (2.2.3a)

Year	Target	Actual
2007	0	0

Output #6

Output Measure

- # of economic developers and/or entrepreneurs participating in educational programs on "green" business opportunities. (2.2.4a)

Year	Target	Actual
2007	0	0

Output #7

Output Measure

- # refereed publications directed to this program

Year	Target	Actual
2007	80	201

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of residents, community leaders, entrepreneurs, econ. devel. professionals demon. knowledge/skill gains re: workforce, entrepreneurial climate, diversification, econ. impact analysis, e-commerce, market devel., business planning, partnerships. (2.2.1b)
2	# of community members demonstrating knowledge or skills gains related to community decision-making, public participation, planning and monitoring processes, collaborative approaches, and/or emergency preparedness. (2.2.3b)
3	# of economic developers and/or entrepreneurs demonstrating knowledge gains related to "green" business opportunities. (2.2.4b)
4	# of communities who plan for and implement initiatives re community based agric. econ. devel., main street revitalization, workforce development, business devel. and assistance, non-profit sector devel. and/or other elements of sustainable growth. (2.2.1c)
5	# of businesses initiated, retained, or expanded in a sustainable manner based on individual and community goals. (2.2.1a)
6	# of employers establishing or contributing to community-based workforce development approaches. (2.2.2a)
7	# of communities instituting new or enhanced participatory processes related to economic development. (2.2.3c)
8	# of communities developing vision statements and strategic plans and implement steps toward achieving their plans. (2.2.3d)
9	# of collaborative partnerships established within and across communities for issue resolution and collective action and/or to improve community services. (2.2.3e)
10	# of new "green" businesses established at least in part due to participation in the program. (2.2.4c)
11	# of communities establishing an infrastructure and climate to support entrepreneurs, local farms and agribusinesses attributable at least in part to initiatives of the program. (2.2.1e)
12	# of communities reporting that their local economies are increasingly diverse and developing in a sustainable manner attributable at least in part to participating in the program. (2.2.1f)
13	# of employers reporting enhanced workforce availability attributable at least in part to participation in the program. (2.2.2b)
14	# of communities reporting increased retention or return of youth in their communities due to meaningful employment opportunities attributable at least in part to initiatives of the program. (2.2.2c)
15	# of documented instances in which a community effectively resolves a need or strengthens community assets attributable at least in part to participation in the program. (2.2.3f)
16	# of communities that report increased diversification of their local economies attributable at least in part to participation in the program. (2.2.4d)
17	Rural Communities, Rural Labor Markets and Public Policy
18	Strengthening Non-Profit Businesses
19	Agriculture Economic Development

Outcome #1

1. Outcome Measures

# of residents, community leaders, entrepreneurs, econ. devel. professionals demon. knowledge/skill gains re: workforce, entrepreneurial climate, diversification, econ. impact analysis, e-commerce, market devel., business planning, partnerships. (2.2.1b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
903	Communication, Education, and Information Delivery
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #2

1. Outcome Measures

# of community members demonstrating knowledge or skills gains related to community decision-making, public participation, planning and monitoring processes, collaborative approaches, and/or emergency preparedness. (2.2.3b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
608	Community Resource Planning and Development
903	Communication, Education, and Information Delivery
805	Community Institutions, Health, and Social Services

Outcome #3

1. Outcome Measures

# of economic developers and/or entrepreneurs demonstrating knowledge gains related to "green" business opportunities. (2.2.4b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
903	Communication, Education, and Information Delivery
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #4

1. Outcome Measures

# of communities who plan for and implement initiatives re community based agric. econ. devel., main street revitalization, workforce development, business devel. and assistance, non-profit sector devel. and/or other elements of sustainable growth. (2.2.1c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	148

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
608	Community Resource Planning and Development
903	Communication, Education, and Information Delivery

Outcome #5

1. Outcome Measures
# of businesses initiated, retained, or expanded in a sustainable manner based on individual and community goals. (2.2.1a)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

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
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #6

1. Outcome Measures

# of employers establishing or contributing to community-based workforce development approaches. (2.2.2a)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	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
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #7

1. Outcome Measures

# of communities instituting new or enhanced participatory processes related to economic development. (2.2.3c)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	78

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
608	Community Resource Planning and Development

Outcome #8

1. Outcome Measures

# of communities developing vision statements and strategic plans and implement steps toward achieving their plans. (2.2.3d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

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
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #9

1. Outcome Measures

# of collaborative partnerships established within and across communities for issue resolution and collective action and/or to improve community services. (2.2.3e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

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
805	Community Institutions, Health, and Social Services
608	Community Resource Planning and Development

Outcome #10

1. Outcome Measures

# of new "green" businesses established at least in part due to participation in the program. (2.2.4c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

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
805	Community Institutions, Health, and Social Services
608	Community Resource Planning and Development

Outcome #11

1. Outcome Measures

# of communities establishing an infrastructure and climate to support entrepreneurs, local farms and agribusinesses attributable at least in part to initiatives of the program. (2.2.1e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	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
805	Community Institutions, Health, and Social Services
903	Communication, Education, and Information Delivery
608	Community Resource Planning and Development

Outcome #12

1. Outcome Measures

# of communities reporting that their local economies are increasingly diverse and developing in a sustainable manner attributable at least in part to participating in the program. (2.2.1f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
805	Community Institutions, Health, and Social Services
608	Community Resource Planning and Development

Outcome #13

1. Outcome Measures

# of employers reporting enhanced workforce availability attributable at least in part to participation in the program. (2.2.2b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	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
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #14

1. Outcome Measures

# of communities reporting increased retention or return of youth in their communities due to meaningful employment opportunities attributable at least in part to initiatives of the program. (2.2.2c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
805	Community Institutions, Health, and Social Services
608	Community Resource Planning and Development

Outcome #15

1. Outcome Measures

# of documented instances in which a community effectively resolves a need or strengthens community assets attributable at least in part to participation in the program. (2.2.3f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	68

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
608	Community Resource Planning and Development

Outcome #16

1. Outcome Measures

# of communities that report increased diversification of their local economies attributable at least in part to participation in the program. (2.2.4d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition 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
805	Community Institutions, Health, and Social Services
608	Community Resource Planning and Development

Outcome #17

1. Outcome Measures
Rural Communities, Rural Labor Markets and Public Policy

2. Associated Institution Types

•1862 Research

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

New York State municipalities, rural and urban industries, and its citizens are feeling the effects of fiscal stress on communities, rural areas, property values, labor markets, and wages. The purpose of this study is to determine the key processes, events, and policies that can be utilized to identify and quantify 'stress' and the mitigate it, improving both community and its citizens' economic and social stresses.

What has been done

Working with state regulators, the researchers identified communities at risk and worked with state government officials and helped regulators and local officials lessen the damage.

Results

Work on fiscal stress was conducted in collaboration with analysts at the New York State Department of the Budget, and the NYS Office of the Comptroller Local Government Group. We alerted offices to results that suggested several local governments were at risk for 'fiscal trouble.' Once alerted, state government employees worked with local governments and lessened the impact of the situation. The activities lead to the idea of establishing an early warning indictor system. The collaboration with state officials, particularly in the Comptroller's office, helped us sharpen our attempts at developing measures of local government stress. One outcome of the research - a study regarding farmland change -- was presented at a USDA-ERS briefing conference held in Washington DC. Among the 100 plus attending this conference were federal, state and non-governmental policy makers. A 'position paper' was distributed summarizing our research findings. Subsequently a shorter 'policy brief' was developed and distributed to various individuals and organizations on the ERS mailing list. Lastly, the research on specialty-crop production concentration was presented at two conferences of regional science.

4. Associated Knowledge Areas

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

Outcome #18

1. Outcome Measures

Strengthening Non-Profit Businesses

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Rockland County's more than 600 non-profit organizations are a vital part of the community, improving quality of life, employing close to 10,000 people, and generating income of more than $500 million annually. Executive directors regularly identify training and collaboration needs for themselves, their staff and boards, to ensure efficient and effective management of their programs and resources. Likewise, government and funders demand accountability for effective and efficient use of public/private funds.

What has been done

Through the Institute for Non-Profits, an educational program of CCE of Rockland County, education and skill training are provided to non-profit executive directors, staff and volunteers through seminars, leadership conferences, and the Executive Forum. During the past year, more than 155 executive directors and staff participated in Executive Forums, while 95 participated in classes on Understanding Financial Statements, Dealing with Conflict in the Workplace, Entrepreneurial Ventures for Non-Profits, Fundraising and Legal Issues in Managing Volunteers.

Results

Based on evaluations conducted after the five seminars: 62% learned how to use conflict (with staff, volunteers or clientele) in a positive way to improve organizational procedures or policies. 44% adopted new procedures in fundraising, including the development and review of annual fund-development plans, relationship-building with prospective donors, and adoption of the Leave-a-Legacy program for their long-term donors. 80% were able to read and interpret financial statements to their Board of Directors, in addition to understanding organizational cash-flow and restricted funds. 22% created employee manuals and volunteer manual for their organizations; more than 60% standarized their job announcement and screening process in 'hiring' volunteers in order to improve risk management and 74% clarified or adjusted their organizational insurance coverage to ensure that it was aligned with and adequately covered the job duties of its volunteers.

4. Associated Knowledge Areas

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

Outcome #19

1. Outcome Measures

Agriculture Economic Development

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The City of Utica has been under financial duress for many years. There were no agricultural or horticultural producers in the City.

What has been done

Cooperative Extension's agricultural economic development program facilitated interactions between an investor, the City of Utica, the Oneida County Assessor's Office, the Oneida County Farmland Protection Board, and the Oneida County Farm Bureau. for the greenhouse to maintain economic vitality for the company and its employees. AED program was the communication link keeping all the parties involved including.

Results

The Kurt Weiss Greenhouse Project created the first farm in the City of Utica in over sixty years and created over 85 jobs. As an alternative to any tax incentives, the Agriculture Economic Development department assisted the greenhouse to be considered a farm and aided with the enrollment of the property in an Agricultural-District. As a result, the greenhouse is now able to receive agricultural assessment value on 18 acres of temporary greenhouses property. The city and county gained a major economic business in the area.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

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
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

See plan.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Case Study

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

- More than 155 executive directors and staff participated in Executive Forums, while 95 participated in classes on Understanding Financial Statements, Dealing with Conflict in the Workplace, Entrepreneurial Ventures for Non-Profits, Fundraising and Legal Issues in Managing Volunteers and more than 60% made improvements in organization operations.
- The Kurt Weiss Greenhouse Project created the first farm in the City of Utica in over sixty years and created over 85 jobs.

Program #7

V(A). Planned Program (Summary)

1. Name of the Planned Program

3.1 Nutrition, Food Safety and 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	16%		16%	
502	Nutrient Composition of Food	18%		18%	
503	Quality Maintenance in Storing and Marketing Food Products	23%		23%	
701	Nutrient Composition of Food	2%		2%	
702	Requirements and Function of Nutrients and Other Food Components	2%		2%	
703	Nutrition Education and Behavior	4%		4%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sourc	7%		7%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	14%		14%	
722	Zoonotic Diseases and Parasites Affecting Humans	7%		7%	
723	Hazards to Human Health and Safety	7%		7%	
	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	71.0	0.0	16.0	0.0
Actual	463.5	0.0	37.4	0.0

2. Institution Name: **Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
2035857	0	720802	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
2035857	0	720802	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
21939897	0	1433793	0

2. Institution Name: **NY State Agricultural Experiment Station**

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	126082	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	126082	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	1687896	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

This is a comprehensive, statewide educational program entailing multiple education methods depending on local context and need. Campus-based faculty and extension associates and county-based educators are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

2. Brief description of the target audience

Audiences reached include: moderate and low income families; 4-H youth; nutrition, health, and family professionals; front-line family workers; food service and food production staff and their managers and directors; and government and agency leaders at the local, state, and federal level.

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	55000	250000	20000	100000
2007	83530	4717142	91182	198510

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

Patent Applications Submitted

Year	Target
Plan:	8
2007 :	13

Patents listed

Biodegradable Soy Protein-Based Compositions and Composites Formed Therefrom
Method for Increasing the Expression of Pulmonary Surfactant Protein-B
Method for Preventing or Reducing Elevated Triglyceride Levels
Method for Preventing or Treating Obesity
Method for Regulating Gene Expression
Protein and Calcium Fortification System for Clear and Opaque Beverages
Tocopherol Derivatives and Uses
Treatment of Cancer or Obesity with Conjugated Linoleic Acids
Use of DHA and ARA in the Preparation of a Composition for Inducing the Expression of Pulmonary Surfactant Protein-B
Use of DHA and ARA in the Preparation of a Composition for Preventing or Treating Obesity
Use of DHA and ARA in the Preparation of a Composition for Reducing Triglyceride Levels
Use of DHA and ARA in the Preparation of a Composition for Regulating Gene Expression
Use of DHA and ARA in the Preparation of A Composition for the Prevention or Treatment of Anemia

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	370

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	29326

Output #2

Output Measure

- # non-credit instructional hours directed to this program.

Year	Target	Actual
2007	0	749835

Output #3

Output Measure

- # funded applied applied research projects directed to this program.

Year	Target	Actual
2007	35	78

Output #4

Output Measure

- # of children, youth, and adults completing education programs on: food, nutrition and health topics including attitudes about healthy eating, healthy food choices, selection of healthy foods, and preparation of healthy foods. (3.1.1a)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

- # of children, youth, and adults completing education programs on: benefits of physical activity and physical activity recommendations for health, and, obesity prevention. (3.1.1b)

Year	Target	Actual
2007	0	0

Output #6

Output Measure

- # of women and health care providers completing education programs addressing healthy weight gain during pregnancy and breastfeeding. (3.1.1c)

Year	Target	Actual
2007	0	0

Output #7

Output Measure

- # of community members completing educational programs on issues that influence food and health behavior and associated appropriate actions including obesity prevention programs and policy. (3.1.1d)

Year	Target	Actual
2007	0	0

Output #8

Output Measure

- # of children, youth, and adults completing education programs on: identifying food insecurity, obtaining food assistance, balancing available resources by planning food choices, and lack of sufficient quality food/ hunger. (3.1.2a)

Year	Target	Actual
2007	0	0

Output #9

Output Measure

- # of policy makers participating in education programs on status of food security in their communities and possible actions to promote increased food security. (3.1.2b)

Year	Target	Actual
2007	0	0

Output #10

Output Measure

- # of participants in programs on: reducing food safety and/or food borne risks and illnesses including recommended food purchase, storage, handling, and preparation practices. (3.1.3a)

Year	Target	Actual
2007	0	0

Output #11

Output Measure

- # refereed publications directed to this program

Year	Target	Actual
2007	290	370

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of program participants who demonstrate knowledge or skill gains related to food, nutrition and health topics including: attitudes about healthy eating, healthy food choices, selection of healthy foods, preparation of healthy foods. (3.1.1e)
2	# of program participants who demonstrate knowledge or skill gains related to benefits of physical activity, physical activity recommendations for health and obesity prevention. (3.1.1f)
3	# of program participants who demonstrate knowledge or skill gains related to healthy weight gain during pregnancy and breast feeding. (3.1.1g)
4	# of program participants who demonstrate knowledge or skill gains related to issues that influence food and health behavior and associated appropriate public/community actions, programs, and policy. (3.1.1h)
5	# of program participants who demonstrate knowledge or skill gains related to status of food security in their communities and possible actions to promote increased food security. (3.1.2c)
6	# of program participants who know what to do related to food insecurity problems such as actions to obtain food assistance, balance available resources by planning food choices, and lack sufficient quality food/hunger. (3.1.2d)
7	# of program participants who demonstrate knowledge or skill gains related to reducing food safety and/or food borne risks and illnesses including recommended food purchase, storage, handling, and preparation practices. (3.1.3b)
8	# of program participants documented to have applied dietary and food safety recommendations daily in meals and snacks. (3.1.1i)
9	# of program participants documented to have increased activity levels. (3.1.1j)
10	# of program participants documented to have managed food budgets and related resources to meet family needs. (3.1.1k)
11	# of program participants documented to have increased participation in public/community health-related programs. (3.1.1.l)
12	# of program participants documented to have reduced one or more chronic disease indicators. (3.1.1m)
13	# of participating communities documented to have made practice and policy changes to promote healthy food and fitness lifestyle choices. (3.1.1m)
14	# of program participants who have acted to improve their food security status. (3.1.2e)
15	# of participating communities that assess food insecurity and develop appropriate action plans. (3.12f)
16	# reported instances of changes made in school nutrition/wellness policies. (3.1.2g)
17	# of household and food handler participants documented to have increased application of safe food preparation practices (storage, preparation, and serving, i.e, HACCP standards. (3.1.3c)
18	# of vulnerable children, youth and members of other priority groups documented to have reduced incidence of overweight and obesity as a result of participating in relevant educational programs. (3.1.1o)
19	# of priority group members documented to have increased fitness levels as a result of participating in relevant educational programs. (3.1.1p)
20	# of participating communities reporting decline in indicators of chronic diseases associated with obesity. (3.1.1q)
21	# of individuals or households documented to have improved food security status. (3.1.2h)
22	# of participating communities reporting declines in food insecurity indicators. (3.1.2i)
23	# of communities/firms/or organizations documented to have implemented improved practices or food safety policies as a result of participating in relevant educational programs. (3.1.3d)
24	# of participating communities reporting declines in food-related illness levels. (3.1.3e)
25	Electrochemical Microbiosensor for Botulinum Toxin Detection on the Farm and in Food
26	Predisposition to Juvenile Obesity: Influence of Prenatal Nutrition
27	Maternal and Infant Nutrition Education Project
28	Albany Fire Department Wellness
29	Retired Senior Volunteer Program Bone Builders

