

# 2014 Cornell University Research and Extension and NY State Agricultural Experiment Station Research Combined Annual Report of Accomplishments and Results

Status: Accepted

Date Accepted: 06/30/2015

## I. Report Overview

### 1. Executive Summary

At Cornell University, Federal Capacity Funds are administered strategically to address a wide range of issues in the state and foster integration of applied research and extension programming.

Cornell University Agricultural Experiment Station (CUAES), the New York State Agricultural Experiment Station (NYSAES), and Cornell Cooperative Extension (CCE) work collaboratively to determine planned programs that align with NIFA priority areas and direct funds to research and extension projects as well as those that integrate research and extension. The approach used to integrate the work of the experiment stations and CCE is designed to serve the citizens of New York State and improve the human condition through excellence in scholarship; linking research, non-formal teaching and extension to "real life" challenges and opportunities. Director-level staff from CUAES, NYSAES, and CCE meet regularly as an Integrated Program and Research Team (IPaRT) to discuss relevant issues, research and extension projects and new opportunities.

IPaRT recruits and communicates with a group of richly diverse research and extension stakeholders, who provide input and inform priority-setting for use of Federal Capacity Funds. These stakeholders review proposals submitted through an internal competitive process by which faculty may apply for federal capacity funds for projects with research and extension components matching current priorities. In addition, we have 31 active Program Work Teams comprised of extension educators, faculty, and stakeholders from across New York State who work together to develop, implement, and evaluate priority programs.

University-wide strategic plans have reinforced the land grant research and extension mission. Cornell is a community of scholars, engaged in deep and broad research, teaching tomorrow's thought leaders to think otherwise and create knowledge with a public purpose. In 2014 the College of Agriculture and Life Sciences (CAL S) released the CAL S Strategic Plan: Knowledge with Public Purpose in a Changing World. The CAL S plan supports engaged learning and research that includes additional support for student internships and externships, faculty and staff participation in outreach through media, connections for research and extension to policy and regulatory actions and support for regional extension teams that build upon existing university and extension capacity. Likewise, the College of Human Ecology (CHE) is continuing to reinforce the bridges between science and practice, campus community partnerships, and leadership and outreach. The CHE Bronfenbrenner Center for Translational Research is dedicated to expanding, strengthening and accelerating the connections between research, policy, and practice to enhance human development and well-being. Both colleges are committed to research, teaching and extension and the need to translate knowledge for public purpose.

This report documents the intentional planned program work that resulted from Federal Capacity Funds. Planned Programs were addressed collectively by CCE, CUAES, and NYSAES. Further detail, outcome indicators and success stories are included in the formal report.

Each organization is described below to better explain our unique system at Cornell University.

## **Cornell University Agricultural Experiment Station**

The Cornell University Agricultural Experiment Station links Cornell's world-class research facilities with one of the nation's most comprehensive statewide cooperative extension systems. Through this engaged, interactive system we address pressing issues that directly affect the health and welfare of the state and beyond. With more than 130 years of experience identifying, quantifying, and responding to emerging issues in an ever-changing world, CUAES directs some of the most important projects in the state on a broad range of topics. Many of today's most urgent societal concerns - from childhood obesity to invasive species to global climate change - are not bound by state or national boundaries.

The station also has influence over 12,000 acres of farms and forests, seven farm facilities and over 177,000 square feet of greenhouse space--providing critical research services to scientists. Our student-run farm, Dilmun Hill, which uses organic agricultural practices, is a model of a student-run agricultural operation that has been emulated by other organizations and universities. Every aspect of our operation - from staff development to forest management to farm equipment - is viewed through the lens of sustainability.

The Cornell University Agricultural Experiment Station:

- Manages more than \$5.5 million in federal Hatch grants.
- Annually distributes approximately \$1.5 million to new competitively reviewed projects. Federal capacity grants are an essential element of Cornell's research portfolio, supporting applied research that benefits residents of the state, region, and the nation.
  - Manages an operational budget that is approximately \$3.5 million and employs roughly 50 full time operations staff and seven full time staff in administration.
  - Operates seven farms with agricultural production and forest acreage across the state, from Willsboro on Lake Champlain to Long Island on the Atlantic Seaboard.

## **New York State Agricultural Experiment Station**

Established in 1880, Cornell's New York State Agricultural Experiment Station (NYSAES) in Geneva has existed for more than 130 years developing cutting-edge technologies essential to feeding the world and strengthening New York economies. 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. While our programs have traditionally addressed global food security and hunger issues, the Experiment Station is also well positioned to address other challenges identified as high priorities by NIFA.

The New York State Agricultural Experiment Station:

- Operates on a budget that is approximately \$29 million with \$9.9 million funded through SUNY's base budget.
  - Employs 290 staff and 37 tenure-track professors.
  - Partners with Faculty and Extension Associates: on the range of 10 visiting scientists, 10 postdocs, 25 research and extension associates.
    - Extends research and knowledge through students. In recent years there have been 50 to 55 graduate students conducting masters and doctoral studies.
    - Encourages cross departmental/Research Association operations: Our four departments -- horticulture; plant pathology and plant-microbe biology; entomology and food science - have faculty in Geneva and Ithaca. The main focus is on improving the genetics, cultivation, production, protection, handling and processing of fruit and vegetable crops.

- Partners with the Northeast Center for Food Entrepreneurship (NECFE), at the NY Food Venture Center at Geneva to provide assistance to over 200 food entrepreneurs annually, promoting sustainable economic development in rural communities.

Campus includes:

- the U.S. Department of Agriculture's Plant Genetic Resources Unit (PGRU), responsible for the collection of apple, sour cherry and cold-hardy grapes and selected seed-propagated crops, such as onion, garlic, broccoli, cabbage and winter squash; and the Grape Genetics Resources Unit (GGRU), responsible for the national program on grape genetics and genomics.
  - A central Geneva campus made up 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.
    - Two pilot plants -- the Fruit & Vegetable Processing Pilot Plant and the Vinification & Brewing Technology Laboratory -- provide opportunities for entrepreneurs and processors to add value to the state's raw products.
      - The NYS IPM Program
      - The NYS Seed Testing Laboratory
      - IR-4 Field Research Program
      - Cornell Agriculture and Food Technology Park adjacent to the main NYSAES campus
      - Administers other research/extension laboratories - Hudson Valley at Highland, NY, and the Cornell Lake Erie Research and Extension Laboratory at Portland, NY.
      - Operates 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.

### **Cornell Cooperative Extension**

Cornell Cooperative Extension extends Cornell University's land-grant programs to citizens all across New York State. With a presence in every county and New York City, CCE puts research into practice by providing high-value educational programs and university-backed resources that help solve real-life problems, transforming and improving New York families, farms, businesses and communities. County associations of Cornell Cooperative Extension work with their local boards, committees and volunteers to influence decisions on program priorities and delivery. Our county extension associations and multi-county programs are separate 501(c) 3 organizations under the general supervision of Cornell University as agent for the state of New York.

### **Cornell Cooperative Extension:**

- Annually reaches 1.4 million directly, and 15 million indirectly.
- Employs 1,013 local and regional staff and educators organized around program initiatives and local needs.
  - Uses 48 specialists to provide programming in integrated pest management, dairy, grape, fruit, vegetable and field crop production and management.
  - Extends community work by partnering with over 45,000 volunteers who advise, plan, teach and mentor in all program areas.
  - Partners with approximately 393 Cornell staff and faculty; primarily from the College of Agriculture and Life Sciences and the College of Human Ecology.
  - Engages a program development process that relies heavily on county input to identify issues of local importance. Often research is informed by the two-way flow of information and experience.
  - Includes 57 distance learning centers across New York State, and is fully equipped to deliver events and instruction through various modes including webinars and on-demand videos to remote audiences.

**Collective, planned program areas are described below.**

### **AGRICULTURE AND FOOD SYSTEMS**

CCE, CUAES, and NYSAES support a NY agriculture industry that is diverse, sustainable, and profitable, and which produces a safe, reliable, healthy and local food supply.

#### **Goals of Program:**

- Boost U.S. agricultural production.
- Improve global capacity to meet growing food demand in the midst of a changing climate.
- Assure the long-term viability and well-being of the agricultural/horticulture industry and rural communities in New York State.
  - Promote economically and environmentally sound products and practices, and safer and healthier products.
  - Assist producers, horticulture businesses and natural resource managers to optimize production management and improve profitability and sustainability in accordance with their goals.
  - Increase the use of sustainable practices to result in improved or protected soil, air and water quality and production of high quality and safe food and fiber.
  - Improve soil health and productivity, resulting in increased farm profitability and improved environmental quality.

### **CLIMATE CHANGE**

Researchers are exploring the looming challenges, investigating strategies to address expected impacts and developing new resources to reduce the "carbon footprint" that adds to greenhouse gas emissions. Multidisciplinary researchers, educators and extension faculty -- from plant biologists to economists to climatologists -- are engaged in quantifying the current trend and predicting future impact, adapting/moderating practices to reduce impacts, and communicating/preparing for damage from climate related events.

#### **Goals of Program:**

- Reduce factors contributing to climate change at the individual, community, industry and institutional levels.
- Develop an agricultural system that maintains high productivity in the face of climate changes.
- Help producers and communities adapt to changing environments.
- Sustain economic vitality, identify challenges and take advantage of emerging economic opportunities offered by climate change mitigation technologies.
  - Safeguard water resources, natural resources & biodiversity that may be harmed by the consequences of climate change.

### **ENVIRONMENT, NATURAL RESOURCES AND SUSTAINABLE ENERGY**

With some of the highest energy costs in the nation, New York residents are hungry for information on viable renewable energy options, as well as strategies to promote energy conservation, while farmers, forest owners and agricultural producers in the state are eager to explore new markets. The state's vast resources of available land and organic waste streams offer opportunities for new, renewable energy initiatives, considered a vital part of a forward-looking national energy policy.

#### **Goals of Program:**

- Encourage communities to focus on locally-produced and owned energy sources and/or lower cost external sources, helping to retain energy dollars within the state.

- Reduce energy costs to boost the economic health of agriculture/horticulture/natural resource and supporting businesses, the financial security of individuals and families and the operations of local governments.
- Improve waste management and waste reduction efforts to enhance and protect the environment, resulting in improved soil, air, and water quality; reduced risk for individuals and families; and an improved economic climate for businesses and government.
- Improve practices and technology that assist in protecting and enhancing local natural resources and the environment.

## **NUTRITION, FOOD SAFETY AND SECURITY, AND OBESITY PREVENTION**

Programs that are framed by this plan include research and extension linked to childhood obesity; youth, family and community nutrition; food security and food safety.

**Childhood Obesity Prevention:** Childhood obesity prevention research and education are based on an ecological approach, focusing on individuals and their relationships with others, their community and society. This approach recognizes that there are inherent multiple levels of influence that affect a child's body weight.

**Food Security:** Research and programs address access to food, certainty of availability and access to food, sufficiency of food, social and cultural acceptability of food, and nutritional quality and safety of food. Work in this program area ties well with our work in agriculture, and youth, families and communities.

**Food Safety:** Cornell's statewide food safety research and education program serves a broad constituency including food producers, processors and retailers, as well as consumers and research scientists. Affordable, available, safe and nutritious foods.

### **Goals of Program:**

- Food and activity environments that support healthful eating and active living.
- Improved food safety and food-handling practices throughout the food system.
- Reduced incidence of food-borne illnesses.
- Improve community food security and healthful food-choice options.

## **4-H YOUTH DEVELOPMENT/CHILDREN, YOUTH, AND FAMILIES**

Youth programs focus on life skill development, as well as science, technology, engineering and math opportunities. Family programs emphasize human development and social well-being, economic well-being, and quality of home and work environments.

### **Goals of Program:**

#### **Youth**

- Enhance youth development.
- Empower youth to become life-long learners who lead healthy, satisfying, and productive lives.
- Ensure that youth become caring and contributing members of society, enhancing the quality of life for themselves, their families and their communities.
  - Prepare the next generation of scientists as youth become knowledgeable, contributing participants in science and technology-related issues in their communities and chosen professions.
  - Support youth as community leaders who make decisions and take action on issues of public/community concern.

**Family**

- Enable vibrant and resilient communities.
- Improve parenting practices that result in better child and youth outcomes.
- Improve parent/caregiving practices, resulting in parents and caregivers reporting increased confidence in their roles.
- Improve financial status of targeted NYS residents.
- Improve indoor air quality in households resulting in better health outcomes.

**COMMUNITY AND ECONOMIC VITALITY**

This plan frames the programs that aim to empower individuals and communities to make sound decisions for the future through access to research, data and resources, best practices, university-based resources and community education.

The Community and Economic Vitality plan includes community and economic development processes, community sustainability and resiliency, agriculture and food systems development, land use and energy, emergency preparedness and entrepreneurship and workforce development. Cornell has a commitment to New York citizens and local officials to build their capacities so they can solve problems and build strong and vibrant communities. Agriculture and food systems development includes efforts that promote community farmland protection initiatives, promote local foods, supports agricultural entrepreneurship, public issues education related to specific agriculture/community conflict. Educational programs support inter-municipal and regional collaborations, and new public-private partnerships that spur innovative strategies to address complex community development issues.

**Goals of Program:**

- Ensure that diverse interests and populations in communities are reflected and engaged as stakeholders.
- Provide a framework for communities to navigate conflicts when they occur.
- Help communities to see agriculture/horticulture/natural resource enterprises as contributing and positive elements.
- Grow community leadership capacity so that community residents experience high quality of life, ecological integrity, effective decision making, and new economic opportunities.
- Institutionalize sustainable practices so that communities actively manage their financial, leadership practices, human, environmental, and social capitals.

**Total Actual Amount of professional FTEs/SYs for this State**

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	1390.0	0.0	29.0	0.0
Actual	1027.0	0.0	41.0	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

CUAES, NYSAES and CCE use one integrated process of merit review for applied research and extension projects, including integrated and multistate activities. Key elements of the process are described here, including statistics from the most current (2014) proposal cycle. Director-level staff from CUAES, NYSAES, and CCE) meet regularly as an Integrated Program and Research Team (IPaRT) to discuss relevant issues, research and extension projects, and new opportunities.

#### Review Process (Research, Extension, and Integrated Projects with Designated Funding):

- Principal investigators are asked to consult program priorities (established as outlined in the stakeholder involvement section) and develop pre-proposals for new or revised projects funded by Federal Capacity Funds.
- Pre-proposals are reviewed for purpose and relevancy by joint advisory external stakeholders, the principal investigator's department chair, Extension Program Associate/Assistant Directors, and the Agricultural Experiment Station directors (Ithaca and Geneva). Reviews are submitted via a secure website.

#### For research proposals:

- Agricultural Experiment Station directors make final determination of pre-proposals for development into full proposals. Full proposals are reviewed by two or three peer reviewers suggested by the PI's Department Chair. The final proposal is submitted to NIFA through REEPORT. Pending approval by NIFA, Hatch funds are allocated to a unique account associated with their specific project.

#### For extension proposals:

- Extension Program Directors rank/recommend extension pre-proposals.
- Extension Program Directors meet with Agricultural Experiment Station (Ithaca and Geneva) staff to discuss potential R-E linkages among extension pre-proposals.
- Extension Assistant Director, Organizational Development & Accountability reviews for equal program opportunity and affirmative action considerations.
- Extension Program Directors finalize Smith-Lever funding recommendations.

#### Cornell University Review Criteria:

- Anticipated significance of results relative to current priority needs or opportunities
- Scientific merit of objectives
- Clarity of objectives
- Appropriate methodology
- Feasibility of attaining objectives
- Accomplishment during previous projects
- Research performance and competence of investigator(s)
- Relevance of the proposed work to state, regional, or national goals

- Impact on underserved audiences
- Level of research-extension integration
- Relevance to stakeholders

For FY14, our most current data, a total of 138 pre-proposals were submitted to CUAES, NYSAES and CCE of which 98 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, IPaRT has a single multidisciplinary external stakeholder group that provides guidance for CUAES, NYSAES and CCE by reviewing funding support requests. Membership is intentionally monitored and updated to ensure involvement and ties to traditional and non-traditional constituents, and established and emerging partnerships.

