V(A). Planned Program (Summary)

Program # 3
1. Name of the Planned Program
Youth Development
☑ Reporting on this Program

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

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
<th>% 1862 Extension</th>
<th>% 1890 Extension</th>
<th>% 1862 Research</th>
<th>% 1890 Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Year: 2017</th>
<th>Extension</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1862</td>
<td>1890</td>
</tr>
<tr>
<td>Plan</td>
<td>30.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Actual Paid</td>
<td>6.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Actual Volunteer</td>
<td>2735.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>Extension</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1890 Extension</td>
<td>Hatch</td>
</tr>
<tr>
<td></td>
<td>1862 Matching</td>
<td>1862 Matching</td>
</tr>
<tr>
<td></td>
<td>1862 All Other</td>
<td>1890 All Other</td>
</tr>
<tr>
<td>Smith-Lever 3b &amp; 3c</td>
<td>413630</td>
<td>0</td>
</tr>
<tr>
<td>1890 Matching</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1862 All Other</td>
<td>2257456</td>
<td>0</td>
</tr>
<tr>
<td>1890 All Other</td>
<td>94291</td>
<td>0</td>
</tr>
</tbody>
</table>

V(D). Planned Program (Activity)
1. Brief description of the Activity

Positive Youth Development:
• Employ **Essential Elements** (belonging, independence, mastery and generosity) as the basis for life skill development and related workforce development skills.
  • Utilize **Experiential Education Model** (Experience, Share, Process, Generalize, Apply).

**Provide opportunities for youth to:**
• Feel and believe that they are cared about by others (Attachment, Belonging, Connection)
• Feel and believe they are capable and successful (Achievement, Mastery, Competence)
• Know they are able to influence people and events (Autonomy, Power, Confidence)
• Practice helping others through youth’s own generosity (Altruism, Purpose, Contribution)

**Subject matter: (USDA/NIFA Mission Mandates)**
Science, Engineering, Technology (includes: science literacy, animal science, plant science, environmental science, life sciences, etc) Citizenship (includes youth engagement, community youth development, community service, character development, civic engagement, etc) Healthy Lifestyles (includes chemical health, mental and emotional health, foods & nutrition, physical health and safety, etc).

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

• School Age Youth (K - 13, one year out of high school) and their Parents
• 4-H Volunteers (adult and youth)
• Teachers/Educators/other Youth Development Educators
• School Age Child Care Providers
• College Students (interns, collegiate 4-H)
• Other Extension Professionals and University Partners
• Communities: Stakeholders and Non-Profit, Social Service, Government Agencies
• Under-served and Under-represented Audiences

**Delivery modes:**
• 4-H Clubs and Related Activities
• 4-H Afterschool (clubs and short-term programs)
• School Enrichment
• Special Interest
• 4-H Camping (day camps and overnight camping)
• Mentoring and Individual Study

3. **How was eXtension used?**

Faculty used the following CoPs: Program Evaluation, Personal Finance, Community, Local and Regional Food Systems, Volunteer Administration. Faculty answered “Ask an Expert” questions, developed collaborative educational products, and conducted professional development sessions.

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

1. **Standard output measures**
<table>
<thead>
<tr>
<th>Year</th>
<th>Direct Contacts Adults</th>
<th>Indirect Contacts Adults</th>
<th>Direct Contacts Youth</th>
<th>Indirect Contacts Youth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual</td>
<td>69654</td>
<td>1792560</td>
<td>38781</td>
<td>401888</td>
</tr>
</tbody>
</table>

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

Patent Applications Submitted

Year: 2017
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

<table>
<thead>
<tr>
<th>Year</th>
<th>Extension</th>
<th>Research</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual</td>
<td>46</td>
<td>0</td>
<td>46</td>
</tr>
</tbody>
</table>

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- A variety of strategies will be implemented to reach target audiences. This will include and not be limited to workshops, field visits, classes, newsletters, media releases, electronic communications, and publications. In addition, a trained volunteer teaching base will be developed. Quantitative reports of participation will be collected.

