



# Spotted Winged Drosophila, SWD *Drosophila suzukii*



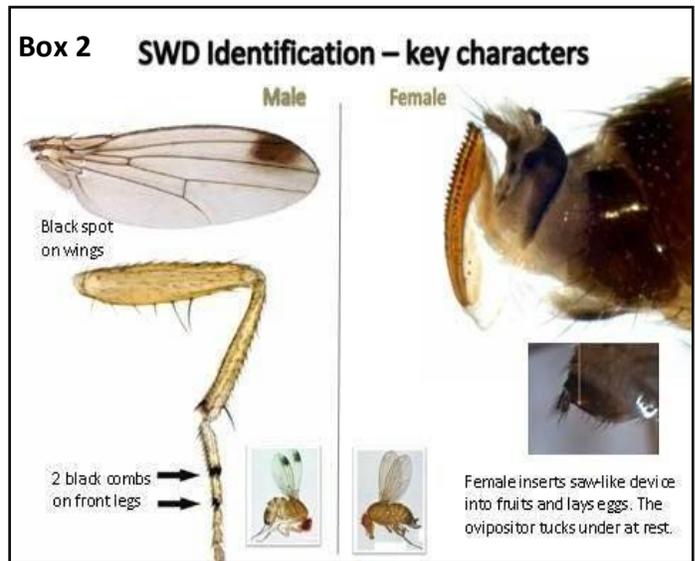
## WHAT BACKYARD FRUIT GROWERS NEED TO KNOW ABOUT SWD

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The Spotted Winged Drosophila (SWD) is a new, invasive pest that can be found in Oregon, California and Washington. SWD may infest a variety of fruits (**Box 1**) that are grown in Oregon backyards. Infested fruits are ruined due to the damage caused by fly maggots as they consume the fruit and accelerate the rate of rotting. This fly also has the capacity to inflict great economic losses to Oregon’s vibrant small and stone fruit industries. The fact that SWD favors intact, ripening fruit that is still on the plant, as opposed to favoring overripe and fallen fruit on the ground as in other drosophilid vinegar flies, makes *suzukii* a particularly nasty problem.

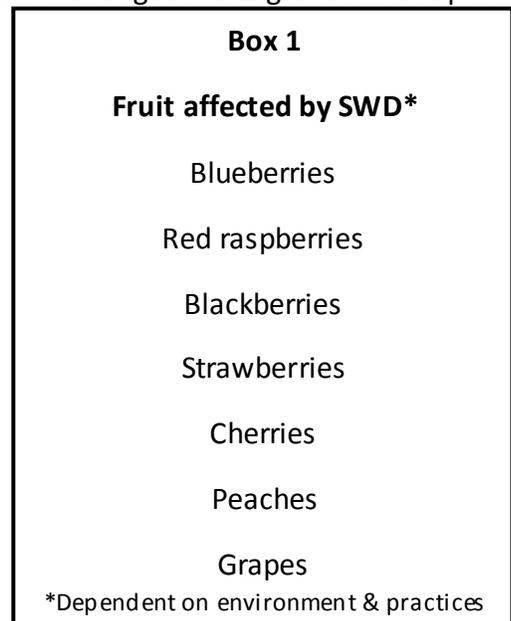
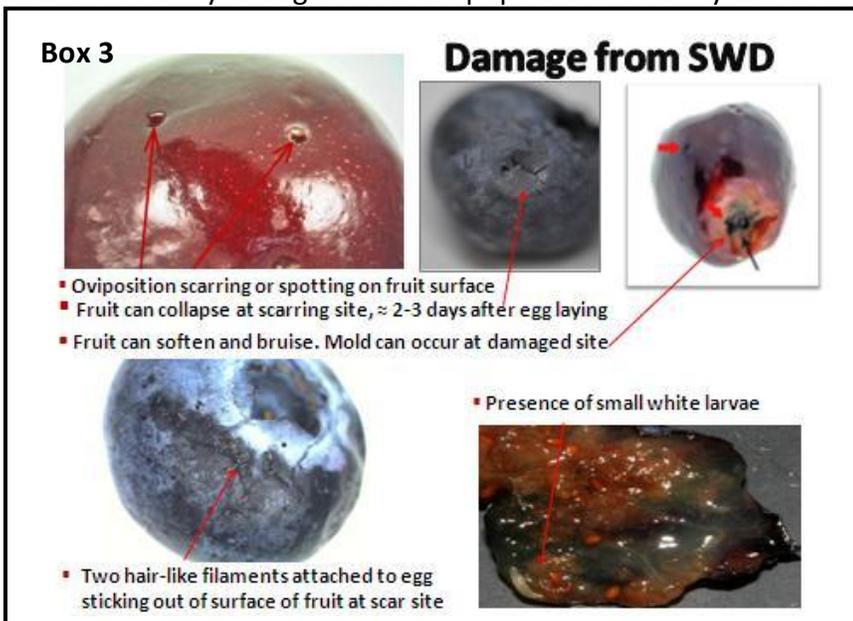
### THE PEST

