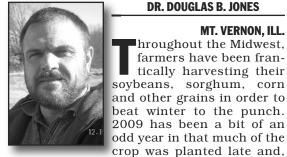
## When A Fungi Really Isn't A Fun Guy

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hroughout the Midwest,

farmers have been fran-

tically harvesting their

as a result, was harvested late as well. Be-

cause of the late harvest, much of the crop

has endured many wet events in the field (es-

pecially those grains that were damaged by

insects) and has often become infested with

various molds and fungi that can render the

grain virtually unusable due to mycotoxins. Mycotoxins can be formed on grain in the

field, during transport and even in the grain

bin. Common fungi such as Aspergillus,

Penicillium, Fusarium and others can pro-

duce one or more mycotoxins that can cause

death, chronic problems and even cancer due

to damage to mammalian kidneys and liver.

fungus Aspergillus flavus that is formally

regulated. Others such as deoxynivalenol (DON), vomitoxin and zearalenone may or

may not be regulated depending on grain

How can farmers reduce their problems

from these naturally occurring detrimental

compounds? In the field, use of genetically

modified seed can offer protection from insect

damage and subsequent fungal growth. Ad-

ditionally, careful and close monitoring of the

crop and timely pesticide applications will

Once the grain is in the grain truck, other measures can be taken to limit losses. Take

care handling the grain. Don't run augers so

type, who is buying and grain use.

help limit grain damage.

Aflatoxin is a mycotoxin produced by the

that the grain is broken, such as slamming it into a hard flat surface. Screening the grain before it is placed into the grain bin can also help.

Whole kernels are less likely to have fungal damage, while the fines composed of broken kernels and dust provide large amounts of surface area where fungi can thrive.

Grain moisture and temperature are very important for controlling mycotoxin-producing fungi. Bringing grain temperature below 50 degrees Fahrenheit will help suppress fungal growth and will keep kernel-damaging insects in check as well. Grain moisture below 15 percent will suppress virtually all fungi; however, care should be exercised in keeping moisture from getting too low.

Most grain will become very brittle when moisture drops below 12 percent and will break easily, making more fines. Additionally, remember that moisture is also grain weight. I don't know any buyer that will adjust scale weight upward due to moisture content, only downward.

Carefully monitor the grain to discover any "hot spots" where local moisture and fines may be sufficient to support fungal growth. The average moisture of the bin might be 15 percent, but in spots, moisture can easily exceed 20 percent.

As a practical matter, grain that has higher levels of mycotoxins should not be stored for extended periods since toxin levels can increase over time, especially if moisture and temperatures cannot be kept in check.

Don't combine grain from other bins in an attempt to lower mycotoxin concentrations. Removal of fines will frequently bring concentrations below acceptable limits.

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