In addition, we have 31 active Program Work Teams (PWTs). PWTs are made up of extension educators, faculty, and stakeholders who work together to develop, implement and determine priority programs within PWTs and to advise IPaRT as needed. 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. More than 900 participants were involved in the work of these teams in 2014.

Beyond this state-level stakeholder input structure/process, each of Cornell Cooperative Extension's county extension associations continue to work closely with local stakeholders via participation in their local governance structures, i.e. board of directors, and advisory committee structures. In 2014, more than 2,800 board and committee volunteers from diverse backgrounds participated and assisted in the direction, priority setting programs throughout the state, and over 54,000 committed volunteers assisted with program delivery adding to stakeholder involvement.

In local CCE offices stakeholder input is sought from all audiences including under-represented or



under-served audiences. One of the strategies used for gaining input and developing working relationships with new audiences is by networking and partnering with organizations that do have existing and strong relationships with target groups. Local boards of directors and advisory committees also recruit an intentionally diverse membership representative of the people and the needs in the community.

Effective involvement of youth in program determination and implementation is a priority. Our local advisory committees are expected to include youth members as part of the needs assessment and decision making structure. In 2014, more than 7,000 youth reported serving in appropriate leadership, governance and program delivery roles statewide.

## **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 expected to have active and diverse advisory processes and to intentionally consider audiences not currently served. Activities IPaRT stakeholders and PWTS are described in other questions in this section. Needs assessments, focus groups, and use surveys are conducted at the individual level of program units as well as in our statewide plan of work process.

As a method of tracking program needs and input received CCE educators are expected to submit narrative reports of efforts including efforts intentionally planned to engage underserved populations. For the 2014 reporting year, many impact statements were submitted exemplifying programming intended for underserved audiences. Example titles of the narrative reports included: STEM in Action: 4-H Tech Wizards Build Wheelchair Ramp, 'Seniors Get Moving', 4-H Youth Development and Youth with Social Emotional Learning Needs, Annie's Project: Empowering Women Farmers in Broome County, CCE Steuben Increases Access to Local Foods, CITIZEN U Graduates Teen Leaders, Prepared for Careers, College and Citizenship, Childhood lead poisoning is the most preventable disease among young children, Community-based Nutrition expands to serve Office for the Aging, Creating Healthy Environments for Syracuse City Youth through Education and Policy Formation, Double Up Food Bucks: Increasing Access to NYS Grown Produce, ESNY and EFNEP: Helping Low-income Individuals, Youth and Families Make Better Food Choices, Education for Chronic Diseases, Farm Business Management for Women in Agriculture - A Risk Management Perspective, Grandparents Raising Grandchildren in Suffolk County, Homes for Heroes Garden: A Collaboration between local Girl Scout Troop and Master Gardener Volunteers to beautify a Veteran Housing site, Increased EBT usage at Seneca Falls Farmers Market, Nutrition Workshops at Literacy Zone, Nutritional Support for Seniors, Refugee Milker Training Prepares New Dairy Workforce, Relatives As Parents Program (RAPP), Riverhead Grocery Store experiences extreme makeover to promote fruits and vegetables and water to a Latino Community.

**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 2014 but methods varied site to site and program-to-program across the system. Structures and processes for aggregating data are addressed in this section. The most active data gathering occurred in three venues - local advisory bodies, PWTs, and the IPaRT stakeholders. Web based surveys; interactive webinars and response to social media also provide programmatic feedback. Examples used in the past year to gather stakeholder input include: Public Forum on Emerald Ash Borer (CCE Onondaga County), Child Care Survey (CCE Oneida County), Cooperative Extension Strategic Planning Survey (CCE Genesee County), Grape Bud Damage Survey (Regional Grape Programs), 4-H Camp STEM Activities (4-H Camp Shankitunk), NNY Local Foods Consumer Survey (Northern New York Agriculture), WNY Regional Food Enterprise Survey (CCE Niagara County).

Preparing staff to understand how to meet the needs of stakeholders is a priority. Educators are offered training through webinars and recorded short videos that are part of program development coursework. Webinars were offered on: Needs Assessments, Developing a Local Plan of Work, and the reporting process. Recorded webinars and resources are available to meet on-demand needs.

We continued statewide efforts to provide current resources for educators regarding equal program opportunity. In 2014 mandatory staff training on Title VI Civil Rights were held. Additionally trainings driven by outcomes related to diversity and inclusion were offered to staff across the state via live webinars. Training topics included - Understanding and Using Socio-Economic Demographics, Diversity & Inclusion Among Advisory Members, Mapping Basics - Preparing for Affirmative Action Plans, Recruiting & Retaining Diverse Volunteers, Civil Rights Compliance Basics, Unconscious Bias, Making it Work as a Diverse Team. These resources along with distance learning training in the program development process help staff learn the how to identify local needs and then meet the needs of audiences through 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 CUAES, NYSAES and CCE was established in February 2001.

IPaRT stakeholders and PWTs work to improve program focus, relevance, and planning activities. Stakeholder input informs federal capacity funding priorities and provides project specific input on relevance and value of proposed work. IPaRT stakeholders provide input that informs decisions around funding of current extension and research projects, contributing ratings of perceived relevance. Statewide applied research and extension priorities are updated annually, communicated to faculty and staff, and used as a criterion in funding decisions.

County associations of Cornell Cooperative Extension work with their local boards, committees and volunteers to influence decisions on program priorities and delivery. Our county extension associations and multi-county programs are separate 501(c) 3 organizations under the general supervision of Cornell University as agent for the state of New York. Their local plans of work are established under guidance of stakeholders in local advisory structures and governing boards and are in alignment with the statewide plan of work.

#### **Brief Explanation of what you learned from your Stakeholders**

Stakeholders help to frame and shape plans of work, funding proposals, programs, and educational activities. System wide the IPaRT stakeholders and PWTs have reaffirmed our commitment to the NIFA priorities and have elevated needs and opportunities to make use of campus resources for educational programs. Feedback from stakeholders is sought in a variety of ways, welcomed and considered for planning. Communication between CUAES, NYSAES and CCE is open and regular at IPaRT meetings and through funding decisions.

#### 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
8452774	0	7098529	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	0	0

**Institution Name:** Cornell University

2. Total Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	8452774	0	5165159	0
Actual Matching	8452774	0	9459942	0
Actual All Other	0	0	0	0
Total Actual Expended	16905548	0	14625101	0

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

2. Total Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	0	0	1219100	0
Actual Matching	0	0	1537370	0
Actual All Other	0	0	0	0
Total Actual Expended	0	0	2756470	0

<b>3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous</b>				
<b>Carryover</b>	0	0	0	0

**V. Planned Program Table of Content**

<b>S. No.</b>	<b>PROGRAM NAME</b>
1	Agriculture and Food Systems
2	Climate Change
3	Environment and Natural Resources and Sustainable Energy
4	Nutrition, Food Safety and Security, and Obesity Prevention
5	4-H Youth Development/Children, Youth and Families
6	Community and Economic Vitality

**V(A). Planned Program (Summary)**

**Program # 1**

**1. Name of the Planned Program**

Agriculture and Food Systems

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
102	Soil, Plant, Water, Nutrient Relationships	5%		12%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		6%	
202	Plant Genetic Resources	3%		12%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%		3%	
204	Plant Product Quality and Utility (Preharvest)	15%		5%	
206	Basic Plant Biology	10%		1%	
211	Insects, Mites, and Other Arthropods Affecting Plants	5%		14%	
212	Pathogens and Nematodes Affecting Plants	5%		13%	
213	Weeds Affecting Plants	2%		2%	
215	Biological Control of Pests Affecting Plants	3%		8%	
216	Integrated Pest Management Systems	2%		3%	
301	Reproductive Performance of Animals	1%		5%	
302	Nutrient Utilization in Animals	6%		2%	
304	Animal Genome	2%		2%	
305	Animal Physiological Processes	0%		3%	
307	Animal Management Systems	16%		2%	
501	New and Improved Food Processing Technologies	1%		2%	
503	Quality Maintenance in Storing and Marketing Food Products	6%		1%	
604	Marketing and Distribution Practices	10%		1%	
610	Domestic Policy Analysis	8%		3%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)**

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

**Cornell University**

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	358.7	0.0	11.0	0.0
<b>Actual Paid</b>	273.0	0.0	13.0	0.0
<b>Actual Volunteer</b>	3473.0	0.0	0.0	0.0

**NY State Agricultural Experiment Station**

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	358.7	0.0	11.0	0.0
<b>Actual Paid</b>	0.0	0.0	2.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**2. Institution Name:** Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
2251819	0	2061551	0
<b>1862 Matching</b>	<b>1890 Matching</b>	<b>1862 Matching</b>	<b>1890 Matching</b>
2251819	0	3857389	0
<b>1862 All Other</b>	<b>1890 All Other</b>	<b>1862 All Other</b>	<b>1890 All Other</b>
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	988680	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	1254324	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

Our research and education is directed toward improvement of food system as a whole from farm to table. Cooperative Extension (CCE) and applied research programs work together to cover multiple aspects of agriculture and food systems such as soil resources and soil health, crop plant genomics, field evaluation of crops, reliable production guidelines, genetic improvement of animals and animal production, economics of production and farm management, integrated pest management, healthy produce, fruit and vegetable production and storage and facilitation of sustainable agriculture. Education complements research by encouraging farmers to grow new crop varieties and employ new production and business practices, through programs for agriculture sector businesses, and by informing consumers about new or improved food products. Research analysis and education also affect policies to reform governmental food and agriculture related programs.

Cornell University has a commitment to agriculture, horticulture, and natural resources enterprises and assisting them in making informed choices when selecting production principles and practices to enhance economic and environmental sustainability. Cornell offers research and education programming focused on assessing existing and new production and management practices and techniques with special emphasis on both business vitality and agricultural environmental management. As part of our strategy, we emphasize integration of research and extension to accelerate: identification of problems, focusing scientific effort to resolving problems, field-testing and evaluation of technology and cultural practices, and implementation of environmentally superior innovations/practices for the agricultural, horticultural, and natural resource communities.

As a result of our applied research and cooperative extension efforts, farm businesses, horticulturist, and natural resource managers utilize research-based knowledge to continue producing a stable, safe and affordable food, feed, fiber, and fuel supplies and robust, attractive horticultural plants in economically and environmentally sustainable ways.

#### 2. Brief description of the target audience

Key audiences served, directly and indirectly, in enhancing agribusiness 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.

#### 3. How was eXtension used?

Cornell Cooperative Extension supports and promotes eXtension communities of practice, the eXtension public site and the professional development offered through eXtension.org. Staff across the state are encouraged to be involved in COPs, and the link to eXtension is promoted on the front page of the Cornell Cooperative Extension public staff site. Currently 365 staff are registered active users of eXtension, 62 of which are faculty members.

Examples of participation in COPs that fall into this plan of work area include:

- Agriculture and Food Law
- All About Blueberries
- Animal Manure Management
- Apples
- Ashtubula Viticulture and Enology Degrees
- Beef Cattle
- Cooperatives
- Corn and Soybean Production
- DaireXNET
- Enhancing Rural Capacity
- eOrganic
- Farm Safety and Health
- Farmbill Education Learning Network
- Forest Farming
- Global Food Security and Hunger
- Grapes
- Greenhouse and Nursery Production
- Horses
- Local and Regional Food Systems
- Niche Meat Processor Assistance Network
- Organic Agriculture
- Pest Management
- Pesticide Environmental Stewardship
- Plant Breeding and Genomics
- Precision Agriculture
- Sheep
- Small and Backyard Flocks
- Women in Ag Learning Network
- Youth Agriculture

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	228788	5262450	54468	1252842

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

**Patent Applications Submitted**

Year: 2014

Actual: 4

**Patents listed**

Compositions and Methods for Enhancing Germination (1)

Compositions and Methods for Enhancing Germination (2)

Compositions and Methods for Enhancing Germination (3)

Compositions and Methods for Enhancing Germination (4)

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2014	Extension	Research	Total
Actual	300	359	659

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

**Output Target**

**Output #1**

**Output Measure**

- {No Data Entered}

**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	(1.1d) # participating family-owned agricultural/ horticultural/natural resources businesses that plan for succession, transfer, or sale of their business.
3	(1.1e) # participants reporting improved agricultural/ horticultural business profitability attributed at least in part to program participation.
4	(1.1f) # business owners successfully completing an inter-generational transfer or other desired dispensation of their business attributed at least in part to program participation.
5	(1.3b) # participants who demonstrate knowledge gains related to needs of potential employees and/or availability of qualified employees.
6	(1.3c) # participants documented to have made one or more changes in human resources practices to enhance labor availability or retention
7	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
8	(1.2c) # participants documented to have adopted innovations in food enterprises including production, allied services, processing, and distribution
9	(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.
10	(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.
11	(1.4c) # of producers, horticulture business persons, and/or natural resource managers modifying existing practices and/or adopted new production best practices or technologies to address current issues and improve yield efficiency, consistency and/or quality and/or conservation of resources.
12	(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 through alternative production management strategies.
13	(1.4e) # technical assistance providers documented to have incorporated current best management practices in their recommendations.
14	(1.4f) # of producers, horticulture business persons, reporting increased dollar returns per acre or reduced costs per acre.
15	(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.
16	(1.5d) # of producers, horticulture businesses, and/or natural resource managers 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.

17	1.5e) # of producers, horticulture businesses, and/or natural resource managers documented to meet or exceed current environmental protection standards as a result of participating in relevant educational programs.
18	(1.5f) # resource managers reporting reduced environmental concerns for participating enterprises
19	ON-FARM RESEARCH AND PRACTICE DEMONSTRATE COST-SAVING ALTERNATIVE TO HAND WEEDING PERENNIAL SOW THISTLE IN ONIONS GROWN IN MUCK
20	ANNIE'S PROJECT ENHANCES SKILLS, KNOWLEDGE AND INFLUENCES RISK MANAGEMENT PRACTICES FOR PARTICIPATING WOMEN FARMERS
21	CCE'S MARINE PROGRAM, LONG ISLAND UNIVERSITY AND SUFFOLK COUNTY PARTNERED TO RESTORE THE PECONIC BAY SCALLOP
22	CONSUMER BEHAVIOR AND DEMAND IN NYS FRUIT AND VEGETABLE MARKETS

**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	Actual
2014	3951

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

**KA Code    Knowledge Area**

307	Animal Management Systems
501	New and Improved Food Processing Technologies
604	Marketing and Distribution Practices

## **Outcome #2**

### **1. Outcome Measures**

(1.1d) # participating family-owned agricultural/ horticultural/natural resources 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**

<b>Year</b>	<b>Actual</b>
2014	159

### **3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
604	Marketing and Distribution Practices

## **Outcome #3**

### **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**

<b>Year</b>	<b>Actual</b>
2014	2506

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
604	Marketing and Distribution Practices

**Outcome #4**

**1. Outcome Measures**

(1.1f) # business owners successfully completing an inter-generational 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**

<b>Year</b>	<b>Actual</b>
2014	29

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
604	Marketing and Distribution Practices

**Outcome #5**

**1. Outcome Measures**

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

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	97

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
201	Plant Genome, Genetics, and Genetic Mechanisms
202	Plant Genetic Resources



203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
206	Basic Plant Biology
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
304	Animal Genome
305	Animal Physiological Processes
307	Animal Management Systems
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
604	Marketing and Distribution Practices
610	Domestic Policy Analysis

## **Outcome #6**

### **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**

<b>Year</b>	<b>Actual</b>
2014	69

### **3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

## Results

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices

### Outcome #7

#### 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	Actual
2014	67

#### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results**

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices

**Outcome #8**

**1. Outcome Measures**

(1.2c) # participants documented to have adopted innovations in food enterprises including production, allied services, processing, and distribution

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	395

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
604	Marketing and Distribution Practices

**Outcome #9**

**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**

<b>Year</b>	<b>Actual</b>
2014	296

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
604	Marketing and Distribution Practices

**Outcome #10**

**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**

<b>Year</b>	<b>Actual</b>
2014	437

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
307	Animal Management Systems
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
604	Marketing and Distribution Practices

**Outcome #11**

**1. Outcome Measures**

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

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	16147

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

## What has been done

### Results

#### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
204	Plant Product Quality and Utility (Preharvest)
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems
301	Reproductive Performance of Animals
307	Animal Management Systems
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
604	Marketing and Distribution Practices

#### Outcome #12

##### 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 through alternative production management strategies.

##### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

<b>Year</b>	<b>Actual</b>
2014	3420

##### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

## What has been done

### Results

#### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems

#### Outcome #13

##### 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

<b>Year</b>	<b>Actual</b>
2014	850

##### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results**

#### 4. Associated Knowledge Areas

**KA Code**    **Knowledge Area**  
216            Integrated Pest Management Systems

**Outcome #14**

**1. Outcome Measures**

(1.4f) # of producers, horticulture business persons, reporting increased dollar returns per acre or reduced costs per acre.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	7445

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
201	Plant Genome, Genetics, and Genetic Mechanisms
202	Plant Genetic Resources
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
206	Basic Plant Biology
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants



216	Integrated Pest Management Systems
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
304	Animal Genome
305	Animal Physiological Processes
307	Animal Management Systems
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
604	Marketing and Distribution Practices
610	Domestic Policy Analysis

### **Outcome #15**

#### **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**

<b>Year</b>	<b>Actual</b>
2014	555

#### **3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
201	Plant Genome, Genetics, and Genetic Mechanisms

202	Plant Genetic Resources
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
206	Basic Plant Biology
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
304	Animal Genome
305	Animal Physiological Processes
307	Animal Management Systems
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
604	Marketing and Distribution Practices
610	Domestic Policy Analysis

## **Outcome #16**

### **1. Outcome Measures**

(1.5d) # of producers, horticulture businesses, and/or natural resource managers 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.

