V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Sustainability of NJ Equine Industry and Its Impact on Agriculture and Open Space

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>
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<tbody>
<tr>
<td>301</td>
<td>Reproductive Performance of Animals</td>
<td>20%</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>302</td>
<td>Nutrient Utilization in Animals</td>
<td>20%</td>
<td>20%</td>
<td></td>
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<tr>
<td>303</td>
<td>Genetic Improvement of Animals</td>
<td>20%</td>
<td>20%</td>
<td></td>
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<tr>
<td>312</td>
<td>External Parasites and Pests of Animals</td>
<td>20%</td>
<td>20%</td>
<td></td>
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<tr>
<td>315</td>
<td>Animal Welfare/Well-Being and Protection</td>
<td>20%</td>
<td>20%</td>
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<tr>
<td></td>
<td><strong>Total</strong></td>
<td>100%</td>
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V(C). Planned Program (Inputs)

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

<table>
<thead>
<tr>
<th>Year: 2009</th>
<th>Extension</th>
<th>Research</th>
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<tr>
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<tr>
<td>Actual</td>
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2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

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<thead>
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<th></th>
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<th>Research</th>
</tr>
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<tbody>
<tr>
<td>Smith-Lever 3b &amp; 3c</td>
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<td>1862 Matching</td>
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</table>

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Share the results of the 2006 Economic Impact Study
- Horse Management seminars and Equine Science Update-county and statewide
- Maintain Research-based websiteConduct research to impact policy decisions for industry
- Conduct Roundtables
- Produce research based materials
- Hold Annual Stakeholder meeting to identify issues of importance
- RUBEA &dash advisory committee to facilitate the opportunity to network within the industry
- Public relations and promotions
- Actively engaged as outside speakers for the industry State 4-H horse program
- Perform consultations to individuals and agricultural organizations
- Facilitate the opportunity to network within the industry
2. Brief description of the target audience

- Equine users-including, students/youth, equestrians, owners
- Equine professionals: veterinarians, researchers, industry leaders, farmers, service providers, trainers, breeders, stable managers
- Legislators/Government Officials/Industry Officials e.g. Racing Commission, Sport and Competition Officials (FEI, USEF)
- Educators
- General public

V(E). Planned Program (Outputs)

1. Standard output measures

<table>
<thead>
<tr>
<th></th>
<th>Direct Contacts Adults</th>
<th>Indirect Contacts Adults</th>
<th>Direct Contacts Youth</th>
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<td>55643</td>
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</table>

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

Patent Applications Submitted

Year: 2009
Plan: 1
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

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<tr>
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</tr>
</thead>
<tbody>
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<tr>
<td>Actual</td>
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<td>18</td>
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</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.

Not reporting on this Output for this Annual Report
## 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>
</table>
| 1 | Short Term  
New Jersey residents and government officials will be made aware of the importance of the equine industry.  
Equine enthusiasts take leadership roles to unify the industry and will acquire knowledge to support the industry's sustainability.  
Equine industry segments will learn the importance and benefits of speaking in one voice. |
| 2 | Medium Term  
Diverse equine-related units are organized into one voice.  
Misperceptions by the general public re: the segments of equine industry are corrected.  
All uses of the horse are recognized as agricultural by local and state government officials. |
| 3 | Long Term  
Equine industry is unified and is economically sustainable.  
Equine industry is recognized as a critical component of the economic development, of traditional agriculture, and the preservation of open space. |
| 4 | Horses 2009-Medium Term  
Diverse equine-related units are organized into one voice. Misperceptions by the general public re: the segments of equine industry are corrected. All uses of the horse are recognized as agricultural by local and state government officials. |
| 5 | Equine Risk Management-Long Term  
Equine industry is unified and is economically sustainable. Equine industry is recognized as a critical component of the economic development, of traditional agriculture, and the preservation of open space. |
Outcome #1

1. Outcome Measures

Short Term New Jersey residents and government officials will be made aware of the importance of the equine industry. Equine enthusiasts take leadership roles to unify the industry and will acquire knowledge to support the industry's sustainability. Equine industry segments will learn the importance and benefits of speaking in one voice.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Medium Term Diverse equine-related units are organized into one voice. Misperceptions by the general public re: the segments of equine industry are corrected. All uses of the horse are recognized as agricultural by local and state government officials.

