

Northeastern IPM Center – IPM Partnership Grant Program 2011 – Project Description

PD: Ann Hazelrigg

Lead Institution: University of Vermont

Co-PD(s) and Institutions:

Project Title: Northeast Small Fruit IPM Working Group and Pest Issues Tour

Project Type: IPM Working Group

Project Summary:

Small fruits are an economically important crop for New England and New York and are often an essential component of diversified vegetable farms. Pest identification and knowledge of successful integrated pest management strategies are crucial for the successful small fruit farm. A Northeast Small Fruit IPM Working Group that develops and directs IPM priorities for small fruit stakeholders in New York and New England is an important resource for the small fruit industry.

We propose a three day meeting with approximately 18 small fruit and/or pest management specialists from NY and New England. Pest management specialists from universities, organic farming associations plus NRCS will be invited. The group will focus on pest issues on small fruit farms in eastern NY and western Massachusetts. The first half day of the meeting will be spent sharing slides/examples of pest issues encountered in our states and sharing information about our various agencies' websites, diagnostic tools and IPM programs. The past two years, this sharing session has proved to be very impactful for the attendees. Information learned at past meetings was shared immediately with growers through websites, newsletters and programs and throughout the year at annual meetings, twilight sessions and one on one farm visits. (Please see support letters.)

The following day will be in the field. At our 2010 meeting in Burlington, VT, the group discussed the importance of clean propagation stock in small fruit plant production, especially when considering the spread of new and potentially serious virus and nematode problems in propagated strawberries, blueberries and raspberries. As a result of our discussion, we will incorporate a tour of Nourse Farms into our field day. Nourse Farms is a large facility/farm in western Massachusetts that propagates and sells small fruit transplants for the commercial and home garden market. Nourse Farms has recently opened a new state-of-the-art Micro Propagation Lab at the farm to insure disease free stock, a topic of special interest to our group. The other field visits will be at small fruit farms in the area and may include small fruit farms doing Farm to Table and high tunnel production. The third half day will be spent discussing pest management strategies with an emphasis towards choosing reduced risk pesticides and non-pesticide strategies that lead to sustainable solutions. The group will also identify and prioritize specific research, extension and education needs for small fruit stakeholders in New England. In the past, we have also used this time to discuss priorities for IR-4 projects and materials of interest to small fruit growers.

The continuation of an active and impactful Small Fruits IPM Working Group that addresses emerging IPM issues and priorities outlined in the National IPM Roadmap and by the NE IPM

Center is one of the desired outcomes of the 3 day meeting. The second desired impact is improving the pest identification and integrated pest management knowledge in both conventional and organic small fruit systems among specialists to benefit small fruit growers. A third desired impact is to increase awareness of the different IPM programs offered by the different agencies at the meeting and to foster cooperation and transparency among the agencies. Please see the Small Fruit IPM Working Group Logic Model to see a visual explanation of our project.

Background and Justification:

Small fruits are an economically important and growing crop for the Northeast and are often an essential component of diversified vegetable farms. Pest identification and knowledge of successful integrated pest management strategies are crucial for the successful small fruit farm. Communication and sharing of IPM expertise among Northeast small fruit specialists and those making pest recommendations is extremely critical, especially as subject matter depth erodes due to retirements and tightening of budgets in Extension. The loss of expertise has been an important concern among growers voiced and documented repeatedly at the raspberry, blueberry and strawberry pest management strategic plan meetings in recent years (Hazelrigg, et al., 2008; Hazelrigg, et al., 2006; Hazelrigg, et al., 2007). Many of the collaborators listed on this project, along with small fruit growers from the NE states have been involved in the development of these PMSP meetings, setting priorities for extension, research and regulatory needs for the different small fruit crops.

Northeast Extension professionals have few opportunities for in service field training and sharing of expertise in small fruit pest identification and pest management. There also is little opportunity to meet with pest management professionals from the organic grower associations (NOFAVT, NOFA-NY, MOFGA) and NRCS. A growing segment of our Northeast small fruit stakeholders' farms are certified organic or functionally organic without certification. These farmers have not regularly taken advantage of traditional grower meetings and Pest Management Guides, perceiving the meetings and publications to be more oriented for conventional growers. The growers often feel underserved by University personnel and often struggle more than conventional growers with pest identification and IPM pest management strategies. (Wendy Sue Harper, NOFAVT Vegetable and Berry Technical Advisor, pers. com.) The lack of organic pest management strategies including the lack of organic pesticides has continually been voiced as a research and education concern at the small fruit PMSP meetings in past years. As a result of the discussions at our past IPM Working Group meetings the participants feel organic systems should continue to be incorporated into our discussions and field trips.

With increased movement of insects, diseases, plant materials, and invasive weeds in addition to the pressures of climate change, the scope of pests causing problems continues to widen. Of concern to our group is the potential for new diseases including nematodes to be introduced on to Northeast small fruit farms through infected planting stock. This potentially devastating scenario has not been adequately addressed and researched in small fruit production. The Working Group is also concerned with the increased range and potential devastation to small fruits caused by the spread of the brown marmorated stink bug, winter moth, and blueberry scorch (Jacobs, S. 2010.)