### **2. Associated Institution Types**

- 1862 Extension
- 1862 Research

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	145

### **3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
307	Animal Management Systems

**Outcome #17**

**1. Outcome Measures**

1.5e) # of producers, horticulture businesses, and/or natural resource managers 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**

<b>Year</b>	<b>Actual</b>
2014	209

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships

**Outcome #18**

**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	Actual
2014	71

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships

**Outcome #19**

**1. Outcome Measures**

ON-FARM RESEARCH AND PRACTICE DEMONSTRATE COST-SAVING ALTERNATIVE TO HAND WEEDING PERENNIAL SOW THISTLE IN ONIONS GROWN IN MUCK

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

### 3a. Outcome Type:

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2014	0

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Perennial sow thistle has emerged as a devastating weed problem in certain muck land areas where onions are grown in New York, especially in the Elba area of Western NY where 500 acres are already severely infested. Perennial sow thistle aggressively competes with the onion crop and when not controlled, losses to yield and bulb size can be severe, to the extent that the crop is not worth harvesting. There are already reports of perennial sow thistle infestations in muck pockets in Oswego and Linwood; approximately 10,500 acres of onion-growing muck land is at risk for perennial sow thistle in New York alone. Onions are the third most important vegetable crop grown in New York with an average value of \$55 million. A management strategy to effectively control perennial sow thistle during the growing season within an onion crop was urgently needed.

#### What has been done

The Cornell Cooperative Extension Vegetable Program's Onion Specialist, Christy Hoepting and Program Aid, Elizabeth Buck focused their efforts on the herbicide Stinger, because of its known activity against this weed. The active ingredient in Stinger is a systemic growth regulator type of herbicide that has the ability to move downward into the perennial sow thistle plant and kill its rhizomes, destroying its abilities to regenerate and persist over winter. In 2013 and 2014, the Vegetable Program conducted four extensive on-farm field studies that determined the optimal use of Stinger in order to achieve the highest weed control while providing the lowest risk of injury to the onion crop. To ensure Stinger could be labeled on onions, they worked closely with the privately owned company that manufactures and sells Stinger, and with IR-4, which is a federally funded program that provides pest management tools to specialty crop growers by developing research data to support new product uses.

#### Results

This research identified the stage of perennial sow thistle that is the most susceptible to the herbicide Stinger and the stages when Stinger is not a productive treatment option. Research results identified the mid- to late-rosette stage of perennial sow thistle to be the most susceptible stage, with earlier and older stages more challenging to control with Stinger. The best time to apply Stinger was when the onions had between four and six leaves, which resulted in more than 95% marketable bulbs. The team requested that Stinger be labeled on onions in the way that it proved most effective and safe in their research studies. With the support of the manufacturer, the request was accepted. As a result of this on farm study, New York onion growers who face severe infestation with perennial Sow thistle will have options other than costly hand weeding or having to divert valuable muck land out of onion production. There is an estimated \$110,000 in savings in hand weeding expenses per year for every 500 acres of severely infested muck land.

### 4. Associated Knowledge Areas

**KA Code**    **Knowledge Area**  
213            Weeds Affecting Plants

**Outcome #20**

**1. Outcome Measures**

ANNIE'S PROJECT ENHANCES SKILLS, KNOWLEDGE AND INFLUENCES RISK MANAGEMENT PRACTICES FOR PARTICIPATING WOMEN FARMERS

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

In New York State (NYS) the primary occupation for women in farming increased 4.4% from 2007 to 2012 (USDA 2012 Ag Census), while women as principal farm operators increased 7.8%. This data supports the continuing trend of increased participation by women in farm operations, farm ownership, and decision-making roles. With that responsibility, comes the need to improve knowledge and understanding of overall farm operations. Since its inception, Annie's Project was designed to empower women in farming by delivering comprehensive agricultural risk management education in a comfortable environment.

**What has been done**

Cornell Cooperative Extension facilitates Annie's Project in New York and offers a 6-week program in risk management, farm business planning, marketing, facilities and production insurance, human resources, and labor relations and more. This year the project was expanded to 13 CCE associations, through 15 farm business management educators, and 144 women in farming.

**Results**

144 Annie's project participants completed the full six-week course (AP Level I), meeting one day per week, four hours per day that included a valuable network building lunch period. CCE facilitators/educators will be able to host future Annie's Project programs on their own to meet demand as needed. As an example of effectiveness, in Broome County 100% of the participants reported an increase in knowledge in all the risk management areas. All the women also reported they would now be running more regular financial analyses of their farm operations and would be

addresses human risk concerns (this included: implementing a living will, estate plan, and/or consulting with an attorney for legal or health care power of attorney for their farm partner). They all set goals for their farms and felt that the ways in which the class was run and information was presented gave the most welcoming environment to learn the information being presented.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
211	Insects, Mites, and Other Arthropods Affecting Plants
213	Weeds Affecting Plants
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
604	Marketing and Distribution Practices

**Outcome #21**

**1. Outcome Measures**

CCE'S MARINE PROGRAM, LONG ISLAND UNIVERSITY AND SUFFOLK COUNTY PARTNERED TO RESTORE THE PECONIC BAY SCALLOP

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Between 1985 and 1995 a series of harmful algal blooms (brown tides) killed most of the bay scallops in the Peconic Estuary, an estuary of national significance. The fishery was worth an average of \$4 million annually between 1966 and 1984 and was part of our local heritage on the East End of Long Island. Commercial inshore fishers depended on the season, from November through March to make it through the winter; recreational harvesters made it a rite of fall. After the collapse of the fishery a few attempts were made at restoration, but none were large enough to have an effect.

**What has been done**

Since 2005, with \$3.5 million in funding from the Water Quality Protection and Restoration Program of Suffolk County, CCE-Suffolk partnered with Professor Stephen Tettelbach of Long Island University to create the largest bay scallop spawner sanctuary in the world. The Southold Project of Aquaculture Training Program for oyster gardeners and students from LIU and Stony Brook University assisted in many ways. A purpose-built vessel was acquired and a crew assembled to stock and maintain 17 submerged longlines of 200 meters each with a capacity of 200 five-tier lantern nets per line for a maximum of 3,400 nets, each holding 175 bay scallops at spawning size.

**Results**

CCE Suffolk County used the combined knowledge of shellfish biology and the hatchery (started in 1991) to spawn and stock out six million seed scallops in the program's 10 years. The spawn of these hatchery-reared scallops resulted in a significant increase in the fishery production amounting to an average value of \$500,000 a season in recent years. The data collected and analyzed has resulted in a number of presentations and publications in peer-reviewed journals.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
301	Reproductive Performance of Animals

**Outcome #22**

**1. Outcome Measures**

CONSUMER BEHAVIOR AND DEMAND IN NYS FRUIT AND VEGETABLE MARKETS

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Agricultural, food, and wine markets are affected by changes in nutrition and health information, food labeling practices, and promotional efforts. Stakeholders (e.g., growers, restaurant owners, researchers) benefit from understanding the drivers of demand in their industries as well as how



consumers respond to different types of information and marketing strategies.

**What has been done**

This research benefits producers across the state particularly wine producers as they further develop their marketing efforts in the eastern United States. In the fruit sector, this project investigated consumer demand for varietal apple introductions, with the goal of informing the development of effective marketing strategies. Ag and food systems education accounts for 27% of CCE programming. Marketing of local foods is a priority area. Research updates for this topic were shared at regional and county Extension venues like Business, Enology and Viticulture , Brewery and Cidery Startup Workshop , trainings on Developing Your Farm Marketing Plan , Hosting Farm to Table Events , and Local Foods Trails where marketing local foods is of great interest to agricultural audiences.

**Results**

Experiments in the wine sector showed that customers respond to specific types of marketing information and not others, giving wine producers the capacity to increase sales and demand of wine produced in the eastern U.S. Rickard also demonstrated how cooperation between wineries and local restaurants could be mutually beneficial. His work on varietal introductions in the apple sector provided apple growers in New York State with valuable market research on preliminary consumer demand, which was a head start for developing an effective promotional campaign to launch their new varieties. As a result of this research selected stakeholders have adjusted their production systems and seen increased profits.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
604	Marketing and Distribution Practices

**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/natural resources 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. During the last couple of years highly damaging flood events damaged crop and forest resources in highly productive areas of New York. Recovery is slow for many areas.

Fundamental change is occurring in the state and regional economies within which

agricultural/horticultural/natural resources enterprises operate. The specific implications of these external factors vary greatly by locale and across commodities and business forms in some cases creating new market opportunities and in others erosion of traditional markets. Population and land use changes in farming communities has led in some places 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.

There is a growing interest by consumers, communities and producers to market local foods locally. This interest continues to influence programs, research and funding availability. These trends are expected to continue.

## V(I). Planned Program (Evaluation Studies)

### Evaluation Results

**Evaluation Capacity Building:** Cornell Cooperative Extension has worked with the Cornell Office of Research and Evaluation (CORE) to strengthen evaluation practice and build evaluation capacity. CORE has developed a Protocol for evaluation that takes a systems approach, recognizing that individual programs and their evaluations are part of larger program portfolios and are shaped by needs and context at multiple levels of the Extension system. CORE has tested and refined this Protocol in partnership with CCE programs since 2006. A key step in the Protocol is to develop program models, in both familiar columnar form as logic models and in a visual form called pathway models. These models form have helped focus evaluation efforts in Extension programs.

Beginning in 2013 and through 2014, CORE and CCE partnered to initiate program modeling and evaluation planning at the level of the statewide Plans of Work. This effort contributed to the review of near and midterm program outcomes and to the review and planning of several evaluation projects currently underway.

The Protocol has been integrated into professional development in CCE, to promote consistent approaches to evaluation of county-based, regional, and statewide programs.

**Regional/Statewide documentation examples.** Many of our regional and statewide programs are receiving federal capacity funds. Documentation of outcomes is a requirement of funding. Results shape future program efforts and impact program design. **An example evaluation practice can be found in the section below.**

**There is also a requirement for our local and regional programs to report on statewide outcomes/indicators:** Program documentation results are aggregated in a statewide accountability database that includes both qualitative and quantitative data for reporting and helping us to better understand impacts.

### Key Items of Evaluation

Example - from the CCE Cornell Vegetable Program - use of case studies

#### SUSTAINABLE PEST MANAGEMENT SAVES MONEY FOR HIGH TUNNEL WINTER GREENS PRODUCTION

Many NY vegetable growers are looking for ways to extend their season and provide fresh, locally grown produce to winter CSAs and winter farmers markets. High tunnels are proving

to be an excellent way to produce 'off-season' greens crops with little-to-no fossil fuel based heat, contributing to environmental sustainability. These production systems also contribute to economic and social sustainability by creating year-round income and maintaining customer relations during the traditional off-season. For example NYS has now over 180 winter farmers market, with greens from hoop houses given credit in a recent USDA report for this success.

Pest infestations, such as aphids and cabbage worms, restrict the economic potential of these systems. As a grower in south west NY put it "Pest management is so much more important in the winter because your losses are so much more".

This project promoted early fall releases of parasitoids, combined with late fall and winter applications of biorational pesticides, specifically *Beauveria bassiana*, a commercialized fungal pathogen of aphids. This project conducted 11 on-farm meetings, 7 formal educational seminars, and 3 professional development events with combined attendance of 516 people. Project staff made over 100 farm visits, published 6 newsletter articles, Tweeted regularly and developed an aphid management fact sheet.

The project team evaluated adoption and impact on farms contacted through the project.

Case-study farms were recruited in late summer from across New York State. Growers' experience with winter greens ranged from 0-10 years. Twenty-eight farms initiated case-study work with the team project. Some farms dropped out for reasons such as unexpected changes in production schedule and crop failures. Over the 4 years, there were 24 different successful case studies on 20 farms in 11 counties across New York State. Twenty-four winter greens high tunnel growers adopted biological or biorational control methods to manage pests with an average increase in revenue of \$2465.13. One survey indicated 61% of increased revenue was attributable to increased awareness and skills in natural pest management.

[http://cvp.cce.cornell.edu/greenhouse\\_tunnels.php](http://cvp.cce.cornell.edu/greenhouse_tunnels.php)

**V(A). Planned Program (Summary)**

**Program # 2**

**1. Name of the Planned Program**

Climate Change

Reporting on this Program

**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%		0%	
111	Conservation and Efficient Use of Water	15%		2%	
112	Watershed Protection and Management	17%		25%	
125	Agroforestry	5%		0%	
132	Weather and Climate	14%		15%	
133	Pollution Prevention and Mitigation	10%		16%	
135	Aquatic and Terrestrial Wildlife	8%		14%	
136	Conservation of Biological Diversity	15%		3%	
141	Air Resource Protection and Management	2%		1%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	2%		0%	
405	Drainage and Irrigation Systems and Facilities	5%		0%	
902	Administration of Projects and Programs	0%		24%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)**

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

**Cornell University**

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	140.0	0.0	6.0	0.0
<b>Actual Paid</b>	69.0	0.0	5.0	0.0
<b>Actual Volunteer</b>	4304.0	0.0	0.0	0.0

**NY State Agricultural Experiment Station**

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	140.0	0.0	6.0	0.0
<b>Actual Paid</b>	0.0	0.0	0.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**2. Institution Name:** Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
571407	0	634001	0
<b>1862 Matching</b>	<b>1890 Matching</b>	<b>1862 Matching</b>	<b>1890 Matching</b>
571407	0	1219243	0
<b>1862 All Other</b>	<b>1890 All Other</b>	<b>1862 All Other</b>	<b>1890 All Other</b>
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	48965	0
<b>1862 Matching</b>	<b>1890 Matching</b>	<b>1862 Matching</b>	<b>1890 Matching</b>
0	0	61052	0
<b>1862 All Other</b>	<b>1890 All Other</b>	<b>1862 All Other</b>	<b>1890 All Other</b>
0	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

In the past decade, Cornell researchers have focused on identifying and quantifying the level of climatic disruption caused by heat-trapping greenhouse gasses and the early, measurable impact on weather patterns, geographic bioregions, and living creatures. Now, researchers are exploring the looming challenges, investigating strategies to address expected impacts, and developing new resources to reduce the human "carbon footprint" that adds to greenhouse gas emissions.

