

THE BIOLOGY OF FUNGAL PATHOGENS Vol. 4: Fungal Pathogens and Diseases of Cereals (4)

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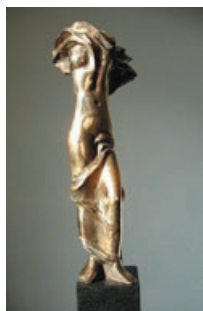
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4.1 Eyespot Disease of Small Grains (13:00 min)

Where small grains are grown continuously and the climate is cool and moist, eyespot disease, also called strawbreaker foot rot, is a significant yield-limiting disease. This infection of the stem base is caused by fungi of the genus *Helgardia* (formerly *Pseudocercospora*): *Helgardia herpotrichoides* (teleomorph *Oculimacula yallundae*) and *Helgardia acuformis* (teleomorph *Oculimacula acuformis*). Both species differ in terms of morphology and growth characteristics. This movie depicts the life cycles of both species using three-dimensional computer animations blended with real images. Particularly, the modes of infection as well as epidemiological spread of the disease are shown. Finally, methods for successful disease management are explained.

4.2 Bunt and Smut Diseases of Cereals (10:00 min)

Common bunt of wheat caused by *Tilletia caries* and loose smut of barley caused by *Ustilago nuda* are cereal diseases that have been increasingly forgotten as a result of modern seed treatments. However, when untreated seed is used, infection by these damaging fungal pathogens can lead to substantial losses in yield and seed quality. Using *Tilletia caries* and *Ustilago nuda* as examples, this movie illustrates the life cycles of bunt and smut fungi with extensive detail, thus leading to a better understanding of the development and epidemiological spread of these fascinating fungi. All stages of the life cycles are explained using photolike three-dimensional computer animations, macro images, and real-image video sequences.



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