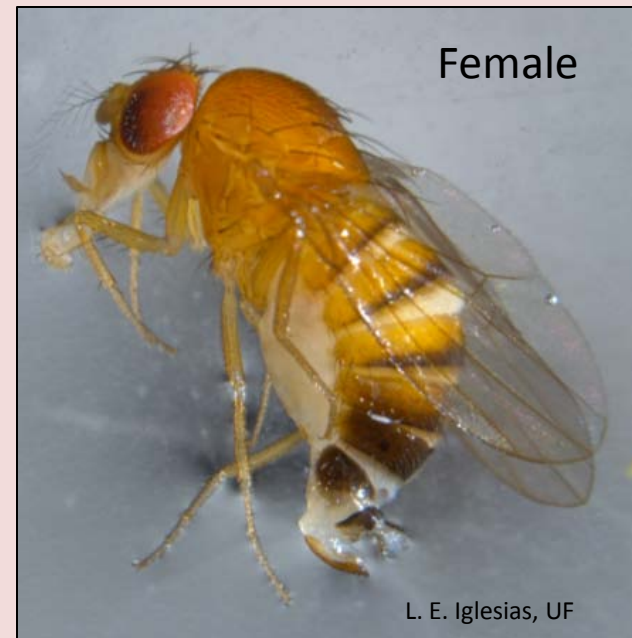


**Surveys for spotted wing
drosophila, *Drosophila suzukii*, in
strawberries and other small fruits
in Alachua Co. Florida**

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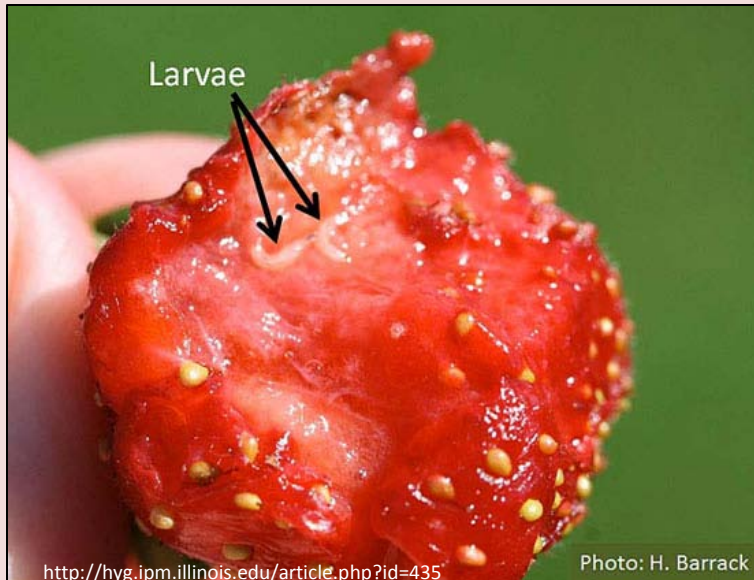
Spotted wing drosophila

- *Drosophila suzukii*
- Lay eggs in ripening and ripe fruit



Host plants

- Blueberries
- Blackberries
- Raspberries
- Strawberries
- Cherries
- Grapes
- Peaches
- Many other thin-skinned fruits



In Florida

- Major problem in blueberries and blackberries
- Problem in strawberries
 - Long fruiting season (Dec. – early Apr.) and limited insecticide applications
- Summer hosts?
 - Muscadine grapes

Muscadine grapes



- Native to SE USA
- Harvest July – Sept. depending on variety
- Split easily when overripe

- SWD will lay eggs and develop in ripe, unwounded fruit in no choice tests (minimal)
- Oviposition and development in wounded grapes is comparable to ripe blueberry fruit

Objectives

- 1) to survey the population of SWD on organic and conventional strawberry farms
- 2) to survey for SWD in potential host plants that fruit during the summer months in Alachua Co., Florida
 - Muscadine grapes
 - Persimmon

Strawberry Surveys

OBJECTIVE 1

Methods: strawberries organic

- Three traps per farm checked weekly throughout the season
 - Yeast + sugar + water bait with dish soap
- Traps were placed in a diagonal line with 1 trap in the center of the plot and the other two near opposite corners of the plot
- Numbers of SWD males and females were counted and recorded