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0</td>
</tr>
</tbody>
</table>
## V(G). State Defined Outcomes

### V. State Defined Outcomes Table of Content

<table>
<thead>
<tr>
<th>O. No.</th>
<th>OUTCOME NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Short Term - Youth increase awareness, knowledge, attitudes, and skills related to essential elements, workforce development, life skill development, and relevant subject matter. Volunteers increase knowledge and awareness of practices fostering positive youth development, including youth/adult partnerships. Youth development professionals and stakeholders increase awareness and knowledge of problems and solutions supporting positive youth development, including: policies that need to be addressed, community resources and support.</td>
</tr>
<tr>
<td>2</td>
<td>Medium Term - Youth apply knowledge, attitudes, skills, and behaviors needed to become competent, caring and contributing citizens by: taking on leadership roles in their youth organizations and schools, and working in partnership with adults in a variety of settings. Youth and adults demonstrate effective partnerships through increased youth participation on advisory committees and other governing bodies. Volunteers and youth development professionals apply practices fostering positive youth development.</td>
</tr>
<tr>
<td>3</td>
<td>Long Term - Youth demonstrate mastery and competencies needed to become engaged by assuming leadership positions in communities; developing and implementing action plans to address community needs, and becoming productive members of the workforce. 4-H youth are engaged partners in decision making regarding RCE programming including but not limited to 4-H youth development programming. 4-H alumni and volunteers become engaged citizens by assuming leadership positions in communities. Youth development professionals and stakeholders influence decision makers in policy development related to youth development needs and issues.</td>
</tr>
<tr>
<td>4</td>
<td>Horticulture - Short Term - Youth increase awareness, knowledge, attitudes, and skills related to essential elements, workforce development, life skill development, and relevant subject matter. Volunteers increase knowledge and awareness of practices fostering positive youth development, including youth/adult partnerships. Youth development professionals and stakeholders increase awareness and knowledge of problems and solutions supporting positive youth development, including: policies that need to be addressed, community resources and support.</td>
</tr>
<tr>
<td>5</td>
<td>New Jersey 4-H Dairy Program - Short Term - Youth increase awareness, knowledge, attitudes, and skills related to essential elements, workforce development, life skill development, and relevant subject matter. Volunteers increase knowledge and awareness of practices fostering positive youth development, including youth/adult partnerships. Youth development professionals and stakeholders increase awareness and knowledge of problems and solutions supporting positive youth development, including: policies that need to be addressed, community resources and support.</td>
</tr>
<tr>
<td>6</td>
<td>4-H Butterfly Pavilion - Short Term - Youth increase awareness, knowledge, attitudes, and skills related to essential elements, workforce development, life skill development, and relevant subject matter. Volunteers increase knowledge and awareness of practices fostering positive youth development, including youth/adult partnerships. Youth development professionals and stakeholders increase awareness and knowledge of problems and solutions supporting positive youth development, including: policies that need to be addressed, community resources and support.</td>
</tr>
<tr>
<td>7</td>
<td>Horticulture Therapy with Incarcerated Youth - Medium Term - Youth apply knowledge, attitudes, skills, and behaviors needed to become competent, caring and contributing citizens by: taking on leadership roles in their youth organizations and schools, and working in</td>
</tr>
</tbody>
</table>
partnership with adults in a variety of settings. Youth and adults demonstrate effective partnerships through increased youth participation on advisory committees and other governing bodies. Volunteers and youth development professionals apply practices fostering positive youth development.

<table>
<thead>
<tr>
<th>8</th>
<th>4-H Young Scientist - Medium Term -Youth apply knowledge, attitudes, skills, and behaviors needed to become competent, caring and contributing citizens by: taking on leadership roles in their youth organizations and schools, and working in partnership with adults in a variety of settings. Youth and adults demonstrate effective partnerships through increased youth participation on advisory committees and other governing bodies. Volunteers and youth development professionals apply practices fostering positive youth development.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Montclair Community Farms 4-H Association-Medium Term-Youth apply knowledge, attitudes, skills, and behaviors needed to become competent, caring and contributing citizens by: taking on leadership roles in their youth organizations and schools, and working in partnership with adults in a variety settings. Youth and adults demonstrate effective partnerships through increased youth participation on advisory committees and other governing bodies. Volunteers and youth development professionals apply practices fostering positive youth development.</td>
</tr>
</tbody>
</table>

**Outcome #1**

1. **Outcome Measures**

   Short Term - Youth increase awareness, knowledge, attitudes, and skills related to essential elements, workforce development, life skill development, and relevant subject matter. Volunteers increase knowledge and awareness of practices fostering positive youth development, including youth/adult partnerships. Youth development professionals and stakeholders increase awareness and knowledge of problems and solutions supporting positive youth development, including: policies that need to be addressed, community resources and support.

