

Focus on Spotted Wing Drosophila

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Department of Entomology

North American Raspberry & Blackberry Conference

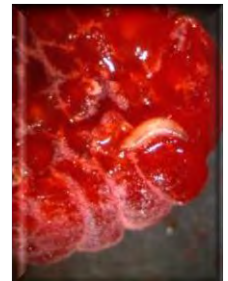
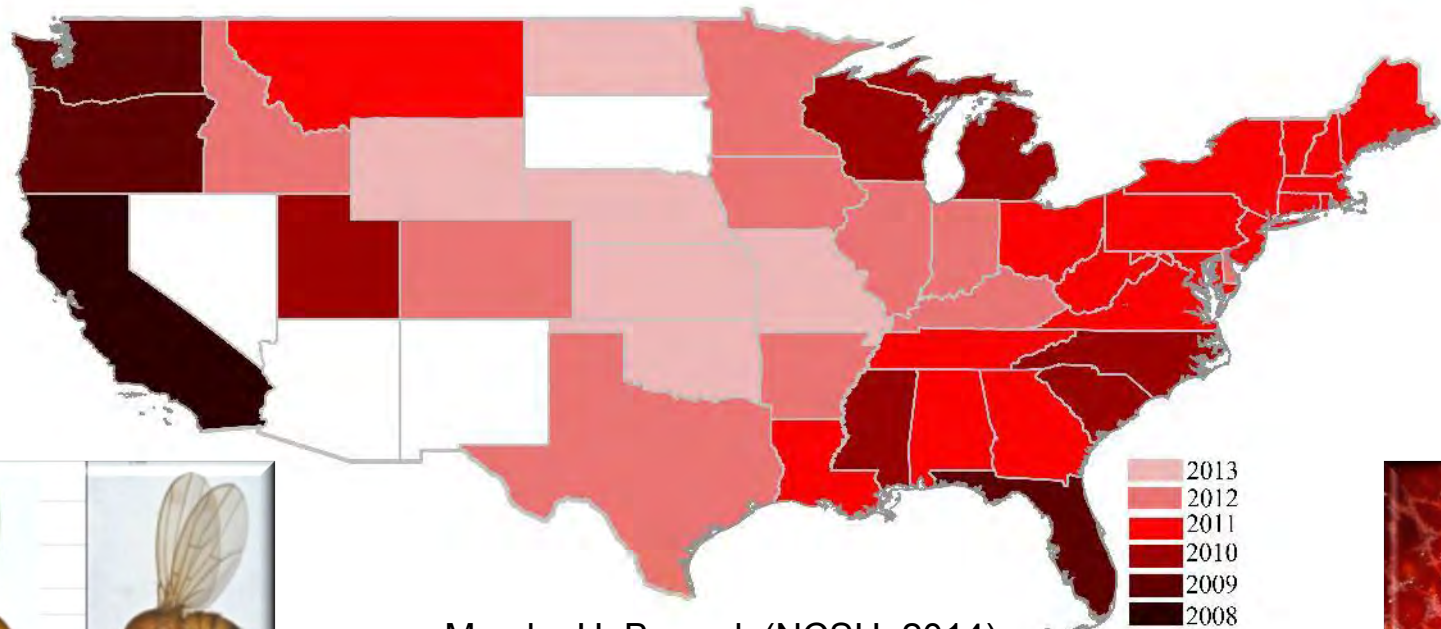
26 February 2015 in Fayetteville, AR



Spotted Wing Drosophila (SWD) Damage to Ripe Fruits

From late-June into October east of Rockies:

- Blackberry and raspberry in AR = 100%
- Blueberry in FL < 40%; AR & MI < 10%
- Strawberry < 20%; low in AR
- Grape and peach < 20%; only damaged fruit in AR



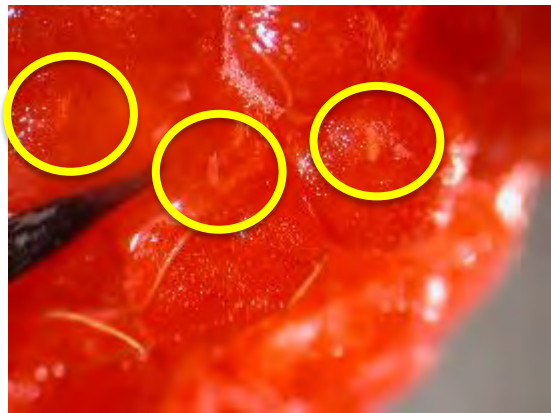
SWD-Infested Ripe Fruits in Arkansas



SWD Larvae on Wild Blackberry (11 July, 2014)



SWD Eggs on Blackberry



SWD Eggs on Raspberry and Wye Berry



SWD Eggs/Larvae on Nectarine in phomopsis lesions



Other SWD Fruited Hosts

Wild raspberry

Wild blackberry

Wild strawberry

Wild cherry

Pokeweed

Honeysuckle

Redtwig dogwood

Hardy kiwi

Salal (*Gaultheria shallon*)

Oregon grape

Gooseberry (*Ribes* sp.)