Outcome #1

1. Outcome Measures

# of program participants who demonstrate knowledge or skill gains related to food, nutrition and health topics including: attitudes about healthy eating, healthy food choices, selection of healthy foods, preparation of healthy foods. (3.1.1e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
703	Nutrition Education and Behavior
702	Requirements and Function of Nutrients and Other Food Components
502	Nutrient Composition of Food
701	Nutrient Composition of Food
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety

Outcome #2

1. Outcome Measures

# of program participants who demonstrate knowledge or skill gains related to benefits of physical activity, physical activity recommendations for health and obesity prevention. (3.1.1f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
701	Nutrient Composition of Food
723	Hazards to Human Health and Safety
703	Nutrition Education and Behavior
702	Requirements and Function of Nutrients and Other Food Components
502	Nutrient Composition of Food

Outcome #3

1. Outcome Measures

# of program participants who demonstrate knowledge or skill gains related to healthy weight gain during pregnancy and breast feeding. (3.1.1g)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety
502	Nutrient Composition of Food

Outcome #4

1. Outcome Measures

# of program participants who demonstrate knowledge or skill gains related to issues that influence food and health behavior and associated appropriate public/community actions, programs, and policy. (3.1.1h)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
502	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
701	Nutrient Composition of Food
723	Hazards to Human Health and Safety

Outcome #5

1. Outcome Measures

# of program participants who demonstrate knowledge or skill gains related to status of food security in their communities and possible actions to promote increased food security. (3.1.2c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
701	Nutrient Composition of Food
502	Nutrient Composition of Food
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
703	Nutrition Education and Behavior
702	Requirements and Function of Nutrients and Other Food Components
723	Hazards to Human Health and Safety

Outcome #6

1. Outcome Measures

# of program participants who know what to do related to food insecurity problems such as actions to obtain food assistance, balance available resources by planning food choices, and lack sufficient quality food/hunger. (3.1.2d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
703	Nutrition Education and Behavior

Outcome #7

1. Outcome Measures

# of program participants who demonstrate knowledge or skill gains related to reducing food safety and/or food borne risks and illnesses including recommended food purchase, storage, handling, and preparation practices. (3.1.3b)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Knowledge 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
503	Quality Maintenance in Storing and Marketing Food Products

Outcome #8

1. Outcome Measures
# of program participants documented to have applied dietary and food safety recommendations daily in meals and snacks. (3.1.1i)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	32000	50594

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
502	Nutrient Composition of Food
703	Nutrition Education and Behavior

Outcome #9

1. Outcome Measures

# of program participants documented to have increased activity levels. (3.1.1j)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	18000	33376

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 #10

1. Outcome Measures

# of program participants documented to have managed food budgets and related resources to meet family needs. (3.1.1k)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	15000	27074

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
502	Nutrient Composition of Food
703	Nutrition Education and Behavior

Outcome #11

1. Outcome Measures

# of program participants documented to have increased participation in public/community health-related programs. (3.1.1.l)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1500	16928

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
703	Nutrition Education and Behavior
723	Hazards to Human Health and Safety

Outcome #12

1. Outcome Measures

# of program participants documented to have reduced one or more chronic disease indicators. (3.1.1m)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

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
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
703	Nutrition Education and Behavior

Outcome #13

1. Outcome Measures

# of participating communities documented to have made practice and policy changes to promote healthy food and fitness lifestyle choices. (3.1.1m)

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

Outcome #14

1. Outcome Measures

# of program participants who have acted to improve their food security status. (3.1.2e)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7500	22814

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
502	Nutrient Composition of Food

Outcome #15

1. Outcome Measures
# of participating communities that assess food insecurity and develop appropriate action plans. (3.12f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	591

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
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety

Outcome #16

1. Outcome Measures

reported instances of changes made in school nutrition/wellness policies. (3.1.2g)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	250	1361

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
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
701	Nutrient Composition of Food

Outcome #17

1. Outcome Measures

# of household and food handler participants documented to have increased application of safe food preparation practices (storage, preparation, and serving, i.e, HACCP standards. (3.1.3c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	15000	21968

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
503	Quality Maintenance in Storing and Marketing Food Products
703	Nutrition Education and Behavior
723	Hazards to Human Health and Safety

Outcome #18

1. Outcome Measures

# of vulnerable children, youth and members of other priority groups documented to have reduced incidence of overweight and obesity as a result of participating in relevant educational programs. (3.1.1o)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #19

1. Outcome Measures

# of priority group members documented to have increased fitness levels as a result of participating in relevant educational programs. (3.1.1p)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition 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
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
703	Nutrition Education and Behavior

Outcome #20

1. Outcome Measures
# of participating communities reporting decline in indicators of chronic diseases associated with obesity. (3.1.1q)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition 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
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
703	Nutrition Education and Behavior

Outcome #21

1. Outcome Measures

# of individuals or households documented to have improved food security status. (3.1.2h)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5200	11105

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
723	Hazards to Human Health and Safety

Outcome #22

1. Outcome Measures

# of participating communities reporting declines in food insecurity indicators. (3.1.2i)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	150	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
703	Nutrition Education and Behavior

Outcome #23

1. Outcome Measures

# of communities/firms/or organizations documented to have implemented improved practices or food safety policies as a result of participating in relevant educational programs. (3.1.3d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	350	221

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
723	Hazards to Human Health and Safety

Outcome #24

1. Outcome Measures

# of participating communities reporting declines in food-related illness levels. (3.1.3e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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 #25

1. Outcome Measures

Electrochemical Microbiosensor for Botulinum Toxin Detection on the Farm and in Food

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Foodborne diseases continue to be a major concern in food safety and public health world-wide. Botulinum toxin is the most toxic natural compound known and has been listed as a dangerous bioterrorism agent by the Center of Disease Control and Prevention. Foodborne diseases, including those caused by botulinum and cholera toxin continue to pose a threat to our society. No sensors are currently available that allow a rapid and inexpensive screening of our food prior to consumption, during preparation and during production.

What has been done

The research has developed a rapid, sensitive, and reliable detection method for botulinum toxin in food and farm samples. It will thus improve the safety of our food, from farm to table, and will enhance the safety and health of humans and livestock.

Results

Sensors developed in this project provide food producers and consumers with the ability to determine the safety of their products. Formats available include a lateral flow assay for the simple analysis and a microfluidic sensor for more sensitive a refined analysis in food production plants and doctors' offices. Biosensors and microanalytical systems for pathogens such as E. coli, C. parvum, have been developed. These biosensors address problems related to specificity, speed of analysis, sensitivity and costs. A molecular biological approach for the recognition of the pathogens is combined with engineering of microchannel systems in order to provide these bioanalytical Microsystems that are truly portable biosensors. A good example is the C. parvum biosensor. It can detect as few as 1 oocyst in only 4 hours. Current technology requires about 7 days of detection time, since water treatment plants have to send their sample to a testing lab and have to pay about $400 per analysis (in comparison to an estimated $25 per analysis with the biosensor if carried out in house of the water treatment plant.

4. Associated Knowledge Areas

KA Code	Knowledge Area
503	Quality Maintenance in Storing and Marketing Food Products
723	Hazards to Human Health and Safety

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

Outcome #26

1. Outcome Measures

Predisposition to Juvenile Obesity: Influence of Prenatal Nutrition

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Juvenile obesity in the United States has reached epidemic status. There is growing epidemiological and experimental evidence that predisposition to juvenile obesity may be influenced by prenatal nutrition. This project is assessing the effect of severe fetal undernutrition on neonatal development of insulin resistance and obesity.

What has been done

The purpose of this study is to identify mechanisms underlying prenatal predisposition to juvenile obesity and evaluate the efficacy of postnatal energy restriction as an ameliorative strategy. Data analysis to date supports the hypothesis that fetal undernutrition results in abnormal energy homeostasis after birth that may contribute to obesity.

Results

Research confirmed that nutritionally-deprived fetuses had significantly smaller placenta (205 vs 378 grams) and were lighter that normal fetuses (2.4 vs
3.9 kilograms). Plasma concentrations of insulin and IGF-I were linearly related with fetus size, consistent with the roles of these hormones in mediating the effects of under-nutrition on growth. The plasma concentration of leptin did not differ, consistent with equally lean carcasses in both normal and nutritionally-deprived fetuses. Hypothalamic sections were subjected to in situ hybridization to quantify neuropeptide Y, proopiomelanocortin and agouti-related peptide in the arcuate nucleus and for melanin concentrating hormone and orexin in the lateral hypothalamus. So far, the data analysis has been completed for neuropeptide Y and for melanin concentrating hormone. The data analysis supports the hypothesis that fetal undernutrition impairs hypothalamic development in a manner that results in abnormal energy homeostasis after birth.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
702	Requirements and Function of Nutrients and Other Food Components

Outcome #27

1. Outcome Measures

Maternal and Infant Nutrition Education Project

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The American Academy of Pediatrics and the American Dietetics Association recommend that exclusive breastfeeding provides optimal nutrition and health protection for the first 6 months of life, and breastfeeding with complementary foods for at least 12 months is the ideal feeding pattern for infants. There are direct links to breastfeeding duration and exclusivity and prevention of acute and chronic disease. The USDHHS Healthy People 2010 goals include a goal that 50% of new mother's breastfeed to 6 months of age and 25% of new mothers breastfeed at one year.

What has been done

CCE of Jefferson County created a Maternal and Infant Nutrition Project Coordinator position. Duties included building staff capacity to support and educate breastfeeding women. This programs goal is to assist prenatal and breastfeeding women determine and reach their own goals for breastfeeding duration and exclusivity. This position: provides staff education for prenatal, maternal and infant nutrition, serves as mentor to staff who are in direct service with families with infants, and, directs community outreach with breastfeeding service provider partners.

Results

This project has: identified predominant concerns of breastfeeding women into four main categories. In response to these concerns program interventions have resulted in resolution of each concern as follows: 73% of women reporting painful breastfeeding experienced complete resolution, 72% of women reporting difficulty or non latching baby experienced partial or complete resolution , 85% of women reporting low milk supply experienced partial or complete resolution, 94% of women reporting difficulty with over supply of breastmilk experienced complete resolution The initiative to build staff capacity to serve breastfeeding women has significantly increased program reach to the population of prenatal and breastfeeding women. In 2003 (one year prior to program implementation) 5 prenatal or breastfeeding participants were served in Jefferson County's nutrition program. In 2007 134 of Jefferson County nutrition program participants were prenatal or breastfeeding women.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #28

1. Outcome Measures
Albany Fire Department Wellness

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Firefighters, because of the stress and intensity of their responsibilities have an increased risk of suffering a cardiac event in the line of duty.

What has been done

An Extension Educator provided nutrition education to the Albany Fire Department. Providing such information as reducing dietary fat and cholesterol, adhering to proper portion sizes and consumption, and increasing availability of fresh fruits and vegetables. to the 260 person Albany Fire Department.

Results

In collaboration with the firefighters union and local healthcare organizations, CCE provided educational intervention regarding all aspects of cardiac wellness. As a result of this educational intervention, firehouse menus have been altered to incorporate less dietary fat as well as more fresh produce. Additionally, the firefighters have made progress toward incorporating more physical activity into their daily routine. Two hundred-sixty Albany firefighters participated in this mandatory program with the intention of sustained follow-up by various cardiac health entities. Through this intervention each firefighter has been provided with the knowledge to mitigate the stress incurred in their line of work by employing better dietary strategies and improving their fitness status.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
703	Nutrition Education and Behavior
701	Nutrient Composition of Food

Outcome #29

1. Outcome Measures

Retired Senior Volunteer Program Bone Builders

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

NYS Dept. of Health statistics indicate that osteoporosis affects 25 % of women over age 60--an estimated 1,100 women in Schuyler and Yates Counties. Osteoporosis is a painful disease characterized by weak, brittle, porous bones that tend to fracture. It is a major cause of fractures of the spine, hip, wrist and other bones. Studies show that progressive weight-bearing exercise helps reduce the incidence of osteoporosis as it stimulates formation of new bone.

What has been done

From Oct 2006 to May 2007, trained RSVP volunteers led weekly preventive exercise sessions at three sites in Schuyler and 4 sites in Yates. Educational programs about the prevention of osteoporosis through exercise, nutrition and other healthy lifestyle practices were incorporated into these sessions. Each fall new leadership volunteers receive training and experienced leaders receive a refresher course, utilizing Tufts University research-based exercise plan. Five Bone Builder classes were conducted each week at five sites in Schuyler & Yates from October 2006 to May 2007.

Results

71 individuals age 55 and older learned and practiced research-based exercises designed to reduce the incidence of osteoporosis. 58% (41 participants) responded to post-program surveys reporting as follows: 28 reported improved balance; 27 reported improved balance; 26 reported increased flexibility; 15 reported increased stamina/endurance; 20 reported increased energy and 27 reported an overall increased sense of well-being.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
703	Nutrition Education and Behavior

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
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

See plan.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- During (during 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

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

- Botulism sensors developed in this project provide food producers and consumers with the ability to determine the safety of their products.
- The 260 person Albany Fire Department initiated a cardiac health program.

Program #8

V(A). Planned Program (Summary)

1. Name of the Planned Program

3.2 Parenting and Dependent Care

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	100%		100%	
	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	18.2	0.0	1.0	0.0
Actual	122.0	0.0	1.7	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
535752	0	100579	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
535752	0	100579	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
5773657	0	178321	0

2. Institution Name: NY State Agricultural Experiment Station

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

This is a comprehensive, statewide educational program entailing multiple education methods depending on local context and need. Campus-based faculty and extension associates and county-based educators are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

2. Brief description of the target audience

Key audiences served, directly and indirectly, include: parents, grandparents and other relative caregivers who are parenting children; child and elder care workers and their supervisors and program directors; community stakeholders such as employers, leaders and policy makers at the local and state levels.

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	7500	100000	0	0
2007	26503	2108959	6303	97522

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	80

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	3361

Output #2

Output Measure

- # non-credit instructional hours directed to this program.

Year	Target	Actual
2007	0	218551

Output #3

Output Measure

- # funded applied research projects directed to this program.

