



Pest e-alerts



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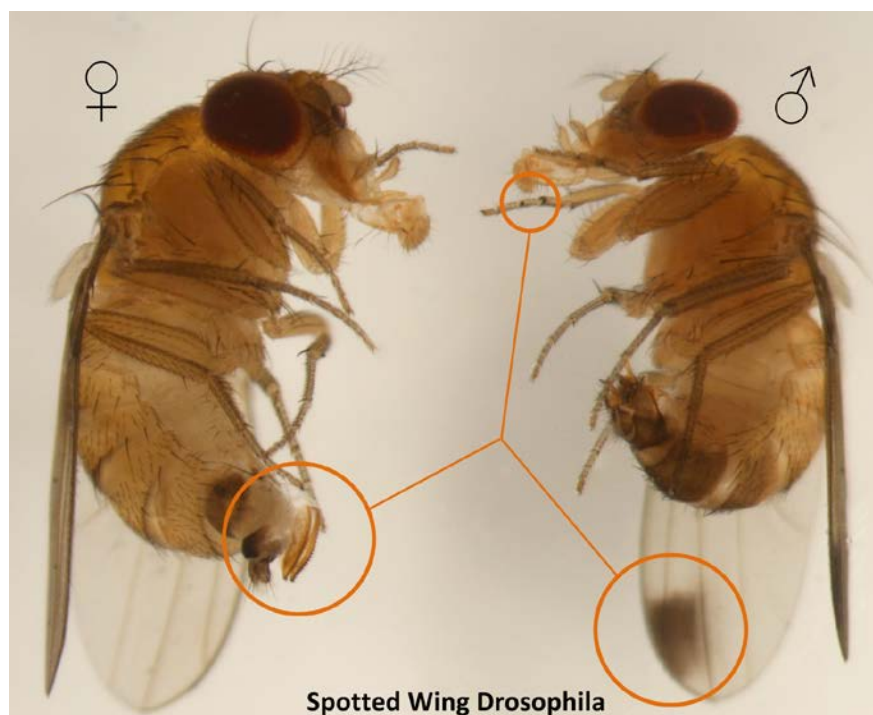
<http://entopl.okstate.edu/Pddl/>

Jun 11, 2014

Beware Fruit Growers.....SWD has been Spotted in OK

Jackie Lee, Fruit and Pecan Extension Entomologist

On June 4th, spotted wing drosophila (SWD) was found at two different blueberry farms in Tulsa County. This insect can cause major damage to many different fruit crops. The female lays eggs in ripe fruit that is still intact. The larvae feed in the fruit and can cause: sour rot, fruit collapse, and unmarketable fruit due to larval infestation. I suspect the SWD populations will increase throughout the harvest season and spread to new areas in Oklahoma. We need to be diligent about monitoring for this pest in fruit crops including: blueberry, blackberry, raspberry, strawberry, grapes, and other soft skinned fruits. It is best to start monitoring a few weeks before fruit ripens. Below is a good outline for monitoring and managing SWD. If you suspect you have found SWD, drop specimens off at your local extension office or send to the OSU Plant Disease and Insect Diagnostic Lab, 127 Noble Research Center, Stillwater, OK 74078. Stay informed! For updated map of SWD in OK and other info visit: <http://entopl.okstate.edu/swd/>.



OSU 2014 SWD Monitoring Program

- 1) Place 2 traps at fruit level and check traps through harvest. Traps can be made by drilling small holes around the edge of a red solo cup or clear deli cup (Fig 1). Make sure you add a lid or large insects will get into your trap.
 - Can be placed on the edge or center
 - If over 5 acres, place 2-3 additional traps
- 2) Fill traps with bait (350 ml 1½ cups). Use one of the below recipes.
 - Good: Apple cider vinegar + a drop of unscented dish soap
 - Better: Apple cider vinegar (210 ml or 1 cup) + wine (140 ml or ½ cup) + drop of unscented dish soap
 - Best: 12oz (1 ½ cups) of water + 1 TBSP apple cider vinegar + 4 TBSP sugar + 1 TBSP yeast + 2 TBSP whole wheat flour
 - i. Add 2oz of this solution to a secondary specimen cup (Fig 1). Place this cup in your trap. Pour apple cider vinegar into larger cup and add a drop of dish soap to act as a drowning solution.
- 3) Check traps and change bait solution weekly.
- 4) To check traps, pour trap liquid through cheesecloth or a strainer over a container to catch the old liquid and strain out the insects (Figure 2).
 - Use forceps to organize flies into like sizes on the cloth. There will be many types of flies. Baits are not specific for SWD.
 - Use hand lens to identify suspect flies. There is a great guide for identification: <http://goo.gl/vgA0vb>
 - Collect SWD suspects with forceps and place in small vial filled with apple cider vinegar.
 - Drop specimens off at local extension office or send to: OSU Plant Disease and Insect Diagnostic Laboratory, 127 Noble Research Center, Stillwater, OK 74078
 - DO NOT DISCARD OLD BAIT SOLUTION IN FIELD
- 5) If SWD is found and fruit are ripening, apply a registered insecticide weekly (re-apply after any significant rainfall) and rotate the mode of action (IRAC #) (Table 1).
- 6) Evaluate effectiveness and fruit infestation levels by looking for larvae in the fruit.
 - Weekly, pick 30 fruit that you would eat, off the vine, and use one of the below methods.
 - i. Fruit flotation method (Figure 3): 1 quart of water + ¼ cup salt. Add fruit to the liquid and let set for 30 minutes. Use a hand lens to examine the liquid for small white larvae.
 - ii. Cut open and observe larvae (not very reliable).
 - iii. Place fruit in jars and see if adults emerge in 2 weeks. Can be messy!

