

Pulse Crops

White Mold

Howard F. Schwartz, David H. Gent, Martha Mikkelsen, and Jack Riesselman

Identification and Life Cycle

White mold is caused by the fungus *Sclerotinia sclerotiorum*. Infection by *S. sclerotiorum* occurs when soilborne 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 colonize dead plant parts (such as senescent flowers) and infect pea tissues. Sclerotia can survive in soil up 8 to 10 years. The disease is most destructive during cool, wet weather in dense plant stands. White mold affects many plants and crops, including lettuce, sunflower, bean, and potato, among over 400 other plant species.

Plant Response and Damage

Initial symptoms appear as the plant canopy closes over rows during flowering and pod development. Lodged stems in contact with the soil develop watery lesions, with 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 of 70% or more are possible.

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 when applied over multiple years.

Cultural Control

Plant high quality seed free from white mold sclerotia. Avoid excessive irrigation and fertilization that leads to dense, lush canopies favorable for white mold. Promote air movement within the canopy by planting varieties with smaller, upright architectures, 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 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 and hasten their breakdown.

Chemical Control

Chemical controls are most effective when combined with cultural control strategies, and are generally not necessary if sound cultural practices are followed.

Common/ Trade Name	Product per Acre	Application Frequency (days)	Remarks
Boscalid			
Endura for all Pulses	6 oz	7-10 days	Maximum of 2 applications or 22 ounces per season; 21 day phi
Cyprodinil / Fludioxonil			
Switch 62.5WG for Chickpea	11-14 oz	7 days, 10-20% bloom	Maximum of 56 oz per season, 7 day PHI

The information herein is supplied with the understanding that no discrimination is intended and that listing of commercial products, necessary to this guide, implies no endorsement by the authors or the Extension Services of Nebraska, Colorado, Wyoming or Montana. Criticism of products or equipment not listed is neither implied nor intended. Due to constantly changing labels, laws and regulations, the Extension Services can assume no liability for the suggested use of chemicals contained herein. Pesticides must be applied legally complying with all label directions and precautions on the pesticide container and any supplemental labeling and rules of state and federal pesticide regulatory agencies. State rules and regulations and special pesticide use allowances may vary from state to state: contact your State Department of Agriculture for the rules, regulations and allowances applicable in your state and locality.

Categories: Pulse Crops, Disease, White Mold

Date: 04/02/2007