Year	Target	Actual
2007	8	14

Output #4

Output Measure

- # of care providers completing education programs on current standards and practices of high quality infant and child care programs. (3.2.1a)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

- # of parents, grandparents and other adults providing parental care completing education programs on developmentally appropriate and effective parenting methods. (3.2.3a)

Year	Target	Actual
2007	0	0

Output #6

Output Measure

- # of community members completing educational programs on critical issues in family care. (3.2.4a)

Year	Target	Actual
2007	0	0

Output #7

Output Measure

- # refereed publications directed to this program

Year	Target	Actual
2007	10	80

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of program participants who demonstrate knowledge or skill gains related to infant and child care practices. (3.2.1b)
2	# of participants who demonstrate ability to evaluate the quality of care programs to determine appropriate placement for their family members or others. (3.2.1c)
3	# of program participants who increase knowledge of community infant, child care, and after school program needs. (3.2.2a)
4	# of program participants who demonstrate knowledge or skill gains related to positive parenting practices. (3.2.3b)
5	# of program participants who demonstrate knowledge or skill gains related to elder care practices. (3.2.4b)
6	# of adult program participants who demonstrate knowledge or skill gains related to elder care worker retention issues. (3.2.5a)
7	# of program participants reporting to have applied good infant and child care practices. (3.2.1d)
8	# of program participants reporting to have used child care quality characteristics in their care selection. (3.2.1e)
9	# of program participants reporting to have been involved in community level assessments of infant, child care, of school age care program provision. (3.2.2b)
10	# of program participants reporting to have applied positive parenting practices. (3.2.3c)
11	# of program participants reporting to have applied good elder care practices. (3.2.4c)
12	# of program participants reporting to have used elder care quality characteristics in their care selection. (3.2.4d)
13	# of program participants reporting to have addressed issues related to elder care worker retention. (3.2.5b)
14	# of child care providers, child care programs or parents reporting improved infant and child care as a result of participating in educational programs. (3.2.1f)
15	# of communities documented to have taken action to address infant and/or child and school-age child care needs that can be related to educational programs and/or critical community collaborations provided. (3.2.2c)
16	# of parents/relative caregivers reporting to have experienced positive change in parent-child relationships and child nurturance that they attribute to implementing new parenting behaviors learned in educational programs. (3.2.3d)
17	# of participating family members who reported improved elder care for their dependents as a result of participating in educational programs. (3.2.4e)
18	# of elder-care facilities reporting improvement in elder care worker retention by facilities, services as a result of participating in educational programs. (3.2.5c)
19	Parent to Parent
20	Family Resource Centers
21	Franklin County Even Start

Outcome #1

1. Outcome Measures

# of program participants who demonstrate knowledge or skill gains related to infant and child care practices. (3.2.1b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
802	Human Development and Family Well-Being

Outcome #2

1. Outcome Measures

# of participants who demonstrate ability to evaluate the quality of care programs to determine appropriate placement for their family members or others. (3.2.1c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
802	Human Development and Family Well-Being

Outcome #3

1. Outcome Measures

# of program participants who increase knowledge of community infant, child care, and after school program needs. (3.2.2a)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
802	Human Development and Family Well-Being

Outcome #4

1. Outcome Measures

# of program participants who demonstrate knowledge or skill gains related to positive parenting practices. (3.2.3b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
802	Human Development and Family Well-Being

Outcome #5

1. Outcome Measures

# of program participants who demonstrate knowledge or skill gains related to elder care practices. (3.2.4b)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Knowledge 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
802	Human Development and Family Well-Being

Outcome #6

1. Outcome Measures

# of adult program participants who demonstrate knowledge or skill gains related to elder care worker retention issues. (3.2.5a)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Knowledge 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
802	Human Development and Family Well-Being

Outcome #7

1. Outcome Measures
# of program participants reporting to have applied good infant and child care practices. (3.2.1d)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2000	2260

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 #8

1. Outcome Measures

# of program participants reporting to have used child care quality characteristics in their care selection. (3.2.1e)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	4000	722

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 #9

1. Outcome Measures

# of program participants reporting to have been involved in community level assessments of infant, child care, of school age care program provision. (3.2.2b)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	83

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #10

1. Outcome Measures

# of program participants reporting to have applied positive parenting practices. (3.2.3c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7500	13308

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 #11

1. Outcome Measures

# of program participants reporting to have applied good elder care practices. (3.2.4c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3250	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
802	Human Development and Family Well-Being

Outcome #12

1. Outcome Measures

# of program participants reporting to have used elder care quality characteristics in their care selection. (3.2.4d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2800	265

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 #13

1. Outcome Measures

# of program participants reporting to have addressed issues related to elder care worker retention. (3.2.5b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	125	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 #14

1. Outcome Measures
# of child care providers, child care programs or parents reporting improved infant and child care as a result of participating in educational programs. (3.2.1f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	2338

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 #15

1. Outcome Measures

# of communities documented to have taken action to address infant and/or child and school-age child care needs that can be related to educational programs and/or critical community collaborations provided. (3.2.2c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	80	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
802	Human Development and Family Well-Being

Outcome #16

1. Outcome Measures

# of parents/relative caregivers reporting to have experienced positive change in parent-child relationships and child nurturance that they attribute to implementing new parenting behaviors learned in educational programs. (3.2.3d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7000	10874

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 #17

1. Outcome Measures

# of participating family members who reported improved elder care for their dependents as a result of participating in educational programs. (3.2.4e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1750	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
802	Human Development and Family Well-Being

Outcome #18

1. Outcome Measures

# of elder-care facilities reporting improvement in elder care worker retention by facilities, services as a result of participating in educational programs. (3.2.5c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition 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
802	Human Development and Family Well-Being

Outcome #19

1. Outcome Measures
Parent to Parent

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Teen pregnancy rates in Jefferson County are a concern. In fact, Watertown/Fort Drum is highest in the state, even above New York City. If these young mothers and their offspring follow the trends on adolescent child bearing, we would expect 75% of these families will end up in poverty and reliant on welfare, 33% will drop out of high school and 25% of the infants are more likely to be low birth weight babies (March of Dimes, March 2004). Young couples affiliated with the military at Fort Drum also face parenthood far away from family support and sometimes isolated rural housing areas.

What has been done

Parent to Parent program was designed by Cornell Cooperative Extension Association of Jefferson County in 1993. St. Lawrence County also implemented the Parent to Parent program for several years. During this time frame the program has worked with approximately 350 teen parents. The program provides childbirth and breastfeeding education, independent living skills, educational development and personal support.

Results

The goals of the Parent to Parent program is for pregnant and Parenting teens to create a relationship with peers and aduls, strengthen their parenting skills and meet educational goals. Of 25 pregnant and/or parenting teen participants, 20 show improvement in at least one dimension of effective parenting skills; 21 subsequent pregnancies; 18 particpate in family recreational and social activities; 18 accomplish at least two of their established goals pertaining to increased self sufficiency and/or personal development.; and, 18 are educated on and build infant/toddler developmental assests for their own children.

4. Associated Knowledge Areas

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

Outcome #20

1. Outcome Measures

Family Resource Centers

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

All families need information and support to provide for the basic physical and emotional needs of their children and to guide and nurture children's healthy development. Providing information and support to families when children are young, results in skilled and resilient families who build safe and supportive communities. The resulting reduction in child abuse and neglect and early and efficient use of community resources provides increased safety and reduced costs to the entire community.

What has been done

The Family Resource Centers of Tioga County are free community centers for families with young children. Located in the villages of Waverly and Owego, the centers are open 28 hours each week for parenting education and parent-child activities. In the most recent program year, 268 families including 332 adults and 367 children participated in the Family Resource Center program. Adults learn parenting skills through workshops child development, discipline, and family nutrition. In addition, parenting information is provided by parent educators through informal discussions,lending library and other printed information.

Results

Over 332 adults participated in the Family Resource Center programs during the current program year. Most of these parents and caregivers participate in drop-in play at the centers. They meet other parents, borrow for the lending library, and ask questions of the parenting educators who staff the centers. The regular open hours with parenting educators on staff increases access to parenting information. Seventy-one parents reported that they have made changes that improved their interactions with their children. 143 adults attended one or more parenting workshops at the Family Resource Centers. 70% of these parents report learning new skills to manage their children's behavior and increased understanding of their child's development. Family Resource Centers linked 50 families to local resources. The Family Resource Centers reduce isolation for families in our rural county. Parents shared: - 'Families living in rural areas can feel isolated and lonely as we deal with the challenges of parenting young children. At the Family Resource Centers I have met other parents and built a group of friends to support me in my parenting.'

4. Associated Knowledge Areas

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

Outcome #21

1. Outcome Measures

Franklin County Even Start

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Franklin County Even Start attempts to lessen economic gaps and holes in educational attainment. It does so by empowering parents to recognize their own strengths and abilities and how to assist their children in becoming successful. Even Start serves families that are at or below the poverty level and that are in need of furthering their education.

What has been done

Over the past year Even Start has served 36 children and 66 adults. There were 7 new families, all living at or below the poverty level and 6 out of 7 had low literacy skills. Even Start provided transporation to help these families participate in programming. Education has happened via weekly home visits and through Center-based activities, and Parent Advisory Meetings. Additional educational hours were given by our partner, Franklin/Essex/Hamilton BOCES, in the form of Adult Education.

Results

Eleven participants with employment goals met them, four obtained their GEDs, and 10 out of 17 enrolled students increased their reading or math scores.

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
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

See plan.

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

1. Evaluation Studies Planned

- After Only (post program)
- During (during program)
- Other (Control Study Group)

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

- Of 25 pregnant and/or parenting teen participants, 20 show improvement in at least one dimension of effective parenting skills; 21 subsequent pregnancies; 18 particpate in family recreational and social activities; 18 accomplish at least two of their established goals pertaining to increased self sufficiency and/or personal development.; and, 18 are educated on and build infant/toddler developmental assests for their own children.
- 143 adults attended one or more parenting workshops at the Family Resource Centers.70% of these parents report learning new skills to manage their children's behavior and increased understanding of their child's development.Family Resource Centers linked 50 families to local resources.

Program #9

V(A). Planned Program (Summary)

1. Name of the Planned Program

3.3 Family Financial Security and Management of Housing Resources

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
607	Consumer Economics	50%		50%	
801	Individual and Family Resource Management	25%		25%	
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	25%		25%	
	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	8.1	0.0	1.0	0.0
Actual	48.8	0.0	2.6	0.0

2. Institution Name: **Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
214301	0	84064	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
214301	0	84064	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2309463	0	88607	0

2. Institution Name: **NY State Agricultural Experiment Station**

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

This is a comprehensive, statewide educational program entailing multiple education methods depending on local context and need. Campus-based faculty and extension associates and county-based educators are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

2. Brief description of the target audience

•Low and moderate-income households who are especially vulnerable to financial setbacks and have less disposable income to commit to savings. •Low-income households living in poor-quality housing.

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	15000	125000	5500	30000
2007	23361	2084280	3037	159837

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	1

Patents listed

Coupled MEMS Structure for Motion Amplification

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	51

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	1740

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2007	0	52016

Output #3

Output Measure

- # funded applied research projects directed to this program.

Year	Target	Actual
2007	3	8

Output #4

Output Measure

- # of persons completing education programs on age-appropriate topics like spending and saving concepts, appropriate use of money, financial goals, tracking expenses, budgeting, credit management, financial planning, and wealth generation strategies. (3.3.1a)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

- # of consumers and property managers completing programs on indoor air quality issues. (3.3.2a)

Year	Target	Actual
2007	0	0

Output #6

Output Measure

- #refereed publications directed to this program.

Year	Target	Actual
2007	10	51

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# participants who demonstrate knowledge or skill gains related to spending and saving concepts, appropriate use of money, setting financial goals, tracking expenses, budgeting, credit management, financial planning, and wealth generation strategies. (3.3.1b)
2	# of consumers and property managers gaining awareness and knowledge of indoor air quality issues and remediation options. (3.3.2b)
3	# of program participants documented to have reduced debts and/or increased savings. (3.3.1c)
4	# of program participants documented to have used standard practices such as timely bill payment to meet financial life planning goals. (3.3.1d)
5	# of program participants documented to have taken measures to prevent or remediate indoor air quality issues. (3.3.2c)
6	# of program participants documented to have reduced short-term health effects of indoor air pollutants (such as irritation of the eyes, nose, and throat, headaches, dizziness, and fatigue) as a result of participating in educational programs. (3.3.2d)
7	# of program participants reporting to have met day-to-day financial obligations while also progressing on future goals for savings, retirement accounts, etc. (3.3.1e)
8	# of participants reducing risks of respiratory diseases, heart disease, and cancer by impl. measures such as radon remediation, controlling indoor triggers of asthma: secondhand smoke, dust mites, pet dander, and pests. (3.3.2e)
9	Strategic Planning for Community Development: Examining Long Term Community Capacity Building
10	Volunteer Income Tax Assistance Program
11	Household Energy Conservation

Outcome #1

1. Outcome Measures

participants who demonstrate knowledge or skill gains related to spending and saving concepts, appropriate use of money, setting financial goals, tracking expenses, budgeting, credit management, financial planning, and wealth generation strategies. (3.3.1b)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Knowledge 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
607	Consumer Economics
801	Individual and Family Resource Management

Outcome #2

1. Outcome Measures

# of consumers and property managers gaining awareness and knowledge of indoor air quality issues and remediation options. (3.3.2b)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Knowledge 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
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #3

1. Outcome Measures

# of program participants documented to have reduced debts and/or increased savings. (3.3.1c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7000	1998

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics
801	Individual and Family Resource Management

Outcome #4

1. Outcome Measures

# of program participants documented to have used standard practices such as timely bill payment to meet financial life planning goals. (3.3.1d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	6000	1389

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
607	Consumer Economics

Outcome #5

1. Outcome Measures
# of program participants documented to have taken measures to prevent or remediate indoor air quality issues. (3.3.2c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	6200	817

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #6

1. Outcome Measures

# of program participants documented to have reduced short-term health effects of indoor air pollutants (such as irritation of the eyes, nose, and throat, headaches, dizziness, and fatigue) as a result of participating in educational programs. (3.3.2d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #7

1. Outcome Measures

# of program participants reporting to have met day-to-day financial obligations while also progressing on future goals for savings, retirement accounts, etc. (3.3.1e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	6500	3846

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics
801	Individual and Family Resource Management

Outcome #8

1. Outcome Measures

# of participants reducing risks of respiratory diseases, heart disease, and cancer by impl. measures such as radon remediation, controlling indoor triggers of asthma: secondhand smoke, dust mites, pet dander, and pests. (3.3.2e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #9

1. Outcome Measures

Strategic Planning for Community Development: Examining Long Term Community Capacity Building

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Including people who live in poverty as integral partners of intervention strategies is the most effective approach for improving the socio-economics of communities. This project developed a process of participatory strategic planning and new program strategies to revive economic vitality and services within rural communities. One of our primary tasks was to support the evaluation and refinement of the Tompkins County Heating Solutions community-led intervention project. We investigated community development by and with lower-income citizens as an effective strategy for improving the socio-economic conditions in the community.

What has been done

Worth with the Heating Solutions initiative, this project 1) provided community members with access to information about low-cost and/or no-cost energy saving practices; 2) enabled community members to make changes in their individual dwellings to account for energy saving practices by participating in social networks comprising neighbors and other community members; and 3) assisted program leaders to identify and strengthen existing social networks to be implemented in other areas of community members' lives.

Results

We are developing 1) strategies for successful organizational implementation of social networks; 2) approaches for managing learning activities to facilitate capacity building; and 3) participatory planning knowledge that can be shared among program participants and service agencies in the county. A critical review of the social learning and situated cognition literature that is foundational to this study will contribute to significant insights about the ways in which learning and knowing are a complex set of social practices that are crucial for participatory planning and rural community development, as they are related to both programmatic and academic purposes.

4. Associated Knowledge Areas

KA Code	Knowledge Area
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #10

1. Outcome Measures
Volunteer Income Tax Assistance Program

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Low and limited income households lack access to affordable tax preparation assistance and community resource information, including financial literacy information, that they can use to improve their financial situation. Community based organizations had noticed an increase in the number of their clientele who were paying $300 or more to have their taxes prepared and to receive a refund anticipation loan. These were funds that could be used by the households for other needs but at that time there was no alternative to paid tax preparation services.

What has been done

Cornell Cooperative Extension Cortland County took the lead to explore working with IRS to develop a Volunteer Income Tax Assistance program for Cortland County. Working with several community based organizations, CCE Cortland County identified and trainied volunteers, worked to establish locations throughout the county for the tax preparation sites, and acted as the primary contact with IRS for this program.

Results

This program has grown from 54 participants in its pilot year to 275. Those taking part in the program have expressed an increased awareness of the cost of refund anticipation loans and indicated have expressed their belief that they can wait for a week for their refund if it means they receive 100% of the refund. Vounteers educate the participants on taxes and withholding as well as working to increase the awareness of community programs that can be of benefit to them. Over $100,000 in Federal and New York State Earned Income Credit came to Cortland County residents through this program. If the participants had paid to have their returns prepared it is estimated they would have paid an additional $41,250, money that they could use for other basic living expenses or debt reduction.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #11

1. Outcome Measures

Household Energy Conservation

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Energy conservation and basic money management skills are fundamental to the well-being of individuals, families, and communities especially as energy costs accelerate rapidly.

What has been done

An CCE educator and volunteer have been trained in the EmPower NY curriculum. Eight EmPower NY workshops throughout Schoharie County were presented and drew 117 participants, with others now on a waiting list for future workshops.

Results

Self-report evaluations indicate that the majority of participants intend to make such behavioral changes as changing to CFL light bulbs, lowering their hot water temperature to 120 degree F, installing programmable theromstats and accessing their free annual credit reports. Several participants have followed-up workshops by contacting CCE for additional information on weatherizing their homes.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
607	Consumer Economics
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

See plan.

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)
- Case Study

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

- Developing 1) strategies for successful organizational implementation of social networks; 2) approaches for managing learning activities to facilitate capacity building; and 3) participatory planning knowledge that can be shared among program participants and service agencies in the county.
- Over $100,000 in Federal and New York State Earned Income Credit came to Cortland County residents through this program.

