

2009 NY State Agricultural Experiment Station Research and Cornell University Research and Extension Combined Annual Report of Accomplishments and

Results
Status: New

Not Yet Submitted

I. Report Overview

1. Executive Summary

Cornell University Agricultural Experiment Station

The Cornell University Agricultural Experiment Station (CUAES) has two separate but related functions. It supports research and integrated research-extension projects through administration of Federal Formula Grants and it operates world-class research facilities throughout the state of New York on behalf of the College of Agriculture and Life Sciences.

Since its inception in 1879, the mission of CUAES has been to promote "science that serves society" through the generation and application of research-based knowledge that will advance agriculture and food systems, enhance the environment, improve food safety and nutrition, improve the health and welfare of our citizenry and encourage social, economic and community development.

In cooperation with Cornell Cooperative Extension and the New York State Agricultural Experiment Station, CUAES has developed a competitive, stakeholder-involved process to support research and research-extension projects in the Colleges of Agriculture and Life Sciences (CALS), Human Ecology (CHE) and Veterinary Medicine (CVM), and the Cornell Division of Nutritional Sciences (DNS). Projects are funded on an internal, competitive basis that includes a stakeholder review system to ensure Federal Formula Grant monies are spent on applied research and extension that addresses pressing needs for maximum impact. Stakeholders also help to align local issues with national priorities, paying attention to the particular needs of the state within the context of a broader national agenda.

For example, ongoing research on issues of special relevance to New York in the areas of biomass production, climate science and agriculture, watershed management, encouraging healthy behavior in teenagers, and food product handling, to name just a few, are consistent with the broad priorities established by the National Institute for Food and Agriculture on sustainable energy, food safety, food security, obesity and nutrition, and climate change. Impact narratives contained elsewhere in this report illustrate the many ways formula funds managed by the station support NIFA's goals.

CUAES' internal administrative budget is partially supported by federal formula funds. Generally, state and college funds support facilities operations that provide the farms, greenhouses and facilities necessary for research and extension.

Federal Formula Grant Facts from 2009:

- CUAES currently manages an approximate \$5.2 million Federal-Formula Grant portfolio. Each year CUAES distributes approximately \$1.7 million to new, peer-reviewed, competitive projects, the majority on a three-year basis.
- Our research and integrated research portfolio currently includes about 270 projects in 26 different departments in CALS and CHE and CVE.
- The CUAES has embarked on a strategic campaign to broaden the awareness of the value of federal formula grant research and extension, including launching a policy briefing series on Capitol Hill where Cornell scientists educate legislative staff on the science behind topics of current interest to policy makers.
- Federal Formula Grants are an essential element of the University's overall research portfolio, building capacity and supporting an applied research program to meet the needs of the citizens of New York State and the nation.

Operations Facts from 2009:

- Our overall operating budget is \$2.5 million.
- Currently, 52 full-time staff are employed, five administrative staff and 47 staff involved directly in operations. (Operations staff budget is paid by college funds.)
- CUAES operates seven farms and manage more than 3000 acres of forest across the state, from Willsboro in Northern New York to Ithaca to Long Island in the South.
- On campus facilities include 155,000 square feet of greenhouse space; the largest non-commercial greenhouse complex in the state, plus growth chambers and other research facilities, providing research services and outreach opportunities to our scientists.
- Every aspect of our operation — from staff development to forest management to farm equipment — is viewed through the lens of environmental sustainability.

New York State Agricultural Experiment Station

The focus of both research and extension programs at NYSAES is on the production, protection, and processing of horticulture food crops, turf and hybrid willow for renewable energy. 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. Several of the faculty members also teach graduate and undergraduate courses in Ithaca. The bare facts about the NYSAES follow:

- NYSAES was established in 1880, making it the sixth oldest agricultural experiment station in the United States.
- The budget is approximately \$29.0 million; \$11.6 million is funded through SUNY's base budget (year 2000 figures).
- Currently, 246 staff and 46 professors (10, 26, 3.5 and 3.5 FTEs in extension, research teaching and administration, respectively) are employed.
- At any one time, 25-90 graduate students are conducting Ph.D and MS.
- At any one time, there are around 15 visiting scientists, 10 postdocs, 20 research associates and 6 extension associates.
- There are four academic departments: Horticultural Sciences, Plant Pathology and Plant-Microbe Biology, Entomology, and Food Science and Technology, all with corresponding departments in Ithaca. The focus is on improving the genetics, cultivation, protection, post-harvest handling, and processing of fruit and vegetable crops.
- Support services are provided by the following units: the Computer Center, Lee Library, CALS Communications Services, Buildings and Properties, and the Field Research Unit.
- Two pilot plants provide opportunities for entrepreneurs, processors, and wine, beer, and cider makers to add value to New York State's raw products: the Fruit & Vegetable Processing Pilot Plant, and the Vinification & Brewing Technology Laboratory.
- The Northeast Center for Food Entrepreneurship (NECFE), 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 NYSAES campus includes U.S. Department of Agriculture's Plant Genetic Resources Unit (PGRU), and Grape Genetics Resources Unit (GGRU), responsible for the U.S. collection of apple, sour cherry and cold-hardy grapes and selected seed-propagated crops, such as onion, garlic, broccoli, cabbage and winter squash and for the national program on grape genetics and genomics, respectively..
- NYSAES administers a research/extension laboratory in the Hudson Valley at Highland, with one professor, one Sr. Extension Associate and one Extension Associate and support personnel. It also administers the Cornell Lake Erie Research and Extension Laboratory in Portland, New York, where a Senior Research Associate and staff work collaboratively with Extension Associates in New York State Integrated Pest Management and Cornell Cooperative Extension and faculty from Ithaca and Geneva on a range of research programs important to grape growers in the Lake Erie Region and throughout New York State. A Penn State University Extension Associate with responsibility for farm management is housed at CLEREL and works as part of the CLEREL team.
- The central Geneva campus consists of 20 major buildings, several smaller buildings for farm machinery storage and similar purposes, and 3 houses with rooms rented to graduate students, visiting scientists, and postdocs.
- 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 fundamental to applied research, to extension and outreach for diverse stakeholder groups. A blend of classical methodologies and cutting-edge technologies is utilized to accomplish the mission. Cooperative efforts in research, extension and teaching with faculty on the Ithaca campus are common, and are facilitated by distance learning technologies.. Many faculty work closely with county and regional extension personnel throughout 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. 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 pose 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 processors including disposal of processing waste in an environmentally acceptable manner.

NYSAES has a strong commitment to strengthening the state's fruit and vegetable industries from 'the farm to the fork'. We are continually reminded of the importance of an adequate and safe supply of fruits and vegetables in the human diet. The changing complexity of agriculture and consumer demands present challenges to crop and food product production that accentuate the continual need for research, extension and teaching at NYSAES.

While research and extension programs in Geneva have addressed global food security and hunger issues over many decades, the New York State Agricultural Experiment Station at Cornell is also especially well positioned to address other challenges identified as high priorities by the National Institute for Food and Agriculture.

Food Safety

NYSAES food scientists and plant pathologists are leaders in collaborative efforts with Cornell Cooperative Extension and fruit and vegetable growers to improve the safety of fresh fruits and vegetables through the development of detection systems for microbial contaminants and through the implementation of Good Agricultural Practices. Food safety is also a major part of the curriculum for third and fourth graders in the Elementary Science Outreach Program, a partnership between NYSAES and the Geneva City School District.

Sustainable Energy

In 2009, the Department of Horticultural Sciences at NYSAES hired a new faculty member who is focusing on opportunities to grow dedicated bioenergy crops on more than 1 million acres of marginal or underutilized land in New York State and across regions of the Upper Midwest and Southern Canada. Fast-growing shrub willow is a sustainable perennial crop very well suited for this purpose. The willow breeding program in Geneva supports expansion of the commercial willow crop enterprise with new, improved varieties. NYSAES will also play a lead role in a project to have the willow genome sequenced by the US Dept. of Energy Joint Genome Initiative, providing a database of genetic information to speed the breeding program and expand our understanding of woody plant biology.

Climate Change

NYSAES faculty members addresses issues associated with climate change on different fronts. Plant breeders are developing new fruit and vegetable varieties that will be adapted to the changing environment and will be critical for future food production. Changing climates can also be conducive forestablishment of new invasive insect pests and diseases. Faculty members are monitoring several serious invasive species that include Plum Pox virus that destroys stone fruit orchards and the Swede Midge that is detrimental to cabbage and related crops.

Global Food Security and Hunger

To ensure a safe and adequate food supply it is critical to develop the most effective and environmentally sound methods for controlling insect pests and diseases. NYSAES scientists develop effective strategies that allow producers to employ sustainable means, including organic management practices, for controlling pests and diseases. This includes research for understanding pathogen and pest biology, host susceptibility and the impacts of environmental conditions on their development. Strategies for detecting and managing pesticide resistance are also developed.

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 1,400 staff and educators statewide. Local employees work for their 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.
- Cornell Cooperative Extension's educational system, which includes 55 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.

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 2009, more than 300,000 youth from urban, suburban, and rural communities across New York joined in the 4-H experience and were assisted by more than 17,700 volunteers.. 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.

NIFA Priority Areas Addressed:

- Childhood Obesity
- Sustainable Energy

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.

NIFA Priority Areas Addressed:

- Global Food Security
- Climate Change
- Sustainable Energy
- Food Safety

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, climate change, energy sustainability, 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.

NIFA Priority Areas Addressed:

- Global Food Security and Hunger
- Climate Change
- Sustainable Energy

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.

NIFA Priority Areas Addressed:

- Climate Change
- Sustainable Energy

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.

NIFA Priority Areas Addressed:

- Global Food Security
- Childhood Obesity
- Food Safety

Reporting Notes

A variety of data sources and documentation procedures were used to generate this report, primarily 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.

This report truly is caught between systems. After completion of the program year, we were requested to report against the current five priorities established by NIFA by adding unplanned programs of the same name and reporting against them. Once we did that, it became clear that the only way to report outputs and outcomes in a way that made sense for the balance of our programming was to proceed with establishing a sixth unplanned program titled Youth, Family, and Community that reflected one of the NIFA institutes and provided an effective umbrella for reporting programs not captured in the five current NIFA priorities. We then were able to crosswalk our approved FY09 plans to the new programs: Global Food Security and Hunger, Climate Change, Sustainable Energy, Childhood Obesity, Food Safety, and Youth, Family and Community.

All output and outcome data is reported against the six new unplanned programs; there is no output or outcome data reported against the approved FY09 plans. However, our expense accounting systems all were linked to the approved FY09 plans so we have reported expenditures only against the approved plans; there is no expense reported against the unplanned programs. We will be able to fully integrate reporting for the new programs for the FY10 annual report.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	247.7	0.0	120.5	0.0
Actual	1597.0	0.0	88.0	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 2009 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 FY09, a total of 123 preproposals were submitted to the two Experiment Stations and to Cooperative Extension of which 101 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 the system, 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 and updated to ensure involvement and ties to traditional and non-traditional constituents and established and emerging partnerships. 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 reinstated a face-to-face program council conference feeling that was needed to re-establish a system perspective and encourage cross-council priority setting. We continue the pattern of annual combined meetings with the latest being March 10, 2009. About 90 people attend and the event is seen as highly valuable by participants.

In addition, we have 32 active Program Work Teams comprised of extension educators, faculty, and stakeholders who work together to develop, implement and evaluate priority programs. New teams added in FY09 include those focused on viticulture and enology and sustainable landscapes horticulture. More than 450 individuals were involved in the work of these teams in 2009. Since 2001, forty-one (46) program work teams have been authorized and supported to develop and deliver integrated applied research and extension programming across the state. The fact that 14 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 structures, i.e. board of directors, and program guidance structures, i.e., advisory committee structures. Formal advisory committees are also used to guide New York City Extension programs. In 2009, more than 40,000 stakeholder volunteers from all walks of life participated and assisted in the direction, priority setting, and delivery of extension programs throughout the state.

By definition, "under-represented or under-served" groups require that additional outreach and engagement 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. Our local advisory committees are expected to include youth members as part of the needs assessment and decision making structure. In 2009, more than 3000 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 more than 25,000 youth in 2009.

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.

Extension educators are expected to submit narrative reports of efforts to engage underserved populations. For the 2009 reporting year, more than 75 such stories were submitted representing all five of our broad program areas. Example titles included: Plattsburgh Community Garden, Container Gardening with Seniors, Natural Leaders Initiative, Programming at the Tonawanda Indian Reservation, Talking with Kids about HIV/AIDS Parent Education Project, Supporting Family Literacy through Parent Education Training, Cortland Family Fun & Resource Center Drop in Program, Relatives as Parents Program, Heat or Eat, No Child Left Inside, and 4-H Youth in Action With Health and Bereaved-Challenged Youth.

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.

All of the techniques listed were used in 2009 but methods varied site to site and program to program across the system. 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 dramatic increase in use of Internet based instruction and forums at the community level directed to economic sustainability, particularly of rural communities. We continued statewide efforts begun in 2008 to provide current resources for educators regarding equal program opportunity and have done extensive participant mapping to identify opportunities to increase inclusiveness of our programs.

3. A statement of how the input will be 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 compare funding decisions with 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 CAUES 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 FY09 funding year, 123 preproposals were received for research, extension, or integrated projects and 101 were funded. Of those funded, nearly 90% were highly rated by the stakeholder-reviewers. The majority of the preproposals receiving lower ratings were not 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 March 2009, 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

- The Community and Economic Vitality Program Council supports the development of research and extension initiatives that build Community and Government Capacity Building
- New York State residents are living through a period of remarkable challenges and opportunities. Changes in economic structures, transportation and residential patterns, demographics, and communication technologies have wide-ranging effects on our communities.
- Communities need informed leaders and officials, as well as engaged citizens, and the capacity to develop and implement goals and strategies. Leaders that understand their community's role in a regional context are better positioned to build from strengths and assets and to explore and implement cooperative approaches.
- Practitioners and policymakers alike call for comprehensive approaches that value economic opportunities, strong families, community vitality, investments in social and physical infrastructure, and environmental stewardship.

Natural Resources and Environment

- Improving Watershed and Water Resource Protection and Management, in Agricultural, Rural and Developed Systems
- Improving Management Practices for Sustainable and Compatible Agricultural, Natural Resource, and Energy Systems
- Improving Policy Makers' and Individual Citizens' Understanding of Different Planning and Management Practices to Make Natural and Agricultural Systems More Sustainable

FY2009 Natural Resources and Environment Burning Issues:

- Energy issues
- Invasive species.
- Climate change
- Renewable energy

Quality of Life for Individuals and Families Priorities

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

Youth Development Priorities Positive Youth Development and Life Skill Development

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

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
7865908	0	4952351	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	1060278	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	7271569	0	4639560	0
Actual Matching	7271569	0	4639560	0
Actual All Other	0	0	0	0
Total Actual Expended	14543138	0	9279120	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	1026022	0
Actual Matching	0	0	1026022	0
Actual All Other	0	0	0	0
Total Actual Expended	0	0	2052044	0

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

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Global Food Security and Hunger
2	Climate Change
3	Sustainable Energy
4	Childhood Obesity
5	Food Safety
6	Youth, Family, Community
7	1.1 Agricultural and Horticultural Business Vitality
8	1.2 Viable and Sustainable Production Practices
9	1.3 Renewable/Alternative Energy and Conservation
10	1.4 The Agriculture/Community Interface
11	2.1 Connecting People to the Land and Their Environment
12	2.2 Strengthening Community Economic Development
13	3.1 Health, Nutrition, and Food Safety
14	3.2 Human Development and Social Well Being
15	3.3 Economic Well Being, Quality of Home and Work Environments
16	4.1 Natural Resource Management
17	4.2 Water Resources Management
18	4.3 Waste Management and Prevention
19	5.1 Youth Community Action
20	5.2 Positive Youth Development Including Life Skill Development
21	5.3 Science and Technology Literacy

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Global Food Security and Hunger

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	5%		3%	
102	Soil, Plant, Water, Nutrient Relationships	5%		8%	
202	Plant Genetic Resources and Biodiversity	0%		16%	
204	Plant Product Quality and Utility (Preharvest)	7%		7%	
205	Plant Management Systems	15%		6%	
211	Insects, Mites, and Other Arthropods Affecting Plants	2%		6%	
212	Pathogens and Nematodes Affecting Plants	2%		16%	
213	Weeds Affecting Plants	2%		4%	
215	Biological Control of Pests Affecting Plants	3%		3%	
216	Integrated Pest Management Systems	7%		9%	
302	Nutrient Utilization in Animals	6%		2%	
303	Genetic Improvement of Animals	1%		0%	
305	Animal Physiological Processes	2%		1%	
307	Animal Production Management Systems	15%		1%	
311	Animal Diseases	2%		9%	
503	Quality Maintenance in Storing and Marketing Food Products	1%		0%	
601	Economics of Agricultural Production and Farm Management	8%		3%	
602	Business Management, Finance, and Taxation	12%		1%	
604	Marketing and Distribution Practices	5%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Actual	319.0	0.0	57.0	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
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

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 program entailing a wide range of applied research activities and multiple education methods depending on 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.

Multi-disciplinary, multi-institutional and collaborative program examples include: Collaborative Crops Research Program (CCRP), Cornell-Eastern Europe-Mexico International Collaborative Project in Potato Late Blight Control (CEEM), Cornell International Institute for Food, Agriculture and Development (CIIFAD), Institute for Genomic Diversity (IGD), Institute for Global Learning, International Integrated Pest Management, International Programs Initiative for Biotechnology, International Research and Scientific Exchanges, Program in International Nutrition, Strategic World Initiative for Technology Transfer (SWIFTT), and The Essential Electronic Agricultural Library (TEEAL).

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.

Food security and hunger programming addresses individuals and families, caregivers, nutritionists, community leaders, human service providers and food policy makers at the local, state, and national levels.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual	284447	744869	5640	198860

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

Patent Applications Submitted

Year: 2009

Plan:

Actual: 21

Patents listed

- Method of Enhancing Reproductive Function of Mammals by Feeding of Conjugated Linoleic Acids
- Polycyclic Compounds and Methods Related Thereto
- Overexpression System of Phytase Gene (PHY A) In Saccharomyces Cerivisiae
- Phytases with Improved Thermal Stability
- Commensal Bacteria as Signal Mediators within a Mammalian Host
- Enhancement of Growth in Plants
- Alstroemeria Plant 'Tangerine Tango'
- Apple Tree Named "Temptation-2"
- Apple Tree Rootstock Named G.41
- Adirondack Blue
- Potato - Lamoka; previously tested as NY139 and Y28-9
- Potato - Waneta; previously tested as NY138 and Y18-16
- Potato Cultivar "Adirondack Red"
- Engineering Broad and Durable Resistance to Grapevine Fanleaf Virus in Plants
- DNA Construct to Confer Multiple Traits on Plants
- Light Red Kidney Bean 'Wallace'
- Improved Production of Proteins with Downstream Box Fusions in Plastids and in Bacteria
- Regenerable Removal of Sulfur From Gaseous or Liquid Mixtures
- Trichoderma Strains that Induce Resistance to Plant Diseases and/or Increase Plant Growth
- Airflow Controller
- Methods and Compositions for Acylsugars in Tomato
- Delayed Fruit Deterioration Allele in Plants and Methods of Detection

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan			
Actual	859	548	1407

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- (1e) # non-credit instructional activities directed to this program.

Year	Target	Actual
2009	{No Data Entered}	4984

Output #2

Output Measure

- (1f) # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2009	{No Data Entered}	274317

Output #3

Output Measure

- (1.1a) # 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.
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- (1.2a) # producers/horticulture business persons completing programs to expand profitability, develop marketing options, diversify or substitute alternative products or enterprises, and/or increase operational efficiencies.
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- (1.3a) # persons completing education programs on the labor needs of agriculture/horticulture businesses and and/or the needs of potential employees.
Not reporting on this Output for this Annual Report

Output #6

Output Measure

- (1.6a) # 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.
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- (1.6b) # of policy makers and citizens participating in education programs on status of food security in their communities and possible actions to promote increased food security.
Not reporting on this Output for this Annual Report

Output #8

Output Measure

- (1.4a) # producers, horticulture business persons, and/or natural resource managers completing education programs on existing and new production-management practices and techniques.
Not reporting on this Output for this Annual Report

Output #9

Output Measure

- (1.5a) # producers, horticulture businesses, and/or natural resource completing education programs on potential environmental impacts of practices; requirements and opportunities of environmental regulations and programs; whole farm systems.
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	(1.1c) # participants documented to have applied knowledge or skills gained to strengthen existing business operations.
2	(1.1e) # participants reporting improved agricultural/ horticultural business profitability attributed at least in part to program participation.
3	(1.1f) # business owners successfully completing an intergenerational transfer or other desired dispensation of their business attributed at least in part to program participation.
4	(1.2c) # participants documented to have initiated one or more alternative or expanded ventures.
5	(1.2d) # 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.
6	(1.2e) # 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.
7	(1.3c) # participants documented to have made one or more changes in human resources practices to enhance labor availability or retention.
8	(1.3d) # 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.
9	(1.4c) # of producers, horticulture business persons, and/or natural resource managers modifying existing practices and/or adopted new production management practices to address current issues and improve yield efficiency, consistency and/or quality.
10	(1.4d) # of producers, horticulture business persons, and/or natural resource managers who report improved ability to anticipate and respond to environmental and market variations variations through alternative production management strategies.
11	(1.4e) # technical assistance providers documented to have incorporated current best management practices in their recommendations.
12	(1.4f) # of producers, horticulture business persons, and/or natural resource managers documented to have improved economic returns to agricultural business profitability and vitality resulting from enhanced production management practices.
13	(1.5c) # of producers, horticulture businesses, and/or 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.
14	(1.5d) # of producers, horticulture businesses, and/or natural resource documented to have developed and implemented nutrient management and/or waste management plans or modified existing plans to meet production and environmental goals and meet regulations.
15	(1.5e) # of producers, horticulture businesses, and/or natural resource documented to meet or exceed current environmental protection standards as a result of participating in relevant educational programs.
16	(1.5f) # resource managers reporting reduced environmental concerns for participating enterprises.
17	(1.6e) # of program participants who have acted to improve their food security status.

18	(1.6f) # of participating communities that assess food insecurity and develop appropriate action plans.
19	(1.6g) # of individuals or households documented to have improved food security status.
20	(1.1d) # participating family-owned agricultural/horticultural businesses that plan for succession, transfer, or sale of their business.
21	(1.6h) # of participating communities reporting declines in food insecurity indicators.
22	(1.1b) # 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.
23	(1.2b) # 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.
24	(1.3b) # participants who demonstrate knowledge gains related to needs of potential employees and/or availability of qualified employees.
25	(1.4b) # of producers, horticulture business persons, and/or natural resource managers 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.
26	(1.5b) # of producers, horticulture businesses, and/or natural resource managers demonstrating knowledge/skill gains re environmental impacts of practices; environmental regulations and programs; whole farm systems including integrated nutrient management, integrated pest management; waste management; and water protection.
27	(1.6c) # 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.
28	(1.6d) # 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.
29	Post Harvest Biology of Fruit
30	Development of Crop Protection Technology for Fruit Crops - Improving Deposition while Reducing Environmental Pollution and Operator Contamination
31	Research and Development of Germplasm and Breeding Methods for Tomato Improvement and Disease and Insect Control
32	Food Industry New York MarketMaker
33	Use of a Degree Day Model to Time Control of Grape Berry Moth
34	Implementing Precision Feed Management on Dairy Farms
35	Plattsburgh Community Garden

Outcome #1

1. Outcome Measures

(1.1c) # participants documented to have applied knowledge or skills gained to strengthen existing business operations.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	4202

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
604	Marketing and Distribution Practices

Outcome #2

1. Outcome Measures

(1.1e) # participants reporting improved agricultural/ horticultural business profitability attributed at least in part to program participation.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	394

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
604	Marketing and Distribution Practices

Outcome #3

1. Outcome Measures

(1.1f) # business owners successfully completing an intergenerational transfer or other desired dispensation of their business attributed at least in part to program participation.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	114

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
604	Marketing and Distribution Practices

Outcome #4

1. Outcome Measures

(1.2c) # participants documented to have initiated one or more alternative or expanded ventures.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	652

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
604	Marketing and Distribution Practices

Outcome #5

1. Outcome Measures

(1.2d) # 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	430

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
604	Marketing and Distribution Practices

Outcome #6

1. Outcome Measures

(1.2e) # 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	394

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
604	Marketing and Distribution Practices

Outcome #7

1. Outcome Measures

(1.3c) # participants documented to have made one or more changes in human resources practices to enhance labor availability or retention.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	288

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
604	Marketing and Distribution Practices

Outcome #8

1. Outcome Measures

(1.3d) # 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	280

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
604	Marketing and Distribution Practices

Outcome #9

1. Outcome Measures

(1.4c) # of producers, horticulture business persons, and/or natural resource managers modifying existing practices and/or adopted new production management practices to address current issues and improve yield efficiency, consistency and/or quality.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	4780

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
307	Animal Production Management Systems

Outcome #10

1. Outcome Measures

(1.4d) # of producers, horticulture business persons, and/or natural resource managers who report improved ability to anticipate and respond to environmental and market variations variations through alternative production management strategies.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	2515

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
307	Animal Production Management Systems

Outcome #11

1. Outcome Measures

(1.4e) # technical assistance providers documented to have incorporated current best management practices in their recommendations.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	2209

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
307	Animal Production Management Systems

Outcome #12

1. Outcome Measures

(1.4f) # of producers, horticulture business persons, and/or natural resource managers documented to have improved economic returns to agricultural business profitability and vitality resulting from enhanced production management practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	1417

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
307	Animal Production Management Systems

Outcome #13

1. Outcome Measures

(1.5c) # of producers, horticulture businesses, and/or 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	2468

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
307	Animal Production Management Systems

Outcome #14

1. Outcome Measures

(1.5d) # of producers, horticulture businesses, and/or natural resource documented to have developed and implemented nutrient management and/or waste management plans or modified existing plans to meet production and environmental goals and meet regulations.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	379

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
307	Animal Production Management Systems

Outcome #15

1. Outcome Measures

(1.5e) # of producers, horticulture businesses, and/or natural resource documented to meet or exceed current environmental protection standards as a result of participating in relevant educational programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	1192

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
307	Animal Production Management Systems

Outcome #16

1. Outcome Measures

(1.5f) # resource managers reporting reduced environmental concerns for participating enterprises.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	1878

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
307	Animal Production Management Systems

Outcome #17

1. Outcome Measures

(1.6e) # of program participants who have acted to improve their food security status.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	13899

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 #18

1. Outcome Measures

(1.6f) # of participating communities that assess food insecurity and develop appropriate action plans.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	1102

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 #19

1. Outcome Measures

(1.6g) # of individuals or households documented to have improved food security status.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	12276

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 #20

1. Outcome Measures

(1.1d) # participating family-owned agricultural/horticultural businesses that plan for succession, transfer, or sale of their business.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	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
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation

Outcome #21

1. Outcome Measures

(1.6h) # of participating communities reporting declines in food insecurity indicators.

