

Bunt



Tilletia tritici

Potentially the most important seed-borne disease of wheat, bunt can – if left to build up – cause complete crop failure. Even at low levels of infection in the field grain may be so contaminated that it is impossible to sell.

IDENTIFICATION

Symptoms are very difficult to see in a standing crop. Affected plants often appear slightly stunted with 'squat', dark grey-green ears and slightly gaping glumes. Yellow streaks may appear along the length of the flag leaf.

Bunt balls containing millions of greasy, black, foul-smelling spores replace grain on infected plants.

During wet weather, the spores may ooze out to cause blackening of the glumes.

LIFE CYCLE

Bunt is primarily seed-borne with spores sticking to the outside of grains. Spores and seed germinate at the same time. The fungus invades the growing point and grows within the plant until ear emergence when bunt balls replace the grain. Many bunt balls break open and release spores during combining

(see photo) which can spread to adjacent fields. Grain can be contaminated in the combine as well as during movement and storage.

Soil-borne bunt, leading to infection of seedlings during early stages of germination, is less common.

ECONOMIC IMPORTANCE

All grain is lost from the ears of infected plants. Even low infection levels can contaminate healthy grain. This causes discoloration and gives grain a fishy smell. In severe cases grain is rendered unusable.



RISK FACTORS

Risk of seed-borne bunt increases if:

- seed is repeatedly sown without a fungicide seed treatment
- crop emerges slowly
- crop is sown late.

Risk of soil-borne bunt increases if:

- time between harvesting first wheat and sowing second wheat is very short
- sowing is very early
- soil is very dry between harvesting and sowing.

CONTROL

As spores contaminate the seed surface, control is relatively easy using surface-acting fungicidal seed treatments. Where soil-borne bunt is a risk, use a seed treatment active against this phase.

Threshold for seed treatment

Visual assessment or molecular test

– 1 spore/seed or more.