

Onion smut

Urocystic cepulae (= *U. magica* and *U. colchici*)

Synonyms

None

Plant Hosts

Major hosts: *Allium* (onions, garlic, leek, etc.), *Allium cepa* (onion), *Allium porrum* (leek)

Minor hosts: *Allium sativum* (garlic)

Wild host: *Antirrhinum* (snapdragon)

Symptoms

Dark streaks first appear on cotyledons (the first true leaves). Many seedlings die during emergence or within a few weeks after emergence reducing plant populations. Those plants that live have tissues that are thickened and blisterlike. The blisters erupt and release masses of dark-brown powdery spores. As the infection progresses inward from the leaf, plants become stunted and bulbs distorted. Mature bulbs less commonly have dark pustules. In storage, affected bulbs often succumb to infection by other pathogens.



Symptomatic onion bulbs

photo courtesy of D. Ormrod

Transmission

The fungus overwinters in the soil as spores and persists for 15 years or more. Smut spores are moved from one field to another on infested plants and bulbs, by surface drainage water, wind-blown soil, or soil contaminated tools and equipment.

Although smut spores have occasionally been found on onion seed, spread of the seed has not been considered important. Before the cotyledons emerge from the soil, the fungal spores germinate and infect the young tissue. The smut fungi can only infect the plants in the young seedling stage. Dark lesions develop on the leaves and release spores into the soil. Healthy plants planted in infested soil remain free from the disease.

Geographic Distribution

Onion smut is distributed worldwide

Regulations

Onion smut is a pathogen of concern to Oregon's interstate and international customers. Survey and diagnosis is available through the Commodity Inspection Division for this fungus.