Program #10

V(A). Planned Program (Summary)

1. Name of the Planned Program

4.1 Natural Resource Management

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
101	Appraisal of Soil Resources	7%		7%	
102	Soil, Plant, Water, Nutrient Relationships	50%		50%	
104	Protect Soil from Harmful Effects of Natural Elements	4%		4%	
123	Management and Sustainability of Forest Resources	5%		5%	
124	Urban Forestry	6%		6%	
125	Agroforestry	5%		5%	
132	Weather and Climate	2%		2%	
134	Outdoor Recreation	5%		5%	
135	Aquatic and Terrestrial Wildlife	11%		11%	
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	5%		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	9.9	0.0	6.0	0.0
Actual	65.1	0.0	18.6	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
285734	0	613024	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
285734	0	613024	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
3079284	0	1031960	0

2. Institution Name: NY State Agricultural Experiment Station

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	10815	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	10815	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	151462	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

This is a statewide educational program entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

2. Brief description of the target audience

Residents and property owners are targeted with stewardship and natural resources protection for their properties. Businesses, organizations, and producers are targeted with information improved management practices and alternative land uses, such as agroforestry. Local government and community leaders are targeted with information related to governmental management of natural resources, such as land use planning and open space preservation. Environmental planners and managers and technical assistance providers, such as foresters, are targeted with in-depth information related to their audiences/constituents.

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	12000	100000	25000	35000
2007	56593	2737528	22734	1095447

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

Patent Applications Submitted

Year	Target
Plan:	2
2007 :	4

Patents listed

Detection of Analytes in Samples Using Liposome-Amplified Luminescence and Magnetic Separation
Nucleic Acid-Engineered Materials
Recirculating Microfluidic Device and Methods of Use
Remediation and Reclamation of Heavy Metals from Aqueous Liquid

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	366

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	1091

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2007	0	221348

Output #3

Output Measure

- # funded applied research projects directed to this program.

Year	Target	Actual
2007	25	83

Output #4

Output Measure

- # of agricultural/natural resources producers and business representatives completing educational programs on managing natural resources and/or biodiversity. (4.1.1a)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

- # of organization and business representatives completing educational programs on managing natural resources and/or biodiversity. (4.1.2a)

Year	Target	Actual
2007	0	0

Output #6

Output Measure

- # of local government officials and community leaders completing educational programs on managing natural resources, open space preservation, alternative land uses and/or biodiversity. (4.1.3a)

Year	Target	Actual
2007	0	0

Output #7

Output Measure

- # of consumers, residents, and landowners completing educational programs on natural resources protection and/or biodiversity. (4.1.4a)

Year	Target	Actual
2007	0	0

Output #8

Output Measure

- # of teachers and youth professionals and volunteers completing educational programs on natural resources protection and/or biodiversity. (4.1.5a)

Year	Target	Actual
2007	0	0

Output #9

Output Measure

- # of youth completing educational programs on natural resources protection and/or biodiversity. (4.1.6a)

Year	Target	Actual
2007	0	0

Output #10

Output Measure

- # refereed publications directed to this program.

Year	Target	Actual
2007	290	366

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Documented instances in which impl. of natural resources mngmt. practices and/or land use policies lead to increased open space preservation, enhanced or protected natural resources, enhanced biodiversity, and/or incr. alternative land use. (4.1.3f)
2	Increased local economic activities attributable at least in part to enhanced natural resources management and/or increased alternative land uses. (4.1.3g)
3	Documented instances in which implementation of natural resources management practices by individual consumers, residents, and/or private landowners lead to increased open space preservation, enhanced or protected natural resources, enhanced biodiversity. (4.1.4d)
4	# of youth documented to have chosen natural resources-related careers. (4.1.6e)
5	Documented instances in which implementation of natural resources management practices by agricultural/natural resources producers or other businsess persons lead to increased open space preservation, enhanced/protected natural resources, biodiversity and/or land use. (4.1.1d)
6	# of agricultural/natural resources producers and business representatives who demonstrate knowledge gains about managing natural resources and/or biodiversity. (4.1.1b)
7	# of organization and business representatives who demonstrate knowledge gains about managing natural resources and/or biodiversity. (4.1.2b)
8	# of local government officials and community leaders who demonstrate knowledge gains about managing natural resources, open space preservation, alternative land uses and/or biodiversity. (4.1.3b)
9	# of consumers, residents, and landowners who demonstrate knowledge gains about natural resources management and/or biodiversity. (4.1.4b)
10	# of teachers and youth professionals and volunteers who demonstrate knowledge gains about natural resources management and/or biodiversity. (4.1.5b)
11	# of youth who demonstrate knowledge gains about natural resources management and/or biodiversity. (4.1.6b)
12	# of agricultural/natural resources producers and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.1c)
13	# of organization and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.2c)
14	# of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.3c)
15	# of communities documented to have thoroughly assessed the status of their natural resources. (4.1.3d)
16	# of producers, businesses, local governments, organizations, landowners, and individuals collaborate to develop and implement natural resources management strategies. (4.1.3e)
17	# of consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.4c)
18	# of teachers and youth professionals and volunteers who incorporate natural resources management and/or biodiversity knowledge into curriculum. (4.1.5c)
19	# of youth documented to have modified existing practices and/or adopted new practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.6c)
20	# of youth introduced to variety of environmental and natural resources career options. (4.1.6d)
21	Human Dimensions Inquiry to Improve Community-based Wildlife and Natural Resources Management
22	Gourmet and Medicinal Mushroom Production for Forest Farming in the Northeast
23	CommuniTree Stewards

Outcome #1

1. Outcome Measures

Documented instances in which impl. of natural resources mngmt. practices and/or land use policies lead to increased open space preservation, enhanced or protected natural resources, enhanced biodiversity, and/or incr. alternative land use. (4.1.3f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	75	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
101	Appraisal of Soil Resources
124	Urban Forestry
135	Aquatic and Terrestrial Wildlife
123	Management and Sustainability of Forest Resources
125	Agroforestry
134	Outdoor Recreation
102	Soil, Plant, Water, Nutrient Relationships

Outcome #2

1. Outcome Measures

Increased local economic activities attributable at least in part to enhanced natural resources management and/or increased alternative land uses. (4.1.3g)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
124	Urban Forestry
134	Outdoor Recreation
123	Management and Sustainability of Forest Resources
135	Aquatic and Terrestrial Wildlife
125	Agroforestry

Outcome #3

1. Outcome Measures

Documented instances in which implementation of natural resources management practices by individual consumers, residents, and/or private landowners lead to increased open space preservation, enhanced or protected natural resources, enhanced biodiversity. (4.1.4d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2500	777

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
134	Outdoor Recreation
135	Aquatic and Terrestrial Wildlife
101	Appraisal of Soil Resources
123	Management and Sustainability of Forest Resources
124	Urban Forestry
125	Agroforestry

Outcome #4

1. Outcome Measures

# of youth documented to have chosen natural resources-related careers. (4.1.6e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
135	Aquatic and Terrestrial Wildlife
124	Urban Forestry
134	Outdoor Recreation
123	Management and Sustainability of Forest Resources
125	Agroforestry

Outcome #5

1. Outcome Measures

Documented instances in which implementation of natural resources management practices by agricultural/natural resources producers or other businsess persons lead to increased open space preservation, enhanced/protected natural resources, biodiversity and/or land use. (4.1.1d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
102	Soil, Plant, Water, Nutrient Relationships
135	Aquatic and Terrestrial Wildlife
124	Urban Forestry
123	Management and Sustainability of Forest Resources

Outcome #6

1. Outcome Measures

# of agricultural/natural resources producers and business representatives who demonstrate knowledge gains about managing natural resources and/or biodiversity. (4.1.1b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
135	Aquatic and Terrestrial Wildlife
123	Management and Sustainability of Forest Resources
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
125	Agroforestry
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
104	Protect Soil from Harmful Effects of Natural Elements

Outcome #7

1. Outcome Measures

# of organization and business representatives who demonstrate knowledge gains about managing natural resources and/or biodiversity. (4.1.2b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
125	Agroforestry
135	Aquatic and Terrestrial Wildlife
124	Urban Forestry
102	Soil, Plant, Water, Nutrient Relationships
123	Management and Sustainability of Forest Resources

Outcome #8

1. Outcome Measures

# of local government officials and community leaders who demonstrate knowledge gains about managing natural resources, open space preservation, alternative land uses and/or biodiversity. (4.1.3b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
104	Protect Soil from Harmful Effects of Natural Elements
123	Management and Sustainability of Forest Resources
135	Aquatic and Terrestrial Wildlife
124	Urban Forestry
102	Soil, Plant, Water, Nutrient Relationships
125	Agroforestry
101	Appraisal of Soil Resources
134	Outdoor Recreation

Outcome #9

1. Outcome Measures

# of consumers, residents, and landowners who demonstrate knowledge gains about natural resources management and/or biodiversity. (4.1.4b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
124	Urban Forestry
102	Soil, Plant, Water, Nutrient Relationships
123	Management and Sustainability of Forest Resources
101	Appraisal of Soil Resources
135	Aquatic and Terrestrial Wildlife
125	Agroforestry

Outcome #10

1. Outcome Measures

# of teachers and youth professionals and volunteers who demonstrate knowledge gains about natural resources management and/or biodiversity. (4.1.5b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Knowledge 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
135	Aquatic and Terrestrial Wildlife
102	Soil, Plant, Water, Nutrient Relationships

Outcome #11

1. Outcome Measures
# of youth who demonstrate knowledge gains about natural resources management and/or biodiversity. (4.1.6b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Knowledge 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
102	Soil, Plant, Water, Nutrient Relationships
124	Urban Forestry
135	Aquatic and Terrestrial Wildlife
123	Management and Sustainability of Forest Resources

Outcome #12

1. Outcome Measures

# of agricultural/natural resources producers and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.1c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2000	601

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
124	Urban Forestry
125	Agroforestry
135	Aquatic and Terrestrial Wildlife
123	Management and Sustainability of Forest Resources
102	Soil, Plant, Water, Nutrient Relationships
104	Protect Soil from Harmful Effects of Natural Elements

Outcome #13

1. Outcome Measures

# of organization and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.2c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	200	286

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
104	Protect Soil from Harmful Effects of Natural Elements
123	Management and Sustainability of Forest Resources
124	Urban Forestry
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
135	Aquatic and Terrestrial Wildlife
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships

Outcome #14

1. Outcome Measures
# of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.3c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	200	402

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
132	Weather and Climate
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
123	Management and Sustainability of Forest Resources
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
104	Protect Soil from Harmful Effects of Natural Elements
135	Aquatic and Terrestrial Wildlife

Outcome #15

1. Outcome Measures

# of communities documented to have thoroughly assessed the status of their natural resources. (4.1.3d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	21

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
104	Protect Soil from Harmful Effects of Natural Elements
102	Soil, Plant, Water, Nutrient Relationships

Outcome #16

1. Outcome Measures

# of producers, businesses, local governments, organizations, landowners, and individuals collaborate to develop and implement natural resources management strategies. (4.1.3e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

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
134	Outdoor Recreation
123	Management and Sustainability of Forest Resources
135	Aquatic and Terrestrial Wildlife
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
132	Weather and Climate
104	Protect Soil from Harmful Effects of Natural Elements
124	Urban Forestry
125	Agroforestry

Outcome #17

1. Outcome Measures
# of consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.4c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3500	8825

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
135	Aquatic and Terrestrial Wildlife
125	Agroforestry
102	Soil, Plant, Water, Nutrient Relationships
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
101	Appraisal of Soil Resources
104	Protect Soil from Harmful Effects of Natural Elements
123	Management and Sustainability of Forest Resources
124	Urban Forestry
134	Outdoor Recreation

Outcome #18

1. Outcome Measures

# of teachers and youth professionals and volunteers who incorporate natural resources management and/or biodiversity knowledge into curriculum. (4.1.5c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	750	689

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
102	Soil, Plant, Water, Nutrient Relationships
135	Aquatic and Terrestrial Wildlife
124	Urban Forestry

Outcome #19

1. Outcome Measures

# of youth documented to have modified existing practices and/or adopted new practices to protect/enhance natural resources and/or enhance biodiversity. (4.1.6c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1250	2303

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
135	Aquatic and Terrestrial Wildlife
102	Soil, Plant, Water, Nutrient Relationships
123	Management and Sustainability of Forest Resources
104	Protect Soil from Harmful Effects of Natural Elements

Outcome #20

1. Outcome Measures
# of youth introduced to variety of environmental and natural resources career options. (4.1.6d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20000	8531

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
124	Urban Forestry

123	Management and Sustainability of Forest Resources
135	Aquatic and Terrestrial Wildlife
134	Outdoor Recreation

Outcome #21

1. Outcome Measures

Human Dimensions Inquiry to Improve Community-based Wildlife and Natural Resources Management

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Community-based natural resources management has not been applied widely in the Northeast US. Based on implementation elsewhere, however, it shows potential to be able to address complex Northeastern natural resource management problems related to locally-abundant wildlife, human risk issues, and species restoration challenges. This project is improving understanding of the potential for community-based management in New York and the Northeast.

What has been done

We have added to the knowledge base of decision makers by using spatial analyses to show that human-wildlife interactions tend to cluster in exurban land uses and to some extent in suburban areas, and that perceptions of interactions with wildlife in general are positive but tend to be more indifferent or negative when respondents are asked to consider specific species around their property or home. Specific programs developed with this knowledge have been highly successful in integrating new approaches to understanding the dynamic between humans and wildlife interactions and create intervention strategies.

Results

The NYSDEC adapted a state-wide black bear-related outreach effort based on our research and the Woodstock Environmental Association adapted community-wise black bear-related outreach efforts. The skills developed during training and through ongoing consultations enabled commission staff to better work with local communities on contentious wildlife management issues. Findings from the coyote inquiry have been used by the DEC as they consider revisions to their coyote management protocol. Cooperative Extension and the local parks department may use the results to assist with their communication with the public. Our work influenced the St. Regis Mohawk Tribe Environmental Division in developing an Integrated Resource Management Plan, and helped the Wildlife Conservation Society's Adirondack Communities and Conservation Program establish priorities. Our research and consultation services were used by Cornell University to design an impacts-management approach to deer management on Cornell lands, enabling the university to proceed with deer management actions and improving university-community relationships.

4. Associated Knowledge Areas

KA Code	Knowledge Area
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
135	Aquatic and Terrestrial Wildlife
134	Outdoor Recreation

Outcome #22

1. Outcome Measures

Gourmet and Medicinal Mushroom Production for Forest Farming in the Northeast

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Forest farming, including production of specialty forest mushrooms, is an economically and ecologically sustainable agroforesty system, well suited to the Northeast, with demonstrated potential for improving the value of forest resources through production of food, medicinals and ornamentals, while providing incentives for effective private forest management and environmental conservation. Forest log-grown Shitake mushrooms sell for two to eight times more per pound than the more widely available version grown in commercially prepared wood products.

What has been done

This project examines methods for increasing the reliability and profitability of forest mushroom production by developing best management practices involving selection of suitable fungal species, appropriate wood substrate species and cultural practices for mushroom production.

Results

Based on experimental data analyzed in the fall of 2007, we are able to draw the following tentative conclusion / recommendations: 1) During the first growing season Shiitake mushrooms fruit well on red oak, red maple, and beech, but not at all on aspen; 2) Moisture loss was least for red oak and aspen, and almost twice as great from red maple and beech;.3) The failure of Shiitake to grow on aspen is notable, and if it holds up during the 2nd fruiting season, it will be an important recommendation (avoid aspen).;4) While mushroom production on red maple and beech is comparable to red oak, greater moisture loss suggests that red maple and beech will not perform as well during subsequent growing seasons. These conclusions and recommendations will be presented at several workshops during spring 2008. In addition, a web site is under development to foster communication and information among growers and those who aspire to develop gourmet forest mushroom business.

4. Associated Knowledge Areas

KA Code	Knowledge Area
125	Agroforestry
123	Management and Sustainability of Forest Resources

Outcome #23

1. Outcome Measures

CommuniTree Stewards

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Onondaga County lost thousands of trees in the 1998 Labor Day storm. This event was a wake up call that galvanized the community to develop more sound and sustainable urban and community forestry management. Community forests have been losing ground for decades as cash strapped municipalities have removed more trees than they have planted. Municipal budgets often neglect funding for planting trees, or if trees are planted, budgets do not include funds for the care that will assure structurally sound, healthy trees.

What has been done

CCE Onondaga created their Urban and Community Forestry Program to address increased demand for technical information to develop management plans and to assure good tree care for urban forest health. The Community Tree Buying Program is an initiative developed to replace trees lost to attrition as well as storm events such as the Labor Day Storm. It is a cooperative bulk bare root tree purchase coordinated by CCE Onondaga. The Bare Root tree planting method for increasing community forests was developed at the Urban Horticulture Institute at Cornell University.

Results

Since 2001, 2,312 trees have been purchased through the Community Tree Buying Program by 33 agencies, neighborhood groups and municipalities. Since 2002, 125 CommuniTree Steward volunteers have received training and donated almost 5,000 hours caring for hundreds new trees in parks and along streets of Onondaga County communities. This year, the CommuniTree Stewards reached a new level of program maturity. Sixty percent of volunteers in 2007 were program veterans. This commitment by participants has allowed CCE to ask volunteers to work more independently and assume more leadership. Stewards watered 100 newly planted bare root trees weekly in 5 parks sharing minimal equipment with minimal supervision. Thirty seven Veterans of the annual bare root tree planting were crew leaders for over 100 volunteers planting 175 bare root trees dispersed throughout neighborhoods this November. Bare-root Tree planting technology, municipal support and GIS made these efforts hugely successful. Provide the knowledge, tools and structure, then get out of the way.

