

Loose smut



Ustilago nuda f.sp. *tritici*

This disease is characterised by a mass of black fungal spores replacing grain. Infections are very easily identified in the field.

IDENTIFICATION

At ear emergence, each infected grain is replaced by a mass of black fungal spores. Usually all grains in an ear are affected. The spores are released as the ear emerges, leaving only a bare stalk and leading to total grain loss.

As the blackened ears are very obvious at ear emergence, the disease appears severe even at very low levels.

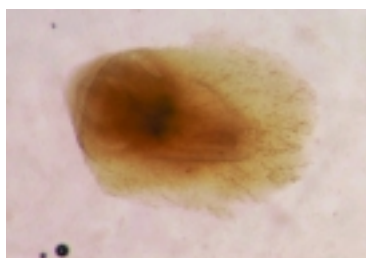
LIFE CYCLE

Seed-borne fungus is present inside the embryo. When seed germinates the fungus grows systemically within the plant and infects the ear at a very early stage of development. Eventually spikelets are replaced with masses of fungal spores.

The spores are released at ear emergence. They spread by wind to nearby open flowers and infect developing grain sites on healthy plants. The fungus lies dormant within the seed until it is sown.

ECONOMIC IMPORTANCE

The disease poses little threat to UK wheat as certification of seed stocks and the introduction of resistant varieties have minimised seed-borne infection.



Grain embryo infected with loose smut.

CONTROL

Seed certification in the UK successfully ensures that loose smut remains at very low levels.

Consequently it is seldom necessary to apply seed treatments specifically to control loose smut.

Threshold for seed treatment

0.5% (0.2% HVS).

RISK FACTORS

- cool, wet conditions at flowering
- spread from adjacent infected crops.