

Mycotoxins are chemicals that are produced by moulds and fungi that grow on food products, including grain. Mycotoxin contamination in grain has been a problem for centuries and is responsible for illness and death. Ergot mycotoxins have been historically associated with “St. Anthony’s Fire” (burning feeling in the extremities) and are known to cause hallucinations; ochratoxin A has been associated with kidney failure and cancer in Scandinavia and the Baltic states where historically large amounts of grain are consumed. Mycotoxins are typically invisible and cannot be seen with the human eye. Some mycotoxin-producing fungi, such as fusarium and ergot, are visible on the grain when the mycotoxin is present. However, some mycotoxins, such as ochratoxin A, can be present without any visible mould or fungi.

In recent months, Health Canada has proposed a maximum regulatory limit be set on the amount of ochratoxin A (OTA) in unprocessed raw grain. A limit of 5 parts per billion (ppb) in grain is proposed because long term consumption of OTA is associated with kidney disease and cancer. This proposed limit is of concern to many farmers and grain handlers because unlike other mycotoxins such as vomitoxin, which is associated with visible fusarium in grain, ochratoxin A can be present in grain without any visual indicators.

Despite the difficulties associated with detecting OTA, there are measures that can be taken to prevent its formation. Current knowledge indicates that the majority of OTA develops during on-farm storage. On farms, OTA production can be prevented by performing the same good grain storage practices that would be done to prevent bin heating and insect infestations. Drying grain to safe moisture levels, aeration and regular monitoring of grain in bins can help to prevent the development of excessive amounts of OTA in grains stores.

1. Had you heard about Health Canada’s proposed maximum regulatory limits for Ochratoxin A before reading this article?
2. Do you feel that there is enough information available to farmers about ochratoxin A and other mycotoxins and how to prevent them?
3. What challenges to grain storage practices do you face on your farm?
4. In what would prevent farmers from performing good grain storage practices on farm (such as installing aerators in bins)?
In your opinion what barriers exist that might prevent you or other farmers from taking all the recommended steps in good grain storage on the farm? (such as economic or agronomic realities)
5. In your opinion, would increasing farmers’ knowledge of mycotoxin development in grain bins change the way grain is stored on farm?
Has the information we have given you increased your sense of the importance of following the steps required for good grain storage? Would you make any changes as a result?