



## Removing fusarium is hard due to lack of visual symptoms

Fusarium head blight (FHB), known as scab, is a fungal disease in grain, causing reduction in yield, grade and end-use quality.

Losses to producers also occur due to restricted crop rotation, limited variety selection, cost of control measures, as well as reduced marketing opportunities.

Fusarium head blight produce mycotoxins in grain crops that can affect human and animal health if they enter the food chain. In seed, Fusarium head blight can reduce seed germination and seedling vigor.

In wheat and rye, severely infected kernels are typically shrunken. High DON levels have been observed despite lack of visual symptoms in the wheat and good test weights. In hulled barley and oats, symptoms are even less apparent since the kernels may not be shrunken. This is why removing fusarium infected kernels can be hard.

Warming weather patterns and the movement of infected seed create the potential an increase of Fusarium head blight. Fungi can overwinter as spores on seed and crop residue. Some Fusarium species can also survive on roots of other crops such as corn, pulses and oilseeds.



### Why removing fusarium is important for food safety

- Mycotoxins are not destroyed during processing such as milling, baking, malting, or ethanol production. Deoxynivalenol or DON is the most widely encountered mycotoxin by humans in the world and presents significant challenges to the grain handling industry.
- DON concentration can be determined from a crushed grain sample in a laboratory and is measured as parts per million (ppm).
- DON survives both the malting and brewing process and can cause gushing of beer. It's therefore a near zero tolerance for DON in malting barley.
- Livestock vary in their tolerance to DON so it is important to have infected feed grain tested for the concentration of DON.

### BoMill solution

BoMill produce equipment that can detect fusarium infected kernels in a grain lot. The machines are equipped with NIT technology that predict the fusarium level of every kernel by sending infrared light through it and measure the response. NIT is a mature technology commonly used in protein measurement equipment.

Using NIT makes the quality prediction very accurate while not limiting the sorting criteria to visible fusarium damages on the surface. Fusarium grows on the inside of the kernel.