Multidisciplinary researchers, educators, and extension faculty - from plant biologists to economists to climatologists - are engaged in three vital areas of exploration for the well-being of future generations:

- Climate science: quantifying the current trend and predicting future impact
- Adaptation: moderating expected damage and identifying potential opportunities
- Mitigation: reducing the human "carbon footprint" to slow the pace of climate change

**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, non-government organizations, individual consumers, and youth.

**3. How was eXtension used?**

Cornell Cooperative Extension supports and promotes eXtension communities of practice, the eXtension public site and the professional development offered through eXtension.org. Staff across the state are encouraged to be involved in COPs, and the link to eXtension is promoted on the front page of the Cornell Cooperative Extension public staff site. Currently 365 staff are registered active users of eXtension, 62 of which are faculty members.

Examples of participation in COPs that fall into this plan of work area include:

- Agricultural Disaster Preparedness
- Bee Health
- Climate Change
- Climate, Woodlands, and Forests
- Floods
- Invasive Species
- Urban Integrated Pest Management
- Water Conservation for Lawn and Landscapes

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	88380	3037412	30262	1038964

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

**Patent Applications Submitted**

Year: 2014  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

<b>2014</b>	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Actual</b>	30	248	278

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

**Output Target**

**Output #1**

**Output Measure**

- {No Data Entered}

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	(2.1b) # of consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders who demonstrate knowledge gains about on the causes and implications of climate change and adaptive or mitigating strategies.
2	(2.1c) # agricultural/ natural resources producers, organization and business representatives documented to have adopted recommended adaptation strategies for production agriculture and natural resources management, including invasive species, pest management, pollutant loads, wetlands, etc.
3	(2.1d) # of agencies/ organizations/ communities documented to have adopted recommended climate mitigation practices and policies.
4	(2.4c) # consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders documented to have modified existing practices or technologies and/or adopted new practices to protect/enhance water resources.
5	(2.4d) # documented instances when consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders have improved and/or protected water resources.
6	(2.7c) # of consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders documented to have modified existing practices or technologies and/or adopted new practices to protect/enhance natural resources and/or enhance biodiversity.
7	REDUCED TILLAGE ON VEGETABLE FARMS
8	FINGER LAKES VINEYARDS APPLY ALTERNATIVE PRUNING STRATEGIES IN THE FACE OF WINTER INJURY TO BUDS, REALIZING AN INCREASE IN REVENUE



**Outcome #1**

**1. Outcome Measures**

(2.1b) # of consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders who demonstrate knowledge gains about on the causes and implications of climate change and adaptive or mitigating strategies.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	6502

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
104	Protect Soil from Harmful Effects of Natural Elements
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
125	Agroforestry
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
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants

**Outcome #2**

**1. Outcome Measures**

(2.1c) # agricultural/ natural resources producers, organization and business representatives documented to have adopted recommended adaptation strategies for production agriculture and natural resources management, including invasive species, pest management, pollutant loads, wetlands, etc.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	1435

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
132	Weather and Climate
133	Pollution Prevention and Mitigation
405	Drainage and Irrigation Systems and Facilities

**Outcome #3**

**1. Outcome Measures**

(2.1d) # of agencies/ organizations/ communities documented to have adopted recommended climate mitigation practices and policies.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	494

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #4**

**1. Outcome Measures**

(2.4c) # consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders documented to have modified existing practices or technologies and/or adopted new 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**

<b>Year</b>	<b>Actual</b>
2014	5458

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
104	Protect Soil from Harmful Effects of Natural Elements
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management

**Outcome #5**

**1. Outcome Measures**

(2.4d) # documented instances when consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders 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**

<b>Year</b>	<b>Actual</b>
2014	4871

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
104	Protect Soil from Harmful Effects of Natural Elements
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management

**Outcome #6**

**1. Outcome Measures**

(2.7c) # of consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders documented to have modified existing practices or technologies and/or adopted new 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**

<b>Year</b>	<b>Actual</b>
2014	10319

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
104	Protect Soil from Harmful Effects of Natural Elements
111	Conservation and Efficient Use of Water
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants

**Outcome #7**

**1. Outcome Measures**

REDUCED TILLAGE ON VEGETABLE FARMS

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Reduced tillage (RT) disturbs the soil to a lesser extent than conventional tillage and reduces erosion, degradation, and water contamination associated with more intensive practices. Many large-scale farms in the northeast have already adopted RT systems and have improved soil and environmental quality, maintained yields, and reduced costs; however, the majority of farms in NYS are small or mid-sized, with limited machinery and labor. This project focuses on demonstrating the benefits of adopting reduced tillage methods on smaller and organic vegetable farms.

**What has been done**

Through a series of field-based experiments, the goals of this project were to evaluate innovative RT systems and equipment for small-scale and organic vegetable farms, identify strategies to integrate and manage cover crops with RT, quantify changes in water movement in deep zone versus conventionally tilled fields, and support growers who are transitioning to these systems by

publishing case studies and through consulting and discussion groups. Soil moisture was measured continuously at both deep zone and conventional tillage sites to determine differences in water movement and retention. RT demonstrations, webinars, tours and presentations were reported in 16 NYS counties through CCE in this last year. Extension workshops including Farming in the Basin, No Till Drill, and Soil Health trainings helped farm operations to understand that RT can lower carbon and human input, improve soil health and water quality protection.

**Results**

Results from field trials comparing deep zone and conventional tillage revealed no significant differences in yield. As part of this project, Cornell scientists and extension specialists performed the first examination of nutrient sources for organic RT. Organic systems often depend upon early season tillage to stimulate soil microbial mineralization of nitrogen. In RT systems that lack this soil disturbance, growers were concerned that fertility might be limiting. Cornell researchers found that fish meal applied as a sidedress three weeks after planting broccoli supported higher yields than poultry compost or no added fertilizer. Overall, these results demonstrated the efficacy of choosing reduced tillage over more conventional, time consuming, and expensive traditional tillage approaches. Less intensive tillage practices did not adversely affect crop yields, and in the long term, can lead to healthier, more resilient soils and surrounding environments. In 2014 1,400 participants in CCE educational programs reported adopting recommended adaptation strategies for production agriculture and natural resources management, like reduced tillage as a result of extension training.

**4. Associated Knowledge Areas**

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

**Outcome #8**

**1. Outcome Measures**

FINGER LAKES VINEYARDS APPLY ALTERNATIVE PRUNING STRATEGIES IN THE FACE OF WINTER INJURY TO BUDS, REALIZING AN INCREASE IN REVENUE

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2014	0

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

On several nights in January 2014, temperatures in portions of the Finger Lakes region fell to negative 12°F or lower, raising concerns about the potential for significant injury to grapevine buds and trunks. A small amount of damage to buds is normal in most years, with little to no real impact to harvest yields. Early testing of bud survival after these incidents, however, showed the potential for many growers to lose a substantial portion of their crop in 2014, or even cause some vineyards to have to be replanted, either of which could have a significant impact on growers' revenue for one or more years.

#### What has been done

On February 13, 2014, the Finger Lakes Grape Program (FLGP) hosted a field meeting at a local vineyard to discuss and demonstrate alternative pruning techniques and equipment that growers could use to reduce the potential yield losses in their vineyards. These recommendations were developed by colleagues at Ohio State after a similar event in that state back in 2009, and were directly applicable to growers' situation in the Finger Lakes this year. Growers were also given the opportunity to learn how to collect and examine bud samples for injury in order to monitor their own vineyards for damage.

Fifty-eight growers, representing over 50% of the vineyard acreage in the region, attended this meeting. FLGP staff also made a number of visits to individual growers' vineyards over the next months to provide one-on-one assistance on evaluating bud injury.

#### Results

As a result of this outreach effort, a majority of the growers who attended the field meeting implemented alternative pruning strategies in at least a portion of their vineyards. Most of those growers reported having higher than expected yields in these areas with good to excellent fruit quality.

One grape grower in Ontario County implemented this alternative pruning practice in one of his two Riesling blocks last winter, while pruning a second block of the same size following standard practices. The block pruned using standard practices had 50% less crop than previous years (about 3.3 tons/acre), while the block using the alternative pruning practice had almost normal yields (just under 5.5 tons/acre). The grower realized an increase in revenue of approximately \$3200/acre as a result of implementing this alternative practice.

### 4. Associated Knowledge Areas

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



## 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. Flooding events during recent years continues to elevate consumer and community interest in disaster preparedness and water quality protection for families, communities and farms. The shift in interest, program offerings and campus and research support is evident. These trends are expected to continue.

## V(I). Planned Program (Evaluation Studies)

### Evaluation Results

**Evaluation Capacity Building:** Cornell Cooperative Extension has worked with the Cornell Office of Research and Evaluation (CORE) to strengthen evaluation practice and build evaluation capacity. CORE has developed a Protocol for evaluation that takes a systems approach, recognizing that individual programs and their evaluations are part of larger program portfolios and are shaped by needs and context at multiple levels of the Extension system. CORE has tested and refined this Protocol in partnership with CCE programs since 2006. A key step in the Protocol is to develop program models, in both familiar columnar form as logic models and in a visual form called pathway models. These models form have helped focus evaluation efforts in Extension programs.

Beginning in 2013 and through 2014, CORE and CCE partnered to initiate program modeling and evaluation planning at the level of the statewide Plans of Work. This effort contributed to the review of near and midterm program outcomes and to the review and planning of several evaluation projects currently underway.

The Protocol has been integrated into professional development in CCE, to promote consistent approaches to evaluation of county-based, regional, and statewide programs.

**Regional/Statewide documentation examples.** Many of our regional and statewide programs are receiving federal capacity funds. Documentation of outcomes is a requirement of funding. Results shape future program efforts and impact program design. **An example evaluation practice can be found in the section below.**

**There is also a requirement for our local and regional programs to report on statewide outcomes/indicators:** Program documentation results are aggregated in a statewide accountability database that includes both qualitative and quantitative data for reporting and helping us to better understand impacts.

**Key Items of Evaluation**

**V(A). Planned Program (Summary)**

**Program # 3**

**1. Name of the Planned Program**

Environment and Natural Resources and Sustainable Energy

Reporting on this Program

**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	14%		0%	
124	Urban Forestry	10%		3%	
205	Plant Management Systems	5%		39%	
401	Structures, Facilities, and General Purpose Farm Supplies	14%		0%	
402	Engineering Systems and Equipment	8%		6%	
403	Waste Disposal, Recycling, and Reuse	25%		15%	
404	Instrumentation and Control Systems	5%		8%	
511	New and Improved Non-Food Products and Processes	0%		5%	
512	Quality Maintenance in Storing and Marketing Non-Food Products	2%		5%	
601	Economics of Agricultural Production and Farm Management	5%		9%	
605	Natural Resource and Environmental Economics	12%		10%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

**Cornell University**

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	75.0	0.0	2.0	0.0
<b>Actual Paid</b>	64.0	0.0	6.0	0.0
<b>Actual Volunteer</b>	1968.0	0.0	0.0	0.0

**NY State Agricultural Experiment Station**

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	75.0	0.0	2.0	0.0
<b>Actual Paid</b>	0.0	0.0	1.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**2. Institution Name:** Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
529144	0	574760	0
<b>1862 Matching</b>	<b>1890 Matching</b>	<b>1862 Matching</b>	<b>1890 Matching</b>
529144	0	1270597	0
<b>1862 All Other</b>	<b>1890 All Other</b>	<b>1862 All Other</b>	<b>1890 All Other</b>
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	144050	0
<b>1862 Matching</b>	<b>1890 Matching</b>	<b>1862 Matching</b>	<b>1890 Matching</b>
0	0	187052	0
<b>1862 All Other</b>	<b>1890 All Other</b>	<b>1862 All Other</b>	<b>1890 All Other</b>
0	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

This planned program is intended to develop and maintain connections between applied research and Cornell Cooperative Extension (CCE) programs focused on natural resources conservation/protection and sustainable energy education that work toward long term planning for sustainable energy and proper use of natural resources.

Programs in this plan reach varied audiences, addressing agricultural and natural resource producers,

community decision makers, businesses, organizations, and individual consumers. The planned program includes applied research and education on natural resources management, inventory and mapping methods; habitat; solid waste management, outreach practices, and sustainable energy.

The outcomes of this plan are for individuals, families, communities, farmers, and businesses to make economically viable, sustainability-based decisions with the help of readily available research based education.

## **2. Brief description of the target audience**

Key audiences served, directly and indirectly include agricultural and natural resource producers; consumers and property owners, businesses and organizations, teachers, youth professionals and volunteers, local/state/federal governmental leaders.

- businesses, organizations, and producers are targeted with information about improved management practices and alternative land uses, such as agroforestry.
- environmental planners and managers and technical assistance providers, such as foresters, are targeted with in-depth information related to their audiences/constituents. Teachers, youth professionals and volunteers are targeted with in-depth knowledge for youth enrichment
- agricultural/horticulture/natural resource and supporting businesses are targeted both regarding bioenergy production opportunities and information regarding alternative energy sources and conservation.
- consumers are targeted for information regarding energy supply alternatives and energy conservation options for residential, facilities, and transportation needs.
- 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.
- teachers and youth professionals and volunteers are provided with curriculum and training. Youth are targeted with age appropriate education.

## **3. How was eXtension used?**

Cornell Cooperative Extension supports and promotes eXtension communities of practice, the eXtension public site and the professional development offered through eXtension.org. Staff across the state are encouraged to be involved in COPs, and the link to eXtension is promoted on the front page of the Cornell Cooperative Extension public staff site. Currently 365 staff are registered active users of eXtension, 62 of which are faculty members.