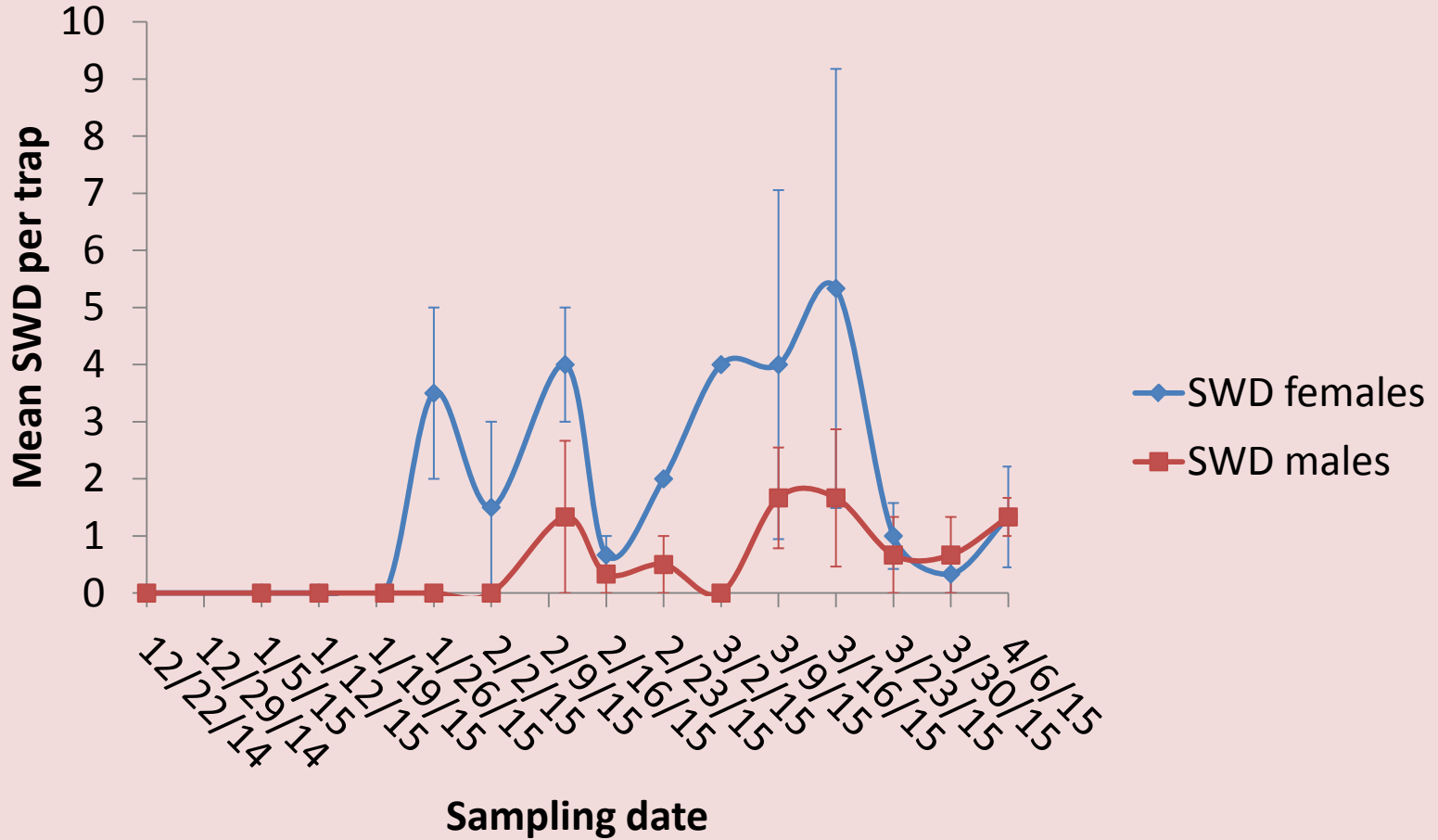
SWD trap



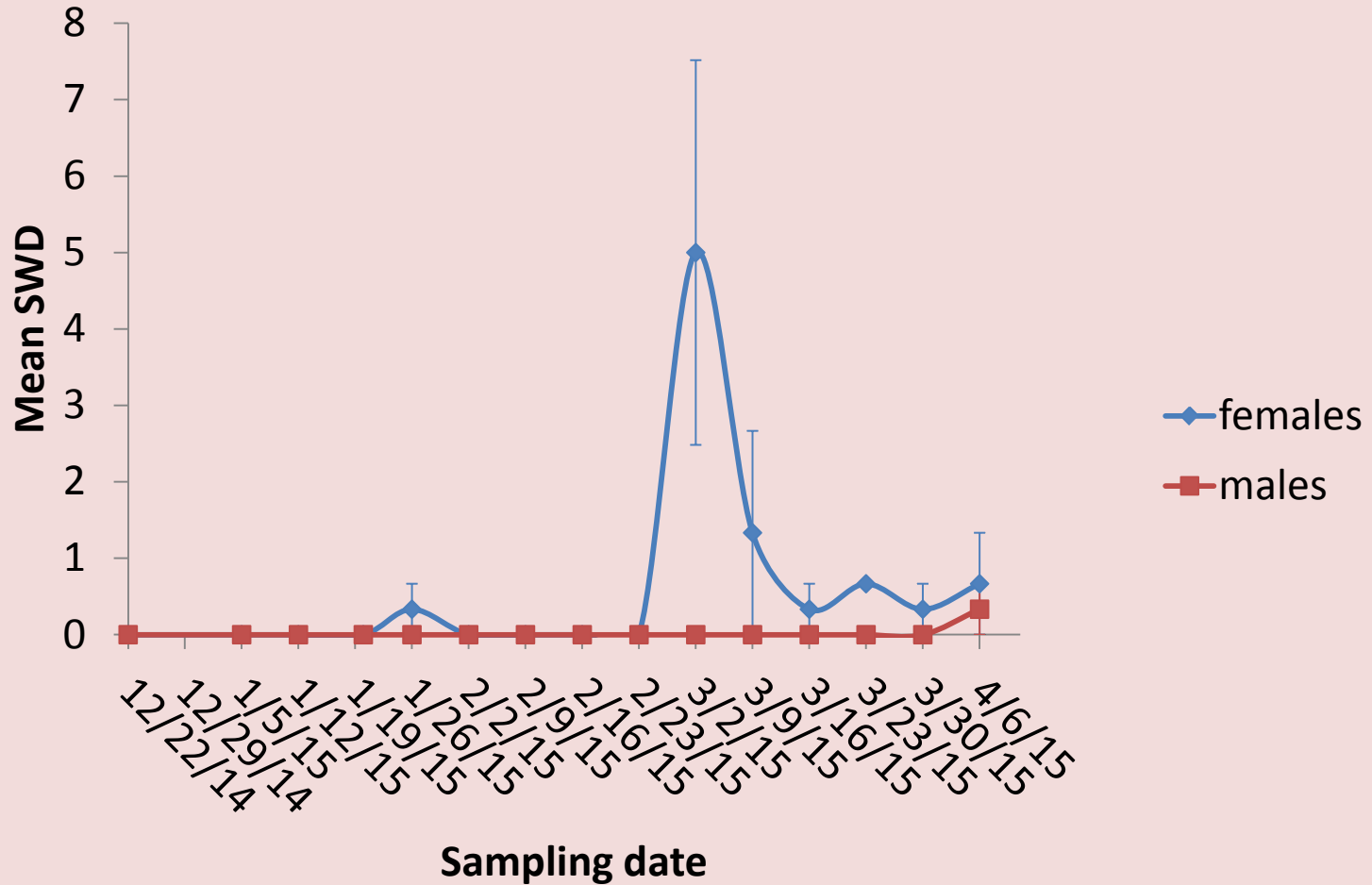
Methods: strawberries conventional

- Two traps per farm checked weekly during March 2015
 - Yeast + sugar + water bait with dish soap
- Traps were placed at two different locations on the farm at least 30 m apart
- Numbers of SWD males and females were counted and recorded

Results: organic farm 1 SWD



Results: organic farm 2 SWD



Results: conventional farms

Farm 3

	SWD females	SWD males
2-Mar	3.5 ± 0.5	0.5 ± 0.5
9-Mar	0	0
31-Mar	3.5 ± 0.5	1 ± 0

Farm 4

	SWD females	SWD males
2-Mar	1 ± 1	0
31-Mar	0.5 ± 0.5	0

Conclusions

- There is an established SWD population on organic farm 1 and conventional farm 3
- The SWD population on organic farm 2 and conventional farm 4 appears to be more transitory
- Peak SWD populations occurred in March

