

**WSDA Specialty Crop Block Grant Program**  
**APPLE IPM TRANSITION PROJECT**

December 2009 Progress Report

J. F. Brunner, N. Lehrer, W. E. Jones, K. R. Granger and U. Chambers

---

**Executive and Advisory Committees**

An Executive Committee has been formed comprising key people from a previous project. These individuals serve as an administrative oversight group in dealing with personnel and are primarily responsible for the project meeting its stated objectives. The Executive Committee consists of:

Dr. Jay F. Brunner, Chair and PI on the SCBG grant  
Dr. Jim McFerson, Manager of the Washington Tree Fruit Research Commission  
Bruce Grim, Executive Director of the Washington State Horticulture Association  
Karen Lewis, Extension Educator, Grant-Adams County

Invitation letters have gone out to a broad-based group of fruit industry and agency individuals asking them to serve on an Advisory Committee for the Apple IPM Transition Project. Many of these individuals served on a previous Advisory Committee for the Pest Management Transition Project and are expected to agree to serve again. The Advisory Committee will meet in late winter to review the projects progress towards stated goals as well as plans to meet remaining goals by the end of the project. The Advisory Committee would meet again in the fall of 2010 to review progress of the project.

**Implementation Unit evaluations**

Implementation Units have been the primary outreach vehicle for educating the industry on how to successfully adopt use of new insecticide technologies along with other IPM tactics. This fall we conducted evaluations using the Turning Point audience response system with each of the project's 2009 Implementation Units to assess learning and knowledge of alternative insecticides and IPM practices, and to gather feedback to improve Implementation Units for 2010. Results of the data are being summarized and analyzed and will be presented in the next reporting period.

**Transition Handbook**

The handbook developed during the previous project is being updated and will be reprinted for use in educational activities in 2010. The updates include changes associated with degree-day timings being implemented in 2010 for the codling moth model, some changes in insecticide use recommendations and new information on the impacts of insecticides on natural enemies. A completely updated version of the PMTP Handbook will be provided as a pdf at the next reporting period.

We have also begun the process of translating the IPM Transition Handbook into Spanish. This is being done in collaboration with the Hispanic Orchard Employee Education at the Wenatchee Valley College Agriculture Program. This translation will be complete in time to use the handbook with our Spanish Language Implementation Units this spring.

**Apple Pest Management Consultant Survey**

A survey of pest management consultants was prepared for distribution to a sample of about 240 consultants in January 2010. The mailing list for the survey was compiled from WSDA consultant licensing records and then narrowed to focus on pest management consultants working specifically in apple orchards. Surveys will be completed by early March, and data analyzed by spring/summer 2010, in order to compare results to a 2007 season survey of pest management consultants. Results of the

2007 survey are available on our web site ([pmt.p.wsu.edu](http://pmt.p.wsu.edu)). The goal is to track changes in insecticide use recommendations, knowledge of integrated pest management tactics, and thoughts about the azinphos-methyl (AZM, Guthion) phase-out among apple pest management consultants.

### **Apple Grower Survey**

An apple grower survey mailed in February 2009 to a 50% sample of orchard owners and managers (N=1,940), with a response rate of 27% (403 surveys returned out of 1,458 eligible participants) has been compiled and analysis of the data are in progress. We know from survey results analyzed thus far that that 80% of growers were using AZM, and 65% of growers were using pheromone mating disruption for control of the key apple pest, the codling moth. However, the acreage represented by these growers showed that approximately 87% of the apple acres were employing pheromone mating disruption as part of their apple IPM program. Many growers also reported using alternative insecticides such as Assail and Delegate and integrated pest management (IPM) tactics such as field monitoring and pheromone traps. The greatest barriers to use of alternative insecticides were cost, effectiveness, and secondary pest flare-ups (aphids and mites) associated with increased use of products such as Rimon and Delegate. Over half the survey respondents had heard of the Pest Management Transition Project, and 62% were interested in further training on how to use alternatives to AZM. These survey data will be posted on our web site and are being further analyzed to gain insights into relationships between certain practices growers used and their impacts. In addition, we are beginning the process to compare our survey data alongside that from previous National Agriculture Statistics Service (NASS) surveys. This effort will be used to trace the trajectory of the AZM phase-out and transition to more sustainable apple pest management.

### **Case Studies**

Groundwork has been laid to conduct a series of case study histories of the AZM phase-out. While survey data, as described above, provides a broad picture of orchard owner, manager, and consultant decisions and trends for apple IPM, the case histories will provide depth to the story of the industry response to the AZM phase-out. Case histories consist of interviews with orchard owners or consultants that address how each orchard has decided to approach the AZM phase-out, the costs and benefits of those decisions, and the ways that changes in pesticide use have affected production costs, labor costs, yields, and apple pack outs. These histories, containing both qualitative and quantitative components, will feed into an economic model of the cost structure of the AZM phase-out. Initial meetings have been held so far with five participants, and are planned with several additional participants for January 2010.

### **Specialized Farm Worker trainings**

IPM presentations were made to a group of Spanish-speaking pesticide applicators and supervisors in November at a WSU-sponsored pesticide recertification class. As part of this meeting, questions were asked using the Turning Point audience response system to survey participants on their knowledge of the pesticide transition and pesticide health and safety. A subset of Turning Point questions was also asked at the Washington Tilth Organic Producers Association conference and at the Washington State Horticultural Association conference in December. Future presentations/survey sessions are planned for the Spanish session at the annual GS Long meeting in January and for a WSU County Extension pesticide recertification class in March. Results from these surveys will be compared to similar data from the winter of 2008-09 to track changes in pesticide knowledge and use among pesticide applicators and supervisors over time.

### **Decision Aid System**

Dr. Ute Chambers was hired to serve as Manager of the WSU-DAS. Dr. Chambers has a background in IPM research and implementation. She is working with the AIPMTP team to integrate educational and outreach activities of WSU-DAS. She participated in the Implementation Unit meetings this fall to review the new features of WSU-DAS and interacted with consultants and growers on their needs for IPM education.

Dr. Chambers is in the process of developing updated and new on-line tutorials for the WSU-DAS, which will help old and new users access and get the most out of using the system. Progress is also being made on translating WSU-DAS into Spanish and a beta-testing group is being formed to evaluate the Spanish Language part of the system.

### **MLR Database Development**

We have begun a collaborative effort with the Northwest Horticulture Council (NHC) on the development of a database that would allow for real-time updates of maximum residue level (MRL) information for the benefit of the tree fruit industry. An initial meeting between NHC staff and the AIPMTP team and WSU Decision Aid System (WSU-DAS) Manager and programmer established the criteria for the database. The database will be dynamic in that it will allow users to query the MRL information maintained by the NHC by country of interest, chemical of interest and crop of interest, or combinations of these. The database will also be constructed to allow WSU-DAS access to the information and incorporate it into the on-line system used by all crop consultants and many growers and managers in the state. This information is becoming more and more important as growers adopt new insecticides in place of AZM or other organophosphate insecticides. Growers need to know what countries have MRLs for which new insecticides when they are making real-time management decisions on controlling their pests.

### **Outreach**

Presentations made this fall included posters and a talk on the Pest Management Transition Project at the Washington State Horticultural Association conference, and a second presentation on the project at the GRAS2P orchard sustainability workshop in December 2009. Several additional presentations at winter meetings are schedule for January and February of 2010. The AIPMTP is sponsoring an intensive workshop on IPM is schedule for February 25, 2010.