Examples of participation in COPs in this plan of work area include:

- Farm Energy
- Forest Farming
- Forests and Woodlands
- Home Energy
- NEWBio-Northeast Woody/Warm-season Biomass
- Sustainable Ag Energy
- Wildlife Damage Management
- Wood Energy

## **V(E). Planned Program (Outputs)**

**1. Standard output measures**

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	99592	3790240	30031	1142910

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

**Patent Applications Submitted**

Year: 2014

Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2014	Extension	Research	Total
<b>Actual</b>	25	70	0

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

**Output Target**

**Output #1**

**Output Measure**

- {No Data Entered}

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	(3.1f) # of producers, economic development organizations and other groups who collaborate to establish bioenergy as a viable alternative crop.
2	(3.1g) # of existing or new producers documented to have modified existing practices or technologies and/or adopted best management practices for bio-energy production, harvesting, and/or storage systems.
3	(3.1h) # of producers, horticulture businesses and/or natural resource managers reporting that cropping for and/or use of bio-energy leads to increased economic returns to their enterprises.
4	(3.2c) # of agricultural/horticultural/ natural resource businesses documented to have adopted appropriate alternative energy sources and/or energy conservation practices.
5	(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.
6	(3.3c) # of consumers documented to have adopted appropriate alternative energy sources.
7	(3.3d) # of consumers who report savings on energy costs attributable to adopting alternative energy sources.
8	(3.4c) # of consumers reporting to have adopted appropriate energy cost control and/or conservation practices.
9	(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.
10	(3.4e) # of consumers who report savings on energy costs attributable to adopting energy conservation measures.
11	(3.5e) # of communities documented to have assessed local energy development proposals and/or the relationships between current policies and regulations and energy conservation.
12	(3.5f) # of community agencies/ organizations documented to have adopted appropriate alternative energy sources.
13	(3.5h) # of communities documented to have established or modified land use and development policies to promote energy conservation.
14	(3.5i) # of community agencies/organizations reporting savings on energy costs attributable to adopting alternative energy sources.
15	(3.5m) # of communities that adapt or revise policies in response to large scale energy development (e.g., Marcellus shale development) and/or include energy as a component of their comprehensive plans.
16	(3.6b) # of agricultural/natural resources producers, organization and business representatives, community leaders, and/or residents who demonstrate knowledge gains about waste management and reduction.
17	(3.6c) agricultural/natural resources producers, organization and business representatives, community leaders, and/or residents documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (150)

18	(3.6d) # of agricultural/natural resources producers, organization and business representatives, community leaders, and/or residents documented to have reduced costs through improved waste management practices.
19	(3.7c) agricultural/natural resources producers, organization and business representatives, community leaders, and/or residents documented to have modified existing practices or technologies that will assist with natural resources management and the environment
20	MANURE HANDLING ON DAIRY FARMS: ECONOMICS AND ASSESSMENT OF NEW TECHNOLOGIES

**Outcome #1**

**1. Outcome Measures**

(3.1f) # of producers, economic development organizations and other groups who collaborate to establish bioenergy 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	Actual
2014	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
123	Management and Sustainability of Forest Resources
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
605	Natural Resource and Environmental Economics



**Outcome #2**

**1. Outcome Measures**

(3.1g) # of existing or new producers documented to have modified existing practices or technologies and/or adopted best management practices for bio-energy production, harvesting, and/or storage systems.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	14

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #3**

**1. Outcome Measures**

(3.1h) # of producers, horticulture businesses and/or natural resource managers reporting that cropping for and/or use of bio-energy 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**

<b>Year</b>	<b>Actual</b>
2014	14

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
123	Management and Sustainability of Forest Resources
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
605	Natural Resource and Environmental Economics

**Outcome #4**

**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**

<b>Year</b>	<b>Actual</b>
2014	49

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #5**

**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**

<b>Year</b>	<b>Actual</b>
2014	30

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #6**

**1. Outcome Measures**

(3.3c) # of consumers 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**

<b>Year</b>	<b>Actual</b>
2014	509

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
605	Natural Resource and Environmental Economics

**Outcome #7**

**1. Outcome Measures**

(3.3d) # of consumers who report savings on energy costs attributable to adopting alternative energy sources.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	2862

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
605	Natural Resource and Environmental Economics

**Outcome #8**

**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**

<b>Year</b>	<b>Actual</b>
2014	1471

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #9**

**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**

<b>Year</b>	<b>Actual</b>
2014	13

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
605	Natural Resource and Environmental Economics

**Outcome #10**

**1. Outcome Measures**

(3.4e) # of consumers who report savings on energy costs attributable to adopting energy conservation measures.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	1646

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
124	Urban Forestry
403	Waste Disposal, Recycling, and Reuse

**Outcome #11**

**1. Outcome Measures**

(3.5e) # of 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	Actual
2014	4

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
124	Urban Forestry
403	Waste Disposal, Recycling, and Reuse

**Outcome #12**

**1. Outcome Measures**

(3.5f) # 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**

<b>Year</b>	<b>Actual</b>
2014	967

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
605	Natural Resource and Environmental Economics

**Outcome #13**

**1. Outcome Measures**

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

Not Reporting on this Outcome Measure

**Outcome #14**

**1. Outcome Measures**

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

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	4

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
123	Management and Sustainability of Forest Resources
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse

**Outcome #15**

**1. Outcome Measures**

(3.5m) # of communities that adapt or revise policies in response to large scale energy development (e.g., Marcellus shale development) and/or include energy as a component of their comprehensive plans.

Not Reporting on this Outcome Measure

**Outcome #16**

**1. Outcome Measures**

(3.6b) # of agricultural/natural resources producers, organization and business representatives, community leaders, and/or residents who demonstrate knowledge gains about waste management and reduction.

## 2. Associated Institution Types

- 1862 Extension
- 1862 Research

### 3a. Outcome Type:

Change in Knowledge Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2014	8065

### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results**

## 4. Associated Knowledge Areas

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

## Outcome #17

### 1. Outcome Measures

(3.6c) agricultural/natural resources producers, organization and business representatives, community leaders, and/or residents documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (150)

### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	363

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems

**Outcome #18**

**1. Outcome Measures**

(3.6d) # of agricultural/natural resources producers, organization and business representatives, community leaders, and/or residents documented to have reduced costs through improved waste management practices.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	1637

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems

**Outcome #19**

**1. Outcome Measures**

(3.7c) agricultural/natural resources producers, organization and business representatives, community leaders, and/or residents documented to have modified existing practices or technologies that will assist with natural resources management and the environment

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	1362

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
605            Natural Resource and Environmental Economics

**Outcome #20**

**1. Outcome Measures**

MANURE HANDLING ON DAIRY FARMS: ECONOMICS AND ASSESSMENT OF NEW TECHNOLOGIES

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Efficiency and profitability of dairy farms are dependent on many factors, including waste management systems. Manure management is a critical concern for dairy farmers, as proper management can reduce fertilizer expenses and mitigate potential risks to the environment. Farmers need timely, up-to-date information on the latest approaches and technology in manure handling and storage to help them make sound business decisions that are both economically and environmentally sustainable.

**What has been done**

This project compared manure management strategies on five farms. Baseline costs for traditional methods were compared to more novel methods, like anaerobic digesters (AD). To demonstrate potential value-added partnerships, such as partnering AD systems on dairy farms with commercial greenhouses, Cornell scientists installed field instrumentation and began collecting data at 4 anaerobic digesters on dairy farms and three commercial greenhouses. With these data, they created a series of scenarios models. This project is relevant to the work of the regional CCE dairy programs who reach farmers in 14 counties with presentations and resources on nutrient management planning. Research is shared in programs that target nutrient and business management through programs like Farming in the Basin- Nutrient Management Planning, Technical feasibility of on-farm anaerobic digestion short course and Manure Management for Farms of All Sizes.

**Results**

Preliminary results of the current handling study indicate significant cost differences between various approaches of manure handling on dairy farms. Costs were related to bedding type (e.g., sawdust, hay, sand, etc.), long- vs. short-term storage, and application frequency. In the work evaluating the efficacy of dairy-greenhouse partnerships, the models are intended to provide farm-specific results to help producers make intelligent business decisions. The goal of this project is to illustrate mutually beneficial partnerships between dairies and commercial greenhouses. Dairies can solve their manure handling challenges by using anaerobic digesters, which can provide surplus, renewable energy to power local greenhouses and reduce two of their major expenses, heat and electricity. In 2014 CCE Ag and Food Systems programs reported that over 1,300 farmers modified existing practices or technologies to assist with natural resources management and the environment and over 1,600 reported that improved waste management practices reduced their costs.

<http://www.manuremanagement.cornell.edu/index.html>

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
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, energy and waste management costs is well documented. Weather in particular has interrupted supplies and dramatically influences heating and cooling costs. Appropriations, public policy, and regulations directly affect the ability to pursue energy source alternatives, including bioenergy development, and to implement energy conservation alternatives, particularly for low-income households. Dramatic cuts in state funding for consumer energy education is a significant barrier. Public and private funders and CCE may have fewer fiscal resources and other resources to devote to energy and natural resource protection matters. These trends are expected to continue.

#### V(I). Planned Program (Evaluation Studies)

## Evaluation Results

**Evaluation Capacity Building:** Cornell Cooperative Extension has worked with the Cornell Office of Research and Evaluation (CORE) to strengthen evaluation practice and build evaluation capacity. CORE has developed a Protocol for evaluation that takes a systems approach, recognizing that individual programs and their evaluations are part of larger program portfolios and are shaped by needs and context at multiple levels of the Extension system. CORE has tested and refined this Protocol in partnership with CCE programs since 2006. A key step in the Protocol is to develop program models, in both familiar columnar form as logic models and in a visual form called pathway models. These models form have helped focus evaluation efforts in Extension programs.

Beginning in 2013 and through 2014, CORE and CCE partnered to initiate program modeling and evaluation planning at the level of the statewide Plans of Work. This effort contributed to the review of near and midterm program outcomes and to the review and planning of several evaluation projects currently underway.

The Protocol has been integrated into professional development in CCE, to promote consistent approaches to evaluation of county-based, regional, and statewide programs.

**Regional/Statewide documentation examples.** Many of our regional and statewide programs are receiving federal capacity funds. Documentation of outcomes is a requirement of funding. Results shape future program efforts and impact program design. **An example evaluation practice can be found in the section below.**

**There is also a requirement for our local and regional programs to report on statewide outcomes/indicators:** Program documentation results are aggregated in a statewide accountability database that includes both qualitative and quantitative data for reporting and helping us to better understand impacts.

## Key Items of Evaluation

Example - from the ForestConnect Program - use of pre-post survey

**AGROFORESTRY-SILVOPASTURE** Silvopasturing is the deliberate and intensive integration of livestock in wooded pastures. Silvopasturing uses rotational intensive grazing, and trees are managed through planting into pastures or thinning to retain low densities of high quality trees. Forest regeneration requires additional attention to prevent damage by livestock. Cooperative Extension programs on silvopasture can improve livestock producer profits, reduce environmental impacts of livestock, and improve the growth and productivity of farm woodlots.

Two day-long silvopasture workshops were offered for woodlot owners, foresters, grazers, and agency staff. There were 44 participants from NY, PA, CT, WV, VT, and NH. They owned or managed more than 235,000 acres each year. Before these workshops, participants indicated they had a moderate understanding of the definition of silvopasture (3.2/5.0 scale) recognized they had not been practicing silvopasture (2.1/5.0 scale). After the workshops, awareness of the definition increased (4.5/5), participants understood the principles (4.4/5.0), could articulate the activities necessary to begin a silvopasture system (4.0/5.0) and felt that silvopasture had good potential in the Northeast (3.5/5.0). The primary barriers to implementation of silvopasture practices were knowledge of the more complex integration of forest, forage, and livestock; the added time and labor requirement



to implement the system, access to technical assistance, and the cost for implementation. The silvopasture social media site <http://silvopasture.ning.com> was developed to connect those interested in silvopasture. There are 162 members from Arkansas, California, Connecticut, Florida, Illinois, Indiana, Maryland, Massachusetts, Missouri, Nebraska, New Hampshire, New York, North Carolina, Pennsylvania, Rhode Island, Vermont, Virginia plus Australia and the Philippines. This site includes blogs, a forum, pictures, events, and links to resources. The development of a comprehensive statewide and regional program is underway. A professional development grant has been developed and submitted.

<http://silvopasture.ning.com/>

**V(A). Planned Program (Summary)**

**Program # 4**

**1. Name of the Planned Program**

Nutrition, Food Safety and Security, and Obesity Prevention

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
303	Genetic Improvement of Animals	0%		1%	
311	Animal Diseases	0%		25%	
313	Internal Parasites in Animals	0%		2%	
315	Animal Welfare/Well-Being and Protection	0%		4%	
405	Drainage and Irrigation Systems and Facilities	0%		3%	
502	New and Improved Food Products	5%		4%	
603	Market Economics	0%		2%	
607	Consumer Economics	0%		1%	
701	Nutrient Composition of Food	15%		1%	
702	Requirements and Function of Nutrients and Other Food Components	15%		6%	
703	Nutrition Education and Behavior	40%		8%	
704	Nutrition and Hunger in the Population	0%		2%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	0%		5%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	0%		16%	
721	Insects and Other Pests Affecting Humans	0%		6%	
722	Zoonotic Diseases and Parasites Affecting Humans	0%		3%	
723	Hazards to Human Health and Safety	0%		5%	
724	Healthy Lifestyle	25%		5%	
903	Communication, Education, and Information Delivery	0%		1%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)**

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

**Cornell University**

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	321.0	0.0	2.0	0.0
<b>Actual Paid</b>	190.0	0.0	8.0	0.0
<b>Actual Volunteer</b>	30160.0	0.0	0.0	0.0

**NY State Agricultural Experiment Station**

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	321.0	0.0	2.0	0.0
<b>Actual Paid</b>	0.0	0.0	0.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**2. Institution Name:** Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1565454	0	1072601	0
<b>1862 Matching</b>	<b>1890 Matching</b>	<b>1862 Matching</b>	<b>1890 Matching</b>
1565454	0	1888741	0
<b>1862 All Other</b>	<b>1890 All Other</b>	<b>1862 All Other</b>	<b>1890 All Other</b>
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	37405	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	34942	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

Programs that are framed by this plan include research and extension linked to childhood obesity; youth, family and community nutrition; food security and food safety.

**Childhood Obesity Prevention:** Childhood obesity prevention research and education are based on an ecological approach, focusing on individuals and their interactions among the multiple environments that surround them. This approach recognizes that there are inherent multiple levels of influence that affect a child's body weight. Research topics include nutrition and hunger, nutrition education and behavior, built and natural environments, food psychology, physical activity promotion, and child nutrition in low wage working families.

Cornell Cooperative Extension (CCE) programs are designed to 1) connect research and practice, 2) result in behavior change, 3) build on the strengths of families and youth, 4) develop strong collaborations resulting in community changes for optimal health promotion and 5) provide policymakers with the knowledge to develop appropriate policies to promote healthy lifestyles. Extension programs target children, families and the community at large, with an emphasis on low-income audiences. The programs are collaborative and work directly with key community organizations.

**Food Security:** CCE programs address access to food, certainty of availability and access to food, sufficiency of food, social and cultural acceptability of food, and nutritional quality and safety of food. Work in this program area ties well with our work in agriculture, and youth, families and communities.

**Food Safety:** Cornell's statewide food safety research and education program serves a broad constituency including food producers, processors and retailers, as well as consumers and research scientists. The program encompasses the National Institute of Food and Agriculture food safety components: investigating causes of microbiological contamination and microbiological resistance; educating producers, consumers and food safety professionals; and developing food processing and storage technologies.

Programs are developed and delivered through many channels, including workshops, research-based publications and ongoing, technical support for policy makers and regulators.

For example, Cornell's National Good Agricultural Practices Program provides growers, packing house operators, government officials and industry trade association personnel with information and strategies to protect consumer health and reduce hazards and risks in the production of fresh fruits and vegetables. Educational materials designed and developed at Cornell are being used by collaborators in 25 states to

provide farmers with a better understanding of good agricultural practices related to food safety.

**2. Brief description of the target audience**

Childhood obesity prevention program audiences reached include: low-income families; 4-H youth; children in and out of school; nutrition and health professionals; school food service staff; community leaders; and government and agency leaders at the local, state, and national levels.

Food security program audiences reached include: low-income individuals and families; caregivers, nutritionists, community leaders, human service providers and food policy makers at the local, state, and national levels.

Food safety program audiences reached include: food processors, producers and consumers with targeted programs for low- and moderate- income families; 4-H youth; nutrition and health professionals; food service and food production staff and their managers and directors; and government and agency leaders at the local, state, and national levels.

**3. How was eXtension used?**

Cornell Cooperative Extension supports and promotes eXtension communities of practice, the eXtension public site and the professional development offered through eXtension.org. Staff across the state are encouraged to be involved in COPs, and the link to eXtension is promoted on the front page of the Cornell Cooperative Extension public staff site. Currently 365 staff are registered active users of eXtension, 62 of which are faculty members.

