

Report and Recommendations
NORTHEAST MULTISTATE ACTIVITIES COMMITTEE MEETING
Friday, September 16, 2022
8:00-9:00 AM ET Zoom Teleconference

Members: Jan Nyrop (Cornell, chair), Matt Wilson (WVU), Puneet Srivastava (UMD), Jason White (CT-New Haven), Cindy Fitch (WVU/NEED), Ali Mitchell (NEED) [Ex officio: Rick Rhodes (NERA), David Leibovitz (NERA)]

MAC recommendation:

Request to Approve Peer Reviewed Multistate Activities (MAC recommendations to NERA)

- **NE_TEMP2105: *Industrial hemp products, production, markets, and associated challenges for the stakeholders, 10/2022 – 09/2027*** [New multistate project, AA: Matt Wilson – West Virginia]
 - Peer reviews were succinct and supportive.
 - There is an existing multistate project in the Southern region that centers around industrial hemp production, this project centers around hemp utilization.
 - Lesley Oliver (Kentucky, SAAESD) serves as AA of the Southern hemp project (*S1084 Industrial Hemp Production, Processing, and Marketing in the U.S.*) and would like to connect with Matt Wilson to discuss complementary activities and areas of overlap. This is especially important as S1084 is up for renewal in September, 2023.
 - **The MAC unanimously recommends approval of NE_TEMP2105 to NERA.**
- **NECC_TEMP2203: *Legal Issues in Agriculture and Natural Resources, 10/2022 – 09/2027*** [New coordinating committee, AA: Puneet Srivastava – Maryland]
 - While the MAC recommended that this group draft a multistate project proposal, the group elected to draft this proposal as a coordinating committee.
 - NERA will closely monitor the project; this could be a unique contribution to the multistate research project portfolio. The technical team always has the option to convert to a multistate research project early in its 5-year lifecycle.
 - Four reviews were positive, one review was “fair-good” but sought a level of detail beyond what multistate project proposals call for.
 - The MAC does not have an expectation that public health laws (per a reviewer recommendation) be included in the scope of this proposal although there is recognition there will be connections to public health cutting across many different agricultural activities.
 - **The MAC unanimously recommends approval of NECC_TEMP2203.**
- **NEERA_TEMP2104: *Northeast Region Technical Committee on Integrated Pest Management, 10/2022 – 09/2027*** [Renewal of NEERA1604, AA: Margaret Smith – Cornell]

- Two reviews were generally positive, one review suggested some edits. The technical lead indicated they did not wish to respond to comments made in the third review.
- **The MAC conditionally recommends to NERA the approval of NEERA_TEMP2104. Approval is conditional upon the technical lead responding to comments from peer reviewers. If the technical team does not respond to the third peer review before the fall 2022 NERA business meeting, the proposal will not be approved.**
 - Jan and Rick will evaluate the response to peer review before moving the proposal forward to NERA.

MAC Discussion:

Disposition of project proposals with two peer reviews secured.

- **The following proposals have been in development for a long time but will not be ready for a 10/1/2022 start date:**
 - NE_TEMP2201: *Mycobacterial Diseases of Animals (Renewal)*
 - NE_TEMP1962: *Outdoor Recreation, Parks, and Other Green Environments: Understanding Human and Community Benefits and Mechanisms (Renewal)*
 - NE_TEMP2204: *A Regional Network of Social, Behavioral, and Economic Food Systems Research (New project)*
 - Two received peer reviews were weak.
 - NE_TEMP2206: *Green Stormwater Infrastructure and Agriculture (New project)*
 - Team lead Chris Obropta has generated strong interest in this project across the region. Maryland has five prospective participants.
 - We need to remind the technical team to keep in mind that this project must be connected to agriculture and not only issues associated with water resources and infrastructure.
- **Renewal projects may encounter a gap in continuity if not region-approved by November 15. If projects can be reviewed by the MAC and approved by NERA on or before November 15, we can set the start date to 10/1/2022.**
- **NERA OED will send regular reminders to technical leads and AAs of new/renewing multistate activities to keep them moving along.**
- Changes to the Multistate Guidelines (particularly removing the “Request to Write”) will expedite proposal workflow in future years.

Revisions of Multistate Guidelines (MAC recommendations to NERA)

- Revisions to the *Northeastern Supplement to the Guidelines for Multistate Research Activities (or Guidelines)* were drafted by the NERA Office of the Executive Director in July 2022 upon the recommendation of NERA during the summer meeting Portland, ME.
 - The revised guidelines were made available as a Google Doc and open to the MAC for editing.
 - Changes to the Guidelines fell into three main categories

- Changes to proposal submission requirements. The “Request to Write” step was eliminated.
- Changes in language to reflect NIMSS user experience.
- Clarified roles, responsibilities, and action steps to reflect current practices
- Major changes to this document were made in response to a charge from the NERA Directors to the MAC at the NERA business meeting in Portland on June 7, 2022.
- Additional change discussed on 9/16/2022: should NERA allow peer reviewers from outside the Northeast?
 - **The MAC supports allowing Northeast reviewers. Should someone have a conflict of interest, we will ask them to declare a COI at the time they are requested to review. Technical teams will still be asked to consider potential conflict of interest in the identification of reviewers.**
- Strategy for presentation to NERA: once the MAC approves all edits, we present a clean copy to NERA and send a summary of substantial changes to the guidelines. NERA OED will provide a copy of the red-line version of the document.
 - **The MAC unanimously approves the changes to the guidelines and supports the above strategy for presenting the guidelines to NERA.**
 - **NERA OED will change the language regarding peer reviewers from outside the Northeast and prepare documents for presentation to NERA.**

Discussion item: Urban agriculture multistate project

- A WVU faculty member is interested in urban rooftop agriculture in containers. There is no apparent existing urban agriculture multistate research project. There is currently a Development Committee in the West (WDC53 *Urban, Indoor and other Emerging Agricultural Production Research, Education and Extension Initiative*; terminates 9/30/2023).
- Additionally, CT-Storrs, CT-New Haven, District of Columbia, and Maryland all have prospective participants who might be interested in joining a multistate group on urban agriculture.
- There are a number of Extension participants who would be interested in joining this group.
 - **Ali and Cindy can work on a strategy for recruiting extension members to join multistate projects, particularly this new group revolving around urban agriculture.**
- NERA has the capacity to commit funds to recruit a team and help kickstart the writing of this proposal.
- The topic of an urban ag multistate research project will be discussed during the NERA meeting.

NE_TEMP2105: Industrial hemp products, production, markets, and associated challenges for the stakeholders.

Status: Submitted As Final

Duration 10/01/2022 to
09/30/2027

Admin [Matthew E Wilson]
Advisors:

NIFA Reps:

Statement of Issues and Justification

Industrial hemp is a robust crop that has the capacity to grow in different climates, altitudes, soils, and weather conditions. It competes for acreage with locally and regionally important food and feed crops but is still not considered a major crop in any country or region of the world. It increased from zero in 2013 to >90,000 acres in 2018 (Mark et al., 2020). Hemp's versatility can be attributed to its ability to process each part of the plant from stalk to seed to its flower. Despite barriers to its production in the 19th and 20th centuries, the acceptance of hemp and its products has been consistently rising lately. There has been a renewed interest in industrial hemp since the passing of the 2014 and 2018 Farm Bills (Ruth et al. 2022; Johnson, 2018). The demand for hemp as a sustainable natural fiber, oil seed, hemp hearts, CBD-oil-based nutraceuticals, alternative protein sources, etc. has grown tremendously in the recent past. Although, CBD oil has been the primary focus of the industry (Burton et al. 2022; Lacasse & Kolodinsky, 2022).

Traditionally, industrial hemp has mainly been used as fiber or food, however, hemp-infused products have gained a lot of popularity worldwide. For instance, in China, hemp seeds are now regarded as a staple food item. Roasted hemp seeds are a very popular snack in Turkey. Hemp soup is becoming more popular in Germany, hemp butter is consumed in the Baltic States and Russia, and hemp is renowned as the "king of seeds" in Iran (Borkowaska, B & Bialkowska, 2019). Hempseed oil which is extracted from the grains of industrial hemp plants is regarded as healthy oil with various uses in cosmetics, nutraceuticals, and functional foods (Borkowaska, B & Bialkowska, 2019). Due to its high carbohydrate content, the development of its uses in biofuels, feed, and biochemical applications is also being researched. In addition, medicinal uses of hemp especially IH-derived CBD oil are also being explored. However, many such products lack clinical evidence of their performance efficacy. The diverse applications and uses of hemp-based products make it an attractive agricultural commodity. However, the lack of strong policies, regulations, subsidies and government support for growers, manufacturers, processors, and producers presents many challenges for the IH industry.