An informed and knowledgeable group of plant pathologists, entomologists, weed and small fruit specialists responsible for designing research and outreach programs and making pest management recommendations based on IPM principles are an important and critical resource for small fruit stakeholders.

Small fruits are an economically important crop for the six New England states and New York. According to recent New England Agricultural Statistics Service reports (USDA. NASS. 2008) the value of blueberries, strawberries and raspberries combined are worth over 30 million dollars each year for New England growers. New York is a significant producer of small fruits with acreage of strawberries, raspberries and blueberries adding up to 3,000 acres. According to Heather Faubert, RI, the Ag census in 2007 indicated the number of small fruit farms has increased by 50% and the amount of small fruit acreage has tripled since 2002.

There are many potential insect, disease and weed problems in small fruit crops that can limit farm profits. From recent pest management strategic plan (PMSP) meetings for small fruits in New England, growers indicated major problems include, but are not limited to; mummy berry disease in blueberries, increased incidence of *Phytophthora* species in raspberry and strawberry, virus diseases and nematode problems in all of the small fruits (Hazelrigg, et al., 2008; Hazelrigg, et al., 2006; Hazelrigg, et al., 2007). Diseases caused by viruses and nematodes are disciplines that lack expertise in the land grant institutions in New England. With increased movement of insects, diseases, plant materials, and invasive weeds, in addition to the pressures of climate change, the scope of pests causing problems in small fruits is continually expanding. Winter moth and brown marmorated stink bug are new and emerging pests in parts of New England that may be potentially devastating to small fruits. Pest identification skills and knowledge of successful integrated pest management strategies are crucial for the specialists working with small fruits and the farmers growing these high value crops. The value of seeing the new (plus the familiar) diseases in the field is extremely valuable for the Extension and other pest management specialists (NOFAVT, NOFA-NY, MOFGA and NRCS) throughout the Northeast. It is also important that the different agencies work well together to increase program impacts and increase the understanding of IPM strategies. It is essential that the working group also include individuals from the IR-4 Program, to provide input and further the impact these pest problems can be managed with the best tools.

Northeast Extension and other pest management professionals (NOFAVT, NOFA-NY, MOFGA, and NRCS) have few opportunities for in service field training and sharing of expertise in small fruit pest identification and integrated pest management. The three day meeting will allow a diverse group of IPM stakeholders with interest in small fruit pests to share information in both a field setting and the conference room. The meeting will also provide an opportunity to network among agencies and continue to develop IPM priorities for research, extension and education for stakeholders.

Objectives and Anticipated Impacts:

Objective 1. To gather IPM stakeholders from multi-disciplines (plant pathologists, entomologists, weed specialists, small fruit specialists) and multi-states (New England and

NY) and different agencies (Extension, Organic Farming Associations and NRCS) to share information and expertise in the field and conference room on small fruit pest identification and integrated pest management strategies for both organic and conventional systems. We will focus but not limit some of our efforts this year on clean propagation stock, the spread and impact of the brown marmorated stink bug and winter moth.

Impact: Increased ability by IPM stakeholders to identify small fruit pests and increased knowledge of pest management strategies using IPM principles. This knowledge will be passed on to small fruit stakeholders through meetings, websites, on site farm visits, newsletters, pest management strategic plan meetings and crop and field guides.

Objective 2. To continue to address priorities for research, education and extension for small fruit IPM (in both organic and conventional systems) through the Northeast Small Fruit IPM Working Group made up of representatives from Extension, organic associations and NRCS.

Impact: Increased educational opportunities for small fruit stakeholders and increased adoption of IPM practices among all small fruit stakeholders.

Objective 3. To increase awareness of the different agencies' (Extension, NOFAVT, NOFA-NY, MOFGA, NRCS) programs and initiatives for IPM strategies.

Impact: This will increase collaboration and communication among agencies and will increase understanding of the various programs offered by the agencies ultimately helping small fruit stakeholders with their pest management strategies.

Objective 4. To identify future IPM education opportunities and topics for workshops, conferences, websites and newsletters for all Northeast small fruit growers.

Impact: Increased adoption of IPM practices among all small fruit stakeholders.

Objective 5. To evaluate the impacts of the NE Small Fruit IPM Working Group meeting by surveying participants.

Impact: Increase knowledge of pest identification in small fruits and assess impacts and outcomes of the knowledge gained. (see Evaluation section.)

