

# Managing Southern Blight on Vegetable Crops

Anthony P. Keinath

Southern blight is a disease of over 1,200 crops and weeds in the southern half of the United States. Among the vegetable crops affected are tomato, pepper, eggplant, snap bean, Jerusalem artichoke, and occasionally cantaloupe, watermelon, and pumpkin fruit. Grasses and grains are not attacked. In South Carolina, southern blight is most common on tomato and pepper.

## Symptoms and Signs

The typical symptom of southern blight on tomato, pepper, eggplant, bean, and Jerusalem artichoke is a reddish-brown, dry canker on the stem at the soil line. As the stem rots, the entire plant wilts and turns yellow. Normally, the fungus is not active until the soil temperature reaches 80°F. However, stem and root rot sometimes start on young plants within a few weeks of transplanting. Cucurbit fruit start rotting on the underside when they are in contact with wet soil.



The characteristic signs of the southern blight fungus are a thick, coarse, white mold on stem cankers and small, round, brown sclerotia. Sclerotia are white at first and turn brown as they mature. On rotting fruit lying on the ground, the mold growth may extend up to an inch away from the fruit.



## Southern Blight Fungus

The southern blight fungus (scientific name *Athelia rolfsii*) is widespread in many soil types throughout the southern states. It is well adapted to survive in soil. Sclerotia that form on diseased plants end up in the soil after tillage. Sclerotia are resistant to drought, heat and cold but not to prolonged freezing temperatures.

The fungus needs plenty of oxygen to grow, which is why symptoms usually are found at the soil level on stems rather than deeper in the soil on roots. Normally, the fungus does not produce spores.

## Management Options

### Cultural Practices

- Maintain soil pH at the level recommended for each crop. Southern blight is worse in low pH soils.
- Plant vegetable crops early so that fruit are set and harvest can start before southern blight appears.
- Turn the upper layer of soil by plowing. Burying sclerotia will deprive them of oxygen and kill them.
- In small plantings, remove diseased plants from the field.
- Wait 12 months before planting another susceptible crop in a field in which southern blight develops. Some of the sclerotia that form on diseased plants will die during winter.

### Fungicides

- Fungicides must be applied before symptoms are seen.
- No organic-approved fungicides are effective.
- For fungicides that can be used on beans and Jerusalem artichoke, see the current edition of the Southeastern U.S. Vegetable Crop Handbook at [www.thepacker.com/guides/Pest-production-guides](http://www.thepacker.com/guides/Pest-production-guides).
- Eggplant is partially resistant to southern blight, and fungicides are not recommended.
- Cucurbit fruit rot usually does not reach economic thresholds for a fungicide treatment.

### Fungicides Recommended for Tomato and Pepper

Fungicide Program*	Application Schedule (weeks after transplanting)	Rate	Est. Cost/Acre
Priaxor	5 & 7 weeks	8 fl oz	\$ 75
OR			
Fontelis followed by Cabrio	1 & 3 weeks and 5 & 7 weeks	16 fl oz 24 fl oz	\$160

\*Do not apply both Priaxor and Cabrio to the same field.

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