



DISEASE MANAGEMENT: White Mold of Tomato & Pepper



Sclerotinia sclerotiorum

SIGNS & SYMPTOMS:

- Sclerotia can form on plant surfaces, but are particularly abundant inside infected stems.
- Fruit exhibit a watery soft rot.
- Water-soaked lesions appear on stems. Stems turn to a bleached gray-white, causing them to appear like animal bones left in the sun (**Figure 2**).
- All or portions of plants with infected stems develop a general wilting symptom.
- The best indicators of white mold are signs of the pathogen, consisting of white fungal growth (mycelium) and sclerotia (**Figures 1-3**).
- Sclerotia are small, hard resistant structures that look like bits of black coal (**Figure 3**).

DISEASE CYCLE & EPIDEMIOLOGY:

- White mold is a cool, moist weather disease; ideal temperatures for white mold are 60-70°F.
- High humidity, rainfall, and heavy dew periods favor disease development.
- Small, mushroom-like structures develop from sclerotia (**Figure 4**). These produce spores in abundance which are carried on air currents to tomato and pepper plants.

FIELD SIGNATURE:

- Be on the lookout for white mold when daytime highs are consistently in the 70's or lower.
- Blooming periods are critical times for *Sclerotinia* infection, because the pathogen invades dying flower petals caught in crooks of stems.
- The presence of mycelium and, especially, black sclerotia confirm white mold (**Figures 2 & 3**).

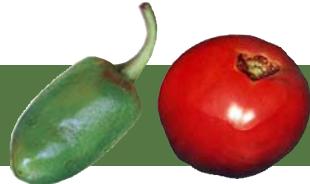
PHOTOS:

Figure 1. Poor stand in pepper field with white mold.
Photograph by: Ken Pernezny.

Figure 2. White mold growth evident on damaged pepper stem.
Photograph by: Ken Pernezny.

Figure 3. Sclerotia inside infected tomato stem.
Photograph by: Ken Pernezny.

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CULTURAL CONTROLS:

- Every effort must be taken to avoid overly dense plant canopies, as poor air circulation aggravates white mold.
- Rotation with crops other than tomato, pepper, potato, and snap bean may help reduce levels of initial inoculum.



Figure 4. Apothecia of *Sclerotinia sclerotiorum* germinating from a sclerotium, these can be found in the field while scouting. They are about the size of a grain of rice. Photograph by: Pete Adams.

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CHEMICAL CONTROL:

- Very specific fungicides are needed to control white mold.
- Several special exemptions for fungicides (e.g., thiophanate-methyl) have been granted in the last few seasons for white mold control. Check with your cooperative extension agent for current legal alternatives.

RESISTANT CULTIVARS:

No known resistance to white mold is currently available for either tomato or pepper.

References:

- Pernezny, K., M.T. Momol and C.A. Lopes. 2003. White mold, pp. 22-23. In K. Pernezny, P.D. Roberts, J.F. Murphy, and N.P. Goldberg (eds.), Compendium of Pepper Diseases. APS Press, St. Paul, MN.
- Yanar, Y., F. Sahin and S.A. Miller. 1996. First report of stem and fruit rot of pepper caused by *Sclerotinia sclerotiorum* in Ohio. Plant Dis. 80: 342.
- Pernezny, K. and L.H. Purdy. 2000. Sclerotinia diseases of vegetable and field crops in Florida. Univ. Fla. Ext. Plant Path. Fact sheet No PP-22.

