

# Report and Recommendations

## NORTHEAST MULTISTATE ACTIVITIES COMMITTEE TELECONFERENCE

Sheraton Portsmouth Harborside Hotel – **Gardner Room**

**Monday, September 24, 2012 [1:00-2:00PM]**

**Chair, Kirby Stafford III (CT-NH)**

**Members: Tim Phipps (WV), Fred Servello (ME), Gary Thompson (PA),  
Bob Schrader and Bill Hare (NEED)**

**Present:** Kirby Stafford III, Fred Servello, Gary Thompson, Bill Hare (by phone), Dan Rossi and Rubie Mize (Recorder)

1. Request to Write a Proposal for a Multistate Project entitled, “Commercial Greenhouse Production: Component and System Development”, 10/2013-9/2018 [Renewal of NE1035]

**Action:** Recommends approval of the Request to Write. The proposal should clearly demonstrate integration across areas and institutions; extension involvement; and should focus on vegetable production. The committee recommends working on the three topic areas with a focus on vegetable production, rather than separating vegetable as a fourth area of research. MAC noted and thanked Advisor Ashworth for the midterm review.

2. Request to Write a Proposal for a Multistate Project entitled “Biological Improvement of Chestnut through Technologies that Address Management of the Species, its Pathogens and Pests”, 10/2013-9/2018 [Renewal of NE1033]

**Action:** Recommends conditional approval of the Request to Write pending receipt of a midterm review. MAC noted that the group is very productive with a strong stakeholder support.

3. Midterm Review of NE1010: Breeding and Genetics of Forage Crops to Improve Productivity, Quality, and Industrial Uses, 10/2002-9/2017, submitted by Advisor Donald Viands (NY) - For information only, NE1010 is in its 10<sup>th</sup> year of implementation.

**Discussion:** MAC thanked and commended Advisor Viands for the midterm review, and noted the progress and accomplishments of the project.

4. NRSP Review Committee (NRSP RC) Recommendations

**Discussion:** The NRSP RC had met twice this year. The required match for NRSP9 has been met so the committee is putting it forward for approval.

The NRSP RC recommends the following changes in the NRSP Guidelines and will be voted on at the ESS Meeting together with the FY2012-13 off-the-top funding:

- 5 year budget approvals for new and renewing projects
  - Typically there would be no more than 2-3 projects under consideration for five year renewal in any given year allowing for in depth discussion if needed.
  - Implement 3rd year interim review to assess progress toward goals, objectives and funding targets.
    - The interim review would be provided to the Directors as part of the committee's report at the regional association summer meetings and may include a recommendation for the reduction of funding if adequate progress has not been made.
  - Stipulation that if Hatch funds are reduced, NRSP funding would also be reduced by the same percentage.
- All NRSPs should expect a finite time frame for off the top support after which resources would decline to a maintenance level (e.g. \$50,000 to \$100,000/year).
  - This would allow the project to maintain visibility as an NRSP and would also provide a conduit for outside resources to leverage AES funds.
  - An excellent example of this can be found in the history of NRSP-3.
- The NRSP RC recommends that an upper limit be established on the total funds that can be expended on NRSP projects.
  - The committee suggests \$2,000,000 annually, which is slightly higher than the current \$1.731 million but still well less than 1% of Hatch.
  - This limit combined with more effective management and planned reduction of funding to existing projects would facilitate the development of new high priority NRSPs.

#### 5. NIMSS Update and Multistate Research Issues:

- Involvement of Extension Directors in Multistate Projects/Activities
  - i. Extension Dirs. were given the same approval and authorization access as Res. Dirs. in NIMSS, but many are not aware of the process and are not registered in NIMSS. Participants with dual appointments are being reported and submitted under AES.
  - ii. Ext. Dirs.' use of NIMSS will result to better reporting of integrated activities.
- Monitoring of Submission of Annual Reports - inclusion of impact statements
  - i. Advisors need to actively monitor submission of annual reports as these are the bases for writing the impact statements.
  - ii. Advisors should not authorize meetings if the previous year's annual report has not been submitted.
- New Impact Reporting System
  - i. A writer has been hired at WAAESD who is responsible for putting together the impact statements for terminated multistate research projects. She will not be able to write the impacts if the annual reports are missing.
  - ii. The impacts will be housed in NIMSS as well as in the regional associations' homepages.

#### 6. 2013 NERA Planning Grant

The call for applications for the 2013 planning grant is ready for release with a Nov. 16, 2012 deadline.

7. 2013 National Multistate Research Award

The call for nominations will be released after the ESS Meeting by Incoming ESCOP Chair Dr. Mike Hoffmann. The \$15K award for the winning project will be approved by vote at the ESS Meeting.

8. Other Business

The proposed Joint NEED-NERA Planning Grant was discussed. NEED had approved their \$4K share. The planning grant will focus on Food Systems with specific emphasis in the area of Ethnic Crops. NERA will discuss their share of the funding at their business meeting.

## Request to Write a Proposal

### Commercial Greenhouse Production: Component and System Development

Start Date: 10-2013  
End year: 2018  
Renew(NE 1035)

#### Issue(s) and Justification:

Horticulture, including greenhouse production, is a vibrant and economically important sector of agriculture. The National Agricultural Statistics Service 2009 Survey of Agriculture indicated that horticulture was valued at \$11.7 billion. The members of our group serve growers in several states including AK, AZ, CT, ME, MI, NE, NJ, NY, OH, PA, and VA. that encompass a large range of climate and growing conditions. Greenhouse production is ranked as the top grossing agricultural commodity in three member states: AK, CT, and NJ. Controlled environment agriculture is particularly important for growers in northeastern states where protected structures such as greenhouses and high tunnels are vital for season extension and year-round production of vegetables.

The members of our group represent a multi-disciplinary knowledge base which prepares us to work across disciplines on larger research problems facing the greenhouse industry. Members include greenhouse engineers and plant scientists with diverse areas of expertise.

Group members have connected with stakeholders through presentations at regional and national meetings, onsite grower visits, and informal contacts made in response to grower questions. In addition, they have regular contact with Extension agents in their respective states. In response to stakeholder feedback, project members have identified four topic areas that will be addressed over the next five years. These include: (1) alternative energy sources and energy conservation; (2) water and nutrient management; (3) sensors, control systems, and sensor networks; (4) vegetable production, including best management practices, urban agriculture, and vegetable production in greenhouses and high tunnels. Each of these topics are discussed in more detail below. These objectives build on past research efforts, are based on the expertise and knowledge of the group, and appropriately use the research and education facilities available to group members.

