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Bean: Bacterial Blights

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

Biology

Three distinct bacterial blights may affect beans in the area: halo blight (*Pseudomonas syringae* pv. *phaseolicola*), common bacterial blight (*Xanthomonas axonopodis* pv. *phaseoli*) and bacterial brown-spot (*Pseudomonas syringae* pv. *syringae*). Bacteria pathogens require an opening to infect host plants. The bacteria can enter through natural openings, such as stomata, but also access wounds created by mechanical damage from contact or from hail. Bacterial pathogens can be found in other nearby hosts and weeds or may survive in debris in the soil but the most common source of the problems in the garden is the use of non-certified and/or contaminated seeds. Warm temperatures of at least 80oF coupled with humid conditions, including moisture retention in a crowded crop canopy, promote development of these bacterial infections. Halo blight can create greasy, water-soaked spots 1/16” in diameter on the underside of leaves or on pods. Leaves spots may be surrounded by greenish, yellow halos. Red waxy cankers can develop on stems and may girdle tissue. Common bacterial blight will look quite similar though leaf spots merge and darken and dry out with time. Bacterial brown spot, most commonly damaging to lima bean, starts with similar foliar symptoms followed by tissue dropping out leaving a shot-hole appearance while the pods may be distorted in shape.

Management Options

Non-Chemical Management

- ~ Plant certified pathogen-free seed.
- ~ Select blight-resistant varieties.
- ~ Practice two- to four-year crop rotation.
- ~ Control weeds and volunteer bean seedlings.
- ~ Clear plant debris which can act as a reservoir for the pathogen.
- ~ Pull infected plants and destroy; do not add to compost.
- ~ Avoid damaging plants with tools or by excessive handling.
- ~ Avoid frequent overhead watering.

Select non-chemical management options as your first choice!

Chemical Management

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

Fixed copper can be effective if applied at the first sign of disease. This is less effective for common blight than for halo blight or brown spot blight.

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

- ~ Bonide Liquid Copper Fungicide RTU [Organic]
 - active ingredient: copper octanoate
 - EPA reg no: 67702-1-4
- ~ Monterey Liquid Copper Fungicide RTU [Organic]
 - active ingredient: copper octanoate
 - EPA reg no: 67702-1-54705
- ~ Natural Guard by Ferti-Lome Copper Soap Fungicide RTU
 - active ingredient: copper octanoate
 - EPA reg no: 67702-1-7401
- ~ This list may not include all products registered for this use.

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Images



~ Caption: Halo Blight on Green Bean Foliage
~ Photo by: C. Vanderstoep



~ Caption: Halo Blight on Green Bean Pod
~ Photo by: C. Vanderstoep



~ Caption: Halo Blight on Green Bean Foliage
~ Photo by: H. Schwartz



~ Caption: Halo Blight on Green Bean Pod and
Seeds
~ Photo by: H. Schwartz



~ Caption: Common Blight on Green Bean
Foliage
~ Photo by: H. Schwartz



~ *Caption: Common Blight on Green Bean Pods*
~ *Photo by: H. Schwartz*



~ *Caption: Brown Spot Blight on Green Bean Foliage*
~ *Photo by: H. Schwartz*



~ *Caption: Brown Spot Blight on Green Bean Pod*
~ *Photo by: H. Schwartz*