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.

A homemade trap for small fruit flies

Small fruit fly larvae developing in overripe banana
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
- Eggs: 12-72 hours
  - 350+ eggs in a lifetime
- Adults: 20-30 days
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
Cups filled with apple cider vinegar (or merlot wine!) effectively capture SWD.
Traps are best placed in a shaded area within the crop canopy.

Traps for Spottedwing Drosophila
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 spotted wing drosophila.

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, Montmorency 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.