Fruit-infesting Flies
There are two families of flies that may be known as “fruit flies”

**Fruit Flies**
Diptera: Tephritidae

**Small Fruit Flies/Vinegar Flies**
Diptera: Drosophilidae
Spottedwing drosophila (SWD)

*Drosophila suzukii*

Diptera: Drosophilidae – the “vinegar flies” or “small fruit flies”
Most *Drosophila* feed on yeasts – they are the common “fruit flies” of overripe fruit.

Small fruit fly larvae developing in overripe banana.

A homemade trap for small fruit flies.
Males of can be distinguished by a spot on the wings.
SWD lays eggs on intact, ripening fruit
Life Cycle of the Spotted Wing Drosophila

*Drosophila suzukii* (Matsumura)

- Pupation: 4-15 days inside or outside of fruit
- Three Larval Instars: 5-7 days
- Adults: 20-30 days
- Eggs: 12-72 hours
- 350+ eggs in a lifetime
Infestations of the developing larvae rapidly soften the fruit.
Spottedwing Drosophila – What To Look For

• Small maggots in ripening fruit
  – Rapid fruit softening results from injury
  – Raspberries, blackberries, strawberries most likely to be noticed as infected

• Adult male has a spot on the wings
Traps for Spottedwing Drosophila

Cups filled with apple cider vinegar (or merlot wine!) effectively capture SWD
Traps are best placed in a shaded area within the crop canopy.
Management of Spottedwing Drosophila

• Thoroughly and frequently pick ripening fruit
  – Store in refrigerator/rapidly use fruit
  – Destroy culled fruit in manner that kills developing larvae

• Shift to early bearing cultivars

• Insecticides
Control of SWD

Thoroughly pick all ripe fruit regularly (2-3X weekly)
Many fruits are hosts of spottedwing drosophilidae.

Question: How important are the fruits produced by trees/shrubs as food sources for this new insect pest of berry crops?
Host Range Survey of SWD Hosts

• Highly susceptible
  – Raspberries
  – Blackberries
  – Strawberries
Host Range Survey of SWD Hosts in Colorado

• **Moderately Susceptible Hosts of SWD**
  
  – Elderberry
  
  – Currants, gooseberry grown for fruit
  
  – Chokeberry (*Aronia*)
  
  – Most *Prunus* (Nanking cherry, Montmorencies cherry, plums)
  
  – Red twig/Redosier dogwood
Host Range Survey of SWD Hosts in Colorado

• Will host SWD
  – Regent serviceberry
  – Scarlet hawthorn, Arnold hawthorn
  – Yew (Taxus)
  – Apples, crabapples – after they have dropped and ripened
  – European cotoneaster
  – Grape (well ripened)
Host Range Survey of SWD Hosts in Colorado

- Apparent non-hosts or insignificant hosts
  - Barberry
  - Bittersweet
  - Euonymus
  - Mountain-ash
  - Privet
  - Russian olive
  - Skunkbush (Rhus)
  - Snowberry
  - Viburnum (except Emerald Triumph)
  - Virginia creeper
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- Insecticide?
  - Spinosad
  - Acetamiprid?
    - *Only applied at evening after bees cease visiting!*
Insecticides used for spottedwing drosophila must only be applied at dusk, after bees have stopped foraging for the day.