Adult SWD flies resemble the common small fruit or vinegar flies, frequently seen in your kitchen or on fallen fruit, outdoors (**Box 2**). At 2-3 mm in length, SWD are slightly larger than the common vinegar fly, but both have red eyes and a yellowish-brown-colored body. Key characteristics which distinguish SWD from other vinegar flies are the black spots near the tips of adult male wings and the saw-like ovipositor that females use to insert their eggs into ripe fruit.



### RECOGNIZING THE DAMAGE

After a female lays 1-3 eggs in a fruit, a tiny scar or spot appears on the fruit. Each egg has 2 fine ‘hairs’ that stick out of juicy fruit that are adapted to breathe. You can see the hairs on the surface of the fruit. The female has the potential to lay up to 350 eggs over her lifetime (avg. 20-30 days). The fruit will begin to appear collapsed, bruised, or wrinkled after 2-3 days and then will mold in the area where the egg(s) were laid and the larva is feeding (**Box 3**). The larvae will feed inside the fruit for about 5 to 7 days, until they are ready to pupate. The brownish-yellow pupa is a non-feeding stage lasting 4-5 days. They often remain inside of fruit until the adult fly emerges from the pupae. The adult fly will then mate and begin a new generation of pests.



## MONITORING IN YOUR BACKYARD TRAPPING ADULT FLIES

A heavy plastic 16 oz. or **32 oz. cup with lid** can be used to make a trap for capturing and monitoring adult flies. Here is how to make a trap:



- Drill several 3/8 to 3/16-inch size holes on side of cup, keeping 3 inches of pour space on side for changing bait solution.
- Optional: Place a **yellow sticky card** loosely arched or hung near the top of cup for ease of identifying SWD male flies. Replace 1x week.
- In cup, add  $\approx$  2 inches of pure **apple cider vinegar** + drop of dish soap.
- Hang the trap near fruit level or place on ground in cool shady area.
- At least once a week, filter out flies from bait solution.
- Count male flies. Confirm identification. If trained, count females too.
- Use a **30x magnifying glass or hand lens** to identify the male flies with spots near the tip of wing.

### FRUIT-DUNK FLOTATION METHOD

This method can be used to check fruit for infestation of SWD larvae during the growing season.

- Collect suspicious ripening fruits.
- Lightly crush fruit in container or **plastic zip-bag**.
- Add **sugar-water** (4 cups of water and  $\frac{1}{4}$  cup sugar).
- SWD larvae will float to the top and separate from fruit pulp.
- Allow time for fruit to settle at bottom.
- Detection of small larvae may require the use of a **hand lens**.



SWD Monitoring	
Location:	Field 2, SW corner row 1
Found in:	Sweet cherries
Date:	4/15/2010
Male fly count:	15
Larvae fruit-dunk count:	35

It's a good idea to keep track of your findings. Record the location where SWD were found, the weekly date they were found, the fruit they were found in, and a fly count of the males with black spots or larvae count from the fruit-dunk flotation method.

### SWD MANAGEMENT PLAN FOR BACKYARD FRUIT GROWERS

1. Set up monitoring traps early in the season to follow seasonal fly activity.
2. Check fruit for larvae with the fruit-dunk flotation method described above.
3. If possible, cover fruiting plants with fine netting to exclude flies before they lay eggs on fruit.
4. Increase number of traps around borders of yard to mass-trap & kill out flies.
5. Pick ripe fruit frequently (3x/week) to avoid infestation by SWD.
6. If fly numbers are high and other methods are not providing adequate control, use insecticides registered for home use, such as spinosyns, pyrethroids, malathion, and carbaryl. Follow the label and do not apply when bees are present.
7. Include sanitation practices (e.g., solarizing, crushing, bagging, burying) in your management plan. Clean up and destroy fallen fruit and overripe fruit left on plant.

To see what NEWS just FLEW IN, check out the SWD website:

**[SWD.hort.oregonstate.edu](http://SWD.hort.oregonstate.edu)**