

Common Rust - IPM Guideline for Common Bean (dry, snap, fresh market, seed)

Note: this guideline may be applicable to other legume crops including:

Cool Season (chickpea, lentil, field pea)

Warm Season (cowpea, lima bean, soybean)

Disease Diagnostic Confirmation

Work with local crop consultants, field specialists and disease diagnosticians to confirm identity of disease causes. Provide background information on the field and problem, and deliver representative samples (including healthy appearing to badly affected tissue and plants) to qualified experts for diagnosis and confirmation. <http://wiki.bugwood.org/PIPE:Legume>

Vegetative Growth Stages

Fungicide applications are not recommended in the early vegetative growth stages for rust control. Applying a fungicide just prior to flowering (R1) may be prudent if disease risk is high. This is especially true for late-planted crops and/or very late-maturing varieties that may develop a large canopy before flowering

Reproductive Growth Stages

Rust may develop rapidly during reproductive growth stages (e.g., R1 to R4). The first fungicide application should be made before rust has appeared on more than 5 - 10% of the leaflets (one or more pustules per leaflet) in the canopy for optimum control. The benefits of applying a fungicide at late growth stages (e.g., after R4) are uncertain. In addition, many fungicides have preharvest interval restrictions (e.g., 14 to 30 days) that do not allow applications past R5. Refer to fungicide labels for specific directions and restrictions, and check with local extension specialists and pest management personnel for specific recommendations.

- Rotate to exclude susceptible host crops (i.e., common bean volunteers) for 3 + years; examples of non-host crops include small grains and corn
- avoid planting in fields with a history of disease during the last 3 years
- plant resistant or less susceptible varieties if available
- follow recommended plant population - row & plant spacing
- soil test and use a moderate fertility program; e.g., not to exceed 75 - 100 lb N/A
- incorporate fall and/or spring tillage to eliminate carryover seed and volunteer beans in last year's bean fields, promote root health and moisture drainage in this year's bean fields
- monitor irrigation scheduling to avoid flowering-period deficiency but avoid late-season saturation
- utilize timely scouting, disease forecasting, and weather monitoring services
- consider protection with a labeled fungicide at first confirmed signs of disease (often the R -1 to R - 3 Growth Stages) on numerous plants in the field or nearby fields
- follow a 5 to 10 day interval between sprays, depending upon disease pressure and the fungicide selected until 14 to 30 days pre harvest interval or the R - 7 growth stage is reached, whichever occurs first
- pesticide Information available at: <http://www.highplainsipm.org/>

[Guideline adapted for Colorado and surrounding region by Dr. H. F. Schwartz, M. S. McMillan, and K. L. Otto]