Examples of participation in COPs in this plan of work area include:

- Childhood Obesity and Nutrition
- Creating Healthy Communities
- Families, Food, and Fitness
- Food Safety
- Healthy Food Choices in Schools

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	753294	3946543	549137	2876955

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

**Patent Applications Submitted**

Year: 2014  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

<b>2014</b>	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Actual</b>	155	247	0

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

**Output Target**

**Output #1**

**Output Measure**

- {No Data Entered}

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	(4.1d1) of children and youth who demonstrate knowledge or skill gains related to healthy eating and active living
2	(4.1g) # of youth program participants documented to have applied healthy eating and/or active living, recommendations
3	(4.1h) # of adult program participants documented to have applied healthy eating and/or active living, recommendations
4	(4.2c) # of program participants who adopt food resource management and/or food security practices
5	(4.2d) # of program participants documented to have improved food resource management and/or food security
6	(4.3c) # of program participants documented to have increased involvement in public/community childhood obesity prevention actions
7	(4.3d) # of participating schools and/or communities documented to have made practice and/or policy changes to promote healthy eating and active living
8	(4.1d2) # parents/caregivers and other adults who demonstrate knowledge or skill gains related to healthy eating and active living
9	(4.4e) # of program participants who have acted to improve their food security status.
10	(4.4f) # of community action plans implemented as a result of community based assessment.
11	(4.4g) # of individuals or households documented to have improved food security status.
12	(4.5b) # of consumers 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
13	(4.5c) # of consumers documented to have implemented new and/or increased application of ongoing safe food purchasing, handling, storage, and preparation practices.
14	(4.6c) # of producers/ processors/food service providers documented to have implemented new and/or increased application of ongoing safe food production, processing, storage, handling, marketing, and preparation practices.
15	(4.7c) # of communities/ firms/or organizations documented to have assessed practices or food safety policies as a result of participating in relevant educational programs.
16	(4.7d) # of communities/ firms/or organizations documented to have implemented improved practices or food safety policies as a result of participating in relevant educational programs.
17	ECOLOGICAL APPROACH TO OBESITY

## **Outcome #1**

### **1. Outcome Measures**

(4.1d1) of children and youth who demonstrate knowledge or skill gains related to healthy eating and active living

### **2. Associated Institution Types**

- 1862 Extension
- 1862 Research

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	40245

### **3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
724	Healthy Lifestyle

## **Outcome #2**

### **1. Outcome Measures**

(4.1g) # of youth program participants documented to have applied healthy eating and/or active living, recommendations



## 2. Associated Institution Types

- 1862 Extension
- 1862 Research

### 3a. Outcome Type:

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2014	31369

### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results**

## 4. Associated Knowledge Areas

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

## Outcome #3

### 1. Outcome Measures

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

### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

### 3a. Outcome Type:

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	21711

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #4**

**1. Outcome Measures**

(4.2c) # of program participants who adopt food resource management and/or food security practices

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	17650

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

## Results

### 4. Associated Knowledge Areas

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

### Outcome #5

#### 1. Outcome Measures

(4.2d) # of program participants documented to have improved food resource management and/or food security

#### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

#### 3a. Outcome Type:

Change in Condition Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2014	13557

#### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results**

### 4. Associated Knowledge Areas

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

**Outcome #6**

**1. Outcome Measures**

(4.3c) # of program participants documented to have increased involvement in public/community childhood obesity prevention actions

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	511

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle

**Outcome #7**

**1. Outcome Measures**

(4.3d) # of participating schools and/or communities documented to have made practice and/or policy changes to promote healthy eating and active living

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	67

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #8**

**1. Outcome Measures**

(4.1d2) # parents/caregivers and other adults who demonstrate knowledge or skill gains related to healthy eating and active living

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	31817

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
724	Healthy Lifestyle

**Outcome #9**

**1. Outcome Measures**

(4.4e) # 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**

<b>Year</b>	<b>Actual</b>
2014	5689

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
----------------	-----------------------

**Outcome #10**

**1. Outcome Measures**

(4.4f) # of community action plans implemented as a result of community based assessment.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2014	32

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components

**Outcome #11**

**1. Outcome Measures**

(4.4g) # of individuals or households documented to have improved food security status.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	9431

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
702	Requirements and Function of Nutrients and Other Food Components

**Outcome #12**

**1. Outcome Measures**

(4.5b) # of consumers 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

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	11880



**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle

**Outcome #13**

**1. Outcome Measures**

(4.5c) # of consumers documented to have implemented new and/or increased application of ongoing safe food purchasing, handling, storage, and preparation practices.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	7682

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
502	New and Improved Food Products
703	Nutrition Education and Behavior

**Outcome #14**

**1. Outcome Measures**

(4.6c) # of producers/ processors/food service providers documented to have implemented new and/or increased application of ongoing safe food production, processing, storage, handling, marketing, and preparation practices.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2014	260

**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
703	Nutrition Education and Behavior
724	Healthy Lifestyle

**Outcome #15**

**1. Outcome Measures**

(4.7c) # 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 #16**

### **1. Outcome Measures**

(4.7d) # of communities/ firms/or organizations documented to have implemented improved practices or food safety policies as a result of participating in relevant educational programs.

Not Reporting on this Outcome Measure

## **Outcome #17**

### **1. Outcome Measures**

ECOLOGICAL APPROACH TO OBESITY

### **2. Associated Institution Types**

- 1862 Extension
- 1862 Research

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	0

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Childhood obesity rates have more than doubled in the past 30 years. In 2012, more than one third of children and adolescents were overweight or obese. Obesity in children has immediate and long-term effects on health, including increasing their risk of heart disease, high blood pressure, diabetes, some types of cancer, and stroke, as well as social and psychological problems. Traditional obesity prevention efforts have focused on providing information and education aimed at changing individual behavior. A new approach, called an ecological approach, focuses not only on the individual, but also on addressing factors in the multiple environments that influence individual behavior. This approach aims to create community environments that better support healthy eating and active living behaviors. For many extension and health professionals, taking an ecological approach to obesity prevention requires a new way of thinking and working.

#### **What has been done**

Through the Cornell NutritionWorks online professional development program, Stark and colleagues developed and evaluated eight sessions of a 6-week course entitled, Preventing Childhood Obesity: An Ecological Approach. The in-depth online course was designed for

professionals in nutrition, health, and youth development (e.g., Cooperative Extension nutrition and 4-H educators, WIC nutritionists, public health practitioners). 380 professionals from 44 states and 11 countries, including 52 individuals from New York State completed the course. Participants were surveyed to assess the underlying causes of excessive weight gain in children in their own communities. By the end of the course, participants developed action plans describing a collaborative, ecological approach to addressing childhood obesity at the local level. Course participants completed pre-, post-, and six-month course surveys designed to evaluate if the course improved knowledge, skills, and confidence in using an ecological approach.

### **Results**

Overall, the project provided a better understanding of the factors that influence the use of an ecological approach to childhood obesity prevention at the local level. In post event surveys 95% of participants stated that they intended to apply what they learned to their work. After six months, 79% reported actually applying their new knowledge, as well as implementing at least part of their local action plans. The surveys also indicated statistically significant, positive increases in knowledge, skills, and confidence in using an ecological approach to prevent childhood obesity. In examining which personal characteristics influenced the application of an ecological approach, a preliminary analysis found that participants who were registered dietitians (RDs) and who had more than 15 years of work experience were less likely to have applied what they learned in the course than those who were not RDs or who had 15 years or less of work experience. Future work will examine the relationship between applying an ecological approach and organizational factors, such as job scope, job demands, and salary support.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle
903	Communication, Education, and Information Delivery

### **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**

The scope and scale of outcomes is greatly enhanced by augmenting Federal Capacity 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 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 physical activity behaviors, or improved access to healthy food and activity opportunities. As an example of the latter, in New York State, cost cutting proposals include closing some public parks and reducing recreational physical activity programs. In addition, 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 the family, disregarding environmental influences outside the family.

In 2014, the NYS Office of Temporary and Disability Assistance released an RFA to competitively fund SNAP-Ed. Previously about half the state SNAP-Ed funding had supported CCE programs on a non-competitive basis. Seven regions across the state outside of NYC received awards and will continue to deliver SNAP-Ed programming. However, the approach has shifted dramatically in two ways: (1) The focus has shifted to include major efforts to address policy, systems and environmental approaches. Direct education of participants is still required but at a reduced effort. (2) Educators must have degrees in nutrition, public health, or health education and we are no longer able to employ paraprofessional nutrition educators to conduct nutrition programming.

## **V(I). Planned Program (Evaluation Studies)**

### **Evaluation Results**

**Evaluation Capacity Building:** Cornell Cooperative Extension has worked with the Cornell Office of Research and Evaluation (CORE) to strengthen evaluation practice and build evaluation capacity. CORE has developed a Protocol for evaluation that takes a systems approach, recognizing that individual programs and their evaluations are part of larger program portfolios and are shaped by needs and context at multiple levels of the Extension system. CORE has tested and refined this Protocol in partnership with CCE programs since 2006. A key step in the Protocol is to develop program models, in both familiar columnar form as logic models and in a visual form called pathway models. These models form have helped focus evaluation efforts in Extension programs.

Beginning in 2013 and through 2014, CORE and CCE partnered to initiate program modeling and evaluation planning at the level of the statewide Plans of Work. This effort contributed to the review of near and midterm program outcomes and to the review and planning of several evaluation projects currently underway.

The Protocol has been integrated into professional development in CCE, to promote consistent approaches to evaluation of county-based, regional, and statewide programs.

**Regional/Statewide documentation examples.** Many of our regional and statewide programs are receiving federal capacity funds. Documentation of outcomes is a requirement of funding. Results shape future program efforts and impact program design. **An example evaluation practice can be found in the section below.**

**There is also a requirement for our local and regional programs to report on statewide outcomes/indicators:** Program documentation results are aggregated in a statewide accountability database that includes both qualitative and quantitative data for

reporting and helping us to better understand impacts.

## Key Items of Evaluation

Example - from Good Agricultural Practices (GAPs) Training and Implementation - use of mid-event and post-event survey and follow-up event survey

New York has had an active GAPs training program for produce farmers since 1999, but as with research and technology, our training evolved to meet growers' needs for having a farm food safety plan. Developing a written farm food safety plan is valuable because it helps guide the implementation of GAPs and is required if the farm needs to have a third party audit to meet buyer demands. In December of 2009, personnel from the National GAPs Program at Cornell University in collaboration with Cornell Cooperative Extension Regional Fruit and Vegetable Teams and the New York State Department of Agriculture and Markets began a new multi-day GAPs training program for produce growers in New York. To date, 689 individuals representing over 350 farms, fruit and vegetable processors, marketers, crop consultants, and extension educators from New York as well as other states, have attended the trainings.

Given the time, effort, and expense of both conducting and attending the trainings, it was critically important to evaluate the trainings to make sure they were productive and valuable. Every training was evaluated after each day of instruction to determine if growers found the information valuable and made some progress towards understanding GAPs and developing a written farm food safety plan. A long term evaluation was completed by surveying training participants at least 6 months after they finished the multi-day course to determine what progress they had made, costs they had incurred, market access impacts, and assess other indicators to determine the long term impact of attending the training.

In the spring of 2014, 80 past participants, each representing a different farm, were asked to complete a 20 question survey administered by Cornell Cooperative Extension personnel. Though a formal research paper will be written, this summary is intended to share some preliminary findings from both the training evaluations and the long-term survey with growers since there will be additional GAPs training opportunities this winter throughout New York and the information may be valuable to growers attempting to decide if attending a GAPs training would benefit them and their farms.

Evaluations completed by participants after the first day of the GAPs trainings indicated that 13% (39/289) of participants had a written farm food safety plan. By the end of day two, 48% (230/479) of participants report having 50-100% of their farm food safety plans written. At the end of day two, participants were asked if they would recommend the training to others. Of those who completed the evaluations, all except one say they would recommend the training to others, with the one individual reporting "maybe".

Of those responding to the long-term survey 63% (50/80) report having a written farm food safety plan and 38% (30/80) have completed a third party audit. Growers responding to the long-term survey had farms that varied in size from 0.25 acres to 4000 acres in fruit and vegetable production with a median size of 70 acres. They also reported having operations that included animals (28%) and having the public on their farm (32%), showing that growers from diversified farms and farms that direct market to consumers participated in both the GAPs trainings and the survey. This data highlights the progress that growers make during and after attending the workshop as well as the diversity of growers who have

attended the multi-day trainings.

Thirty five (43%) growers reported level sales valued from \$14,000 to \$2,000,000, while 14 (18%) growers reported expanded sales valued at \$15,000 to \$300,000. The three top reasons growers report for implementing GAPs are their personal commitment to food safety (24%), maintaining market access (20%), and reducing liability (17%).

Based on the evaluations, both short and long-term, the multi-day GAPs training programs are helping growers increase their understanding of produce safety issues, develop a written farm food safety plan, and implement practices to reduce microbial risks.

[www.gaps.cornell.edu](http://www.gaps.cornell.edu).

**V(A). Planned Program (Summary)**

**Program # 5**

**1. Name of the Planned Program**

4-H Youth Development/Children, Youth and Families

Reporting on this Program

**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%		15%	
511	New and Improved Non-Food Products and Processes	3%		0%	
607	Consumer Economics	7%		0%	
608	Community Resource Planning and Development	15%		0%	
609	Economic Theory and Methods	4%		0%	
611	Foreign Policy and Programs	0%		2%	
801	Individual and Family Resource Management	8%		2%	
802	Human Development and Family Well-Being	12%		52%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	7%		0%	
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	4%		15%	
805	Community Institutions, Health, and Social Services	6%		0%	
806	Youth Development	30%		14%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

**Cornell University**

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	385.0	0.0	3.0	0.0



<b>Actual Paid</b>	308.0	0.0	3.0	0.0
<b>Actual Volunteer</b>	29158.0	0.0	0.0	0.0

**NY State Agricultural Experiment Station**

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	385.0	0.0	3.0	0.0
<b>Actual Paid</b>	0.0	0.0	0.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**2. Institution Name:** Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
2537523	0	467627	0
<b>1862 Matching</b>	<b>1890 Matching</b>	<b>1862 Matching</b>	<b>1890 Matching</b>
2537523	0	697295	0
<b>1862 All Other</b>	<b>1890 All Other</b>	<b>1862 All Other</b>	<b>1890 All Other</b>
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
<b>1862 Matching</b>	<b>1890 Matching</b>	<b>1862 Matching</b>	<b>1890 Matching</b>
0	0	0	0
<b>1862 All Other</b>	<b>1890 All Other</b>	<b>1862 All Other</b>	<b>1890 All Other</b>
0	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

This plan frames applied research and Cornell Cooperative Extension (CCE) programs connected to 4-H Youth Development/Children, Youth and Families.

Youth development is defined as an ongoing process that enables individuals to lead a healthy, satisfying, and productive life as youth and later as adults, because they gain the competence to earn a living, to engage in civic activities, to nurture others and to participate in social relations and cultural activities; Youth development is also defined as an approach emphasizing active support for the growing capacity of young people by individuals, organizations, and institutions, especially at the community level. The practice of youth development refers to the application of principles to a planned set of practices, or activities, that foster the developmental process in young people (Hamilton, Hamilton, & Pittman, 2003). Positive youth development is an approach that assumes all young people have assets regardless of their socio-economic status, race/ethnicity and gender.

The Youth Development program applies positive youth development including life skill development to the 4-H national mission mandates of science, technology engineering and math (STEM), civic engagement (citizenship), and healthy living (Components of the latter focused on healthy eating and active living are described in the Childhood Obesity and Nutrition Plan of Work). Each Youth Development mandate has NYS and national logic models to guide program priorities and to identify youth outcomes.

The family emphases in this plan include human development and social wellbeing, economic wellbeing, and quality of home and work environments. This emphasis area includes parenting and care practices, and care programs and policies affect the quality of life for children, youth, elders and their families. Cornell Cooperative Extension parenting and dependent care programs are designed to integrate research with community education on parenting and infant/child care-giving practices and policies. Current research focuses include behavioral and psychological development from conception through later life.

Also included in this plan is an emphasis on family economic security. This emphasis aims to increase our service to and empower low and moderate-income households who are especially vulnerable to financial setbacks and have less disposable income to commit to savings. The effort includes education to low-income households where housing may have a greater incidence of indoor air issues: high levels of radon, carbon monoxide, lead, asbestos, and basement mold. Research draws on a broad-based and diverse set of social science and design methodologies to understand how planning, design and management of the built environment affects individuals, groups, organizations and communities, and how this knowledge can generate innovative design solutions for pressing social and cultural issues.

## **2. Brief description of the target audience**

### **Youth**

- Young people ages 5-19: Cloverbuds (5-8), pre-teens (9-12), and teens (13-19)
- Youth development educators, staff, and volunteers
- Families, parents, and guardians
- Youth-serving organizations
- Teachers and schools (elementary, middle, high school)
- Community leaders
- Priority audiences include youth not formerly served and military youth and families

### **Family**

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

**3. How was eXtension used?**

Cornell Cooperative Extension supports and promotes eXtension communities of practice, the eXtension public site and the professional development offered through eXtension.org. Staff across the state are encouraged to be involved in COPs, and the link to eXtension is promoted on the front page of the Cornell Cooperative Extension public staff site. Currently 365 staff are registered active users of eXtension, 62 of which are faculty members.