Therefore, synergies between academic researchers with different backgrounds, clinical researchers, and the industry are needed to develop a successful market and supply chain for hemp-based products. These synergies will provide new knowledge and will create reliable information instead of the grey literature that currently proliferates the industry. In addition, according to the Hemp Industries Association (HIA, n.d), National Industrial Hemp Council (NIHC), and university research, **there is a dire need to educate lawmakers and regulators about the diverse value-added product portfolio of hemp, dispel the hemp-related public myths and misconceptions, and to enhance the IH-based economy in the United States.** Research efforts across the country are needed to understand the rising demand for IH since each state has a unique set of environmental, and agricultural conditions that create a variety of unique characteristics in the plant. Also, the market and demand for hemp-based products vary from one state to another creating unique challenges for its stakeholders. We expect that this research collaboration across institutions and various disciplines will help develop new knowledge for all the stakeholders in the IH industry: policymakers, consumers, manufacturers, and producers.

Related, Current and Previous Work

The rich history of industrial hemp (IH), also known as *Cannabis sativa*, and its various uses in textile production, Chinese medicine, oilseed, food and supplement industry, and fiber-reinforced composites, have made it an important agricultural crop commodity. For centuries, IH has been a source of fiber and oilseed used worldwide to produce a variety of industrial and consumer products (Johnson, 2018). In addition to seeds and fibers, significant revenues can also be generated for some of the secondary metabolites highly abundant in industrial hemp including non-psychoactive cannabinoids such as cannabidiol (CBD) that are valued as pharmaceuticals, fragrances, and chemical feedstocks (Schlutenhofer & Yuan, 2017).

The USA is the largest importer of hemp products, obtaining most of its seed and fiber from Canada and China, respectively (Cherney and Small, 2016). The IH industry in the U.S. grew rapidly after the 2018 Farm Bill legalized commercial hemp production but the industry's long-term economic viability is still uncertain. Nationally, the number of producers reported having approved hemp licenses increased from 292 in 2014 to 3,852 in 2018, although many of these producers are small, with an average cultivated area under 20 acres (Sterns, 2019). Because of various legal and logistical issues, such as lack of appropriate seeds, uncertainty in production methods, and other factors, not all licensed producers planted hemp or planted as many acres as they had licensed. However, the number of approved licenses more than doubled between 2017 and 2018, showing a growing interest in hemp production (Mark and Snell, 2019).

The establishment of a USA hemp industry may impact global commerce by reducing hemp imports from exporting countries. As consumer demand for organic and environmentally sustainable products increases, there is a potential for significant growth of the world hemp market. The economic dynamics of this multifaceted emerging market will create both opportunities and significant threats and risks for farm profitability. Market dynamics will change quickly, especially during the development of a new industry, as producers enter and increase production and demand patterns shift. Hemp is an international market and competition with alternative crops for acreage, relative competitiveness, market transparency, and the ability to manage regulatory and market risks will determine patterns of development in the emerging U.S. hemp industry. The policy situation is fluid and expected to change at the state and federal levels as the industry continues to mature.

Objectives

1. Socio-Economic Barriers: Assessing hurdles associated with establishing a successful hemp industry and barriers to selling hemp.
2. Policy: Assessing barriers and bottlenecks for stakeholders in the hemp industry.
3. Value-added Hemp Products and Consumer Demands: 3.1 Developing industrial hemp-based consumer products. 3.2 Identifying new markets for non-conventional uses of industrial hemp products such as therapeutic textiles for health and wellness. 3.3 Assessing the therapeutic efficacy of CBD oil and its derivatives for human health and consumption to support the IH industry. 3.4 Assessing the competitiveness of hemp products compared to the alternatives and premiums associated with them. 3.5 Understanding consumer awareness, attitudes, and perceptions of hemp-based products and their purchase intention of such products.
4. Market Dynamics: Assessing the benefits and costs, to producers, consumers, and other stakeholders of growing industrial hemp and hemp products using both theoretical approaches and empirical research.

Methods

1. The primary methods for the data collection for this project will be structured interviews, questionnaire surveys, and experimental work in the following main areas.
 1. Economic surveys: a) hemp production and consumption data that is starting to become available. This data will serve as baseline data. As new data becomes available, we will be able to assess the implications for hemp. b) The secondary data will also provide information to develop future primary data collection feasible.
 2. Experimental trials: a) Experimental trials will be done to test the mechanical properties of hemp fiber and consequently improve its properties through surface modification so that it has an expanded range of applications in the apparel and textile industry. b) Therapeutic efficacy trials of the hemp-based products will be conducted. c) Using the consumer neuroscience approach, scientific evidence related to consumer behavior, attitudes, and perceptions as applied to hemp-based products will be gathered. These findings will be helpful in developing marketing strategies for hemp-based products.
 3. Interviews with manufacturers and producers: a) Focus groups with stakeholders along the supply chain provide valuable information on the challenges of the industry. b) These groups also provide invaluable feedback on the survey and quantitative results and if they are relevant to the stakeholders.

Measurement of Progress and Results

Outputs

Outcomes or Projected Impacts

- The major expected outcome associated with this project is a 'Change in Knowledge.' Due to the longstanding federal policies that made the cultivation of industrial hemp illegal, the supply chains, processing, and manufacturing facilities necessary to create market-ready products need to be reestablished in the United States. Hemp producers should carefully identify which industrial hemp product(s) and sales channels are available before starting production, secure any necessary permits before production, and ensure that production is done in accordance with state and federal laws. The difficulty in finding current market information on sale prices and demand makes any projections of the long-term profitability of industrial hemp a real challenge for potential growers. There is also domestic and global competition in the industrial hemp marketplace. Current challenges facing the industry include reestablishing agricultural supply chains, breeding varieties with modern attributes, upgrading harvesting equipment, modernizing processing and manufacturing, and identifying new market opportunities. There is little peer-reviewed economic analysis of IH available. Most of the existing economic literature discusses hemp fiber and grain products and was written before CBD oil became a major product category. There are significant gaps in the current economic and market literature. There is also a significant need for more farm-level enterprise research and research-on-demand for particular products to determine the profitability of industrial hemp for various uses (grain, fiber, and CBD, or other extracts) and by regions. Significant market research gaps also include international competitiveness and trade, processing alternatives, and market organization and structure. Therefore, it is important to understand the motivations for growing industrial hemp and bridge the gap between the production and processing of hemp products.

Milestones

Outreach Plan

1. The findings of this project will be published in academic journals, and outreach outlets, and will be presented at national and regional conferences.
2. Additionally, information will be disseminated through virtual workshop/s hosted by one or more of the involved institutions. A 2–4-hour workshop will be offered for research scientists, extension personnel on campus, external stakeholders, and students. The workshop will also be offered in webinar format and will be recorded and available for no-cost download available via YouTube.
3. Further, this project will provide an opportunity for collaborative efforts between academia and the industry, which advances the outreach goal of land-grant universities. For instance, Local hemp producers, processors, and manufacturers will be assisted with product evaluation, performance efficacy, advertising, and marketing strategies for successful product promotion using universities labs and resources.

Organization/Governance

The recommended Standard Governance for multistate research activities include the election of a Chair, a Chair-elect, and a Secretary. All officers are to be elected for at least two-year terms to provide continuity. Administrative guidance will be provided by an assigned Administrative Advisor and a NIFA Representative.

Literature Cited

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2. Cherney, J.H., and E. Small. (2016). "Industrial Hemp in North America: Production, Politics, and Potential," *Agronomy* 6(4):58.
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4. Hemp Industries Organization. (2020, December 7) <https://thehia.org/>
5. Johnson R., (2018). Hemp as an Agricultural Commodity, U.S. Congressional Research Service. Washington DC.
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7. Malone, T. and K. Gomez, K. (2019). "Hemp in the United States: A Case Study of Regulatory Path Dependence," *Applied Economic Perspectives and Policy* 41(2):199-214.
8. Mark, T.B. and W. Snell. (2019). "Economic Issues and Perspectives for Industrial Hemp," in *Industrial Hemp as a Modern Commodity Crop*, D.W. Williams, ed., Madison, WI: ASA CSSA and SSSA.
9. Mark, T., Shepherd, J., Olson, D., Snell. W., Proper, S., and Thornsby, S.(2020) Economic Viability of Industrial Hemp in the United States: A review of State Pilot Program. <https://ageconsearch.umn.edu/record/302486/>
10. Ruth, T.K., Colclasure, B.C., Conner, N., Holmes, A., and Brooks, T.D.(2022) View of Hemp on the horizon: Understanding the influences on industrial hemp purchases. <https://agdevresearch.org/index.php/aad/article/view/189/147>
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12. Sterns, J. (2019). "Is the Emerging U. S. Hemp Industry Yet Another Boom-Bust Market for U. S. Farmers?" Retrieved November 17, 2020, from Choices: choicesmagazine.org/choices-magazine/submitted-articles/is-the-emerging-us-hemp-industry-yet-another-boombust-market-for-us-farmers.