4. Associated Knowledge Areas

KA Code	Knowledge Area
124	Urban Forestry

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

See plan.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Case Study

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Example results from impact statements:

The NYSDEC adapted a state-wide black bear-related outreach effort based on our research and the Woodstock Environmental Association adapted community-wise black bear-related outreach efforts.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

- Methods for increasing the reliability and profitability of forest mushroom production are identified.
- 2,312 trees have been purchased through the Community Tree Buying Program by 33 agencies, neighborhood groups and municipalities.

Program #11

V(A). Planned Program (Summary)

1. Name of the Planned Program

5.1 Youth in Action

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
806	Youth Development	100%		100%	
	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	12.8	0.0	0.0	0.0
Actual	81.3	0.0	0.6	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
357168	0	46721	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
357168	0	46721	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
3849105	0	12979	0

2. Institution Name: NY State Agricultural Experiment Station

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

A variety of educational strategies will be used to help county educators gain the skills and knowledge necessary to fully understand and differentiate between the range of possibilities that exist within the YCA initiative. As a result, youth development professionals will be able to identify what they are already doing well, notice if there are any gaps within their programs, and enhance existing programs. Provided with evaluation 'tools' they will be able to evaluate organizational readiness to embrace the YCA concept, and measure their success in working with groups

Guided trainings and successful implementation of the process at the county level will increase the numbers of Youth /Adult partnerships; will result in the development of strong community action initiatives, and ultimately policy changes within communities. Provided such a diverse range of educationalstrategies, educators will be able to select those methods that work best for them, and realize the benefits and value in establishing youth/adult partnerships.

County, District and Statewide workshops; news articles; web page trainings; spotlighting successful programs, and critical evaluation offer opportunities for skills development and sharing of work being done. Good evaluation data provides a powerful reporting mechanism that can be used to persuade members of the legislature to provide funding to county and state programs. It can also generate scholarly publications and reviews.

2. Brief description of the target audience

•Youth 5 – 21 years of age and adults. •Youth, 5- 19 year of age are the targeted 4-H / non 4-H youth audiences •19 – 21 year olds are college students who work well with younger youth and serve as mentors and role models. They will gain personally and professionally from YCA efforts. •Adults (21+), of any age, ethnicity, religion, etc. They choose to serve as guides for the process, and are a very important part of any youth/adult driven project. •Communities as whole: educating / informing youth and adults organizations, businesses, schools, and other institutions, to create the paradigm shift necessary to realize the value of youth and adults working together to build 'community'.

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	750	4500	5000	45000
2007	24005	2412770	29255	1539237

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	4

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program

Year	Target	Actual
2007	0	4485

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2007	0	84594

Output #3

Output Measure

- # of youth participating in education programs leading to youth community action intitiatives. (5.1.1a)

Year	Target	Actual
2007	0	0

Output #4

Output Measure

- # of youth participating in train-the-trainer programs related to youth community action. (5.1.1b)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

- # of adults participating train-the-trainer programs related to youth community action. (5.1.1c)

Year	Target	Actual
2007	0	0

Output #6

Output Measure

- # of communities participating in youth community action initiatives. (5.1.1d)

Year	Target	Actual
2007	0	0

Output #7

Output Measure

- # refereed publications directed to this program.

Year	Target	Actual
2007	0	4

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of youth and adults demonstrating knowledge gains related to Youth/Adult Partnerships and Youth Community Action Initiatives. (5.1.1d)
2	# of youth documented to have practiced life skills necessary to meet challenges of adolescence and adulthood in authentic decision-making partnerships with adults as a result of participating in the program. (5.1.1e)
3	# of adults documented to have knowledge, skills and abilities and behaviors necessary to assist youth developing into productive community members as a result of participating in the program. (5.1.1f)
4	# of documented instances in which youth and adults partner to improve quality of life within a community as a result of participating in the program. (5.1.1g)
5	4-H Teen Ambassadors Address Breast Cancer Awareness
6	School Violence
7	Education for Adjudicated Youth

Outcome #1

1. Outcome Measures

# of youth and adults demonstrating knowledge gains related to Youth/Adult Partnerships and Youth Community Action Initiatives. (5.1.1d)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Knowledge 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
806	Youth Development

Outcome #2

1. Outcome Measures

# of youth documented to have practiced life skills necessary to meet challenges of adolescence and adulthood in authentic decision-making partnerships with adults as a result of participating in the program. (5.1.1e)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	4500	8524

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 #3

1. Outcome Measures

# of adults documented to have knowledge, skills and abilities and behaviors necessary to assist youth developing into productive community members as a result of participating in the program. (5.1.1f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	650	2869

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

# of documented instances in which youth and adults partner to improve quality of life within a community as a result of participating in the program. (5.1.1g)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	1456

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
4-H Teen Ambassadors Address Breast Cancer Awareness

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The incidence of breast cancer has continued to be a major health concern in New York State as well as Albany County. As the Albany County 4-H Teen Ambassadors were discussing ideas for community service, one teen brought up the need to raise awareness of the disease and hopefully teach women of all ages about the dangers of ignoring prevention techniques, and identified the opportunity to raise money for the American Cancer Society to help them in the fight against breast cancer.

What has been done

The Human Ecology Program of Cornell Cooperative Extension Albany County has conducted numerous programs related to breast cancer in the past. However, the 4-H Teen Ambassadors forged new territory by researching and implementing an activity that would educate the public as well as raise money for a worthy cause, a Mother/Daughter Tea.

Results

As a result of their efforts, the Teen Ambassadors raised $1775 which was donated to the American Cancer Society to help with the fight against breast cancer. The teens worked hard to forge positive relationships with area businesses and were very successful in soliciting donations for the silent auction. As a follow-up to the Tea, the teens were able to schedule the Bellevue Women's Hospital Mobile Mammography Van for a visit to the Cornell Cooperative Extension building in Voorheesville. This resulted in a total of 20 women receiving mammograms. One Teen Ambassador wrote an email to Anne Thompson of NBC News about her battle against breast cancer. The teen received a reply congratulating the group on their efforts. Ms. Thompson may become a key player in future endeavors. Within one month after the Tea, a Cornell Cooperative Extension employee was diagnosed with breast cancer. Due to the overwhelming success of the event, the teens are currently planning another Mother/Daughter Tea which is scheduled for April 6, 2008.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #6

1. Outcome Measures

School Violence

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In recent times, school violence has been gaining more and more media attention. Bullying, shooting, and suicide are all issues surrounding teens inhigh school and college. School administrators and teachers can only do so much. Students create a culture on their own in the hallways, bathrooms, busses, playgrounds, and when adults are not watching. This culture is fraught with violent words, behaviors, and actions. Young people sometimes learn to be violent in order to be heard by the media and by some adults.

What has been done

CCE of Rockland County initiated the 'R Peace' program designed to empower the students to change school culture with the help of their adult allies. The program gives students the opportunity to develop their voice, hear each other, and work together to create a culture that will be more tolerant and safe for all students in schools and communities. This four day training program gives students a vioce in the issues as well as allows them to take charge and make a difference.

Results

Students who have been part of the program have developed a sense of confidence as well as skills in leadership. Three students have joined the Rockland County Youth Council; two have joined schools clubs; three have led workshops on issues of diversity, leadership and cultural sensitivity; 15 students report that they hold their friends accountable for things they say; six students have volunteered with the homeless. Since 'R Peace' students who joined have been more connected to the resources within the county. Some students have sought out opportunities within their schools and communities to make a difference, while others have make personal commitments to disengage in violent situations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #7

1. Outcome Measures

Education for Adjudicated Youth

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Adjudicated youth 13-17 years require learning similar to that they would receive in their home school districts, and need opportunity to build confidence and skills that can facilitate their survival and success upon returning to their school districts and the outside world.

What has been done

Stewards of America's Resources (Project SOAR) which is also the Juvenile Day Reporting Center (JDRC) for Suffolk County is an alternative secondary school. Along with four academic courses in Social Studies, English Language Arts, Life Science, and Mathematics Project SOAR students are also involved in many hands-on environmental and agricultural initiatives. The program currently runs a student lead market garden and market stand. Students are responsible for the planning, implementing and marketing of produce raised on the Suffolk County Farm.

Results

In terms of academics, five students were able to pass their Global Studies II Regents exam and two where able to pass there Math A Regents exam. On an administrative level, JDRC students with handicapping conditions are now provided paid services by their home school districts according to their handicapping conditions. Project SOARJDRC became involved in a partnership with the Riverhead School District to supply a free lunch program for our students. We are working in cooperation with the home school districts in supplying textbooks for our students as well. Payment for these texts will be the responsibility of each student's school district.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

See plan.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Case Study

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

- Teen Ambassadors raised $1775 which was donated to the American Cancer Society to help with the fight against breast cancer.
- Students have sought out opportunities within their schools and communities to make a difference, while others have make personal commitments to disengage in violent situations.

Program #12

V(A). Planned Program (Summary)

1. Name of the Planned Program

5.2 Positive Youth Development/Life Skill 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
806	Youth Development	100%		100%	
	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	46.5	0.0	0.5	0.0
Actual	309.0	0.0	0.0	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1357238	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1357238	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
14626598	0	0	0

2. Institution Name: NY State Agricultural Experiment Station

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 Youth Development Staff are recruited with Youth Development experience including an understanding in helping youth develop competencies or life skills. New professionals are introduced to 4-H youth development's system of developing life skills in youth through professional development opportunities using resources such as 4-H 101 and Advancing Youth Development. Staff and volunteers are trained in the use of the NYS 4-H Resource Directory to acquire approved curriculum throughout the nation to teach life skills to 4-H members based on their subject matter interests.

Volunteers in 4-H Youth Development are carefully recruited, screened and selected based on roles needed to promote life skill development in youth. Volunteers, including professional staff from other community agencies and schools, are trained, supported and evaluated to ensure understanding and ability to develop youth and life skills.

Trained 4-H Staff, teachers, community agency staff, volunteers, and teens lead youth in 4-H projects, which are a planned series of learning experiences through which youth develop knowledge, practical skills (woodworking, gardening, cooking, etc.) and life skills (decision-making, self-discipline, leadership, etc.) in a variety of settings. The development of life skills builds assets that promote positive learning and prepare young people for work and adult responsibilities. Statewide, regional, and county events are structured to showcase 4-H project work, to recognize 4-H youths accomplishments and to allow 4-H participants opportunities for developing mastery, independence, generosity and belonging.

2. Brief description of the target audience

There are four distinct audiences. The youth development educator is professional or paraprofessional staff employed by Cornell Cooperative Extension. The adult volunteer / leader accepts a role defined by a written volunteer position, does not receive compensation for work, and works directly with young people. The 4-H participant is a young person between the ages of 5 and 19 who chooses to participate in the program. The youth development educator / worker within the community works directly with young people and may or may not have formal training in the area of education or youth development.

Youth development educators must understand and be able to apply the intentional process that promotes positive outcomes for young people by providing support, relationships, and opportunities. Additionally, it is necessary for educators to have training and support in how to incorporate research findings process into program design. The adult volunteer leader must be trained in youth development principles and practices to ensure that the program creates positive opportunities for young people to reach their full potential. Young people must have an active voice in program determination, implementation, evaluation, and policy development. The front line youth worker is provided training in the core concepts of a youth development approach and its implications for youth work practice.

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	12000	60000	65000	90000
2007	50302	5183830	117695	2630287

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	8

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	54162

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2007	0	577910

Output #3

Output Measure

- # funded applied research projects directed to this program.

Year	Target	Actual
2007	1	0

Output #4

Output Measure

- # of youth program educators and adult volunteers participating in programs on positive youth development. (5.2.1a)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

- # of youth participating in projects related to vocational skills and/or citizenship. (5.2.1b)

Year	Target	Actual
2007	0	0

Output #6

Output Measure

- # refereed publications directed to this program.

Year	Target	Actual
2007	2	8

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of youth participants who demonstrate gains in vocational/citizenship skills – knowledge, attitudes, and/or behaviors. (5.2.1c)
2	# of youth participants who learn to set goals, make plans and identify resources to achieve goals. (5.2.1d)
3	# of youth program educators and adult volunteers who demonstrate knowledge and/or skill gains in meeting the needs of youth at various stages of development. (5.2.1e)
4	# of youth participants who demonstrate ability to express their ideas confidently and competently. (5.2.1f)
5	# of adult volunteers documented to mentor and advise youth and other adult volunteers in an effective and positive manner. (5.2.1g)
6	# of youth participants documented as serving in age-appropriate leadership roles. (5.2.1h)
7	# of youth organizations/programs documented as reflecting youth needs, interests, and excitement for learning. (5.2.1i)
8	Reproductive Health Among Youth: Intergenerational Communication, Healthy Families and Community Engagement
9	Social Aggression in Adolescent Girls: Bystander Behavior and the Development of Moral Integrity and Action
10	Youth Employment Success
11	Strengthening Families Program for Parents and Youth

Outcome #1

1. Outcome Measures

# of youth participants who demonstrate gains in vocational/citizenship skills – knowledge, attitudes, and/or behaviors. (5.2.1c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
806	Youth Development

Outcome #2

1. Outcome Measures

# of youth participants who learn to set goals, make plans and identify resources to achieve goals. (5.2.1d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
806	Youth Development

Outcome #3

1. Outcome Measures

# of youth program educators and adult volunteers who demonstrate knowledge and/or skill gains in meeting the needs of youth at various stages of development. (5.2.1e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
806	Youth Development

Outcome #4

1. Outcome Measures

# of youth participants who demonstrate ability to express their ideas confidently and competently. (5.2.1f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30000	34540

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

# of adult volunteers documented to mentor and advise youth and other adult volunteers in an effective and positive manner. (5.2.1g)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	16000	15897

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

# of youth participants documented as serving in age-appropriate leadership roles. (5.2.1h)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2500	7075

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
# of youth organizations/programs documented as reflecting youth needs, interests, and excitement for learning. (5.2.1i)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	450	1959

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

Reproductive Health Among Youth: Intergenerational Communication, Healthy Families and Community Engagement

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Reproductive health, effective decision-making about alcohol and drug use, and strong networks of support are essential in rural communities for social welfare policies and programs to be effective. According to the CDC, six preventable behaviors are related to most of the serious illnesses and premature deaths in the US. Sexual behaviors that result in HIV infection, other STDs, and unintended pregnancies are prominently included. This project seeks to reduce risky behaviors and advance healthy life styles among adolescents, while improving intergenerational communication.

What has been done

This project focuses on advancing healthy lifestyles, safety, and wellness; strengthening family supports across the life course, and reducing stress and violence through its intergenerational communication emphasis. In addition, it defines and applies principles of positive youth development by applying youth community action models and methods.

Results

Youth Councils in two site communities were visited and presentations including preliminary results of the study were shared. Questions from the council members and citizens attending the meetings were discussed. Selected youth professionals were invited to complete one of the adult surveys, incorporating and sharing their experience and knowledge of the youth in these two communities around reproductive health, pregnancy, HIV/AIDS/STD infection rates, and the use of alcohol, tobacco and other drugs. As local communities become increasingly responsible for the well-being of their citizens and federal and state governing bodies systematically divest themselves of these financial obligations, rural communities are finding fewer resources to facilitate research, and the development and implementation of programs targeted to ensure the health and safety of their children. The impact of HIV/AIDS transmission for youth and adults in rural communities is enormous. This research has developed adapted and evaluated strategies that specifically address adult/youth connectedness, teen/parent communication, reproductive health, risk and protective factors in the prevention of HIV/AIDS/STDs, and community engagement in these efforts.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #9

1. Outcome Measures

Social Aggression in Adolescent Girls: Bystander Behavior and the Development of Moral Integrity and Action

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Violence is an undercurrent in schools that manifests itself in myriad ways resulting in school dropouts, lower academic achievement, depression, physical abuse, acting out in classes, and drug and alcohol use and abuse. The Journal of the American Medical Association (2001) reports 35 percent of girls in grades sixth through tenth grade are bullied in schools. Results of social aggression include anorexia, bulimia, depression, anxiety, school phobia, low self-esteem, and suicide. Understanding girls' social aggression is a critical gap for educators, advocates and others who play a role in girls' lives and for the girls who are victims.

What has been done

This project examines all the participants in the social context of bullying, and especially bystanders, which most literature on bullying does not address. This research explores the roles people play in relational aggression situations, their behavior in the context of aggression, and how girls develop the life skills, inner strength and integrity to engage in pro-social actions to help rather than harm one another. This year we added a component to the research to examine mothers' role in how girls perceive and respond to situations of relational aggression.