#### Topic 1: Alternative Energy Sources and Energy Conservation

##### Justification:

Increasing fuel costs continue to be a concern for greenhouse growers, particularly for growers in the northeastern United States. Reducing fuel usage would dramatically reduce the carbon footprint of the greenhouse industry. Further, energy conservation will allow growers in cold climates to more competitively and sustainably produce food for local markets. The overall objective of this topic will be to explore a variety of techniques for reducing fuel usage and/or exploring the use of alternative energy sources. Some strategies we want to evaluate for energy conservation include: (1) Season extension in low technology structures such as high tunnels; (2) Fuel blending for higher output; (3) Using lower temperatures, or a wider range of temperatures for crop production systems. Another topic of interest to growers is the use of alternative energy sources to reduce dependence on traditional fuel sources. Research on the use of wind energy, solar power, ground-source, geothermal, biomass or other alternative energy sources in greenhouses is limited at this point and we want to contribute with new information.

## **Topic 2: Water and Nutrient Management**

### **Justification:**

Water shortages throughout much of the United States have increased the need for information regarding water management in greenhouse production. In some areas of the United States, water is limited not only in quantity, but also in quality. Water management is closely tied to nutrient management, particularly in greenhouse production. Substrates leach nutrients easily and this can cause environmental problems on site and in neighboring soils and/or bodies of water. Our goal for this topic is to provide greenhouse growers with water management tools that allow them to produce plants with less water, or to recycle all water used for irrigation. Further, we wish to improve nutrient management. Specifically, we will: (1) Develop crop specific irrigation guidelines to improve water use efficiency; (2) Provide recommendations for irrigating plants in a variety of systems using soil moisture sensors (3) Develop best management practices for waste water management; (4) Develop recommendations for use of controlled release fertilizers which reduce nutrient leaching; (5) Provide fertilizer guidelines for use of organic fertilizers in greenhouses.

## **Topic 3: Sensors, Control Systems, and Sensor Networks**

### **Justification:**

One of the major benefits of growing plants in a greenhouse is the ability to use environment sensors to make decisions on fertilization, irrigation, heating, cooling, and lighting. Many growers utilize computer control systems and a variety of sensors and networks to accurately manage the greenhouse environment. The benefit of these systems is that they reduce temporal and spatial variation in the greenhouse environment, improving the conditions for optimum plant production. Further, accurate climate control can help reduce waste of resources. A variety of sensors are available. Our goal is to evaluate these sensors and recommend the best options for greenhouse growers.

## **Topic 4: Vegetable Production**

### **Justification:**

Vegetable production in protected horticulture allows growers to provide food to local markets during the cold months of the year. Greenhouses and high tunnels are vital tools for season extension, particularly in the Northeastern United States. As more field vegetable growers have become interested in protected horticulture; we need to provide more information about vegetable production in protected horticulture. Further, vegetable production in urban centers has increased rapidly; farmers in these areas would similarly benefit from guidelines about the use of inexpensive greenhouses and/or high tunnels. Specifically, we want to: (1) Develop Best Management Practices for Vegetable Production in protected horticulture; (2) Provide guidelines for food safety; (3) Assist growers in Urban Agriculture with the use of technology for season extension and year-round production; (4) (This is a repeat of above)Develop recommendations for reducing fuel usage in greenhouses and high tunnels used in small scale production systems. (5) Develop fertilizer and management strategies to optimize the composition of greenhouse vegetables for human nutrition.

Submitted by: [Stephanie E Burnett](#)

Sponsoring Station: ME.

Status: Station Director Approved

**Project Number:**

**NE1035**

**Title:**

Commercial Greenhouse Production: Component and System Development

## APPENDIX I: Critical Midterm Review of Multistate Research Projects

----- Review 1 of 1 -----	
<b>From:</b> MRC	
<b>submitted by:</b> Ashworth, Edward N. ( <a href="mailto:edward.ashworth@umit.maine.edu">edward.ashworth@umit.maine.edu</a> )	
<b>Reviewed on:</b> 09-10-2012	
<b>Recommend:</b> Approve/continue project	
<b>1. Progress Report:</b>	Good
Comments:	
<b>2. Linkages:</b>	Good
Comments: The committee readily shares information and research results. They offer one another suggestions on experimental design, techniques and interpretation of results. The group does not do an effective job of conducting joint studies.	
<b>3. Funding:</b>	Good
Comments: Individuals have secured resources for their own projects. Limited success in funding joint research projects thus far.	
<b>4. Information and Technology Transfer:</b>	Excellent
Comments: The group has worked very effectively to write a series of trade journal articles for the greenhouse industry on irrigation. The articles have joint authorship among participants and different articles were written by groups to take advantage of the members' expertise. I view this as a very positive regional effort.	
<b>Comments:</b> NE 1035 is on a positive trajectory. The group went through a difficult phase where several key members retired and the membership transitioned to a younger group of faculty members. I believe that these new members are making a good effort to combine their talents and cooperate more effectively. There are still growing pains, but I am optimistic.	

## Request to Write a Proposal

### Biological Improvement of Chestnut through Technologies that Address Management of the Species, its Pathogens and Pests

Start Date: 10-2013  
End year: 2018  
Renew(NE 1033)

#### Issue(s) and Justification:

##### **The need as indicated by stakeholders:**

The American chestnut was once the dominant hardwood species in the Northeast U.S. as well as much of the Southeast U.S., accounting for up to 25% of the hardwood forests in some areas. The economic and ecological importance of the tree cannot be overestimated, and the stakeholder support for efforts to restore the species to its natural habitat has been substantial. NE1033 provides outreach and leadership to organizations that offer products to the end users. Successful nonprofit chestnut groups have been established for forest restoration or orchard establishment, including The American Chestnut Foundation, The Midwest Nut Producers Council, and The Western Chestnut Growers. Through these active groups, existing in large part due to NE1033 member participation and sharing of research and information, end users receive products from chestnut forests and orchards. The current NE1033 project was born from its predecessors NE140 and NE1015, which had the same overarching long-term goal of restoring American chestnut but different short-term objectives. When the first project was initiated 30 years ago, it seemed very optimistic and in some senses unrealistic. Since then, substantial progress has been made on many fronts: trees that are resistant to the devastating chestnut blight pathogen, *Cryphonectria parasitica*, have been developed through traditional and transgenic breeding efforts and are beginning to be released for nut production and for forest restoration. In 1992, NE140 hosted a well-attended international meeting of chestnut scientists; another international symposium was organized by members of the current NE1033 project and held in conjunction of the multistate meeting in September 2012.