Not Reporting on this Outcome Measure

Outcome #22

1. Outcome Measures

(1.1b) # 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 transactions.

Not Reporting on this Outcome Measure

Outcome #23

1. Outcome Measures

(1.2b) # 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 marketing concerns.

Not Reporting on this Outcome Measure

Outcome #24

1. Outcome Measures

(1.3b) # participants who demonstrate knowledge gains related to needs of potential employees and/or availability of qualified employees.

Not Reporting on this Outcome Measure

Outcome #25

1. Outcome Measures

(1.4b) # of producers, horticulture business persons, and/or natural resource managers 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.
Not Reporting on this Outcome Measure

Outcome #26

1. Outcome Measures

(1.5b) # of producers, horticulture businesses, and/or natural resource managers demononstrating knowledge/skill gains re environmental impacts of practices; environmental regulations and programs; whole farm systems including integrated pest management; waste management; and water protection.
Not Reporting on this Outcome Measure

Outcome #27

1. Outcome Measures

(1.6c) # 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.
Not Reporting on this Outcome Measure

Outcome #28

1. Outcome Measures

(1.6d) # 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.
Not Reporting on this Outcome Measure

Outcome #29

1. Outcome Measures

Post Harvest Biology of Fruit

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Consumers limit purchases of fresh fruit because of insufficient quality and lack of flavor. Increasing consumer consumption of fruit, without loss of grower income, is a major goal. We are evaluating the storage potential of new cultivars, making better use of existing storage technologies, developing new, safer technologies, with a minimum use of chemicals, and investigating the effects of postharvest handling on the nutritional and flavor quality of fruit.

What has been done

1) Evaluate postharvest requirements of new and existing fruit varieties; 2) To develop sustainable controls for physiological disorders, diseases and pests; 3) To develop recommendations for the beneficial use of essentially safe postharvest chemicals, such as 1-MCP, on fruit to assure high quality and wholesomeness; 4) To expand knowledge of the influence of cultivar, production practices, and postharvest handling on the nutritional and eating quality of fruit; 5) To expand fundamental knowledge of fruit biology required for development of improved and new technologies for maintenance and enhancement of fruit quality.

Results

1-Methylcyclopropene (1-MCP) treatment of apple fruit has had a major impact of improving quality of fruit for the US consumer. Our research on 1-MCP has contributed directly to the New York and US apple industry and our research has been reported in scientific journals, conference proceedings, grower articles, and grower/storage operator workshops and meetings. The results of this project have defined the cultivars that are most responsive to 1-MCP based technology, and pre- and post-harvest strategies that affect these responses. Additionally, there is increasing focus on the health-promoting or nutritional value of horticultural produce, but relatively little research has focused on the effects of postharvest treatments. Our research on the effects of fruit maturity, storage temperature, relative humidity, and carbon dioxide concentration in the storage environment on physical and nutritional quality of strawberry fruit shows that treatments that result in better storage periods may inhibit the development of antioxidant components. A compromise between these two factors is necessary depending on marketing strategy, and for New York growers, who are more focused on immediate sales of fruit, we have found that a 10C storage temperature may be useful.

4. Associated Knowledge Areas

KA Code	Knowledge Area
503	Quality Maintenance in Storing and Marketing Food Products
604	Marketing and Distribution Practices

Outcome #30

1. Outcome Measures

Development of Crop Protection Technology for Fruit Crops - Improving Deposition while 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
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The application of pesticides to fruit crops is of concern for a variety of reasons, including worries about operator exposure, unwanted residue on fruit, and general environmental concerns. Fruit growers would like more effective ways to spray fruit in order to limit the use of pesticides to what is necessary, without sacrificing pest or disease control.

What has been done

Developed fruit sprayers that are more effective in directing the airflow to reduce drift and improve spray deposition within the crop canopy. Tested new ways to rinse tanks to reduce point-source pollution.

Results

Designs were evaluated in the 2009 season using a fluorescent tracer. Initial trials were conducted in var. Vignoles and show marked improvement in deposition and reduced drift. A patent application was filed in November 2009 for the adjustable airflow device. We also conducted similar trial work in apple trees. Again results are very promising. The focus sprayer offers improvement for insect control, notably grape berry moth. An inexpensive sensor sprayer using infra red sensors to detect absence or presence and height of grapevine canopy was also developed, it was fitted to an airblast sprayer and used in grapevines and showed a good reduction in spray use in the first spray of the season in var. Vignoles. The above trials were reported to growers at workshops, conferences and field days across the region. We found increases in deposition of between 25-30% and drift was reduced considerably, around 75-80% using air control systems. The infrared sensor sprayer reduced spray use by 40% in the first early application of the season, in mid season, by 18%. Airflow research continues to create much interest in the apple and grape growing community of New York and PA as well as amongst the sprayer manufacturers. The tank rinsing development reduced environmental pollution, in particular point source pollution. Information was extended at many meetings in 2009, including 160 grape growers and 150 apple growers. More than a dozen talks were conducted across the U.S. and the PI offered six in-depth courses on fruit spraying across the North East.

4. Associated Knowledge Areas

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

Outcome #31

1. Outcome Measures

Research and Development of Germplasm and Breeding Methods for Tomato Improvement and Disease and Insect Control

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Pesticides are heavily used to control tomato diseases and also tomato pests that cause losses directly through feeding and indirectly through the spread of viruses. The development of tomato lines resistance to early blight, late blight, and septoria leaf spot would greatly reduce use of fungicidal sprays while incorporation of safe, natural, insect acylsugar-mediated resistance would substantially reduce losses of crop or crop quality.

What has been done

The tomato breeding/genetics program produces plant lines, techniques and information of use in NY, the NE, nationally and internationally. This project is creating tomato lines with resistance to targeted diseases and insects, and providing information for deploying these resistances. The program addresses limiting factors of reliable tomato production and quality, particularly the more complicated issues not addressed by company breeders.

Results

The current goals of the tomato breeding/genetics program involve developing tomato lines with disease and insect resistance that are vital to the tomato industry in NY, the US, and internationally. The desired combination is resistance for the three foliar diseases, Late Blight, Early Blight and Septoria Leaf Spot, in early to mid season lines and hybrids with good horticultural type and adaptation to the NE for traditional and organic production. Work in summer of 2009 determined which populations were homozygous for all of these genes, and selected the subset of plants with the best fruit and plant characteristics. This resulted in the creation of the first tomato lines with genetic resistance to all three diseases.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources and Biodiversity
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems

Outcome #32

1. Outcome Measures

Food Industry New York MarketMaker

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Small and medium sized producers/farmers in New York State can benefit from access to the New York City major metropolitan market. An internet marketing tool can support connecting producers to processors and food retail

markets. However, the producers, processors and market representatives must have knowledge of the resource and evidence of its effectiveness.

What has been done

MarketMaker is a free online marketing tool, connecting producers/farmers, processors, consumers, wineries and all food chain actors. The tool is rich in demographic data of food related business. NY MarketMaker staff completed 19 Adobe Connect Online training sessions with 82 participants from 36 counties. Attendees were extension specialists, farm business management specialists, fruits and vegetable specialists, and dairy specialists. Hands-on presentations were given to producers at county harvest fair, Empire farm day, producers associations' annual conferences, agricultural marketing conferences, an international restaurant association expo, a summer fancy food show, culinary institutes, and more.

Results

In 2009, a total of 149 new producers registered with NY MarketMaker. The current producers database contains 2000 empire state producers, 480 farmers markets, and 216 wineries. The total number of NY MarketMaker website hits averages 135,000 a month. Hundreds of producers, consumers, and processors became aware of the tool through sessions at sites such as farmers markets in NYC, a restaurant expo, and a fancy food show.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
604	Marketing and Distribution Practices

Outcome #33

1. Outcome Measures

Use of a Degree Day Model to Time Control of Grape Berry Moth

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Grape Berry Moth (GBM) is the key insect pest of grapes in the eastern United States, and more specifically the 30,000 acres of grapes located in the Lake Erie Region, due to loss from the larval stage feeding directly on developing berries and also to loss associated with secondary rots that use the feeding wounds as an avenue for berry infection. The Grape Berry Moth Risk Assessment (GBMRA) Protocol was the conventional means of grape berry moth management in New York State. However, late season damage started to become a problem in the late 1990s and the GBMRA has proved to be less effective at determining the need for later season applications.

What has been done

The use of a temperature driven phenology model to time insecticide applications for grape berry moth in Lake Erie vineyards has been shown to decrease the number of applications from three to two when compared to the conventional timings provided by the grower standard while maintaining quality standards. Encouraging results from limited commercial trials have provided the information needed to expand the project to 5 implementation vineyards in the Lake Erie and Finger Lakes Regions of New York State as well as the Lake Erie Region of Pennsylvania.

Results

Results of the two-year project have shown the immediate post bloom insecticide application that is made in vineyards classified as being at high- or intermediate-risk of grape berry moth damage can be eliminated using the growing degree-day phenology model. Approximately two-thirds of the vineyards in the Lake Erie Region can be classified as either at high- or intermediate risk for grape berry moth damage. The ability to eliminate 1 insecticide application on these 20,000 acres, without a reduction in quality at harvest represents a potential decrease of 20 tons of insecticide applied each year (using Sevin 84F at 2 lbs per acre). By saving one spray grape growers in the Lake Erie region could save approximately \$328,000 in material costs alone.

4. Associated Knowledge Areas

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

Outcome #34

1. Outcome Measures

Implementing Precision Feed Management on Dairy Farms

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

How efficiently feed is converted to milk has a significant impact on the economic and environmental sustainability of dairy farms. Feed costs account for 50-65% of total expenses on the typical dairy farm when both home grown and purchased feeds are accounted for. A positive relationship has been shown between dairy farm profitability and maximizing income minus feed costs. Milk production however uses nitrogen and phosphorous relatively inefficiently as typically 50-70% of the nitrogen and phosphorous brought on to the farm remains on the farm. This remaining nitrogen and phosphorous can increase a farm's environmental risk. Implementing Precision Feed Management allows dairy farms to improve their profitability while reducing their environmental risk. The Precision Feed Management Working Group developed a set benchmarks that can be used to assess the feeding performance of individual dairy farms with easily available data. Dairy farms can compare their values to the

benchmarks and see where there are opportunities for improvement.

What has been done

Utilizing funding from the Upper Susquehanna Coalition and the New York Farm Viability Institute The Central New York Dairy and Field Crops Team conducted a series of workshops during 2008-09 to introduce the concept of Precision Feed Management to dairy producers in the six county region. Participants were able to determine where they could make improvements in their feeding and forage programs. Two program technicians have followed up with participating farms to verify the accuracy of the data provided and start developing feed management plans for the farms.

Results

85 farms have feed management plan finished or are in the process of having them completed which will indicate areas of opportunity to improve their performance. Two farms have already shown the value of utilizing the benchmarks to assess their feeding program by reducing purchased concentrates and/or increasing the amount of home grown forage in the diet. By decreasing the more expensive protein concentrate and increasing the amount of corn fed one farm was able to reduce their purchased feed costs \$.16 per cow per day or a yearly savings of on this farm of \$3,200. A second farm used the benchmarks and increased the high quality home-grown forages in the diet from 47% to 70%. This resulted in a decrease in feeding purchased concentrates at a savings \$1.42 per cow per day or \$41,464 per year. This second farm has changed from being an importer of nitrogen and phosphorous to an exporter reducing its environmental risk.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
307	Animal Production Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #35

1. Outcome Measures

Plattsburgh Community Garden

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Prior to the 2009 growing season, the city of Plattsburgh had no community gardens. Plattsburgh is a small city in Northern New York with a population of roughly 18,800 individuals. The median household income is \$28,846 while the average for the nation is \$41,994. In addition, 23.1% of the individuals living in the city are below the poverty level. The national average is 12.4%. Growing your own food can provide individuals with a more stable

supply of nutrient rich fruits and vegetables at a fraction of the cost to purchase these items. Most apartments and houses have small yards not necessarily suitable for gardens. Community gardens can help increase food security and provide a strong sense of community.

What has been done

Cornell Cooperative Extension Clinton County worked closely with the newly formed Plattsburgh Community Garden Group to create the city of Plattsburgh's first community garden in 2009. The 32 plot allotment-style garden was located in Melissa Penfield Park and allowed city residents to grow their own food, learn through hands-on workshops about vegetable gardening, and enjoy the beauty of the gardens. Once the gardens were established, the CCE educator provided workshops to community members at the gardens and Master Gardener Volunteers were available for one-on-one help. CCE Clinton County provided educational materials to the gardeners, many of whom were first time gardeners.

Results

A thirty-two plot allotment style garden was created in the city of Plattsburgh. All plots were occupied during the 2009 growing season. The garden will remain next year and hopefully the number of plots will increase. Food grown in the garden was property of the plot holders but several plots were held by civic groups who donated all of the food to local food assistance shelves. Six on-site workshops were held for garden members and the community about various gardening topics. Master Gardener Volunteers helped plot holders and community members with their gardening concerns by walking through the park on Tuesday evenings and Saturday mornings. Local elementary school children learned about gardening by becoming involved, growing sunflowers for the garden and by using the space as an outdoor classroom.

4. Associated Knowledge Areas

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

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

Agricultural/horticultural enterprises operate in a complex and volatile context involving susceptibility to weather extremes, changing governmental policies and regulations, competitive land uses and shifting development patterns, evolving consumer demands, and globally influenced markets. Fundamental change is occurring in the state and regional economies within which agricultural and horticultural enterprises operate. The specific implications of these external factors vary greatly by locale and across commodities and business forms. Population and land use changes in farming communities can lead to producer/neighbor issues that influence choice of production practices. Economic stress exacerbates issues of food insecurity and hunger and many community organizations are over burdened and unable to meet demands.

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
- Comparisons between program participants (individuals,group,organizations) and non-participants

Evaluation Results

The evaluation approach for this and all other logic models included in our plan is more accurately described as an evaluation "system" rather than as bounded "studies" or investigations. Because each of the plans addresses a broad combination of applied research and extension initiatives spanning multiple audiences, methods, and intended outcomes, a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities is required to provide comprehensive assessment. In addition, specialized data needs of funding partners must be addressed, sometimes using methods and/or accountability structures required by the funders. In support of each of the logic models, we provide educators with recommended evaluation strategies and, where available, recommended standard instruments for their use.

Key Items of Evaluation

Basic program documentation and monitoring activities include simple logging of program outputs and participation, including required equal program opportunity data. Program outcome data is collected through direct observation, participant feedback before, during, and after programs, systematic collection of anecdotal information, and delayed follow-up surveys. Each local site uses a different mix of these methods appropriate to their level of investment in the program. (The mix of Cornell Cooperative Extension programs in local extension units largely is determined by that unit.) Each local extension unit annually provides via a web-based reporting system program participation data, reports against an output/outcome template derived from the approved Federal plan of work, and selected "success stories."

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Climate Change

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
104	Protect Soil from Harmful Effects of Natural Elements	7%		2%	
111	Conservation and Efficient Use of Water	15%		2%	
112	Watershed Protection and Management	17%		20%	
125	Agroforestry	5%		4%	
132	Weather and Climate	14%		6%	
133	Pollution Prevention and Mitigation	10%		19%	
135	Aquatic and Terrestrial Wildlife	8%		16%	
136	Conservation of Biological Diversity	15%		15%	
141	Air Resource Protection and Management	2%		1%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	2%		12%	
405	Drainage and Irrigation Systems and Facilities	5%		3%	
Total		100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Actual	34.0	0.0	11.0	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
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

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 effort 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 applied research and educational efforts depending on the focus and scope of their role. Example targeted activities include a comprehensive "Northeast Climate Impacts Assessment" that details potential impacts on crops, dairy, forests, and invasive pest species for the region and the Cornell Computational Agricultural Project that is compiling daily weather data and using complex computing tools to create a user friendly website and database for farmers to help them make critical decisions as they adapt to the changing environment. Climate change is tied intimately to sustainable energy concerns. Therefore, climate change is an important element of energy literacy initiatives across all audiences.

2. Brief description of the target audience

Key audiences served, directly and indirectly include: agricultural, horticultural and natural resource producers; consultants and service providers, resource managers, governmental agencies, and local/state/federal governmental leaders and policy makers, and individual consumers.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual	69167	709702	18957	425614

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

Patent Applications Submitted

Year: 2009

Plan:

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan			
Actual	25	22	47

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- (2e) # non-credit instructional activities directed to this program.

Year	Target	Actual
2009	{No Data Entered}	2251

Output #2

Output Measure

- (2f) # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2009	{No Data Entered}	614696

Output #3

Output Measure

- (2.7a) # of agricultural/ natural resources producers, and/or organization and business representatives completing educational programs on managing natural resources, invasive species, and/or biodiversity. Not reporting on this Output for this Annual Report

Output #4

Output Measure

- (2.8a) # of local government officials and community leaders completing educational programs on managing natural resources, invasive species, open space preservation, alternative land uses and/or biodiversity.
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- (2.9a) # of adult and youth consumers, residents, and landowners completing educational programs on natural resources protection, invasive species, and/or biodiversity.
Not reporting on this Output for this Annual Report

Output #6

Output Measure

- (2.4a) # of agricultural/natural resources producers, and/or organization and business representatives completing educational programs on managing water resources.
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- (2.5a) # of local government officials and community leaders completing educational programs on managing water resources and the relationship between water resources and land use management.
Not reporting on this Output for this Annual Report

Output #8

Output Measure

- (2.6a) # of adult and youth consumers, residents, and landowners completing educational programs on water resources protection.
Not reporting on this Output for this Annual Report

Output #9

Output Measure

- (2.1a) # of agricultural/natural resources producers, and/or organization and business representatives completing educational programs on the causes and implications of climate change and adaptive or mitigating strategies.
Not reporting on this Output for this Annual Report

Output #10

Output Measure

- (2.2a) # of local government officials and community leaders completing educational programs on causes and implications of climate change and adaptive or mitigating strategies.
Not reporting on this Output for this Annual Report

Output #11

Output Measure

- (2.3a) # of adult and youth consumers, residents, and landowners completing educational programs on causes and implications of climate change and adaptive or mitigating strategies.
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	(2.7c) # 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.
2	(2.8c) # 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.
3	(2.8d) # of communities documented to have thoroughly assessed the status of their natural resources.
4	(2.8e) Documented instances in which implementation of natural resources management 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.
5	(2.9c) # 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.
6	(2.9d) 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.
7	(2.4c) # 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.
8	(2.4d) # of agricultural/natural resources producers and business representatives documented to have improved and/or protected water resources.
9	(2.5c) # 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.
10	(2.5d) # of communities documented to have thoroughly assessed the status of their water resources.
11	(2.5e) # of communities documented to have established or modified land use and development policies to enhance and protect water resources.
12	(2.6c) # of consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources.
13	2.6d # of adult and youth consumers, residents, and landowners documented to have successfully modified existing practices and/or adopted new practices leading to improved protection/enhancement of water resources.
14	2.7d Documented instances in which implementation of natural resources management practices by agricultural/ natural resources producers, and/or organization and business representatives lead to increase open space preservation, enhanced/ protected natural resources, biodiversity, land use.
15	2.1b # of agricultural/natural resources producers, and/or organization and business representatives who demonstrate knowledge gains about on the causes and implications of climate change and adaptive or mitigating strategies.
16	2.2b # of local government officials and community leaders who demonstrate knowledge gains about causes and implications of climate change and adaptive or mitigating strategies.
17	2.3b # of adult and youth consumers, residents, and landowners who demonstrate knowledge gains on causes and implications of climate change and adaptive or mitigating strategies.

18	2.4b # of agricultural/natural resources producers, and/or organization and business representatives who demonstrate knowledge gains about managing water resources. (no target)
19	2.5b # 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.
20	2.6b # of adult and youth consumers, residents, and landowners who demonstrate knowledge gains about water resources protection.
21	2.7b # of agricultural/ natural resources producers, and/or organization and business representatives who demonstrate knowledge gains about managing natural resources, invasive species, and/or biodiversity.
22	2.8b # of local government officials and community leaders who demonstrate knowledge gains about managing natural resources, invasive species, open space preservation, alternative land uses and/or biodiversity.
23	2.9b # of adult and youth consumers, residents, and landowners who demonstrate knowledge gains about natural resources management, invasive species, and/or biodiversity.
24	The National Atmospheric Deposition Program (NADP)
25	Optimized Reduced Tillage Systems for Vegetables
26	Integrative Physiology of Grape and Apple Responses to the Environment, Cultural manipulations and Biotec Stresses
27	Urban Youth Watershed Education
28	Ashokan Watershed Stream Management Program
29	Fertilizer Law Compliance Training
30	Climate Change Education

Outcome #1

1. Outcome Measures

(2.7c) # 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	1062

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
132	Weather and Climate
136	Conservation of Biological Diversity

Outcome #2

1. Outcome Measures

(2.8c) # 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	168

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
---------	----------------

- 132 Weather and Climate
- 136 Conservation of Biological Diversity

Outcome #3

1. Outcome Measures

(2.8d) # of communities documented to have thoroughly assessed the status of their natural resources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	49

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
132	Weather and Climate
136	Conservation of Biological Diversity

Outcome #4

1. Outcome Measures

(2.8e) Documented instances in which implementation of natural resources management 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	115

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
132	Weather and Climate
136	Conservation of Biological Diversity

Outcome #5

1. Outcome Measures

(2.9c) # 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	15223

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
132	Weather and Climate
136	Conservation of Biological Diversity

Outcome #6

1. Outcome Measures

(2.9d) 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	1157

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate
136	Conservation of Biological Diversity

Outcome #7

1. Outcome Measures

(2.4c) # 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	2455

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate

Outcome #8

1. Outcome Measures

(2.4d) # of agricultural/natural resources producers and business representatives documented to have improved and/or protected water resources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	1005

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate

Outcome #9

1. Outcome Measures

(2.5c) # 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	183

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate

Outcome #10

1. Outcome Measures

(2.5d) # of communities documented to have thoroughly assessed the status of their water resources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	49

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate

Outcome #11

1. Outcome Measures

(2.5e) # of communities documented to have established or modified land use and development policies to enhance and protect water resources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	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
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate

Outcome #12

1. Outcome Measures

(2.6c) # of consumers, residents, and landowners documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance water resources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	6449

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate

Outcome #13

1. Outcome Measures

2.6d # of adult and youth consumers, residents, and landowners documented to have successfully modified existing practices and/or adopted new practices leading to improved protection/enhancement of water resources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	2112

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate

Outcome #14

1. Outcome Measures

2.7d Documented instances in which implementation of natural resources management practices by agricultural/natural resources producers, and/or organization and business representatives lead to increase open space preservation and/or protected natural resources, biodiversity, land use.