2. **Associated Institution Types**

   - 1862 Extension

3a. **Outcome Type:**

   Change in Knowledge Outcome Measure

3b. **Quantitative Outcome**

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0</td>
</tr>
</tbody>
</table>

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

   **Issue (Who cares and Why)**

   REAL LIFE Academy - Teens will soon be making the transition from living with their parents to living on their own. But are they prepared with the skills they need to make this transition? For instance, a study completed by the Organization for Economic Co-operation and Development
indicated that "more than one in six students in the United States does not reach the baseline level of proficiency in financial literacy. At best, these students can recognize the difference between needs and wants, can make simple decisions on everyday spending, and can recognize the purpose of everyday financial documents such as an invoice." In the past, schools provided basic cooking, sewing, and financial management skills through Home Economics programs. These types of programs are rarely offered in schools today. Where are teens learning these skills now? While many skills can be learned in the home, parents can use some help.

**What has been done**
The REAL LIFE Academy was designed to reach this need for teaching teen basic life skills. The format for the program was a one week long day camp for teens who had just completed grades 7, 8, and 9.

The goal of the REAL LIFE Academy is to introduce teens to skills they will need for life on their own including the following: financial management; cooking skills and meal planning (including shopping); consumerism skills; home care and laundry; automotive skills (change a tire, auto care basics); consumerism skills (grocery store field trip); basic nutrition; basic first aid; clothing care (sew on a button, iron a shirt, remove a stain); Basic etiquette -and more! The week included cooking everyday with a culinary arts teacher from the Salem County Vo-Tech to learn basic culinary skills. Another instructor from the Salem County Vo-Tech taught basic automotive information like fluids used in a car and how to change a tire. He also taught the teens to frame a wall. Financial management was taught each day with guest speakers and by using "My Financial Future" which is National 4-H curriculum. True Colors was used as one of the activities. Additional curriculum regarding etiquette and consumerism decision making came from Florida, Georgia, and Oklahoma 4-H. NJAES/FCHS personnel taught nutrition lessons each day and also conducted a session on the importance of physical activity and led a field trip to a local grocery store where teens learned about unit pricing. An educator from the County Health Department provided a basic first aid session. A representative from the USDA, taught a session on resume writing. A REAL LIFE Simulation where teens were assigned a career, marital status, number of children, and their credit status. They determined their net monthly income for the month and then needed to visit a dozen stations where they need to make choices for things like transportation, housing, insurance, groceries, child care, and amenities. The materials for the simulation were adapted from Florida 4-H curriculum. A 4-H volunteer and members of the Salem County Chamber of Commerce helped with the planning of the program.

**Results**
A retrospective pre-post survey indicated increases in:

- skills learned
- knowledge gained
- Greatest increases were seen in:
  - changing a tire
  - building a wall frame
  - knife skills
  - keeping a check register

When asked on thing they learned, teens indicated the following:

- Learned how credit works
- How to cook
- How to build a wall
- My love for herbs
- How to change a tire
- How to spend money wisely
- How to write a check
- Car liquids

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

Outcome #2

1. Outcome Measures

Medium Term - Youth apply knowledge, attitudes, skills, and behaviors needed to become competent, caring and contributing citizens by: taking on leadership roles in their youth organizations and schools, and working in partnership with adults in a variety of settings. Youth and adults demonstrate effective partnerships through increased youth participation on advisory committees and other governing bodies. Volunteers and youth development professionals apply practices fostering positive youth development.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

Youth Financial Education: Financial education for youth became a high priority in New Jersey following passage of a 2010 requirement for a semester of personal finance instruction prior to high school graduation. The mandate became effective starting with graduating high school seniors in 2014. As a result, demand is strong from teachers and school administrators statewide for training (both in financial subject matter topics and creative/interactive teaching methods) to build local capacity for delivering financial education. Most school districts have reassigned existing teachers to teach personal finance rather than hire new ones and they need professional development. A national study released in 2009 found that many teachers lack subject matter content knowledge and confidence to teach personal finance and need training to become successful. NJAES/RCE faculty and staff have been instrumental in state financial education capacity-building efforts. Responding to a Request for Information (RFI) from the NJ Department
of Education in 2012, RCE was selected by the NJ Department of Education to receive funds from credit unions to use for professional development for financial education teachers. Funding in 2017 supported two full-day teacher conferences, two after-school teacher workshops, three webinars, and the creation of seven new lesson plans as part of the development of a 'model curriculum' tied to New Jersey financial education core curriculum content standards.

