

White rot

Sclerotium cepivorum

Synonyms

None

Plant hosts

All *Allium* crops are susceptible to white rot including *Allium cepa* (onion), *A. porrum* (leek), *A. ascalonicum* (shallots), *A. sativum* (garlic), and *A. schoenoprasum* (chives).

Symptoms

In the field, disease is first observed as a small patch of plants or single plant more yellow than surrounding plants. The area in the field will enlarge with plants dying over time. On individual plants, leaves begin yellowing first, collapse, and fall over. As the fungus, *S. cepivorum*, colonizes roots and the basal plate, roots are gradually destroyed and the basal plate becomes soft and semi-watery. Plants can be easily pulled from the ground. Close examination of underground parts reveals the fungus as white fluffy mycellium and black poppy seed-sized sclerotia.



Symptoms of white rot in garlic Sclerotia on garlic

Transmission

S. cepivorum forms sclerotia on dying plants. As plants decay, sclerotia are released into the soil where they can survive for more than 20-years. The pathogen is moved within and between fields on infected plant material, irrigation water, grazing animals, harvest containers, and infested soil adhering to boots or equipment. The pathogen does not infect seed. At temperatures between 50- and 75-degrees fahrenheit, sclerotia will germinate in response to sulfuric compounds exuded by the roots of allium crops. The fungal hyphae will then grow into roots and bulbs and can spread from plant to plant. One sclerotia can infect 20- to 30-adjacent plants. Once the fungus reaches the basal plate, plant death occurs rapidly.

Geographic distribution

White rot is found worldwide. Infestation can be localized within an area.

Applicable regulations

[OAR 603-052-0347](#), Onion white rot control area order
[OAR 603-051-1050](#), Rules for white rot certification of vegetable *Allium* seed