



## Common blight of beans

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### Caused by

*Xanthomonas campestris* pv. *phaseoli*

### Introduction

Common blight, caused by a bacterium which infects foliage and pods, is very destructive and can cause major losses in yield.

### Symptoms

Symptoms initially appear on leaves as water soaked spots and gradually grow to form large-brown spots of dead tissue, often surrounded by a very narrow zone of yellow tissue. Spots can form at the margins and interveinal regions. In severe infections, the plant appears burnt and dead leaves remain attached.

Spots on pods are generally circular, slightly sunken, and dark red-brown in colour and under extremely humid conditions are covered with bacterial ooze. Symptoms appear similar to "halo blight," but the leaf spots do not have large yellow to pale margins. Also, the "grease spots" that appear on the pods have a yellow ooze in the centre.



Figure 1. Common blight on bean leaves.

### Biology

#### Disease Cycle

Bacteria enter plants through wounds or natural openings. It takes 10-14 days from initial infection for new bacteria to be released.

#### Survival

The bacterium can survive either inside the seed or on the seed surface. Tolerant varieties may harbour the bacterium. It overwinters on infected plant debris, especially on residues near the soil surface. The bacterium can also survive on the surface of volunteer beans, weeds and intercropped plants without showing any symptoms.

#### Dispersal

Contaminated seed is the major means of dispersal of the bacterium. It is also spread by plant to plant contact, especially when wet, and by water splash from rain. It can be transported in soil, irrigation water, by insects, animals, and people.

#### Environmental conditions

Warm-humid weather, with or without rain, and temperatures of 28-32 °C favour development of the disease.

#### Host range

French and mung beans.

### Control

- Use disease-free seed.
- Plant tolerant or resistant cultivars.
- Use a crop rotation of two or more years between bean crops.
- Eliminate alternate hosts such as volunteer beans and weeds.
- Use a registered bactericide spray if weather conditions favour disease development.

edited by Kathy Pullman

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