Cherry laurel

Wild *Vaccinium*

Evergreen huckleberry

Lingonberry

American Elderberry

Sweet box (*Sarcococca*)

Snowberry

Pacific mountain ash

Salmonberry

English Ivy

Monitoring SWD

How to catch SWD flies?

Visual cues: vertical bands of **Red** / **Yellow** catch more SWD than Black or White or Clear



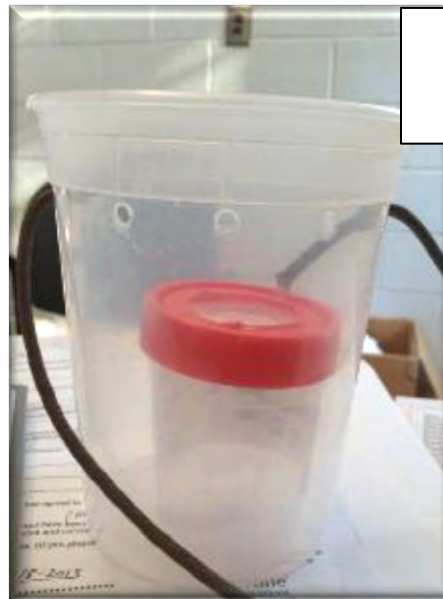
SWD entry: 2 mm mesh screen or 20 holes (3/16 inch diameter)

Bait evaporation: place holes or screen just above bait

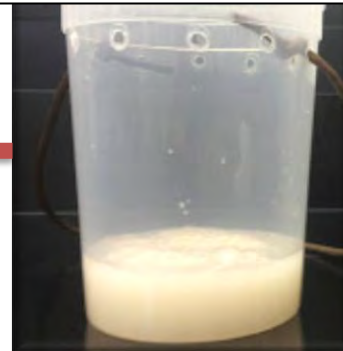
- Not too large a screen area or too much bait evaporates
- Place 3 traps next to each other increases catch (more odor)



Changes in SWD Monitoring Traps



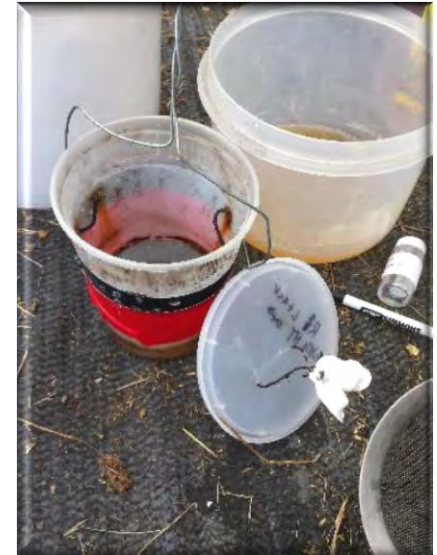
2014 Several Effective Trap Designs



Most Attractive Baits for SWD

Baits:

- **Yeast bait** mixture = 32 oz water + 2 tbsp yeast + 4 tbsp sugar
 - Ferment bait 1 day, then pour 4 fl oz into trap, change bait weekly



- **SWD dual-lure** held with plastic coated paper clip over apple cider vinegar - change monthly (Great Lakes IPM or Scentry) (1 year in refrigerator; DO NOT STORE IN FREEZER)

Monitoring SWD

3 weeks before fruit ripen:

- Set 3 traps at fruit height in ripening block near perimeter
- Weekly, change bait, sieve out flies, and identify
- Move traps to new ripening block as needed



Best Management Practices

1. Thin or open up canopy to improve spray coverage
2. Monitor traps for flies starting 3 wks before ripening
3. Check traps weekly for trapped SWD flies
4. If SWD found and fruit are ripening, apply alternate row sprays every 5 to 7 days of recommended insecticide (re-apply after 1" rain) and rotate mode of action to delay resistance development
5. Evaluate spray effectiveness = look for SWD eggs and larvae in fruit
6. Exclude SWD using screen or row cover (mesh < 1 mm holes)
7. Pick daily and refrigerate (kills eggs in 2 days)
8. Sanitation: pick leftover or damaged fruit and solarize in black bags or under black plastic sheet to reduce SWD food source
9. Stay informed – visit SWD web sites

Acknowledgements



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 - ✓ Spotted wing drosophila



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