Results

The impact of this research is both practical and theoretical. No model in moral psychology has proposed an intersectionality model of moral emotion, moral self, moral judgment, and moral action, as well as metacognition, intuition, school climate, and parental influences. This study is designed to make those theoretical connections. Our findings to date suggest an important influence of mothers' past and current experiences with relational aggression in their daughters' perceptions. We continue to explore mothers' role via a survey that was developed and disseminated to mothers in the local community. Next, specific modes of intervention can be designed to protect girls from perceived threats, help them deal with actual threats, and to develop a stronger sense of self and moral behavior, including respect for others. Girls in our study are already gaining a sense of personal strength because they have a vocabulary and venue for talking about issues they thought were their own private problems. And, as girls begin to understand the way the social world influences their behavior, they gain a greater sense of self and are not so easily manipulated by others.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #10

1. Outcome Measures

Youth Employment Success

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Youth with developmental or phsical limitations have challenges in obtaining and retaining unsubsidized employment.. Many lack necessary skills expected by employers such as integrity/honesty, participating as a team member, personal appearance/hygiene, listening, social, responsibility, self-esteem, writing, speaking, and customer service.

What has been done

Youth Employment Success (YES!) of CCE Saratoga County offers a variety of programs including: Goal Setting, Working with Fractions, Running a Restaurant, Tying a Tie, Women's Personal Safety and Self-Defense, Study Skills, Time Management, Using a Dictionary, Homework Club (Tutoring), 'Stretching Your Paychecks' as well as a Saturday Book Club. 75% of current members fall along the autism spectrum and 90% have a recognized learning disability. Other barriers include foster care, physical disabilities, low socio-economic status, and probation.

Results

Local school districts have reported that 22 of the 24 participating youth deemed deficient in these skills raised their reading and/or math level by half a grade level over the last school year, three youth graduated high school, and six youth enrolled in post-secondary education for the fall 2007 semester. YES! Saratoga County has helped them with dictionaries, school supplies and tutoring help. Participants, now, willingly share their love of learning with members of other programs as a community service. Throughout this past year, YES! youth presented classes and offered community service to various Saratoga County programs, including the Department of Probation, Department of Employment and Training, Foster Care Services, and the Department of Environmental Conservation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #11

1. Outcome Measures

Strengthening Families Program for Parents and Youth

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Child management skills, parent-child relationships and family communication are challenges for many families, particularly those with youth in the challenging 10-14 year range. The Jefferson County Department of Social Services identified particular need for strength-based approaches that would decrease out-of-home placements.

What has been done

CCE Jefferson County received funding to offer the Strengthening Families Program for Parents and Youth 10-14. The program was based on Project Family, a research endeavor of the Institute for Social and Behavioral Research at Iowa State University. Long range goals are reduced substance use and behavior problems during adolescence. Intermediate objectives include improved skills in nurturing and child management by parents and improved interpersonal and personal competencies among youth.

Results

Forty youth in need of PINS diversion services due to conflicts and inappropriate behaviors in school, the community and within their families have demonstratee that they have learned the need to follow established rules and standards of the environments in which they find themselves everyday as evidenced by a 50% decrease in such behavior as reported by pre-post evaluations, case notes and anecdotal information and demonstrated a 50% increase in participation in positive youth development activities. Forty parents of youth who are in need of PINS diversion services demonstrated improved child management practices, including establishing rules, monitoring, effective communication and constructive use of their youth's extracurricular time as evidenced by a 60% increase in such practices as reported by pre-post evaluations, case notes and anecdotal information.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

See plan.

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

1. Evaluation Studies Planned

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

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

•

Developed, adapted and evaluated strategies that specifically address adult/youth connectedness, teen/parent communication, reproductive health, risk and protective factors in the prevention of HIV/AIDS/STDs, and community engagement in these efforts.

•

Use of moral psychology framework identified the important influence of mothers' past and current experiences with relational aggression in their daughters' perceptions.

Program #13

V(A). Planned Program (Summary)

1. Name of the Planned Program

5.3 Science and Technology Literacy

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
806	Youth Development	100%		100%	
	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	9.7	0.0	0.0	0.0
Actual	65.1	0.0	0.0	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
285734	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
285734	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
3079284	0	0	0

2. Institution Name: NY State Agricultural Experiment Station

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

This is a comprehensive, statewide educational program entailing a wide variety of applied research and multiple education methods depending on local context and need. Campus-based faculty and extension associates, the science and technology program work team, the NYSACCE4-HE professional development committee and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

Activities will include:

•Connecting kids to science and technology at Cornell University through programs at local Cornell Cooperative Extension associations, educational events at Cornell and by building relationships with Cornell Departments, faculty, staff and students.

•Enhancing and maintaining accessibility to hands-on science and technology curriculum that has a youth development basis and a connection to land grant universities through the NYS 4-H Resource Directory.

2. Brief description of the target audience

The target audiences for 4-H Science and Technology programming and curricula are youth in grades K-12 and adults who work with youth. These include, but are not exclusive of 4-H Leaders, 4-H Junior Leaders, and 4-H youth members, parents of 4-H members, adult leaders and the youth involved in after school and out-of-school-time programs, summer camp staff and youth campers, classroom teachers and their students in grades K-12, and leaders and youth in other youth serving organizations such as Scouts. Training one adult leader will result in a significant multiplier of youth who will participate in the activity from which their adult leader received training. This audience is reached directly though educational classes and workshops, individual consultations, group consultations and hands-on-curricula. These may be provided to youth or to their adult leaders. Additional contacts are made through newsletter articles highlighting curricula and curriculum reviews. The New York State 4-H Curriculum Resource Directory website provides and opportunity for any person to search for approved curricula in any Science and Technology topic, read a description of the curricula and then purchase it.

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	750	24000	35000	50000
2007	35091	3613870	91913	1713247

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	2

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	25855

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2007	0	489495

Output #3

Output Measure

- # funded applied research projects directed to this program.

Year	Target	Actual
2007	0	0

Output #4

Output Measure

- # of 4-H members enrolled in Science and Technology project areas (as reported on ES-237). (5.3.1a)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

- # of youth reached through school enrichment and special interest programs coded as science and technology related (as reported on ES-237). (5.3.1b)

Year	Target	Actual
2007	0	0

Output #6

Output Measure

- # refereed publications directed to this project.

Year	Target	Actual
2007	0	2

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of members/participants who choose science/technology related college majors/careers. (5.3.1g)
2	# of participants demonstrating knowledge or skill gains related to science and technology. (5.3.1c)
3	# of participants that report improved success in school science and/or increased interest in science and technology. (5.3.1d)
4	# of members/participants who report participating in new science/technology related activities (Career Exploration workshops, Special Interest offerings, school science clubs, etc.). (5.3.1e)
5	# of youth documented to become contributing participants in sci/tech related issues in their communities and/or choose sci/tech related professions and who attribute same at least in part to involvement with the program. (5.3.1f)
6	Science and Technology Education for Incarcerated Youth
7	Science and Math for Middle School Girls
8	Strengthening Elementary Science Education

Outcome #1

1. Outcome Measures

# of members/participants who choose science/technology related college majors/careers. (5.3.1g)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
806	Youth Development

Outcome #2

1. Outcome Measures

# of participants demonstrating knowledge or skill gains related to science and technology. (5.3.1c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
806	Youth Development

Outcome #3

1. Outcome Measures

# of participants that report improved success in school science and/or increased interest in science and technology. (5.3.1d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	12000	63548

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

# of members/participants who report participating in new science/technology related activities (Career Exploration workshops, Special Interest offerings, school science clubs, etc.). (5.3.1e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7500	32045

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

# of youth documented to become contributing participants in sci/tech related issues in their communities and/or choose sci/tech related professions and who attribute same at least in part to involvement with the program. (5.3.1f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
806	Youth Development

Outcome #6

1. Outcome Measures

Science and Technology Education for Incarcerated Youth

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Incarcerated NYC students' science and technology educational needs are not being met, in accordance with the NYS Regents' standards and requirements. In response, a new methodology that focuses on an inquiry and experiential based learning approach to science is being employed. This hands-on approach may more effectively engage youth in the learning process thus strengthening the potential for increased knowledge, skills, test scores, and graduation rates.

What has been done

The Hydroponics Learning Model (HLM) initiative for incarcerated youth at Island Academy and Horizon Academy high schools, located at the Riker's Island Prison, reaching over 280 students, improving their test scores, attitudes, skills, and knowledge of the sciences and technologies while preparing for their GED test. Teachers were instructed in the use of Hydroponics Learning Model (HLM) and Grow With The Flow (GWTF) curricula. The strategy is to introduce, enrich and enhance inquiry, experiential and science-based learning for science and technology.

Results

The program was expanded in both high schools reaching and impacting over 400 students. This was accomplished through the delivery of professional development in the form of a three-day intensive training program in the HLM curriculum of twelve additional science teachers from both high schools at Rikers Island. The program will be further expanded to most of the other sectors of the Rikers Island Prison community during the new program year (2007/2008). Evaluation data indicates that approximately 90% of the teachers' comfort level in the development and implementation of situation-based learning is improved using the HLM Program, which is multi-disciplinary and multi-faceted. These integrated and applied science strategies are expected to improve the sciences and technology skills of students who are performing below expected grade level, and potentially improve their scores.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #7

1. Outcome Measures
Science and Math for Middle School Girls

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The goal of Science and Math Pioneers is to encourage girls to study 4 years of upper level science and math in high school so they can increase their chance of acceptance into more prestigious colleges. Once in college, the girls are encouraged to study in those fields that will maximize their income level upon graduation. In Sullivan County, the percent of the population with an Associates or Bachelor's Degree is only 17% as compared to 27% in New York State.

What has been done

4-H School Programs delivered a seven-week program to 6 groups of girls in three school districts in Sullivan County. Activities addressed the needs of self-identity and understanding ones own personality type, leadership, risk taking, community service, famous women, goal setting, and how science and math are crucial subjects for success in careers of the 21st century. The program ended with a conference at Sullivan County Community College. 180 girls from seven school districts in the county attended the program that included 19 different workshops.

Results

Pretest results showed that only 15% of middle school girls were able to identify science and math as important for consideration for college admission. In the posttest given to participants in the Pioneers program, 98% correctly identified science and math. The ability to identify career clusters increased by threefold. By survey, before the program, girls identified an average of 4 types of careers, or fields of study. After, parrticipants were able to identify, on average, 12 different types of career paths. At the end of Pioneers, participating girls were able to identify three or more strategies that can be implemented to attain career advancement.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #8

1. Outcome Measures

Strengthening Elementary Science 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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Elementary teachers often could benefit from assistance with implementation of applied aspects of science and technology curricula needed to meet NYS Learning Standards. Incubation in the classroom provides students the opportunity to study the life cycle, conduct science experiments and have a visual link to one facet of agricultural production.

What has been done

The 4-H Incubation & Embryology program provided teacher training and incubation equipment to schools throughout Saratoga County. Cooperative Extension provided training, equipment and the hatching eggs for classrooms. In 2007 all all incubators were upgraded to new, modern, electronically controlled incubators increasing hatching rates by 75-80% and enhancing the experience for students.

Results

In 2007, 1,197 children and 79 teachers participated in the program. Students learn how life develops; that reproduction, birth, and growth are similar for all animals; to solve problems and make decisions using the scientific method; to apply new knowledge in answering questions; to perform specific skills such as reading a thermometer and candling an egg. Under the guidance of an extension educator the program enhances classroom teaching and assists teachers in meeting the NYS Learning Standards for their grade level. The teachers are afforded the opportunity to draw from the resources and expertise of Cornell Cooperative Extension in an area with which they may not be knowledgeable in or comfortable.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Public Policy changes
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

See plan.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

- Twelve science teachers from both high schools at Rikers Island correctional facility were instructed in a hydroponics lab curriculum.
- 180 parrticipants in a science and technology program for middle school girls were able to identify, on average, 12 different types of career paths.

Program #14

V(A). Planned Program (Summary)

1. Name of the Planned Program

4.2 Water Resources Management

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
112	Watershed Protection and Management	100%		100%	
	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	4.6	0.0	1.0	0.0
Actual	32.5	0.0	0.0	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
142867	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
142867	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1539642	0	0	0

2. Institution Name: NY State Agricultural Experiment Station

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

This is a statewide educational program entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

2. Brief description of the target audience

Residents and property owners are targeted with stewardship and water resources protection in their homes and on their properties. Businesses, organizations, and producers are targeted with information about reducing impacts of their operations. Local government and community leaders are targeted with information related to governmental management of water resources, such as land use planning. Environmental planners and managers and technical assistance providers are targeted with in-depth information related to their audiences/constituents. Teachers, youth professionals and volunteers are targeted with in-depth knowledge relevant to youth. Youth of all ages are provided with age and grade appropriate knowledge about water resources; activities to increase stewardship; and information about career opportunities.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	30000	250000	10000	15000
2007	20203	763283	5191	237830

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	38

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	2682

Output #2

Output Measure

- # non-credit instructional hours directed to this program.

Year	Target	Actual
2007	0	10834

Output #3

Output Measure

- # funded applied research projects directed to this program.

Year	Target	Actual
2007	2	0

Output #4

Output Measure

- # of agricultural/natural resources producers and business representatives completing educational programs on managing water resources. (4.2.1a)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

- # of organization and business representatives completing educational programs on managing water resources. (4.2.2a)

Year	Target	Actual
2007	0	0

Output #6

Output Measure

- # of local government officials and community leaders completing educational programs on managing water resources and the relationship between water resources and land use management. (4.2.3a)

Year	Target	Actual
2007	0	0

Output #7

Output Measure

- # of consumers, residents, and landowners completing educational programs on water resources protection. (4.2.4a)

Year	Target	Actual
2007	0	0

Output #8

Output Measure

- # of teachers and youth professionals and volunteers completing educational programs on water resources. (4.2.5a)

Year	Target	Actual
2007	0	0

Output #9

Output Measure

- # of youth completing educational programs on water resources protection. (4.2.6a)

Year	Target	Actual
2007	0	0

Output #10

Output Measure

- # refereed publications directed to this program.

Year	Target	Actual
2007	40	38

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of agricultural/natural resources producers and business representatives who demonstrate knowledge gains about managing water resources. (4.2.1b)
2	# of organization and business representatives who demonstrate knowledge gains about managing water resources. (4.2.2b)
3	# of local government officials and community leaders who demonstrate knowledge gains about managing water resources and the relationship between water resources and land use management. (4.2.3b)
4	# of consumers, residents, and landowners who demonstrate knowledge gains about water resources protection. (4.2.4b)
5	# of teachers and youth professionals and volunteers who demonstrate knowledge gains about water resources protection. (4.2.5b)
6	# of youth who demonstrate knowledge gains about water resources protection. (4.2.6b)
7	# of agricultural/natural resources producers and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.1c)
8	# of organization and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.2c)
9	# of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.3c)
10	# of communities documented to have thoroughly assessed the status of their water resources. (4.2.3d)
11	# of producers, businesses, local governments, organizations, landowners, and individuals that collaborate to develop and implement water resources management strategies. (4.2.3e)
12	# of consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.4c)
13	# of teachers and youth professionals and volunteers who incorporate water resources management knowledge into curriculum. (4.2.5c)
14	# of youth documented to have modified existing practices and/or adopted new practices to protect/enhance water resources. (4.2.6c)
15	# of youth introduced to variety of environmental and natural resources career options. (4.2.6d)
16	# of agricultural/natural resources producers and business representatives documented to have improved and/or protected water resources. (4.2.1d)
17	Documented instances in which resource managers credit Implementation of improved water resources management practices for lower costs for remediation. (4.2.2d)
18	# of communities documented to have established or modified land use and development policies to enhance and protect water resources. (4.2.3f)
19	# of youth documented to have chosen water resources-related careers. (4.2.6e)
20	Documented instances in which resource managers credit improved groundwater and surface water quality, decreased flooding, and/or decreased over-use of water supplies to implementation of improved water resources management practices. (4.2.7a)
21	Documented instances in which public health officials credit decreased public health risks to implementation of improved water resources management practices. (4.2.7b)
22	# consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.4d)
23	Optimizing Reduced Tillage Systems for Vegetables for Better Soil Quality and Less Erosion
24	Lake Neatahwanta Reclamation Project
25	Water Quality Awareness with Geographic Information Technology

Outcome #1

1. Outcome Measures

# of agricultural/natural resources producers and business representatives who demonstrate knowledge gains about managing water resources. (4.2.1b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
112	Watershed Protection and Management

Outcome #2

1. Outcome Measures

# of organization and business representatives who demonstrate knowledge gains about managing water resources. (4.2.2b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
112	Watershed Protection and Management

