

NEERA 2017 State Report

State: New Jersey

Submitted by: George Hamilton

Current Situation: The IPM programs coordinated by Rutgers Cooperative Extension encompassed production agriculture in the areas of blueberries, nurseries, greenhouses, tree fruit, and vegetables. Research conducted by faculty and staff connected to these various programs is helping to increase the adoption of IPM and at the same time reduce our reliance on pesticides as the sole pest management tool being used. During 2016/2017 work was done to develop management strategies for use against the brown marmorated stink bug in vegetables, tree fruit and grapes and the spotted wing drosophila in small fruits and blueberries. In addition, the vegetable IPM program was able to impact more acreage through the use of their website that tracks weekly European corn borer, corn earworm population and brown marmorated stink bug changes in the state. Overall, IPM adoption in the state was seen on ~7,000 acres of blueberries, 500 acres of nursery stock, ten greenhouse acres, ~ 8,500 acres of peaches, ~ 2,500 acres of apples, and ~ 27,500 acres in vegetables (carrots, cole crops, high-tunnel tomato production, pumpkins, peppers, snap beans, staked tomatoes, sweet corn, and sweet potatoes) for a total of more than 60,000 acres. The fruit IPM program's faculty and staff also conducted research evaluating the impacts of the brown marmorated stink bug (BMSB) in peaches and apples, and participated the Brown Marmorated Stink Bug (BMSB) working group (Hamilton is a co-organizer/chair). This group is supported by funds provided by the Northeast IPM Center.

EIPM Grant 2016/2017: This grant continues the coordination of IPM programming in New Jersey and the implementation of previously EIPM funded projects in the IPM Implementation in Specialty Crops emphasis area. The project's overall goals are to increase IPM awareness and adoption in NJ by continuing to conduct annual advisory meetings with stakeholders, represent NJ on state and regional committees, respond to IPM-related inquiries, and coordinate and report on state/institutional activities. The goals of the IPM Implementation in Specialty Crops emphasis area project are to 1) integrate validated pest management research results into a delivery program, train growers and seasonal field scouts in pest monitoring methods, reduce insecticide use, optimize the use of reduced risk practices, and reduce excessive use of fertilizers in grapes, 2) expand a pilot IPM program begun in 2012 for grapes, to further develop the various tactics utilized by the program, train growers and seasonal field scouts in pest monitoring methods, and expand the statewide acreage impacted 3) Evaluation of pesticide residues from beehives present in commercial blueberry fields and 4) the development of web based information targeting ZIKA and its importance in the Northeast.

Management of the Brown Marmorated Stink Bug: Since its introduction into the US in the mid 1990's, the brown marmorated stink bug has been detected and or established populations in 43 states. Since 2008, it has become a severe pest of fruit, vegetables, field crops and ornamentals in mid-Atlantic state so a moderate pest in surrounding areas, a moderate pest of these pests in surrounding states and a developing pest in California, Oregon and Washington. Researchers (George Hamilton, Anne Nielsen, Dean Polk) in New Jersey are involved in two multistate USDA funded projects to management this pest. The first was a 3 year project, led by George

Hamiltonin NJ funded by the Specialty Crops Research Initiative program. The second is a 5 year project led by Dr. Anne Nielsen funded by the USDA ARS Areawide Pest Management Initiative.

Management of the Spotted Wing Drosophila: Following the spread of the spotted wing drosophila from the west coast to the east coast in 2011, this insect has become a severe pest of blueberries, grapes and other small fruit. Because of this growers are require the use of multiple insecticides sprayed multiple times during the season to manage it. Researchers (Anne Nielsen, Dean Polk and Cesar Rodriguez-Saona) in New Jersey are involved in several USDA and state funded projects to management this pest.

Multistate collaborations: The New Jersey program maintains collaborations with extension and research personnel in Pennsylvania, Delaware, Maryland and New York on a variety of projects including the management of BMSB and spotted wing drosophila.

IPM Impacts: 1) Overall, growers are better able to monitor for BMSB and SWD allowing them to make better pest management decisions; 2) Conventional growers are using less insecticides to manage BMSB in fruit and vegetable crops; 3) Increased number of grape growers are enrolled in the grape IPM program when compared to the previous year, 4) blueberry and bee keepers have a better idea of the pesticide found in bee hives in NJ blueberry fields.