What has been done
NJAES faculty worked closely with the NJ Coalition for Financial Education, the NJ Council for Economic Education, and the NJ Department of Education to deliver seven financial education teacher training events (two full-day workshops called Financial Education Boot Camp, two afterschool teacher workshops called Financial Education Teacher Exchange, and three one-hour webinars) during 2017 that collectively reached about 200 teachers. An NJAES faculty member also worked closely with the NJ Department of Education to develop seven new comprehensive personal finance lesson plans, shown below. Each lesson plan includes background content for the instructor, five interactive learning activities, learning extensions, a glossary, reference materials, and assessments. The new lesson plans, plus 11 others developed previously, are housed online. The seven new lesson plans developed in 2017 are listed below. The lesson plans have been viewed more than 1,000 times and shared via conferences and social media and include: Investing for Your Future; Credit Counseling: Where, When, and Why; The Purpose and Importance of Wills; The Costs and Benefits of Renter's and Homeowner's Insurance; Income Tax Exemptions and Deductions; Saving and Investing Strategies and Influences; Credit Report Basics: Analyzing and Disputing Information. Another youth education deliverable an NJAES faculty member's curation of financial education resources such as lists of created useful videos, online calculators, online quizzes, infographics, lesson plans, and more. A Next Gen Personal Finance blog post about the lists was widely distributed via social media and at conferences, thereby providing financial educators with resources to present personal finance content in creative and interactive ways.

Results
The teacher training programs, described above, had post-class evaluations that indicated that participants gained new knowledge, found the training sessions valuable, and planned to incorporate class material into their classroom lessons. Follow-up evaluations were conducted by the NJ Department of Education.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

Outcome #3

1. Outcome Measures

Long Term - Youth demonstrate mastery and competencies needed to become engaged by assuming leadership positions in communities; developing and implementing action plans to address community needs, and becoming productive members of the workforce. 4-H youth are engaged partners in decision making regarding RCE programming including but not limited to 4-H youth development programming. 4-H alumni and volunteers become engaged citizens by assuming leadership positions in communities. Youth development professionals and stakeholders
influence decision makers in policy development related to youth development needs and issues.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

4-H Rutgerscience Saturdays: The NJAES researchers designing this program strive to promote career interest in STEM fields through exposure to and interaction with the information, tools, and people in science. By interacting with scientist role models researchers and programming staff are motivating youth camp participants to feel like they can perform skills necessary to be a scientist.

**What has been done**

4-H Rutgerscience Saturdays is a Science Technology Engineering and Mathematics (STEM) program designed to connect middle school age young people to Rutgers University faculty and inspire them to become scientists and engineers. The program is designed to enrich young people's interest and competency in science, technology, and communications by having direct interaction with Rutgers University faculty, graduate and undergraduate students. The program offers middle school aged young people, the opportunity to engage in hands on activities and demonstrations that highlight a wide variety of STEM disciplines through Rutgers University. 4-H Rutgerscience Saturdays are offered in the fall and spring semesters predominantly on the Cook Campus of the School of Environmental and Biological Sciences. The program is a combination of demonstrations, tours, field experiences, and hands on activities around a different STEM theme. The focus is on creating opportunities for young people to experience skills and techniques used in a specific STEM discipline, with the assistance and guidance of a practicing Rutgers scientist. The program has offered programs in topics such as geology, entomology, oceanography, food sciences, and environmental sciences. A typical 4-H Rutgerscience Saturday involved 3-6 scientists interacting with approximately 40 young people.

**Results**

Youth attending 4-H Rutgerscience Saturdays report they enjoy meeting other science interested youth creating a sense of belonging. This year, two alumni of Science Saturdays were admitted as freshmen at Rutgers. An NJAES faculty member regularly meet with alumni for lunch and continue to offer support and advice. Although gains in content knowledge are no longer
measured, K-12 educators share with NJAES faculty that students bring their experiences back to the formal classroom in the form of reports and posters.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

Outcome #4

1. Outcome Measures

Horticulture - Short Term - Youth increase awareness, knowledge, attitudes, and skills related to essential elements, workforce development, life skill development, and relevant subject matter. Volunteers increase knowledge and awareness of practices fostering positive youth development, including youth/adult partnerships. Youth development professionals and stakeholders increase awareness and knowledge of problems and solutions supporting positive youth development, including: policies that need to be addressed, community resources and support.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

Horticulture: Teachers as well as military youth program staff are now expected to offer gardening activities to children in most school districts and all military installations in New Jersey. These requirements have been instituted in all geographic areas in the county as an effort to encourage healthier lifestyles through improved eating habits and also to demonstrate a more economical method for parents to provide fresh fruits and vegetables for their children.