##### **Importance of work and consequences if it is not done:**

Restoring the American chestnut to its native habitat will have a great impact on quality of North American forests and associated ecosystems. As disease and insect resistant trees are developed through this project, demand for those trees and the associated knowledge required for their reestablishment in native habitats is growing. The NE1033 multistate project has been the cornerstone of the U.S. efforts on restoration of this native American species. The project has been central to research on the tree, its pest and pathogens, and methods of control of those pest and pathogens, as well as to disseminating information about methods for restoration. While this research has already had a significant practical impact, the project is not yet complete: new hybrid trees resistant to multiple pests and pathogens must still be developed, planted at different sites, and assessed for potential sustainability; genomes of different tree species and of pathogens and pests are just now being completed and analyzed in concert with each other to enhance the breeding and control efforts.

##### **The technical feasibility of the work:**

NE-1033 has been one of the most productive and interactive research groups in the multistate network. More than 1000 research papers have been published in the 30 years of the project, many of them collaborative efforts representing work from several project

members. More than 15 of the papers have been published in the broadest readership, highest impact journals such as Science and Proceedings of the National Academy of Sciences, USA. Many millions of dollars in competitive grants have funded the research of NE1033 members from agencies including NSF, NIH, USDA-NRI (now AFRI), and DOE, with at least 15 NE1033 scientists funded through such highly competitive grants over the years. Undergraduate, graduate and post-doctoral student training has resulted in great expansion of our scientific base.

Blight-resistant, timber chestnut is a major goal of NE1033, and a large-scale breeding program has provided multi-generation backcross materials that are greatly enhanced in blight resistance while retaining the unique stature of the American chestnut. The genome sequence of the American chestnut tree is well underway, providing a wealth of information that is being used for its improvement. This has been a collaborative effort of NE1033 scientists, funded in large part by NSF and by the American Chestnut Foundation. Natural plantings address silvicultural obstacles that must be overcome for successful reforestation. Suitable cultivars and markets are being developed for the U.S. chestnut industry. Two import collection sites and seven current trial sites allow cultivars to be imported, established, and evaluated. Region-specific recommendations to growers on cultivar selection, orchard culture and management, disease and insect resistance, control options, and market opportunities are provided. Successful cultivars are being made available to the public and allowing new chestnut products are being developed.

Research on the chestnut blight pathogen has progressed to the point that this is a model system for fungal biology, epidemiology, population biology, host-pathogen interactions, and biological control. This was the first fungus shown to be subject to biological control by viruses. Numerous genes and pathways have been identified through study of *C. parasitica*, and gene knockouts have led to results applicable to this and other plant pathogenic fungi. Through a community sequencing project by members of NE1033, the complete genome of *C. parasitica* was sequenced and annotated, allowing scientists to expand research on virus/fungus interactions and fungus/tree interactions. A web-searchable EST library/database of more than two-thirds of the estimated 12,000 *C. parasitica* genes is in use by the community of biologists who study fungi and viruses of fungi, allowing researchers to monitor activities of thousands of genes following virus infection and disrupt specific genes during fungal infection of chestnut tissue. Secondary metabolites of *C. parasitica* and other non-related microorganisms (i.e. *Trichoderma* sp., *Bacillus* sp., and *Lysobacter* sp.) affect the biology and ecology of *C. parasitica* and could lead to the identification of alternative control methods for chestnut blight disease.

The first viruses to be used for biocontrol of a pathogenic fungus were found in the chestnut blight fungus, *C. parasitica*, and more viruses with biological control potential have been identified in this fungus than from any other. The study of virus populations from around the world and especially North America has led to advances in the understanding of fungal virus population structure and biology, and collaborations with scientists worldwide continue. Infectious *C. parasitica* hypovirus cDNA clones, the first for any fungal virus, have been developed and used to infect and reduce virulence of fungal pathogens of apple, pear, peach, and eucalyptus in addition to chestnut. Study of virus-encoded genes has allowed rational approaches to engineering viruses for enhanced biocontrol and better understanding of regulatory pathways underlying fungal pathogenesis. *C. parasitica* strains have been engineered to contain nuclear copies of two viruses. These □transgenic hypovirulent□ strains can transmit virus to sexual (ascospore) progeny, giving them a distinct advantage over natural hypovirulent strains from the biocontrol perspective, as viruses are not naturally transmitted to sexual spores. This

novel transmission property provides increased biological control potential by circumventing barriers imposed by fungal vegetative compatibility. Finally, study of *C. parasitica* viruses has led to elucidation of novel RNA silencing pathways and RNA recombination mechanisms in the fungus that inform other biological systems.

During the next phase of this project, important pests and pathogens other than the chestnut blight fungus will be emphasized as well. These include especially the Asian gall wasp, *Dryocosmus kuriphilus*, an invasive species that is spreading through chestnut growing areas, and the root-infecting ink disease pathogen, *Phytophthora cinnamomi*, especially important to the Southeast U.S. Significant research on these species has already been done in the context of the current project.

**The advantages for doing the work as a multistate effort:**

NE1033 has been a model multistate effort because so many states are affected in similar ways and have thus benefited from the cohesive efforts at restoring this tree species. Trees that have been developed through regional breeding centers have been distributed to specific state programs. The combination of basic biological has allowed for more rapid advancement in our knowledge base than would have been possible without an organized project. The genome projects of the chestnut trees as well as of the fungal pathogens were nucleated and initiated from collaborations through the multistate project, and both will be finished through the same multistate project.

**Likely impacts from successfully completing the work:**

Fulfilling the objectives of this project will continue to provide information about this important tree species, methods for its restoration, and the actual tree varieties for planting in different areas throughout its natural range in North America. This is a true success story of the multistate research system: though the long-term work of this project, disease resistant trees are now being planted in every state in the natural range of the American chestnut, and we have a much better understanding of the disease and its management. Scientists associated with this project are now in a position to monitor success of plantings as succeeding generations of trees are released. Experiment station research directors nationwide recognized the success and impact of this project in 2010, when NE1033 was given the National Multistate Research Award for Excellence.