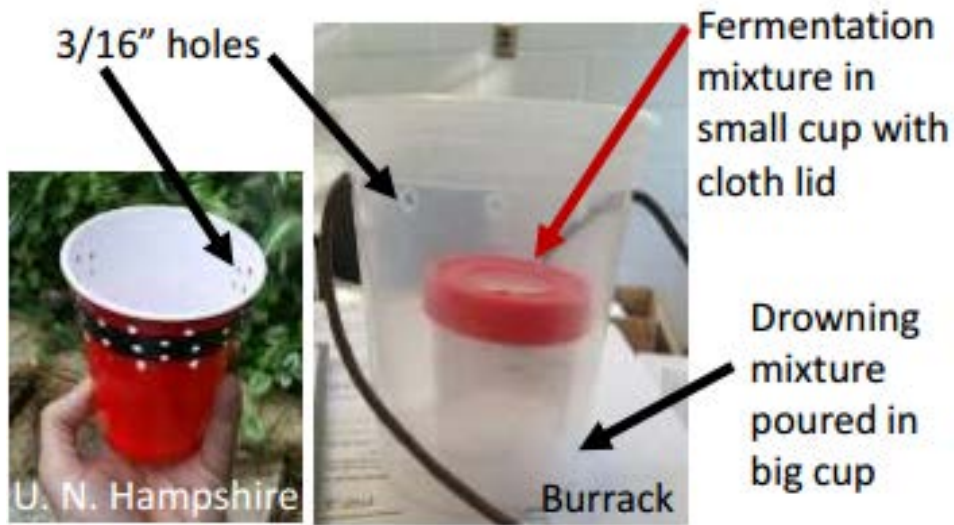


Fig 1. Spotted wing drosophila trap made from red solo cup and clear deli cup. Don't forget to add a lid!



Fig 2. Use cloth to strain flies out of the liquid bait (B). Organize insects by size and shape (C). Use hand lens to identify SWD (D).

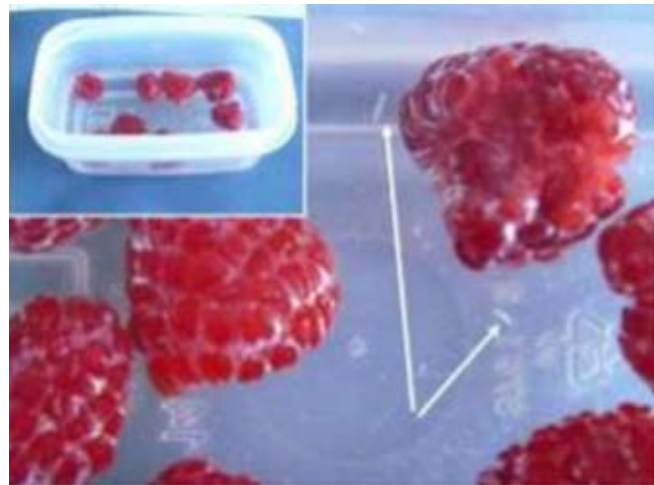


Fig 3. Fruit floatation method for detecting larvae in ripe fruit. Fruit is collected and floated in a salt solution for 30 minutes and the larvae migrate into the solution (white arrows).

Table 1. Registered insecticides for SWD management. Note PHI (Pre-Harvest Interval) and rotate IRAC#. **Always read and follow label directions.**

Active Ingredient	Trade name	IRAC #	Blueberry PHI	Caneberry PHI	Strawberry PHI	Grape PHI	Probable Efficacy
Methomyl	Lannate LV ¹	1A	3	Not labeled	Not labeled	Not labeled	Excellent
Phosmet	Imidan 70W	1B	3	Not labeled	Not labeled	7-14 ³	Excellent
Malathion	Malathion	1B	1	1	3	3	Excellent
Diazinon	Diazinon ¹	1B	7	7	5	Not labeled	
Bifenthrin	Brigade ¹	3	1	3	0	30	Excellent
Esfenvalerate	Asana ¹	3	14	7	Not labeled	Not labeled	Excellent
Fenpropathrin	Danitol ¹	3	3	3	2	21	Excellent
Zeta-cypermethrin	Mustang Max ¹	3	1	1	Not labeled	1	Excellent
Spinetoram	Radiant	5	Not labeled	Not labeled	1	Not labeled	Excellent
Spinetoram	Delegate	5	3	1	Not labeled	7	Excellent
Spinosad	Entrust ²	5	3	1	1	7	Excellent
Cyazypur	Exirel	28	3	Not labeled	Not labeled	Not labeled	Excellent
Carbaryl	Sevin 80s	1A	7	7	7	7	Good
Pyrethrin	Pyganic ²	3	0	0	0	0	Fair

¹Indicates the product is a restricted use pesticide. Requires a pesticide applicators license for purchase and application.

² Organic insecticide

³ Pre-Harvest Interval (PHI) is based on rate. Refer to label.

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