Outcome #15

1. Outcome Measures

2.1b # of agricultural/natural resources producers, and/or organization and business representatives who demonstrate knowledge gains about on the causes and implications of climate change and adaptive or mitigating strategies.
Not Reporting on this Outcome Measure

Outcome #16

1. Outcome Measures

2.2b # of local government officials and community leaders who demonstrate knowledge gains about causes and implications of climate change and adaptive or mitigating strategies.
Not Reporting on this Outcome Measure

Outcome #17

1. Outcome Measures

2.3b # of adult and youth consumers, residents, and landowners who demonstrate knowledge gains on causes and implications of climate change and adaptive or mitigating strategies.
Not Reporting on this Outcome Measure

Outcome #18

1. Outcome Measures

2.4b # of agricultural/natural resources producers, and/or organization and business representatives who demonstrate knowledge gains about managing water resources. (no target)
Not Reporting on this Outcome Measure

Outcome #19

1. Outcome Measures

2.5b # 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.
Not Reporting on this Outcome Measure

Outcome #20

1. Outcome Measures

2.6b # of adult and youth consumers, residents, and landowners who demonstrate knowledge gains about water resources protection.
Not Reporting on this Outcome Measure

Outcome #21

1. Outcome Measures

2.7b # of agricultural/ natural resources producers, and/or organization and business representatives who demonstrate knowledge gains about managing natural resources, invasive species, and/or biodiversity.
Not Reporting on this Outcome Measure

Outcome #22

1. Outcome Measures

2.8b # of local government officials and community leaders who demonstrate knowledge gains about managing natural resources, invasive species, open space preservation, alternative land uses and/or biodiversity.
Not Reporting on this Outcome Measure

Outcome #23

1. Outcome Measures

2.9b # of adult and youth consumers, residents, and landowners who demonstrate knowledge gains about natural resources management, invasive species, and/or biodiversity.
Not Reporting on this Outcome Measure

Outcome #24

1. Outcome Measures

The National Atmospheric Deposition Program (NADP)

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Acid precipitation (acid rain) is a significant environmental concern to Northeastern U.S. ecosystems. This project provides for continued monitoring of the chemical composition of precipitation.

What has been done

1.) Characterize geographic patterns and temporal trends in biologically important chemical deposition. 2.) Support research activities related to: (a) the productivity of managed and natural ecosystems; (b) the chemistry of surface and ground waters including estuaries; (c) the health of domestic animals, wildlife, and fish; (d) human health; (e) the effects of atmospheric deposition on visibility and materials; and (f) source-receptor relationships. 3.) Support public education and outreach through the development of informational brochures and programs aimed at people of all ages.

Results

This project continued the record of acid deposition measurements at one of the longest uninterrupted measurement sites in the National Acid Deposition Program. The Aurora NADP data are freely available to scientists via the NADP web site <http://nadp.sws.uiuc.edu>. In recent years the website logged 160,000 sessions from 53,000 individual users. Approximately 60 percent of these users study the effects of atmospheric deposition on aquatic and terrestrial ecosystems and cultural resources. The remaining 40 percent of the users access the

data for educational purposes. Recently the data have formed the basis for two college textbooks Environment, the Science behind the Stories and Chemistry: A World of Choices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
132	Weather and Climate
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
141	Air Resource Protection and Management

Outcome #25

1. Outcome Measures

Optimized Reduced Tillage Systems for Vegetables

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Certain agricultural practices on vegetable farms reduce soil quality and contribute to soil losses due to surface water. This project examines alternative ways of tilling the soil to improve soil health and reduce soil loss from erosion and water run-off. At the same time, increasing costs of fuel and declining soil quality are driving many vegetable growers in the Northeast to examine reduced tillage systems.

What has been done

1) Identify strategies to address challenges to adopting reduced tillage systems for vegetables, including choosing land for transition, identifying crop sequences and appropriate cover crops, avoiding crop harvest delays, managing weeds via herbicides and high residue cultivation, and selecting equipment appropriate to small farms. 2) Create a Users Guide for Reduced Tillage in Vegetable Crops that summarizes research findings and growers experiences in addressing the challenges of these systems in northeastern climates. 3) Modify reduced tillage approaches for use in organically managed vegetable systems. 4) Support growers transitioning to these systems via consulting and discussion groups.

Results

We have demonstrated strategies to transition into reduced tillage systems without yield losses. Growers around the state and the Northeast have expressed interest in transitioning to conservation tillage systems. Since the start of this project, an additional 15 growers have purchased or build equipment to reduce tillage intensity. Of the 6000 acres of vegetables that these growers manage, 3200 (65%) are now managed using reduced tillage

approaches. All growers plan to expand their acreage, and all but one has purchased the needed zone tillage equipment. Most of these have been larger scale conventional producers. Preliminary economic analysis has shown about 50% savings in fuel use and labor costs with these conservation tillage systems. One grower reports that savings were adequate to pay for the investment in his deep zone building unit.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water

Outcome #26

1. Outcome Measures

Integrative Physiology of Grape and Apple Responses to the Environment, Cultural manipulations and Biotec Stresses

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The modern consumer demands very high quality food and they may pay substantially more for particular products, though often they want high quality for a low price. This will take a very high level of management skill and an increasing understanding and control of the physiological and environmental factors that affect production and quality. This research is aimed at helping farmers produce crops efficiently, improve product quality, stabilize production for more food security, and ultimately help farmers adapt to a warming climate.

What has been done

1) Address measuring and modeling the seasonal physiology of apples and grapes using whole plant and molecular methods, monitoring of plant microclimate, and plant status with new micro sensors. 2) Develop sound usable models of plant and fruit responses to environment and culture to improve production, stability and fruit quality. Emphasis will be on apple fruit development and thinning, and crop load and canopy management effects on grapevine performance, fruit quality and subsequent grape and wine quality. 3) New opportunities will be explored to document environmental and plant-based variation that affects crop physiology through rapidly advancing sciences (e.g. microsensors, terahertz imaging, remote sensing, precision agriculture technologies, geospatial technologies, etc.) This will require establishing new teams with engineers, geographic information systems, and crop management specialists in a multi-disciplinary approach.

Results

Initial studies estimated apple orchard and vineyard environmental footprints (CO₂ fixation and distribution, cooling effects, oxygen evolution of the trees or vines and the cover crops) and how climate change could affect production, fruit quality, and management. Ongoing parallel studies included, the MaluSim apple carbon balance model, which explained variations in the response of apple trees to chemical thinners applied at different times of

fruit development. The model was run with real-time weather data from different regions in NY to help understand weather-related variations in thinner response when advising growers for thinning. Again in 2009, growers reported improved thinning effectiveness. The model also was validated by explaining an extremely heavy drop of apples in the Uruguayan apple industry related to a 4-day cloudy period with warm nights leading to a critical carbon deficit. For grapes, studies of the relationship of vine vigor to the concentration of IB-methoxypyrazine (MP - bell pepper aroma) in Cabernet franc showed positive correlations between berry MP concentrations and vine vigor. The critical period appeared to be between berry set and veraison when MPs accumulate very rapidly. Shoot vigor was correlated with water status, especially stem water potential during that period. A new project developed a microfluidics-based microsensor to be embedded into trunks to continuously monitor stem water potential. The key sensor components, a nanopore exchange membrane and a miroelectromechanical pressure transducer were engineered and prototypes manufactured.

4. Associated Knowledge Areas

KA Code	Knowledge Area
132	Weather and Climate
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants

Outcome #27

1. Outcome Measures

Urban Youth Watershed Education

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Youth are an important community resource now and for the future, can participate in environmental matters related to climate change and require strong partnerships with older youth and adults to learn and act upon new knowledge and skills. There are complex ecological concepts associated with climate change including how change affects water resources, ecosystems, and watersheds. Competent leaders require abilities to teach complex environmental concepts to younger youth and public audiences.

What has been done

Cornell Cooperative Extension Dutchess County's No Child Left Inside Program has been working since 2007 to teach underrepresented, urban youth in Poughkeepsie, NY more about their local environment, along with outdoor, leadership, educational and communication skills. The program engages teen environmental leaders over several years, who in turn, educate younger youth and peers, and engage in community environmental projects. Five underserved youth from the City of Poughkeepsie serve as Environmental Teen Leaders, learn public speaking, leadership and teaching skills along with environmental education, plan environmental curriculum to train younger youth and peers and engage in outdoor activities and hands on community environmental projects.

Results

Teen environmental leaders worked with adult staff implementing 16 youth environmental enrichment lessons for younger youth and peers throughout the year reaching a total of 271 youth. Teen leaders staffed educational booths and led 10 environmental events reaching 1,200 youth and adults. Teens were also engaged in 15 environmental issues in their own communities. Pre-and post-evaluations of teen and youth participants show an increase in understanding of complex ecological concepts, including water resources, ecosystems, watersheds, and climate change, and among teen participants, an increase in ability to teach complex environmental concepts to younger youth and public audiences.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
132	Weather and Climate
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife

Outcome #28

1. Outcome Measures

Ashokan Watershed Stream Management Program

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a lack of technical expertise and knowledge about natural channel stream restoration on the part of highway departments, natural resource managers and engineers. This affects the way they manage the road/stream/bridge interface and design projects that would affect streams. Potential audiences for programs include County SWCD staff, NRCS stream staff, DOT culvert, bridge and permitting engineers, highway superintendants, DEC staff who permit or work on stream-related programs, and consulting engineers.

What has been done

Cornell Cooperative Extension of Ulster County and NYC Department of Environmental Protection collaborated to offer a 5 day class October 5-9, 2009 on fluvial geomorphology (how streams affect the landscape) and how to use the natural/stable shape of the stream in designing restoration projects or infrastructure that affects the stream such as bridges, culverts and roads. Dr. David Rosgen, a national expert on natural channel design practices was the featured presenter.

Results

Over forty local highway departments and natural resource managers participated in the course. Respondents to a survey conducted after the training said that the training was very useful to them in looking at the impact that their projects would be likely to have on streams. Most said that this knowledge would affect their designs. Since the training, the highway superintendants who participated have been more engaged with the CCE and DEC staff to develop solutions stream erosion problems adjacent to bridges and roads that are not reliant solely on hardening the stream bank.

4. Associated Knowledge Areas

KA Code	Knowledge Area
104	Protect Soil from Harmful Effects of Natural Elements
112	Watershed Protection and Management
132	Weather and Climate

Outcome #29

1. Outcome Measures

Fertilizer Law Compliance Training

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The public at-large and the turf grass industry are concerned about the quality of stormwater runoff. Westchester CountyNY passed a law in April, 2009 regulating the use of fertilizers on turfgrass in an effort to improve stormwater runoff quality. Nitrogen and phosphorous nutrients can only be added to turfgrass if a soil test indicates that it is needed or if the lawn is newly installed. Even then, the fertilizers can only be applied under certain circumstances and during certain times of the year. With a payroll of \$100 million a year among the approximately 2,000 turf and landscape contractors, that is a significant industry in Westchester. Approximately 8,000 people are employed in this industry.

What has been done

CCE Westchester was written into the law as the provider of compliance training for those governed by this new law and is training workers in the turf and landscape industry in English and Spanish to comply with the fertilizer use law. CCE Westchester developed a compliance course, had it filmed and put on DVD in both English and Spanish. With the county's collaboration, nearly 2,000 copies of the course were distributed to employers in the turf and landscape industry. In addition, CCE Westchester gave a live course to over 200 employers in this industry.

Results

Approximately 2,000 turf and landscape industry representatives and their nearly 8,000 English-speaking and Spanish-speaking people now have access to fertilizer use compliance training. By making the training so

accessible and easy to understand, the likelihood of compliance is significantly increased. Increased compliance is expected to result in decreased nutrients of phosphorous and nitrogen getting into the stormwater runoff and ending up in the Hudson River, Long Island Sound and Atlantic Ocean. The outcome is healthier bodies of water as well as a healthier turf and landscape industry.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
132	Weather and Climate
133	Pollution Prevention and Mitigation
405	Drainage and Irrigation Systems and Facilities

Outcome #30

1. Outcome Measures

Climate Change Education

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

New York farmers, gardeners, landscape and wildlife managers, state agencies, and individual citizens with the necessary information and decision tools to adapt to climate change and to mitigate greenhouse gas emissions in their operations and facilities. Demand for information and invitations for presentations from policy makers, news media and general public has grown substantially.

What has been done

More than 40 presentations on climate change were made reaching 2870 stakeholders. Outreach has included interviews and collaboration with national and local journalists for newspaper, magazine, radio and television news media outlets and substantial interaction with state, national, and international agency staff and policy makers, including high-profile Congressional briefings and a poster presentation at the 2009 UN COP15 climate change conference in Copenhagen, thus entering the state, national, and international dialogue and policy development regarding climate change impacts on agriculture and forestry, and cap-and-trade policy.

Results

A permanent climate change website is available for businesses, residents, and policy makers. Briefings to Congress as well as NYS Farm Bureau, NYS Agriculture and Markets and Department of Environmental conservation are influencing policy development at the national and state levels.

4. Associated Knowledge Areas

KA Code	Knowledge Area
104	Protect Soil from Harmful Effects of Natural Elements
112	Watershed Protection and Management
132	Weather and Climate
136	Conservation of Biological Diversity

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

Climate change issues play out in a complex and volatile context involving weather extremes, changing governmental policies and regulations, competitive land uses and shifting development patterns, evolving consumer demands, and globally influenced markets. The specific implications of these external factors vary greatly by locale and across commodities and business forms. Technical knowledge of climate change issues and mitigation strategies is evolving rapidly. There is growing antagonism between climate skeptics and climate scientists further polarizing the issue.

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
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

The evaluation approach for this and all other logic models included in our plan is more accurately described as an evaluation "system" rather than as bounded "studies" or investigations. Because each of the plans addresses a broad combination of applied research and extension initiatives spanning multiple audiences, methods, and intended outcomes, a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities is required to provide comprehensive assessment. In addition, specialized data needs of funding partners must be addressed, sometimes using methods and/or accountability structures required by the funders. In support of each of the logic models, we provide educators with recommended evaluation strategies and, where available, recommended standard instruments for their use.

Key Items of Evaluation

Basic program documentation and monitoring activities include simple logging of program outputs and participation, including required equal program opportunity data. Program outcome data is collected through direct observation, participant feedback before, during, and after programs, systematic collection of anecdotal information, and

delayed follow-up surveys. Each local site uses a different mix of these methods appropriate to their level of investment in the program. (The mix of Cornell Cooperative Extension programs in local extension units largely is determined by that unit.) Each local extension unit annually provides via a web-based reporting system program participation data, reports against an output/outcome template derived from the approved Federal plan of work, and selected "success stories.

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Sustainable Energy

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
123	Management and Sustainability of Forest Resources	17%		16%	
124	Urban Forestry	10%		20%	
401	Structures, Facilities, and General Purpose Farm Supplies	14%		0%	
402	Engineering Systems and Equipment	8%		17%	
403	Waste Disposal, Recycling, and Reuse	26%		17%	
404	Instrumentation and Control Systems	5%		5%	
605	Natural Resource and Environmental Economics	20%		25%	
Total		100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Actual	65.0	0.0	3.0	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
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

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 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 applied research and educational efforts depending on the focus and scope of their role. In Spring 2010 we launched a major statewide educational initiative based on a team of four specialists located regionally, four campus faculty in leadership roles, and several program work teams.

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. Policy education efforts relate to development of agriculture and natural resources based alternative energy sources.

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.

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. Workforce development professionals receive information on energy and green economy career pathways. 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual	36909	2132893	9814	195930

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

Patent Applications Submitted

Year: 2009

Plan:

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan			
Actual	37	45	82

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- (3.1a) # agricultural producers and agribusiness representatives completing educational programs on the potential for development of biologically-based fuels.
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- (3.1b) # 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.
Not reporting on this Output for this Annual Report

Output #3

Output Measure

- (3.1c) # agricultural producers and agribusiness, and natural resource business representatives completing educational programs about cropping for biofuels production.
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- (3.2a) # 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.
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- (3.3a) # consumers and community leaders completing educational programs about the availability and pros and cons of alternative energy.
Not reporting on this Output for this Annual Report

Output #6

Output Measure

- (3.4a) # consumers, property managers, and/or housing officials completing educational programs about potential energy cost savings, including selecting energy providers, and energy conservation strategies and measures especially related to housing and transportation.
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- (3.5a) # community members, leaders and officials completing education programs about the relationships between development patterns and energy use/costs.
Not reporting on this Output for this Annual Report

Output #8

Output Measure

- (3e) # non-credit instructional activities directed to this program.

Year	Target	Actual
2009	{No Data Entered}	3292

Output #9

Output Measure

- (3f) # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2009	{No Data Entered}	120239

Output #10

Output Measure

- (3.6a) # of agricultural/natural resources producers, and/or organization and business representatives completing educational programs on managing and reducing waste.
Not reporting on this Output for this Annual Report

Output #11

Output Measure

- (3.7a) # of local government officials and community leaders completing educational programs on managing and reducing waste and the relationship between waste and land use management.
Not reporting on this Output for this Annual Report

Output #12

Output Measure

- (3.8a) # of adult and youth consumers, residents, and landowners completing educational programs on waste reduction and management.

Year	Target	Actual
2009	{No Data Entered}	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	(3.1d) # agricultural producers, agribusiness, or local and state leaders who demonstrate knowledge gains about the potential for development of biologically-based fuels.
2	(3.1e) # 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.
3	(3.1f) # producers, economic development organizations and other groups collaborate to establish biofuels as a viable alternative crop.
4	(3.1g) # of existing or new producers documented to have modified existing practices or technologies and/or adopted new production management practices for biofuels production.
5	(3.1.h) # 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.
6	(3.2b) # 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.
7	(3.2c) # of agricultural/horticultural/ natural resource businesses documented to have adopted appropriate alternative energy sources and/or energy conservation practices.
8	(3.2d) # 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.
9	(3.3b) # consumers and/or community leaders who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources especially related to housing and transportation.
10	(3.3c) # of consumers documented to have adopted appropriate alternative energy sources.
11	(3.3d) # of consumers who report savings on energy costs attributable to adopting alternative energy sources.
12	(3.4b) # consumers, property managers, and/or housing officials who demonstrate knowledge or skills gains and/or can articulate specific actions they will take related to energy cost controls and conservation measures especially related to housing and transportation.
13	(3.4c) # of consumers reporting to have adopted appropriate energy cost control and/or conservation practices.
14	(3.4d) # of property managers, and/or housing officials documented to have taken measures to improve energy cost control or efficiency of existing and new buildings.
15	(3.4e) # of consumers who report savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures.
16	(3.5b) # community members, leaders and officials who demonstrate knowledge gains about the relationships between development patterns and energy use/costs.
17	(3.5c) # communities documented to have assessed local energy development proposals and/or the relationships between current policies and regulations and energy conservation.
18	(3.5d) # of community agencies/organizations documented to have adopted appropriate alternative energy sources.

19	(3.5e) # of communities documented to have established or modified land use and development policies to promote energy conservation.
20	(3.5f) # of community agencies/organizations reporting savings on energy costs attributable to adopting alternative energy sources.
21	Development, Validation, and Costs of Net Energy and Gas Production Model of Anaerobic Digesters
22	Breeding and Genetics of Forage Crops to Improve Productivity, Quality and Industrial Uses
23	Agricultural and Rural Finance Markets in Transition
24	Marcellus Shale Gas Leasing
25	Recycling Agricultural Plastics
26	Warm Season Grasses

Outcome #1

1. Outcome Measures

(3.1d) # agricultural producers, agribusiness, or local and state leaders who demonstrate knowledge gains about the potential for development of biologically-based fuels.
 Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

(3.1e) # 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.
 Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

(3.1f) # producers, economic development organizations and other groups collaborate to establish biofuels as a viable alternative crop.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	1623

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
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
605	Natural Resource and Environmental Economics

Outcome #4

1. Outcome Measures

(3.1g) # of existing or new producers documented to have modified existing practices or technologies and/or adopted new production management practices for biofuels production.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	147

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
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
605	Natural Resource and Environmental Economics

Outcome #5

1. Outcome Measures

(3.1.h) # 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	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
123	Management and Sustainability of Forest Resources
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
605	Natural Resource and Environmental Economics

Outcome #6

1. Outcome Measures

(3.2b) # 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 on this Outcome Measure

Outcome #7

1. Outcome Measures

(3.2c) # of agricultural/horticultural/ natural resource businesses documented to have adopted appropriate alternative energy sources and/or energy conservation practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	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
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems

Outcome #8

1. Outcome Measures

(3.2d) # 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	56

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
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems

Outcome #9

1. Outcome Measures

(3.3b) # consumers and/or community leaders who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources especially related to housing and transportation.
Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

(3.3c) # of consumers documented to have adopted appropriate alternative energy sources.
Not Reporting on this Outcome Measure

Outcome #11

1. Outcome Measures

(3.3d) # of consumers who report savings on energy costs attributable to adopting alternative energy sources.
Not Reporting on this Outcome Measure

Outcome #12

1. Outcome Measures

(3.4b) # consumers, property managers, and/or housing officials who demonstrate knowledge or skills gains and/or can articulate specific actions they will take related to energy cost controls and conservation measures especially related to housing and transportation.

Not Reporting on this Outcome Measure

Outcome #13

1. Outcome Measures

(3.4c) # of consumers reporting to have adopted appropriate energy cost control and/or conservation practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	4953

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
605	Natural Resource and Environmental Economics

Outcome #14

1. Outcome Measures

(3.4d) # of property managers, and/or housing officials documented to have taken measures to improve energy cost control or efficiency of existing and new buildings.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	94

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
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems

Outcome #15

1. Outcome Measures

(3.4e) # of consumers who report savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	4301

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
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems

Outcome #16

1. Outcome Measures

(3.5b) # community members, leaders and officials who demonstrate knowledge gains about the relationships between development patterns and energy use/costs.
Not Reporting on this Outcome Measure

Outcome #17

1. Outcome Measures

(3.5c) # communities documented to have assessed local energy development proposals and/or the relationships between current policies and regulations and 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
2009	{No Data Entered}	29

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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124	Urban Forestry
403	Waste Disposal, Recycling, and Reuse
605	Natural Resource and Environmental Economics

Outcome #18

1. Outcome Measures

(3.5d) # of community agencies/organizations documented to have adopted appropriate alternative energy sources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
605	Natural Resource and Environmental Economics

Outcome #19

1. Outcome Measures

(3.5e) # of communities documented to have established or modified land use and development policies to promote energy conservation.

Not Reporting on this Outcome Measure

Outcome #20

1. Outcome Measures

(3.5f) # of community agencies/organizations reporting savings on energy costs attributable to adopting alternative energy sources.

Not Reporting on this Outcome Measure

Outcome #21

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
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Daily spreading of manure has negative environmental impacts. Anaerobic digestion is a proven process to reduce offensive manure odors while potentially generating some income. But it typically only is feasible for large-scale dairy producers. This project examines the economics of digesters and to assess diversification of dairy farms through production of alternative energy and byproducts.

What has been done

Collect and analyze data from existing anaerobic digesters, identify critical parameters to minimize energy loss and costs and maximize production and create a comprehensive economic model that will estimate the total annual cost of designing, installing and/or operating plug-flow anaerobic digesters. Convert the final comprehensive model into an interactive and easy-to-use web-based format for use by extension engineers, consultants and producers.

Results

The model developed in the project predicts the energy requirement to run an anaerobic digestion system, and determine the extra energy that could be used for other beneficial purposes in the farm. Using the model, an operator can do "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 web-based system is designed so that extension engineers and farmers could use it to assess the feasibility and profitability of installing anaerobic digesters on a farm, or in a community with access to several smaller farms. Our study shows that in order to generate additional income from tipping fees, the main way digesters become economic viable, the digester must be placed centrally to facilities that produce large amounts of food waste. This translates into an additional revenue source and makes investments more profitable. A centralized digestion facility is an appealing venture to a community because of its provision of controlling odor, production of green energy, and creates new revenue for local farmers. The centralized facility thus helps to improve the local economy while keeping the local dairy industry and providing an alternative energy source. Three journal papers

and four technical conference papers were produced from the project. One of the three journal papers won the American Society of Agricultural and Biological Engineering (ASABE) Superior Research Paper Award (2006), and the second journal paper was selected for an ASABE Honorable Mention Paper Award (2008). These awards are meritorious because only 2 to 2.5 percent of the papers published in the Transactions of ASABE those years were selected for the award.

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
605	Natural Resource and Environmental Economics

Outcome #22

1. Outcome Measures

Breeding and Genetics of Forage Crops to Improve Productivity, Quality and Industrial Uses

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Limitations in forage quality, yield, and persistence must be overcome to make farm operations more economical for livestock production and to encourage the production of feedstocks for bioenergy uses.

