Watch for White Mold this Winter and Spring

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The unusually cold weather across South Carolina in early January is already leading to problems with white mold on winter vegetable crops.

Many cool-season vegetable crops are susceptible to white mold, including collard, kale, cabbage, broccoli, parsley, carrot, lettuce, and potato. Warm-season crops that may be at risk include bean, sunflower, and tomato.

The disease appears as a soft, wet rot at the base of the plant or on leaf edges. The rotted area spreads quickly. White mold growth of Sclerotinia sclerotiorum forms at the edge of the diseased area (Fig. 1.). About a week later, hard black “nuggets” called sclerotia form in rotted tissue (Fig. 2).

![Figure 1 White mold on broccoli.](image)

Plant injury, either by freezing or mechanical damage, makes an easy entry point for the fungus. Both cold-damaged tissue and diseased tissue may look straw-colored or bleached. Growers should check cold-damaged plants for white mold growth.

![Figure 2 Sclerotia and white mold growth in the lab.](image)

The Disease Cycle

Sclerotia are key to understanding why and when white mold appears. Sclerotinia survives year after year as sclerotia in infested fields.

Three steps are needed for white mold to start:

1) Sclerotia exposed to near freezing temperatures break dormancy (“wake up”).

2) Soil with sclerotia stays moist for 10 days.

3) Air temperatures are between 50 and 76°F. Clearly, the weather in South Carolina met all three conditions in January.

Sclerotia in the top inch or two of soil germinate and release airborne spores. Those that are buried deeper cannot, because the spore-producing part cannot reach the soil surface. Sclerotia in soil still can germinate, send out mycelium (strands of mold growth), and infect the lower stem or leaves touching the ground.

Spores can blow from one field to another, so the source of the problem may be a nearby, infested field. Crops planted this spring may be at risk because of airborne spores produced now on diseased plants.

Control

White mold is difficult to control. It occurs sporadically, so many growers do not spray for it in time. Once a plant is infected, white mold cannot be stopped.

Recommended cultural practices include:

- Increase in-row spacing between plants to allow the soil and plants to dry faster.
- Eliminate weeds that are hosts, such as Carolina geranium, chickweeds, and henbit.
- Schedule irrigation in the morning so that plant and soil surfaces dry quickly.
- Rotate infested fields to non-host crops in the grass family.

Overwintered susceptible crops should be sprayed now with one of the following fungicides. In general, Endura is the most effective against white mold.

<table>
<thead>
<tr>
<th>Fungicide</th>
<th>FRAC</th>
<th>Maximum Number Sprays</th>
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</thead>
<tbody>
<tr>
<td>Endura</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Fontelis</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Priaxor</td>
<td>7</td>
<td>2-3</td>
</tr>
<tr>
<td>Omega</td>
<td>29</td>
<td>varies by crop; see labels</td>
</tr>
<tr>
<td>Rovral</td>
<td>2</td>
<td></td>
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</tbody>
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See the Southeastern U.S. Vegetable Crop Handbook to find out which crops can be sprayed with these fungicides. Fungicides in FRAC Group 7 cannot be rotated with each other. Rovral cannot be used on leafy brassica greens.

Contans® is a biofungicide that organic growers can use. It works better when it is applied several weeks before sclerotia germinate.

Original January 2007, Revised January 2018