



DISEASE MANAGEMENT: Target Spot of Tomato



Corynespora cassiicola

SIGNS & SYMPTOMS:

- On leaves, the disease first appears as small, necrotic lesions with light-brown centers and dark margins.
- Symptoms often begin deep within the tomato canopy.
- On fruit, lesions first appear as brown, slightly sunken flecks. As lesions develop, large, pitted areas appear on fruit.

DISEASE CYCLE & EPIDEMIOLOGY:

- Target spot is favored by moderate temperatures (70-80°F).
- Sandblasting of fruit predisposes tomato fruit to infection.
- *C. cassiicola* has a wide host range, which includes cucumber, papaya and a number of ornamentals. Several common weed species also serve as alternate hosts.

FIELD SIGNATURE:

- Always inspect the interior of the tomato canopy for the "melting out" effect often seen with target spot. This refers to the loss of foliage in the inside of the canopy which operates to thin out the interior foliage due to premature defoliation.
- Pitted fruit may appear to have been damaged by hail or other abiotic stress.

PHOTOS:

Figure 1. Typical foliar symptoms of target spot. Photograph by: Ken Pernezny.

Figure 2. Severe pitting of tomato fruit due to target spot. Photograph by: Ken Pernezny.

Figure 3. Small pits in green fruit associated with target spot. Photograph by: Ken Pernezny.

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CULTURAL CONTROLS:

- Destroy crop residues promptly.
- Avoid overfertilization, especially with nitrogen, as this leads to a lush growth habit, with more likelihood of significant "melting out".
- Be certain that fields are scouted thoroughly and that target spot is not misdiagnosed as bacterial spot, early blight, or other foliar diseases.



Figure 4. Severe foliar damage due to target spot epidemic. Photograph by: Ken Pernezny.

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CHEMICAL CONTROL:

- Chlorothalonil and mancozeb (maneb) provide fairly good control of target spot when applied on a preventative basis.
- New chemistries, including the strobilurins and related compounds (e.g., azoxystrobin and famoxadone + cymoxanil), have given excellent control of target spot in University research trials.

RESISTANCE MANAGEMENT:

- Strobilurins and related compounds are prone to the development of resistance and should be rotated with other chemistries.

RESISTANT CULTIVARS:

- No known resistance to target spot is currently available in commercial cultivars.
- Current University of Florida research is aimed at identifying sources of resistance to this disease.

References:

Pernezny, K. and G.W. Simone. Target spot of several vegetable crops. PP-39. <http://plantpath.ifas.ufl.edu>.

Pernezny, K., P. Stoffella, J. Collins, A. Carroll and A. Beany. 2003. Control of target spot of tomato with fungicides, systemic acquired resistance activators, and a biocontrol agent. *Plant Protect. Sci.* 38: 81-88.

Pernezny, K., P. Stoffella, N. Havranek, J. Sanchez and A. Beany. 2005. BAM! Kicking control of target spot up a notch. *Acta. Hort.* 695: 175-180.