

Phytophthora & Pythium

Phytophthora capsici & *Pythium* species



FIGURE 1



FIGURE 2



FIGURE 3



FIGURE 4



FIGURE 5

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PHOTOGRAPHS: Courtesy of H.R. Dillard, S.L. Rideout and H.F. Schwartz (Colorado State University) [03/2011]

COMMON HOSTS: Snap Bean, Lima Bean, as well as many cucurbit and solanaceous vegetables.

SYMPTOMS (ON SNAP BEAN):

FIGURE 1 • Phytophthora blight symptoms first appear as large water-soaked lesions on the leaves. Leaves die and fall off the plant. Brown stem lesions and white powdery areas on stems are characteristic. Pods show white mycelial growth.

FIGURE 2 • Pods infected with *P. capsici* shrivel and become dry and leathery.

FIGURE 3 • Pythium species may infect planted seeds prior to germination, germinating seedlings, young plants, or older plants during flowering and pod stages. Symptoms appear as water-soaked areas on the hypocotyls and main root system which may extend above ground.

FIGURE 4 • The water soaked area eventually dries out, becomes somewhat sunken, tan to brown in color, and plants then wilt and die.

FIGURE 5 • Pods in contact with soil may become infected by Pythium, exhibiting water-soaking and fluffy white fungal growth (cottony leak).

FACTORS FAVORING:

- Infested soil, equipment and irrigation water
- Wet, compacted soils
- Susceptible bean varieties
- Previous cropping history of squash, pumpkins, cucumbers, melons or peppers; disposal of culled cucurbits in a clean field
- Frequent high rainfall and warm temperatures greater than 25°C (77°F) favor postemergence as well as older plant wilts and pod rots; and Pythium damping off is generally favored by lower temperatures.

ADDITIONAL DIAGNOSTICS AVAILABLE AT:

<http://phytophthora.pppmb.cals.cornell.edu/index.html>

<http://legume.ipmpipe.org>

<http://wiki.bugwood.org/PIPE:Legume>

<http://www.apsnet.org/> — Compendium of Bean Diseases, 2nd Ed.