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Issue **Three**

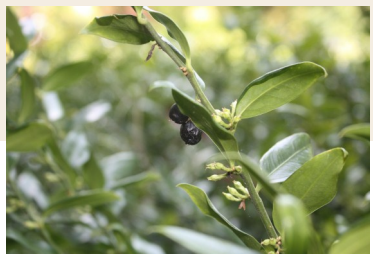
For more information see SWD Website: **spottedwing.org**

Developing partnerships to manage SWD for the benefit of fruit growers

The SWD FLYer

current news >>>

Researchers are identifying alternative non-commercial urban and rural fruit hosts that provide egg-laying sites or a food resource that could put a cultivated and managed crop at risk. For example, SWD larvae were found in *Sarcococca confusa* berries, a horticultural plant called Sweet Box, a native to SE Asia. Up to 92% and 40% of berries had SWD in 2012 and 2013.



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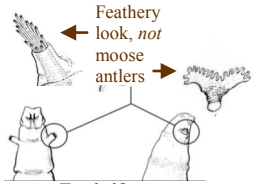
Identifying *Drosophila* Larvae



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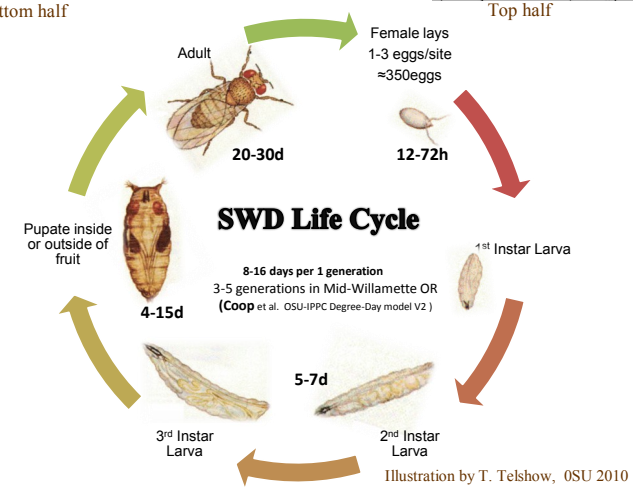

Illustration by T. Telshow, 0SU 2010

Larvae: poking out of collapsed and soft blueberry

< Bottom half

Pupae: 6-7 respiratory fingers in a whorl arrangement

Larval Extraction Methods

Which methods worked well?

Drosophila suzukii larvae (small and large) were successfully extracted from multiple infested fruit crops (e.g., blueberries, caneberries, and strawberries) by crushing or breaking open fruit, covering with a prepared SALT solution (1 cup salt dissolved in 1 gallon warm water; 10 BRIX) or SUGAR solution (dissolved 2.5 cups of brown sugar, >16 BRIX) in 1 gallon warm water, placing in a shallow white pan, and closely observing the surface of solution for larvae under adequate light conditions. SWD larvae will float (not sink) on surface within 15 minutes. Larvae can be reared out after sugar extraction for positive identification. See **youtube** video and Extraction Methods document for details.

In replicated lab studies, the methods described above were more successful than alternatives including use of boiling water, not crushing fruit, or using less sugar/salt per gallon of water.

Ask the Experts

Q: When should I use **salt** and when should I use **sugar** to extract SWD larvae from fruit?

A: *Salt has shown to work well in extracting SWD larvae from fruit (>80% larvae extracted after 15 minutes), it is cheaper and less product is used. The benefit of using sugar is that it takes longer to kill larvae, so if desired, larvae can be reared out after sugar extraction.*

Meet the Team

Jamie Christenson
Helper Extraordinaire

Jamie moved to Corvallis from Texas summer of 2011 and has cherished every drop of rain so far! She is finishing her bachelor's degree in Horticulture at OSU in the fall. She started working on SWD research as a volunteer and then was employed in September 2011. She does a little of a lot including organizing the lab, counting flies, servicing traps, collecting fruit for evaluating infestation, and whatever else is needed to fill in the gaps. On the side, Jamie enjoys cooking, knitting, and plants.

Oregon State UNIVERSITY

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