**What has been done**

Teachers and staff members serving the Joint Base military youth program attended formal horticulture classes and participated in hands-on gardening activities over a period of three months. Following the initial training, participants worked with youth participants throughout the program. Objectives and goals included the following: Conduct soil testing and then amend the soil as indicated by the test results; Grow seedlings and transplant them; Map spacing of plants within the dimensions of the garden space available; Complete the lesson activities on plant pest
and disease identification; Keep written record to document progress and challenges throughout the season; Implement hands-on activities for youth to learn the horticulture science and grow vegetables in their garden. Curriculum was the 4-H Garden Project which includes the Helpers Guide distributed to participants.

**Results**

100% of participants reported knowledge gained in three areas: How to plan a garden to scale; Implement using lesson activities from the curriculum and helpers guide; Lead youth in a team effort to plan, grow, and harvest fresh vegetables. Observations by the Program Coordinator were reported as follows: Staff participants demonstrated increasing skill over time; effectively engaged youth in the hands on experience; youth were proud to display samples of their garden harvest at the county fair; the summer garden experience encouraged youth not only to work hard but also to be patient until they could finally harvest their "crop".

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

**Outcome #5**

1. **Outcome Measures**

   New Jersey 4-H Dairy Program - Short Term - Youth increase awareness, knowledge, attitudes, and skills related to essential elements, workforce development, life skill development, and relevant subject matter. Volunteers increase knowledge and awareness of practices fostering positive youth development, including youth/adult partnerships. Youth development professionals and stakeholders increase awareness and knowledge of problems and solutions supporting positive youth development, including: policies that need to be addressed, community resources and support.

2. **Associated Institution Types**

   - 1862 Extension

3a. **Outcome Type:**

   Change in Knowledge Outcome Measure

3b. **Quantitative Outcome**

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0</td>
</tr>
</tbody>
</table>

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

   Issue (Who cares and Why)
New Jersey 4-H Dairy Program: Animal Science projects continue to be one of the largest areas of involvement in the New Jersey 4-H Program. In the 2016-2017 4-H year there were 152 4-H Dairy Project members in the state and 33 adult volunteers working with them.

What has been done
Numerous educational events and competitions are provided on the county and state level to assess skills achieved including, subject matter knowledge and life skills. Events include: Dairy Quiz Bowls, Dairy Management Contest, Dairy Skill-a-thon stations, Dairy Judging contest, as well as county and the state 4-H Dairy Shows.

Results
Preparing for participation in these state events, youth apply what they’ve learned and increase their development of life skills. While each event/competition has unique objectives, there are several similarities in the events such as: demonstrating best practices in fitting and showmanship for species/breeds; demonstrating best practices in selecting project animals; applying learned skills in animal selection through judging events; practicing oral and written skills in placing animals in judging events; demonstrating and applying skills learned through hands-on activities of skill-a-thon stations; applying ethics and good sportsmanship State.

4-H Dairy Quiz Bowl- Twenty Five (25) participants from four counties competed in a Quiz Bowl contest to test their knowledge of the dairy industry. Youth competed in a Jeopardy type competition and a formal speech competition for the New Jersey Holstein Association, and a poster display. From this competition one four-member Quiz Bowl team competed in the National Holstein Convention competition in Washington State. One New Jersey 4-H member also youth gave a speech at the National Holstein contests. In the dairy judging contest youth learn the life skills of observation and evaluation techniques, public speaking and decision making. In 2016, Eighteen (18) youth from three counties participated in the event. Of that group, 4 youth participated in the National 4-H Dairy Judging contest in Wisconsin. At the State 4-H Dairy Show, 36 4-H members from five New Jersey Counties were in the show this year with 75 animals. Youth learned how to select, fit and show an animal to the best of their ability. They also learn sportsmanship and cooperative learning techniques as many of the members work together to help clip and wash their animals prior to the show. Older 4-H members mentor and assist younger members in teaching their animals to walk on the halter. For the National 4-H Dairy Conference, one teen member was selected to attend the National 4-H Dairy Conference. Those youth participated in hands on workshops, heard world class speakers on topics such as dairy careers, and visited several dairy related agribusinesses. State 4-H Dairy Clip-off Competition - This competition allow for 4-H youth to practice and display the skills they have learned in their club for preparing a young dairy heifer for show. Youth work in teams and are randomly assigned an animal from the College Dairy Herd. Given one hour to clip, brush and trim the animals, they are then critiqued by a 4-H alum judge. In 2017, 35 youth from 3 counties participated in this competition.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>
Outcome #6