What has been done

This collaborative project is evaluating new plant characters and developing germplasm and cultivars to improve perennial forage species as livestock feed and for biofuel uses. We are building on previous research to evaluate additional breeding methods for improving yield and persistence of alfalfa, red clover, orchardgrass, and other forage species to make production agriculture more economical and sustainable. And we are evaluating new experimental populations and cultivars of perennial forage species for characteristics necessary for breeders, seed companies, seed and forage producers, and crop consultants to make decisions on commercial use over large regions.

Results

The most recent alfalfa cultivars from this project combine substantially improved forage yield, persistence, and quality. Milk production per acre of these alfalfa cultivars is estimated to be more than 3,000 pounds per acre per year more than the low quality check cultivar. Increases in pectin concentration and higher fiber digestibility should increase carbohydrates available to rumen microbes, which should increase utilization of forage protein available to cows for milk production. The new alfalfa cultivar Ezra (NY 0231) was among the top cultivars for forage yield in 2009 in NY and PA. Feedstock crop improvement will help in the establishment of regional

bioenergy feedstocks that are environmentally sustainable. Perennial forage species are among the most environmentally compatible crops because they reduce soil erosion, improve soil tilth, and eliminate N fertilizer applications (for legumes).

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #23

1. Outcome Measures

Agricultural and Rural Finance Markets in Transition

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Structural changes in agriculture, U.S. policy, and international developments have caused agricultural financial markets and the institutions that supply capital to the rural economy to undergo significant changes that are not clearly understood.

What has been done

The project sought to determine how these changes impact financial markets, agricultural lenders, and agricultural businesses including farms. It determined the effects of changes in international competitive balance and federal and state policies affecting agriculture on the financial and economic performance of farms, agribusinesses and rural financial markets. It also determined the effects of market, policy, and structural change in the agricultural and financial market sectors on the financial soundness, safety, and management of financial institutions that supply capital to agriculture. Lastly, it evaluated the management strategies, capital needs, and financial performance required for the long-term sustainability of firms in the food and agribusiness sector.

Results

The project made several findings that enable farmers to make better decisions about agricultural investments and debt use, including quantifying the value the development of bioenergy markets have on agricultural land values, which comprise a significant portion of the balance sheet of the agricultural sector. The results help lenders better understand the risks and returns associated with credit delivery to agriculture and thereby improve farmers' use of and access to capital. The results created knowledge regarding the economics and financial viability of specific renewable energy projects, such as anaerobic digestion and biochar production.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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Outcome #24

1. Outcome Measures

Marcellus Shale Gas Leasing

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Stakeholders seek a basic overview and understanding of the issues associated with Marcellus Shale natural gas exploration and drilling. Important economic, environmental, regulatory and other public issues are at stake. Effective educational strategies require including a vast array of participants, ranging from state agencies to individual land owners to environmental activists. Targeted education, training, and support is needed taking an interdisciplinary research-based approach, and building upon existing and emerging partnerships with local, regional, and state agencies and organizations. This will allow participants to carefully consider alternatives and make informed decisions.

What has been done

A team of CCE educators, faculty and associates was created and collaboration and consultations instituted with Penn State Extension and the assistance of an incoming PhD student obtained. A website was created and resource materials developed, webinars and workshops were offered. CCE conducted a series of Public Forums providing an overview of Marcellus Shale development in the Southern Tier of New York State. Interviews with a range of stakeholders, including pro-development landowners and environmental activists were conducted. Marcellus Shale development issues, particularly information regarding workforce composition, environmental impacts, and community preparedness were addressed.

Results

Very positive television and print media stories have been published depicting CCE as a key source of knowledge. Initial outreach efforts on workforce development - including a meeting of regional workforce development leaders held at Cornell University - spurred additional research and cross-collaboration such as between Corning NY Community College and Pennsylvania's College of Technology. Task forces were formed in Broome and Tioga counties to prepare communities to best take advantage of natural gas development and for dealing with environmental issues.

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
605	Natural Resource and Environmental Economics

Outcome #25

1. Outcome Measures

Recycling Agricultural Plastics

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Recycling offers an alternative to the open burning of agricultural plastics on NYS farms, a common practice that releases harmful emissions of dioxins, heavy metals and particulates. Uncontrolled fires on farms create a particular risk because the emissions deposit in agricultural communities and on food and animal feed, thereby re-entering the food chain and creating a health risk for all consumers. Recycling is also an alternative to the common practices of plowing waste plastic into the soil, leaving it in the fields or stashing it in some out-of-the-way corner of the farm. Recycling conserves much of the energy and resource value invested in making ag plastic products.

What has been done

The project focused on promoting and demonstrating risk mitigation to facilitate development of infrastructure and markets for recycling the plastics used in agriculture. Extension educators from more than 15 counties and specialty teams developed regional advisory committees, implemented programs for recycling agricultural plastics in three multi-county areas of NYS, and presented training and educational materials statewide. Extensive outreach was conducted to convey information about agricultural plastics recycling to 75% of farmers in target areas, encourage their participation in nascent recycling programs, and their adoption of BMPs for handling plastic.

Results

Best Management Practice (BMP) guidelines were developed and distributed for handling plastic on farms to maintain it in condition for recycling, and developed standards and criteria for evaluating adoption of these BMPs. Available compaction equipment for on-farm collection was evaluated and we worked with a developer of equipment (the BigFoot Plastic Baler) to tweak its design for NYS agricultural conditions. A funding source was identified to enable acquisition of balers for NYS communities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse

Outcome #26

1. Outcome Measures

Warm Season Grasses

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Steuben County has a rural, depressed economy that could benefit from adding value to our existing agriculture industry while developing a land-based renewable energy industry. There is a desire within Steuben to make food and energy systems more local and to make agriculture a larger part of the community. CCE Steuben has been holding information sessions about grass biomass as an alternative source of energy for residents, and would like to capitalize on this interest as well as the resources available, specifically grassland, to develop an industry centered on warm season grasses for biomass fuel.

What has been done

Given the increasing interest in producing more energy here at home, the desire to reduce greenhouse gas emissions, and the potential to introduce a new crop option for local farmers, CCE-Steuben County field staff have been collaborating with the Cornell College of Agriculture and Life Sciences (CALS) Bioenergy Feedstock Project in testing warm-season grass cultivars on local farms. A warm-season grass variety trial was established in 2008 near Bath. Included in the trial were the most promising big bluestem and switchgrass cultivars currently on the market. During the summer of 2009 another warm-season grass trial was established on another farm.

Results

As a result of these activities interest in warm-season grasses and the emerging biofuels industry is increasing. One local farmer has indicated his intent to plant 30 to 40 acres of switchgrass for on-farm grain drying; he also is investigating a start-up a grass pelleting business. CALS staff are also investigating the potential for switchgrass to be used as an bedding alternative to small grain straw by measuring its absorbency characteristics. There is strong demand for bedding alternatives for dairy cows so if switchgrass proves suitable this would provide another market outlet for producers, an important risk management tool that would assist producers in dealing with a lack of market options.

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics

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

The interaction between natural disasters, the economy, and energy costs is well documented. Weather in particular has interrupted supplies and dramatically influences heating and cooling costs. Appropriations, public policy, and regulations directly affect ability to pursue energy source alternatives, including biofuels development, and to implement energy conservation alternatives, particularly for low-income households. Government regulation and policies driven by public priorities can change the circumstances of personal finances and the energy market. Public and private funders and CCE may have fewer fiscal resources and other resources to devote to energy matters although government incentives might offset that.

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
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

The evaluation approach for this and all other logic models included in our plan is more accurately described as an evaluation "system" rather than as bounded "studies" or investigations. Because each of the plans addresses a broad combination of applied research and extension initiatives spanning multiple audiences, methods, and intended outcomes, a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities is required to provide comprehensive assessment. In addition, specialized data needs of funding partners must be addressed, sometimes using methods and/or accountability structures required by the funders. In support of each of the logic models, we provide educators with recommended evaluation strategies and, where available, recommended standard instruments for their use.

Key Items of Evaluation

Basic program documentation and monitoring activities include simple logging of program outputs and participation, including required equal program opportunity data. Program outcome data is collected through direct observation, participant feedback before, during, and after programs, systematic collection of anecdotal information, and delayed follow-up surveys. Each local site uses a different mix of these methods appropriate to their level of investment in the program. (The mix of Cornell Cooperative Extension programs in local extension units largely is determined by that unit.) Each local extension unit annually provides via a web-based reporting system program participation data, reports against an output/outcome template derived from the approved Federal plan of work, and selected "success stories."

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Childhood Obesity

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
502	New and Improved Food Products	5%		13%	
701	Nutrient Composition of Food	15%		10%	
702	Requirements and Function of Nutrients and Other Food Components	15%		31%	
703	Nutrition Education and Behavior	35%		25%	
724	Healthy Lifestyle	30%		21%	
Total		100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Actual	375.0	0.0	5.0	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
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

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 0	1890 Extension 0	Hatch 0	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 0	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 0

V(D). Planned Program (Activity)

1. Brief description of the Activity

This is a statewide multi-disciplinary extension program emphasis cutting across many content areas and audiences. Campus-based faculty and extension associates provide leadership and participate in work teams with CCE educators. Programs draw upon Cornell and other academic research. All are involved in designing, implementing and evaluating tailored outreach. Trained Extension nutritionists, parenting and 4-H educators lead local program activities with contributions from agriculturalists especially for food quality and availability.

Programs for children and youth are delivered through a variety of settings: 4-H camps, clubs, fairs and afterschool as well as through child-parent involvement projects and in-school student education. Family-focused programs promote a positive parent/care-giver-child feeding relationship and planning for good nutrition and physical activity. Extension staff collaborate with community leaders to improve the local environment for healthy eating and active living. Activities include sequential learning events, "community workshops" and engagement with community and civic leaders to improve the environment for nutrition and wellness and support of the local food system.

2. Brief description of the target audience

Audiences reached include: moderate and low income families; 4-H youth; children in and out of school; nutrition, health, and family professionals; front-line family workers; school food service staff; community leaders; and government and agency leaders at the local, state, and federal level.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual	84510	1715681	36534	195693

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

Patent Applications Submitted

Year: 2009

Plan:

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan			
Actual	3	109	112

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- (4e) # non-credit instructional activities directed to this program.

Year	Target	Actual
2009	{No Data Entered}	41310

Output #2

Output Measure

- (4f) # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2009	{No Data Entered}	16404280

Output #3

Output Measure

- (4.1a) # children, youth, parents/caregivers and other adults reached via healthy eating and active living programs.
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- (4.1b) # of women and health providers completing education programs addressing healthy weight gain during pregnancy and breastfeeding.
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- (4.3a) # of community members completing educational programs on issues that influence food and health behavior and associated appropriate actions including obesity prevention programs and policy.
Not reporting on this Output for this Annual Report

Output #6

Output Measure

- (4.1c) # extension educators and/or volunteers participating in programs to enhance educational opportunities for youth related to healthy living.
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- (4.2a) # of program participants reached to improve their food resource management and food security.

Year	Target	Actual
2009	{No Data Entered}	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	(4.1d) # 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, and/or benefits of active living.
2	(4.1e) # of program participants who demonstrate knowledge or skill gains related to healthy weight gain during pregnancy and breast feeding.
3	(4.1f) # of extension educators or volunteers demonstrating knowledge or skill gains related to healthy eating and active living programs for obesity prevention.
4	(4.1h) # of adult program participants documented to have applied healthy eating, active living, and/or food safety recommendations.
5	(4.1g) # of youth program participants documented to have applied healthy eating, active living, and/or food safety recommendations.
6	(4.2c) # of program participants documented to have managed food budgets and related resources to meet family needs.
7	(4.3c) # of program participants documented to have increased participation in public/community health-related programs.
8	(3.1.1j) # of program participants documented to have reduced one or more chronic disease indicators.
9	(4.3d) # of participating schools and/or communities documented to have made practice and policy changes to promote healthy eating and active living.
10	(4.2d) # 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.
11	(4.3e) # of participating schools and/or communities reporting decline in incidence of overweight and/or indicators of chronic diseases associated with obesity.
12	(4.2d) # of program participants documented to have improved food resource management and/or food security.
13	Preventative Health Education Based Upon Environmental Engineering of food Contexts
14	Development and Validation of an Instrument to Assess Outcomes of Childhood Overweight Prevention Education for Limited-resource Parents
15	Children's Backyard Gardens
16	Project CHANCE
17	Cooking Together for Family Meals

Outcome #1

1. Outcome Measures

(4.1d) # 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, and benefits of active living.
Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

(4.1e) # of program participants who demonstrate knowledge or skill gains related to healthy weight gain during pregnancy and breast feeding.
Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

(4.1f) # of extension educators or volunteers demonstrating knowledge or skill gains related to healthy eating and active living programs for obesity prevention.
Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

(4.1h) # of adult program participants documented to have applied healthy eating, active living, and/or food safety recommendations.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	39793

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	New and Improved Food Products
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #5

1. Outcome Measures

(4.1g) # of youth program participants documented to have applied healthy eating, active living, and/or food safety recommendations.
Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

(4.2c) # of program participants documented to have managed food budgets and related resources to meet family needs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	18151

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	New and Improved Food Products
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components

703 Nutrition Education and Behavior

Outcome #7

1. Outcome Measures

(4.3c) # of program participants documented to have increased participation in public/community health-related programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	13147

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	New and Improved Food Products
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #8

1. Outcome Measures

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

Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

(4.3d) # of participating schools and/or communities documented to have made practice and policy changes to promote healthy eating and active living.
Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

(4.2d) # 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.
Not Reporting on this Outcome Measure

Outcome #11

1. Outcome Measures

(4.3e) # of participating schools and/or communities reporting decline in incidence of overweight and/or indicators of chronic diseases associated with obesity.
Not Reporting on this Outcome Measure

Outcome #12

1. Outcome Measures

(4.2d) # of program participants documented to have improved food resource management and/or food security.
Not Reporting on this Outcome Measure

Outcome #13

1. Outcome Measures

Preventative Health Education Based Upon Environmental Engineering of food Contexts

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Currently in New York State (NYS), 58 percent of the adult population is overweight or obese. This project seeks to provide environmental tools, which have been empirically shown to be efficacious, to New York State families that

will allow them to overcome obstacles to eating better and maintaining good eating habits.

What has been done

Our primary objective is to promote and influence healthier food choices and habits of families through demonstration of behavioral strategies that can overcome poor eating habits, which has contributed greatly to the obesity epidemic in New York State and the United States.

Results

This year the project focused on the evaluation of a seven-week wellness series. Participants learned many new skills including substituting healthier ingredients, looking for the hidden sugar in foods and beverages, how to make snacks more enticing for kids, how to shop more economically, and modifying meals to make them healthier. Changes in behavior were reported as a result of the program. These changes include becoming more aware of portion sizes, reading labels, more thoughtful selection of beverages, increasing exercise, eating steamed vegetables. After Consumer Camp, 79% indicated that their participation increased "considerably" or "a great deal" their ability to understand how the environment affects what they eat and what to do about it. 71% indicated that their participation increased "considerably" or "a great deal" their ability to apply information learned about Small Changes - Mindless Eating Solutions into their own work. 82% indicated that their participation increased "considerably" or "a great deal" their ability to disseminate/communicate new information to audiences (students, parents, teachers, community members). 44% indicated they plan to use the information presented with students, colleagues, patients and others through workshops, seminars, lectures and talks. 36% indicated they will apply the information presented in their homes and also share it with their communities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #14

1. Outcome Measures

Development and Validation of an Instrument to Assess Outcomes of Childhood Overweight Prevention Education for Limited-resource Parents

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The prevention of childhood obesity is a top public health priority. The immediate causes of childhood obesity are over-consumption of calories coupled with low levels of physical activity. Despite growing concern about the

problem, there is insufficient research demonstrating the effectiveness of interventions aimed at counteracting current trends.

What has been done

Good parenting skills are essential to the successful translation of parents' knowledge about nutrition into action to improve child habits. Parent interventions are being developed at Cornell and elsewhere, but no instrument has been developed to assess effectiveness of these interventions. The purpose of this project is to develop a valid instrument to assess the outcomes experienced by parents enrolled in an intervention focused on parenting skills as well as nutrition and physical activity behavior.

Results

This research has significantly added to the body of knowledge about measuring outcomes of parents enrolled in intervention activities. The findings have spread to other researchers and practitioners as results were shared at various meetings and conferences. Knowledge gained allowed us to identify which areas of behavior programs are most likely to impact among our target audience, and this specific information has been used to improve the curriculum and train our nutrition educators. One program is CHANCE, which serves low-income families eligible for EFNEP (less than or equal to 185 per cent of federal poverty guidelines). CHANCE participants are parents or primary caregivers of children aged 3-11 years and the program population is racially and ethnically diverse, including many Hispanics, particularly in urban sites. The instrument is now in use in CHANCE to assess program outcomes and we have found statistically significant improvements ($p < 0.001$) in relevant behaviors among CHANCE graduates. As the Healthy Children, Healthy Families curriculum becomes more widely implemented within EFNEP in New York and beyond, it will be accompanied by this program-ready instrument that makes clear the importance of monitoring the impact of education on behavior.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #15

1. Outcome Measures

Children's Backyard Gardens

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Local economies, global uneasiness, climate changes, terrorism, concerns for food safety, unemployment and childhood obesity seem to have conspired in such a way that many families are turning "to the earth" for solutions. Backyard vegetable gardening provides fresh food, outdoor fun and exercise, and fosters a sense of self-

sufficiency.

What has been done

In partnership with Adirondack Community Action Programs and our Cornell Cooperative Extension Master Gardener Volunteer Program in Essex county, we were able to assist care-givers and children in Lake Placid, Wilmington, Westport, and Moriah in planning, planting, maintaining, and harvesting five first-time vegetable gardens. Caregivers and children were taught how to plan a garden (what to put where), how to water and weed, and when to harvest.

Results

Children's "backyard" vegetable gardens were successfully started, maintained, and harvested in four communities. Parents reported that their children involved in the program ate more vegetables at home. All participating children reported that it was fun to plant a vegetable garden, that the vegetables were fresher, and you didn't have to go to the store to buy them. Most of the children said they were looking forward to having a vegetable garden again next year.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #16

1. Outcome Measures

Project CHANCE

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Goals for CHANCE (Collaboration for Health, Activity, and Nutrition in Children's Environments) include the development of effective, feasible community-based approaches to the prevention of unhealthy weight gain in childhood, through promotion of improved nutrition and physical activity practices, support for development of parenting skills, and facilitation of community collaborations to create healthy environments for children.

What has been done

A new parent education curriculum was developed for use with EFNEP families. The new curriculum covers a variety of skills related to food preparation and consumption, physical activity, and parenting. The curriculum is

based on an ecological approach that includes changing home environments and community level environments as well as changing parent and child behavioral practices in low-income families. The curriculum integrates parenting skills with appropriate food choice and physical activity practices, grouping the target skills into eight one and a half hour sessions. The curriculum was piloted in eight counties.

Results

More than 200 participants enrolled in 2009 of whom 63% completed the program. CHANCE families report using more effective parenting strategies, eating more fruits and vegetables, buying fewer high fat, high sugar snack foods, and being more active. Analysis of the checklist data continues to demonstrate a significant change in reported eating, activity and parenting behavior, with post-intervention scores significantly improved from pre-intervention for overall behavior score.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #17

1. Outcome Measures

Cooking Together for Family Meals

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many adults and youth lack basic knowledge of nutrition and food preparation. Supportive household environments are known to promote and healthy eating and living practices. New models for working with adults and youth were needed to promote healthy lifestyles.

What has been done

Faculty from the Cornell Division of Nutritional Sciences worked with educators in five counties to develop and pilot test "Cooking Together for Family Meals," a six class parent/child cooking program.

Results

Feedback was received from 57 participants. 98% of adults enjoyed cooking with their children as a family and 90% of children showed a definite interest in cooking compared to only 48% of adults and 40% of children respectively before participating. Program participation resulted in an 88% -100% increase in the frequency of children helping out with meal preparation at home; children now helped 1 to 5 times per week whereas the

majority had never helped before. The program had a major impact on family consumption of vegetables targeted by the program. In the spring of 2009, 94% of respondents reported serving vegetables to their family five or more times per week compared to 76% before they participated in the program. Adult participants also reported their children were more willing to help prepare and try new foods, participate in planning meals, and use cooking skills and safe kitchen practices developed in class. About their own behavior changes, adults described being more willing to receive help from their children, being more aware of food consumed and of what they fed their family, and using more varied preparation methods.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
703	Nutrition Education and Behavior
724	Healthy Lifestyle

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

The scope and scale of outcomes can be greatly enhanced by augmenting Federal Formula Funds with external sources of support. However, external grant funds may only support certain activities or aspects of this plan. Local governments, an important funder for local extension staff, face diminished revenues and increased mandated costs outside of the non-mandated extension programs. Thus having professionals on staff available to implement new research-based programming is not always possible. A very slow recovery from the recession and pockets of high unemployment in the state affect how public and private funds are allocated to educational activities. In some instances family subsistence will be a higher priority than improved nutrition and opportunities for physical activity. As an example of the latter, in New York State, cost cutting proposals include closing some public parks and reducing recreational physical activity programs. Some decision-makers and others in the community may not agree with all aspects of an ecological approach to childhood obesity prevention. They may disagree with community or institutional policy changes such as eliminating non-nutritious snacks from after school activities and place all responsibility on the individual and within the family, disregarding most environmental factors outside the family.

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
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

The evaluation approach for this and all other logic models included in our plan is more accurately described as an evaluation "system" rather than as bounded "studies" or investigations. Because each of the plans addresses a broad combination of applied research and extension initiatives spanning multiple audiences, methods, and intended outcomes, a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities is required to provide comprehensive assessment. In addition, specialized data needs of funding partners must be addressed, sometimes using methods and/or accountability structures required by the funders. In support of each of the logic models, we provide educators with recommended evaluation strategies and, where available, recommended standard instruments for their use.

Some examples of specialized evaluation for this plan are:

- Initial pilot testing, and cognitive-testing of an after-school food and activity self-assessment tool, designed to help after-school staff think about ways to make healthy choices easier for youth in their programs. The tool will be used in both the Choose Health Ambassador project and in other youth oriented programs.
- Surveys of school food service directors to document perceived changes in personnel and student attitudes toward fresh fruits and vegetables and increased consumption of these foods in conjunction with extension provided program support resources for food service, teachers, and students to increase awareness and to encourage the use of NYS-grown fruits and vegetables.
- Pre and post course surveys evaluate the Cornell NutritionWorks course to document effectiveness in increasing knowledge, skills and self-efficacy of nutrition and health professionals to address childhood obesity using an ecological approach. Participants' intended behavior and actual implementation of strategies six months post course are also studied.

Key Items of Evaluation

Basic program documentation and monitoring activities include simple logging of program outputs and participation, including required equal program opportunity data. Program outcome data is collected through direct observation, participant feedback before, during, and after programs, systematic collection of anecdotal information, and delayed follow-up surveys. Each local site uses a different mix of these methods appropriate to their level of investment in the program. (The mix of Cornell Cooperative Extension programs in local extension units largely is determined by that unit.) Each local extension unit annually provides via a web-based reporting system program participation data, reports against an output/outcome template derived from the approved Federal plan of work, and selected "success stories."

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Food Safety

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
308	Improved Animal Products (Before Harvest)	5%		2%	
501	New and Improved Food Processing Technologies	10%		20%	
503	Quality Maintenance in Storing and Marketing Food Products	18%		18%	
504	Home and Commercial Food Service	30%		0%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.	10%		5%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	15%		24%	
721	Insects and Other Pests Affecting Humans	2%		16%	
723	Hazards to Human Health and Safety	10%		15%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Actual	110.0	0.0	7.0	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 0	1890 Extension 0	Hatch 0	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 0	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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 0	1890 Extension 0	Hatch 0	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 0	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 0

V(D). Planned Program (Activity)

1. Brief description of the Activity

This is a comprehensive program entailing a wide range of applied research activities and multiple education methods depending on 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.

Examples of activities are:

- Convey general knowledge and understanding of food safety science to New York State residents and beyond via varied communication strategies;
- Provide educational programs in collaboration with regulatory agencies involved with assuring the safety and wholesomeness of food processed, prepared, sold and handled and consumed by the public in New York State;
- Via courses, presentations and materials, support transfer of new research-based information for appropriate applications in the agricultural production, manufacturing, retailing and food service industries;
- Communicate current food safety production, manufacturing and technical problems to researchers at Cornell;
- Conduct specialized instruction in the effective application of laboratory methods to maintain and improve product safety and quality in the dairy and food industry.

2. Brief description of the target audience

- Provide for the nutritional well-being and safety of New York State residents through helping to assure a continuous, reasonably priced supply of wholesome foods.
- Improve food safety and food-handling practices throughout the food system.
- Reduce incidence of food-borne illnesses.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual	75835	568154	26233	78452

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

Patent Applications Submitted

Year: 2009

Plan:

Actual: 7

Patents listed

Microfabrication of High Temperature Micro-Reactors

Method and System for Lactose-free or Lactose-reduced Milk and Associated Products, Production Thereof, and Associated Processes

Ripening Promoter

Multifunctional Nucleic Acid Nano-Structures

Photo-Crosslinked Nucleic Acid Hydrogels

Functionally Superior Whey Proteins

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan			
Actual	15	130	145

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- (5e) # non-credit instructional activities directed to this program.

