Cucurbits

White Mold (Cucumber, Squash, Pumpkin)

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Identification and Life Cycle

Sclerotinia sclerotiorum is the casual organism of white mold of cucurbits and over 400 other plant species. White mold is a minor disease of cucurbits, but this disease can be economically important in cucumber, squash, and pumpkin under certain conditions. Little is known about the disease cycle in cucurbits, but it is probably initiated by dormant resting structures (sclerotia) and airborne ascospores. Infection appears to occur on dead and dying flowers, tendrils, and petioles. The fungus can also colonize stem wounds. *S. sclerotiorum* grows through vines quickly and form sclerotia within diseased tissues. The pathogen can be disseminated within and among fields as sclerotia on equipment, wind- and waterborne ascospores, and by the movement of diseased plant materials. *S. sclerotiorum* survives between cucurbit crops as a pathogen on numerous weeds and crops, and in the soil as dormant sclerotia.

Plant Response and Damage

White mold symptoms on fruit vary from none to water-soaked lesions at the infection point. A fluffy, cotton-white mycelium and numerous dull black, irregularly shaped sclerotia may appear on fruit where they contact the soil. Sometimes diseased fruit can become dry and mummified. Internally, fruit are soft and watery; numerous sclerotia form within diseased fruits. White mold is a fairly minor disease of most cucurbits, but can be quite severe when it occurs. The disease renders fruit unmarketable.

Management Approaches

Biological Control

Contans is a commercial formulation of a fungus pathogenic to *S. sclerotium* sclerotia, and may reduce white mold incidence and/or severity if applied to soil over many years.

Cultural Control

Since white mold is a relatively minor disease of cucurbits, few management strategies have been developed. White mold is most severe when the soil surface is kept continuously moist for two or more weeks. Therefore, promoting air movement within the plant canopy can significantly reduce disease incidence and severity. Avoid dense planting, narrow row spacing, and excess and overhead irrigation. Orientating rows parallel to the prevailing wind direction can also help reduce periods of leaf wetness in semi-arid environments. Long crop rotations to nonhosts such as small grains, corn, or onion can help reduce the number of sclerotia in the soil.

Chemical Control

Chemical controls do not provide consistent disease control because it is difficult to obtain thorough coverage of foliage, vines, and fruit.

Product List for White Mold:

Pesticide	Product per acre	Application Frequency (days)	Remarks
Nitroaniline			
Botran 75-W	1.33 lb/100 gal	14 days	

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