

(revision date:4/11/2018)

## *Grape: Powdery mildew*

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

### ***Biology***

Powdery mildew is a fungal disease which affects all aboveground portions of grapes. Leaves develop characteristic white to grayish patches of fungus on the underside. Both surfaces of shaded leaves may be affected. Young leaves are deformed and stunted, while older leaves may show some yellow spotting. Stems are infected while green and develop brown to black patches which later show as a reddish discoloration. Infected flowers fail to set fruit. Infected fruit develops grayish spots on the skin. These spots later appear russeted and the affected fruit may crack and drop. Disease development is favored by warm, dry weather. The spores are spread by wind, and the fungus overwinters on the bark or in infected buds. European cultivars (*Vitis vinifera*) are more susceptible than juice grapes. 'Thompson Seedless' is also affected.

### ***Management Options***

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

- ~ Orient plantings to minimize shading and maximize air flow through the canopy.
- ~ Train and prune to provide good air circulation and light penetration.
- ~ Remove suckers.

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

#### **Chemical Management**

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

Make first fungicide application when new growth is 6 inches long. Repeat applications at 10-to 14-day intervals. (Follow label instructions for timing and application intervals when using Spectracide IMMUNOX and Bonide Copper Spray or Dust.) Copper products provide only moderate control. Do not apply oils within 2 weeks of a sulfur application. Slight to severe foliage injury may occur on copper-sensitive varieties such as 'Concord,' 'Delaware,' 'Niagra,' and 'Rosetti'.

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

- ~ Bi-Carb Old-Fashioned Fungicide [Organic]
  - active ingredient: *potassium bicarbonate*
  - EPA reg no: 54705-10
- ~ 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
- ~ ferti-lome Horticultural Oil Spray RTSpray
  - active ingredient: *oil/pet distillate*
  - EPA reg no: 48813-1-7401
- ~ Lilly Miller Sulfur Dust Fungicide/Insecticide Dust or Spray
  - active ingredient: *sulfur*
  - EPA reg no: 802-16
- ~ Monterey Horticultural Oil [Organic]
  - active ingredient: *mineral oil/pet distillate light*
  - EPA reg no: 48813-1-54705
- ~ Monterey Liqui-Cop Copper Fungicidal Garden Spray
  - active ingredient: *copper-ammonia complex*
  - EPA reg no: 54705-7

- ~ Safer Brand Garden Fungicide/Flowers, Fruit & Vegetables Conc
  - *active ingredient: sulfur*
  - *EPA reg no: 42697-37*
- ~ Soap-Shield Flowable Liquid Copper Fungicide [Organic]
  - *active ingredient: copper octanoate*
  - *EPA reg no: 67702-2-56872*
- ~ Spectracide IMMUNOX Multi-Purpose Fungicide Spray Conc
  - *active ingredient: myclobutanil*
  - *EPA reg no: 9688-123-8845*
- ~ This list may not include all products registered for this use.

*Grape: Powdery mildew*

*Images*



*~ Caption: Powdery mildew on grape  
~ Photo by: R.S. Byther*



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