1. Outcome Measures

4-H Butterfly Pavilion - Short Term - Youth increase awareness, knowledge, attitudes, and skills related to essential elements, workforce development, life skill development, and relevant subject matter. Volunteers increase knowledge and awareness of practices fostering positive youth development, including youth/adult partnerships. Youth development professionals and stakeholders increase awareness and knowledge of problems and solutions supporting positive youth development, including: policies that need to be addressed, community resources and support.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
4-H Butterfly Pavilion: According to OH State, Monarch Butterflies face a number of serious threats to their survival, several of which homeowners can help eradicate. The loss of native milkweed stands associated with habitat destruction and increased agricultural herbicide use means less food for larval (caterpillar) monarch butterflies. Loss of late-summer nectar sources means less food to fuel the adults, including fourth-generation adults on their migration journey. Insecticide use on host or nectar plants can harm or kill monarch caterpillars or adults.

What has been done
4-H of Warren County New Jersey built a butterfly pavilion in their 4-H building on their fairgrounds to be opened to the public during their eight day fair. The public enter the enclosed antechamber where they are instructed about safety while in the pavilion, learn how to identify the species of butterflies within the pavilion, and with 1-2 interesting facts about each species. They are then invited to enter the pavilion, following a small winding path filled with flowers, water elements, and live butterflies. They can feed the butterflies using Q-tips and delicious, sugary Gatorade made available. Upon exiting the pavilion, guests check for winged hitch-hikers in the enclosed exit room and learn how important butterflies are as pollinators and how to combat the decline of their habitat by attracting them in their gardens at home. The pavilion is the key element in recruiting new members especially for a newly formed bee and butterfly club in the county to further the work of building butterfly habitats.
Results
Participants who went through the butterfly pavilion became aware of the indigenous pollinators and their behaviors and needs to flourish. Of particular focus was the threat to Monarch butterflies, which only lay eggs on milkweed. Habitat shrinkage due to herbicides and urban sprawl are of great concern as well. Over 2000 fair goers raised $750 by going through the pavilion in 2017.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

Outcome #7

1. Outcome Measures

Horticulture Therapy with Incarcerated Youth - Medium Term - Youth apply knowledge, attitudes, skills, and behaviors needed to become competent, caring and contributing citizens by: taking on leadership roles in their youth organizations and schools, and working in partnership with adults in a variety of settings. Youth and adults demonstrate effective partnerships through increased youth participation on advisory committees and other governing bodies. Volunteers and youth development professionals apply practices fostering positive youth development.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Horticulture Therapy with Incarcerated Youth: The Union County Juvenile Detention Center houses youth awaiting judicial proceeding and or more permanent placement in the state corrections system. The majority of the youth have lead impoverished lives. Regardless of their background this time of incarceration is a stressful period for these adolescents. Alleviating their anxiety and helping them develop skills for their release is of critical importance. Also, a part of stress/anxiety relief is exercise and good nutrition. The horticulture therapy provides both.

What has been done

Report Date 05/11/2018
4-H has created a horticulture therapy program for the youth. Youth are introduced therapeutic elements of horticulture and the goal is to instill in them life skills of persistence and perseverance. On a regular basis the NJAES/RCE faculty and staff in Union County met with the youth to plan, plant and maintain a horticulture therapy area. In the area ornamentals are grown and then given as gifts to their visitors. Additionally, produce is grown in the garden and used as the focal point of nutrition lessons.

Results
The program is well supported by the administration of the Union County Human Services Department. Approximately 35 youth participated in the program in 2017. In 2017 they grew crops of sweet corn, tomatoes, sunflower seeds, watermelons, cantaloupes, peppers, tomatoes, cucumbers, sweet potatoes, carrots and strawberries. All of the food harvested is consumed by the residents. Greatly contributing to good nutrition and anxiety relief.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

Outcome #8

1. Outcome Measures

4-H Young Scientist - Medium Term -Youth apply knowledge, attitudes, skills, and behaviors needed to become competent, caring and contributing citizens by: taking on leadership roles in their youth organizations and schools, and working in partnership with adults in a variety of settings. Youth and adults demonstrate effective partnerships through increased youth participation on advisory committees and other governing bodies. Volunteers and youth development professionals apply practices fostering positive youth development.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