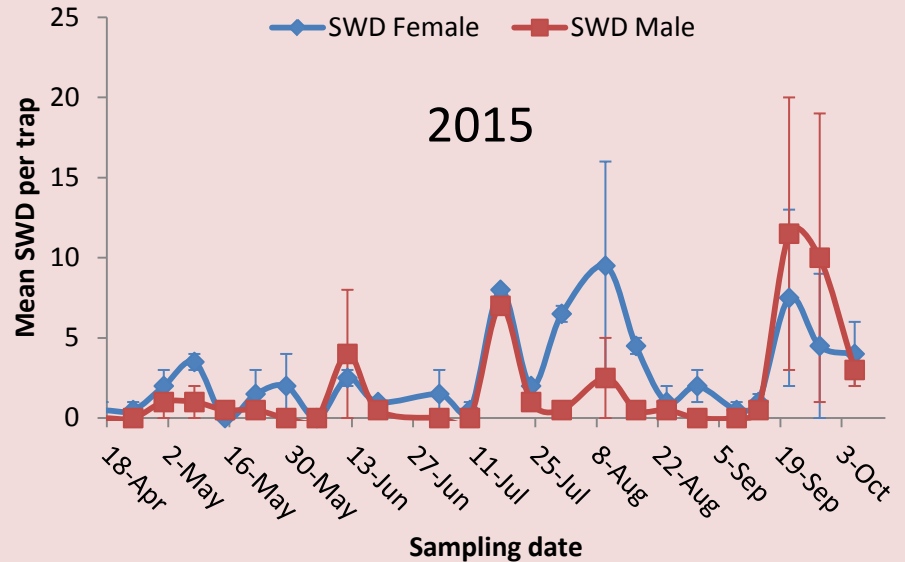
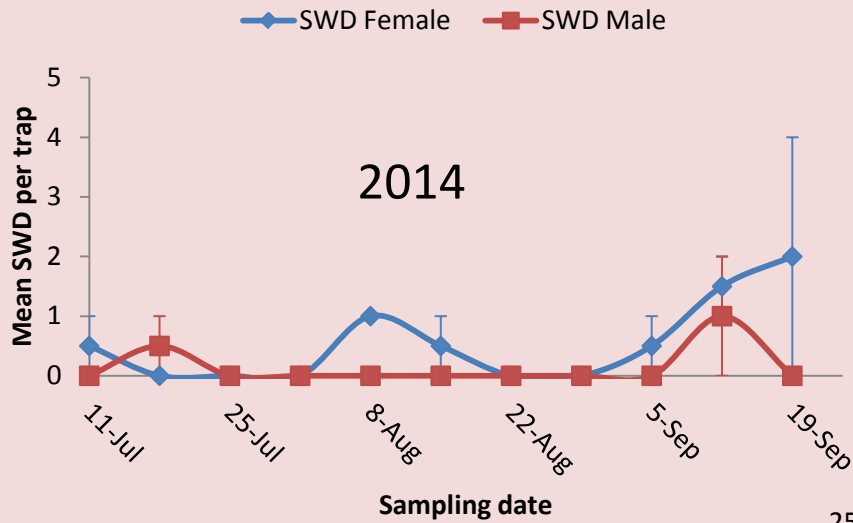
Grapes and persimmons

