Aflatoxin and Other Diseases
August 21, 2012 Webinar

**Question: Does the use of fungicide affect Aflatoxin?**
A few fungicide trials have been done in the south to determine if a fungicide application could reduce Aspergillus ear rot. There was no evidence that fungicides reduced the ear rot. To my knowledge the effect of fungicide on aflatoxin has not been studied. Fungicides containing strobilurins may increase DON/vomitoxin, a mycotoxin associated with head scab of wheat. *(Alison Robertson)*

**Question: Is there corn genetics that are resistant to Aflatoxin?**
There are no commercially available hybrids that are resistant to aflatoxin. Breeding is ongoing though, and some potential lines have been identified. *(Alison Robertson)*

**Question: What is the risk of wheat scab where winter wheat follows corn grain harvest?**
Wheat scab and Gibberella ear rot are caused by the same fungus. So, if there is no Gibberella ear rot present, the risk of scab should be lower. *(Alison Robertson)*

**Question: The map with the locations for Aflatoxin showed Wayne County, but the amount found wasn’t listed. Can you give the amount found?**
Aspergillus ear rot was detected in Wayne County, but I don’t have a value yet for the amount of aflatoxin in the grain. *(Alison Robertson)*

**Question: Could we get some clarification of Aflatoxin growing conditions as it relates to hot/cold temperatures?**
The fungus that produces aflatoxin, Aspergillus flavus, can grow between the temperatures of 54 to 118 degrees Fahrenheit and readily grows between 77-108 F. Aflatoxin production occurs between 52 and 104 F with the optimum temperature range being 77 to 95 F. *(Alison Robertson)*

**Question: Are aflatoxins a carcinogen by ingestion only OR is it also by inhalation and contact? If so, what precautions should be taken in harvesting and handling grains?**
Aflatoxins are a carcinogen by ingestion. The spores of the fungus (Aspergillus flavus) however, can cause respiratory problems. *(Alison Robertson)*

**Question: Is there a concern to human health while handling aflatoxin infected grain at harvest?**
If grain is particularly moldy and a lot of spores of the fungus are being released into the air then yes there could be concern regarding respiratory problems. *(Alison Robertson)*
Questions: As we ramp up corn populations and narrow our row spacing to push for maximum yields do we increase our grain quality concerns during stress years? Are we creating new challenges with crop quality?
We manage corn based on long-term averages layered with what we expect might happen in the current growing season. Sometimes our expectations about what could happen are incorrect. For example, most of us were optimistic about this year in the spring, and based on averages, planted the same or slightly higher seeding rates than before. In 2012, the higher rate probably hurt corn yield potential at some Iowa locations. At other Iowa locations, and there are some, yields will be at or above those of previous years. Short-changing populations in those areas would have reduced yield potential.

In 1988, the last time we had a season similar to this, plant populations, row spacing, planting dates, were very conservative relative to where we are now with those management practices. And yet, we had considerable seed quality issues then too.

So, if we knew what was to happen we could be wiser at planting. But year in and year out, going with long term averages is the best idea. With stressful years, we’ll have grain quality issues with virtually any modern cultural practice. Going with more conservative practices might short-change yield potential right from the start if we have an average or above average year. (Roger Elmore)