Examples of participation in COPs in this plan of work area include:

- Community and Youth Gardens
- Creating Healthy Communities
- CYFAR
- Diversity, Equity and Inclusion
- Family Care Giving
- Financial Security for All
- Just in Time Parenting
- Military Families
- Science for Youth
- Youth Geospatial Technology
- Youth, Family, Community

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	140302	2619124	348347	6502858

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

**Patent Applications Submitted**

Year: 2014  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2014	Extension	Research	Total
<b>Actual</b>	100	12	112

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

**Output Target**

**Output #1**

**Output Measure**

- {No Data Entered}

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	(5.1f) number of youth participants who demonstrate ability to express their ideas confidently and competently.
2	(5.1g) number of adult volunteers documented to mentor and advise youth and other adult volunteers in an effective and positive manner.
3	(5.1h) number of youth participants documented as serving in age-appropriate leadership roles.
4	(5.1i) increased number of youth organizations/programs documented as incorporating youth voice to reflect youth needs, interests, and excitement for learning in programming.
5	(5.2d) number of participants demonstrating increased awareness of STEM, improved STEM skills including scientific methods, knowledge of specific sciences, and/or increased awareness of opportunities to contribute to society using STEM skills.
6	(5.2e) number of participants that report improved success in school achievement or have been observed to improve academic improvement, success in school science and/or increased interest in STEM.
7	(5.2f) number of youth applying STEM learning to contexts outside 4-H programs, e.g., school classes, science fairs, invention contests, etc.
8	(5.2g) number of youth expressing interest/demonstrating aspirations towards STEM careers, e.g., career fairs, job shadowing, volunteer work or internships.
9	(5.2h) number of youth adopting and using new scientific methods or improved technology.
10	(5.4e) number of participating infant and child caregivers reporting to have applied positive care-giving practices.
11	(5.4f) number of participating persons with care-requiring dependents reporting to have used child care quality characteristics in their care selection.
12	(5.4g)) number of participating persons with care-requiring dependents reporting positive change in child care as a result of participating in educational programs.
13	(5.5c) number of program participants reporting to have been involved in community level assessments of family care needs.
14	(5.5d) number of communities documented to have taken action to address family needs that can be related to educational programs and/or critical community collaborations provided.
15	(5.6c) number of parents and other adults providing parental care adopting development-ally appropriate and effective parenting methods.
16	(5.6d) 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.
17	(5.7c) number 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.
18	(5.7d) number of program participants reporting to have met day-to-day financial obligations while also progressing on future goals for home ownership, savings, retirement accounts, etc.
19	(5.7e) number of program participants reporting to have reduced debts and/or increased savings.
20	(5.8c) number of program participants documented to have taken measures to prevent or remediate indoor air quality issues.
21	(5.3f) number of youth documented to have practiced life skills in authentic decision-making partnerships with adults as a result of participating in the program.
22	(5.3g) number of adults documented to have applied knowledge, skills and abilities and behaviors necessary as they assist youth developing into productive community members as a result of participating in the program.
23	(5.3h) number 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.
24	PARENTING THE SECOND TIME AROUND
25	CITIZEN U GRADUATES TEEN LEADERS, PREPARED FOR CAREERS, COLLEGE AND CITIZENSHIP

**Outcome #1**

**1. Outcome Measures**

(5.1f) number 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	Actual
2014	43875

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #2**

**1. Outcome Measures**

(5.1g) number 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**

<b>Year</b>	<b>Actual</b>
2014	6023

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #3**

**1. Outcome Measures**

(5.1h) number 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**

<b>Year</b>	<b>Actual</b>
2014	21953

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #4**

**1. Outcome Measures**

(5.1i) increased number of youth organizations/programs documented as incorporating youth voice to reflect youth needs, interests, and excitement for learning in programming.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research



**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	6932

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
805	Community Institutions, Health, and Social Services
806	Youth Development

**Outcome #5**

**1. Outcome Measures**

(5.2d) number of participants demonstrating increased awareness of STEM, improved STEM skills including scientific methods, knowledge of specific sciences, and/or increased awareness of opportunities to contribute to society using STEM skills.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	60943

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #6**

**1. Outcome Measures**

(5.2e) number of participants that report improved success in school achievement or have been observed to improve academic improvement, success in school science and/or increased interest in STEM.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	21179

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #7**

**1. Outcome Measures**

(5.2f) number of youth applying STEM learning to contexts outside 4-H programs, e.g., school classes, science fairs, invention contests, etc.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	22925

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #8**

**1. Outcome Measures**

(5.2g) number of youth expressing interest/demonstrating aspirations towards STEM careers, e.g., career fairs, job shadowing, volunteer work or internships.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	9238

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #9**

**1. Outcome Measures**

(5.2h) number of youth adopting and using new scientific methods or improved technology.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	33245

**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 #10

#### 1. Outcome Measures

(5.4e) number of participating infant and child caregivers 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	Actual
2014	1957

#### 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
805	Community Institutions, Health, and Social Services
806	Youth Development

**Outcome #11**

**1. Outcome Measures**

(5.4f) number of 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**

<b>Year</b>	<b>Actual</b>
2014	647

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services
806	Youth Development

**Outcome #12**

**1. Outcome Measures**

(5.4g)) number of participating persons with care-requiring dependents reporting positive change in child care as a result of participating in educational programs.

Not Reporting on this Outcome Measure

### **Outcome #13**

#### **1. Outcome Measures**

(5.5c) number 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**

<b>Year</b>	<b>Actual</b>
2014	376

#### **3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services
806	Youth Development

### **Outcome #14**

#### **1. Outcome Measures**

(5.5d) number 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**

<b>Year</b>	<b>Actual</b>
2014	114

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services
806	Youth Development

**Outcome #15**

**1. Outcome Measures**

(5.6c) number of parents and other adults providing parental care adopting development-ally appropriate and effective parenting methods.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure



**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	1151

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #16**

**1. Outcome Measures**

(5.6d) 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**

<b>Year</b>	<b>Actual</b>
2014	1116

**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 #17

#### 1. Outcome Measures

(5.7c) number 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	Actual
2014	327

#### 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 #18**

#### **1. Outcome Measures**

(5.7d) number of program participants reporting to have met day-to-day financial obligations while also progressing on future goals for home ownership, savings, retirement accounts, etc.

#### **2. Associated Institution Types**

- 1862 Extension
- 1862 Research

#### **3a. Outcome Type:**

Change in Condition Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	65

#### **3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
607	Consumer Economics
801	Individual and Family Resource Management

### **Outcome #19**

#### **1. Outcome Measures**

(5.7e) number 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**

<b>Year</b>	<b>Actual</b>
2014	230

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
607	Consumer Economics
801	Individual and Family Resource Management

**Outcome #20**

**1. Outcome Measures**

(5.8c) number 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**

<b>Year</b>	<b>Actual</b>
2014	375

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
607	Consumer Economics
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

**Outcome #21**

**1. Outcome Measures**

(5.3f) number of youth documented to have practiced life skills 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**

<b>Year</b>	<b>Actual</b>
2014	15522

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
----------------	-----------------------

608 Community Resource Planning and Development  
806 Youth Development

**Outcome #22**

**1. Outcome Measures**

(5.3g) number of adults documented to have applied knowledge, skills and abilities and behaviors necessary as they 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	Actual
2014	4245

**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
806	Youth Development

**Outcome #23**

**1. Outcome Measures**

(5.3h) number 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**

<b>Year</b>	<b>Actual</b>
2014	8336

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development
806	Youth Development

**Outcome #24**

**1. Outcome Measures**

PARENTING THE SECOND TIME AROUND

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	0

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Today, 2.7 million children are being raised by a grandparent or other relative, without either natural parent present. In New York alone, grandparents and relatives are responsible for approximately 42,000 children, yet little is known about the quality and nature of life in these families. Research is needed to better understand this family type and the challenges they face in order to develop educational and interventional materials that are relevant for grandparent caregivers.

#### What has been done

Using in-person surveys, open-ended questions, and videotaped interactions, Cornell researchers gathered information on the grandparent-grandchild relationship, including parenting behaviors, relationship quality, and family routines. The researchers translated findings into educational materials for CCE educators and updated the Parenting the Second Time Around (PASTA) program, a national award-winning CCE curriculum for grandparents and relatives who are parenting for a second time, with additional workshops for relatives raising teens. The PASTA program was selected for a treatment and control evaluation research project in New York City to introduce caregivers to information, skills, and resources available to strengthen their ability to care for the young relatives they are parenting. Responses from control group participants were compared to those from the treatment group to evaluate the effectiveness of the PASTA workshop in improving caregiver knowledge.

#### Results

Survey results from two years of PASTA-NYC programs revealed that the program led to improvement in nine of twenty-three measures compared to the control group, including caregiver awareness of available resources, comfort asking for help from community resources, belief that they can find answers to what is troubling their children, and elimination of rules that are not meeting the child's needs. Over the three years of this project, the program reached well over 100 relative caregivers, with 96 completing the program from beginning to end. As a pilot study, this work successfully demonstrated the efficacy of the Parenting the Second Time Around program in an urban setting and helped to develop evidence and support for its use as a national curriculum. This project has implications for all of the CCE parenting programs. During 2014 23 counties including NYC reported on parenting education workshops, trainings, e-news and outreach that included Parenting a Second Time Around curriculum with over 1,100 participants in Extension parenting programs reporting adopting developmentally appropriate and effective parenting that they attribute to implementing new parenting behaviors learned in educational programs.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services
806	Youth Development



## **Outcome #25**

### **1. Outcome Measures**

CITIZEN U GRADUATES TEEN LEADERS, PREPARED FOR CAREERS, COLLEGE AND CITIZENSHIP

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	0

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Research shows that a positive academic/personal mentor, and exposure to college can help youth in high-risk, high-need communities to be more prepared for careers, college and being a good citizen. CITIZEN U was developed to help at-risk youth become active in their communities and prepare for college careers. The program focuses on civic engagement and workforce preparation for teens 14-18 years old. CITIZEN U is a metaphor for creating a University environment in which teens are empowered to become community change agents. The program currently works with underrepresented youth in two high-need communities, Binghamton and Rochester. The program has very intentional partnerships with Cornell University faculty, county governments, community organizations and local businesses.

#### **What has been done**

CITIZEN U mirrors a university setting through weekly after-school seminars taught by experts from CCE, community agencies and business partners. After completing 4-H Public Adventures training, CITIZEN U Teen Leaders conduct projects focused on NIFA priorities such as preventing childhood obesity, food security, climate change and sustainable energy. Visiting professors from local colleges/universities and community organizations provide seminars under the six schools at CITIZEN U--the School of Business & Entrepreneurship, School of Community Development, School of Environmental Studies, School of Food & Nutrition, School of Performing Arts, and the School of Technology & Media Arts. During summers, Teen Leaders gain job skills through paid internships aligned with their CITIZEN U majors and complete carefully planned community improvement projects.

#### **Results**

After two years of study and service, teens graduate from CITIZEN U. In August, graduation ceremonies were held to celebrate completion of the Teen Leaders' two-year commitment to CITIZEN U for 2012-2014. 100% of the teens who were seniors graduated from high school

began college at two- and four-year colleges on full or partial scholarships. Nosa Akol, one of Broome County's members, credits Citizen U with helping her to overcome bullying, develop self-confidence, and build leadership and public speaking skills. Through Citizen U, Nosa was prepared for and was chosen to be a part of the World Food Prize, she was invited to the Borlaug Symposium in Washington D.C. where she addressed USDA Secretary Thomas Vilsack about the humanitarian crisis in South Sudan. As a result of her actions and experiences, Nosa will receive the national 2015 4-H Youth in Action Award.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

- Economy
- Public Policy 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. The increasing diversity of our populations creates the need for an array of program materials, strategies, and a dedication to multicultural competencies. Changing educational standards influence the acceptability or credibility of existing curricula. Regional and community demographic differences influence both program strategies and professional development needs.

###### Family

The economic, political and governmental sectors affect the quality, availability and accessibility of childcare. The growth of aging and minority populations in the US means more diverse cultures and values related to parenting, childcare, 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.

#### V(I). Planned Program (Evaluation Studies)

##### Evaluation Results

**Evaluation Capacity Building:** Cornell Cooperative Extension has worked with the Cornell

Office of Research and Evaluation (CORE) to strengthen evaluation practice and build evaluation capacity. CORE has developed a Protocol for evaluation that takes a systems approach, recognizing that individual programs and their evaluations are part of larger program portfolios and are shaped by needs and context at multiple levels of the Extension system. CORE has tested and refined this Protocol in partnership with CCE programs since 2006. A key step in the Protocol is to develop program models, in both familiar columnar form as logic models and in a visual form called pathway models. These models form have helped focus evaluation efforts in Extension programs.

Beginning in 2013 and through 2014, CORE and CCE partnered to initiate program modeling and evaluation planning at the level of the statewide Plans of Work. This effort contributed to the review of near and midterm program outcomes and to the review and planning of several evaluation projects currently underway.

The Protocol has been integrated into professional development in CCE, to promote consistent approaches to evaluation of county-based, regional, and statewide programs.

**Regional/Statewide documentation examples.** Many of our regional and statewide programs are receiving federal capacity funds. Documentation of outcomes is a requirement of funding. Results shape future program efforts and impact program design. **An example evaluation practice can be found in the section below.**

**There is also a requirement for our local and regional programs to report on statewide outcomes/indicators:** Program documentation results are aggregated in a statewide accountability database that includes both qualitative and quantitative data for reporting and helping us to better understand impacts.

## Key Items of Evaluation

The Parenting In Context CCE statewide program has an online Data Collection System for program evaluation. A program work team of faculty, associates and extension professionals developed, piloted and revised a pre-and post-survey for statewide use. This information now feeds into our State Defined Outcomes related to parenting education.

The Cornell Cooperative Extension (CCE) system offers a variety of programs for parents and caregivers. These programs reach a wide range of families and seek to promote positive parenting and, ultimately, healthy family and child development. Data were collected from CCE parent education program participants between July 2013 to July 2014 at the first session (a pre-test) and at the last session (a post-test). Participants included parents and caregivers taking part in programs that comprised at least six hours of content delivery.

### **Demographics of Participants in CCE Parent Education Programs**

A total of thirteen parent education programs were evaluated. The largest number of participants took part in Parenting A Second Time Around (PASTA) (21% of all participants) and the Parenting Skills Workshop Series (17%).

The majority (71%) of participants in parent education classes were female. The highest level of educational attainment reached among the participants varied widely, with the greatest number of participants reaching 12th grade or a GED (32%) followed by those having attended, but not graduated from, college (24%). The vast majority of the

participants in parent education classes were white (63%), and 40% of the participants were married or partnered.

### **Pre-Post Survey Results**

This study used a pre- and post-test evaluation, in which the participants were asked to answer two identical surveys--one given at the first session of the class and another given after the completion of the last parenting class. The survey included ten questions about parenting attitudes, behaviors, and knowledge. The pre/post study design allows researchers to see if participants' attitudes, behaviors, and knowledge change during the course of the parenting programs. Using this type of research design does not allow one to determine whether taking part in the parent education class caused a change in knowledge, attitude or behaviors; such changes could occur for other reasons outside of the program. However, it is possible that any significant pre-to-post changes in parenting attitudes, behaviors and knowledge that are observed may have resulted from taking part in the program.

The following evaluation is based on information provided by 385 participants, who completed a parent education program and completed both a pre- and a post-test survey. Six of the ten items on the survey showed significant improvements from the pre- to the post-test. Specifically, participants of CCE parent education classes reported increased patience with their child, increased confidence in making rules that take their child's needs into consideration, increased belief that they have the skills necessary to be a good caregiver, decreases in how often they yell at their child, increased time spent reading with their child, and decreases in the number of hours their children spend watching television.

A p-value generated from a paired t-test was used as a statistical measure to determine whether a change in a given survey question between the pre- and post-test was significant. A p-value of .10 or less was considered statistically significant. This means that we can say with 90% certainty that the pre-to-post changes in participant responses are not due to chance.

