



Pacific Pests, Pathogens & Weeds - Mini Fact Sheet Edition

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Rice false smut (428)



Photo 1. Spore balls of false smut, *Ustilagoideae virens*, on rice.



Photo 2. Spore balls of false smut, *Ustilagoideae virens*, on rice.



Photo 3. Grains of rice replaced by spore masses of *Ustilagoideae virens*.

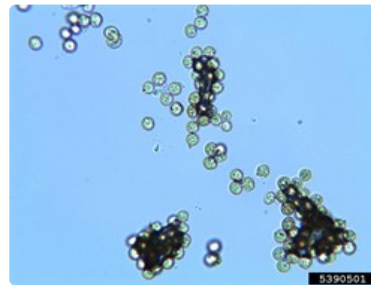


Photo 4. False smut spores (*Ustilagoideae virens*), from infected rice grains.

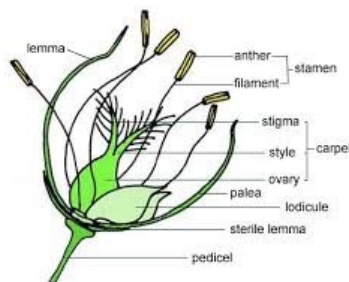


Diagram. Structure of a grass flower.

Summary

- Widespread. Asia, Africa, North, South, Central America, the Caribbean, Europe, Oceania. In Australia, Fiji, Papua New Guinea.
- Minor disease. Not a true smut. Occasional outbreaks in Asia. A few grains on each panicle develop velvety spore balls, first orange then greenish-black.
- Complex life cycle: spores of two types in the balls: i) millions of minute asexual 'conidia' (viable in soil up to 4 months), and ii) dark brown 'sclerotia' up to 10 mm (viable in soil up to 12 months) – these form small toadstool-like fruiting bodies that develop the sexual spore type ('ascospores'). Not certain which spore type most important. Alternatively, possible that either one or both spore types first infect grasses which then infect rice.
- Biosecurity: use certified seed (IRRI suggest visual inspection for spores).

- Cultural control: treat uncertified seed (52°C for 10 mins.); if practical, remove seed balls in the field before they shed spores; keep N under 180kg/ha; if practical, reduce humidity in irrigated crops by alternate flooding and drying; collect straw and burn, or plough in stubble and straw after harvest.
- Chemical control: not recommended as probably uneconomic, although coppers have been reported effective applied at booting.

Common Name

Rice false smut. It is not a true smut, but classified in a different division of the kingdom fungi, the Ascomycota.

Scientific Name

Ustilagoideia virens

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Information from CABI *Ustilagoideia virens* (false smut) (2018) Crop Protection Compendium. (<http://www.cabi.org/cpc>); and False smut. Rice Knowledge Bank. IRRI. (<http://www.knowledgebank.irri.org/training/fact-sheets/pest-management/diseases/item/false-smut>); and Graham KM (1971) *Plant diseases of Fiji*. Her Majesty's Stationery Office. London; and from *Ustilagoideia virens*. Wikipedia (https://en.wikipedia.org/wiki/Ustilagoideia_virens). Photo 1&2 William M. Brown Jr., Bugwood.org. Photo 3 O.P. Sharma, Bugwood.org. Photo 4 Cesar Calderon, Cesar Calderon Pathology Collection, USDA APHIS PPQ, Bugwood.org. Photo 5 Donald Groth, Louisiana State University AgCenter, Bugwood.org. Diagram David Condrey, grass flower with vestigial perianth or lodicules. (<https://commons.wikimedia.org/wiki/File:Crassflower.gif>).

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This mini fact sheet is a part of the app *Pacific Pests, Pathogens & Weeds*

The mobile application is available from the Google Play Store and Apple iTunes.

