

# Spotted Wing Drosophila (SWD)

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## A quick, 7-step guide for detecting SWD larvae in fruit

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### STEP 1: Gather supplies



- White or black shallow tray
- Magnifying lens or magnifying headset, such as an OptiVisor
- Sealable plastic bags
- Forceps, fine paintbrush
- Stirring stick or spoon
- Salt or light brown sugar and water
- 1-gallon jug to hold solution
- Good lighting
- Optional: A wire mesh screen to submerge fruit

### STEP 2: Prepare 1-gallon solution



- At least one day before testing, dissolve 1 cup of plain salt or 2.5 cups of light brown sugar in 1-gallon jug of warm water.
- Agitate solution jug to hasten dissolving
- Re-agitate the solution the day of testing

### STEP 3: Collect fruit



- Collect fruit with symptoms of damage from SWD or collect random samples of fruit
- Place fruit in a sealable plastic bag
- The more fruit you inspect, the more confidence you will have in the quality of the rest of the fruit.
- Label bag to reference collection location  
(For example: 8/2/14, row 88, plant #5, NE side)

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#### STEP 4: Crush fruit in bag



- Crush fruit, but do not make a purée
- A rolling pin makes it easy to mash up the fruit and expose the pulp
- Use your fingers to crush any fruit not opened
- Avoid aggressive crushing that will damage larvae

#### STEP 5: Add solution to bag



- Mix and allow solution to penetrate fruit pulp
- Swish solution to distribute it among fruit debris
- Solution will irritate any larvae inside fruit and encourage them to leave fruit and rise to surface

#### STEP 6: Pour contents into shallow tray



- Cover crushed fruit completely with salt or sugar solution
- Most larvae will float to top for easy viewing
- Sugar will keep SWD alive longer, to see larvae move or to raise larvae to confirm species of fly

#### STEP 7: Examine for SWD larvae



- Choose a well-lit area
- Use magnifier (hand lens) or headset magnifier
- Examine surface closely for bobbing or floating larvae (approximately 0.7mm–5.4mm long)
- Look for larvae in the first few to 15 minutes
- Stir contents periodically to dislodge larvae from fruit and tray sides
- Use a wire screen to submerge fruit and to allow larvae to float
- Do not mistake SWD for plant parts, aphid skins, fruitworms, thrips, pulp threads, sap beetle larvae, larvae from other *Drosophila* species
- Count and record larvae, and track seasonal changes in numbers
- Use tab counter to record number of larvae
- The 7-step process described here is a guide and not a guarantee that you do not have an infestation somewhere in your crop.

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