These results indicate that six out of ten measures of parenting attitudes, behaviors and knowledge improved significantly from the pre- to the post-test. This suggests that, across the state, CCE parent education programs may have had a positive impact on their participants.

<http://www.human.cornell.edu/pam/outreach/parenting/>

**V(A). Planned Program (Summary)**

**Program # 6**

**1. Name of the Planned Program**

Community and Economic Vitality

Reporting on this Program

**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	0%		5%	
131	Alternative Uses of Land	25%		10%	
134	Outdoor Recreation	5%		0%	
602	Business Management, Finance, and Taxation	5%		12%	
608	Community Resource Planning and Development	45%		27%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	10%		15%	
805	Community Institutions, Health, and Social Services	10%		31%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

**Cornell University**

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	118.0	0.0	1.5	0.0
<b>Actual Paid</b>	121.0	0.0	3.0	0.0
<b>Actual Volunteer</b>	26066.0	0.0	0.0	0.0

**NY State Agricultural Experiment Station**

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	118.0	0.0	1.5	0.0
<b>Actual Paid</b>	0.0	0.0	0.0	0.0

<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0
-------------------------	-----	-----	-----	-----

**2. Institution Name:** Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
997427	0	354619	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
997427	0	526677	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 plan frames the programs aimed at empowering individuals and communities to make sound decisions for the future through access to research, data and resources, best practices, university-based resources and community education.

Community emphases include community and economic development processes, community sustainability and resiliency, agriculture and food systems development, land use and energy, emergency preparedness and to some extent entrepreneurship and workforce development. Cornell has a commitment to New York citizens and local officials to build their capacities so they can solve problems and build strong and vibrant communities. Agriculture and food systems development includes efforts that promote community farmland protection initiatives, promote local foods, supports agricultural entrepreneurship, public issues education related to specific agriculture/community conflict. Our

educational programs support inter-municipal and regional collaborations, and new public-private partnerships that spur innovative strategies to address complex community development issues.

This plan also includes the Master Gardener Volunteer (MGV) Program. Programs developed by MGVs are managed by individual Cornell Cooperative Extension (CCE) and applied research associations and are related to local needs, talents and interests. Because the focus is very multidisciplinary it doesn't fit neatly into one of the other planned programs, but instead is looked upon as a community vitality initiative.

## **2. Brief description of the target audience**

- Elected officials, community leaders, business and economic leaders, not-for-profit agencies, schools, environmental groups, agribusiness leaders, etc.
- Retirees and other elders who have time to engage in community stewardship
- Engaged community citizens
- Communities as a 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
- Workforce development specialists

## **3. How was eXtension used?**

Cornell Cooperative Extension supports and promotes eXtension communities of practice, the eXtension public site and the professional development offered through eXtension.org. Staff across the state are encouraged to be involved in COPs, and the link to eXtension is promoted on the front page of the Cornell Cooperative Extension public staff site. Currently 365 staff are registered active users of eXtension, 62 of which are faculty members.

Examples of participation in COPs in this plan of work area include:

- Community Management Board
- Creating Healthy Communities
- Diversity, Equity and Inclusion
- EDEN Delegates
- Enhancing Rural Capacity
- Entrepreneurs and Their Communities
- Extension Master Gardener Coordinators
- Financial Security for All
- Gardens, Lawns & Landscapes
- Land Use Planning
- Managing in Tough Times
- Public Deliberation
- Well-Being of Vulnerable Populations
- Wildlife Damage Management

## **V(E). Planned Program (Outputs)**

### **1. Standard output measures**

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	376150	6247594	43436	721442

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

**Patent Applications Submitted**

Year: 2014

Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2014	Extension	Research	Total
Actual	0	16	0

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

**Output Target**

**Output #1**

**Output Measure**

- {No Data Entered}



**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	(6.1f) number of communities who plan for and implement initiatives on community based agricultural economic development, land use, energy, workforce development, business and entrepreneurial development and assistance, non-profit sector development and/or other elements of sustainable growth.
2	(6.1g) number of residents and/or community leaders, who plan for and initiate steps to enhance facilities, and/or other community resources or services
3	(6.1j) number of communities establishing an infrastructure and climate to support entrepreneurs, local farms and agribusinesses attributable at least in part to initiatives of the program.
4	(6.1k) number of communities documenting improvements in facilities and/or other community resources or services.
5	(6.2c) number of communities instituting new or enhanced participatory processes related to economic development
6	(6.2e) number 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.
7	(6.3c) number of communities and municipalities that address the connection between their land base and possible energy scenarios
8	(6.3d) number of sustainability initiatives adopted
9	(6.3e) number of communities that incorporate energy use and development in their comprehensive plans
10	(6.4c) number of community leaders documented to apply community economic development and quality of life indicators to support decision-making.
11	(6.4d) of communities implementing projects that enhance community sustainability and/or protect public health and community well-being through sound environmental management
12	(6.5a) # 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.
13	(6.5b) # of communities adopting or updating farmland preservation and/or agricultural economic development plans
14	(6.6b) # of residents and/or community leaders, who plan for and initiate steps to enhance public spaces
15	(6.6c) # of new or enhanced community organizations or networks linking diverse sub-groups and focused on enhancing community sustainability.
16	(6.6d) # of communities documenting improvements in public spaces.
17	(6.7c) number of instances in which producers/ horticulture businesses/ natural resource enterprises, residents and community leaders work together to address issues

18	(6.7d) number of documented instances in which agriculture/community conflicts are resolved locally.
19	(6.8e) number 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) and how the enterprises are affected by public policy.
20	(6.8f) number of communities that initiate specific plans to address agriculture/ horticulture/ natural resource enterprise related issues or capitalize on new opportunities including community agriculture initiatives.
21	(6.8g) number of communities documented to adopt, maintain, or expand policies supportive of appropriate agriculture/horticulture/ natural resource enterprise development and/or community agriculture.
22	(6.9f) number of community residents practicing management tactics in residential landscapes and homes that work to sustain or enhance a healthy community and environment.
23	(6.9g) number of community residents with improved availability and access to fresh fruits and vegetables.
24	(6.9h) number of community education/demonstration food gardens established or maintained
25	DOUBLE UP FOOD BUCKS: INCREASES ACCESS TO HEALTHY, LOCAL FOODS

**Outcome #1**

**1. Outcome Measures**

(6.1f) number of communities who plan for and implement initiatives on community based agricultural economic development, land use, energy, workforce development, business and entrepreneurial development and assistance, non-profit sector development and/or other elements of sustainable growth.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2014	9600

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

**Outcome #2**

**1. Outcome Measures**

(6.1g) number of residents and/or community leaders, who plan for and initiate steps to enhance facilities, and/or other community resources or services

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	5528

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development

**Outcome #3**

**1. Outcome Measures**

(6.1j) number 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. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	775

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

**Outcome #4**

**1. Outcome Measures**

(6.1k) number of communities documenting improvements in facilities and/or other community resources or services.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	204

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #5**

**1. Outcome Measures**

(6.2c) number 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**

<b>Year</b>	<b>Actual</b>
2014	3

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #6**

**1. Outcome Measures**

(6.2e) number 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**

<b>Year</b>	<b>Actual</b>
2014	6

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #7**

**1. Outcome Measures**

(6.3c) number of communities and municipalities that address the connection between their land base and possible energy scenarios

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

{No Data Entered}

**What has been done**

{No Data Entered}

**Results**

{No Data Entered}

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
131	Alternative Uses of Land
608	Community Resource Planning and Development

#### Outcome #8

##### 1. Outcome Measures

(6.3d) number of sustainability initiatives adopted

##### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	0

##### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**  
{No Data Entered}

**What has been done**  
{No Data Entered}

**Results**  
{No Data Entered}

#### 4. Associated Knowledge Areas

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



**Outcome #9**

**1. Outcome Measures**

(6.3e) number of communities that incorporate energy use and development in their comprehensive plans

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2014	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

{No Data Entered}

**What has been done**

{No Data Entered}

**Results**

{No Data Entered}

**4. Associated Knowledge Areas**

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

**Outcome #10**

**1. Outcome Measures**

(6.4c) number 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**

<b>Year</b>	<b>Actual</b>
2014	29

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

**Outcome #11**

**1. Outcome Measures**

(6.4d) of communities implementing projects that enhance community sustainability and/or protect public health and community well-being through sound environmental management

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	12

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

**Outcome #12**

**1. Outcome Measures**

(6.5a) # 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**

<b>Year</b>	<b>Actual</b>
2014	8

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
131	Alternative Uses of Land
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

**Outcome #13**

**1. Outcome Measures**

(6.5b) # 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**

<b>Year</b>	<b>Actual</b>
2014	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

{No Data Entered}

**What has been done**

{No Data Entered}

**Results**

{No Data Entered}

**4. Associated Knowledge Areas**

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

**Outcome #14**

**1. Outcome Measures**

(6.6b) # of residents and/or community leaders, who plan for and initiate steps to enhance public spaces

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2014	3977

**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 #15**

#### **1. Outcome Measures**

(6.6c) # 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 Action Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	13

#### **3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

#### **4. Associated Knowledge Areas**

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

## **Outcome #16**

### **1. Outcome Measures**

(6.6d) # of communities documenting improvements in public spaces.

### **2. Associated Institution Types**

- 1862 Extension
- 1862 Research

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	0

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

{No Data Entered}

#### **What has been done**

{No Data Entered}

#### **Results**

{No Data Entered}

### **4. Associated Knowledge Areas**

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

**Outcome #17**

**1. Outcome Measures**

(6.7c) number 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**

<b>Year</b>	<b>Actual</b>
2014	210

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
131	Alternative Uses of Land
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services



## **Outcome #18**

### **1. Outcome Measures**

(6.7d) number of documented instances in which agriculture/community conflicts are resolved locally.

### **2. Associated Institution Types**

- 1862 Extension
- 1862 Research

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	0

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

{No Data Entered}

#### **What has been done**

{No Data Entered}

#### **Results**

{No Data Entered}

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

**Outcome #19**

**1. Outcome Measures**

(6.8e) number 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) and how the enterprises are affected by public policy.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	10

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

**Outcome #20**

**1. Outcome Measures**

(6.8f) number 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	Actual
2014	8

### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results**

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

## Outcome #21

### 1. Outcome Measures

(6.8g) number of 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 Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	6

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

**Outcome #22**

**1. Outcome Measures**

(6.9f) number of community residents practicing management tactics in residential landscapes and homes that work to sustain or enhance a healthy community and environment.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	17449

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
131	Alternative Uses of Land
134	Outdoor Recreation
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

**Outcome #23**

**1. Outcome Measures**

(6.9g) number of community residents with improved availability and access to fresh fruits and vegetables.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	6814

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
134	Outdoor Recreation

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

**Outcome #24**

**1. Outcome Measures**

(6.9h) number of community education/demonstration food gardens established or maintained

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2014	245

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

**Outcome #25**

**1. Outcome Measures**

DOUBLE UP FOOD BUCKS: INCREASES ACCESS TO HEALTHY, LOCAL FOODS

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2014	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

The demand for fresh local food in Western New York (WNY) is matched by a need for it to be affordable. In 2013, approximately 16% of individuals and 21% of households in the region received Supplemental Nutrition Assistance Program (SNAP) benefits. Overall obesity rates in WNY, which are particularly high in low-income communities, are higher than the state average, with obesity ranging from 29% of the total adult population to a high of 68% of adult residents in Buffalo. Many communities have low or no access to grocery stores, and cities are filled with areas designated as food deserts. Contrary to the needs for fresh food, the eight-county region is home to over 7,500 farms, 91% of which are small farms that utilize farmers markets as a marketing and sales outlet. And, while farmers markets are trending nationally as a sustainable and equitable food system, less than .03% of Supplemental Nutrition Assistance Program (SNAP) dollars are spent in farmers markets.

**What has been done**

Healthy food incentive programs at farmers markets have been gaining national momentum as a means to grow the local economy, support community farmers and provide greater access of healthy food to low-income families and individuals. Given these successes, the Harvest NY Team partnered with Field and Fork Network and Fair Food Network to develop Double Up Food Bucks (DUFBS) for WNY. DUFBS matches SNAP purchases of fresh fruits and vegetables at participating farmers markets up to \$20 per visit. DUFBS aims to improve access to and affordability of fresh fruits and vegetables for low-income consumers, increase business opportunities and revenue for small and mid-size farmers selling through farmers markets and inform federal food and agriculture policy in an effort to provide greater access of healthy foods to SNAP recipients and support programs that benefit local farmers.

**Results**

The program launched in late June/early July in seven farmers markets located in designated

food deserts in Erie, Niagara and Chautauqua counties. These seven markets serve as business outlets to over 175 farmers. Where this program is specifically designed to support fruit and vegetable programs, the incentive increases the purchasing power of SNAP customers, enabling them to spend their SNAP dollars on any SNAP eligible food item and their DUFB dollars on fruit and vegetables. This ensures that all farmers who produce food products have the potential to benefit from this program.

While new, program evaluation indicates that the following outcomes were realized: Over 3,100 Double Up Food Bucks transactions were processed, over 1,000 new SNAP customers came to the market, total food assistance dollars increased 415% and total SNAP dollars spent increased 219%, 92% of customers increased consumption of fresh fruits and vegetables, 97% of customers were very satisfied with the program, 86% of customers increased their trips to the farmers market, 88% of customers used the program multiple times, 70% of farmers are making more money, 62% of farmers reported having a new customer base.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

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

##### Brief Explanation

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)

##### Evaluation Results

**Evaluation Capacity Building:** Cornell Cooperative Extension has worked with the Cornell Office of Research and Evaluation (CORE) to strengthen evaluation practice and build evaluation capacity. CORE has developed a Protocol for evaluation that takes a systems approach, recognizing that individual programs and their evaluations are part of larger program portfolios and are shaped by needs and context at multiple levels of the Extension system. CORE has tested and refined this Protocol in partnership with CCE programs since 2006. A key step in the Protocol is to develop program models, in both familiar columnar



form as logic models and in a visual form called pathway models. These models form have helped focus evaluation efforts in Extension programs.

Beginning in 2013 and through 2014, CORE and CCE partnered to initiate program modeling and evaluation planning at the level of the statewide Plans of Work. This effort contributed to the review of near and midterm program outcomes and to the review and planning of several evaluation projects currently underway.

The Protocol has been integrated into professional development in CCE, to promote consistent approaches to evaluation of county-based, regional, and statewide programs.

**Regional/Statewide documentation examples.** Many of our regional and statewide programs are receiving federal capacity funds. Documentation of outcomes is a requirement of funding. Results shape future program efforts and impact program design. **An example evaluation practice can be found in the section below.**

**There is also a requirement for our local and regional programs to report on statewide outcomes/indicators:** Program documentation results are aggregated in a statewide accountability database that includes both qualitative and quantitative data for reporting and helping us to better understand impacts.

#### **Key Items of Evaluation**

## VI. National Outcomes and Indicators

### 1. NIFA Selected Outcomes and Indicators

<b>Childhood Obesity (Outcome 1, Indicator 1.c)</b>	
31369	Number of children and youth who reported eating more of healthy foods.
<b>Climate Change (Outcome 1, Indicator 4)</b>	
0	Number of new crop varieties, animal breeds, and genotypes with climate adaptive traits.
<b>Global Food Security and Hunger (Outcome 1, Indicator 4.a)</b>	
16147	Number of participants adopting best practices and technologies resulting in increased yield, reduced inputs, increased efficiency, increased economic return, and/or conservation of resources.
<b>Global Food Security and Hunger (Outcome 2, Indicator 1)</b>	
0	Number of new or improved innovations developed for food enterprises.
<b>Food Safety (Outcome 1, Indicator 1)</b>	
0	Number of viable technologies developed or modified for the detection and
<b>Sustainable Energy (Outcome 3, Indicator 2)</b>	
6	Number of farmers who adopted a dedicated bioenergy crop
<b>Sustainable Energy (Outcome 3, Indicator 4)</b>	
0	Tons of feedstocks delivered.