Submitted by: Lynne Rieske-Kinney  
Sponsoring Station: NJ.  
Status: Station Director Approved

**Project Number:** NE1010  
**Title:** Breeding and Genetics of Forage Crops to Improve Productivity, Quality, and Industrial Uses  
**Duration:** October 2002 to September 30, 2017

**APPENDIX I: Critical Midterm Review of Multistate Research Projects**

----- Review 1 of 1 -----	
<b>From:</b> MRC	
<b>submitted by:</b> Viands, Donald R. (drv3@cornell.edu)	
<b>Reviewed on:</b> 08-06-2012	
<b>Recommend:</b> Approve/continue project	
<b>1. Progress Report:</b>	Excellent
<p>Comments: All three objectives have several cooperative research programs that have been completed or are currently in progress. Alfalfa cultivars with multiple disease resistance and with improved forage yield and quality have been developed and are currently in use by dairy and other livestock producers to make those operations more economical. The most recent cultivar that was released is N-R-Gee, the first alfalfa cultivar bred for higher pectin concentration for increasing milk production in cows. The first alfalfa cultivar with some resistance to alfalfa snout beetle, a devastating insect in northern NY and Canada, is nearing release. It will be evaluated for forage yield by NE1010 researchers. Bridgeport alfalfa was just released as a cultivar tolerant to soils with high salt content. Germplasm of several forage species have been released and made available to forage breeders for developing cultivars. For example, a unique meadow bromegrass germplasm has been developed. Comparisons of breeding methods on alfalfa have been completed or are underway. Alfalfa association mapping with replicated clones has been completed and published. Evaluations of forage cultivars and experimental populations have been completed for forage yield and other traits across several environments.</p>	
<b>2. Linkages:</b>	Excellent
<p>Comments: Forage breeders from 15 locations in the USA and Canada are active participants in the NE1010 project. Participants are from Land Grant colleges within universities, USDA-ARS, Agriculture and Agri-Food Canada, and the Noble Foundation. They have annual meetings along with correspondence throughout each year to make plans and report progress. Every research project within NE1010 is cooperative. Nothing is discussed during the meetings that is not cooperative. Part of each annual meeting also includes time in the field to view NE1010 research in progress at that particular location. Informal tours of field research have generated ideas for future cooperative research. Locations and meeting leadership are rotated among the members so that opportunity exists to eventually view the research at all of the locations. Several of the research programs also involve non-NE1010 scientists and industry personnel. In addition, a cooperator in Idaho produces seed of the NE1010 forage populations under cages for further evaluation and ultimately release of the best populations as germplasm or cultivars.</p> <p>Each year NE1010 research is reported in peer reviewed publications and in extension publications, both as hard copy and on the web. Research results are reported at extension meetings and field days.</p>	

<b>3. Funding:</b>	Excellent
<p>Comments: The overwhelming majority of the NE1010 research is funded from sources other than Hatch funds. Those sources include USDA-ARS funding for the ARS scientists, Agriculture and Agri-Food Canada funding for scientists in that organization, Noble Foundation, NIFA grants, royalties from seed sales of forage cultivars, etc.</p>	
<b>4. Information and Technology Transfer:</b>	Excellent
<p>Comments: Improved forage cultivars and germplasm releases provide one of the most significant contributions from the NE1010 project. The improved cultivars enhance the economic vitality of livestock and forage production operations, along with seed producers and marketers. Each year several publications in peer reviewed journals contribute information to the scientific community. Abstracts of oral and poster sessions at professional meetings provide more immediate information to scientists, along with discussions that promote additional research ideas.</p> <p>In addition, information about new cultivars and forage production practices are made available to seed companies, extension educators, and growers for implementation.</p>	
<p><b>Comments:</b> The NE1010 project has been radically changed from its precursors years ago. Two to three decades ago, the forage breeders would meet annually to report their own research programs, and little of it was cooperative. Over time this group has transformed itself to working much more cooperatively, resulting in the current project that entails totally cooperative research programs among of its members. There are several programs occurring at any one time to improve various forage species by scientists working on various traits and breeding methods.</p> <p>With time, the number of forage breeders in North America has been decreasing. Because of the perennial nature of these species, forage cultivars need to be widely adapted to compensate for infrequent planting in any one field and to make the crop economical for seed producers and marketers who provide seed to forage growers. These two factors (few forage breeders and wide adaptation) necessitate the cooperative research efforts of the NE1010 project. Plant selection and experimental population/cultivar evaluation are done across multiple locations, thus involving several forage scientists.</p>	

**Item 4.0: NRSP Review Committee Report**

Presenters: Abel Ponce de León, NRSP-RC Chair

**Item 4.1: NRSP Review Committee Recommendations for off the top funding (ballots distributed during regional meetings)**

<b>NRSP Project</b>	<b>Title</b>	<b>NRSP Project Request</b>	<b>NRSP Review Committee Motion</b>
<b>NRSP-1</b>	National Information Management and Support System (NIMSS) [2011-16]	\$50,000	Approve FY13 budget of \$50,000
<b>NRSP-3</b>	The National Atmospheric Deposition Program (NADP) [2009-14]	\$50,000	Approve FY13 budget of \$50,000
<b>NRSP-4</b>	Enabling Pesticide Registrations for Specialty Crops and Minor Uses [2010-15]	\$481,182	Approve FY13 budget of \$481,182
<b>NRSP-6</b>	The US Potato Genebank: Acquisition, Classification, Preservation, Evaluation and Distribution of Potato (Solanum) Germplasm [2010-15]	\$150,000	Approve FY13 budget of \$150,000
<b>NRSP-7</b>	A National Agricultural Program for Minor Use Animal Drugs [2009-14]	\$325,000	Approve FY13 budget of \$325,000
<b>NRSP-8</b>	National Animal Genome Research Program [2008-13]	\$500,000	Approve FY13 budget of \$500,000
<b>NRSP-9</b>	National Animal Nutrition Program [2010-15]	\$175,000	Approve FY13 budget of \$175,000
<b>NRSP_temp261</b>	ipmPIPE National Research Support Project	\$150,000	Disapprove this proposal and budget
NRSP review process changes as outlined in the NRSP-RC agenda brief below.		N/A	Approve these recommend changes to the NRSP project review process

## **Item 4.2: NRSP RC Program Management and Recommendations**

**Background:** The ESS expends considerable time and resources in managing the National Research Support Program which is intended to provide off the top funding in support of research. Currently there are 7 NRSPs receiving a total of \$1.731 million. Management activities include those of the NRSP Review Committee whose responsibilities include reviewing proposals progress and annual budgets. This committee meets a minimum of 3-4 times per year usually by conference call. In addition each regional association sets aside time for discussion of renewal or new proposals as well as for discussion of annual budgets. Taken together these activities constitute considerable transactional costs for a program that comprises less than 1% of Hatch funds.

