

# Lettuce

## White Mold (Lettuce Drop)

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### Identification and Life Cycle

Lettuce drop is caused by two fungi, *Sclerotinia sclerotiorum* and *S. minor*, and is a common disease of lettuce in many cool, moist climates. Infection by *S. sclerotiorum* occurs when sclerotia (dormant resting structures) germinate when the soil surface is continuously wet for at least two weeks. The germinating sclerotia form small, tan, cup-shaped structures called apothecia, which release millions of airborne ascospores that infect lettuce. *S. minor*, however, rarely produces apothecia. *S. minor* germinates eruptively, producing masses of hyphae that can directly infect roots, stems, and senescent leaves. Both fungi can survive in soil as sclerotia for up to 8 to 10 years, and have broad host ranges.

### Plant Response and Damage

White mold occurs in two phases. The first phase occurs immediately after thinning on a low percentage of plants. The second phase, when the majority of infections occur, is at or near crop maturity. Initial symptoms appear as a wilting of the outermost layers of leaves, giving the plant a stressed appearance. As disease progresses, other leaf layers wilt and eventually the entire head wilts. A soft, watery decay follows on both above- and belowground plant parts. A snowy white mycelium and black, irregularly shaped sclerotia become apparent as disease progresses. Disease losses vary depending on cropping history and weather conditions, but disease losses as great as 70% are not uncommon.

# Management Approaches

## Biological Control

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

## Cultural Control

Avoid excessive irrigation and fertilization that leads to dense, lush canopies favorable for white mold. Promote air movement within the canopy by planting cultivars with smaller, upright architecture, planting rows parallel to prevailing wind direction, and planting on wider row spacing. These practices will reduce the duration of leaf and soil wetness and may help to reduce white mold in semi-arid production areas. If possible, use drip irrigation or schedule irrigations to prevent continuous leaf and soil wetness. Deeply incorporate crop debris to bury sclerotia.

## Chemical Control

Chemical controls are most effective when combined with cultural control strategies.

Common/Trade Name	Product per Acre	Application Frequency (days)	Remarks
<b>Boscalid</b>			
Endura	8-11 oz	7-14 days	Maximum of 22 oz or 2 applications per season; 14 day PHI
<b>Cyprodinil / Fludioxonil</b>			
Switch 62.5WG	11-14 oz	14 days	First application at thinning and 14 days later; maximum of 56

			oz per season; 7 day PHI
<b>Iprodione</b>			
Rovral 50	1.5-2 lb/10 gal	10 days	Maximum of 3 applications; 14 days PHI
<b>Nitroaniline</b>			
Botran 75	2.3 lb/100 gal	At thinning	Maximum of 5.3 pounds per season

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