LEARNING new tactics

A decision by the U.S. Environmental Protection Agency to phase out the use of Guthion (azinphos-methyl) in tree fruits will force many Washington State apple growers to change their pest management practices. Washington’s tree fruit industry is already recognized internationally as a leader in integrated pest management, and the use of organophosphate insecticides, including azinphos-methyl, has decreased dramatically over the past ten years as new IPM technologies like mating disruption have been adopted. Most Washington apple growers, however, continue to base control of the key pest, the codling moth, on Guthion.

Research has developed new technologies, such as softer chemistries, more precise predictive models, improved spray delivery systems, and strategies for incorporating them into commercial programs. Nevertheless, successful and widespread implementation of these new technologies and strategies into tree fruit production will require some learning on the part of those who make pest management decisions. Using these new technologies requires more than simply substituting a new pesticide for an old one.

The Pest Management Transition Project was funded through the state legislature to help Washington apple growers overcome the barriers to adoption of new pest control technologies in IPM through a comprehensive program of education, training, and assessment. While adoption of new IPM strategies is already occurring within a segment of the Washington apple industry, using the Transition Project to share both new university research and newly implemented industry practices will hasten the adoption process for those who have not yet fully embraced IPM practices.

Some 190 participants, representing more than 42,600 apple acres, were involved with the project in 2008. It’s not too late to get involved for 2009.

by Keith Granger, Jay Brunner, and Nadine Lehrer, Washington State University

Implementation units

The Transition Project is working directly with the Washington apple industry through implementation units. A unit is a group of growers, managers, and crop consultants from the same geographic area who meet regularly to share information and experiences as new IPM technologies are implemented. The units have been patterned after the “education and information sharing” model that was successful in previous area-wide projects facilitating the adoption of mating disruption. Participants in the units are not required to follow prescribed programs or use specific insecticides or mating disruption technologies. Instead, regular, local meetings are held to share information that is being developed through university research and to create the opportunity for the participants to share their practical experiences and the successes and failures that occur in the process of adopting new technologies.

Fourteen units were established in 2008, distributed geographically across the principal fruit-growing regions of Washington State to accommodate as many interested people as possible. In total, approximately 190 participants, representing over 42,600 Washington apple acres, were directly involved through the implementation units in 2008. Based on responses from an informal survey that was conducted at initial unit meetings, 73 percent of participants had used Guthion in their pest management programs during the previous season.

EPA phaseout schedule for azinphos-methyl

<table>
<thead>
<tr>
<th>Year</th>
<th>Maximum amount of active ingredient</th>
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<tbody>
<tr>
<td>2007</td>
<td>4 pounds per acre</td>
</tr>
<tr>
<td>2008-2009</td>
<td>3 pounds per acre</td>
</tr>
<tr>
<td>2010</td>
<td>2 pounds per acre</td>
</tr>
<tr>
<td>2011-2012</td>
<td>1.5 pounds per acre</td>
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Last year, the units met approximately once per month in the spring from March through May and again before and after harvest in August and November to plan and evaluate pest management strategies. Participants were provided with a project handbook that addressed topics important to implementing IPM strategies: mating disruption, organophosphate replacements, insecticide resistance management, monitoring, secondary pests, clean-up programs, cultural practices, and Web resources.

They also received a series of ten newsletters that addressed IPM issues at specific times during the growing season. The handbook and newsletters are available on the project Web site at http://pmtp.wsu.edu. Field days sponsored by the project were held in June at orchards located in Brewster, Quincy, and Prosser, providing participants with the opportunity to interact with research and extension experts who discussed codling moth and leafroller control strategies, secondary pest issues, WSU’s Decision Aid System, and sprayer technology.

Assessment

At the close of the first full calendar year of the project, work is under way to measure the on-the-ground adoption of IPM practices. Preliminary feedback from unit members indicates that, despite the challenges inherent in adapting to new pest management technologies, growers and consultants were successful in using IPM and alternative insecticides to control codling moth and leafroller in apple production in 2008. Some participants made dramatic changes in their apple pest management programs while participating in the project, while others took smaller steps to become more comfortable with new technologies.

This winter, project leaders are following up on the initial assessments by surveying participating growers and consultants. The survey will assess growers’ and consultants’ knowledge of the Guthion phaseout and IPM alternatives, their approaches to the challenge of changing their pest management practices, and their opinions on the role of the implementation units in helping growers adopt alternative pest management strategies. This information will serve as a base for follow-up surveys and future case study analyses of IPM adoption, and will also provide insight on how to guide future unit meetings and broader outreach efforts to facilitate and support the use of IPM throughout the tree fruit industry.

Get involved

The transition project outreach of unit meetings, handbooks, and newsletters will be offered again in 2009. Apple growers, managers, and consultants who are interested in participating should visit the project Web site for more information. The Web link entitled “How to Get Involved” will take Web users to an online form that can be used to sign up to participate in an implementation unit or to receive newsletters and updates. Interested parties can also call the WSU Tree Fruit Research & Extension Center (509) 663-8181 to ask for more information.

To get involved in the Pest Management Transition Project, visit http://pmtp.wsu.edu.