After a year of deliberation, an NRSP Task Force made series of far reaching recommendations in 2002 on how the Program should be implemented and managed. These recommendations were adopted by the Section in 2003. However, one of the provisions, approval of 5 year budgets that included a caveat to reduce project funding if Hatch funds were reduced, was reversed the following year as Directors wanted to maintain annual budget approvals.

With the exception of the reversal for the NRSP-5 reduction in 2009, there have been few questions about annual budget approval and no reversal of the Committee recommendations. With this in mind, perhaps it is again time to consider the matter of providing 5 year budget approvals.

A second major provision was the requirement that each NRSP develops a Management and Business Plan indicating how the project would reduce off the top funding to a low maintenance level. This would potentially free up funds allowing the Directors to consider implementation of new projects as appropriate. Thus, NRSPs should expect a finite period of off-the-top funding; however some projects may not be readily transitioned to other sources of funds.

The requirement for a Management and Business Plan must be examined. The program requires submission of a plan that must include “provisions for developing alternative funding or reducing off-the-top funding to a minimal level”. Included would be an assessment of transition options, and alternative funding sources, but few projects actually do this.

There are several examples where off the top funds have been reduced (NRSP-3) or eliminated (NRSP-5). However, there are other projects that continue to have large, if not growing, contributions from off the tops funds.

### **Proposed Changes to Operational Guidelines**

1. The NRSP RC would recommend 5 year budget approvals for new and renewing projects, with the stipulation that if Hatch funds are reduced, NRSP funding will also be reduced by the same percentage. Typically there would be no more than 2-3 projects under consideration for five year renewal in any given year. This would allow for in depth discussion if needed.

- There would a 3<sup>rd</sup> year review to assess progress toward goals, objectives and funding targets. The interim review would be provided to the Directors as part of the committee's report at the regional association summer meetings and may include a recommendation for the reduction of funding if adequate progress has not been made.
- Approval of NRSP RC recommendation on five year budgets, new projects and other actions would be by a simple majority vote of those voting at the ESS Annual Meeting

2. All NRSPs should expect a finite time frame for off the top support after which resources would decline to a maintenance level (e.g. \$50,000 to \$100,000/year). This would allow the project to maintain visibility as an NRSP and provide a conduit for outside resources to leverage AES funds. An excellent example of this can be found in the history of NRSP-3.

3. The NRSP RC recommends that an upper limit be established on the total funds that can be expended on NRSP projects. The committee suggests \$2,000,000 annually, which is slightly higher than the current \$1.731 million but still well less than 1% of Hatch. This limit combined with more effective management and planned reduction of funding to existing projects would facilitate the development of new high priority NRSPs.

**Action Requested: Approve the NRSP-RC's budget/proposal recommendations and the recommended changes to the NRSP Program Management, as outlined above.**

## **NIMSS Update:**

1. A Management Committee organized early this year provides the general oversight, policy development, proposal preparation and budget recommendation for NRSP1. The Committee meets quarterly, and composed of:
  - four Administrative Advisors, representing each of the four SAES regions; **William Brown (S)**, **Steven Loring (W)**, **Bill Ravlin (NC)** and **Adel Shirmohammadi (NE)**
  - an ARD Director; **Shirley Hymon-Parker**
  - a Cooperative Extension Director; **L. Washington Lyons**
  - the NIMSS Manager; **Dan Rossi**
  - the four System Administrators; **Chris Hamilton (NC)**, **Rubie Mize (NE)**, **Donna Pearce (S)** and **Sarah Lupis (W)**
  - two director's administrative assistants who use NIMSS routinely; **Tammy Heil (LSU)** and **Shelley Whitworth (OSU)**
  - and two communicators/writers to advise the impact reporting program. **Sara Delheimer**, **Mike Harrington**
  - NIFA non-voting representatives - **Bart Hewitt** and **Katelyn Sellers**
  
2. The following report was given at the Committee's second quarterly meeting on August 31<sup>st</sup>:
  - From 2007 to 2012, 264 multistate projects and activities were entered in NIMSS. 133 of these, underwent peer reviews and regional research committee reviews prior to being approved by their associations, and then by NIFA for official approval. There were 294 projects/activities that terminated. 1,254 meeting authorizations were sent by Advisors during this period.
  - At any given time, there are about 300 active multistate research projects and activities recorded in NIMSS. Today, there are 304 multistate projects and activities. Of these, 135 are multistate projects, 7 NRSPs, and the rest are coordinating committees (Advisory, Development, CC's and ERA's).
  - At its peak period, NIMSS gets 28,000 hits per day, and an average of 15,000 hits per day during normal operations. Data transferred varied from 2GB to 4GB per day, during slow to heavy period. February is the busiest month and August the slowest.
  - New users continue to register daily. There are currently 9,980 registered active users. 13,746 users have record in NIMSS.
  - New functionalities were introduced in NIMSS last year to improve the speed of data download and transition between forms using the Object-oriented Programming Style (OOPS) and enhanced using RIA technology (Rich Internet Technology). This is still an on-going activity. The purpose of this upgrade is to enter data that is used in multiple displays only once.
  - Summary tables for multistate project participation were added to accommodate the reporting requirements of the Agric. Experiment Stations and the regions. To allow for more customized analysis of these data, a print and an Excel version are now available for the yearly summary of participation. The excel conversion is not quite fully operational. The programmer is working on it to make sure that the Excel table can be manipulated.
  - The programmer had started working on the Impact Reporting function in NIMSS. On the green menubar, between Reports/Meeting and Reviews, is the Impacts sub-menu. Development continues for this sub-menu using the template provided by the impacts writer, and should be fully functional before the next NRSP1 meeting.

