Managing common bunt in wheat seed lots

Problems

In wheat and related cereals, common bunt can cause considerable damage in yield and grain quality. The disease is caused by seed-borne fungi, which can persist in soils as well.

Figure 1: *Bunt balls, a mass of spores replace the kernels. (Photo: S. Klaedtke (ITAB))*

Solutions

Seed analyses: A seed analysis, as performed by state-accredited labs for example, will confirm and quantify the infection of a seed lot with common bunt.

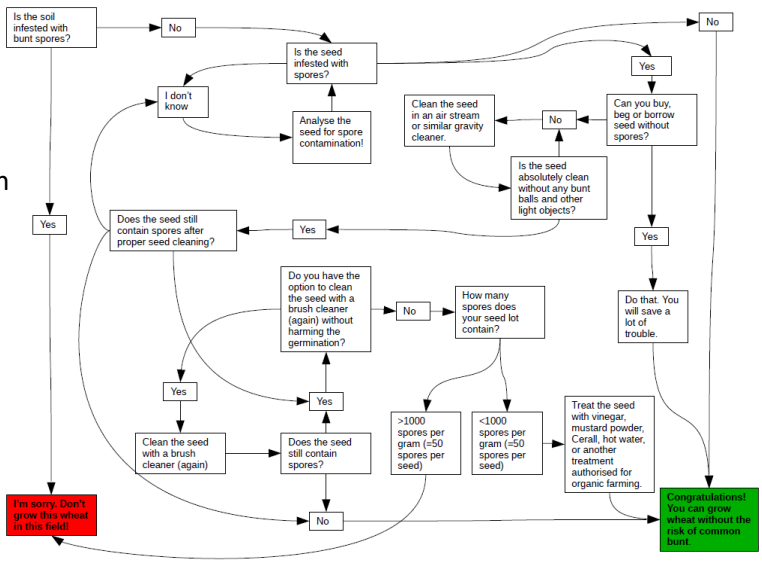
Thorough seed cleaning: Thoroughly cleaning an infected seed lot with an air stream or similar gravity cleaning equipment can remove most of the intact bunt balls and some of the free spores. As a second step, brush-cleaning is very efficient to reduce the number of free spores in the seed lot.

Seed treatments: Seed treatments are essential to prevent and control common bunt. Several seed treatments are authorized for organic farming, namely white vinegar, mustard powder, products based on antagonist microorganisms (e.g. Cerall (R)) and products based on copper (e.g. Copseed), depending on the country.

When harvesting...

If an infection with common bunt is suspected, harvest healthy wheat fields first and infected fields last. Then clean the harvester by harvesting crops which are not susceptible to common bunt, e.g. oats or any non-cereal crop (e.g. pea, soybean).

The decision diagram to the right summarizes all the necessary information when managing an infested seed lot.



Further information

1. Matanguihan J.B., Murphy K.M.,2011. Control of Common Bunt in Organic Wheat. The American Phytopathological Society, Plant Disease Vol. 95 No. 2: 92-103. Available at: https://doi.org/10.1094/PDIS-09-10-0620
2. On brush cleaning in particular: Borgen, Anders (2005) Removal of bunt spores from wheat seed lots by brush cleaning. Seed Info, ICARDA, 29, pp. 13-15. Available at: http://orgprints.org/3202/

Authors: Anders Borgen (Agrologica), Stephanie Klaedtke (ITAB) and Angela Thueringer (AGES)
Contact: stephanie.klaedtke@itab.asso.fr
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