Year	Target	Actual
2009	{No Data Entered}	35472

Output #2

Output Measure

- (5f) # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2009	{No Data Entered}	675428

Output #3

Output Measure

- (5.2a) # of participants in programs on: reducing food safety and/or food borne risks and illnesses including recommended food purchase, storage, handling, and preparation practices.
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- (5.3a) # food safety decision-makers, policy makers and other officials reached with science-based information to improve food safety practices and policies
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- (5.1a) # of participants in programs on: reducing food safety and/or food borne risks and illnesses including recommended purchasing, handling, storage, and preparation practices.
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	(5.1c) # of household and food handler participants documented to have increased application of safe food preparation practices (storage, preparation, and serving, i.e, HACCP standards.
2	(5.3d) # 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	(5.1b) # of program participants who demonstrate knowledge or skill gains related to reducing food safety and/or foodborne risks and illnesses including recommended purchasing, handling, storage, and preparation practices.
4	(5.2b) # of program participants who demonstrate knowledge or skill gains related to reducing food safety and/or foodborne risks and illnesses including recommended production, processing, storage, handling, marketing, and preparation practices.
5	(5.3b) # of food safety decision-makers, policy makers and other officials who demonstrate knowledge gains relative to improved food safety practices and policies
6	(5.1d) Reduced incidence of foodborne illness among program participants.
7	(5.2c) # of participants documented to have implemented new and/or increased application of ongoing safe food production, processing, storage, handling, marketing and preparation practices.
8	(5.2d) Improved safety of foods available through wholesale and retail outlets and institutional foods.
9	(5.3c) # of communities/ firms/or organizations documented to have assessed practices or food safety policies as a result of participating in relevant educational programs.
10	Improvement of Thermal and Alternative Processes for Foods
11	Lead Loss from Blood and Milk and the Level of Contamination of Muscle, Liver, Kidney and Bone in Lead-exposed Cattle
12	Diagnostic Methods for Coccidian Infections: Neospora and Toxoplasma
13	Mastitis Resistance to Enhance Dairy Food Safety
14	Kids Can Cook Safely
15	From Farm to Table

Outcome #1

1. Outcome Measures

(5.1c) # of household and food handler participants documented to have increased application of safe food preparation practices (storage, preparation, and serving, i.e, HACCP standards.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	15561

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #2

1. Outcome Measures

(5.3d) # of communities/firms/or organizations documented to have implemented improved practices or food safety policies as a result of participating in relevant educational programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	730

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #3

1. Outcome Measures

(5.1b) # of program participants who demonstrate knowledge or skill gains related to reducing food safety and/or foodborne risks and illnesses including recommended purchasing, handling, storage, and preparation practices.
Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

(5.2b) # of program participants who demonstrate knowledge or skill gains related to reducing food safety and/or foodborne risks and illnesses including recommended production, processing, storage, handling, marketing, and preparation practices.
Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

(5.3b) # of food safety decision-makers, policy makers and other officials who demonstrate knowledge gains relative to improved food safety practices and policies
Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

(5.1d) Reduced incidence of foodborne illness among program participants.

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

(5.2c) # of participants documented to have implemented new and/or increased application of ongoing safe food production, processing, storage, handling, marketing and preparation practices.

Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

(5.2d) Improved safety of foods available through wholesale and retail outlets and institutional foods.

Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

(5.3c) # of communities/ firms/or organizations documented to have assessed practices or food safety policies as a result of participating in relevant educational programs.

Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

Improvement of Thermal and Alternative Processes for Foods

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Today, food safety is largely qualitative and it is a national priority to apply science-based quantitative approaches. Food safety can effectively piggyback on the revolution in engineering simulation and other computer technology to

produce user-friendly science-based predictive tools. This project will develop a software package that would allow prediction of safety and risk associated with a particular method of food processing, distribution and storage. This should help in reducing food-borne illness.

What has been done

We measured and modeled process dependent kinetic parameters which affect food quality and safety attributes. We identified and characterized transport mechanisms occurring in food processes and develop mathematical models for analysis, design, and improvement of food processes.

Results

We have completed a version of the food safety prediction software that can be used to evaluate processing/storage/transportation conditions on safety. The tool has been presented at several workshops. We are continuing the process of getting industry feedback to further enhance the capabilities of the software. We are also discussing with academia to have them use the tool in classroom situations to enhance safety education.

4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #11

1. Outcome Measures

Lead Loss from Blood and Milk and the Level of Contamination of Muscle, Liver, Kidney and Bone in Lead-exposed Cattle

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Lead poisoning in cattle is a common problem and could cause to lead contamination in milk or meat entering the human food chain. This study will determine the rate of lead loss from exposed cattle and the best way to manage exposed cattle to prevent contamination of cow milk and beef intended for human consumption.

What has been done

This study identified the degree to which lead poisoning is a problem in animal herds and whether and how it is

transmitted to the human food supply through milk and meat. Among other things, we determined when lead exposed cattle can be safely returned to food production.

Results

Analysis continues on the data collected but several impacts have already been experienced as we analyzed findings from several farms and changes in state regulations resulted. Findings on cattle were reported to veterinarians in the state in which the farms are located. Based on these findings, milk concentrations of lead greater than 10 ppb are not acceptable for human food in the state of Maryland (based on individual cows, not bulk-tank samples). Cows with blood lead concentrations greater than 5 micrograms/dL are not acceptable for slaughter for human consumption in the state of New York. Lead poisoning in food animals is now reportable to the Department of Agriculture and Markets in the state of New York. These changes are intended to protect the human food supply. There was one farm where lead poisoning was diagnosed in the cattle and later diagnosed in other animals on the farm and the farm owner. The source of lead was paint in the barn and the farmhouse. This is the first known case where cattle acted as sentinels for lead poisoning in a human.

4. Associated Knowledge Areas

KA Code	Knowledge Area
503	Quality Maintenance in Storing and Marketing Food Products
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.

Outcome #12

1. Outcome Measures

Diagnostic Methods for Coccidian Infections: Neospora and Toxoplasma

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The protozoa *Neospora caninum* and *Toxoplasma gondii* can cause reproductive problems, such as abortion, in many agricultural species. *Toxoplasma* is also of public health concern. Current diagnostic testing and management strategies are inadequate to fully address these problems. The focus of this study will be on more definitive diagnosis of infection by these protozoa in agricultural animals and development of management strategies to reduce or prevent these infections.

What has been done

The long-term objective of this project is to meet the needs of the agricultural industry in New York State by providing comprehensive diagnosis of parasitic infections so that cost-effective strategies can be adopted to eliminate the associated risk and help improve productivity and management decisions. To achieve this objective, accurate and cost-effective tests will be incorporated into the routine services.

Results

The validation of the new modified ELISA method allows rapid and accurate evaluation of a large number of serum samples for *T. gondii* exposure. This method is more rapid and allows the processing of much larger groups of samples than some other commonly used methods, e.g. agglutination and immunofluorescence assays. The inclusion of general conjugate avoids the need for species specific conjugate for each species being tested, thus allowing the testing of multiple different species on the same test without modification.

4. Associated Knowledge Areas

KA Code	Knowledge Area
503	Quality Maintenance in Storing and Marketing Food Products
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #13

1. Outcome Measures

Mastitis Resistance to Enhance Dairy Food Safety

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Campylobacter in raw milk may pose a human health hazard. The purpose of this study is to develop detection methods for Campylobacter in raw milk, and educational materials on health hazards associated with Campylobacter.

What has been done

This project has been essential for the further development of a bulk milk monitoring system that is currently being implemented in NY state. Among other things we have; 1.) Characterization of host mechanisms associated with mastitis susceptibility and resistance. 2.) Characterization and manipulation of virulence factors of mastitis pathogens for enhancing host defenses. 3.) Assessment and application of new technologies that advance mastitis control, milk quality, and dairy food safety.

Results

This project provided the scientific input and test development for a food safety monitoring system using the bulk milk from dairy farms. The results of this project have enhanced our knowledge on mastitis in the dry period. Further studies in this area will be needed, but we are starting to understand the key issues of dry period immunity in dairy cows. The results of this project have resulted in the development of new and improved vaccination programs on dairy farms.

4. Associated Knowledge Areas

KA Code	Knowledge Area
503	Quality Maintenance in Storing and Marketing Food Products

Outcome #14

1. Outcome Measures

Kids Can Cook Safely

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In the last decade, family meals have undergone dramatic changes that have affected the quality of children's diets. Caregivers want to provide healthy meals, but are often pressed for time, and rely on the assistance of children who are at home during out of school hours. Knowledge alone is not adequate for youth to be able to achieve competence and mastery in food preparation.. Hands on cooking instruction combined with quick, easy, and healthy recipes are more motivating and will achieve better results.

What has been done

The Kids Can Cook Safely program offered by CCE Schoharie County targeted youth from single parent or working parent families. Many of these families have youth who are enrolled in Schoharie County's 4-H AfterSchool Program, but many more families are leaving their early teen and pre-teen children home without adult supervision during afterschool hours. Hands on instruction in the culinary arts allows youth to develop important skills that will improve the quality of life within their families.

Results

40 youth between the ages of 8 and 13 participated in nearly 40 hours of hands on learning over 6 months. 10 Youth successfully prepared 6 healthy main dishes that can be shared with their families during a Safe Cooking Skills program in January. Youth successfully mastered baking skills using healthy ingredients and demonstrated mastery through participation in the Cabin Fever Cooking Challenge in February and March. Youth successfully mastered safe food preservation by preparing freezer and cooked jam during a 3 day Mini Camp in June.

4. Associated Knowledge Areas

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

Outcome #15

1. Outcome Measures

From Farm to Table

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

With consumers continuing to be concerned about food safety, personal health issues like diabetes, obesity and heart disease, and consuming local foods, an educational television program with a strong on-line and community outreach component enables viewers to better understand how locally grown food directly affects their well-being and that of their community.

What has been done

From Farm to Table is a 13-episode cooking series, co-produced by Cornell Cooperative Extensions in the Greater Capital District and WMHT Public Television, located in Troy, NY. The series promotes locally grown foods, features nutritious and healthy recipes that families can prepare, and supports area agricultural producers, thereby enabling viewers to discover the region's bounty from the fields to their plate. Building upon the success of Season 1, which saw the series being broadcast by PBS stations in Binghamton, Long Island, Rochester, Syracuse and Watertown, NY, as well as on Think Bright/Create, WMHT's Subchannel 17.2, the research and development writing team started crafting 13 new episodes this past spring.

Results

Despite challenging economic conditions that have blanketed the state and stymied many worthy projects, season 2 of "From Farm to Table" became a reality, thanks to the ongoing commitment and support of CCE and WMHT staff previously and newly involved with the program, committed underwriters, an appreciative public viewing audience, and supportive agricultural producers. DVDs of season 1 are in use with ESNY (SNAP-Ed) clients and small groups. The DVDs have also been used in educational exhibits at county fairs and other venues to promote the concept of eating locally grown healthy foods.

4. Associated Knowledge Areas

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

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

Large food illness outbreaks are attributed to a number of factors such as the complexity of evolving microbes and changing food consumption patterns which influences the conduct of research and development of educational programs.

Unknown agents account for approximately 81% of foodborne illnesses and hospitalizations and 64% of deaths, according to the Center for Disease Control, constraining the design of programs.

The lack of an integrated system for federal agencies and the food industry to coordinate food contamination information hampers research and education.

Changing and sometimes complex governmental policies and regulations affect implementation of food safety measures.

Food from countries beyond the US may further complicate control and implementation of effective food safety measures.

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
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

The evaluation approach for this and all other logic models included in our plan is more accurately described as an evaluation "system" rather than as bounded "studies" or investigations. Because each of the plans addresses a broad combination of applied research and extension initiatives spanning multiple audiences, methods, and intended outcomes, a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities is required to provide comprehensive assessment. In addition, specialized data needs of funding partners must be addressed, sometimes using methods and/or accountability structures required by the funders. In support of each of the logic models, we provide educators with recommended evaluation strategies and, where available, recommended standard instruments for their use.

Key Items of Evaluation

Basic program documentation and monitoring activities include simple logging of program outputs and participation, including required equal program opportunity data. Program outcome data is collected through direct observation, participant feedback before, during, and after programs, systematic collection of anecdotal information, and delayed follow-up surveys. Each local site uses a different mix of these methods appropriate to their level of investment in the program. (The mix of Cornell Cooperative Extension programs in local extension units largely is determined by that unit.) Each local extension unit annually provides via a web-based

reporting system program participation data, reports against an output/outcome template derived from the approved Federal plan of work, and selected "success stories."

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Youth, Family, Community

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	3%		0%	
134	Outdoor Recreation	1%		4%	
511	New and Improved Non-Food Products and Processes	0%		15%	
607	Consumer Economics	10%		2%	
608	Community Resource Planning and Development	15%		5%	
610	Domestic Policy Analysis	4%		7%	
801	Individual and Family Resource Management	8%		1%	
802	Human Development and Family Well-Being	12%		16%	
803	Sociological and Technological Change Affecting Individuals, Families and Communities	7%		18%	
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	4%		2%	
805	Community Institutions, Health, and Social Services	6%		14%	
806	Youth Development	30%		16%	
Total		100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Actual	479.0	0.0	4.0	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 0	1890 Extension 0	Hatch 0	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 0	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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 0	1890 Extension 0	Hatch 0	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 0	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Youth

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, program work teams, 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.

A variety of educational strategies will be used to help county educators and volunteers gain the skills and knowledge necessary to fully understand and differentiate between the range of possibilities that exist within initiatives. 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 including after school programming and school enrichment activities.

Family

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, as well as state-wide, educational efforts depending on the focus and scope of their role.

Community

CCE, CUAES and NYSAES have a commitment to the people of New York to build self-capacity among citizens so they can solve problems, improve quality of life, and build strong and vibrant communities. Through integrated research and extension agendas, we can help develop effective and collaborative land use/natural resource management approaches and policies that enhance economic, environmental and social connections. Program staff work with a variety of state and local groups to tackle projects 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.

2. Brief description of the target audience

Youth

- Young people
- Youth development educators and workers
- Youth development volunteers
- Parents and guardians
- Youth serving organizations
- Teachers and schools
- Community leaders

Family

- Parents, grandparents and other caregivers
- Child care providers
- Community stakeholders such as employers, leaders and policy makers at the local and state levels
- 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.

Community

- Elected officials, community leaders, business leaders, not-for-profit agencies, youth serving agencies, schools, environmental groups, agribusiness leaders, etc.
- Retirees and other elders who have time to engage in community stewardship
- Engaged community citizens
- Communities as whole: youth and adults organizations, businesses, schools, and other institutions
- Agriculture/horticulture/natural resource enterprise managers, community residents and visitors, youth, local media, local officials, and local planning and economic development staff.
 - Youth and youth serving organizations and adult volunteers who work with youth

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual	244664	3988038	303594	750530

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

Patent Applications Submitted

Year: 2009
 Plan:
 Actual: 12

Patents listed

- Disposable Protective Coverall with Improved Fit for Working Postures
- Coupled MEMS Structure for Motion Amplification
- Biodegradable Chemical Delivery System
- Controlled Release Agricultural Chemical Delivery System
- Conformal Particle Coatings on Fibrous Materials
- Fabrication of Polypropylene Monolith Filters Using Photolithography and Spin-coating Techniques
- Biodegradable Soy-Based Fibers and Fibrous Structures
- Biodegradable Nanofibers for Air Filtration
- Bacterial Cellulose Based Green Composites
- Starch-Based Green Composites
- Fibrous Micro-Composite Material
- Polymeric Materials Incorporating Core-Shell Silica Nanoparticles

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan			
Actual	62	301	363

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- (6e) # non-credit instructional activities directed to this program.

Year	Target	Actual
2009	{No Data Entered}	0

Output #2

Output Measure

- (6f) # non-credit instructional activity contact hours directed to this program.

Year	Target	Actual
2009	{No Data Entered}	0

Output #3

Output Measure

- (6.1a) # of youth program educators and adult volunteers participating in programs on positive youth development.
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- (6.1b) # of youth participating in projects related to vocational skills and/or citizenship.
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- (6.2a) # of 4-H members enrolled in Science and Technology project areas.

Not reporting on this Output for this Annual Report

Output #6

Output Measure

- (6.2b) # of youth reached through school enrichment and special interest programs, 4-H camp, and after school programs coded as science and technology related.

Year	Target	Actual
2009	{No Data Entered}	0

Output #7

Output Measure

- (6.2c) # of 4-H and other youth program educators and adult volunteers participating in programs on SET for youth.

Not reporting on this Output for this Annual Report

Output #8

Output Measure

- (6.3a) # of child care-giving professionals who complete non-formal education programs about quality dependent care giving.

Not reporting on this Output for this Annual Report

Output #9

Output Measure

- (6.3b) # of persons with care-requiring dependents completing non-formal education programs on selection of care-giving individuals and facilities.

Not reporting on this Output for this Annual Report

Output #10

Output Measure

- (6.4a) # of organizations, agencies, and institutions participating in non-formal educational programs about social and public policy issues to enhance opportunities for safe, economical, and developmentally appropriate care-giving programs for infants, children and youth.

Not reporting on this Output for this Annual Report

Output #11

Output Measure

- (6.5a) # of persons completing complete non-formal education programs about parenting.

Not reporting on this Output for this Annual Report

Output #12

Output Measure

- (6.6a) # 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/or wealth generation strategies.

Not reporting on this Output for this Annual Report

Output #13

Output Measure

- (6.7a) # of consumers and property managers completing programs on indoor air quality issues.
Not reporting on this Output for this Annual Report

Output #14

Output Measure

- (6.8a) # 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.
Not reporting on this Output for this Annual Report

Output #15

Output Measure

- (6.9a) # of community members participating in educational programs related to community decision-making, public participation, planning and monitoring processes, and collaborative approaches.
Not reporting on this Output for this Annual Report

Output #16

Output Measure

- (6.10a) # of economic developers and/or entrepreneurs participating in educational programs on "green" business opportunities.
Not reporting on this Output for this Annual Report

Output #17

Output Measure

- (6.11a) # 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.
Not reporting on this Output for this Annual Report

Output #18

Output Measure

- (6.11b) # of retirees participating in programs on environmental stewardship.
Not reporting on this Output for this Annual Report

Output #19

Output Measure

- (6.12a) # 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.
Not reporting on this Output for this Annual Report

Output #20

Output Measure

- (6.13a) # of community members participating in education programs on the roles of agriculture/horticulture/natural resource enterprises in the local community, tax base, and environment.
Not reporting on this Output for this Annual Report

Output #21

Output Measure

- (6.13b) # 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.
Not reporting on this Output for this Annual Report

Output #22

Output Measure

- (6.13c) # of local community members and leaders participating in programs on the potential benefits of community-based agriculture and opportunities for promoting same.
Not reporting on this Output for this Annual Report

Output #23

Output Measure

- (6.14a) # of youth participating in education programs on the agriculture and food system and/or natural resource enterprises.
Not reporting on this Output for this Annual Report

Output #24

Output Measure

- (6.14b) # of adults participating in education programs on the agriculture and food system and/or natural resource enterprises.
Not reporting on this Output for this Annual Report

Output #25

Output Measure

- (6.15a) # of youth participating in education programs leading to youth community action initiatives.
Not reporting on this Output for this Annual Report

Output #26

Output Measure

- (6.15b) # of youth participating in train-the-trainer programs related to youth community action.
Not reporting on this Output for this Annual Report

Output #27

Output Measure

- (6.15c) # of adults participating train-the-trainer programs related to youth community action.
Not reporting on this Output for this Annual Report

Output #28

Output Measure

- (6.15d) # of communities participating in youth community action initiatives.
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	(6.1c) # of youth participants who demonstrate gains in vocational/citizenship skills - knowledge, attitudes, and/or behaviors.
2	(6.1d) # of youth participants who learn to set goals, make plans and identify resources to achieve goals.
3	(6.1e) # 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.
4	(6.2d) # participants demonstrating increased awareness of SET, improved SET skills including scientific methods, knowledge of specific sciences, and/or increased awareness of opportunities to contribute to society using SET skills.
5	(6.3c) # of participating child care-giving professionals who demonstrate knowledge or skill gains related care-giving practices.
6	6.3d) # of participating persons with care-requiring dependents who demonstrate ability to evaluate the quality of care programs
7	(6.4b) # of program participants who demonstrate knowledge or skills gains regarding community approaches to family care.
8	(6.5b) # parents, grandparents and other adults providing parental care gaining who demonstrate knowledge or skills gains regarding developmentally appropriate and effective parenting methods.
9	(6.6b) # participants who demonstrate knowledge or skill gains and/or can articulate specific actions they will take related to spending and saving concepts, appropriate use of money, setting financial goals, tracking expenses, budgeting, credit management, financial planning, and/or wealth generation strategies.
10	(6.7b) # of consumers and property managers gaining awareness and knowledge of indoor air quality issues and remediation options.
11	(6.8b) # 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.
12	(6.8c) # of residents and/or community leaders, demonstrating knowledge/skill gains about enhancing facilities and/or other community resources or services.
13	(6.9b) # 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.
14	(6.10b) # of economic developers and/or entrepreneurs demonstrating knowledge gains related to "green" business opportunities.
15	(6.11c) # 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.
16	(6.11L) # of residents and/or community leaders, demonstrating knowledge/ skill gains about sustainable communities and enhancing public spaces.
17	(6.12b) # 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.
18	(6.13d) # 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.

19	(6.13e) # 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.
20	(6.13f) # 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.
21	(6.14c) # of youth demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises.
22	(6.14e) # of adults demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises.
23	(6.15e) # of youth and adults demonstrating knowledge gains related to Youth/Adult Partnerships and Youth Community Action Initiatives.
24	(6.1f) # of youth participants who demonstrate ability to express their ideas confidently and competently.
25	(6.1g) # of adult volunteers documented to mentor and advise youth and other adult volunteers in an effective and positive manner.
26	(6.1h) # of youth participants documented as serving in age-appropriate leadership roles.
27	(6.1i) # of youth organizations/programs documented as reflecting youth needs, interests, and excitement for learning.
28	(6.2e) # of participants that report improved success in school science and/or increased interest in science and technology.
29	(6.2f) # youth applying SET learning to contexts outside 4-H programs, e.g., school classes, science fairs, invention contests, etc.
30	(6.2g) # youth expressing interest/demonstrating aspirations towards SET careers, e.g., career fairs, job shadowing, volunteer work or internships
31	(6.2h) # youth adopting and using new methods or improved technology.
32	(6.2i) # of youth and retirees 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.
33	(6.2j) Increased number and more diverse pool of youth pursuing education and careers in SET related fields.
34	(6.2k) Increased and more diverse pool of trained teachers, educators, scientists.
35	(6.2L) Increased science literacy in general population.
36	(6.3e) # of participating child care-giving professionals reporting to have applied positive care-giving practices.
37	(6.3f) # participating persons with care-requiring dependents reporting to have used child care quality characteristics in their care selection.
38	(6.3g) # of care-giving providers reporting improved child care as a result of participating in educational programs.

39	(6.3h) # participating persons with care-requiring dependents reporting positive change in child care as a result of participating in educational programs.
40	(6.4c) # of program participants reporting to have been involved in community level assessments of family care needs.
41	(6.4d) # of communities documented to have taken action to address family needs that can be related to educational programs and/or critical community collaborations provided.
42	(6.5c) # parents and other adults providing parental care adopting developmentally appropriate and effective parenting methods.
43	(6.5d) Number 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.
44	(6.6c) # of program participants reporting they are practicing improved money management skills such as comparison shopping, paying bills on time, paying more than minimum payment, checking credit report, and reviewing and understanding bills/statements as a means to meeting financial goals.
45	(6.6d) # of program participants reporting to have met day-to-day financial obligations while also progressing on future goals for homeownership, savings, retirement accounts, etc.
46	6.6e) # of program participants reporting to have reduced debts and/or increased savings.
47	(6.7c) # of program participants documented to have taken measures to prevent or remediate indoor air quality issues.
48	(6.7d) # 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.
49	(6.7e) # of participants reducing risks of respiratory diseases, heart disease, and cancer by implement measures such as radon remediation, controlling indoor triggers of asthma: secondhand smoke, dust mites, pet dander, and pests.
50	(6.8d) # of communities who plan for and implement initiatives re community based agricultural economic development, main street revitalization, workforce development, business devel. and assistance, non-profit sector devel. and/or other elements of sustainable growth.
51	(6.8e) # of residents and/or community leaders, who plan for and initiate steps to enhance facilities, and/or other community resources or services.
52	(6.8f) # of communities establishing an infrastructure and climate to support entrepreneurs, local farms and agribusinesses attributable at least in part to initiatives of the program.
53	(6.8g) # of communities documenting improvements in facilities and/or other community resources or services.
54	(6.8h) # of employers establishing or contributing to community-based workforce development approaches.
55	(6.8i) # of employers reporting enhanced workforce availability attributable at least in part to participation in the program.
56	(6.9c) # of communities instituting new or enhanced participatory processes related to economic development.
57	(6.9d) # of collaborative partnerships established within and across communities for issue resolution and collective action and/or to improve community services.
58	(6.9e) # 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.