## **Agenda Brief 5.2: ESCOP Multistate Impact Reporting Project**

**Presenter: Sarah Lupis**

### **Background:**

#### **Impact Statements: What & Why**

Effective communications of research outcomes is crucial to maintaining as well as building support for such programs. In order to effectively communicate impacts and outcomes of the multistate research program in each region, impact statements will be developed for all terminating multistate research/coordination projects. As part of the approved NRSP001 plan, a professional writer (Sara Delheimer) has been engaged to help prepare effective impact statements for the multistate research activities.

The WAAESD Office (WDO) is providing coordination, editorial oversight, and physical space for this effort to ensure a common voice and consistent approach to impact reporting efforts. The WDO is also providing coordination between this effort and the ongoing efforts of ESCOP and ECOP (i.e., with kglobal, Cornerstone, the ESCOP/ECOP Communications and Marketing Committees, and any joint ECOP/ESCOP joint committee on Marketing and Communication). A total of \$24,000 per year has been allocated from NRSP001 Off-the-Top funding to support this effort.

A 2-page template has been developed with input from kglobal and the NRSP001 Coordination Committee; see examples from each region, attached. Drafts are shared with the multistate project committee for comment/improvement. The entire process, from initial draft to final, complete PDF takes approximately four weeks. Committees are given two weeks to respond to drafts, after which the process moves forward, regardless. Final Impact Statements are sent to the appropriate region, NIFA (Bart Hewitt), and will also be archived in NIMSS.

Ms. Delheimer is also working with multistate project committee members to increase distribution of final impact statements to other outlets. For example, Dr. Way has distributed the final impact statement for S-1029 to:

- Various departments and publications at participating universities (e.g., Texas A&M)
- Texas Department of Agriculture
- USA Rice Federation
- US Rice Producers Association
- USEPA

We have received positive feedback from AAs/participating scientists that the impact statements, especially in a layout that includes photos, are helping to make “their research shine” and will be useful for sharing impacts with legislators and stakeholders.

**2011/2012 Terminating Projects Impact Statement Status**

	Region				TOTAL
	Northeast	North Central	Southern	Western	
<b>2011 Terminating<sup>1</sup></b>	6	26	5	12	49
<b>Complete/Pending Review</b>	2	16	4	12	34
<b>Incomplete/NA<sup>2</sup></b>	4	1	1	0	6
<b>Not yet written</b>	0	9	0	0	9
<b>2012 Terminating<sup>1,3</sup></b>					
<b>Complete/Pending Review</b>	0	0	2	7	9
<b>Incomplete/NA<sup>2</sup></b>	0	0	2	1	3
<b>Not yet written</b>	5	15	19	6	45

<sup>1</sup>Terminating project total reflects research, ERA, and CC projects; Development Committees (DCs) are not included. <sup>2</sup>Some projects will not have impact statements written because they lack sufficient source material. This includes projects with no or few annual reports and/or no or few impact statements included in their annual SF-422 reports. <sup>3</sup>We are still waiting for many 2012 projects to submit terminating reports.

**Issues and Potential Solutions**

As projects have been reviewed and impact statements written, a few issues have been identified:

- Projects with no annual reports
- Annual reports that lack statements of impact/sufficient information from which to develop an impact statement
- Projects with no final/terminating annual report
- Differences between regions with respect to reporting requirements; some regions do not require the same reporting for ERAs and CCs, which leads to insufficient source material
- The review process is slowed when the project AA has retired and/or a new AA has been assigned with the project renews

We propose the following potential solutions to address some of the above issues:

- EDs/Regional Offices take steps to inform/educate Administrative Advisors about the importance of impact reporting in annual reports and provide regular instruction/guidance on how to effectively report impact of multistate work.
- EDs/Regional Offices assure that annual reports are submitted on a timely basis and *before* the next meeting is authorized.
- Use MRC mid-term reviews as an opportunity to get a project “back on track” when annual reports are missing/incomplete.
- Standardize reporting requirements across regions to ensure that source material is consistently available and all projects are included in the impact reporting process.

**Action Requested:** Information only



# Northeast Pasture Consortium

This project coordinated research and outreach that has led to economically, socially, and environmentally sustainable livestock production on pastures in the northeastern U.S.

## Who cares and why?

Because of soil, landscape, and climate limitations, much of the agricultural land in the northeastern U.S. is best suited for growing forage for livestock. On forage-based farms, livestock such as dairy and beef cows, sheep, goats, and horses feed on harvested forages like dried hay, or graze in pastures. These farms generate nearly two-thirds of the agricultural income in the Northeast Region; however, these farms can be costly if pastures are under-utilized or completely replaced with confined feeding that uses harvested forage. Therefore, many livestock producers are trying to better utilize pastures (which typically require less labor, machinery, buildings, pesticides, and fossil fuel inputs) as a way to reduce expenses. Unfortunately, the information, technologies, and resources that support pasture-based farming are limited across the region. To make appropriate business and land management decisions, farmers need up-to-date information about costs, efficient grazing practices, animal husbandry, plant varieties and growth, and the health benefits of grass-fed livestock products. Poor pasture management can result in high costs and forage and livestock production losses for farmers. In addition, poor management can threaten livestock, environmental, and human health. A stable future for agriculture in the northeastern U.S. depends on keeping forage-based farms competitive, profitable, and environmentally friendly.



When the dairy cows go to a new paddock to graze fresh grass, these free range hens and their mobile coop are moved to the vacated paddock. The hens still need to be fed grain and egg-laying mash in addition to the food they find on the pasture; however, the pasture provides a more sanitary and less stressful environment than cages in enclosed buildings. Photo by James Cropper.

## What has the project done so far?

The Northeast Pasture Consortium has brought together farmers, agribusiness professionals, researchers, and extension personnel to address pasture-based farming issues. Consortium members have met with government officials to educate them on the ability of pasture to sequester carbon, improve water quality, and increase farm profitability, leading to collaborations with a variety of agriculture and natural resource agencies that have established research priorities and funding. In addition, the group has kept its members and stakeholders informed about public hearing opportunities to comment on policies and letters to sign to support grants and programs. Each year, the Consortium has held a conference in the winter so that farmers could attend technical sessions before their pasture animals gave birth to a new generation of livestock. The group has also published research results and recommendations in journal articles, newsletters, brochures, and guides, such as the Northeast Grazing Guide (<http://grazingguide.net/>).