Land Grant Participating States/Institutions

WV

Non Land Grant Participating States/Institutions

Participation

Participant	Is Head	Station	Objective	Research			Extension				
				KA	SOI	FOS	SY	PY	TY	FTE	KA
Mehta, Sunidhi		West Virginia - West Virginia University		601	1730	2000	0.25	0.00	0.00	0	0

Combined Participation

Combination of KA, SOI and FOS	Total SY	Total PY	Total TY
601-1730-2000	0.25	0	0
Grand Total:	0.25	0.00	0.00

Program/KA	Total FTE
0	0
Grand FTE Total:	0

Appendix G: Response to review

We thank the reviewers for their feedback and time. We have addressed each reviewer's comments below and has made significant changes to the proposal as per reviewers' suggestions. We have narrowed down our list of objectives and also added sub-objectives to provide clarity on the scope of work that we anticipate to accomplish through this multi-state collaborative effort. We also improved the methods section with more detail. Please see our responses to individual reviewers' comments in italicized text under each comment.

Appendix G: Peer Review (Submitted)

Status: Complete

Project ID/Title: NE_TEMP2105: Motivations for Growing Industrial Hemp: Farmers, Producers, Processors, Manufacturers, Retailers, Consumers, Citizens, and Policymakers.

Rate the technical merit of the project:

1. Sound Scientific approach:

Approve/continue project

2. Achievable goals/objectives:

Good

3. Appropriate scope of activity to accomplish objectives:

Good

4. Potential for significant outputs(products) and outcomes and/or impacts:

Good

5. Overall technical merit:

Good

Comments

This is a productive multistate group with focus on an emerging sector in US agriculture. A multi-discipline, multi-state approach is highly appropriate. This specific proposal draws on a very limited amount of relatively dated information for an industry which is changing and developing rapidly. The researcher and this project will benefit from being nested in the larger multistate group and adding an additional state to the larger team can also be beneficial.

Your Recommendation:

Approve/continue project

Thank you for your positive feedback. We updated the proposal with latest references and literature in the field. The focus of this project is on developing and improving the efficiency of the Industrial Hemp supply chain from the farm-gate to the consumer. However, S1084 is focusing heavily on the production not about lower costs at the farm level. We also plan to study and develop innovative consumer products using IH to generate new economy and uses for IH, which isn't the focus of S1084. Therefore, we propose to formulate a separate multisate project that could support the efforts of our team.

Appendix G: Peer Review (Submitted)

Status: Complete

Project ID/Title: NE_TEMP2105: Motivations for Growing Industrial Hemp: Farmers, Producers, Processors, Manufacturers, Retailers, Consumers, Citizens, and Policymakers.

Rate the technical merit of the project:

1. Sound Scientific approach:

Approve/continue project with revision

2. Achievable goals/objectives:

Good

3. Appropriate scope of activity to accomplish objectives:

Fair

4. Potential for significant outputs(products) and outcomes and/or impacts:

Good

5. Overall technical merit:

Good

Comments

Overall the project has academic merits and would assist in moving industrial hemp research and Extension programming forward. My main concern is that the project seems overly broad. Hemp has numerous production methods, supply chains, and end products. Perhaps targeting objectives for one use or system would provide clarity for the project, rather than looking across all uses and production methods. Additionally, this would allow formulation of policies specific to the subset of IH end products. Unless substantial financial resources are being requested and approved a less ambitious more targeted approach is likely warranted.

Your Recommendation:

Approve/continue project with revision

Thank you for your insightful feedback. We added more specificity to our objectives and methods to help narrow down some of these overly broad sections of the proposal. We also updated the title of the proposal that is more precise and fits with the scope of work we are proposing.

Appendix G: Peer Review (Submitted)

Status: Complete

Project ID/Title: NE_TEMP2105: Motivations for Growing Industrial Hemp: Farmers, Producers, Processors, Manufacturers, Retailers, Consumers, Citizens, and Policymakers.

Rate the technical merit of the project:

1. Sound Scientific approach:

Approve/continue project with revision

2. Achievable goals/objectives:

Good

3. Appropriate scope of activity to accomplish objectives:

Fair

4. Potential for significant outputs(products) and outcomes and/or impacts:

Good

5. Overall technical merit:

Fair

Comments

Overall, there is little detail in how the objectives will be met, i.e., how what methods will be used to accomplish the objectives?

From a justification standpoint, is the goal to ID new markets, lower costs, or ID new markets?

There needs to be discussion about how the hemp market supply side has experienced oversupply and decreasing prices.

Your Recommendation:

Approve/continue project with revision

We appreciate the suggestion and we agree that the floral hemp industry overproduced in 2019 and 2020. However, for this industry to succeed the production of grain and fiber will be the drivers. Therefore, we proposed to develop new uses and products from fiber specifically and also cannabidiol. The crash of 2019 gives the industry an opportunity to reset and properly develop an achievable growth plan for the industry that allows both infrastructure and production to grow at a sustainable pace. The output of this research group will help to shape the policymaking and the supply chains necessary for the industry to succeed. Additionally, we updated our objectives and elaborated our methods section in the proposal.

Appendix G: Peer Review (Submitted)

Status: Complete

Project ID/Title: NE_TEMP2105: Industrial hemp products, production, markets, and associated challenges for the stakeholders.

Rate the technical merit of the project:

1. Sound Scientific approach:

Approve/continue project

2. Achievable goals/objectives:

Good

3. Appropriate scope of activity to accomplish objectives:

Good

4. Potential for significant outputs(products) and outcomes and/or impacts:

Good

5. Overall technical merit:

Good

Comments

This is a productive multistate group with focus on an emerging sector in US agriculture. A multi-discipline, multi-state approach is highly appropriate. This specific proposal draws on a very limited amount of relatively dated information for an industry which is changing and developing rapidly. The researcher and this project will benefit from being nested in the larger multistate group and adding an additional state to the larger team can also be beneficial.

Your Recommendation:

Approve/continue project

Appendix G: Peer Review (Submitted)

Status: Complete

Project ID/Title: NE_TEMP2105: Industrial hemp products, production, markets, and associated challenges for the stakeholders.

Rate the technical merit of the project:

1. Sound Scientific approach:

Approve/continue project with revision

2. Achievable goals/objectives:

Good

3. Appropriate scope of activity to accomplish objectives:

Fair

4. Potential for significant outputs(products) and outcomes and/or impacts:

Good

5. Overall technical merit:

Good

Comments

Overall the project has academic merits and would assist in moving industrial hemp research and Extension programming forward. My main concern is that the project seems overly broad. Hemp has numerous production methods, supply chains, and end products. Perhaps targeting objectives for one use or system would provide clarity for the project, rather than looking across all uses and production methods. Additionally, this would allow formulation of policies specific to the subset of IH end products. Unless substantial financial resources are being requested and approved a less ambitious more targeted approach is likely warranted.

Your Recommendation:

Approve/continue project with revision

Appendix G: Peer Review (Submitted)

Status: Complete

Project ID/Title: NE_TEMP2105: Industrial hemp products, production, markets, and associated challenges for the stakeholders.

Rate the technical merit of the project:

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Approve/continue project with revision

2. Achievable goals/objectives:

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3. Appropriate scope of activity to accomplish objectives:

Fair

4. Potential for significant outputs(products) and outcomes and/or impacts:

Good

5. Overall technical merit:

Fair

Comments

Overall, there is little detail in how the objectives will be met, i.e., how what methods will be used to accomplish the objectives?

From a justification standpoint, is the goal to ID new markets, lower costs, or ID new markets?

There needs to be discussion about how the hemp market supply side has experienced oversupply and decreasing prices.