OBJECTIVE 2

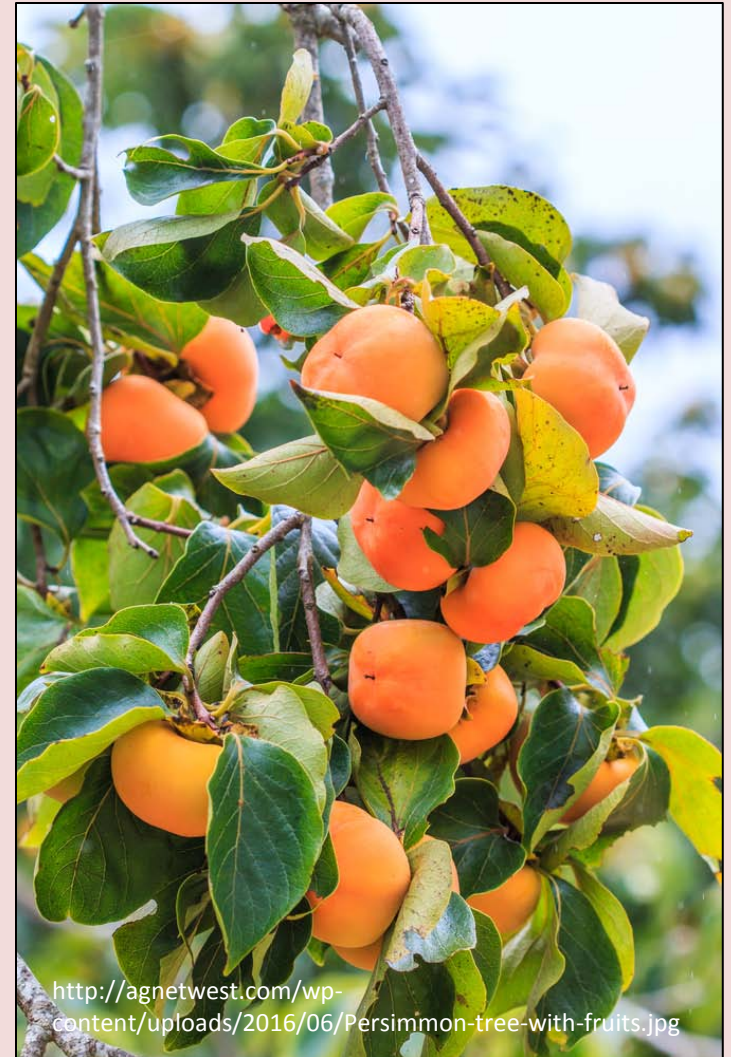
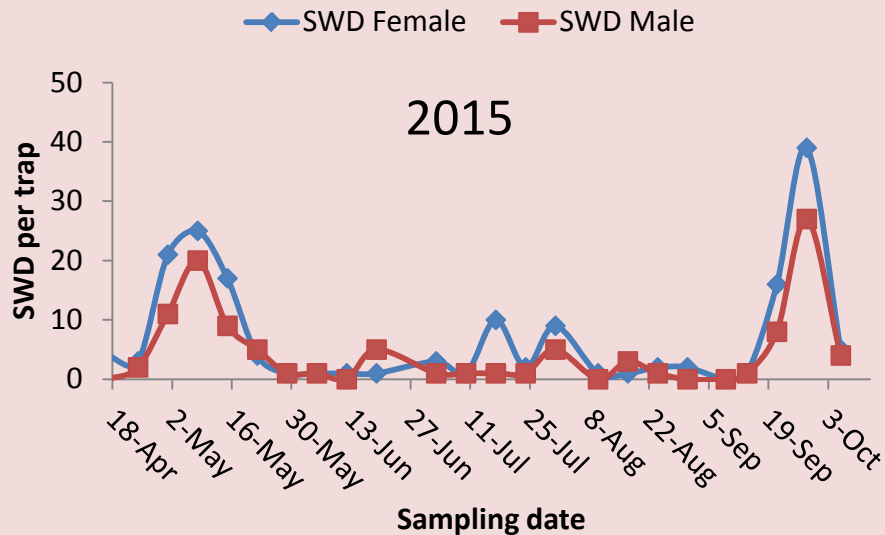
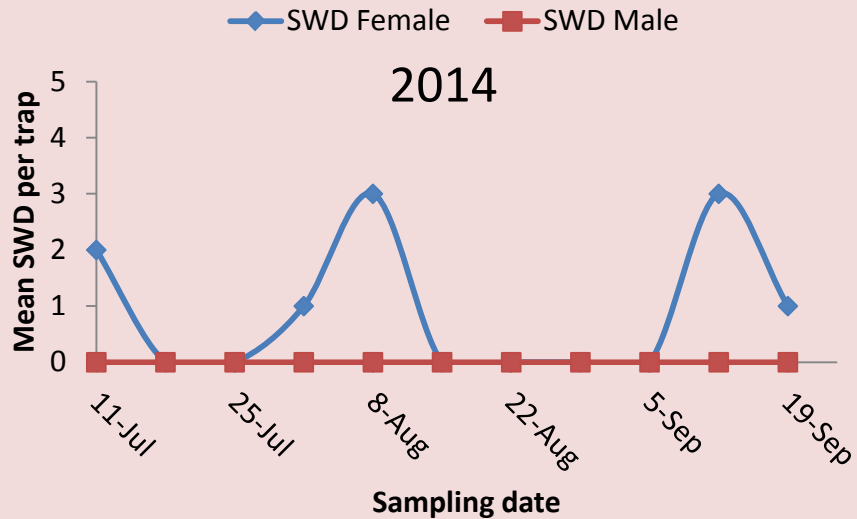
Methods: grapes and persimmons

- 0.6 ha U-pick muscadine grape vineyard with ~ 10 persimmon trees
- Two traps in grapes and one in persimmons checked weekly from 11 July – 19 Sept. 2014 and 17 Apr – 6 Oct. 2015
 - Yeast + sugar + water bait with dish soap
- Numbers of SWD males and females were counted and recorded