During poster presentations, Consortium members keep each other informed about how they have promoted pasture-based farming in their states. Pasture specialist and farmer Troy Bishopp was part of a project that helped deliver pasture system training to Northeast Region agencies, extension educators, and farmer mentors. Photo courtesy of Troy Bishopp.

## Impact Statements

Improved communication about research, programs, and policies for pasture-based farms and built trust among stakeholders.

Addressed farmers' concerns about pasture design, grazing strategies, and animal husbandry, helping farmers run safe, profitable, and environmentally sustainable pasture-based farms that support a viable future for agriculture in the northeastern U.S.

Evaluated new and improved pasture plant varieties under different grazing, climate, and soil conditions, showing farmers how to boost forage availability and extend the grazing season.

Influenced legislation, bringing pasture-based farms more in line with economic, food safety, and environmental standards. For example, the group helped the National Sustainable Agriculture Coalition amend a bill so that small farmers and vendors are not barred from selling products locally.

Rated the effectiveness of management practices for pastures in the Chesapeake Bay watershed, helping farmers set realistic targets for reducing pollution in the Bay.

Shared findings and technologies in a timely manner, ensuring that research, educational, and technical programs are relevant and accountable to stakeholders.

Raised awareness that properly managed pasture-based farms can improve water quality, sequester carbon, enhance food quality and safety, and reduce energy use.

## What research is needed?

Much more work is needed to quantify how efficiently different management practices keep excess sediment and nutrients from entering streams. To do this, scientists need to have better descriptions of pasture hydrologic conditions; monitor overland and groundwater runoff; and determine whether ungrazed grass or pasture sod provides a better buffer between the pasture and streams. Researchers also need to determine the applicability of knifing fertilizers and manures into stony pasture soils of the Northeast U.S., so that nutrients can be applied below the soil surface, preventing excess nutrient build-up in the upper two inches of soil. More research is needed to assess carbon sequestration in pastures in Northeast Region climate and soil types. Long term trials and accurate plant composition descriptions are needed to provide data that compares forage yields from pastures to those from machine-harvested fields. Cooperation is critical for data that can be compared across the entire region.

## Want to know more?

Administrative Advisor:  
Margaret E. Smith  
[mes25@cornell.edu](mailto:mes25@cornell.edu)

This project was supported by the Multistate Research Fund (MRF) established in 1998 by the Agricultural Research, Extension, and Education Reform Act (an amendment to the Hatch Act of 1888) to encourage and enhance multistate, multidisciplinary research on critical issues that have a national or regional priority. For more information, visit <http://www.nera.umd.edu/>.

Compiled and designed by Sara Delheimer



On this grass-fed beef farm, cattle are rotated to a new pasture area (sectioned off by portable fencing) when they have grazed the forage down to a height that consumes most of the forage, but leaves sufficient residual stubble for fast regrowth. Scientists need to further research differences in runoff from pastures that are under rotational grazing versus continuous grazing. Researchers and farmers must also continue to work together to make sure that pastured livestock have a well-balanced diet that keeps the animals healthy and minimizes the amount of nitrogen excreted in animal wastes. Properly managed pastures can save farmers time and money and scientists are investigating possible health benefits for consumers of pasture-fed livestock products like meat, milk, and cheese. Photo courtesy of Gabe Clark, Cold Spring Ranch.

## 2013 NERA Planning Grants Program

The Northeastern Regional Association of State Agricultural Experiment Station Directors (NERA) announces the sixth round of its regional competitive planning grants program. These grants are to be used to organize Northeast researchers and Extension educators around teams to develop new mission-oriented, cross-disciplinary, multistate problem-solving programs. The programs are to be needs driven and include clearly defined research and outreach components. They must focus on new and promising research collaborations or integrated research and extension activities that bring together specialists in diverse fields to apply complementary approaches to work on an important well-defined problem. Proposals in support of programs that are forward looking/anticipatory are especially encouraged.

While we will not have a specific focus to this year's round of proposals, we ask that you keep in mind the AFRI priority areas and the four competitive funding initiatives mandated in the 2008 Farm Bill. The AFRI priority areas are:

- Keep American agriculture competitive while ending world hunger
- Improve nutrition and end child obesity
- Improve food safety for all Americans
- Secure America's energy future through renewable biofuels
- Mitigate and adapt agriculture to variations in climate

The four mandated funding initiatives are:

- Organic Agriculture Research & Extension
- Specialty Crops Research Initiative
- New Farmer and Rancher Development
- Biomass Research and Development

Proposals (not to exceed **three** single spaced pages) will be due on **November 16, 2012**. The NERA Multistate Activities Committee will review the proposals and make recommendations for funding to the NERA Directors. Final decisions will be made by December 14, 2012. Funding up to \$10,000 will be available to support transportation and meeting expenses to bring the team together. As the funds come from the NERA operational budget, they cannot be used to pay F&A, and we reimburse **only** the actual expenses. The funding will be available to the teams for a maximum of one year from the date of the award notification. The funds will be administered by the Office of the NERA Executive Director and can only be used to reimburse actual expenses. Unused funds will be returned to our pool for future planning grants.

Proposals for planning grants should include:

- Mission and goals of the proposed program
- Justification for the program relative to stakeholder needs and potential for sustained external funding
- Activities to be engaged in by team members towards a more complete definition of the program

- Timetable for completion of the planning activities and preparation of a competitive proposal
- Team members from two or more Northeastern State Agricultural Experiment Stations and an explanation of their roles on the team
- Team leader with a demonstrated track record of leading cross-disciplinary and/or multi-institutional collaborations
- Budget for planning activities not to exceed \$10,000

An expected outcome of a planning grant will be a proposal submitted to the National Institute for Food and Agriculture in response to the FY2013 or 2014 RFA's or other funding sources specified in the proposal. Grant recipients will be expected to provide a written report at the end of the grant period and subsequent periodic reports on the status of resulting proposals.