Outcome #3

1. Outcome Measures

# of local government officials and community leaders who demonstrate knowledge gains about managing water resources and the relationship between water resources and land use management. (4.2.3b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
112	Watershed Protection and Management

Outcome #4

1. Outcome Measures

# of consumers, residents, and landowners who demonstrate knowledge gains about water resources protection. (4.2.4b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
112	Watershed Protection and Management

Outcome #5

1. Outcome Measures

# of teachers and youth professionals and volunteers who demonstrate knowledge gains about water resources protection. (4.2.5b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
112	Watershed Protection and Management

Outcome #6

1. Outcome Measures

# of youth who demonstrate knowledge gains about water resources protection. (4.2.6b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Knowledge 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
112	Watershed Protection and Management

Outcome #7

1. Outcome Measures
# of agricultural/natural resources producers and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.1c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3500	376

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 #8

1. Outcome Measures

# of organization and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.2c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	750	102

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 #9

1. Outcome Measures

# of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.3c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	175	107

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 #10

1. Outcome Measures

# of communities documented to have thoroughly assessed the status of their water resources. (4.2.3d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	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
112	Watershed Protection and Management

Outcome #11

1. Outcome Measures

# of producers, businesses, local governments, organizations, landowners, and individuals that collaborate to develop and implement water resources management strategies. (4.2.3e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

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
112	Watershed Protection and Management

Outcome #12

1. Outcome Measures
# of consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.4c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7500	2439

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 #13

1. Outcome Measures

# of teachers and youth professionals and volunteers who incorporate water resources management knowledge into curriculum. (4.2.5c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	200	470

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 #14

1. Outcome Measures

# of youth documented to have modified existing practices and/or adopted new practices to protect/enhance water resources. (4.2.6c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2000	2058

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 #15

1. Outcome Measures

# of youth introduced to variety of environmental and natural resources career options. (4.2.6d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25000	1893

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 #16

1. Outcome Measures

# of agricultural/natural resources producers and business representatives documented to have improved and/or protected water resources. (4.2.1d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1750	267

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 #17

1. Outcome Measures

Documented instances in which resource managers credit Implementation of improved water resources management practices for lower costs for remediation. (4.2.2d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
112	Watershed Protection and Management

Outcome #18

1. Outcome Measures

# of communities documented to have established or modified land use and development policies to enhance and protect water resources. (4.2.3f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	34

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management

Outcome #19

1. Outcome Measures
# of youth documented to have chosen water resources-related careers. (4.2.6e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition 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
112	Watershed Protection and Management

Outcome #20

1. Outcome Measures

Documented instances in which resource managers credit improved groundwater and surface water quality, decreased flooding, and/or decreased over-use of water supplies to implementation of improved water resources management practices. (4.2.7a)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
112	Watershed Protection and Management

Outcome #21

1. Outcome Measures

Documented instances in which public health officials credit decreased public health risks to implementation of improved water resources management practices. (4.2.7b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
112	Watershed Protection and Management

Outcome #22

1. Outcome Measures

consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources. (4.2.4d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3500	916

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 #23

1. Outcome Measures

Optimizing Reduced Tillage Systems for Vegetables for Better Soil Quality and Less Erosion

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Common agricultural tillage practices on vegetable farms reduce soil quality and contribute to soil losses to surface water. Increasing costs of fuel and declining soil quality are driving many vegetable growers in the Northeast to examine reduced tillage systems. This project is examining alternative ways of tilling the soil to improve soil health and reduce soil loss.

What has been done

In 2007, researchers tested and demonstrated several strategies to help farmers transition to reduced tillage systems without yield losses. Deep zone tillage, which involves some deep vertical tillage underneath a 4 to 6 inch zone tilled band, has been established as the most suitable system for most large seeded vegetable crops and transplanted cool season crops. A long term trial, now in the fourth year, evaluated zone till, strip till and plow till treatments with three weed control regimes as subplots. New tillage tools have been developed to improve conditions for direct seed crops in these systems.

Results

By modifying deep zone tillage finishing equipment, we demonstrated that we can improve seedbed and create suitable conditions for more difficult-to-establish small seeded crops. New equipment will be tested in 2008. Organic reduced tillage in vegetables is possible, but yields of warm season crops may be reduced. Organic cabbage yielded similarly in both deep zone and conventional tillage systems in the first year of trials. Organic pepper crops, however, had lower yields. In addition to these replicated trials, 11 on farm grower demonstrations compared deep zone to conventional tillage. Five field days highlighted grower experiences and challenges. Since the start of this project, 20 growers have purchased or built equipment to reduce tillage intensity. Outreach efforts included a fact sheet on Zone Tillage to help growers understand the basics of this reduced tillage method. A team of researchers and growers built two, 2-row zone tillage implements, which were used extensively for demonstration during 2007 field meetings and used by growers to test out zone tillage method on their farms. Future research will focus on systems for organic and small seeded crops.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management

Outcome #24

1. Outcome Measures

Lake Neatahwanta Reclamation Project

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Lake Neatahwanta is highly eutrophic and is in need of nutrient reductions in order to improve its water quality. Runoff from agricultural land is one source of nutrients entering the lake. Agricultural landowners as well as local community members need to fully understand what is happening in the lake and individual responsibilities regarding water quality.

What has been done

Cooperative Extension has acted as the lead agency in coordinating and ensuring the success of the Lake Neatahwanta Reclamation Project. The Project is a program that increases community awareness of water quality issues and also provides financial assistance to agricultural producers in the Lake Neatahwanta watershed to install best management practices that improve water quality. Extension activities include recommending and certifying completion of BMPs on agricultural properties in the watershed that will reduce the nutrient and sediment loadings.

Results

Five agricultural landowners in the Lake Neatahwanta watershed are currently involved in the project. On these five properties, there are a total of 50 projects that have been approved for implementation and 14 of these already have been finished. The 14 projects that were completed this year will result in the prevention of over 10 tons of sediment entering surface water in the watershed this year, and over the life of the projects over 200 tons of sediment will be saved. In addition to projects focused on sediment removal there are eight completed projects that deal primarily with removal of excess nutrients from the watershed.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management

Outcome #25

1. Outcome Measures

Water Quality Awareness with Geographic Information Technology

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many waterbodies in Cayuga County are listed on the 1996 Priority Waterbodies List for impacts such as nutrient loading and other pollutants. These impacts can impair drinking water, recreational uses such as boating and swimming as well as aesthetic values. Geographic Information Technology (GIT) has the ability to track pollutants and trends within a watershed. However this technology has many barriers including knowledge and interest that can be difficult to overcome for many segments of the population.

What has been done

Cornell Cooperative Extension of Cayuga County collaborated with a local elementary school teacher to engage 5th grade students in a hands-on, interdisciplinary lesson involving GIT (including geographic information systems or GIS and global positioning systems or GPS), water quality and community action by monitoring the Seneca River watershed located in Cayuga County. In addition, students shared their knowledge and concerns of water quality with the community by writing letters to the local water quality management agency, local news papers, and school newsletters.

Results

Sixty-five fifth grade students enhanced their mathematical, science and technology skills by collecting and analyzing data obtained through GPS units and GIS. More specifically students learned what a watershed is and how it can be affected by pollutants as well as how to apply their knowledge of GPS units and GIS to their local watershed. Approximately 12,000 County residents increased their knowledge on water quality.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and 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

Brief Explanation

See plan.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Case Study

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

- 14 watershed protection projects completed this year will result in the prevention of over 10 tons of sediment entering surface water in the watershed this year, and over the life of the projects over 200 tons of sediment will be saved.
- By modifying deep zone tillage finishing equipment, we demonstrated that we can improve seedbed and create suitable conditions for more difficult-to-establish small seeded crops.

Program #15

V(A). Planned Program (Summary)

1. Name of the Planned Program

4.3 Waste Management and Prevention

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
133	Pollution Prevention and Mitigation	86%		86%	
403	Waste Disposal, Recycling, and Reuse	14%		14%	
	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	2.4	0.0	0.5	0.0
Actual	16.3	0.0	10.5	0.0

2. Institution Name: **Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
71434	0	233056	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
71434	0	233056	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
769821	0	449140	0

2. Institution Name: **NY State Agricultural Experiment Station**

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	2451	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	2451	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	129220	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

This is a statewide educational program entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

2. Brief description of the target audience

Residents and property owners are targeted with stewardship and waste reduction and management in their homes and on their properties. Businesses, organizations, and producers are targeted with information about reducing impacts of their operations. Local government and community leaders are targeted with information related to governmental management of waste, such as relationship between waste management and land use, effective recycling programs, and roadkill management. Environmental planners and managers and technical assistance providers are targeted with in-depth information related to their audiences/constituents. Teachers and youth professionals and volunteers are provided with curriculum and training. Youth are targeted with age appropriate education.

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	5500	50000	2500	15000
2007	4589	221817	1486	35900

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	26

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	63

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2007	0	1605

Output #3

Output Measure

- # funded applied research projects directed to this program.

Year	Target	Actual
2007	1	25

Output #4

Output Measure

- # of agricultural/natural resources producers and business representatives completing educational programs on managing and reducing waste. (4.3.1a)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

- # of organization and business representatives completing educational programs on managing and reducing waste. (4.3.2a)

Year	Target	Actual
2007	0	0

Output #6

Output Measure

- # of local government officials and community leaders completing educational programs on managing and reducing waste and the relationship between waste and land use management. (4.3.4a)

Year	Target	Actual
2007	0	0

Output #7

Output Measure

- # of consumers, residents, and landowners completing educational programs on waste reduction and management. (4.3.5a)

Year	Target	Actual
2007	0	0

Output #8

Output Measure

- # of youth completing educational programs on waste management and reduction. (4.3.6a)

Year	Target	Actual
2007	0	0

Output #9

Output Measure

- # of teachers and youth professionals and volunteers completing educational programs on waste management and reduction. (4.3.7a)

Year	Target	Actual
2007	0	0

Output #10

Output Measure

- # refereed publications directed to this program.

Year	Target	Actual
2007	2	26

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# of agricultural/natural resources producers and business representatives who demonstrate knowledge gains about waste management and reduction. (4.3.1b)
2	# of organization and business representatives who demonstrate knowledge gains about waste management and reduction. (4.3.2b)
3	# of local government officials and community leaders who demonstrate knowledge gains about waste management and reduction and the relationship between waste and land use management. (4.3.4b)
4	# of consumers, residents, and landowners who demonstrate knowledge gains about waste management and reduction. (4.3.5b)
5	# of youth who demonstrate knowledge gains about waste management and reduction. (4.3.6b)
6	# of teachers and youth professionals and volunteers who demonstrate knowledge gains about waste management and reduction. (4.3.7b)
7	# of agricultural/natural resources producers and business representatives documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.1c)
8	# of organization and business representatives documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.2c)
9	# of producers, businesses, local governments, organizations, landowners, and individuals who collaborate to develop and implement waste reduction and management strategies. (4.3.3a)
10	# of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.4c)
11	# of consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.5c)
12	# of youth documented to have modified existing practices and/or adopted new practices to manage and reduce waste. (4.3.6c)
13	# of youth introduced to variety of environmental and natural resources career options. (4.3.6d)
14	# of teachers and youth professionals and volunteers who incorporate waste reduction and management knowledge into curriculum. (4.3.7c)
15	# of agricultural/natural resources producers and business representatives documented to have improved waste management practices. (4.3.1d)
16	# of organizations and businesses documented to have established or modified waste management policies to enhance and protect land and water resources. (4.3.2d)
17	Documented instances in which resource managers credit reduced risk from waste handling and disposal; decreased waste volume; and improved environmental equity to implementation of improved waste management practices. (4.3.3b)
18	# of local government officials and community leaders documented to have established or modified waste management policies to enhance and protect land and water resources. (4.3.4d)
19	# of consumers, residents, and/or landowners, documented to have improved waste management practices. (4.3.5d)
20	# of youth documented to have chosen waste management-related careers. (4.3.6e)
21	Documented instances in which public health officials credit decreased public health risks to implementation of improved waste management practices. (4.3.8a)
22	Documented instances in which resource managers credit lower costs for remediation to implementation of improved waste management practices. (4.3.8b)
23	Development, Validation, and Costs of Net Energy and Gas Production Model of Anaerobic Digesters
24	Development of Effective Proteases to Enhance Nutritional Values of Low Quality Feed Proteins and to Reduce Environmental Pollution from Poultry Feather By-products
25	Household Hazardous Waste Collection

Outcome #1

1. Outcome Measures

# of agricultural/natural resources producers and business representatives who demonstrate knowledge gains about waste management and reduction. (4.3.1b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

Outcome #2

1. Outcome Measures

# of organization and business representatives who demonstrate knowledge gains about waste management and reduction. (4.3.2b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

Outcome #3

1. Outcome Measures

# of local government officials and community leaders who demonstrate knowledge gains about waste management and reduction and the relationship between waste and land use management. (4.3.4b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

Outcome #4

1. Outcome Measures

# of consumers, residents, and landowners who demonstrate knowledge gains about waste management and reduction. (4.3.5b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Knowledge 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
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

Outcome #5

1. Outcome Measures
# of youth who demonstrate knowledge gains about waste management and reduction. (4.3.6b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Knowledge 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
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

Outcome #6

1. Outcome Measures

# of teachers and youth professionals and volunteers who demonstrate knowledge gains about waste management and reduction. (4.3.7b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

Outcome #7

1. Outcome Measures

# of agricultural/natural resources producers and business representatives documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.1c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3500	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
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

Outcome #8

1. Outcome Measures

# of organization and business representatives documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.2c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	750	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
403	Waste Disposal, Recycling, and Reuse

Outcome #9

1. Outcome Measures

# of producers, businesses, local governments, organizations, landowners, and individuals who collaborate to develop and implement waste reduction and management strategies. (4.3.3a)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

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
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

Outcome #10

1. Outcome Measures
# of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.4c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	175	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

Outcome #11

1. Outcome Measures

# of consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (4.3.5c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3500	1607

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

Outcome #12

1. Outcome Measures

# of youth documented to have modified existing practices and/or adopted new practices to manage and reduce waste. (4.3.6c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1250	401

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
403	Waste Disposal, Recycling, and Reuse

Outcome #13

1. Outcome Measures

# of youth introduced to variety of environmental and natural resources career options. (4.3.6d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20000	785

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

Outcome #14

1. Outcome Measures

# of teachers and youth professionals and volunteers who incorporate waste reduction and management knowledge into curriculum. (4.3.7c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	77

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

Outcome #15

1. Outcome Measures
# of agricultural/natural resources producers and business representatives documented to have improved waste management practices. (4.3.1d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition 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
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

Outcome #16

1. Outcome Measures

# of organizations and businesses documented to have established or modified waste management policies to enhance and protect land and water resources. (4.3.2d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	750	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
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

Outcome #17

1. Outcome Measures

Documented instances in which resource managers credit reduced risk from waste handling and disposal; decreased waste volume; and improved environmental equity to implementation of improved waste management practices. (4.3.3b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	36

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
403	Waste Disposal, Recycling, and Reuse

Outcome #18

1. Outcome Measures

# of local government officials and community leaders documented to have established or modified waste management policies to enhance and protect land and water resources. (4.3.4d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

Outcome #19

1. Outcome Measures

# of consumers, residents, and/or landowners, documented to have improved waste management practices. (4.3.5d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2500	707

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
403	Waste Disposal, Recycling, and Reuse

Outcome #20

1. Outcome Measures
# of youth documented to have chosen waste management-related careers. (4.3.6e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition 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
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

Outcome #21

1. Outcome Measures

Documented instances in which public health officials credit decreased public health risks to implementation of improved waste management practices. (4.3.8a)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

Outcome #22

1. Outcome Measures

Documented instances in which resource managers credit lower costs for remediation to implementation of improved waste management practices. (4.3.8b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition 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
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

Outcome #23

1. Outcome Measures

Development, Validation, and Costs of Net Energy and Gas Production Model of Anaerobic Digesters

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Daily spreading of manure is under criticism due to environmental impact concerns. Anaerobic digestion is a proven process to reduce offensive manure odors while potentially generating some income. This project examines the economics of digesters in producing alternative energy by producing biogas. The purpose of this study is to assess diversification of dairy farms through production of alternative energy and byproducts.

What has been done

To date, there has been no rational way of determining the energy requirement to optimally operate a digester and to calculate the remaining energy that could be used for other beneficial purposes. The model developed will allow planners, designers, dairy farmers and operators of plug-flow anaerobic digesters to correctly predict the amount of heat energy requirement to operate a digester at different times of the year.

