Loose smut of Wheat

Recognize the problem
Fungus of loose smut survives as a dormant thread inside the embryo of wheat seeds. The fungus is activated when the infected seed germinates, and it extends towards the growing point of the plant. Evident from flowering onwards, when the plant begins to form the head, the fungus invades all of the young head tissue. The head produced by the infected plant contains black spore masses in place of the grain. The spores are loosely held and are easily spread by wind onto neighbouring healthy plants. The spores invade the ovaries and become part of the developing grain. In this way, seed for the following year becomes infected.

Background
Loose smut is a major disease of wheat in hilly regions and occurs throughout the world. It reduces yields proportionate to the incidence of smutted heads. As a result of this disease, 8-30% yield losses have been reported in Nepal. The most common practices for managing loose smut are rouging and destroying infected plants and using disease resistant varieties and treated seed. Systemic fungicides are used to kill any fungus that may be inside the seeds.

Management
- Uproot and destroy the infected plants before the covers of the smutted head break, so that these spores cannot be released into the air
- Use disease free seed. Do not sow the seed collected from diseased fields, suspected diseased fields or fields neighboring diseased fields.
- Use a disease resistant variety. Sow varieties that can resist the loose smut, e.g. Pitic-62, Annapurna-3, Annapurna-4, WK 1204
- Use chemical pesticides. Treat the wheat seed with systemic fungicides i.e. carboxin (e.g. Vitavax-200) at the rate of 3 gm or carbendazim (e.g. Bavistin) at the rate of 2 gm per kg of seed.

When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval.

Scientific name(s) > Ustilago nuda f.sp. tritici

The recommendations in this factsheet are relevant to: Nepal

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