Results: grapes



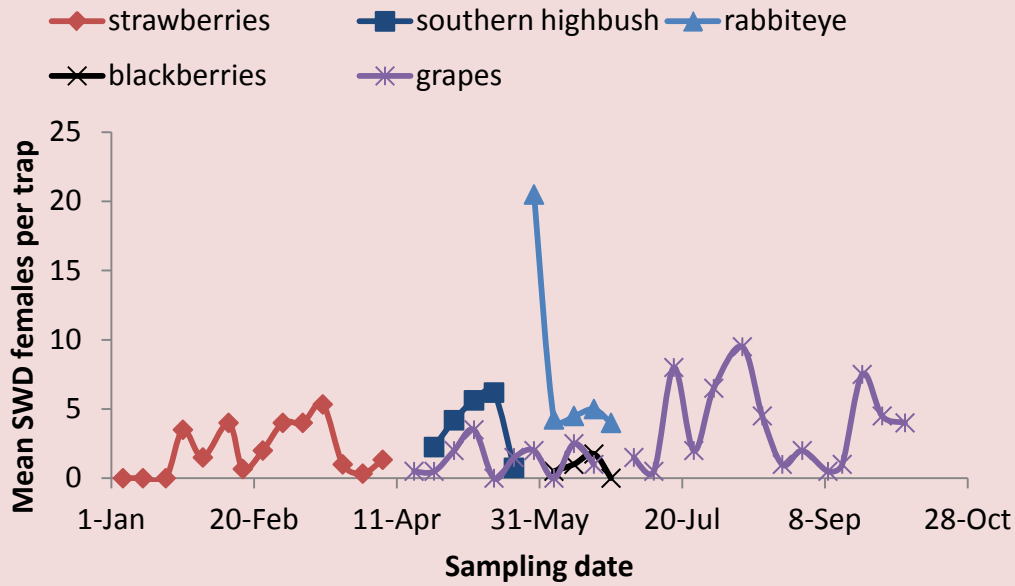
Results: persimmons



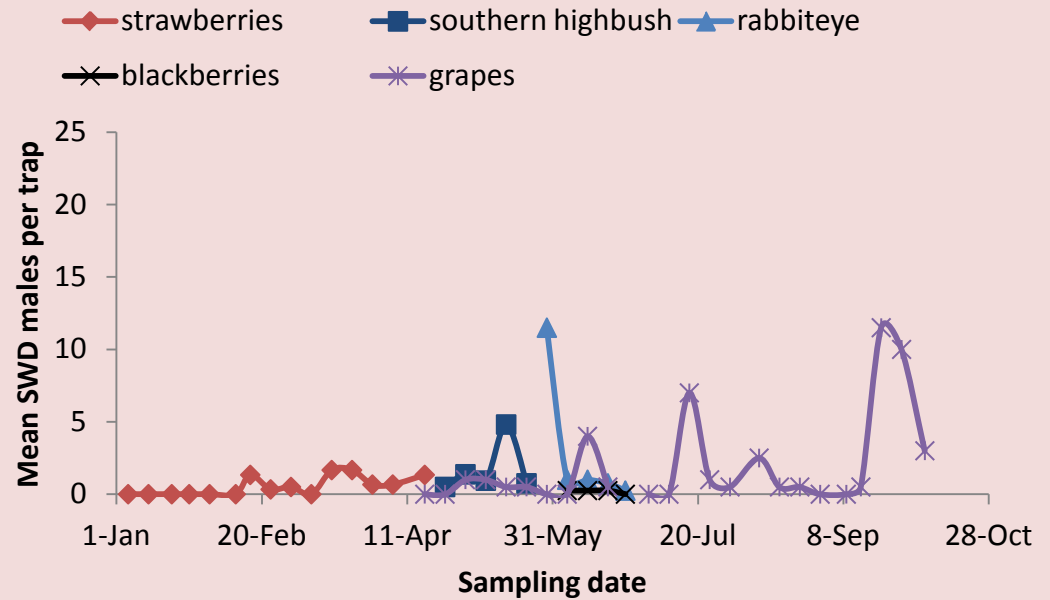
Conclusions

- Muscadine grapes appear to serve as a summer host for SWD in Florida
 - Likely using overripe and injured fruit
- Overripe and/or rotting persimmons may also serve as a summer host

SWD females



SWD males



Summary

- SWD populations peaked in March in strawberries in Alachua Co. Florida in 2015
- SWD may utilize grapes and persimmons as summer hosts
 - Damaged or rotting fruit

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