

Spotted Wing Drosophila

What YOU need to know as a soft-fruit grower in Washington



MONITOR

IDENTIFY

CONTROL

Producers of small fruits and other crops in Washington State are rightly concerned about a new type of “vinegar fly” (Drosophila) that has moved into our region. The pest, known as spotted wing drosophila (SWD), is onerous because of its ability to deposit eggs in and feed on ripening fruit. Other Drosophila are less worrisome because they feed on overripe/rotten fruit, sparing damage to ripening crops.

As of July 2010, SWD has been detected in both western and eastern Washington. It’s important to remember that **IT’S HERE, BUT IT’S NOT EVERYWHERE**. SWD infestations can be somewhat isolated—the fly won’t go far in search of a host if it has already found one. In keeping with principles of integrated pest management, you’ll want to be sure you have SWD before employing chemical control measures.

MONITOR

1

Build your traps

Traps to monitor SWD can be easily assembled from inexpensive materials. The main objective is to attract SWD and trap them for identification in some sort of container that excludes most other insects. One simple example includes the following materials:

- Clear plastic beverage cups, 16-32 oz, with lids
- Wood-burning tool or drill with 3/16-inch bit
- Wire, twine, or twist-ties
- “Yellow-sticky” cards (optional – available where crop control products are sold)
- Apple cider vinegar
- Dish soap (optional)

Using the wood burner or drill, make numerous 3/16-inch holes in the upper portion of the cup, leaving an unburned/undrilled section so that liquid can be poured out later without spilling from the holes. After baiting the traps, attach lids and use the wire/twine/twist-ties to hang the traps. Commercial “bucket”-style traps, sturdier plastic bottles/jars, and or jars/containers topped with 3/16-inch mesh screen can also be used.



Burning holes in a plastic cup.



Trap with optional yellow sticky card inside.

2

Bait your traps

Pour an inch or two of real (not flavored) apple cider vinegar in the bottom of each cup. If you are not using the yellow sticky cards, you can add a few drops of liquid dishwashing soap, which acts as a surfactant to reduce surface tension on the vinegar and help flies sink. If you wish to use the cards, hang one loosely in each trap or arch it loosely at the top of the trap.

3

Deploy your traps

Traps should be hung in the field or orchard as the fruit begins to ripen or as soon thereafter as possible. Guidelines for number and placement of these traps per acre are yet to be determined.



Surdy plastic bottle used as trap in cherry orchard

4

Monitor your traps

Check traps weekly, observing yellow sticky cards or pouring vinegar through a strainer into a white pan for easier viewing. Refer to SWD identification information on Page 2. Refresh vinegar and cards as needed. Continue monitoring through harvest time.

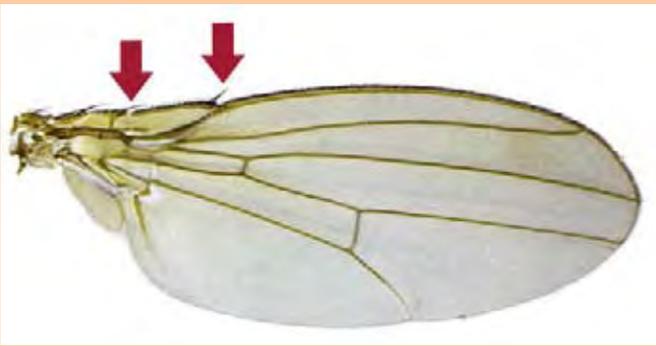
IDENTIFY

Since many *Drosophila* species are present in Washington, and most cause no harm to marketable fruit, it is important to identify the pests you find before assuming they are spotted wing drosophila and applying control measures. Adult SWD are small—just 2 to 3 mm long. They have red eyes and a pale brown or yellowish-brown body. If you find a fly that looks like this, use the following 3 steps to determine whether a specimen is SWD.

1

Is it a *Drosophila*?

Many insects (e.g., flies, wasps) have spotted wings. Species within the *Drosophila* genus have two “breaks” along the top (costal) vein of their wings.



2

Is it a male SWD?

Male spotted wing drosophila are relatively easy to identify. The males have the characteristic dark spot on the tips of their wings. They also have red eyes and two dark bands on their front legs.



3

Is it a female SWD?

The female spotted wing drosophila are more difficult to identify than the males, not having dark spots on their wings. Their most distinguishing characteristic is their ovipositor—it is longer than those

of other *Drosophila* and is deeply serrated. The ovipositor can be more easily viewed by pressing gently on the abdomen of the specimen.



Ovipositors of SWD (above) are serrated and larger than those of other *Drosophila* (at right).



For Help Identifying Suspicious Specimens

Contact Tora Brooks at WSU Prosser's Environmental and Agricultural Entomology Laboratory:
brooks1@wsu.edu or (509) 786-9244

CONTROL

If SWD is present in your commercial field or orchard, knock-down controls should be applied swiftly. There are no registered insecticides that will control maggots within fruit, so chemicals must target adult control with an intent to eliminate adult flies before they mate and lay eggs.

A number of insecticides registered for use on susceptible crops in Washington appear to be effective in managing SWD, including those listed below. Bear in mind that not all products listed below are registered for use on all soft fruits. Efficacy tests have been conducted in laboratory situations in Oregon and Washington and field efficacy has been studied in California, but conditions vary and so will results. Your approach should be based upon your crop and the unique factors of your situation, taking into consideration pre-harvest intervals (PHI) and re-entry intervals (REI) as well as chemical controls you may already be using in your pest management program. Some of these insecticides have potential negative impacts on IPM programs, beneficial arthropods, and/or the environment. **Always read and follow label directions; apply only registered pesticides. Rotate among chemical classes to slow the development of resistance.**



Loose larva on a cherry. Control SWD as adult flies, not eggs or larvae.

Class	Active Ingredient	Trade Name*
organophosphates	diazinon malathion	
spinosyns	spinetoram spinosad	Delegate® Entrust®, Success®
neonicotinyls	acetamiprid imidacloprid thiomethoxam	Assail® Provado® Actara®

* Trade names are examples, provided for illustrative purposes only. Other products may be registered with this active ingredient. No recommendation or endorsement of a particular trade name is implied.

Whether you have SWD or not, you can help deter the breeding and spread of this pest.

- Eliminate breeding sites in overripe fruit where SWD can complete their life cycles.
- If you have SWD-infested fruit, remove or destroy (e.g., bury, bag, burn, freeze) it.
- If you have any ripe, overripe, or rotten fruit on your property that can serve as a host, remove or destroy it.
- Practice timely harvest; extending harvest intervals may result in larger SWD populations, more fruit damage, and a greater risk for future infestations of nearby crops yet to be harvested.

Use pesticides with care. Apply them only to plants, animals, or sites listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is a violation of the law to disregard label directions. If pesticides are spilled on skin or clothing, remove clothing and wash skin thoroughly. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

Copyright 2010 Washington State University

Issued by Washington State University Extension and the U.S. Department of Agriculture. Extension programs and employment are available to all without discrimination. Evidence of noncompliance may be reported through your local Extension office.