59	(6.9f) # of communities reporting specific improvements in quality or scope of community services.
60	(6.10c) # of new "green" businesses established at least in part due to participation in the program.
61	(6.10d) # of communities that report increased diversification of their local economies attributable at least in part to participation in the program.
62	(6.11d) # of community leaders documented to apply community economic development and quality of life indicators to support decision-making.
63	(6.11e) # 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.
64	(6.11f) # of communities implementing projects that protect public health and community well being through sound environmental management.
65	(6.11g) # documented initiatives to improve public health and community well being that take into account connections between work, civic life and residential patterns.
66	(6.11h) # 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.
67	(6.11i) # of communities adopting or updating farmland preservation and/or agricultural economic development plans.
68	(6.11j) # of additional acres covered by open space preservation, environmental conservation and/or protection programs attributable at least in part to participation in the program.
69	(6.11k) Increase in percentage of food produced locally and regionally that is consumed locally or regionally.
70	(6.11m) # of communities that plan for development of existing communities to create a broader range of housing types including affordable housing, focus on bikable and walkable communities, and/or a variety of transportation choices.
71	(6.11n) # of residents and/or community leaders, who plan for and initiate steps to enhance public spaces.
72	(6.11o) # of instances in which communities institute changes leading to one of following: development of existing communities, expanded range of housing types, more bikable and/or walkable community, variety of transportation choices.
73	(6.11p) # of new or enhanced community organizations or networks linking diverse sub-groups and focused on enhancing community sustainability.
74	(6.11q) # of communities documenting improvements in public spaces.
75	(6.12c) # of instances in which producers/ horticulture businesses/ natural resource enterprises, residents and community leaders work together to address issues.
76	(6.12d) # documented instances in which agriculture/community conflicts are resolved locally.
77	(6.13g) # 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).
78	(6.13h) # of communities that initiate specific plans to address agriculture/ horticulture/ natural resource enterprise related issues or capitalize on new opportunities including community agriculture initiatives.

79	(6.13i) # communities documented to adopt, maintain, or expand policies supportive of appropriate agriculture/horticulture/ natural resource enterprise development and/or community agriculture.
80	(6.15f) # 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.
81	(6.15g) # 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.
82	(6.15h) # 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.
83	Enhancing Literacy in Agricultural Science Education Through the Implementation of Content Area Reading Strategies
84	Biology, Ecology, and Management of Emerging Pests of Annual Bluegrass on Golf Courses
85	Strengthening Families
86	Volunteer Income Tax Assistance Program
87	Heat or Eat lessons
88	Defiant Garden Program
89	Hydroponics Learning Model Program
90	Radon Education Program

Outcome #1

1. Outcome Measures

(6.1c) # of youth participants who demonstrate gains in vocational/citizenship skills - knowledge, attitudes, and/or behaviors.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

(6.1d) # of youth participants who learn to set goals, make plans and identify resources to achieve goals.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

(6.1e) # 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.
Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

(6.2d) # participants demonstrating increased awareness of SET, improved SET skills including scientific methods, knowledge of specific sciences, and/or increased awareness of opportunities to contribute to society using SET skills.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	15281

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

(6.3c) # of participating child care-giving professionals who demonstrate knowledge or skill gains related care-giving practices.
Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

6.3d) # of participating persons with care-requiring dependents who demonstrate ability to evaluate the quality of care programs
Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

(6.4b) # of program participants who demonstrate knowledge or skills gains regarding community approaches to family care.
Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

(6.5b) # parents, grandparents and other adults providing parental care gaining who demonstrate knowledge or skills gains regarding developmentally appropriate and effective parenting methods.
Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

(6.6b) # participants who demonstrate knowledge or skill gains and/or can articulate specific actions they will take related to spending and saving concepts, appropriate use of money, setting financial goals, tracking expenses, budgeting, credit management, financial planning, and/or wealth generation strategies.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	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 #10

1. Outcome Measures

(6.7b) # of consumers and property managers gaining awareness and knowledge of indoor air quality issues and remediation options.
Not Reporting on this Outcome Measure

Outcome #11

1. Outcome Measures

(6.8b) # 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.
Not Reporting on this Outcome Measure

Outcome #12

1. Outcome Measures

(6.8c) # of residents and/or community leaders, demonstrating knowledge/skill gains about enhancing facilities and/or other community resources or services.
Not Reporting on this Outcome Measure

Outcome #13

1. Outcome Measures

(6.9b) # 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.
Not Reporting on this Outcome Measure

Outcome #14

1. Outcome Measures

(6.10b) # of economic developers and/or entrepreneurs demonstrating knowledge gains related to "green" business opportunities.
Not Reporting on this Outcome Measure

Outcome #15

1. Outcome Measures

(6.11c) # 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.
Not Reporting on this Outcome Measure

Outcome #16

1. Outcome Measures

(6.11L) # of residents and/or community leaders, demonstrating knowledge/ skill gains about sustainable communities and enhancing public spaces.
Not Reporting on this Outcome Measure

Outcome #17

1. Outcome Measures

(6.12b) # 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.
Not Reporting on this Outcome Measure

Outcome #18

1. Outcome Measures

(6.13d) # 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.
Not Reporting on this Outcome Measure

Outcome #19

1. Outcome Measures

(6.13e) # 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.
Not Reporting on this Outcome Measure

Outcome #20

1. Outcome Measures

(6.13f) # 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.
Not Reporting on this Outcome Measure

Outcome #21

1. Outcome Measures

(6.14c) # of youth demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises.
Not Reporting on this Outcome Measure

Outcome #22

1. Outcome Measures

(6.14e) # of adults demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises.
Not Reporting on this Outcome Measure

Outcome #23

1. Outcome Measures

(6.15e) # of youth and adults demonstrating knowledge gains related to Youth/Adult Partnerships and Youth Community Action Initiatives.
Not Reporting on this Outcome Measure

Outcome #24

1. Outcome Measures

(6.1f) # of youth participants who demonstrate ability to express their ideas confidently and competently.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	19339

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 #25

1. Outcome Measures

(6.1g) # of adult volunteers documented to mentor and advise youth and other adult volunteers in an effective and positive manner.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	5462

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 #26

1. Outcome Measures

(6.1h) # of youth participants documented as serving in age-appropriate leadership roles.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	4775

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 #27

1. Outcome Measures

(6.1i) # of youth organizations/programs documented as reflecting youth needs, interests, and excitement for learning.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	2646

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
806	Youth Development

Outcome #28

1. Outcome Measures

(6.2e) # of participants that report improved success in school science and/or increased interest in science and technology.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	8759

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #29

1. Outcome Measures

(6.2f) # youth applying SET learning to contexts outside 4-H programs, e.g., school classes, science fairs, invention contests, etc.
Not Reporting on this Outcome Measure

Outcome #30

1. Outcome Measures

(6.2g) # youth expressing interest/demonstrating aspirations towards SET careers, e.g., career fairs, job shadowing, volunteer work or internships
Not Reporting on this Outcome Measure

Outcome #31

1. Outcome Measures

(6.2h) # youth adopting and using new methods or improved technology.
Not Reporting on this Outcome Measure

Outcome #32

1. Outcome Measures

(6.2i) # of youth and retirees 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
Not Reporting on this Outcome Measure

Outcome #33

1. Outcome Measures

(6.2j) Increased number and more diverse pool of youth pursuing education and careers in SET related fields.

Not Reporting on this Outcome Measure

Outcome #34

1. Outcome Measures

(6.2k) Increased and more diverse pool of trained teachers, educators, scientists.

Not Reporting on this Outcome Measure

Outcome #35

1. Outcome Measures

(6.2L) Increased science literacy in general population.

Not Reporting on this Outcome Measure

Outcome #36

1. Outcome Measures

(6.3e) # of participating child care-giving professionals reporting to have applied positive care-giving practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	1418

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
801	Individual and Family Resource Management
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services

Outcome #37

1. Outcome Measures

(6.3f) # participating persons with care-requiring dependents reporting to have used child care quality characteristics in their care selection.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	924

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
801	Individual and Family Resource Management
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services

Outcome #38

1. Outcome Measures

(6.3g) # of care-giving providers reporting improved child care as a result of participating in educational programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	1248

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
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families and Communities
805	Community Institutions, Health, and Social Services

Outcome #39

1. Outcome Measures

(6.3h) # participating persons with care-requiring dependents reporting positive change in child care as a result of participating in educational programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	3033

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
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services

Outcome #40

1. Outcome Measures

(6.4c) # of program participants reporting to have been involved in community level assessments of family care needs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	694

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
803	Sociological and Technological Change Affecting Individuals, Families and Communities
805	Community Institutions, Health, and Social Services

Outcome #41

1. Outcome Measures

(6.4d) # of communities documented to have taken action to address family needs that can be related to educational programs and/or critical community collaborations provided.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	197

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
803	Sociological and Technological Change Affecting Individuals, Families and Communities
805	Community Institutions, Health, and Social Services

Outcome #42

1. Outcome Measures

(6.5c) # parents and other adults providing parental care adopting developmentally appropriate and effective parenting methods.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	6868

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
806	Youth Development

Outcome #43

1. Outcome Measures

(6.5d) Number 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	5076

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
806	Youth Development

Outcome #44

1. Outcome Measures

(6.6c) # of program participants reporting they are practicing improved money management skills such as comparison shopping, paying bills on time, paying more than minimum payment, checking credit report, and reviewing and understanding bills/statements as a means to meeting financial goals.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	4732

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
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #45

1. Outcome Measures

(6.6d) # of program participants reporting to have met day-to-day financial obligations while also progressing on future goals for homeownership, savings, retirement accounts, etc.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	2794

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 #46

1. Outcome Measures

6.6e) # of program participants reporting to have reduced debts and/or increased savings.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	2237

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 #47

1. Outcome Measures

(6.7c) # of program participants documented to have taken measures to prevent or remediate indoor air quality issues.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	846

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
803	Sociological and Technological Change Affecting Individuals, Families and Communities
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #48

1. Outcome Measures

(6.7d) # 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.
Not Reporting on this Outcome Measure

Outcome #49

1. Outcome Measures

(6.7e) # of participants reducing risks of respiratory diseases, heart disease, and cancer by implement measures such as radon remediation, controlling indoor triggers of asthma: secondhand smoke, dust mites, pet dander, and pests.
Not Reporting on this Outcome Measure

Outcome #50

1. Outcome Measures

(6.8d) # of communities who plan for and implement initiatives re community based agricultural economic development, main street revitalization, workforce development, business devel. and assistance, non-profit sector devel. and/or other elements of sustainable growth.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	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
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families and Communities
805	Community Institutions, Health, and Social Services

Outcome #51

1. Outcome Measures

(6.8e) # of residents and/or community leaders, who plan for and initiate steps to enhance facilities, and/or other community resources or services.
Not Reporting on this Outcome Measure

Outcome #52

1. Outcome Measures

(6.8f) # of communities establishing an infrastructure and climate to support entrepreneurs, local farms and agribusinesses attributable at least in part to initiatives of the program.
Not Reporting on this Outcome Measure

Outcome #53

1. Outcome Measures

(6.8g) # of communities documenting improvements in facilities and/or other community resources or services.
Not Reporting on this Outcome Measure

Outcome #54

1. Outcome Measures

(6.8h) # of employers establishing or contributing to community-based workforce development approaches.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
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2009 {No Data Entered} 305

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
803	Sociological and Technological Change Affecting Individuals, Families and Communities
805	Community Institutions, Health, and Social Services

Outcome #55

1. Outcome Measures

(6.8i) # of employers reporting enhanced workforce availability attributable at least in part to participation in the program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	206

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
803	Sociological and Technological Change Affecting Individuals, Families and Communities
805	Community Institutions, Health, and Social Services

Outcome #56

1. Outcome Measures

(6.9c) # of communities instituting new or enhanced participatory processes related to economic development.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	178

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 #57

1. Outcome Measures

(6.9d) # of collaborative partnerships established within and across communities for issue resolution and collective action and/or to improve community services.
Not Reporting on this Outcome Measure

Outcome #58

1. Outcome Measures

(6.9e) # 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. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	134

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 #59

1. Outcome Measures

(6.9f) # of communities reporting specific improvements in quality or scope of community services.

Not Reporting on this Outcome Measure

Outcome #60

1. Outcome Measures

(6.10c) # of new "green" businesses established at least in part due to participation in the program.

Not Reporting on this Outcome Measure

Outcome #61

1. Outcome Measures

(6.10d) # of communities that report increased diversification of their local economies attributable at least in part to participation in the program.

Not Reporting on this Outcome Measure

Outcome #62

1. Outcome Measures

(6.11d) # of community leaders documented to apply community economic development and quality of life indicators to support decision-making.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	75

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
134	Outdoor Recreation
608	Community Resource Planning and Development

Outcome #63

1. Outcome Measures

(6.11e) # 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. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	24

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
134	Outdoor Recreation
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #64

1. Outcome Measures

(6.11f) # of communities implementing projects that protect public health and community well being through sound environmental management.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	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
131	Alternative Uses of Land
134	Outdoor Recreation
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #65

1. Outcome Measures

(6.11g) # documented initiatives to improve public health and community well being that take into account connections between work, civic life and residential patterns.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
134	Outdoor Recreation
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #66

1. Outcome Measures

(6.11h) # 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. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	70

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
134	Outdoor Recreation
608	Community Resource Planning and Development

Outcome #67

1. Outcome Measures

(6.11i) # of communities adopting or updating farmland preservation and/or agricultural economic development plans.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	63

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
134	Outdoor Recreation
608	Community Resource Planning and Development

Outcome #68

1. Outcome Measures

(6.11j) # of additional acres covered by open space preservation, environmental conservation and/or protection programs attributable at least in part to participation in the program.
Not Reporting on this Outcome Measure

Outcome #69

1. Outcome Measures

(6.11k) Increase in percentage of food produced locally and regionally that is consumed locally or regionally.
Not Reporting on this Outcome Measure

Outcome #70

1. Outcome Measures

(6.11m) # of communities that plan for development of existing communities to create a broader range of housing types including affordable housing, focus on bikable and walkable communities, and/or a variety of transportation choices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
134	Outdoor Recreation
608	Community Resource Planning and Development

Outcome #71

1. Outcome Measures

(6.11n) # of residents and/or community leaders, who plan for and initiate steps to enhance public spaces.

Not Reporting on this Outcome Measure

Outcome #72

1. Outcome Measures

(6.11o) # of instances in which communities institute changes leading to one of following: development of existing communities, expanded range of housing types, more bikable and/or walkable community, variety of transportation choices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
134	Outdoor Recreation
608	Community Resource Planning and Development

Outcome #73

1. Outcome Measures

(6.11p) # of new or enhanced community organizations or networks linking diverse sub-groups and focused on enhancing community sustainability.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	17

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
134	Outdoor Recreation
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #74

1. Outcome Measures

(6.11q) # of communities documenting improvements in public spaces.

Not Reporting on this Outcome Measure

Outcome #75

1. Outcome Measures

(6.12c) # of instances in which producers/ horticulture businesses/ natural resource enterprises, residents and community leaders work together to address issues.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	289

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

Outcome #76

1. Outcome Measures

(6.12d) # documented instances in which agriculture/community conflicts are resolved locally.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	64

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
608	Community Resource Planning and Development

Outcome #77

1. Outcome Measures

(6.13g) # 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).

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	182

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

Outcome #78

1. Outcome Measures

(6.13h) # of communities that initiate specific plans to address agriculture/ horticulture/ natural resource enterprise related issues or capitalize on new opportunities including community agriculture initiatives.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	81

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
608	Community Resource Planning and Development

Outcome #79

1. Outcome Measures

(6.13i) # communities documented to adopt, maintain, or expand policies supportive of appropriate agriculture/horticulture/ natural resource enterprise development and/or community agriculture.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	73

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
608	Community Resource Planning and Development

Outcome #80

1. Outcome Measures

(6.15f) # 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	9110

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
806	Youth Development

Outcome #81

1. Outcome Measures

(6.15g) # 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	4913

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
806	Youth Development

Outcome #82

1. Outcome Measures

(6.15h) # 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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	3366

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
806	Youth Development

Outcome #83

1. Outcome Measures

Enhancing Literacy in Agricultural Science Education Through the Implementation of Content Area Reading Strategies

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Secondary students in agricultural education struggle with reading and literacy in and about agricultural and life sciences. The primary purpose is to determine the effects of the long-term (one school year) reading strategy instruction embedded within a problem solving teaching framework on students' reading comprehension and motivation to read.

What has been done

The primary purpose of this study is to determine the effects of the long-term (one school year) reading strategy instruction embedded within a problem solving teaching framework on student reading comprehension and motivation to read. The specific research objective is to determine the effect of CARS instruction on agricultural science students reading comprehension, comprehension of agricultural science content, and motivation to read. The following research hypotheses will be investigated during the study. Ha1: Reading comprehension will be significantly greater for rural secondary agricultural science students using the integration of CARS in a problem solving approach (PSA) framework versus those students taught with a subject matter approach that does not include the selected reading strategies. Ha2: Comprehension of agricultural science content will be significantly greater for rural secondary agricultural science students using the integration of CARS in a PSA framework versus those students taught with a subject matter approach that does not include the selected reading strategies. Ha3: Motivation to read will be significantly greater for rural secondary agricultural science students using the integration of CARS in a PSA framework versus those students taught with a subject matter approach that does not include the selected set of reading strategies.

Results

The changes in knowledge from this project included the addition of knowledge about disciplinary reading strategies in the contexts of agricultural and CTE disciplines. Prior to the disciplinary reading workshop and monthly workshops with CTE teachers, teachers possessed little knowledge of disciplinary reading strategies as evidenced in their interviews and informal comments. Both agricultural science teachers and CTE teachers became more aware of the pressing need to help improve students' reading skills and proficiencies in their agricultural science and CTE courses. The changes in actions from this project included the adoption of disciplinary reading strategies in the experimental group teachers' classrooms, as well as across the CTE disciplines. Prior to implementation of this research project, teachers did not frequently use disciplinary reading strategies with their students to help them learn about and become more literate in agriculture or CTE. Teachers in the experimental group have been using many more disciplinary reading strategies with their students as a

result of this study. All 10 agriculture teachers in the study have adopted the use of the online agriscience curriculum. While this was not an intended outcome of the study, it has been a real benefit to these 10 teachers. They are using the curriculum for not only the course in this study, but also for other agriculture courses that they teach. Further, several of the collaborating teachers are also leaders within the teacher professional organization, New York Association of Agricultural Educators (NYAAE), and that organization has determined to explore the adoption of this curriculum as an approved state agricultural science curriculum. If adopted, the curriculum will be cross-walked with the New York State English language arts, mathematics, and science standards. This holds the opportunity of enhancing all of agricultural science education throughout the state. In addition to raising awareness of improving students' literacy in agriculture and CTE, this project has catalyzed interest in literacy workshops across New York State and throughout the Nation. As a result of this project and funding, we have presented over a dozen workshop based upon the practical learnings of the project. The changes in conditions from this project include the improvement in quality of life for rural students enrolled in agricultural science education throughout New York State. As students become more literate and able to navigate textual information, they are better positioned to succeed in their careers, community, and family lives.

4. Associated Knowledge Areas

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

Outcome #84

1. Outcome Measures

Biology, Ecology, and Management of Emerging Pests of Annual Bluegrass on Golf Courses

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Annual bluegrass is in widespread use on golf courses and is plagued with severe pest problems typically addressed with pesticide use. Pesticide use for bluegrass must be reduced and requires significant biological and cultural research.

What has been done

Identify and develop new cultural, biological, chemical, and genetic control options for suppressing ABW and anthracnose on golf courses. Develop improved IPM decision tools for managing anthracnose on golf courses. Develop best management practices for annual bluegrass on golf courses that will help reduce the economic and environmental costs associated with pesticides currently used to control ABW and anthracnose.

Results

This project has had enormous national and international impact. Our research and educational efforts at Cornell University have facilitated a discussion with equipment manufacturers that heretofore did not exist. Specifically, while turfgrass managers often discussed and altered mowing heights, our research and dissemination of the results enhanced a dialogue with manufacturers and practitioners around mower design (head design), bedknife set-up and frequency of clip. One mower manufacturer altered a product line as a direct result of the Cornell research. We serve as clearinghouse for information on mowers that is widely utilized by golf course superintendents when considering purchasing new equipment that could cost between \$25,000 and \$200,000 annually.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #85

1. Outcome Measures

Strengthening Families

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Most parents and relative caregivers want to do the best they can for their children and seek ways to improve their parenting. Education programs conveying parenting and child development knowledge and skills can improve parent-child interactions and child nurturance over time. Stakeholders expect education to be proven effective and funders often require that curricula be evidence-based. Effective parenting practices differ across developmental stages of childhood and should be customized to meet special needs, address cultural differences and be sensitive to particular family structures.

What has been done

Strengthening Families is an evidence-based parent, youth and family skills-building curriculum, developed by Iowa State University Extension (ISUE) and designed to prevent teen substance abuse and other behavior problems, strengthen parenting skills, and build family strengths. CCE contracted with ISUE for 2 training sessions to equip CCE professionals with skills to reliably implement the program. Several CCE educators received additional instruction so they now can train other CCE peers in the program, thus increasing the possibility of replication across NYS in future years. CCE now can compare NYS results to program results across the US.

Results

The Strengthening Families Program series, continuing in 2009-2010/11, was offered 16 times by seven different county Cornell Cooperative Extension locations between January 2007 and 2008. Statewide, 143 parents and other caregivers and 147 youth participated during that period. Results of the pre- and post-tests indicated that the program was highly successful in helping them to calm down before addressing problems with their youth, work collaboratively to solve problems together, follow through with consequences for broken rules, and view situations from their teen's perspective. Caregivers also felt that they better understood normal teenage development, spent more special one-on-one time together, and talked more often with their teens about their future goals, were more likely to show their child love and respect and spend time doing something fun together as a family. Youth reported that they were more goal-oriented, better able to resist peer-pressure, and more aware of their own stress levels. They felt they could sit down with their caregivers to calmly discuss problems.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families and Communities
806	Youth Development

Outcome #86

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
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In 2004 the Financial Education Committee of Cornell Cooperative Extension in Cortland County New York identified the lack of a source for free or low cost income tax assistance as one of the critical needs of their clients. The committee is made up of local community based organizations who work with low/limited income households, the disabled and the elderly as well as those who are unemployed. Residents may be missing the opportunity to access Earned Income Tax Credits or may not be taking advantage of other federal or state tax related programs for low income.

What has been done

The Volunteer Income Tax Assistance Program provides free income tax preparation and filing along with information about community resources to low/limited income families, the elderly and the disabled in Cortland County. CCE-Cortland commits a large percentage of the financial educator's time to serve as the program coordinator since low income persons are a high priority audience. The CCE educator provides education/training to volunteers, and acts as the site specialist for the program.

Results

An estimated 80% of the program participants fell under the Federal Poverty guidelines this year, an increase from last year. An increased number of the program participants listed their occupation as "unemployed" on the program intake forms. Given the severe economic situation in the county, the income limit for those who were unemployed was waived. 39% of those taking part in the program were Senior Citizens (over the age of 60) The amount of tax refunds coming through the program this year totaled \$412,276. Of that amount, \$205,354 was in the form of the Earned Income Credit. Participants saved an estimated \$59,750 in filing fees. The program was also able to prepare tax returns for previous years for participants who unable to afford the fees of a paid preparer, resulting in an additional \$3,625 in refunds.

4. Associated Knowledge Areas

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

Outcome #87

1. Outcome Measures

Heat or Eat lessons

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Families and individuals applying for public assistance are often faced with needs that outweigh their resources. According to the Low Income Forum on Energy, the financial burden of paying high utility bills can often force low-income families into a heat or eat scenario.

What has been done

In the '08-09 program year, we began working with the departments of social services in Fulton and Montgomery New York Counties to provide weekly educational sessions for TANF and other public assistance applicants. The program runs in four-week cycles all year featuring consumer and financial literacy lesson in one of the four weeks. The consumer and financial literacy lesson focuses on low-cost, no-cost strategies to help participants lower home utility bills. Nutrition staff also provide Eat Smart New York food management and nutrition lessons throughout the four weeks.

