New Fruit Pest Discovered in Minnesota

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Spotted wing drosophila adult on a blackberry

Photo by Jeff Hahn, University of Minnesota

A new fruit pest, the spotted wing drosophila (SWD) (*Drosophila suzukii*), has arrived in Minnesota. This pest feeds on small fruits and stone fruits, such as raspberries, blackberries, blueberries, strawberries, grapes, plums and cherries. The SWD is an invasive pest of Asian origin that was first detected in the continental United States in California in 2008 and has since spread to many western and eastern states. It was found for the first time in Minnesota in August 2012.

Initial detections of this pest in Minnesota were in Hennepin and Ramsey Counties. After a press release was made by the Minnesota Department of Agriculture to inform growers and gardeners about the presence and impacts of the SWD, many new infestations have been identified throughout the southern half of Minnesota. Current infestations of SWD are primarily in raspberries, blackberries and grapes. People are noticing the small, white maggots inside of what were apparently healthy and intact fruits at the time of harvest. Some people reported seeing similar maggots in cherries and plums earlier this year. Based on experience from other states, it appears that this pest will move from one type of ripening fruit to the next throughout the season.

The SWD looks very similar to the small fruit flies that can occasionally be seen flying around overripe fruit on the kitchen counter. However, unlike these other flies, which typically feed on overripe or deteriorating fruits, the SWD feeds on healthy, intact, ripening fruits. The SWD is a small fly, only 2-3 mm (1/12-1/8 inch) long, with yellowish-brown coloration and prominent red eyes. Male SWD have dark spots near the tips of the clear wings. Several other species of small flies with spots on their wings can easily be confused for SWD. Female SWD have few distinguishing characters and are even more difficult to identify. Larvae of SWD are about 4 mm long and white with a cylindrical bodies that taper on both ends. To date, SWD is known to be an outdoor pest; fruit flies found indoors are likely to be a different species.

Spotted wing drosophila larvae in a blackberry

Photo by Robert Koch, MDA

In other infested areas, yield losses due to this pest have ranged from negligible to 80%. Although we have received reports of significant infestations in Minnesota berries, with this pest being so new to the state, little is known about how big of an impact it will have here. Female SWD use a saw-like egg-laying structure to lay their eggs in ripening fruits. The larvae of the SWD then feed within the fruits causing the fruit to become soft and to rot rapidly. Sometimes the symptoms will not show until after the fruits are harvested and sometimes not until the fruits are in possession of the consumers. The larvae will then pupate and later emerge as adults. Multiple generations of SWD can occur in a year, with populations building throughout the summer. The overwintering stage of the SWD is presumed to be the adult; however, its ability to survive Minnesota winters remains unknown.

Several items should be considered for management of this pest. Sanitation is an important consideration to lessen local buildup of SWD populations. Sanitation practices include frequent harvest of crop to ensure ripe fruits are not in field for extended period of time and removal and destruction of old fruit remaining on stems and the ground. Furthermore, crops can be monitored with traps baited with yeast or vinegar. Traps should be checked frequently (at least weekly) to determine the presence and abundance of SWD males and females. Monitoring for activity of SWD adults is also important, because once eggs are laid in the fruits it will be too late for other management tactics (for example, insecticides) to be effective. If SWD are found in the traps, an insecticide that is registered for use in the specific crop and effective against the pest should be applied. More detailed management recommendations specific to Minnesota can be found at www.vegedge.umn.edu/SWD/SWDpp.html.

The adult flies are difficult to distinguish from other small flies; however, if you find an abundance of small, white maggots in fruits that were apparently healthy at the time of harvest, contact the MDA at 1-888-545-6684 (voicemail) or at Arrest.the.Pest@state.mn.us.