Approach and Procedures:

Objective 1. We propose a three day meeting in Vermont with small fruit and/or pest management specialists from Extension, organic farming associations and NRCS from New England and NY. The first half day will be spent discussing and sharing of slides/examples of pest issues we have encountered in our own states over the past year. Management considerations for each pest and crop will be fully discussed with an emphasis towards choosing reduced risk pesticides, organic pesticides and alternative, non-pesticide strategies that lead to

sustainable solutions. We will also discuss the programs our various agencies offer to promote IPM. The next full day will be in the field visiting farms producing blueberries, strawberries, and raspberries examining the pest problems associated with the different crops, and discussing management practices with farmers. We plan to include a tour of the new Micro Propagation Lab at Nourse farms along with other farm visits. The third half day will be spent discussing what we identified in the field the previous day in addition to setting research and education priorities for both organic and conventionally grown small fruits in the Northeast.

Objective 2. The third day of the meeting will include a thorough discussion of the priorities for research, extension and education needs for all small fruit growers in the Northeast. We will record those priorities and share them at the NE IPM Center website. These priorities will drive future projects for the group.

Objective 3. During the first half day of our meeting we will share information about our different agencies' IPM and pest management programs. The desired outcome of the 3 day meeting is to continue to build collaboration and transparency among agencies to increase the impact of the IPM Working Group for small fruits. Discussions and familiarity among the specialists in the different agencies for the 3 days will help collaborations across state and agency lines. Specialists will be more aware of the resources each agency offers growers to assist them with their pest management strategies.

Objective 4. The third day of our meeting will be spent discussing research and extension priorities for small fruit stakeholders. Based on our discussions, we will identify IPM topics to be presented at our state small fruit meetings (including both organic and conventional grower association meetings) and the biennial NE Vegetable and Berry Conference in December 2011. We will also discuss the possibility of applying for additional funds in the future to plan and conduct on farm small fruit IPM workshops for growers.

Objective 5. Ann will be responsible for a participant evaluation following the meeting to assess knowledge gained and impacts of that knowledge. This will be completed within a month after the meeting. The survey will assess whether the participants gained new knowledge of small fruit pest identification and management. We will assess whether participants would make changes in pest management recommendations (or practices, for growers) as a result of the knowledge learned at the meeting, and whether the group learned new pest management practices that would eliminate or decrease the use of pesticides in the crop or lead to the use of a reduced risk or organic pesticide. We would also query participants whether information learned specifically at the meeting would be passed on to growers in the next year and whether the information would be passed on through a farm visit, a meeting or workshop, through a website, list serve or through a fact sheet. We will also ask whether the pest management specialists were more equipped to address the needs of their organic small fruit stakeholders and whether those stakeholders learned more about IPM as a result of our workshop. The Small Fruit IPM Working Group will continue to use the NE IPM Center website as a forum to list our priorities and outcomes of the meeting in addition to housing collected photos of pests and diseases from the field visits. (It is hoped that some of the photos generated from the field portion of the meeting can be used in a future *New England Small Fruit IPM Field Manual*, funded by the Center in 2010.)

Evaluation Plans:

Within a month following the meeting, the Project Director will survey the specialists attending the meeting and pest tour (including growers) to evaluate the impacts of the three day event. The survey will assess whether the participants gained new knowledge of small fruit pest identification and management. We will assess whether participants would make changes in pest management recommendations (or practices, for growers) as a result of the knowledge learned at the meeting, and whether the group learned new pest management practices using IPM tools. We would also query participants whether information learned specifically at the meeting would be passed on to growers in the next year and whether the information would be passed on through a farm visit, a meeting or workshop, through a website or list serve or through a fact sheet. We will also ask whether the pest management specialists were more equipped to address the needs of their organic small fruit stakeholders and whether those stakeholders learned more about IPM as a result of our workshop. Surveying will be done through the use of a web-based survey.

7. Cooperation, Institutional Units and Key Personnel Involved

Ann Hazelrigg, MS --Roles and Responsibilities: Overall project coordinator. The project director, Ann Hazelrigg, will be responsible for organizing the three day meeting slated for August 2011, developing an agenda and recording outcomes and future directions for the group. Invitations and “hold the date” emails would go to participants this winter. Hotel and meeting rooms would be booked this winter and growers lined up for the tour. Ann will be responsible for reporting the outcomes, future goals and priorities formulated from the 3 day in-service to the NE IPM Center. Ann will also be responsible for a participant evaluation following the meeting to assess knowledge gained and impacts of that knowledge

Percent of effort: 1.65%

Institutional Units

University of Vermont College of Agriculture and Life Sciences

Department of Plant & Soil Science (PSS) – Ann Hazelrigg is a member of this department and is involved in the extension, outreach and evaluation aspects of this project. Ann Hazelrigg is providing expertise on meeting and agenda organization, evaluation of impacts and reporting to the NE IPM Center.

Bibliography and References Cited:

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Hazelrigg, A. and Kingsley-Richards, S. 2006 New England High Bush Blueberry Pest Management Strategic Plan. <http://pronewengland.org/INFO/PROpubs/PMSP/BlueberryPMSP2006-03-17.pdf>

Jacobs, S. 2010. Brown Marmorated Stink Bug <http://ento.psu.edu/extension/factsheets/pdf/BrownMarmoratedStinkBug.pdf>

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