Results

For the 08-09 program year, 424 TANF applicants and others identified by our local departments of social services attended one-hour CCE consumer and financial literacy lessons. Based on verbal survey responses at the lessons, nearly all the program participants indicated they became aware of at least one resource that they

were previously unaware of (EmPower, HEAP, Weatherization, etc.) that may be able to assist them. The lesson also provided participants with opportunities to increase knowledge of the costs associated with operating common household appliances, increase knowledge of energy efficient lighting products and increase ability to recognize common energy myths.

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics
801	Individual and Family Resource Management
805	Community Institutions, Health, and Social Services

Outcome #88

1. Outcome Measures

Defiant Garden Program

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Defiant Garden program is a deployment support project for Operation: Military Kids. The program connects military families with their communities to assist the families in navigating the deployment cycle. The goal of this project is to research the ability of a multi-generational Civic Ecology Education program to help war-torn communities deal with the stress of the military deployment cycle. The target populations are both military and non-military families working together in gardens established across the State of New York. There are 40,520 military youth living in New York State.

What has been done

The Defiant Garden programs are planning and planting twelve community gardens at such places as American Legions, VFW posts, schools and communities. In addition, earth boxes are being coordinated with several units in Afghanistan and Iraq so that the deployed soldier/airmen may "garden" along with their families. The intent is that participants will be able to create community support networks for military families, educate the community on military families' deployment issues, create a communication connection with the children and their deployed soldier/airmen, foster military families' resiliency as they navigate the deployment cycle and assist the military families with the reunion and reintegration process.

Results

At this point there are eight defiant gardens located in Jefferson County, one garden in Utica and one in Buffalo. 4-H clubs and educational programs are being provided at all the garden sites. A Junior Master Gardener program is being conducted in Jefferson County to assist with educational programming. At this time there are 10

4-H leaders and approximately 50 youth involved with this effort.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families and Communities
806	Youth Development

Outcome #89

1. Outcome Measures

Hydroponics Learning Model Program

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Math, science and technology educational needs are not being met within the New York City. Currently, studies show that NYC schools graduate approximately 42 % of Black and 36% of Hispanic students compared to 81% of their White counterparts. An experiential, hands-on approach in the teaching of math, science and technology, may more effectively engage youth in the learning process thus strengthening and improving the potential for increased knowledge, skills, test scores, and graduation rates.

What has been done

During the 2008/2009 New York City School Year, The Hydroponics Learning Model (HLM), one of CUCE NYC major initiatives in Science and Technology in the New York City Department Of Education (NYCDOE) has been implemented programmatically as a new teaching tool, strategy and methodology in the teaching of Living Environment (Biology) and as a support mechanism and enhancement to the other sciences.

Results

This new strategy in the teaching of Science and Technology in the NYCDOE School System, is now being currently implemented in over 10 high Schools, and will be further expanded to 25 additional sites throughout NYC's five Boroughs (5 sites per Borough) NYCHA Beacon Programs, and has reached and impacted over 570 students improving their scores, attitudes, skills, and knowledge of the sciences and technologies. Moreover, the HLM Program which is also currently being administered to incarcerated youth at Island Academy and Horizon Academy high schools, located at the Riker's Island Prison, reaching over 300 students has improved their scores, attitudes, skills, and knowledge of the Math, Science and Technology while gearing up to get their GED, resulting in some positive outcomes.

4. Associated Knowledge Areas

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

Outcome #90

1. Outcome Measures

Radon Education Program

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Radon is the second leading cause of lung cancer. In the United States, radon in homes is the basis for 21,100 deaths each year. Some Albany County communities have high radon levels. Since radon is a tasteless, odorless, invisible gas, the only way to identify the radon level in a home is to test. To reduce radon related diseases and deaths, awareness and education is needed.

What has been done

Cornell Cooperative Extension Albany County delivers radon education and encourages home testing and radon level identification by offering free radon test kits. In addition, educators are available to deploy test kits and provide in home education. Radon awareness and the importance of testing for radon are taught to youth and adults using a variety of methods and in an array of settings. In addition to public outreach education, monthly web updates, press releases and public service announcements promote radon awareness.

Results

More than 416 homes in Albany County were tested for radon in the past year. Residents of these 416 homes received free test kits and educational information about radon. Data was collected from these 416 homes contributing to a statewide effort to identify and control radon exposure. Approximately 3,340 residents increased their understanding about radon after participating in a Cornell Cooperative Extension Albany County educational session.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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
- Appropriations changes
- Government Regulations
- Competing Public priorities
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

Youth

Fiscal pressures internal to Extension and among community organizations influence the scope and quality of programming available to youth. Increasing diversity of our populations creates need for a broader array of program materials, strategies and for a focus on multicultural competencies. Changing educational standards influence acceptability of existing curricula. Regional demographic differences and differences across communities influence both needs and program strategy.

Family

The economic, political and governmental sectors affect the quality, availability and accessibility of child care. The growth of aging and minority populations in the US means more diverse cultures and values related to parenting, child care, and family care giving. Natural disasters and the economy affect household financial status and impact energy issues. They also affect the quality of the indoor air environment. Government regulation and policies driven by public priorities can change the circumstances of personal finances, the energy market and the quality of the indoor household environment. Public and private funders and CCE may have fewer fiscal resources and other resources to devote to the quality of life in financial, energy and indoor air quality matters.

Community

Communities operate in a complex and volatile context involving susceptibility to weather extremes, changing governmental policies and regulations, land uses demands and shifting development patterns, evolving consumer demands, and globalization related economic factors. Weather related disasters can greatly impact communities in terms of infrastructure damage and direct costs. The global, statewide, and regional economies directly impact local economies. Fundamental change is occurring in the state and regional economies. The specific implications of these external factors vary greatly by locale and across regions.

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
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

The evaluation approach for this and all other logic models included in our plan is more accurately described as an evaluation "system" rather than as bounded "studies" or investigations. Because each of the plans addresses a broad combination of applied research and extension initiatives spanning multiple audiences, methods, and intended

outcomes, a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities is required to provide comprehensive assessment. In addition, specialized data needs of funding partners must be addressed, sometimes using methods and/or accountability structures required by the funders. In support of each of the logic models, we provide educators with recommended evaluation strategies and, where available, recommended standard instruments for their use.

In 2009-2010, we embarked on a targeted effort to assess youth science, engineering and technology education. In collaboration with the Cornell Office for Research on Evaluation, 19 county extension programs developed comprehensive evaluation plans and are proceeding with implementation in the current year.

Key Items of Evaluation

Basic program documentation and monitoring activities include simple logging of program outputs and participation, including required equal program opportunity data. Program outcome data is collected through direct observation, participant feedback before, during, and after programs, systematic collection of anecdotal information, and delayed follow-up surveys. Each local site uses a different mix of these methods appropriate to their level of investment in the program. (The mix of Cornell Cooperative Extension programs in local extension units largely is determined by that unit.) Each local extension unit annually provides via a web-based reporting system program participation data, reports against an output/outcome template derived from the approved Federal plan of work, and selected "success stories."

V(A). Planned Program (Summary)

Program # 7

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	2%		22%	
601	Economics of Agricultural Production and Farm Management	24%		19%	
602	Business Management, Finance, and Taxation	34%		7%	
603	Market Economics	15%		0%	
604	Marketing and Distribution Practices	12%		41%	
605	Natural Resource and Environmental Economics	4%		9%	
606	International Trade and Development	2%		1%	
609	Economic Theory and Methods	1%		0%	
610	Domestic Policy Analysis	4%		0%	
611	Foreign Policy and Programs	2%		1%	
Total		100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	16.7	0.0	5.0	0.0
Actual	103.8	0.0	4.0	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 472652	1890 Extension 0	Hatch 403419	Evans-Allen 0
1862 Matching 472652	1890 Matching 0	1862 Matching 403419	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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 0	1890 Extension 0	Hatch 2301	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 2301	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	12000	35000	0	0
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009
 Plan: 0
 Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	85	
Actual	{No Data Entered}	{No Data Entered}	0

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)
 Not reporting on this Output for this Annual Report

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)
 Not reporting on this Output for this Annual Report

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)
 Not reporting on this Output for this Annual Report

Output #4

Output Measure

- # of non-credit instructional activity contact hours directed to this plan.
 Not reporting on this Output for this Annual Report

Output #5

Output Measure

- # of non-credit instructional activities directed to this plan.
 Not reporting on this Output for this Annual Report

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)

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 inter-business transitions. (1.1.1b)
Not Reporting on this Outcome Measure

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 needs. (1.1.2b)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

participants documented to have applied knowledge or skills gained to strengthen existing business operations. (1.1.1c)
Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

participants documented to have initiated one or more alternative or expanded ventures. (1.1.2c)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

participating family-owned agricultural/horticultural businesses that plan for succession, transfer, or sale of their business. (1.1.1d)
Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

participants reporting improved agricultural/ horticultural business profitability attributed at least in part to program participation. (1.1.1e)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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 unplanned programs reflecting NIFA priorities.

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

1.2 Viable and Sustainable Production Practices

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	0%		3%	
202	Plant Genetic Resources	2%		16%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	4%		3%	
204	Plant Product Quality and Utility (Preharvest)	6%		8%	
205	Plant Management Systems	22%		9%	
211	Insects, Mites, and Other Arthropods Affecting Plants	1%		7%	
212	Pathogens and Nematodes Affecting Plants	1%		17%	
213	Weeds Affecting Plants	9%		4%	
215	Biological Control of Pests Affecting Plants	2%		3%	
216	Integrated Pest Management Systems	14%		6%	
301	Reproductive Performance of Animals	2%		4%	
302	Nutrient Utilization in Animals	6%		1%	
303	Genetic Improvement of Animals	1%		0%	
305	Animal Physiological Processes	1%		2%	
306	Environmental Stress in Animals	3%		0%	
307	Animal Management Systems	18%		4%	
308	Improved Animal Products (Before Harvest)	4%		0%	
311	Animal Diseases	2%		10%	
312	External Parasites and Pests of Animals	1%		2%	
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: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	15.6	0.0	75.0	0.0
Actual	95.9	0.0	53.0	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
436294	0	1995107	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
436294	0	1995107	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	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	805529	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	805529	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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	5000	10000	0	0
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009
 Plan: 35
 Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	785	
Actual	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.
 Not reporting on this Output for this Annual Report

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.
 Not reporting on this Output for this Annual Report

Output #3

Output Measure

- # producers, horticulture business persons, and/or natural resource managers completing education programs on existing and new production management practices and techniques. (1.2.1a)
 Not reporting on this Output for this Annual Report

Output #4

Output Measure

- # producers, horticulture businesses, and/or natural resource managers completing education programs on potential environmental impacts of practices; requirements and opportunities of environmental regulations and programs; whole farm systems. (1.2.2a)
 Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	# of producers, horticulture business persons, and/or natural resource managers 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	# of producers, horticulture businesses, and/or natural resource managers demonstrating knowledge/skill gains re 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)
3	# of producers, horticulture business persons, and/or natural resource managers modifying existing practices and/or adopted new production management practices to address current issues and improve yield efficiency, consistency and/or quality. (1.2.1c)
4	# of producers, horticulture business persons, and/or natural resource managers who report improved ability to anticipate and respond to environmental and market variations through alternative production management strategies. (1.2.1d)
5	# technical assistance providers documented to have incorporated current best management practices in their recommendations. (1.2.1e)
6	# of producers, horticulture businesses, and/or 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. (1.2.2c)
7	# of producers, horticulture businesses, and/or natural resource documented to have developed and implement nutrient management and/or waste management plans or modified existing plans to meet production and environmental goals and meet regulations. (1.2.2d)
8	# of producers, horticulture business persons, and/or natural resource managers documented to have improved economic returns to agricultural business profitability and vitality resulting from enhanced production management practices. (1.2.1f)
9	# of producers, horticulture businesses, and/or natural resource documented to meet or exceed current environmental protection standards as a result of participating in relevant educational programs. (1.2.2.e)
10	# resource managers reporting reduced environmental concerns for participating enterprises. (1.2.2.f)

Outcome #1

1. Outcome Measures

of producers, horticulture business persons, and/or natural resource managers 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)
Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

of producers, horticulture businesses, and/or natural resource managers demononstrating knowledge/skill gains re environmental impacts of practices; environmental regulations and programs; whole farm systems including integrated pest management; waste management; and water protection. (1.2.2b)
Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

of producers, horticulture business persons, and/or natural resource managers modifying existing practices and/or adopted new production management practices to address current issues and improve yield efficiency, consistency and/or quality. (1.2.3)
Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

of producers, horticulture business persons, and/or natural resource managers who report improved ability to anticipate and respond to environmental and market variations variations through alternative production management strategies. (1.2.4)
Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

technical assistance providers documented to have incorporated current best management practices in their recommendations. (1.2.1e)
Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

of producers, horticulture businesses, and/or natural resource managers documented to have assessed potential environmental impacts of their operations and developed and acted on plans to eliminate or minimize those impacts. (1.2.6)
Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

of producers, horticulture businesses, and/or natural resource documented to have developed and implement nutrient management and/or waste management plans or modified existing plans to meet production and environmental goals and objectives. (1.2.2d)
Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

of producers, horticulture business persons, and/or natural resource managers documented to have improved economic returns to agricultural business profitability and vitality resulting from enhanced production management practices. (1.2.2e)
Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

of producers, horticulture businesses, and/or natural resource documented to meet or exceed current environmental protection standards as a result of participating in relevant educational programs. (1.2.2.e)
Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

resource managers reporting reduced environmental concerns for participating enterprises. (1.2.2.f)
Not Reporting on this Outcome Measure

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

See unplanned programs reflecting NIFA priorities.

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

1.3 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	40%		0%	
402	Engineering Systems and Equipment	27%		77%	
404	Instrumentation and Control Systems	33%		23%	
Total		100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	2.5	0.0	3.0	0.0
Actual	16.0	0.0	2.0	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
72716	0	25362	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
72716	0	25362	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	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 0	1890 Extension 0	Hatch 7452	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 7452	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	17500	200000	1000	0
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
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Plan	0	10	
Actual	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.
Not reporting on this Output for this Annual Report

Output #3

Output Measure

- # agricultural producers and agribusiness representatives completing educational programs on the potential for development of biologically-based fuels. (1.3.1a)
Not reporting on this Output for this Annual Report

Output #4

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 fuels etc. (1.3.1b)
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- # agricultural producers and agribusiness, and natural resource business representatives completing educational programs about cropping for biofuels production. 1.3.1c)
Not reporting on this Output for this Annual Report

Output #6

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. (1.3.2a)
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- # consumers and community leaders completing educational programs about the availability and pros and cons of alternative energy. (1.3.3a)
Not reporting on this Output for this Annual Report

Output #8

Output Measure

- # community members, leaders and officials completing education programs about the relationships between development patterns and energy use/costs. (1.3.4a)
Not reporting on this Output for this Annual Report

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. (1.3.2b)
2	# consumers and/or community leaders who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources especially related to housing and transportation. (1.3.3b)
3	# of consumers documented to have adopted appropriate alternative energy sources. (1.3.3c)
4	# community members, leaders and officials who demonstrate knowledge gains about the relationships between development patterns and energy use/costs. (1.3.4b)
5	# of community agencies/organizations documented to have adopted appropriate alternative energy sources. (1.3.3d)
6	# producers, economic development organizations and other groups collaborate to establish biofuels as a viable alternative crop. (1.3.1f)
7	# of existing or new producers documented to have modified existing practices or technologies and/or adopted new production management practices for biofuels production. (1.3.1g)
8	# of agricultural/horticultural/natural resource businesses documented to have adopted appropriate alternative energy sources and/or energy conservation practices. (1.3.2c)
9	# of consumers who report savings on energy costs attributable to adopting alternative energy sources. (1.3.3e)
10	# of community agencies/organizations reporting savings on energy costs attributable to adopting alternative energy sources. (1.3.3f)
11	# communities documented to have assessed local energy development proposals and/or the relationships between current policies and regulations and energy conservation. (1.3.4c)
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. (1.3.1h)
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. (1.3.2d)
14	# of consumers who report savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures. (1.3.3h)
15	# of communities documented to have established or modified land use and development policies to promote energy conservation. (1.3.4d)
16	# agricultural producers, agribusiness, or local and state leaders who demonstrate knowledge gains about the potential for development of biologically-based fuels. (1.3.1d)
17	# 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. (1.3.1e)

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.
Not Reporting on this Outcome Measure

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 especially related to housing and transportation. (1.3.3b)
Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

of consumers documented to have adopted appropriate alternative energy sources. (1.3.3c)

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

community members, leaders and officials who demonstrate knowledge gains about the relationships between development patterns and energy use/costs. (1.3.4b)
Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

of community agencies/organizations documented to have adopted appropriate alternative energy sources.
(1.3.3d)
Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

producers, economic development organizations and other groups collaborate to establish biofuels as a viable alternative crop. (1.3.1f)
Not Reporting on this Outcome Measure

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. (1.3.1g)
Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

of agricultural/horticultural/natural resource businesses documented to have adopted appropriate alternative energy sources and/or energy conservation practices. (1.3.2c)
Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

of consumers who report savings on energy costs attributable to adopting alternative energy sources. (1.3.3e)
Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

of community agencies/organizations reporting savings on energy costs attributable to adopting alternative energy sources. (1.3.3f)
Not Reporting on this Outcome Measure

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. (1.3.4c)
Not Reporting on this Outcome Measure

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. (1.3.1h)
Not Reporting on this Outcome Measure

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. (1.3.2e)
Not Reporting on this Outcome Measure

Outcome #14

1. Outcome Measures

of consumers who report savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures. (1.3.3h)
Not Reporting on this Outcome Measure

Outcome #15

1. Outcome Measures

of communities documented to have established or modified land use and development policies to promote energy conservation. (1.3.4d)
Not Reporting on this Outcome Measure

Outcome #16

1. Outcome Measures

agricultural producers, agribusiness, or local and state leaders who demonstrate knowledge gains about the potential for development of biologically-based fuels. (1.3.1d)
Not Reporting on this Outcome Measure

Outcome #17

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. (1.3.1e)
Not Reporting on this Outcome Measure

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 unplanned programs reflecting NIFA priorities.

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

1.4 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	15%		9%	
803	Sociological and Technological Change Affecting Individuals, Families and Communities	85%		91%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	6.3	0.0	2.0	0.0
Actual	39.9	0.0	1.0	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
181789	0	113719	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
181789	0	113719	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	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 0	1890 Extension 0	Hatch 3218	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 3218	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	3500	150000	5000	30000
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	5	
Actual	{No Data Entered}	{No Data Entered}	0

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. (1.4.1a)

Not reporting on this Output for this Annual Report

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. (1.4.2a)

Not reporting on this Output for this Annual Report

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. (1.4.2b)

Not reporting on this Output for this Annual Report

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. (1.4.2c)

Not reporting on this Output for this Annual Report

Output #5

Output Measure

- # of youth participating in education programs on the agriculture and food system and/or natural resource enterprises. (1.4.3a)

Not reporting on this Output for this Annual Report

Output #6

Output Measure

- # of adults participating in education programs on the agriculture and food system and/or natural resource enterprises. (1.4.3b)

Not reporting on this Output for this Annual Report

Output #7

Output Measure

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

Not reporting on this Output for this Annual Report

Output #8

Output Measure

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

Not reporting on this Output for this Annual Report

Output #9

Output Measure

- # funded applied research projects directed to this program.
Not reporting on this Output for this Annual Report

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. (1.4.2h)
2	# documented instances in which agriculture/community onflicts are resolved locally. (1.4.1d)
3	# communities documented to adopt, maintain, or expand policies supportive of appropriate agriculture/horticulture/ natural resource enterprise development and/or community agriculture. (1.4.2i)
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. (1.4.1b)
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. (1.4.2d)
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. (1.4.2e)
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. (1.4.2f)
8	# of youth demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises. (1.4.3c)
9	# of adults demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises. (1.4.3d)
10	# of instances in which producers/horticulture businesses/natural resource enterprises, residents and community leaders work together to address issues. (1.4.1c)
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). (1.4.2g)

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. (1.4.2h)
Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

documented instances in which agriculture/community onlicts are resolved locally. (1.4.1d)
Not Reporting on this Outcome Measure

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. (1.4.2i)
Not Reporting on this Outcome Measure

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. (1.4.1b)
Not Reporting on this Outcome Measure

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. (1.4.2d)
Not Reporting on this Outcome Measure

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. (1.4.2e)
Not Reporting on this Outcome Measure

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. (1.4.2f)
Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

of youth demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises. (1.4.3c)
Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

of adults demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises. (1.4.3d)
Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

of instances in which producers/horticulture businesses/natural resource enterprises, residents and community leaders work together to address issues. (1.4.1c)
Not Reporting on this Outcome Measure

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 plans). (1.4.2)
Not Reporting on this Outcome Measure

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

{No Data Entered}

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.

V(A). Planned Program (Summary)

Program # 11

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: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	10.0	0.0	1.0	0.0
Actual	63.9	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
290863	0	9891	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
290863	0	9891	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	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 0	1890 Extension 0	Hatch 0	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 0	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	10000	75000	0	0
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	5	
Actual	{No Data Entered}	{No Data Entered}	0

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)
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- # of non-credit instructional activities directed to this program.
Not reporting on this Output for this Annual Report

Output #3

Output Measure

- # of non-credit instructional hours directed to this program.
Not reporting on this Output for this Annual Report

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)

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. (2.1.1c)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

of communities implementing projects that protect public health through sound environmental management. (2.1.1e)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

of communities adopting or updating farmland preservation and/or agricultural economic development plans. (2.1.1b)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

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

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

Outcome #12

1. Outcome Measures

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

Not Reporting on this Outcome Measure

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 modes. (2.1.3a)

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

Outcome #15

1. Outcome Measures

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

Not Reporting on this Outcome Measure

Outcome #16

1. Outcome Measures

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

Not Reporting on this Outcome Measure

Outcome #17

1. Outcome Measures

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

Not Reporting on this Outcome Measure

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 unplanned programs reflecting NIFA priorities.

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.

V(A). Planned Program (Summary)

Program # 12

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	65%		0%	
805	Community Institutions, Health, and Social Services	30%		100%	
903	Communication, Education, and Information Delivery	5%		0%	
Total		100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	13.6	0.0	5.0	0.0
Actual	95.8	0.0	1.0	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
436294	0	83309	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
436294	0	83309	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	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 0	1890 Extension 0	Hatch 0	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 0	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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 stakeholders 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	3500	50000	0	0
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009
 Plan: 0
 Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	80	
Actual	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.
Not reporting on this Output for this Annual Report

Output #3

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)
Not reporting on this Output for this Annual Report

Output #4

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)
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- # of economic developers and/or entrepreneurs participating in educational programs on "green" business opportunities. (2.2.4a)
Not reporting on this Output for this Annual Report

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)

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)
Not Reporting on this Outcome Measure

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. (2.2.3)
Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

of economic developers and/or entrepreneurs demonstrating knowledge gains related to "green" business opportunities. (2.2.4b)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

of businesses initiated, retained, or expanded in a sustainable manner based on individual and community goals. (2.2.1a)
Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

of employers establishing or contributing to community-based workforce development approaches. (2.2.2a)
Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

of communities instituting new or enhanced participatory processes related to economic development. (2.2.3c)
Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

of communities developing vision statements and strategic plans and implement steps toward achieving their plans. (2.2.3d)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

of new "green" businesses established at least in part due to participation in the program. (2.2.4c)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #13

1. Outcome Measures

of employers reporting enhanced workforce availability attributable at least in part to participation in the program. (2.2.2b)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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 unplanned programs reflecting NIFA priorities.

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.

