

(revision date:3/10/2017)

## Apple: Apple maggot

*Use Integrated Pest Management (IPM) for successful plant problem management.*

### **Biology**

The apple maggot is potentially a serious pest of apples. Transportation of home-grown fruit from infested to non-infested areas is prohibited in Washington. The adult apple maggot is a small fly about 1/4-3/8" in length. It is black with a white mark on the back and has black markings on otherwise clear wings. The female lays eggs on apple fruits by puncturing the skin. The cream-colored larvae feed inside the fruit, creating irregular brown tunnels throughout the fruit. The tunnels are often infected by rot organisms which ruin the fruit. At maturity, the 3/8"-long maggots drop to the ground where they pupate and overwinter. Adult flies emerge in the summer. Early-maturing apple varieties are more severely affected. Apple maggots may also feed on crabapple and hawthorn. For more information, see WSU Extension Publication EB 1928, Protecting Backyard Apple Trees from Apple Maggot.

### **Management Options**

#### **Non-Chemical Management**

- ~ When purchasing an apple tree, seek out apple varieties grafted onto dwarfing rootstock to help manage tree height. Through proper tree training and pruning, maintain the height of the tree to less than ten-feet tall. See publication PNW 400 Training and Pruning Your Home Orchard.
- ~ Bagging fruit is effective for preventing apple maggot infestation if the bags are placed before the adult flies emerge in the spring. Options include paper lunch bags, wax paper bags, and double-layer Japanese fruit bags. Nylon mesh footie bags are also very effective. Clear plastic sandwich bags may retain moisture and contribute to disease problems on the bagged fruit. Bags should be placed on UNINFESTED fruit 4-6 weeks after petal fall (when the fruit is approximately dime-sized) and should be left on for the entire growing season. Bags can be removed about 3 weeks before harvest to improve fruit color, but exposed fruit may be attacked by late-season apple maggots.
- ~ Periodically scout your apple tree for insect-infested fruit from late July to fruit harvest. Pick off and destroy (by crushing or by placing in plastic bag and leaving bag in hot sun for a week) any infested fruit to stop larval development. **DO NOT COMPOST** infested fruit as larvae naturally leave the infested fruit to pupate in the soil.
- ~ Clean up all dropped fruit off the ground and destroy infested fruit. **DO NOT** place infested fruit in yard waste. After crushing the fruit or leaving it in a black or clear trash bag for a week, the resultant mash may be buried.
- ~ There are no effective pheromones for apple maggot. There are yellow sticky traps and red sphere traps coated in insect adhesive and baited with an ammonia (bi-)carbonate lure commercially that are available to homeowners. These traps are effective for monitoring the activity of adult apple maggots. They attract apple maggot flies only from short distances. These traps are not effective as a stand-alone strategy to manage apple maggot.

*Select non-chemical management options as your first choice!*

#### **Chemical Management**

**IMPORTANT:** *Visit Home and Garden Fact Sheets for more information on using pesticides*

Follow label instructions. Esfenvalerate is toxic to bees. Do not apply products containing esfenvalerate on or near blooming plants. To minimize risk to bees, apply in the evening after bees have stopped foraging for the day. Homeowners should not make foliar applications to trees over 10 ft tall. Consult a commercial pesticide applicator for treatment of trees and shrubs over 10 ft. tall.

**Listed below are examples of pesticides that are legal in Washington. Always read and follow all label directions.**

- ~ Acetamiprid RTU Insecticide
  - *active ingredient: acetamiprid*
  - *EPA reg no: 8033-21*
- ~ Monterey Bug Buster II
  - *active ingredient: esfenvalerate*
  - *EPA reg no: 1021-1778-54705*
- ~ Ortho Flower, Fruit & Vegetable Insect Killer R-T-U
  - *active ingredient: acetamiprid*
  - *EPA reg no: 8033-21-239*
- ~ Surround At Home Crop Protectant
  - *active ingredient: kaolin clay*
  - *EPA reg no: 61842-18-56872*
- ~ This list may not include all products registered for this use.

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### Images



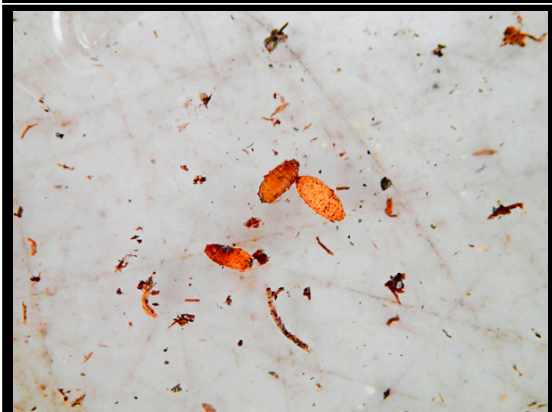
~ Caption: Apple maggot tunneling  
~ Photo by: M. Bush



~ Caption: Apple maggot oviposition sites  
~ Photo by: M. Bush



~ Caption: Apple maggot larvae  
~ Photo by: M. Bush



~ Caption: Apple maggot pupae  
~ Photo by: M. Bush



~ Caption: Home orchard with bagged apples  
~ Photo by: M. Bush



~ Caption: Apple maggot tunneling  
~ Photo by: M. Bush



~ Caption: Apple maggot adult  
~ Photo by: H. Riedl



~ Caption: Apple maggot damage in fruit  
~ Photo by: C.R. Foss



*~ Caption: Apple maggot damage in fruit  
~ Photo by: R.S. Byther*