Your Recommendation:

Approve/continue project with revision

NECC_TEMP2203: Legal Issues in Agriculture and Natural Resources

Status: Submitted As Final

Duration 10/01/2022 to
09/30/2027

Admin
Advisors: [[Puneet Srivastava](#)]

NIFA Reps:

Statement of Issues and Justification

Unlike traditional areas of the law, agricultural law is not just one field of study but is made of those areas of law that impact agriculture (Schneider, 2009). Production agriculture is at the heart of agricultural law (Kershen, 2008). As has been highlighted by many agricultural law scholars, the study, research, and education related to agricultural law are necessary because agriculture is important to human existence (Schneider, 2009). Understanding the impacts of laws on production agriculture can assist policymakers, producers, and service providers to better adopt to the changing needs being placed on agriculture.

Legal risks are pervasive in agricultural and natural resource industries. Stakeholders' decisions are often constrained by limited knowledge of laws and their impacts on operations, including environmental laws, contract laws, agricultural leasing, bankruptcy, estate planning, food safety, and others. Legal risk impacts vary across agricultural firm types, geographic regions, and government agencies ranging from local ordinances to state laws to federal law.

Legal risk impacts are becoming a growing concern of agriculture and natural resources operations. For example, in Maryland, 60 percent of agricultural producers and service providers responded that laws and regulations in the state affect farm businesses to a high degree. In this survey, respondents highlighted a wide range of issues impacting agricultural operations from environmental law issues, zoning and planning issues, estate planning, and USDA programs as potential areas of concern for producers (Millet-Williams et al, 2019). This is just one example in one state with other states having similar to truly unique issues depending on the conditions in that state.

While much progress has been made in understanding making decisions with legal risks, the knowledge base remains incomplete due to the continually evolving nature of U.S. law. There is a continuing need to examine both short- and long-term effects of legal changes in agriculture and other natural resource-based industries. The ever-evolving definition of waters covered under the Clean Water Act is a good example, highlighting the importance of understanding the changing nature of the law and legal risk management. A better understanding of how legal changes affect these businesses will improve and help firm-level decision-making in adapting to changes in the laws. Though proposed in the Northeast, one of the strengths of this project is it will bring a national scope of institutions represented by the participants and allow us to understand a breadth of the local, state, and federal laws impacting the agricultural and natural resource industries.

While many legal issues are initially driven by local and/or state interests, these may turn into concerns in other states as well. In response to legal challenges involving North Carolina's right-to-farm law, in 2018, the North Carolina legislature amended that law to provide additional statutory protections to agricultural operations. Following the North Carolina amendments, several other states looked at modifying their state's right-to-farm law to provide similar protections. Pulling together a coalition of national institutions working together on these issues will help all states' understand the effects of changes in agricultural law.

This proposed coalition would allow researchers to present work to a broader group of peers and allow for a more successful understanding of applying these legal issues to a broader range of legal risks impacting the agricultural and natural resource industries. In addition, the information exchange format creates opportunities for researchers to interact on issues of mutual interest, fostering extramural grant-writing efforts.

Objectives

1. Provide a scientific/professional forum to facilitate the exchange of theoretical and methodological approaches to agricultural law, and to develop original concepts and preliminary research related to agriculture and natural resources.
 2. Develop and communicate legal analysis of contract law, succession planning, nuisance, and environmental legal issues and legal risk management strategies in agriculture, including analysis of how these laws impact firm-level decisions, technology adoption, and access to information.
Comments: This would relate to the areas mentioned below in agritourism, labor, environmental, and heirs' property initially.
 3. Develop and communicate legal analysis of federal laws and regulations impacting agricultural and resource businesses.
 4. Develop and communicate legal analysis of how state laws and regulations vary among the states can impact agricultural and resource businesses.
Comments: This would relate to the areas mentioned below in agritourism, labor, environmental, and heirs' property initially.
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Procedures and Activities

Our research approach would be that utilized by many in applied agricultural law research. We would focus on using literature reviews, case law reviews, and comparative law reviews (both nationally and internationally). The U.S. is made of 50 states that often adopt different state laws that will allow us an opportunity to better understand what legislative language could work in one area and potentially not in others.

The primary activity would be an annual meeting, allowing for the exchange of ideas and information related to legal issues surrounding agricultural and natural resources law. Project members will hold this meeting in conjunction with the American Agricultural Law Association's (AALA) annual meeting/Extension Risk Management Educators (ERME) Conference, with individual tracks for the project members to exchange ideas and information.

Initially, we would propose four areas of agricultural law on which we would focus our research efforts on. At the same time, we would be nimble enough to focus on developing issues that could impact agriculture in the region. Many growers in the region (and across the U.S.) are focused on adding agritourism and agri-entertainment options to the farm. We would propose to collaborate together on research projects related to agritourism. This would include potential liability issues, strategies to limit liability, and land use issues. We would imagine that research outputs would include best practices for legislation or ordinances related to agritourism and suggestions for state policies that would allow for agritourism. At the same time, we would offer outreach to attorneys, state officials, insurance providers, and land use planners to allow these key groups to better understand the issues and work with agricultural operations looking to expand to agritourism. The group has already seen success in similar outreach efforts for these audiences by offering continuing education credit through the National Ag Law Center and typically reaching 200 plus professionals through webinars.

Labor demands in the Northeast and across the country often rely on domestic and foreign labor to work in fruit and vegetable, livestock, dairy, and poultry operations. At the same time, agricultural operations often struggle to understand the myriad of federal and state labor laws to comply with. We would propose to collaborate on agricultural labor legal issues. We would imagine that research outputs would include best practices for legislation related to labor and suggestions for state policies that would allow for improvements to the labor laws in a state. We would disseminate this information to agricultural operations, agricultural services providers, and state officials to promote better compliance with existing laws.

Although often considered a problem in the South and the West, heirs' property is also a problem in the Northeast region. We would focus on comparative law analysis of state laws across the region to determine optimal solutions for heirs' property issues. We would imagine that research outputs would include best practices for legislation related and suggestions for state policies that would allow for improvements to the heirs' property regimes across the region. This research would potentially go beyond the agricultural field in the region and could also have impact in urban areas as well. We would disseminate this information to agricultural operations, agricultural services providers, and state officials to promote better compliance with existing laws.

We would propose collaborating on research projects related to environmental law as it impacts agriculture. This research would have implications across the region and across the country. We would imagine that research outputs would include best practices for legislation related and suggestions for state policies that would allow for improvements to the environmental law impacts on agriculture across the region. We would disseminate this information to agricultural operations, agricultural services providers, and state officials to promote better compliance with existing laws.

Based on this increased collaboration, we would expect to increase the development of organized symposia sessions for the AALA's annual meeting, for meetings of agricultural economists and policy professionals, and for risk management conferences. We would also expect this collaboration to help us develop theme issues for interested law journals focusing on agricultural law, including the Drake Journal of Agricultural Law, Kentucky Journal of Equine, Agriculture, and Natural Resource Law, and the Texas A&M Law Review.

Expected Outcomes and Impacts

- Exchange of ideas, information/data, and research results at a multi-day professional meeting of project members held in the fall of each year and virtual quarterly meetings.
 - Coordination of research and extension programs surrounding legal issues impacting agricultural and natural resources firms.
 - Research results and insights to directly inform and evaluate federal and state laws and their impact on decisions in agriculture and natural resources and the future landscape.
 - Development of themed publications about developing issues, as this group works with existing law journals, such as Drake Journal of Agricultural Law, Kentucky Journal of Equine, Agriculture, and Natural Resource Law, and the Texas A&M Law Review, and other outlets such as Choices Magazine.
 - Formal interaction with private practice attorneys, governmental attorneys, in-house counsels, and other professionals. By holding our annual meeting in conjunction with the AALA's annual meeting/ERME conference, we will be able to interact with those professionals working on these issues and better develop academic research focused on current legal issues.
-

Educational Plan

Organization/Governance

A three-member executive committee consisting of a past project chair, project chair, and program chair will govern the project. Administrative issues will be addressed during the business meeting held in conjunction with the annual meeting. The committee will conduct elections to fill the position of program chair during the business meeting. The program chair coordinates the program for the next annual meeting and the quarterly virtual meeting sessions. The outgoing program chair becomes the project chair and is responsible for conducting the business meeting, submitting an annual report on project activities, and maintaining communication with the administrative advisor and the Northeast Association of Agricultural Experiment Station Directors. The outgoing project chair will become the past project chair to provide additional support to the executive committee. Initially, at the first annual meeting, the project team would elect project team members to fill the three executive committee positions.

We would also incorporate into this project an advisory panel of key stakeholders such as attorneys, Experiment Station Directors, agricultural operators, and other ag service providers. This advisory panel would be integrated into our annual meetings to help provide additional feedback on research to ensure its timely and valuable to our target audience.