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>Quantitative Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>35000</td>
<td>0</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

New Jersey Horse Program

With our children falling behind other countries in scientific knowledge, and New Jersey farmland still being converted into housing developments at such a rapid rate, there continues to be a great need for 4-H agricultural science programs especially in animal science. In these programs youth gain an understanding of such a wide array of science topics from anatomy, physiology, nutrition and health that can transfer to interest in careers in medicine, nutrition, pharmacology, and research. Youth also gain skills in animal management that can relate to equine careers in racing, veterinary science, nutrition and feeding, breeding and reproduction and riding and showing. Giving youth the opportunity to find what interests them and potential career paths is very important. These youth and their parents help to keep agriculture viable in New Jersey. This is a topic of great importance to all New Jersey residents. The Equine industry is a multimillion dollar force in the New Jersey economy.

What has been done

The New Jersey 4-H Horse Project continues to be one of the largest projects in the state with over 1,600 club members in 2009. Youth grades 1-13 from almost every county in the state can and do participate in some fashion. Many of these youth are involved because they love horses and want to work with these animals in some capacity. The subject matter, life and workforce skills these youth gain from participating in this program are exception because there are so many different opportunities for youth to learn, and so many different ways for this learning to take place.

Some of these members and groups may never have a live horse to work with, but they learn through reading books, taking field trips, using models, watching educational videos, inviting equine professionals to do a workshop, talk or demonstration for their club. 4-H Horse Club members study anatomy, styles of riding, feeds, nutrition and feeding, tack and equipment, reproduction, training, breed identification, equine physiology and more.

The 4-H Model Horse Project helps youth who may not otherwise have access to a live horse the opportunity to
learn about equine science topics. In 2009 twenty five (25) youth from 5 counties participated in the show. New Jersey Equine Presentations.

Youth in the program learn to do in depth research on a subject and present it to a crowd. The subject matter must be correct and their presentation skills must be excellent to succeed in this contest. Fifteen (15) youth from five counties participated in Formal Speeches, Team Presentations and Demonstrations. The Equine Presentation team consists of an individual presentation, a speech, and a team presentation this team competed in the Eastern National Round Up competition in Kentucky. One hundred and forty five (145) competitors (36 teams) from 12 counties participated in the New Jersey 4-H Horse Bowl. Horse Judging includes evaluating a class of 4 horses and judging or placing them first, second third and forth in their class. There is an oral reasons component in which the member must defend their reasons for placing the class the way they do. Participating in this county team helps youth learn how to evaluate equines, identify different breeds, coat colors and conformational faults as well as select animals for breeding and soundness for a discipline. They gain confidence in their oral speaking abilities and decision making skills.

Eighty nine (89) competitors, twenty five (25) teams competed in this contest representing eleven (11) counties. From this group, 4 individuals worked with a coach to compete at Eastern National 4-H Round Up and Quarter Horse Congress.

The format for Hippology competition includes a Horse Judging component and skillathon stations which present a varied number of situations and problems which the member and team must solve. The topics of the stations run across a broad range of topics related to equine science including feeds and feeding, nutrition, foaling and reproduction, types of equipment, breeds and coat colors and styles of riding or types of competition.

One hundred and eight (108) competitors, thirty one (31) teams from 11 counties competed in this state event. From this group, 4 individuals represented New Jersey at the Eastern National 4-H Round Up Competition.

