

(revision date:4/11/2018)

## ***Apple: Nectria canker (European canker)***

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

### ***Biology***

Nectria (European) canker is a fungal disease affecting the twigs and branches of apple and pear. The fungus infects during rainy weather in the fall, attacking through leaf scars and wounds. Young cankers are sunken, dark, and water-soaked in appearance. White fungal fruiting bodies appear in the canker during the spring or fall/winter of the first season following infection. Twigs are often girdled and die back above the infected site. Older cankers are either irregularly elongate and covered with dead bark, or surrounded by roughened, irregular, cracked bark in concentric rings. Round, red fruiting bodies are produced on cankers during the second winter and spring. Fruit may also be infected, causing an eye rot at the blossom end or a rot on the side of the fruit which may resemble bull's-eye rot.

### ***Management Options***

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

- ~ Plant resistant varieties. Very susceptible varieties include: 'Gala', 'Gravenstein', 'King', 'Macoun', 'McIntosh', 'Red Delicious', and 'Spartan'. Less susceptible varieties include: 'Golden Delicious', 'Jonagold', 'Jonathan', 'Northern Spy', and 'Rome Beauty'.
- ~ Prune out and destroy cankered tissues during dry weather.
- ~ Avoid injuring trees. Pruning and other wounds can provide infection sites.

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

#### **Chemical Management**

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

Apply before fall rains and during early leaf fall. Fungicides protect leaf scars. Applications may not be effective if not done in conjunction with canker removal. 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.**

- ~ Bonide Copper Fungicide Spray or Dust RTU [Organic]
  - active ingredient: basic copper sulfate
  - EPA reg no: 4-58
- ~ Bonide Liquid Copper Fungicide Conc/Organic Gardening
  - active ingredient: copper octanoate
  - EPA reg no: 67702-2-4
- ~ Monterey Liqui-Cop Copper Fungicidal Garden Spray
  - active ingredient: copper-ammonia complex
  - EPA reg no: 54705-7
- ~ Soap-Shield Flowable Liquid Copper Fungicide [Organic]
  - active ingredient: copper octanoate
  - EPA reg no: 67702-2-56872
- ~ This list may not include all products registered for this use.

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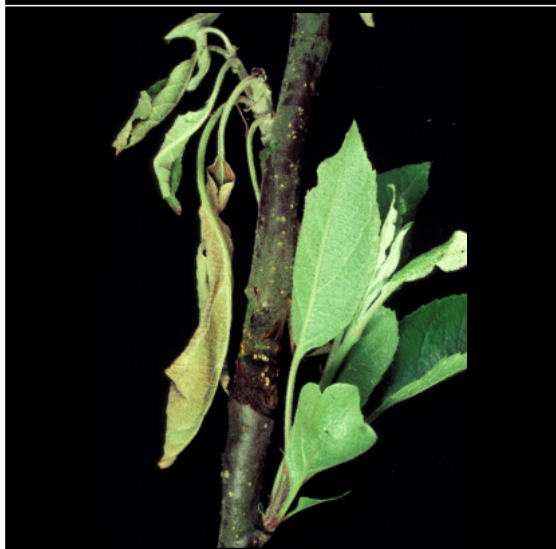
*Images*



~ Caption: *European canker*  
~ Photo by: *R.S. Byther*



~ Caption: *Nectria canker fruiting bodies*  
~ Photo by: *R.S. Byther*



~ Caption: *Stem girdled by European canker*  
~ Photo by: *R.S. Byther*