

August 1, 2011

## **New Fruit Pest Found in Pennsylvania**

UNIVERSITY PARK, Pa. - As Penn State researchers warned earlier this year, a new pest of grapes, berries, and tree fruit has made its way into Pennsylvania fruit orchards. Spotted Wing Drosophila (SWD) was confirmed last month in Adams County by researchers from Penn State and the Pennsylvania Department of Agriculture. SWD is a small vinegar fly with the potential to damage many fruit crops, reports Dr. David Biddinger, entomologist at the Penn State Fruit Research and Extension Center. "The greatest potential for damage is probably to the many types of berry crops." SWD has also been found in New Jersey as well as several states to the south and west of Pennsylvania. Late season fruit crops such as blackberries, fall raspberries, blueberries and grapes are the crops of most concern in Pennsylvania, though any thin-skinned fruit can be affected.

Native to Southeast Asia, the fly was first detected in the western United States in 2008 and discovered on the east coast in Florida on strawberries in spring of 2010. "Unlike other vinegar flies that target damaged or overripe fruit, SWD females will attack any soft-skinned healthy fruit to lay its eggs," Biddinger explains.

Biddinger says that because the flies are only a few millimeters long and cannot fly very far, human-assisted transport is the most likely cause of the recent rapid spread. "It is important for growers to be able to identify the pest and to learn about monitoring and management of SWD," says Biddinger. Identification of the adults is difficult because of their small size and several similar characteristics of other vinegar flies in our region, including *Scaptomyza sp.*, which are common in commercial plantings in Pennsylvania. The SWD is approximately two to three mm long with yellow-brown bodies and red eyes. Adult males have two distinctive dots on the wings and brown bands on the abdomen. The females look similar but do not have the wing dots or bands and have large, saw-like ovipositor for inserting eggs into fruit. SWD larvae are white, without a distinctive head and easier to detect against darker fruit, such as cherries.

Identification of SWD should be confirmed by experts. Sven Spichiger, entomology program manager at the Pennsylvania Department of Agriculture, and his staff will be able to assist with proper identifications. Adults thrive at cool temperatures in the spring and fall, but growth and reproduction are greatly slowed during hot summer weather. Females live two to nine weeks, lay two to three eggs per fruit and can lay more than 300 eggs total, showing high potential for large-spread fruit infestation if not controlled.

During egg-laying, rot and fungal diseases can also affect the fruit, further contaminating the fruit at harvest. Infected fruit are difficult for growers to detect, since the only symptoms at first seem to be a small pin-prick from egg-laying, turning into small scars and indented soft spots and bruises before the fruit eventually collapses from the internal feeding of the larvae or disease. Dr. Greg Krawczyk, Penn State Extension Tree Fruit Entomologist and Kathy Demchak, Penn State Senior Extension Associate in Horticulture, suggest growers use integrated pest management (IPM) methods of monitoring using baits and traps suggested at <http://extension.psu.edu/ipm/agriculture/fruits/spotted-wing-drosophila>. Control methods are crop specific. Recommendations can be found in newsletter articles appearing in Penn State's "Fruit Times Newsletter" (<http://extension.psu.edu/fruit-times>) and "Vegetable and Small Fruit Gazette" (<http://extension.psu.edu/vegetable-fruit/newsletter>), and will be incorporated into other print and online guides.

It is not expected that the current level of infestation will require a special treatment(s) against SWD, although if needed, effective tools are available for the control of this pest. Regardless of the crop, control of this pest will be dependent controlling the flies before they lay eggs and sanitation of infested or left over fruit on the crop. Insecticides labeled for use on specific crops may list fruit flies as pests they control, but generally these will mean fruit flies of another family such as apple maggot, cherry fruit flies and blueberry maggot. Many of the currently registered insecticides labeled for these other fruit flies should also control SWD, but care must be taken to stay within the pre-harvest limitations of the pesticide used.

For more information on SWD, visit <http://extension.psu.edu/ipm/agriculture/fruits/spotted-wing-drosophila> or <http://sites.google.com/site/spottedwingdrosophila/>. Growers can also contact their local horticultural extension agent or entomologist for further information. The Pennsylvania IPM program is a collaboration between the Pennsylvania State University and the Pennsylvania Department of Agriculture aimed at promoting integrated pest management in both agricultural and urban situations. For more information, contact the program at (814) 865-2839, or Web site at <http://paipm.cas.psu.edu> to access the program's blog, Twitter and Facebook pages.