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- Suri, Mayhah, and Paul Goeringer. "Community Supported Agriculture: How do Maryland Operators Manage Legal Risks." *Ky. J. Equine Agric. & Nat. Resources L.* 9 (2016): 211.

Land Grant Participating States/Institutions

MD

Non Land Grant Participating States/Institutions

Participation

Participant	Is Head	Station	Objective	Research						Extension	
				KA	SOI	FOS	SY	PY	TY	FTE	KA
Goeringer, Paul	Yes	Maryland - University of Maryland	1,2,3,4	610	3299	3050	0.15	0.00	0.00	0.15	610

Combined Participation

Combination of KA, SOI and FOS	Total SY	Total PY	Total TY
610-3299-3050	0.15	0	0
Grand Total:	0.15	0.00	0.00

Program/KA	Total FTE
610	0.05
Grand FTE Total:	0.15

For this response, we will only address negative comments.

Reviewer Comment: *I will recommend two things 1) include Extension production economist and 2) possibly include tax law experts as part of the group.*

Response: This committee is being proposed by two legal faculty members and one Extension economist. Legal faculty in land grants are often housed in agricultural econ/applied econ departments, and many of us work closely with research faculty and Extension faculty within these departments. Therefore, we would encourage further inclusion of these faculty members (Extension economists and tax law experts) within the group to create more integrated research outputs. At the same time, we would encourage other faculty members in animal science, plant sciences, environmental sciences, and public health to join the committee to create interdisciplinary research projects better.

Reviewer Comment: *Inclusion of public health and animal welfare into the project.*

Response: Our team members recognized we would not initially cover all areas critical to the region/nationally. We strategically pulled out areas of concern that often come up in needs assessments of producers' concerns. We strategically included language in the proposal that would be agile enough to include growing areas of concern, such as animal welfare. At the same time, we would see the climate change concerns and public health concerns being raised by this reviewer would be included in our broad topic of environmental law. Environmental laws, in many cases, were developed to improve the environment and limit impacts on public health. At the same time, many proposed strategies to combat climate change fall under environmental law. We have highlighted this in the proposal.

Reviewer Comment: *It might be advantageous for the project to seek to reach other agricultural scientists through papers in refereed policy journals.*

Response: Our members again recognize this, and as mentioned earlier, the current team already includes an agricultural economist. At the same time, looking at concerns of research areas not included in the proposal, this proposed committee could increase awareness of land grant legal faculty on existing multi-state committees. For example, S1074 related to animal welfare issues and NC1187 on public health issues in agriculture could benefit from land grant legal faculty working on research in these areas to create better interdisciplinary multi-state research programs. Land grant legal faculty are generally eager to engage in this interdisciplinary research as it enriches all disciplines. Increasing the awareness of these committees and other committees among our members will allow this committee to better integrate into other interdisciplinary multi-state committees.

Appendix J1: CC Evaluation (Submitted)

Status: Complete

Project ID / Title:

NECC_TEMP2203: Legal Issues in Agriculture and Natural Resources

Questions

- | | |
|---|------------------|
| 1. Goals and objectives clearly stated and appropriate to committee activity(s) | Excellent |
| 2. There is a good potential to attain the objectives and plan identified in the activity. | Excellent |
| 3. Activity addresses priority research and is not duplicative with existing activities. | Excellent |
| 4. Activity has moved beyond individual activity(s) and ideas to a collective, interdependent activity. | Excellent |

For renewal projects only:

- | | |
|--|------------------|
| 5a. Attendance of the preceding project has been adequate and reflects broad participation by designated project participants. | Excellent |
| 5b. The project has developed and demonstrated technology transfer to clientele. | Excellent |

Recommendation

Approve/continue with normal revision.

Comments:

This project focuses on the need to address laws and regulations as they impact agricultural operations at the field level. It is important to garner a collective understanding of these laws and regulations for framing and putting into practice environmentally sound, socially acceptable and economically feasible agricultural practices in the production of food, fuel and fiber.

Appendix J1: CC Evaluation (Submitted)

Status: Complete

Project ID / Title:

NECC_TEMP2203: Legal Issues in Agriculture and Natural Resources

Questions

- | | |
|---|-------------|
| 1. Goals and objectives clearly stated and appropriate to committee activity(s) | Good |
| 2. There is a good potential to attain the objectives and plan identified in the activity. | Good |
| 3. Activity addresses priority research and is not duplicative with existing activities. | Good |
| 4. Activity has moved beyond individual activity(s) and ideas to a collective, interdependent activity. | Fair |

For renewal projects only:

- | | |
|--|------------------|
| 5a. Attendance of the preceding project has been adequate and reflects broad participation by designated project participants. | Excellent |
| 5b. The project has developed and demonstrated technology transfer to clientele. | Excellent |

Recommendation

Approve/continue with revision (provide specific recommendations in Comments below).

Comments:

1. Goals and objectives clearly stated and appropriate to committee activity(s) The proposal is correct that there is a continuing need to examine both short- and long-term effects of legal changes in agriculture and other natural resource-based industries. 2. There is a good potential to attain the objectives and plan identified in the activity. The proposal recognizes that agritourism and agri-entertainment options for farm operators can be important. Europeans have capitalized on this aspect to enhance revenues of rural properties. But, should the project be expanded to include issues that would seem to be particularly relevant for the region? Should public health be a part of the project? Where is animal welfare - the Supreme Court is hearing a case on this issue? What about climate change? The coastal regions of the states are important and it affects production agriculture. Production agriculture does not stand alone, especially in a region (Northeastern and Mid-Atlantic states) where a considerable number of products are marketed locally and regionally. These relationships involve issues involving marketing that are beyond laws affecting production agriculture. Agriculture and natural resources in the region are intimately related to the economies and populations of the region. Does the proposal recognize this when it ignores the environment and public health? 3. Activity addresses priority research and is not duplicative with existing activities. How is the project different from what is being studied by researchers in the Midwest or other regions of the country? 4. Activity has moved beyond individual activity(s) and ideas to a collective, interdependent activity. It might be advantageous for the project to seek to reach other agricultural scientists through papers in refereed policy journals. Communicating in law reviews and extension publications is fine but reaching out through cross-discipline research and publications might be more fruitful in furthering the exchange of new ideas and solutions for issues confronting agriculture and natural resources.

Appendix J1: CC Evaluation (Submitted)

Status: Complete

Project ID / Title:

NECC_TEMP2203: Legal Issues in Agriculture and Natural Resources

Questions

- | | |
|---|------------------|
| 1. Goals and objectives clearly stated and appropriate to committee activity(s) | Excellent |
| 2. There is a good potential to attain the objectives and plan identified in the activity. | Excellent |
| 3. Activity addresses priority research and is not duplicative with existing activities. | Excellent |
| 4. Activity has moved beyond individual activity(s) and ideas to a collective, interdependent activity. | Excellent |

For renewal projects only:

- | | |
|--|------------------|
| 5a. Attendance of the preceding project has been adequate and reflects broad participation by designated project participants. | Excellent |
| 5b. The project has developed and demonstrated technology transfer to clientele. | Excellent |

Recommendation

Approve/continue with normal revision.

Comments:

The proposed is a needed activity and hope that something similar will become available in the NCR. Ample participation at AALA is likely.

Appendix J1: CC Evaluation (Submitted)

Status: Complete

Project ID / Title:

NECC_TEMP2203: Legal Issues in Agriculture and Natural Resources

Questions

- | | |
|---|------------------|
| 1. Goals and objectives clearly stated and appropriate to committee activity(s) | Excellent |
| 2. There is a good potential to attain the objectives and plan identified in the activity. | Excellent |
| 3. Activity addresses priority research and is not duplicative with existing activities. | Excellent |
| 4. Activity has moved beyond individual activity(s) and ideas to a collective, interdependent activity. | Excellent |

For renewal projects only:

- | | |
|--|------------------|
| 5a. Attendance of the preceding project has been adequate and reflects broad participation by designated project participants. | Excellent |
| 5b. The project has developed and demonstrated technology transfer to clientele. | Excellent |

Recommendation

Approve/continue with normal revision.

Comments:

Excellent idea and should be beneficial professionally for Extension members who deal with agricultural law issues.