The specific criteria that will be used to evaluate proposals are:

- Addresses an important need in the region
- Stakeholder supported justification
- Consistent with goals of competitive funding programs of USDA, NSF, NIH, etc.
- Potential for sustained funding
- Clearly defined activities
- Integrated research and extension activities
- Realistic timetable
- Team members appropriate to proposed activities
- Team leaders with demonstrated track record
- Leveraged support
- Overall quality of proposal

In order to provide guidance and feedback from the previous rounds of grant proposals, the following are some of the reviewer comments on those proposals:

- Goals not well defined
- Not clear what specific major compelling issues will be addressed
- Priority not well established
- Needs not clearly justified by stakeholder support; did not identify specific clientele being served
- Planned specific research and extension activities not well defined
- No specifics on what activities are being planned – what are the key approaches to be used
- Strategy of individual proposal development and then consolidation not clear
- Proposed collaboration not well described
- Deliverables not clear
- Potential for sustainable funding not clear

Please submit planning grant proposals by c.o.b. on **November 16, 2012** to Rubie Mize at [rgmize@aesop.rutgers.edu](mailto:rgmize@aesop.rutgers.edu).

## **2013 Experiment Station Section Award for Excellence in Multistate Research**

### **Purpose**

The fundamental mandate of the Multistate Research authority allows State Agricultural Experiment Stations (SAES) to *interdependently* collaborate in projects that two or more states share as a priority, but for which no one state could address singularly. This is a very high standard for any research project, and has become a hallmark of the Multistate Research Program's management objectives.

The Multistate Research authority allows other non-SAES partners to join in these project-based collaborations. Thus, many multistate projects include extension specialists as members as well as Agricultural Research Service or Forest Service research scientists. In addition many projects even have private sector and foreign participants. Moreover, the majority of multistate projects have participants from more than a single region, with many having representation from all regions such that they are national in scope.

To many the Multistate Research Program is one of the "best kept secrets" of the Land-Grant University System.

The purpose of this Experiment Station Section Excellence in Multistate Research Award program is to annually recognize those scientists who are conducting exemplary multistate activities and in doing so enhance the visibility of the multistate program. A recipient Multistate Project will be selected from the pool of nominees submitted by the five regional research associations (NCRA, NERA, SAAESD, WAAESD, and ARD), and deemed by the review panel to exhibit sustained, meritorious and exceptional multistate activities.

### **Award and Presentation**

The national winning project will be recognized by the Experiment Station Committee on Organization and Policy (ESCOP) Chair and USDA/NIFA Administrator during the Awards Program held at the APLU Annual Meeting. The title of the national winning project will be added to a plaque located at the USDA Waterfront Centre.

At the 2012 Experiment Station Section Meeting in Portsmouth, NH, the Directors approved the monetary prize of \$15,000 of Hatch MRF for the Excellence in Multistate Research Award. Up to \$5,000 will be used to cover travel for two members of the recipient project, the Administrative Advisor and Chair or their designees, to attend the awards ceremony at the APLU annual conference. The remaining \$10,000, and any unused travel funds, will be used to support activities which enhance and contribute to the research and/or outreach objectives of that multistate project, consistent with the appropriate use of Hatch funds. Use of these funds will be a project committee decision made in conjunction with its Administrative Advisor.

## **Eligibility**

Any current Multistate Project listed in the NIMSS (<http://nimss.umd.edu/>) is eligible for consideration for an Excellence in Multistate Research Award.

## **Basis for Nomination**

Each of the five regional research associations may nominate one Multistate Project chosen from the entire national portfolio of active projects. Nominations shall be made to the Chair of the respective regional multistate review committee (MRC) via the regional Executive Director's office.

Such nominations should describe the:

- Accomplishments that have been realized by the Project as measurable outputs, outcomes and benefits (either directly or through indicators); and
- Synergistic advantages of the particular project derived through interdependency.

The documentation for this type of nomination should be sufficient to allow the review committee members to evaluate the Project according to the criteria listed below.

## **Criteria and Evaluation**

Selection of multistate teams for an Award for Excellence will be based on panel evaluations of nominations that demonstrate: high standards of scientific quality; research relevance to a regional priority; multistate collaboration on the problem's solution; and professional leadership in the conduct of the project. All nominated shall be evaluated using the same criteria including, in descending order of importance, the Project's:

1. Accomplishments, indicated by outputs, outcomes, and impacts,
2. Added value, from the Project's interdependency;
3. Degree of institutional participation (SAES and others as well);
4. Extent of multi-disciplinary activity; and,
5. Amount of integrated activities (i.e., is it multi-functional).
6. Evidence of additional leveraged funding to further the goals of the project.

## **Selection Process**

The ESCOP Science and Technology Committee will serve as the review panel and will select from among the regional nominees a national winner in time for public announcement and award presentation at the APLU Annual Meeting each year.

## **Timeline**

- October 1 – Announcement sent to Directors, Administrative Advisors and NIMSS participants by ESCOP Chair
- February 28 – Nominations due at Offices of the Executive Directors
- March – Nominations reviewed by regional multi-state research review or multi-state research collaboration committees and recommendations submitted to regional associations
- March/April – Regional associations approve regional nominations at Spring meetings
- April 30 – Associations submit regional nominations to ESCOP Science and Technology Committee
- May – ESCOP Science and Technology Committee reviews regional nominations and submits recommendation for national winner to ESCOP Executive Committee
- June – ESCOP Executive Committee selects national winner
- July – National winner submitted to APLU
- September – National winner announced at ESS meeting
- November – Award made at APLU meeting

## Format for Applications or Nominations

An application or nomination should be a very concise statement. It should include:

**Nominating Region:** \_\_\_\_\_

**Nominator:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**Project or Committee Number and Title:** \_\_\_\_\_

**Technical Committee Chair:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**Administrative Advisor:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**Summary of Significant Accomplishment(s)** (noting the following):

- The issue, problem or situation addressed by the project or committee;
- The project or committee's objectives;
- The outcome(s) of the research;
- The impacts of the project or activity (actual or anticipated);
- The extent of links to extension that have been formed; and
- Any additional and relevant partnerships, associations or collaborations that deserve mention.

Nominations should be **no more than 3 pages** and should be submitted by email to the Office of the regional Executive Director, by **c.o.b. February 28, 2013**:

Dr. Arlen Leholm, North Central <leholm@cals.wisc.edu>

Dr. Dan Rossi, Northeast <rossi@aesop.rutgers.edu>

Dr. Eric Young, South <eyoung@ncsu.edu>

Dr. Mike Harrington, West <wdal@lamar.colostate.edu>

Dr. Carolyn Brooks, ARD-1890's <cbbrooks@umes.edu>.