

A background image of a sugarcane field with green stalks and leaves. A white text box is overlaid on the top half of the image.

PRACTICE-2 TO STUDY ABOUT DISEASES OF SUGARCANE

A background image of a sugarcane field with green stalks and leaves. A white text box is overlaid on the bottom half of the image.

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Identification of Sugarcane Disease in field Condition



Red rot of sugarcane
Causal organism: *Colletotrichum*
falcatum



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Smut of Mango
Causal organism: *Ustilago*
scitaminea



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Procedure of slide preparation

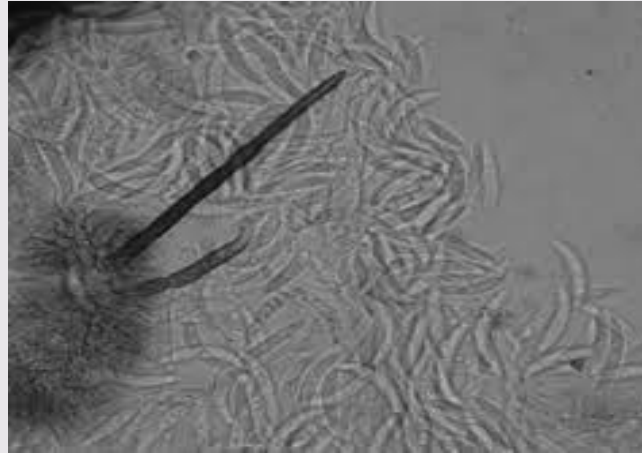
- Place a drop of fluid(Cotton blue or Lactophenol) in the center of the **slide**.
- Position sample(Thickness of 5mm) on liquid, using tweezers.
- At an angle, place one side of the cover slip against the **slide** making contact with outer edge of the liquid drop.
- Lower the cover slowly, avoiding air bubbles.
- Remove excess water with the paper towel.



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Identify the conidia and spore



Conidia of
Colletotrichum falcatum



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Identify characteristic of pathogen

- The fungus produces thin, hyaline, septate, profusely branched hyphae containing oil droplets.
- The fungus produces black, minute velvety **acervuli with long, rigid bristle like**, septate pointed setae on the surface of rind, leaf midrib and sometimes in the pith region.
- Conidiophores are closely packed inside the acervulus, which are short, hyaline and single celled measure about $20 \times 8 \mu$.



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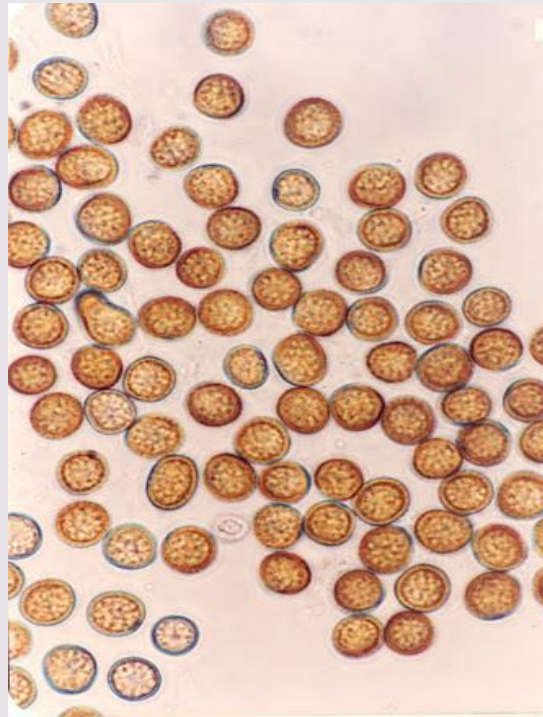
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- The conidia are single celled, hyaline, **falcate, granular and guttulate** measure about $16-48 \times 4-8 \mu$
- The perfect stage of the fungus produces large number of globose and dark brown to black perithecia with a papillate ostiole. Asci are clavate, unitunicate and eight spored.
 - Large number of hyaline, septate, filiform paraphyses is also present among asci.
 - Ascospores are ellipsoid or fusoid, hyaline, straight or slightly curved and unicellular.



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Identify the conidia and spore



Smut spore



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Identify characteristic of pathogen

The fungal hyphae are primarily intercellular and produce tiny black **teliospores**.

- **The thin** membrane which covers the smut whip represents the host epidermis.
- The smut spores are light brown in colour, spherical and echinulate.