Appendix J1: CC Evaluation (Submitted)

Status: Complete

Project ID / Title:

NECC_TEMP2203: Legal Issues in Agriculture and Natural Resources

Questions

- | | |
|---|------------------|
| 1. Goals and objectives clearly stated and appropriate to committee activity(s) | Excellent |
| 2. There is a good potential to attain the objectives and plan identified in the activity. | Excellent |
| 3. Activity addresses priority research and is not duplicative with existing activities. | Excellent |
| 4. Activity has moved beyond individual activity(s) and ideas to a collective, interdependent activity. | Excellent |

For renewal projects only:

- | | |
|--|------------------|
| 5a. Attendance of the preceding project has been adequate and reflects broad participation by designated project participants. | Excellent |
| 5b. The project has developed and demonstrated technology transfer to clientele. | Excellent |

Recommendation

Approve/continue with normal revision.

Comments:

I think this is a fantastic idea. I hope to see this go national. I will recommend two things 1) include extension production economist, and 2) possibly include tax law experts as part of the group.

Great job!

NEERA_TEMP2104: Northeast Region Technical Committee on Integrated Pest Management

Status: Submitted As Final

Duration 10/01/2021 to
09/30/2026

Admin [Margaret E. Smith]

Advisors:

NIFA Reps:

Statement of Issues and Justification

The northeastern region of the United States is comprised of twelve states (CT, DE, ME, MA, MD, NH, NJ, NY, PA, RI, VT, and WV) with extremely diverse agricultural practices, ecosystems, and land use patterns. Research and extension personnel similarly have diverse backgrounds and focus areas, reflecting the diverse needs of Northeastern stakeholders. Indeed, research and extension personnel improve pest management and increase IPM adoption in various agricultural and public settings including crop fields, public health establishments, schools, housing and other structures, livestock, wildlife, and natural areas. Coordinating and sharing IPM approaches, successes, and difficulties among state personnel is central to the development of new ideas and collaborations that results in the development of more economically and environmentally sustainable pest management strategies that reduce risk to applicators, stakeholders, non-target organisms and the environment. Members of this group (currently designated NEERA1604, formerly NEERA1004) consist of IPM coordinators and extension personnel throughout the Northeast (including those of the Northeast IPM Center) and represent a wide range of IPM programs and expertise. By sharing information, we improve the quality and efficiency of IPM programming in the Northeast. There are also many new IPM personnel in the Northeast Region who stand to benefit greatly from interacting with colleagues of diverse expertise and experiences (whose programs also benefited from their participation in NEERA coordinating committee activities).

The extension arm of the land-grant university acts as a two-way bridge with stakeholders fostering dialogue necessary to develop feasible solutions, share innovations, and maximize IPM adoption. IPM specialists work together to identify knowledge gaps and emerging issues to address stakeholder-identified priorities. Such regional coordination facilitates rapid response and timely dissemination of information.

Northeast regional applied research and extension priorities include but are not limited to:

1. Increase collaboration among regions to synergize resource use, identify new funding sources, coordinate research and extension efforts.
2. Create standardized IPM performance metrics.
3. Support region-wide weather-based decision support systems (e.g. [NEWA](#)) and cross-regional collaborations (e.g. [IPM PIPE](#)).
4. Improve resiliency in the face of climate change and provide resources that improve understanding of climate change and its effects on pest management.
5. Reduce threats to wild and managed pollinators including loss of habitat, pesticides, and diseases/parasites, as well as increase resources dedicated to pollinator health.
6. Improve understanding of and mitigate pesticide resistance.
7. Address challenges created by emerging and invasive pests such as spotted lanternfly, Asian longhorn tick, boxwood blight, palmer amaranth, *Hydrilla verticillata*, tar spot of corn, and more.
8. Address public health issues including ticks and tick-borne disease (spreading in the Northeast) and other vector borne illnesses, as well as structural pests that can increase asthma and risk of human exposure to pesticides.
9. Address legislative and regulatory issues associated with pesticides.
10. Support IPM adoption for weed, disease and arthropod pests in schools, agricultural, natural, urban and rural settings
11. Deliver materials that benefit diverse stakeholders in multiple languages and cultural traditions.
12. Train next generation IPM practitioners.
13. Create resources for stakeholders seeking to integrate biocontrol, non-chemical alternatives and reduced-risk pesticides into their pest management program

Working groups addressing regional issues and inform and contribute to NEERA priorities include but are not limited to:

1. Northeastern weeds IPM working group, <https://www.northeastipm.org/working-groups/northeastern-weeds/>
2. Spotted lanternfly working group, <https://www.northeastipm.org/working-groups/spotted-lanternfly/> and [StopSLF.org](https://www.stopslf.org)
3. The Scientific Coalition of Pest Exclusion (SCOPE2020), <https://www.northeastipm.org/working-groups/scope-2020/> and [pestexclusion.org](https://www.pestexclusion.org)
4. Invasive Hardy Kiwi (*Actinidia arguta*) working group
5. School IPM working group, <https://www.northeastipm.org/working-groups/schools/>
6. Tree fruit IPM working group, <https://www.northeastipm.org/working-groups/tree-fruit/>
7. Vegetable and small fruit IPM working group, <https://www.northeastipm.org/working-groups/vegetable/>
8. Spotted wing drosophila working group, <https://www.northeastipm.org/working-groups/spotted-wing-drosophila/>
9. NE1832: Biological control of arthropod pests and weeds, <https://www.nimss.org/projects/view/mrp/outline/18479>

The NEERA1604 committee improves interdisciplinary communication and cooperation among IPM specialists, which facilitates interdisciplinary and multistate projects, improves evaluation of program impact, and helps deliver innovative and timely sustainable pest management solutions.

Objectives

1. Coordinate information sharing to facilitate region-wide IPM collaborations and knowledge transfer.
 2. Leverage regional expertise to identify and prioritize stakeholder needs, knowledge gaps, and funding opportunities.
 3. Facilitate cooperation, team building and multistate research and extension programs
 4. Represent IPM activities, opportunities and needs of Northeast region Land Grant IPM programs to Federal and state agencies and other entities.
 5. Collaborate with and advise the Northeastern IPM Center to publicize the accomplishments of all IPM research and extension programs in the region, develop the northeastern region IPM communications network, and maintain a repository of IPM state reports throughout the Northeast Region.
 6. Foster communications and represent Northeast IPM interests to IPM programs in other regions and at the national level.
-

Procedures and Activities

1. The chairperson organizes an annual meeting to discuss important issues, share experiences and plans, devise regional responses to national issues, and coordinate collaborative multi-state activities. Each state provides an annual report from which highlights are discussed with the group. The annual meeting also includes reports from IPM Working Groups administered by the Northeastern IPM Center.
 2. The chairperson and chairperson-elect serve on the National IPM Coordinating Committee.
 3. The past, current and elect chair of the NEERA group serve on the Northeastern IPM Center Advisory Council.
 4. Representatives of EPA and SARE-NE are active participants with NEERA. The SARE-NE grants program technical review panel usually includes a representative from NEERA.
 5. A group email list is used to communicate among NEERA participants as issues arise through the year.
-

