



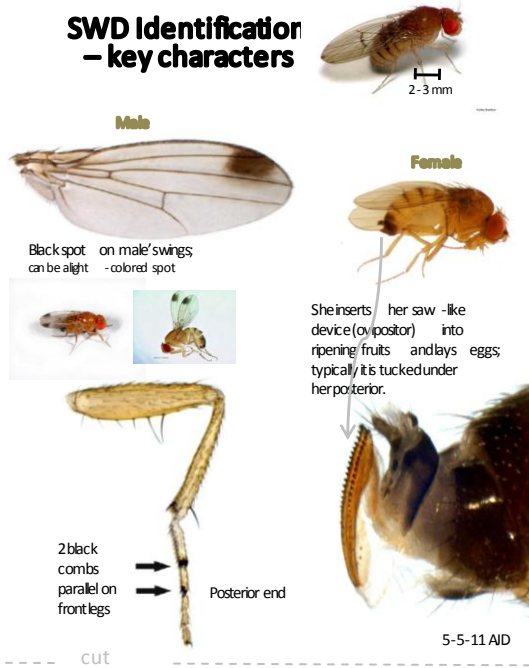
*Drosophila suzukii*  
Spotted Wing Drosophila (SWD)

Up-to-date information on SWD Website:  
<http://swd.hort.oregonstate.edu>

5-5-2011  
Prepared by  
A. J. Dreves



### SWD Identification – key characters



### Fruit Hosts that can be infested by SWD:

Strawberries  
Cherries  
Blueberries  
Raspberries  
Boysenberries  
Blackberries  
Peaches  
Grapes

\* Some fruit crops may not be affected by SWD under certain environmental conditions or because of specific commercial management practices being used. Fruit appears more susceptible to SWD if damaged, split, or overripe.

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### SWD SWAT Team in Oregon

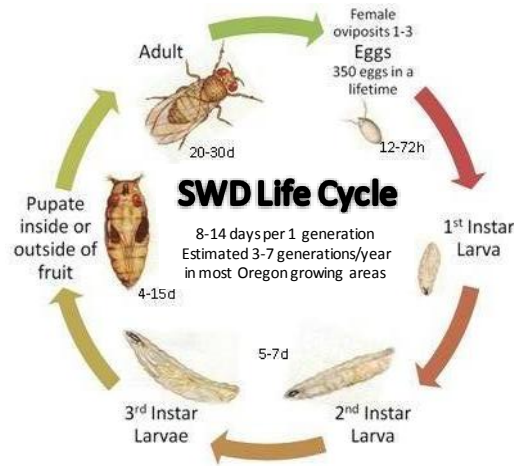
- Amy J. Dreves, OSU Crop and Soils Dept.
- Vaughn Walton and Jeffrey Miller, OSU Hort Dept.
- Paul Jepson, OSU Integrated Plant Protection Center
- Diane Kaufman, Wei Yang, and Joe DeFrancesco, OSU North Willamette Research and Ext. Center
- Peter Shearer, OSU Mid-Columbia Agric. Res Extn Center
- Tom Peerbolt et al., Peerbolt Crop Management Ag Consultants
- Paul Jepson and Len Coop, OSU Integrated Plant Protection Center
- Jana Lee and Denny Bruck, USDA-ARS HCRU

To see what NEWS just flew in, checkout SWD Website:

[swd.hort.oregonstate.edu](http://swd.hort.oregonstate.edu)



AJ Dreves  
5-5-2011



- SWD has 4 stages of life: egg, larvae, pupae, and adult.
- They prefer intact, on-the-plant, ripe to ripening fruit.
- SWD is noted to spend the winter as an adult on borders or perimeters in protected areas.
- Adults become active in the spring when temp. increases.

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### Damage from SWD



- Juice can exude out SWD egg hole.
- Look for oviposition scarring or spotting on fruit surface.
- Fruit can collapse at scarring site, ≈2-3 days after egg laying.
- Fruit will soften and bruise. Mold can occur at damaged site.



- Look closely for small white larvae inside fruit.
- Two small hair-like filaments are attached to egg that stick out of fruit at egg-laying site.

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## Monitoring Trap for SWD Flies



## Extracting SWD Larvae from Fruit



- Collect suspicious fruits with potential SWD larvae. Prepare a **Salt-Water** solution (1/4 cup plain salt: 4 water). Place whole fruit in shallow white pan. fruit with dissolved salt solution, Prepare a **Sugar-Water** solution (3/4 cup sugar: 4 cup water). Place lightly crushed fruit in sealed bag. Add sugar-water solution; stir mixture.
- Wait 10 to 15 minutes and SWD larvae will exit from egg-laying holes; most will float to the top and separate out from fruit pulp that sinks to bottom.
- Detection of small larvae (1 mm) may require the use of a magnifier hand lens and good lighting. 5-1-11 AID

## SWD Monitoring Trap

### Assembling Trap

- Obtain clear 32 oz durable plastic deli cup.
- Drill 3/16-inch holes (10) around the side of the cup. Leave a 3-inch area free on side for pouring out bait solution when ineffective.
- Add heavy wire to hang and secure trap on plant.
- Add ≈1.5 inch of pure apple cider vinegar + a drop of non-fragrant dish soap to break surface tension.

### Placing Trap

- Begin monitoring early with baited traps, when day time air temperatures are higher than 50°F for several days and before fruit colors.
- Hang or place traps on shady or cooler side of plants.

### Servicing Trap

- Check traps at least once a week. Filter out male and female SWD flies from solution for identification. Male flies are the easiest to distinguish from other flies (black spot on each wing); Dump solution away from plants.
- Use a hand lens or OptiVisor to better see spots on male's wings.

### Recording Fly Numbers

- Record weekly SWD male flies (and females if trained) in a record book.

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## SWD Management Plan

### Set up monitoring traps.

Place trap in shady cool part of plant, when ambient air temp. are higher than 50°F for several days and before fruit colors.

### Control flies before they lay eggs.

Refer to management and pesticide document on SWD website. Fruit starts to be susceptible when they begin to color.

### Include sanitation in your IPM program.

Properly dispose of or destroy infested fruit that falls on the ground or remains on plant to reduce breeding sites and food sources for SWD (e.g., solarizing, bagging fruit).

### Check fruit for larvae.

Use Sugar or Salt methods for extracting larvae-- see website.

### Harvest fruit in a timely manner

Avoid SWD egg-laying.

### Rotate pesticides.

Avoid insecticide resistance. Insecticides registered for crop: Carbamates, OP's, pyrethroids, spinosyns

### Observe pre-harvest and re-entry intervals.

### Target fruit zone with good coverage.

### Follow pesticide label, it is the law.

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