

Monitoring Trap for Spotted Wing Drosophila (SWD)



Drosophila suzukii

As we gain more knowledge during the 2011 season, recommendations for making, placing, and servicing traps may change. . New trap designs are being explored. A baited trap can be made for capturing and monitoring adult SWD flies.



Assembling Traps

- Obtain 16-32 oz durable clear plastic deli-type cup with a lid.
- Drill several(7-10) 1/8 to 3/16-inch holes around the side of the cup; spaced ≈1 inch apart. Leave a 3-inch space without holes for pouring out apple cider vinegar when servicing trap.
- Attach a heavy-coated wire, strap or durable twist tie for hanging and securing trap.
- Add ≈1 to 1.5 inches of pure *apple cider vinegar* and a tiny drop of non-fragrant liquid soap to break surface tension. Flies will sink in liquid.

For most current information, see central website:
SWD.hort.oregonstate.edu

- *Optional:* You can place a yellow sticky card loosely-arched or hung off lid inside the top half of cup for a quick assessment of male SWD flies stuck on card, but not recommended this year.

Placing Traps

- Begin monitoring early with traps, when day time air temperatures are higher than 50°F for several days; and before fruit begins to color (ripen). If you desire, you can hang traps on perimeter trees and wild Himalayan blackberry bushes adjacent to fruiting crop to detect early presence of flies.
- Hang trap on shady cooler side of plant at fruit level; or securely place on ground next to strawberry plants. You can place a metal rod with a hook into ground to hang trap.
- Place as many traps in your susceptible crops as you can maintain (e.g., 1 trap/5 acres or 3 traps per crop). Pay particular attention to hang traps close to areas with higher chance of catching flies if present (border of crop close to diverse field edge with ample shade and refuge; wild cherries, Himalayan blackberry border, other trees).

Servicing Traps

- Check traps once a week for SWD.
- Trap contents can be filtered over a fine screen or colander. Empty fly catches into a white tray with a small amount of water. Use 10x hand lens for easy viewing of SWD flies.
- See dichotomous key for identifying spotted wing drosophila on SWD website, prepared by Oregon Dept. of Agriculture at:
http://swd.hort.oregonstate.edu/files/webfm/editor/ID_D_suzukii_060210_sm.pdf
- Replace apple cider vinegar once a week for maximum effectiveness. Dump away from field.

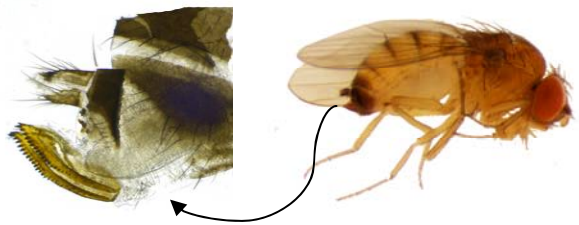
- Dump vinegar away from fruiting plants.
- The yellow sticky trap is optional for the casual observer. It is easy to see the male flies. Use a 10x hand lens or OptiVisor to better see the spots on male fly wings. Do not mistake SWD males for other 'spotted imposters'- know the position of the spot on the wing.

Recording Fly Numbers:

- As there are numerous flies and other insects that will be captured, learn to identify this drosophila fly and have positive catches confirmed by a specialist.
- Take counts of male SWD flies (one spot on leading edge of each wing; spot may be faint-colored). These are readily apparent with the naked eye or when viewed with a magnifier. Confirm SWD identification. Continue monitoring through harvest and follow abundance of seasonal fly catch.
- It takes closer examination with a scope to identify a female SWD; and it is easy to mistake SWD females for other non-economic vinegar flies with weaker and less defined ovipositors (egg laying appendage), if not trained.
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- Females will **not** have spots on wings, but a distinguishable and prominent saw-like ovipositor on posterior end. If time permits and as you gain experience, identify female flies. In many cases, her ovipositor will stick out from end after soaking in the apple cider vinegar bait.



- Commercial growers can report fly counts on SWD website, "Statewide SWD Real-Time Mapping" or directly to: <http://berrygrape.org/>
- Backyard growers can report fly counts or infested fruit to: OSUSWD@gmail.com



Trap placed with the aid of a PVC pipe in strawberry field.

Suggestions to find monitoring trap supplies:

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| 32 oz clear plastic deli cups: | Cash & Carry in bulk or 4 cups for \$1.00 at stores like the "Dollar Store" |
| Coated wire: | 14 guage: Any hardware store |
| Pure apple cider vinegar: | Local grocery stores from \$3.99 to \$5.00, 1 gallon jug |
| OptiVisor: | BioQuip (www.bioquip.com) or http://www.doneganoptical.com/optivisor.php , or similar supplier |
| 10-30x illuminated loupe (hand lens): | http://www.amazon.com/SE-30x-Illuminated-Jewelers-Loupe/dp/B001T40WZ/ref=sr_1_2?ie=UTF8&s=home-garden&qid=1268198938&sr=8-2 , or similar supplier |