Results
Participants in the 4-H Horse Program, report learning life and subject matter skills. Results from evaluations revealed the following results:

- 90% said 4-H taught them how to get along with other people.
- 85% said they learned communication skills
- 84% said the 4-H Horse Program teaches children about all aspect of the horse
- 80% agree that 4-H taught them the importance of taking part in community service projects.
- 80% said 4-H taught them to be a better person.
- 78% said they learned about conformation and balance
- 75% said they learned about the horse's anatomy and physiology
- 75% said that they learned everything they know about horses from the 4-H program
- 70% agree that 4-H has improved their public speaking skills.
- 58% said they learned about time management
- 51% said being a part of the County 4-H Hippology Team taught them to be a team player

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>301</td>
<td>Reproductive Performance of Animals</td>
</tr>
<tr>
<td>302</td>
<td>Nutrient Utilization in Animals</td>
</tr>
<tr>
<td>303</td>
<td>Genetic Improvement of Animals</td>
</tr>
<tr>
<td>312</td>
<td>External Parasites and Pests of Animals</td>
</tr>
<tr>
<td>315</td>
<td>Animal Welfare/Well-Being and Protection</td>
</tr>
</tbody>
</table>

Outcome #3

1. Outcome Measures

Long Term Equine industry is unified and is economically sustainable. Equine industry is recognized as a critical component of the economic development, of traditional agriculture, and the preservation of open space.

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>Quantitative Target</th>
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</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
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</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Functional Equine Best Management Practices

Current environmental issues facing today's farmers, including impacts of erosion and animal waste runoff from poorly maintained pastures, and adverse effects of improper manure storage and management.

What has been done
Self-guided tour allows farmers, horse owners and agriculture specialists to visit the farm on their own or in their own groups, tour each BMP on the farm. Each BMP is also highlighted on the new virtual farm tour published on the Equine Science Center (esc) website (www.esc.rutgers.edu) for those who are not able to come to the farm itself. The BMPs include the following: Compost Area, Rotational Grazing System, Biofiltration Swale, Back Paddock Drainage, Manure Storage Area, Rain Garden and Front Paddock Drainage, Forage Demonstration Plots and Whole Farm Nutrient Management Plan.

Results
The ESC at Rutgers' NJAES serves as a showcase for NJ, combining agricultural and environmental engineering principles. These principles not only apply to equine facilities but many farm animal operations. The project targets constructing stormwater BMPs to address several observed nonpoint sources of pollution at the ESC including roadways, paddocks, pastures, rooftops, and agricultural fields. These constructed stormwater BMPs are evaluated for their pollutant removal efficiency over time as well as their ability to minimize the water quality impacts from the impervious surfaces at the ESC. The ESC is also used to demonstrate the results of good pasture management practices to minimize the environmental impact of these farms, such as properly timed soil test-based fertilizer applications, weed identification and control, frequent mowing, rotation, and renovation.

The project has many environmental returns. This type of education is needed for NJ since there are many areas that are rapidly urbanizing. The BMPs are perfect for working on the urban fringe. According to the 1996 NJ Equine Industry Survey, there are 7,600 farms with 49,000 horses in the state. In addition, there are 260,000 total acres devoted to equine production and use. With the approximate 450,000 tons of manure per year that is produced in NJ, the ancillary benefits of our program helps farmers stay out of regulatory problems, help keep the industry viable, and help decrease water pollution to area waterways. Other sources of funding for research on the pasture, manure and stormwater systems are being explored. Due to the magnitude of this project there has been a lot of interest in the Northeast through other universities and environmental organizations.

Other educational projects besides the self-guided tour and the virtual tour on the ESC website have taken place over the last few years and plan to continue.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>301</td>
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</tr>
<tr>
<td>315</td>
<td>Animal Welfare/Well-Being and Protection</td>
</tr>
</tbody>
</table>
Outcome #4

1. Outcome Measures

Horses 2009-Medium Term Diverse equine-related units are organized into one voice. Misperceptions by the general public re: the segments of equine industry are corrected. All uses of the horse are recognized as agricultural by local and state government officials.