4-H Young Scientist: In urban public schools, many students and their families are living with a severe economic disadvantage. Unlike suburban and rural school districts, urban school districts
operate in densely populated areas serving significantly more students. Typically there is low student achievement in these areas, a lack of instructional coherence. Urban schools are often bombarded with many, sometimes contradictory, instructional initiatives and approaches and can easily become fragmented. Moreover, the professional development used to launch these initiatives that support teachers' continued learning is too frequently ineffective. Given the great needs of the students served by them, urban school systems are often under-resourced. They are defined both by their geography and their demographics, with urban schools overall having higher than average rates of poverty, immigrant students, English language learners, and students of color. Effective science and technology education is critical for the success of urban youth. Disadvantaged urban schools face a host of challenges, including lack of resources, limited school leadership, and ineffective curricula, all of which impact negatively on science teaching and learning.

What has been done
The Young Scientist program is an informal, hands-on science series that utilizes curriculum from The Young Scientists Club, 365 Awesome Science Experiments, Design It!, and Explore It! It provides youth an opportunity to perform experiments and reinforces science concepts that are appropriate for in-school enrichment and the out-of-school time setting. This is a one to three-month long science program, delivered once a week to youth enrolled in various afterschool programs, camps, and during school enrichment scheduled activities. The Young Scientist program has reached over 400 students in the past year. It encompasses a buffet of science topics, each week a new topic is accompanied by an exciting activity. Educational, yet fun activities are used to explore science principles found in disciplines like food science, kitchen science, animal science, bubble science, rainbow science, engineering, and much more.

Results
According to the teachers, the Young Scientist program excites and engages the students with projects that include hands-on science experiments. With these activities they learn and discover more. The combination of hands-on experiments and inquiry-based learning is especially effective with students that may otherwise be difficult to reach academically. This curriculum grabs the student who otherwise may not be interested in science, even the student that may not be interested in school. They love that there is a product produced by the end of each class, which makes them proud that they have accomplished the task. To measure the impact of the Young Scientist curriculum on student learning, there was a post-program evaluation completed by the students. On the evaluation, students indicated that they learned a lot about how to complete an experiment, science concepts, and teamwork. The evaluations also indicated most students acquired scientific-inquiry skills and analytical skills. They would utilize this info to: share with their siblings, help with career exploration, inspire them to pick a career in science, find out how things work, increase their grades in science during school, spark creativity, develop science fair projects, and become smarter.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>
Outcome #9

1. Outcome Measures

Montclair Community Farms 4-H Association-Medium Term-Youth apply knowledge, attitudes, skills, and behaviors needed to become competent, caring and contributing citizens by: taking on leadership roles in their youth organizations and schools, and working in partnership with adults in a variety settings. Youth and adults demonstrate effective partnerships through increased youth participation on advisory committees and other governing bodies. Volunteers and youth development professionals apply practices fostering positive youth development.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Montclair Community Farms 4-H Association: The Montclair Community Farms 4-H Association serves as hands-on resources that engages the community in urban farming, sustainable agriculture, affordable food access, and healthy food and lifestyle choices. The main anticipated outcome was to serve the senior population to increase their consumption of healthy locally grown produce. Other anticipated outcomes included; increased participation in our Urban Youth Farming Program, increased participation in our Farm Camp, a greater number of volunteers to support growing efforts, and expansion of community partner connections to create synergistic health and wellness outcomes.

What has been done

The Montclair Community Farms 4-H Association (MCF) supports community garden sites, community partnerships and programs that educate the community and youth farmers in urban farming, sustainable agriculture, and healthy food and lifestyle choices. Association members include staff and faculty representatives from HOMECorp, Montclair Department of Health and Human Services, Montclair History Center, Montclair State University, NJAES/RCE 4-H faculty/staff, Master Gardeners, and Montclair DIGS, and youth advisory members. Together, the association supports staff and volunteers to offer a seasonal mobile farm stand, a seasonal community garden including chickens and bees, and year-round educational programs and volunteer opportunities. MCF has been active in the community since 2012 and is growing stronger each year. Each year, impact is evaluated, community needs are reassessed, and an
action plant is creating for the coming growing season. The main focus in preparing for the 2017-growing season was to increase access to and quantity of locally grown food made available to community members, specifically seniors. MCF’s mobile farm stand has expanded into the community during the 2017 season. The farm doubled its outreach with continued weekly visits to three Montclair senior sites. The team is looking to expand community garden opportunities for local residents. Now on its third mobile farm stand season, MCF has developed relationships with community sites and serves as a dependable resource for fresh, organic, affordably-priced food serving those in the community with lower and/or fixed incomes. MCF is now able to accept USDA SNAP Food Stamps, enabling patrons to use their SNAP funds to purchase fresh produce directly. MCF will be able to market this service at the beginning of the 2018 season to its familiarly at the start to patrons. MCF continued to offer bi-monthly volunteer opportunities at farm sites to the public totaling over 1050 volunteer hours at service days. Staff also continued to work in partnership with the 4-H youth farmer club program for mobile stand success totaling over 250 youth volunteer hours. The youth farm camp also expanded this year by offering 3 half day camp week options and adding a fourth week full day option focusing on farm to table, top chef style. All camp weeks were a success and brought in additional funds to support an assistant farmer position for the next growing season and maintenance costs.

