

FAQs About Molds/Mycotoxins

by Bob Thaler (605-688-5435)

1. **Molds vs. Mycotoxins:** Molds produce mycotoxins, but molds by themselves do not cause problems for livestock. However, the mycotoxins molds produce can cause significant problems for livestock. The main mycotoxins we worry about in South Dakota are zearalenone (reproductive problems), DON/vomitoxin (feed refusal), aflatoxin (reduced performance/death), and ergot/scab (small grains). Fumonosins and T2 may occur here, but less frequently.
2. **Testing:** Black light will detect live mold, but not “dead” mold or mycotoxins, so it should be used only as a gross screening. There are kits available to test for individual mycotoxins. The best option is to send a representative sample to either Station Biochem at SDSU or to the Veterinary Diagnostic Lab up at NSDU.
3. **Mold Inhibitors:** Mold inhibitors, drying the corn, organic acids additions will kill current mold and prevent any more from growing, but it will do nothing against the mycotoxins already produced. However, it’s probably a good idea to add something to prevent mold growth during storage. If organic acids are added to the grain, it cannot be marketed through normal grain channels; it must be fed to livestock.
4. **Mycotoxin Binders:** There are some additives available, but they only work against aflatoxin. There are no commercial products available that consistently work against DON/vomitoxin and zearalenone, the ones we’re probably going to be dealing with. People may add them as an “insurance policy,” but don’t expect big responses.
5. **Feeding Grain with Mycotoxins:** First, run a sample to find out exactly which mycotoxin(s) the grain contains and at what level. Feed the affected grain only to grow-finish pigs; keep it out of the breeding herd and nursery diets. Depending on the level present, you’ll need to blend the affected grain with clean grain to get the desired level. Maximum concentrations* in the ***total diet*** (not grain):

Vomitoxin/DON	1 ppm for all classes of swine
Zearalenone	1 ppm nursery & grower 2 ppm breeding herd 3 ppm finisher
Fumonosins	10 ppm for all classes of swine

*Some of these values were derived from research using individual mycotoxins that were spiked in the grain. May not be representative of what happens in the field with multiple, naturally occurring mycotoxins present at the same time.

If no clean corn to blend with, look at other grains like milo, barley, etc.

6. **DDGS:** The “ethanol” process DOES NOT inactivate mycotoxins, and, in fact, the process triples the mycotoxin concentration present in the corn. Corn coming in at .5 ppm DON will producer DDGS with 1.5 PPM DON.
7. **Double-strap masks with bendable nosepieces should be used when working with moldy grain.**