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>Quantitative Target</th>
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</thead>
<tbody>
<tr>
<td>2009</td>
<td>(No Data Entered)</td>
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</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Horses 2009

Horse owners, horse farm owners and managers, veterinarians, educators, key horse industry people as well as those involved in the racing business need to maintain updated knowledge and training, which is essential to a viable and thriving equine industry. Our audience members were mostly from the NJ, NY and PA areas as well as from DE and even as far as IL and MT. Veterinarians and vet techs who attended both days of the conference earned eleven hours of Continuing Education credits. The curriculum emphasized topics such as horse health, nutrition, behavior, and subjects related to good horse-keeping.

What has been done

The Horses 2009 educational conference, which attracted approximately 800 attendees, partners, sponsors and speakers. This event took place March 28-29, 2009. The event was organized entirely by the Rutgers Equine Science Center, with input and participation by Cornell University, the University of Delaware, the University of Maryland, the University of Vermont, Centenary College, and Delaware Valley College.

Results

Results from program evaluations were outstanding. In every aspect of the evaluations, the overwhelming majority of respondents gave the program, speakers and overall content a good to excellent rating. Out of a possible four points, the program received a ranking of 3.7. Virtually all respondents (99 percent) said they would use the knowledge they learned at Horses 2009 to change and improve their own activities and procedures.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
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</tr>
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<tr>
<td>301</td>
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<td>Animal Welfare/Well-Being and Protection</td>
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</table>
Outcome #5

1. Outcome Measures

Equine Risk Management-Long Term Equine industry is unified and is economically sustainable. Equine industry is recognized as a critical component of the economic development, of traditional agriculture, and the preservation of open space.

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>Quantitative Target</th>
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<tbody>
<tr>
<td>2009</td>
<td>(No Data Entered)</td>
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</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Equine Risk Management

The equine industry generates $1.1 billion in economic impact annually for New Jersey and includes over 7,000 operations. The horse industry in southern New Jersey is comprised of a few large operations and many smaller ones, including "backyard farms." Two legal risks have recently been identified that smaller equine operations might not be aware of: newly adopted rules to make Animal Waste Management Plans (AWMP) a requirement for farms and "New Jersey Sales and Use Tax Act" applications to equine businesses.

What has been done

A workshop was held that addressed the AWMP and Sales Tax issue, as well as several other risk management topics relevant to horse farm owners. These included: Current and Emerging Equine Health Issues, The Unwanted Horse Problem in the U.S., Feed Supplements: Using Them Wisely, and Equine Right to Farm. Flyers were posted in feed stores and other businesses frequented by horse farm owners, ads were placed in local newspapers, and a radio segment was aired advertising the meeting. The goal was to inform horse farm owners of the new legal issues through advertising, which would encourage them to attend the meeting to learn how to comply with the rules.

Results

End of the program evaluations revealed that:
- 94% felt that they better understood the rules for Animal Waste Management Plans, and 33% said that they intended on developing a Plan for their facility.
- 83% of responders felt that they understand the implications of the "New Jersey Sales and Use Tax Act," 27% had assessed their own operation's compliance with it.

Two evaluation responders noted that they would be downsizing their herd as a result of the meeting, and several will be making feed changes and developing Animal Waste Management Plans.

A follow-up survey revealed that:
- 70% of participants had utilized the binder or CD provided to look into developing an Animal Waste Management Plan
- 50% had taken steps toward developing a plan
- 40% of responders had implemented the Sales and Use Tax in their operations (an additional 50% were not affected by it).

4. Associated Knowledge Areas

<table>
<thead>
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<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>
301 Reproductive Performance of Animals
302 Nutrient Utilization in Animals
303 Genetic Improvement of Animals
312 External Parasites and Pests of Animals
315 Animal Welfare/Well-Being and Protection

V(H). Planned Program (External Factors)

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

**Brief Explanation**

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

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

**Evaluation Results**

{No Data Entered}

**Key Items of Evaluation**

{No Data Entered}