V(A). Planned Program (Summary)

Program # 13

1. Name of the Planned Program

3.1 Health, Nutrition, and Food Safety

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
501	New and Improved Food Processing Technologies	0%		11%	
502	New and Improved Food Products	4%		5%	
503	Quality Maintenance in Storing and Marketing Food Products	6%		14%	
701	Nutrient Composition of Food	7%		4%	
702	Requirements and Function of Nutrients and Other Food Components	9%		13%	
703	Nutrition Education and Behavior	31%		15%	
704	Nutrition and Hunger in the Population	13%		1%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.	2%		3%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins	2%		13%	
722	Zoonotic Diseases and Parasites Affecting Humans	2%		4%	
723	Hazards to Human Health and Safety	4%		8%	
724	Healthy Lifestyle	20%		9%	
Total		100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	71.0	0.0	16.0	0.0
Actual	455.3	0.0	13.0	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 2072397	1890 Extension 0	Hatch 649641	Evans-Allen 0
1862 Matching 2072397	1890 Matching 0	1862 Matching 649641	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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 0	1890 Extension 0	Hatch 188163	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 188163	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	55000	250000	20000	100000
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009
 Plan: 5
 Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	290	
Actual	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.
 Not reporting on this Output for this Annual Report

Output #2

Output Measure

- # non-credit instructional hours directed to this program.
 Not reporting on this Output for this Annual Report

Output #3

Output Measure

- # of children, youth, and adults completing education programs on: food, nutrition and health topics including attitudes about healthy eating, food choices, selection of healthy foods, preparation of healthy foods, and active living. (3.1.1a)
 Not reporting on this Output for this Annual Report

Output #4

Output Measure

- # of women and health providers completing education programs addressing healthy weight gain during pregnancy and breastfeeding. (3.1.1b)
 Not reporting on this Output for this Annual Report

Output #5

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. (3.1.1c)
 Not reporting on this Output for this Annual Report

Output #6

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)
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- # of policy makers and citizens participating in education programs on status of food security in their communities and possible actions to promote increased food security. (3.1.2b)
Not reporting on this Output for this Annual Report

Output #8

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)
Not reporting on this Output for this Annual Report

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, and benefits of healthy living. (3.1.1d)
2	# of program participants who demonstrate knowledge or skill gains related to healthy weight gain during pregnancy and breast feeding. (3.1.1e)
3	# of program participants who demonstrate knowledge or skill gains related to issues that influence food and health behavior and associated appropriate school/public/community actions, programs, and policy. (3.1.1f)
4	# 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)
5	# 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)
6	# 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)
7	# of program participants documented to have applied healthy eating, active living, and/or food safety recommendations. (3.1.1g)
8	# of program participants documented to have managed food budgets and related resources to meet family needs. (3.1.1h)
9	# of program participants documented to have increased participation in public/community health-related programs. (3.1.1i)
10	# of program participants documented to have reduced one or more chronic disease indicators. (3.1.1j)
11	# of participating schools and/or communities documented to have made practice and policy changes to promote healthy eating and active living. (3.1.1k)
12	# of program participants who have acted to improve their food security status. (3.1.2e)
13	# of participating communities that assess food insecurity and develop appropriate action plans. (3.1.2f)
14	# 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)
15	# 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. (3.1.1l)
16	# of participating schools and/or communities reporting decline in incidence of overweight and/or indicators of chronic diseases associated with obesity. (3.1.1m)
17	# of individuals or households documented to have improved food security status. (3.1.2h)
18	# of participating communities reporting declines in food insecurity indicators. (3.1.2i)

19

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)

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, and benefits of healthy living. (3.1.1d)
Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

of program participants who demonstrate knowledge or skill gains related to healthy weight gain during pregnancy and breast feeding. (3.1.1e)
Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

of program participants who demonstrate knowledge or skill gains related to issues that influence food and health behavior and associated appropriate school/public/community actions, programs, and policy. (3.1.1f)
Not Reporting on this Outcome Measure

Outcome #4

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)
Not Reporting on this Outcome Measure

Outcome #5

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)
Not Reporting on this Outcome Measure

Outcome #6

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.
Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

of program participants documented to have applied healthy eating, active living, and/or food safety recommendations. (3.1.1g)
Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

of program participants documented to have managed food budgets and related resources to meet family needs. (3.1.1h)
Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

of program participants documented to have increased participation in public/community health-related programs. (3.1.1i)
Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

of program participants documented to have reduced one or more chronic disease indicators. (3.1.1j)
Not Reporting on this Outcome Measure

Outcome #11

1. Outcome Measures

of participating schools and/or communities documented to have made practice and policy changes to promote healthy eating and active living. (3.1.1k)
Not Reporting on this Outcome Measure

Outcome #12

1. Outcome Measures

of program participants who have acted to improve their food security status. (3.1.2e)
Not Reporting on this Outcome Measure

Outcome #13

1. Outcome Measures

of participating communities that assess food insecurity and develop appropriate action plans. (3.1.2f)
Not Reporting on this Outcome Measure

Outcome #14

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)
Not Reporting on this Outcome Measure

Outcome #15

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. (3.1.1l)
Not Reporting on this Outcome Measure

Outcome #16

1. Outcome Measures

of participating schools and/or communities reporting decline in incidence of overweight and/or indicators of chronic diseases associated with obesity. (3.1.1m)
Not Reporting on this Outcome Measure

Outcome #17

1. Outcome Measures

of individuals or households documented to have improved food security status. (3.1.2h)
Not Reporting on this Outcome Measure

Outcome #18

1. Outcome Measures

of participating communities reporting declines in food insecurity indicators. (3.1.2i)
Not Reporting on this Outcome Measure

Outcome #19

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)
Not Reporting on this Outcome Measure

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 unplanned programs reflecting NIFA priorities.

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.

V(A). Planned Program (Summary)

Program # 14

1. Name of the Planned Program

3.2 Human Development and Social Well Being

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: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	18.2	0.0	1.0	0.0
Actual	119.8	0.0	1.0	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
545368	0	86238	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
545368	0	86238	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	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 0	1890 Extension 0	Hatch 6435	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 6435	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	7500	100000	0	0
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	30	
Actual	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Not reporting on this Output for this Annual Report

Output #2

Output Measure

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

Not reporting on this Output for this Annual Report

Output #3

Output Measure

- # of care-giving professionals who complete non-formal education programs about quality dependant care giving. (3.2.1a)

Not reporting on this Output for this Annual Report

Output #4

Output Measure

- # of persons with care-requiring dependants completing non-formal education programs on selection of care-giving individuals and facilities. (3.2.1b)

Not reporting on this Output for this Annual Report

Output #5

Output Measure

- # of organizations, agencies, and institutions participating in non-formal educational programs about social and public policy issues to enhance opportunities for safe, economical, and developmentally appropriate care-giving programs for infants, children, youth, and older adults. (3.2.2a)

Not reporting on this Output for this Annual Report

Output #6

Output Measure

- # of persons completing complete non-formal education programs about parenting. (3.2.3a)

Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	# of participating care-giving professionals who demonstrate knowledge or skill gains related to quality care-giving practices. (3.2.1c)
2	# of participating persons with care-requiring dependents who demonstrate ability to evaluate the quality of care programs to determine appropriate placement for their family members or others. (3.2.1d)
3	# of program participants who demonstrate knowledge or skills gains regarding community approaches to family care. (3.2.2b)
4	# parents, grandparents and other adults providing parental care gaining who demonstrate knowledge or skills gains regarding developmentally appropriate and effective parenting methods. (3.2.3b)
5	# of participating care-giving professionals reporting to have applied positive care-giving practices. (3.2.1e)
6	# participating persons with care-requiring dependents reporting to have used child care quality characteristics in their care selection. (3.2.1f)
7	# of program participants reporting to have been involved in community level assessments of family care needs. (3.2.2c)
8	# parents and other adults providing parental care adopting developmentally appropriate and effective parenting methods. (3.2.3c)
9	# of care-giving providers reporting improved dependant care as a result of participating in educational programs. (3.2.1g)
10	# participating persons with care-requiring dependents reporting positive change in dependant care as a result of participating in educational programs. (3.2.1h)
11	# of communities documented to have taken action to family needs that can be related to educational programs and/or critical community collaborations provided. (3.2.2d)
12	# 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)

Outcome #1

1. Outcome Measures

of participating care-giving professionals who demonstrate knowledge or skill gains related to quality care-giving practices. (3.2.1c)
Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

of participating persons with care-requiring dependents who demonstrate ability to evaluate the quality of care programs to determine appropriate placement for their family members or others. (3.2.1d)
Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

of program participants who demonstrate knowledge or skills gains regarding community approaches to family care. (3.2.2b)
Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

parents, grandparents and other adults providing parental care gaining who demonstrate knowledge or skills gains regarding developmentally appropriate and effective parenting methods. (3.2.3b)
Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

of participating care-giving professionals reporting to have applied positive care-giving practices. (3.2.1e)
Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

participating persons with care-requiring dependents reporting to have used child care quality characteristics in their care selection. (3.2.1f)
Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

of program participants reporting to have been involved in community level assessments of family care needs. (3.2.2c)
Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

parents and other adults providing parental care adopting developmentally appropriate and effective parenting methods. (3.2.3c)
Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

of care-giving providers reporting improved dependant care as a result of participating in educational programs. (3.2.1g)
Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

participating persons with care-requiring dependents reporting positive change in dependant care as a result of participating in educational programs. (3.2.1h)
Not Reporting on this Outcome Measure

Outcome #11

1. Outcome Measures

of communities documented to have taken action to family needs that can be related to educational programs and/or critical community collaborations provided. (3.2.2d)
Not Reporting on this Outcome Measure

Outcome #12

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)
Not Reporting on this Outcome Measure

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 unplanned programs reflecting NIFA priorities.

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.

V(A). Planned Program (Summary)

Program # 15

1. Name of the Planned Program

3.3 Economic Well Being, Quality of Home and Work Environments

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	35%		20%	
801	Individual and Family Resource Management	40%		35%	
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	25%		45%	
Total		100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	8.1	0.0	1.0	0.0
Actual	47.9	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
218147	0	114720	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
218147	0	114720	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	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 0	1890 Extension 0	Hatch 0	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 0	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	15000	125000	3500	30000
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	10	
Actual	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.
Not reporting on this Output for this Annual Report

Output #3

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/or wealth generation strategies. (3.3.1a)
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- # of consumers and property managers completing programs on indoor air quality issues. (3.3.2a)
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- # consumers, property managers, and/or housing officials completing educational programs about potential energy cost savings, including selecting energy providers, and energy conservation strategies and measures especially related to housing and transportation. (3.3.3a)
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	# participants who demonstrate knowledge or skill gains and/or can articulate specific actions they will take related to spending and saving concepts, appropriate use of money, setting financial goals, tracking expenses, budgeting, credit management, financial planning, and/or 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 reporting they are practicing wise money management skills such as comparison shopping, paying bills on time, paying more than minimum payment, checking credit report, and reviewing and understanding bills/statements as a means to meeting financial goals. (3.3.1c)
4	# of program participants documented to have used standard practices such as timely bill payment to meet financial life planning goals. (3.3.1e)
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 homeownership, savings, retirement accounts, etc. (3.3.1d)
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	# consumers, property managers, and/or housing officials who demonstrate knowledge or skills gains and/or can articulate specific actions they will take related to energy cost controls and conservation measures especially related to housing and transportation. (3.3.3b)
10	# of consumers reporting to have adopted appropriate energy cost control and/or conservation practices. (3.3.3c)
11	# of property managers, and/or housing officials documented to have taken measures to improve energy cost control or efficiency of existing and new buildings. (3.3.3d)
12	# of consumers who report savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures. (3.3.3e)

Outcome #1

1. Outcome Measures

participants who demonstrate knowledge or skill gains and/or can articulate specific actions they will take related to spending and saving concepts, appropriate use of money, setting financial goals, tracking expenses, budgeting, credit management, financial planning, and/or wealth generation strategies. (3.3.1b)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

of program participants reporting they are practicing wise money management skills such as comparison shopping, paying bills on time, paying more than minimum payment, checking credit report, and reviewing and understanding bills. (3.3.1c)
Not Reporting on this Outcome Measure

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. (3.3.1e)
Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

of program participants documented to have taken measures to prevent or remediate indoor air quality issues. (3.3.2c)
Not Reporting on this Outcome Measure

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 program. (3.3.2d)
Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

of program participants reporting to have met day-to-day financial obligations while also progressing on future goals for homeownership, savings, retirement accounts, etc. (3.3.1d)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

consumers, property managers, and/or housing officials who demonstrate knowledge or skills gains and/or can articulate specific actions they will take related to energy cost controls and conservation measures especially related to housing and transportation. (3.3.3b)
Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

of consumers reporting to have adopted appropriate energy cost control and/or conservation practices. (3.3.3c)

Not Reporting on this Outcome Measure

Outcome #11

1. Outcome Measures

of property managers, and/or housing officials documented to have taken measures to improve energy cost control or efficiency of existing and new buildings. (3.3.3d)
Not Reporting on this Outcome Measure

Outcome #12

1. Outcome Measures

of consumers who report savings on energy costs attributable to adopting alternative energy sources and/or energy conservation measures. (3.3.3e)
Not Reporting on this Outcome Measure

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 unplanned programs reflecting NIFA priorities.

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.

V(A). Planned Program (Summary)

Program # 16

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	6%		10%	
102	Soil, Plant, Water, Nutrient Relationships	19%		34%	
104	Protect Soil from Harmful Effects of Natural Elements	11%		2%	
123	Management and Sustainability of Forest Resources	9%		3%	
124	Urban Forestry	2%		4%	
125	Agroforestry	2%		4%	
132	Weather and Climate	5%		6%	
134	Outdoor Recreation	4%		4%	
135	Aquatic and Terrestrial Wildlife	14%		17%	
136	Conservation of Biological Diversity	27%		16%	
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	1%		0%	
Total		100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	9.9	0.0	6.0	0.0
Actual	63.9	0.0	7.0	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 290863	1890 Extension 0	Hatch 718092	Evans-Allen 0
1862 Matching 290863	1890 Matching 0	1862 Matching 718092	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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 0	1890 Extension 0	Hatch 10511	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 10511	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	12000	100000	25000	35000
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009
 Plan: 0
 Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	290	
Actual	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.
 Not reporting on this Output for this Annual Report

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.
 Not reporting on this Output for this Annual Report

Output #3

Output Measure

- # of agricultural/ natural resources producers and business representatives completing educational programs on managing natural resources, invasive species, and/or biodiversity. (4.1.1a)
 Not reporting on this Output for this Annual Report

Output #4

Output Measure

- # of organization and business representatives completing educational programs on managing natural resources, invasive species, and/or biodiversity. (4.1.2a)
 Not reporting on this Output for this Annual Report

Output #5

Output Measure

- # of local government officials and community leaders completing educational programs on managing natural resources, invasive species, open space preservation, alternative land uses and/or biodiversity. (4.1.3a)
 Not reporting on this Output for this Annual Report

Output #6

Output Measure

- # of consumers, residents, and landowners completing educational programs on natural resources protection, invasive species, and/or biodiversity. (4.1.4a)
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- # of teachers and youth professionals and volunteers completing educational programs on natural resources protection, invasive species, and/or biodiversity. (4.1.5a)
Not reporting on this Output for this Annual Report

Output #8

Output Measure

- # of youth completing educational programs on natural resources protection, invasive species, and/or biodiversity. (4.1.6a)
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Documented instances in which implementation of natural resources management practices and/or land use policies lead to increased open space preservation, enhanced or protected natural resources, enhanced biodiversity, and/or increases in 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 business 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, invasive species, and/or biodiversity. (4.1.1b)
7	# of organization and business representatives who demonstrate knowledge gains about managing natural resources, invasive species, and/or biodiversity. (4.1.2b)
8	# of local government officials and community leaders who demonstrate knowledge gains about managing natural resources, invasive species, 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, invasive species, and/or biodiversity. (4.1.4b)
10	# of teachers and youth professionals and volunteers who demonstrate knowledge gains about natural resources management, invasive species and/or biodiversity. (4.1.5b)
11	# of youth who demonstrate knowledge gains about natural resources management, invasive species 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)

Outcome #1

1. Outcome Measures

Documented instances in which implementation of natural resources management practices and/or land use policies lead to increased open space preservation, enhanced or protected natural resources, enhanced biodiversity, and/or

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

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

Not Reporting on this Outcome Measure (4.1.4d)

Outcome #4

1. Outcome Measures

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

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Documented instances in which implementation of natural resources management practices by agricultural/natural resources producers or other business persons lead to increased open space preservation, enhanced/protected

Not Reporting on this Outcome Measure (4.1.1d)

Outcome #6

1. Outcome Measures

of agricultural/natural resources producers and business representatives who demonstrate knowledge gains about managing natural resources, invasive species, and/or biodiversity. (4.1.1b)
Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

of organization and business representatives who demonstrate knowledge gains about managing natural resources, invasive species, and/or biodiversity. (4.1.2b)
Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

of local government officials and community leaders who demonstrate knowledge gains about managing natural resources, invasive species, open space preservation, alternative land uses and/or biodiversity. (4.1.3b)
Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

of consumers, residents, and landowners who demonstrate knowledge gains about natural resources management, invasive species, and/or biodiversity. (4.1.4b)
Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

of teachers and youth professionals and volunteers who demonstrate knowledge gains about natural resources management, invasive species and/or biodiversity. (4.1.5b)
Not Reporting on this Outcome Measure

Outcome #11

1. Outcome Measures

of youth who demonstrate knowledge gains about natural resources management, invasive species and/or biodiversity. (4.1.6b)
Not Reporting on this Outcome Measure

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 manage biodiversity. (4.1.7b)
Not Reporting on this Outcome Measure

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.
(4.1.2e)
Not Reporting on this Outcome Measure

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.
(4.1.3b)
Not Reporting on this Outcome Measure

Outcome #15

1. Outcome Measures

of communities documented to have thoroughly assessed the status of their natural resources. (4.1.3d)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #20

1. Outcome Measures

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

Not Reporting on this Outcome Measure

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 unplanned programs reflecting NIFA priorities.

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.

V(A). Planned Program (Summary)

Program # 17

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
111	Conservation and Efficient Use of Water	30%		7%	
112	Watershed Protection and Management	70%		93%	
Total		100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	4.6	0.0	1.0	0.0
Actual	31.9	0.0	4.0	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
145431	0	165936	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
145431	0	165936	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	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 0	1890 Extension 0	Hatch 0	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 0	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	20000	250000	5000	15000
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	40	
Actual	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- # non-credit instructional hours directed to this program.
Not reporting on this Output for this Annual Report

Output #3

Output Measure

- # of agricultural/natural resources producers and business representatives completing educational programs on managing water resources. (4.2.1a)
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- # of organization and business representatives completing educational programs on managing water resources. (4.2.2a)
Not reporting on this Output for this Annual Report

Output #5

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)
Not reporting on this Output for this Annual Report

Output #6

Output Measure

- # of consumers, residents, and landowners completing educational programs on water resources protection. (4.2.4a)
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- # of teachers and youth professionals and volunteers completing educational programs on water resources. (4.2.5a)
Not reporting on this Output for this Annual Report

Output #8

Output Measure

- # of youth completing educational programs on water resources protection. (4.2.6a)
Not reporting on this Output for this Annual Report

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)

Outcome #1

1. Outcome Measures

of agricultural/natural resources producers and business representatives who demonstrate knowledge gains about managing water resources. (4.2.1b)
Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

of organization and business representatives who demonstrate knowledge gains about managing water resources. (4.2.2b)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

of consumers, residents, and landowners who demonstrate knowledge gains about water resources protection. (4.2.4b)
Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

of teachers and youth professionals and volunteers who demonstrate knowledge gains about water resources protection. (4.2.5b)
Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

of youth who demonstrate knowledge gains about water resources protection. (4.2.6b)

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

of communities documented to have thoroughly assessed the status of their water resources. (4.2.3d)

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

Outcome #13

1. Outcome Measures

of teachers and youth professionals and volunteers who incorporate water resources management knowledge into curriculum. (4.2.5c)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #15

1. Outcome Measures

of youth introduced to variety of environmental and natural resources career options. (4.2.6d)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #19

1. Outcome Measures

of youth documented to have chosen water resources-related careers. (4.2.6e)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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 unplanned programs reflecting NIFA priorities.

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.

V(A). Planned Program (Summary)

Program # 18

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	20%		87%	
403	Waste Disposal, Recycling, and Reuse	80%		13%	
Total		100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	2.4	0.0	0.5	0.0
Actual	16.0	0.0	3.0	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
72716	0	182179	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
72716	0	182179	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	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 0	1890 Extension 0	Hatch 2413	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 2413	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	4500	50000	1500	15000
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	10	
Actual	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.
Not reporting on this Output for this Annual Report

Output #3

Output Measure

- # of agricultural/natural resources producers and business representatives completing educational programs on managing and reducing waste. (4.3.1a)
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- # of organization and business representatives completing educational programs on managing and reducing waste. (4.3.2a)
Not reporting on this Output for this Annual Report

Output #5

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)
Not reporting on this Output for this Annual Report

Output #6

Output Measure

- # of consumers, residents, and landowners completing educational programs on waste reduction and management. (4.3.5a)
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- # of youth completing educational programs on waste management and reduction. (4.3.6a)
Not reporting on this Output for this Annual Report

Output #8

Output Measure

- # of teachers and youth professionals and volunteers completing educational programs on waste management and reduction. (4.3.7a)
Not reporting on this Output for this Annual Report

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	# Documented instances in which resource managers credit lower costs for remediation to implementation of improved waste management practices. (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)

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)
 Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

of organization and business representatives who demonstrate knowledge gains about waste management and reduction. (4.3.2b)
 Not Reporting on this Outcome Measure

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)
 Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

of consumers, residents, and landowners who demonstrate knowledge gains about waste management and reduction. (4.3.5b)
 Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

of youth who demonstrate knowledge gains about waste management and reduction. (4.3.6b)
 Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

of teachers and youth professionals and volunteers who demonstrate knowledge gains about waste management and reduction. (4.3.7b)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #13

1. Outcome Measures

of youth introduced to variety of environmental and natural resources career options. (4.3.6d)

Not Reporting on this Outcome Measure

Outcome #14

1. Outcome Measures

of teachers and youth professionals and volunteers who incorporate waste reduction and management knowledge into curriculum. (4.3.7c)

Not Reporting on this Outcome Measure

Outcome #15

1. Outcome Measures

of agricultural/natural resources producers and business representatives documented to have improved waste management practices. (4.3.1d)

Not Reporting on this Outcome Measure

Outcome #16

1. Outcome Measures

Documented instances in which resource managers credit lower costs for remediation to implementation of improved waste management practices. (4.3.2d)

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

Outcome #19

1. Outcome Measures

of consumers, residents, and/or landowners, documented to have improved waste management practices. (4.3.5d)

Not Reporting on this Outcome Measure

Outcome #20

1. Outcome Measures

of youth documented to have chosen waste management-related careers. (4.3.6e)

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

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 unplanned programs reflecting NIFA priorities.

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.

V(A). Planned Program (Summary)

Program # 19

1. Name of the Planned Program

5.1 Youth Community 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: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	12.8	0.0	0.0	0.0
Actual	79.9	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
363578	0	91947	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
363578	0	91947	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	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 0	1890 Extension 0	Hatch 0	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 0	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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 educational strategies, 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 &ndash 21 years of age and adults. •Youth, 5- 19 year of age are the targeted 4-H / non 4-H youth audiences •19 &ndash 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	10000	45000	5000	45000
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	0	
Actual	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.
Not reporting on this Output for this Annual Report

Output #3

Output Measure

- # of youth participating in education programs leading to youth community action initiatives. (5.1.1a)
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- # of youth participating in train-the-trainer programs related to youth community action. (5.1.1b)
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- # of adults participating train-the-trainer programs related to youth community action. (5.1.1c)
Not reporting on this Output for this Annual Report

Output #6

Output Measure

- # of communities participating in youth community action initiatives. (5.1.1d)
Not reporting on this Output for this Annual Report

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)

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

See unplanned programs reflecting NIFA priorities.

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.

V(A). Planned Program (Summary)

Program # 20

1. Name of the Planned Program

5.2 Positive Youth Development Including 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%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	46.5	0.0	0.5	0.0
Actual	303.5	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
1381598	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1381598	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	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 0	1890 Extension 0	Hatch 0	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 0	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	12000	60000	65000	90000
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	2	
Actual	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.
Not reporting on this Output for this Annual Report

Output #3

Output Measure

- # of youth program educators and adult volunteers participating in programs on positive youth development. (5.2.1a)
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- # of youth participating in projects related to vocational skills and/or citizenship. (5.2.1b)
Not reporting on this Output for this Annual Report

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)

Outcome #1

1. Outcome Measures

of youth participants who demonstrate gains in vocational/citizenship skills &ndash knowledge, attitudes, and/or behaviors. (5.2.1c)
Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

of youth participants who learn to set goals, make plans and identify resources to achieve goals. (5.2.1d)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

of youth participants who demonstrate ability to express their ideas confidently and competently. (5.2.1f)
Not Reporting on this Outcome Measure

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)
Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

of youth participants documented as serving in age-appropriate leadership roles. (5.2.1h)
Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

of youth organizations/programs documented as reflecting youth needs, interests, and excitement for learning. (5.2.1i)
Not Reporting on this Outcome Measure

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 unplanned programs reflecting NIFA priorities.

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.

V(A). Planned Program (Summary)

Program # 21

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%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

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

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	9.7	0.0	0.0	0.0
Actual	63.9	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
290863	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
290863	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	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 0	1890 Extension 0	Hatch 0	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 0	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 0	1890 All Other 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 through 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

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	20000	240000	50000	200000
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	0	
Actual	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # non-credit instructional activities directed to this program.
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- # non-credit instructional activity contact hours directed to this program.
Not reporting on this Output for this Annual Report

Output #3

Output Measure

- # of 4-H members enrolled in Science and Technology project areas (as reported on ES-237). (5.3.1a)
Not reporting on this Output for this Annual Report

Output #4

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)
Not reporting on this Output for this Annual Report

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)

Outcome #1

1. Outcome Measures

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

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

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

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

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)

Not Reporting on this Outcome Measure

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 unplanned programs reflecting NIFA priorities.

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

See unplanned programs reflecting NIFA priorities.

Key Items of Evaluation

See unplanned programs reflecting NIFA priorities.