Results

Using the model, a dairy farmer will be able to consider the 'what ifs' in order to maximize gas production and minimize heat loss. Minimization of heat loss by the system results in making alternative energy source more feasible and reliable for use on farms. The byproducts that can be produced with an anaerobic digestion manure treatment system include: electricity, heat, solids, and maintained nutrient value. It has been reported that dairy farms can produce about 1 kW of power for every seven cows. These benefits may provide a positive return per cow over the life of the digester. Besides, since anaerobic digestion reduces the odors of the effluent enough to eliminate complaints, the nutrient benefits occur as the treated effluent is spread on growing crops. Pathogen reduction is important when doing this to reduce the chance of contaminating the crop. The solid byproducts can be sold as a soil amendment off site, composted and sold as a value added product, used on the farm as bedding or spread on fields.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

Outcome #24

1. Outcome Measures

Development of Effective Proteases to Enhance Nutritional Values of Low Quality Feed Proteins and to Reduce Environmental Pollution from Poultry Feather By-products

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Poultry feather is an underutilized by-product from poultry processing. One million tons of feather waste is produced annually in the United States. Although feather contains 70-80% crude protein, only a small portion of feather waste is processed into animal feed because of its poor digestibility. Most of feather waste is dumped or put in landfill, causing environmental concerns.

What has been done

The common method for feather meal processing is autoclaving. However, this method is of limited practical value because of poor digestibility of the final product and high costs of energy and equipment. This project has identified effective proteases to enhance nutritional values of feather and other low-quality proteins, and to reduce their environmental pollution. Results to date have led to two exciting developments, detailed below.

Results

We have selected a heat-stable protease and successfully expressed in two yeast systems. We have applied molecular tools to develop more effective protease variants. A major feed/grain company in the Midwest has expressed a strong interest in exploring the commercial application of our technology. The company is working with Cornell Technology Transfer Office to discuss the collaborative strategy and procedure. Additionally, we are collaborating with the Feed Research Institute of the Chinese Academy of Agricultural Sciences in producing a effective protease complex for feed application. Our findings have four benefits. First, the enzyme will enable producers to use low-quality, cheap protein sources to meet protein nutrition requirement of animals, saving feed cost. Second, the enzyme will render low-quality protein sources, such as feather, into valuable feed ingredients, preventing them from polluting the environment. Third, the enzyme will help save the high-quality protein source such as soybean meal for human consumption. Finally, an effective protease will allow a feed or biotechnology company to develop a competitive product for a potential large world market.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

Outcome #25

1. Outcome Measures

Household Hazardous Waste Collection

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Tire stockpiles and proper hazardous waste disposal are two issues that every community has to deal with. Schuyler County being a rural small county has no local disposal option for these materials. Hazardous waste often ends up in the garbage and tires are stockpiled or tossed in roadside ditches creating a health concern as well as an environmental concern.

What has been done

Extension recognized the problem was two fold, lack of disposal locations as well as lack of knowledge. To combat the lack of knowledge, several brochures were developed on proper waste disposal, recycling, waste reduction, and alternatives to household hazardous substances. To combat the lack of disposal locations Extension worked with the County to implement a county wide recycling/collection day that would include the recycling of electronics and tires and the collection and proper disposal of hazardous materials.

Results

Over 130 households participated in the collection event keeping 4,534 tons of electronics, 1,000 tires, and several tons of hazardous waste out of area landfills. More County residents are aware of the program and will hold on to hazardous materials until the next collection event instead of throwing it in the garbage.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

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

Brief Explanation

See plan.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Case Study

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

- Determined the energy requirement to optimally operate a digester and to calculate the remaining energy that could be used for other beneficial purposes.
- Over 130 households participated in the collection event keeping 4,534 tons of electronics, 1,000 tires, and several tons of hazardous waste out of area landfills.

Program #16

V(A). Planned Program (Summary)

1. Name of the Planned Program

1.2 Viable and Sustainable Production Processes -- Animal

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
301	Reproductive Performance of Animals	6%		6%	
302	Nutrient Utilization in Animals	31%		31%	
303	Genetic Improvement of Animals	16%		16%	
305	Animal Physiological Processes	22%		22%	
306	Environmental Stress in Animals	3%		3%	
307	Animal Management Systems	3%		3%	
308	Improved Animal Products (Before Harvest)	1%		1%	
311	Animal Diseases	14%		14%	
312	External Parasites and Pests of Animals	3%		3%	
313	Internal Parasites in Animals	1%		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	7.8	0.0	15.0	0.0
Actual	48.8	0.0	21.6	0.0

2. Institution Name: **Cornell University**

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
214301	0	687566	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
214301	0	687566	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2309463	0	1462926	0

2. Institution Name: **NY State Agricultural Experiment Station**

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

This is a comprehensive, statewide educational program entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

2. Brief description of the target audience

Key audiences served, directly and indirectly include: established producers; new and young producers, consultants and service providers, input suppliers, governmental agencies, and local and state agricultural leaders.

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	4500	15000	0	0
2007	17642	1316116	2501	505461

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

Patent Applications Submitted

Year	Target
Plan:	10
2007 :	9

Patents listed

Calcium-Activated Chloride Channel Proteins and Their Use in Anti-Metastatic Therapy
Compositions for Eliciting An Immune Response Against Mycobacterium Avium Subspecies Paratuberculosis
Equine Airway Disorders
Functional Nucleic Acid Ligands to Fluorescent Proteins
Method of Improving Metabolic Health of Transition Dairy Cows
Mutants of Aspergillus Niger PhyA Phytase and Aspergillus Fumigatus Phytase
Overexpression of Phytase Genes In Yeast Systems
Phytases with Improved Thermal Stability
Using Mutations to Improve Aspergillus Phytases

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	284

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.

Year	Target	Actual
2007	0	393

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2007	0	42319

Output #3

Output Measure

- # funded applied research projects directed to this program.

Year	Target	Actual
2007	28	55

Output #4

Output Measure

- # of producers completing education programs on existing and new practices and techniques; improved product handling and storage to maintain quality and food safety; and/or improving production efficiency through adoption of best management practices. (1.2.1a)

Year	Target	Actual
2007	0	0

Output #5

Output Measure

- # of producers completing programs on potential environmental impacts of practices; environmental regulations and programs; whole farm systems including integrated nutrient management, integrated pest management; waste management; and water protection. (1.2.2a)

Year	Target	Actual
2007	0	0

Output #6

Output Measure

- # refereed publications directed to this program

Year	Target	Actual
2007	185	284

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	# resource managers reporting reduced environmental concerns for participating enterprises. (1.2.2f)
2	# of producers demonstrating knowledge/skill gains re existing/new practices and techniques; improved product handling and storage to maintain quality and food safety; and/or improving production efficiency through adoption of best management practices. (1.2.1b)
3	# of producers demonstrating knowledge/skill gains regarding environmental impacts of practices; environmental regulations and programs; whole farm systems including integrated nutrient management, integrated pest management; waste management; and water protection. (1.2.2b)
4	# of producers modifying existing practices and/or adopted new production mngmt. practices to address current issues and improve yield efficiency, consistency and/or quality. (1.2.1c)
5	# technical assistance providers documented to have incorporated current best management practices in their recommendations. (1.2.1e)
6	# of producers documented to have assessed potential environmental impacts of their operations and developed and acted on plans to eliminate or minimize those concerns. (1.2.2c)
7	# of producers who report improved ability to anticipate and respond to environmental and market variations. (1.2.1d)
8	# of producers documented to have developed and implement nutrient mngmt. and/or waste mngmt. plans or modified existing plans to meet production and environmental goals and meet regulations. (1.2.2d)
9	# of producers documented to have improved economic returns to agricultural business profitability and vitality resulting from enhanced production management practices. (1.2.1f)
10	# of producers documented to meet or exceed current environmental protection standards as a result of participating in relevant educational programs. (1.2.2e)
11	Corn Silage Production in New York
12	Calf and Heifer Management Improvements
13	Small Farms Veterinary Skills Program
14	Investment in Cow Comfort Improves Profitability

Outcome #1

1. Outcome Measures

resource managers reporting reduced environmental concerns for participating enterprises. (1.2.2f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	42

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
302	Nutrient Utilization in Animals

Outcome #2

1. Outcome Measures

# of producers demonstrating knowledge/skill gains re existing/new practices and techniques; improved product handling and storage to maintain quality and food safety; and/or improving production efficiency through adoption of best management practices. (1.2.1b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)

Outcome #3

1. Outcome Measures

# of producers demonstrating knowledge/skill gains regarding environmental impacts of practices; environmental regulations and programs; whole farm systems including integrated nutrient management, integrated pest management; waste management; and water protection. (1.2.2b)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge 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
307	Animal Management Systems

Outcome #4

1. Outcome Measures

# of producers modifying existing practices and/or adopted new production mngmt. practices to address current issues and improve yield efficiency, consistency and/or quality. (1.2.1c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2200	869

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
308	Improved Animal Products (Before Harvest)
307	Animal Management Systems
302	Nutrient Utilization in Animals

Outcome #5

1. Outcome Measures
technical assistance providers documented to have incorporated current best management practices in their recommendations. (1.2.1e)

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	171

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
308	Improved Animal Products (Before Harvest)
302	Nutrient Utilization in Animals

Outcome #6

1. Outcome Measures

# of producers documented to have assessed potential environmental impacts of their operations and developed and acted on plans to eliminate or minimize those concerns. (1.2.2c)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2000	170

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
302	Nutrient Utilization in Animals

Outcome #7

1. Outcome Measures

# of producers who report improved ability to anticipate and respond to environmental and market variations. (1.2.1d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1200	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
302	Nutrient Utilization in Animals
308	Improved Animal Products (Before Harvest)
307	Animal Management Systems

Outcome #8

1. Outcome Measures

# of producers documented to have developed and implement nutrient mngmt. and/or waste mngmt. plans or modified existing plans to meet production and environmental goals and meet regulations. (1.2.2d)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

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
302	Nutrient Utilization in Animals
307	Animal Management Systems

Outcome #9

1. Outcome Measures

# of producers documented to have improved economic returns to agricultural business profitability and vitality resulting from enhanced production management practices. (1.2.1f)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1800	301

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
302	Nutrient Utilization in Animals

Outcome #10

1. Outcome Measures
# of producers documented to meet or exceed current environmental protection standards as a result of participating in relevant educational programs. (1.2.2e)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	250	119

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
302	Nutrient Utilization in Animals

Outcome #11

1. Outcome Measures

Corn Silage Production in New York

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Corn silage yields less in New York than is the case in other dairy states. New York dairy producers need new methods to improve corn silage yields and increase quality to remain competitive. This study offered improved management practices and hybrid recommendations annually to New York corn silage producers, improving profitability of the dairy industry.

What has been done

Results are shared through industry channels, at field days, extension workshops, and through an integrated program work team of researchers, educators and external stakeholders. Results are also communicated, and used by, extension and industry personnel in New England, where resources do not exist to conduct this research.

Results

This research, updated annually, results in corn silage hybrid recommendations, which are communicated via industry and extension channels to New York dairy farmers. Each year we send out the results of our corn silage hybrid testing program in the fall to members of the Northeast Dairy Producers Association (NEDPA), as well as field crop educators who disseminate the results to other dairy farmers in their counties. Many dairy producers use select corn silage hybrids, based on the yield and quality results of our trial. We get the data out in late October/early November so that dairy producers can take advantage of the early-buy discounts that seed companies provide through mid-November. Dairy producers receive a 'win-win' result by selecting the best hybrids at a reduced cost. Dairy producers also used the results of our seed treatment work to help them decide whether to use seed-applied insecticides on their corn silage in 2007. In 2007, we sent out the results to the NEDPA members and our field crop educators on 11/12/07 and the results were used by NEDPA members in hybrid selection and the field crop educators included the results in their county newsletters.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
302	Nutrient Utilization in Animals

Outcome #12

1. Outcome Measures

Calf and Heifer Management Improvements

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Latest News in Calf and Heifer Management was an instructional, hands-on training program for anyone who feeds and manages dairy replacements in Madison County. With dairy farming being the county's largest agricultural enterprise, it is the mainstay of close to 200 farms. Recent changes in the value of calves and heifers, makes every newborn dairy calf worth $500 today and possibly $2,200 two years from now.

What has been done

This program was a way to bring producers together with leading industry specialists and well-known veterinarians. They provided classroom instruction and hands-on training at Morrisville State College. Otherwise the producer's only way to access this caliber of expertise would be to travel to distant conferences, which is difficult for many of our small and mid-size family-run dairies.

Results

Dairy producers and employees have reduced calf and heifer mortality and morbidity when they discontinue buying young calves at auction barns and properly collect, freeze, thaw and feed stored colostrums milk to newborn calves. Each farm represented at the first meeting, which dealt with Newborn and Calf management, reported improvement in calf survival during the first month on the farm. Two operators stopped buying young calves at auction barns. Three other conventional dairy operators improved first month calf survival by 8% compared to the same period in 2006. Altogether, it amounted to 23 more calves on these three farms. One grass based, seasonal dairy reduced their calf mortality by 35% by managing colostrum harvest and feeding to newborn calves. On this 400-cow dairy, this change amounted to 12 more live calves during the calving season. Half of these will be sold as steers, while the other half will enter the milking herd.

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
307	Animal Management Systems

Outcome #13

1. Outcome Measures
Small Farms Veterinary Skills Program

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}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Livestock producers, local veterinarians, and local government identified an increasing need for veterinarian care in an area of New York State that is experiencing a dwindling supply of large animal veterinarians. There are only 8 large animal veterinarians to serve the needs of livestock producers in Chenango County.

What has been done

The Small Farms Veterinary Skills Program is a training session that provides technical veterinary skills training to small, non-traditional livestock operations to increase self-sufficiency, reduce business costs, and improve meat, dairy, and fiber products. CCE Chenango has written and received grants to carry out beginning and advanced training in veterinary skills. We have also partnered with local veterinarians and the Cornell University School of Veterinary Medicine to teach and develop curriculum for these classes.

Results

As a result of our efforts, 85 livestock producers have gone through basic training. These producers have learned care skills that they are currently employing on their own farms, from vaccinations to disease diagnosis to reproductive procedures. 95% of respondents to a 6-month follow-up survey stated that they employed to information that they learned at the class daily. The majority of repsondents were using the information on their own farms and several are also using it to teach local 4-H groups.

4. Associated Knowledge Areas

KA Code	Knowledge Area
306	Environmental Stress in Animals
313	Internal Parasites in Animals
312	External Parasites and Pests of Animals
311	Animal Diseases
305	Animal Physiological Processes
307	Animal Management Systems

Outcome #14

1. Outcome Measures

Investment in Cow Comfort Improves Profitability

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Investments that improve cow comfort on dairy farms can often result in increased productivity that can then result in increased profitability for the farm operation. Dairy farmers are becoming increasingly aware of the impact cow comfort has on milk production and overall profitability. Opportunities to improve cow comfort exist on many of the local dairy farms with older facilities.

What has been done

Formal educational programs on cow comfort have been conducted in the Central New York region featuring research information indicating sound financial paybacks for many investments that improve cow comfort. In addition to formal programs, individual consultations with local dairy producers have focused on investments that improve cow comfort and the expected financial returns from those investments.

Results

A recent one on one consultation resulted in news stalls being installed on an area dairy farm. The 110 cow farm reported a 10 pound increase in production per cow, of which at least 50% of the increase is attributable to the new stalls. Under current economic conditions this would equate to around $45,000 additional annual income for this herd. Even accounting for additional feed being consumed, this farm will likely add $30,000 to $35,000 of net income to their bottom line. Other improvements attributed to programming in the area of cow comfort include the installation of many tunnel ventilation systems in tie-stall barns in the area. New lighting systems that provide at least 15 foot candles of light intensity and that manipulate photoperiod length have resulted in increased production as well. Sidewall curtains installations on old free-stall barns have improved cow comfort in many instances.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
306	Environmental Stress in Animals
305	Animal Physiological Processes

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Public Policy changes
- Government Regulations
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

Plans 1.2 and 1.3 were separated solely because the initial version of the plan of work software was limited to 10 Knowledge Areas per plan.That forced separation of what for us was a single, integrated program.We had no direct experience to draw from so many targets were nothing more than informed guesses and we did indeed miss a number.The two programs are merged in the FY08 plan.

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)
- Case Study

Evaluation Results

Evaluation results are reflected in the outcome indicators and impact statements associated with each planned program and result from a broad variety of evaluation approaches appropriate to the individual programs and contexts they represent.

Key Items of Evaluation

Each of our planned programs represents broad program emphases and strategies. Absent selection criteria, individual "findings" are not useful. See impact statements associated with this planned program for representative results.

Example results from impact statements:

- One grass based, seasonal dairy reduced their calf mortality by 35% by managing colostrum harvest and feeding to newborn calves. On this 400-cow dairy, this change amounted to 12 more live calves during the calving season.
- 110 cow farm reported a 10 pound increase in production per cow, of which at least 50% of the increase is attributable to the new stalls.Under current economic conditions this would equate to around $45,000 additional annual income for this herd.Even accounting for additional feed being consumed, this farm will likely add $30,000 to $35,000 of net income to their bottom line.