Expected Outcomes and Impacts

- Support for quality and consistency of IPM programming in the Northeast.
 - Region-wide collaboration to address IPM issues related to new and emerging pests.
 - Success in leveraging funds from multiple sources including state agencies, commodity groups, and the private sector, in support of IPM programming
 - Increased reach of Northeast IPM innovations and information. Cooperative development and sharing of publications and other educational material. Comments: Through the annual meeting and group email discussion, NEERA functions as the only forum where all the IPM Coordinators from the Northeast meet to discuss programs, issues, and stakeholder concerns directly. Opportunities for collaboration among states are directly discussed by state-designated extension, and/or research, representatives from each state. NEERA also serves as a key point of contact for governmental and academic institutions, private sector stakeholder groups with respect to pest issues.
 - Continued development and adjustments of agricultural IPM programs to ever changing weather and pest complexes. Comments: Example: Spotted Lanternfly (SLF): In Northeastern states where SLF has been established or detected, it threatens damages of \$802 million in tree fruit, \$113 million in grapes, \$110 million in small fruit, and \$2.6 billion in ornamentals. Spray records from 5 impacted vineyards indicate that the number of insecticide applications increased from 4.2 applications in 2016 to 14 in 2018, increasing insecticide cost from \$54.63/acre to \$147.85/acre in 2018. Despite the increased insecticide use, the vineyards still could not maintain control. A working group led by Penn State researchers is addressing the threats posed by SLF. Working group members were awarded USDA SCRI funding to investigate the pest biology and management methods. Participating are Penn State (PSU), Northeastern IPM Center (NEIPM), New York State IPM, Cornell University, University of Delaware (UDel), USDA ARS, University of Rhode Island (URI), Temple University, Rutgers University, and University of Vermont (UVM).
 - Region-wide collaboration to address IPM and pesticide residue issues in public schools. This includes incorporating IPM into public school curricula as a form of public education. Comments: Example: Northeast School IPM (NESIWG): Children are more vulnerable to both pests and pesticides. Schools need support and assistance to adopt IPM practices. Funded by NEIPM from 2008 – 2013, NESIWG is still active, has broad representation of organizations and agencies serving schools throughout the northeastern states, including State of Maine, UMaine, Cornell, NYS IPM, WVU, URI, EPA Regions 2 and 3, University of Maryland, UMass, University of Connecticut, UNH, Rutgers, plus many school systems, private IPM practitioners, state agricultural and environmental agencies. Schools enrolled in the program have up to 90% fewer pest problems and pest-related allergens, and significantly less pesticide use and exposed pesticide residues, and improved indoor air quality. Published analysis shows annual cost savings from IPM adoption ranging from \$1,000 to \$32,000 per school. NESIWG continues to operate a well-used School IPM Best Practices website (www.northeastipm.org/schools/) and helped create a school nurse IPM program which has reached over 1.2 million people.
 - Collaboration with USDA/NRCS to ensure that IPM continues to be a component of conservation payment programs. Comments: Example: Municipal Rodent IPM Working Group (MRIPM), funded in 2021 by NEIPM is already working to advance the adoption of municipal-scale rodent IPM in the Northeast. Prior to this effort there has been no formal coalition dedicated to advancing the science and implementation of municipal rodent management. MRIPM includes representatives from academia, manufacturers, consultants, applicators, and several municipalities.
 - Leadership in urban IPM programming and including urban issues in the National IPM Roadmap.
 - Enhance our ability to quickly identify and respond to emergent IPM knowledge gaps and stakeholder needs.
 - Maintain a repository of state reports to the annual NEERA meeting. Comments: Online access to state IPM Extension activities (state IPM coordinator reports) serves as historical documentation for the development and application of the IPM approach within the Northeast region.
-

Educational Plan

Priorities within individual states drive in-state educational planning. NEERA provides the forum for linking resources and activities to augment those programs with resources and expertise from multiple states.

IPM Working Groups within the Northeast region actively networking

- Brown marmorated stink bug
- New England Tree Fruit IPM Working Group (Multi-state and Canadian province workshop scheduled for October 2022)
- Municipal Rodents Working Group School IPM
- Spotted lanternfly
- Spotted wing drosophila
- Tarping and Soil Solarization Weed Control Working Group
- The Scientific Coalition of Pest Exclusion (SCOPE2020)
- Vegetable and Small Fruit

Multi-state webinars

- Fire blight management (hosted by Univ. NH)
- Tree Fruit Friday forums (hosted by Univ. NH)
- Winter Tree fruit webinars (hosted by Univ. MA)

Continuation of regional publications & workshops

- New England Vegetable Guide
- New England Small Fruit Guide
- ME-NH-VT annual greenhouse IPM program

Topics for regional collaboration

- Asian longhorned beetle
 - Asian longhorned tick
 - Boxwood blight
 - Browntail moth
 - Climate change risk assessment and adaptation planning for agricultural IPM
 - Hemlock woolly adelgid
 - Hydrilla (*Hydrilla verticillata*)
 - Insect pollinator conservation
 - Integrating biocontrol and reduced-risk pesticides
 - IPM training materials for underserved communities and multiple languages
 - IPM curriculum for public education, Consumer IPM education
 - Palmer amaranth
 - Public housing structural IPM
 - Regional weather-based decision support systems (NEWA, AgRadar, IPM PIPE)
 - Regulatory interfaces with pesticides and other IPM tactics
 - Soybean IPM concerns (e.g. soybean rust, herbicide-resistant weeds, etc.)
 - Small scale, diversified, and organic agriculture IPM
 - Spanish language IPM and pesticide safety materials
 - Serving Beginner, Physically challenged, and Immigrant farmer audiences
 - Standardizing and harmonizing IPM performance metrics
 - Tick vectors and tick-borne diseases
 - Training the next generation of IPM practitioners
-

Organization/Governance

The NEERA chair position rotates around the 12 participating states. Chairperson duties consist of organizing the agenda and logistics for the annual meeting, collecting and submitting reports, serving on the National IPM Coordinating Committee and the Northeastern IPM Center Advisory Council, and assisting the incoming chairperson for continuity. Chairpersons also collaborate with the Northeastern IPM center and the USDA National Institute of Agriculture to address issues important to NEERA members.

The 2020, 2021, and 2022 meetings were held virtually. Prior to that, in-person meetings have been held in conjunction with other IPM-related meetings (e.g. International IPM Symposium, American Phytopathological Society, Entomological Society of America, Weed Science Society of America, national and eastern-branch meetings).

Literature Cited

Land Grant Participating States/Institutions

NJ,MD,VT,NH,MA,RI,DE,ME,NY

Non Land Grant Participating States/Institutions

Participation

Participant	Is Head	Station	Objective	Research						Extension	
				KA	SOI	FOS	SY	PY	TY	FTE	KA
Calixto, Alejandro		Cornell Cooperative Extension	1,2,3,4,5,6	216	2410	1130	0.10	0.00	0.00	0.01	0
				216	2420	1130					
				216	3110	1130					
				216	3120	1130					
				216	5220	1130					
				216	6099	1130					
				0	0	0					
Dill, James F.	Yes	Maine Cooperative Extension	1,2,3,4,5,6	0	0	0	0.00	0.00	0.00	0.01	216
Grantham, Deborah G		Cornell Cooperative Extension	1,2,3,4,5,6	0	0	0	0.00	0.00	0.00	0.1	216
Hamby, Kelly A	Yes	Maryland - University of Maryland	1,2,3,4,5,6	216	3099	1130	0.10	0.00	0.00	0	0
				216	2199	1130					
				216	1599	1130					
				216	1499	1130					
				216	1199	1130					
				216	2199	1140					
				216	1599	1140					
				216	1499	1140					
				216	1199	1140					
				216	2199	1160					
				216	1599	1160					
216	1499	1160									
216	1199	1160									
Hamilton, George	Yes	New Jersey - Rutgers University	1,2,3,4,5,6	211	2110	1130	0.10	0.00	0.00	0.5	216
Hazelrigg, Ann I		Vermont - University of Vermont	1,2,3,4,5,6	216	1499	1160	0.10	0.00	0.00	0.4	216
				216	2199	1130					
				216	1599	1160					
Koehler, Glen		Maine Cooperative Extension	1,2,3,4,5,6	0	0	0	0.00	0.00	0.00	0.01	216
Owens, David	Yes	Delaware - University of Delaware	1,2,3,4,5,6	211	1499	1130	0.10	0.00	0.00	0.03	216
				216	1599	1130					
Sandler, Hilary	Yes	Massachusetts - University of Massachusetts	1,2,3,4,5,6	216	1199	1060	0.10	0.00	0.00	0.5	216
				216	1499	1060					
Tewksbury, Elizabeth A	Yes	Rhode Island - University of Rhode Island	1,2,3,4,5,6	216	1119	1130	0.10	0.00	0.00	0.1	216
				216	2110	1130					
				216	3110	1130					
Wallingford, Anna		New Hampshire - University of New Hampshire	1,2,3,4,5,6	216	1499	1130	0.20	0.00	0.00	0.6	216
				216	1119	1130					

Combined Participation

Combination of KA, SOI and FOS	Total SY	Total PY	Total TY
0-0-0	0	0	0
0-0-0	0	0	0
211-2110-1130	0.1	0	0
216-1199-1130	0.01	0	0
216-1199-1140	0.01	0	0
216-1199-1160	0.01	0	0
216-1499-1130	0.01	0	0
216-1499-1140	0.01	0	0
216-1499-1160	0.01	0	0
216-1599-1130	0.01	0	0
216-1599-1140	0.01	0	0
216-1599-1160	0.01	0	0
216-2199-1130	0.01	0	0
216-2199-1140	0.01	0	0
216-2199-1160	0.01	0	0
216-3099-1130	0.01	0	0
216-1499-1160	0.03	0	0
216-1599-1160	0.03	0	0
216-2199-1130	0.03	0	0
0-0-0	0	0	0
216-1119-1130	0.1	0	0
216-1499-1130	0.1	0	0
216-1199-1060	0.05	0	0
216-1499-1060	0.05	0	0
216-1119-1130	0.03	0	0
216-2110-1130	0.03	0	0
216-3110-1130	0.03	0	0
211-1499-1130	0.05	0	0
216-1599-1130	0.05	0	0
Grand Total:	0.90	0.00	0.00

Combination of KA, SOI and FOS	Total SY	Total PY	Total TY
0-0-0	0.01	0	0
216-2410-1130	0.01	0	0
216-2420-1130	0.01	0	0
216-3110-1130	0.01	0	0
216-3120-1130	0.01	0	0
216-5220-1130	0.01	0	0
216-6099-1130	0.01	0	0
Grand Total:	0.90	0.00	0.00

Program/KA	Total FTE
216	0
216	0
216	0.17
0	0
216	0.13
216	0.03
216	0.2
216	0.17
216	0.03
216	0.01
0	0
Grand FTE Total:	2.26

NEERA_TEMP2104: Northeast Region Technical Committee on Integrated Pest Management

Thank you to our three reviewers for their expertise and their time taken in reading our proposal. Based on reviewer suggestions, we have made the following changes:

Reviewer comment: Does iPiPE still exist? iPiPE is mentioned as part of the 3rd priority. However, this program (I thought) has become IPMPIPE and is moving towards an integration with EDDMaps. More curious than anything if this is still a thing and warrants inclusion as a priority for the region.

