



DISEASE MANAGEMENT: Phytophthora Blight of Pepper



Phytophthora capsici

SIGNS AND SYMPTOMS:

- On the stems or crown, a brown to dark purplish lesion quickly elongates, girdling and killing the plant or plants parts.
- On roots, brown discoloration and thinning of roots can be observed. Top lateral root growth may be more prevalent since lower roots are rotted and degraded.
- On leaves, circular to oval water-soaked lesions are observed and sporulating mycelia is common.
- On fruits, a small water-soaked lesion can quickly expand and white sporulating mycelia may be observed.

DISEASE CYCLE & EPIDEMIOLOGY:

- *P. capsici* can infect any part of the plant and quickly spread throughout.
- Pathogen is spread by splashing rains, surface water, wind, and wet soil which allows for the movement of motile zoospores to surrounding roots.
- Phytophthora blight and rot of pepper is favored by humid and warm conditions where the optimum temperature is around 82°F.
- *P. capsici* has a wide host range, which includes tomato, eggplant, watermelon, squash and cucumbers. Some common weeds have been found to potentially serve as alternative hosts.

FIELD SIGNATURE:

- Phytophthora blight and rot of pepper normally occurs first where soil is waterlogged or down the slope of a field where water tends to accumulate.
- First symptom of this disease is usually a rapid wilting of the pepper plant as a result of root and/or crown rot.
- Crown lesions are common, even before wilting may be fully observed.

PHOTOS:

Figure 1. Blighted leaf and crown of pepper plant caused by *Phytophthora capsici*. Photograph by: Pam Roberts.

Figure 2. Crown and stem lesion on pepper plant caused by *P. capsici*. Photograph by: Pam Roberts.

Figure 3. Plant loss in field caused by *P. capsici*. Photograph by: Pam Roberts.

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CULTURAL CONTROLS:

- Field preparation should allow for irrigation practices which minimize water accumulation and allow for good soil drainage.
- Crop rotations should be conducted with non-hosts for *P. capsici*.
- Weeds should be adequately managed, especially common purslane, Carolina geranium and nightshades.

CHEMICAL CONTROL:

- Regular applications of copper fungicides should supplement the use of other chemicals labeled against *P. capsici*.

RESISTANCE MANAGEMENT:

- If chemicals used for the management of *P. capsici* are known to develop resistance by the pathogen population, these compounds should be rotated with other chemistries.

RESISTANT CULTIVARS:

- Some differences in resistance of pepper cultivars to Phytophthora blight have been noted in the literature.



Figure 4. Pepper fruit with symptoms of Phytophthora blight. Photograph by: UF/IFAS.

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