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Bean: Rust

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

Biology

Bean rust is a fungal disease which typically affects leaves, but can also be found on stems and pods. Small white blisters develop on the upper surface of infected leaves early in the summer. The underside of the leaf develops a pustule of white, powdery spores. Later in the summer leaves (undersides), petioles, stems, and pods develop reddish-brown, powdery pustules. Leaves often develop yellow halos around the pustules. Severely infected leaves drop, sometimes resulting in considerable defoliation and reduced yield. The brown pustules may later turn dark or black. Disease development is favored by cool, cloudy, humid weather.

Management Options

Non-Chemical Management

- ~ Plant resistant varieties. Many common pole beans are very susceptible.
- ~ Space plantings to improve air circulation.
- ~ Avoid overhead watering. Irrigate in the morning so that plants can dry as quickly as possible.
- ~ Remove plant debris from the garden. Destroy or discard (do not compost) diseased materials.
- ~ Rotate crops yearly. Do not plant beans in the same location each year.

Select non-chemical management options as your first choice!

Chemical Management

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

Begin applications when disease first threatens. Repeat at weekly intervals or as necessary. Controlling rust by dusting with sulfur is difficult if the disease becomes established in a planting. Labels recommend different timings of oil and sulfur applications and range from 2 - 4 weeks. Follow the instructions on the product label. Applying oil and sulfur too close to one another can result in necrotic foliage. Do not use oils below 50 degrees F, above 90 degrees F or when plants are under heat or moisture stress. Do not use when foliage is wet as good coverage is essential.

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

- ~ Bonide Fung-onil Multi-Purpose Fungicide Conc
 - active ingredient: chlorothalonil
 - EPA reg no: 60063-9-4
- ~ GardenTech Daconil Fungicide Conc
 - active ingredient: chlorothalonil
 - EPA reg no: 67572-82-71004
- ~ Hi-Yield Snake Eyes Dusting Wettable Sulfur
 - active ingredient: sulfur
 - EPA reg no: 7401-188-34911
- ~ 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
- ~ Ortho Max Garden Disease Control Conc
 - active ingredient: chlorothalonil
 - EPA reg no: 239-2522
- ~ Safer Brand Garden Fungicide/Flowers, Fruit & Vegetables Conc

- *active ingredient: sulfur*
- *EPA reg no: 42697-37*

~ This list may not include all products registered for this use.

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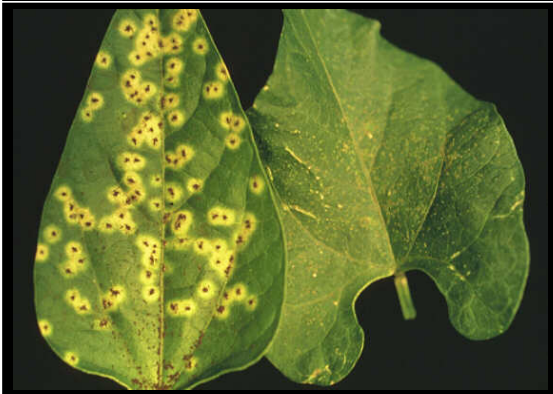
Images



*~ Caption: Early summer bean rust sporulation
~ Photo by: R.S. Byther*



*~ Caption: Late season bean rust sporulation
~ Photo by: R.S. Byther*



*~ Caption: Bean rust sporulation
~ Photo by: P.N. Miklas*