Our response: Yes, thank you. Members who worked with iPiPe before the project was updated to IPM PIPE tend to use the two names interchangeably. The link also needed to be corrected.

Find correction: In our Statement of Issues and Justification section, we have updated our 3rd research and extension priority to read, “3. Support region-wide weather-based decision support systems (e.g. NEWA; <https://newa.cornell.edu/>) and cross-regional collaborations (e.g. IPM PIPE; <https://www.ipmpipe.org/>).” In our Education Plan, we’ve changed “iPiPe” to “IPM PIPE” under topics of regional collaboration

Reviewer comment: You mention "and more" but tar spot of corn has moved into your region and could be a very problematic disease for corn growers. May be worth adding to your list.

Our response: Tar spot was not identified by the group as a grower concern at our last meeting. However, this pathogen/disease has been detected in Pennsylvania and Western New York in 2021 and 2022, so well worth adding to our list of emerging concerns in the northeast.

Find correction: Find “tar spot of corn” in our list of emerging pests in research & extension priority #7.

Reviewer comment: The fifth objective mentions "maintaining a database of IPM Programs". What exactly is this? I did not see any expected outcomes or impacts that related to this.

Our response: The full objective reads “Collaborate with and advise the Northeastern IPM Center to publicize the accomplishments of all IPM research and extension programs in the region, develop the northeastern region IPM communications network, and maintain a database of IPM programs throughout the Northeast Region.” It might have been more appropriate to say, “maintain a repository of state reports” instead of “maintain a database.” While we have had lengthy conversations about how a searchable database would be helpful for IPM investigators who are developing new projects or writing new grant proposals, we have yet to identify a member who was interested in spearheading this kind of project.

Find correction: In our 5th Objective, we have changed “maintain a database” to “maintain a repository of state reports”. We have also separated out “Maintain a repository of state reports..” as it’s own bullet point under Expected Outcomes & Impacts.

Reviewer comment: Your second bullet point in Expected Outcomes seems to be two bullet points merged.

Our response: Thank you for the correction on this typo.

Find correction: Corrected in Expected Outcomes & Impacts

Reviewer comment: Why do some Expected Outcomes have no details and some have an abundance of already accomplished results. I would like to see this entire section have less focus in the past and more what will be accomplished in the future.

Our response: NEERA functions as a forum where all IPM Coordinators from the Northeast meet to discuss ongoing programs, issues, and stakeholder concerns in our own states. The detailed information provided in this section serve to provide examples for the kinds of projects or collaborations that might develop over the next four years. We're not really sure what challenges our stakeholders might face. Nonetheless, we agree that this section should reflect ongoing programs (e.g. SLF, NESIWG, MRIPM) or programs we anticipate being pertinent through the future.

Find correction: We've removed the language about the SWDWG in our Expected Outcomes and Impacts. While SWD remains a serious pest of small fruit, the working group has not been active since 2019.

Reviewer comment: Some of the items mentioned in the Educational Plan seem outdated (e.g., soybean rust)

Our response: The list in our education plan was generated from list of "hot button issues" submitted by coordination committee members over the past few years. Soybean rust may still be an issue for some of our members or it may have been a lingering hot button issue on a list, but soybean IPM remains a high priority for our region.

Find correction: In our Education Plan, we have changed "Soybean Rust" to "Soybean IPM Concerns (e.g. soybean rust, herbicide resistant weeds, etc.)" as Topic for Regional Collaboration.

Appendix J1: CC Evaluation (Submitted)

Status: Complete

Project ID / Title:

NEERA_TEMP2104: Northeast Region Technical Committee on Integrated Pest Management

Questions

- | | |
|---|-------------|
| 1. Goals and objectives clearly stated and appropriate to committee activity(s) | Good |
| 2. There is a good potential to attain the objectives and plan identified in the activity. | Good |
| 3. Activity addresses priority research and is not duplicative with existing activities. | Good |
| 4. Activity has moved beyond individual activity(s) and ideas to a collective, interdependent activity. | Good |

For renewal projects only:

- | | |
|--|------------------|
| 5a. Attendance of the preceding project has been adequate and reflects broad participation by designated project participants. | Excellent |
| 5b. The project has developed and demonstrated technology transfer to clientele. | Good |

Recommendation

Approve/continue with normal revision.

Comments:

This is a well-crafted proposal to continue the work of a regional technical committee which has a long history of productive collaborations to address pest management priorities in the northeastern US.

Appendix J1: CC Evaluation (Submitted)

Status: Complete

Project ID / Title:

NEERA_TEMP2104: Northeast Region Technical Committee on Integrated Pest Management

Questions

- | | |
|---|------------------|
| 1. Goals and objectives clearly stated and appropriate to committee activity(s) | Excellent |
| 2. There is a good potential to attain the objectives and plan identified in the activity. | Excellent |
| 3. Activity addresses priority research and is not duplicative with existing activities. | Good |
| 4. Activity has moved beyond individual activity(s) and ideas to a collective, interdependent activity. | Excellent |

For renewal projects only:

- | | |
|--|------------------|
| 5a. Attendance of the preceding project has been adequate and reflects broad participation by designated project participants. | Excellent |
| 5b. The project has developed and demonstrated technology transfer to clientele. | Excellent |

Recommendation

Approve/continue with normal revision.

Comments:

This working group is providing a very important venue that helps IPM programs in the region identify priorities, discuss ways to help each other become more effective, and provide real impacts for the region. Some questions/suggestions. 1. Does iPiPE still exist? iPiPE is mentioned as part of the 3rd priority. However, this program (I thought) has become IPMPIPE and is moving towards an integration with EDDMaps. More curious than anything if this is still a thing and warrants inclusion as a priority for the region. 2. You mention "and more" but tar spot of corn has moved into your region and could be a very problematic disease for corn growers. May be worth adding to your list. 3. The fifth objective mentions "maintaining a database of IPM Programs". What exactly is this? I did not see any expected outcomes or impacts that related to this. 4. Your second bullet point in Expected Outcomes seems to be two bullet points merged. 5. Why do some Expected Outcomes have no details and some have an abundance of already accomplished results. I would like to see this entire section have less focus in the past and more what will be accomplished in the future. 6. Some of the items mentioned in the Educational Plan seem outdated (e.g., soybean rust)

Appendix J1: CC Evaluation (Submitted)

Status: Complete

Project ID / Title:

NEERA_TEMP2104: Northeast Region Technical Committee on Integrated Pest Management

Questions

- | | |
|--|------------------|
| 1. Goals and objectives clearly stated and appropriate to committee activity(s) | Excellent |
| 2. There is a good potential to attain the objectives and plan identified in the activity. | Excellent |
| 3. Activity addresses priority research and is not duplicative with existing activities. | Excellent |
| 4. Activity has moved beyond individual activity(s) and ideas to a collective, interdependent activity. | Excellent |
| For renewal projects only: | |
| 5a. Attendance of the preceding project has been adequate and reflects broad participation by designated project participants. | Excellent |
| 5b. The project has developed and demonstrated technology transfer to clientele. | Excellent |

Recommendation

Approve/continue with normal revision.

Comments:

The committee has a strong record of coordination, information, and resource sharing among the northeastern states. The proposal outlines a broad range of activities to address IPM needs across the diverse environments and programs in these states. There is extensive evidence of involvement of committee members in collaborative activities which have documented impacts across multiple programs. The proposal outlines a plan to maintain their past productivity and involvement of members to address IPM needs in the region.