Results
513 volunteers totaling over 1,000 hours; 602 Seniors and community members served with the mobile farmstand. 4-H Youth Farmers (weekly from July - October, 5-13 youth varied by week; 4-H Chicken Club (monthly beginning in September, 5-7 kids each month); 4-H Farm Camp (4 camp weeks, ranging from 25-35 kids each week); Farm Camp Youth Survey Data Week 3 of camp (RCE Youth evaluation for grades K-3); n=28; 50% of youth indicated they learned a lot and 43% indicated they learned some about where their food comes from. 61% of youth indicated they learned a lot and 25% indicated they learned some about growing food. 68% of youth indicated they can teach someone in their family about what they learned; 92% of youth indicated they want to learn more Farm Camp Youth Survey Data Week 4 of camp (RCE Youth evaluation for grades 4-12) n=17; 71% want to learn more about gardening/food; 59% plan to share what they learned; 82% indicated that they learned about community food needs; 83% indicated that the info presented was useful Farm Camp - Parent Survey Data - Parent surveys were sent out at the end of each week of farm camp to understand family perceptions of farm camp and opportunities for program improvement. n=36 (surveys were sent to 79 families); 96% of families indicated that they felt adequate measures were in place to ensure your child’s safety. 96% of respondents indicated that their child shared a positive experience from farm camp. 100% of parents indicated being satisfied with the daily lessons and learning goals. Comments include: "Joseph loves farm camp. It was his third year. We wish it were longer!!! Maybe starting earlier???? Thank you. Perhaps more exposure to animals. My daughter loved her week at farm camp so I am very happy with everything that she was exposed to but more animals would have been great. Senior Survey Data - In partnership with Montclair State University, surveys were administered at 4 of the senior sites that the MCF mobile farm stand serves to better understand our impact and opportunities for program improvement. n=33 - 36% of farm stand customers tried New Vegetable; 75% shared vegetables with family or friends; 82% indicating eating more fresh vegetables as a result of the farm stand; 58% Shopped at MCF Weekly; 100% indicated they would shop at the farm stand the following year; 5.3 of 6 Satisfaction rating for Convenience; 5.9 of 6. Satisfaction rating for Offerings - 2.9 of 3 for Quality better than regular grocer. 4.3 of 5. Satisfaction rating for Price Produce Grown/Supplemented Orange Road/Miller Street: about 550 pounds recorded. Supplemented: about 1,050 pounds recorded. Eggs: 547 recorded; Over 1000 pounds of food was purchased by community members raising $1,500.
4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

V(H). Planned Program (External Factors)

External factors which affected outcomes
- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)
- Other (Youth risk factors)

Brief Explanation
None to report.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

NJAES research and extension outcomes related to this planned program were evaluated utilizing a variety of evaluation methods appropriate for each initiative to determine effectiveness on both a qualitative and quantitative level. For KASA and practice change we included the measurement of knowledge gained as measured by pre/post Likert-scale assessments. Surveys were used to measure increase in skills acquired, behavior change and practice adoption. For process evaluation we focused on program delivery, participation, relevance and timeliness. Data was collected at appropriate times for each initiative that supports this planned program. IRB approved evaluation instruments were used to collect research and extension data. Data analyses and comparisons relevant to basic and applied research and demonstration were collected and analyzed and reported utilizing a variety of data collection methods appropriate to each research question. The major goal of evaluating is the demonstration of social, economic, behavior and environmental changes in conditions that contribute to improved quality of life as a result of participation in programs and benefits of research solutions. See state defined outcomes for detailed results of each initiative.

Key Items of Evaluation
None to report.