

Guidelines for Feeding Moldy Corn

By Marcia Shannon

The best solution is to buy clean grain for swine and dairy as they are most susceptible. Thus, some moldy feed may be fed to beef cattle. Feeder cattle should be able to safely consume levels five to 10 times higher than swine and dairy. Thus, ruminants older than 4 months can withstand 10 to 20 ppm of vomitoxin. Signs of toxicity with vomitoxin/deoxynivalenol (DON) are usually feed refusal or feed intake reduction. At concentrations of 5 to 10 ppm vomitoxin vomiting is observed in swine.

Zearalenone concentrations should not exceed 2 ppm in growing and finishing pigs. Signs of toxicity that may be observed in swine with zearalenone are a disrupted estrus cycle, enlarged mammary glands, and swollen vulva.

If contaminated corn must be fed, the following table lists FDA advisory levels for vomitoxin/deoxynivalenol (DON) in animal feed.

Corrective steps:

- ✦ Clean moldy grains, remove fines and light weight grains suspected of contamination.
- ✦ Dilute mold or mycotoxin contaminated corn with mold-free grains .
- ✦ If moldy corn is fed to pigs, a reduction in feed intake and growth rate will be approximately 10% for each 1 ppm of vomitoxin in the diet.
- ✦ No zeolites are effective in alleviating vomitoxin toxicity.

Table 1. FDA Advisory Levels for vomitoxin/deoxynivalenol (DON) animal feed

Species	Vomitoxin (DON), ppm	Not to exceed % of Ration
Swine	5	20
Grow/Finish	1	20
Breeding	1	20
Ruminants	10	50
Chickens	10	50
All Other	5	40

- ✦ If mild contamination is suspected, increase the nutrient levels by 5 to 20 % of the diet to help compensate for the reduced intake.
- ✦ Store moldy grain separately at 13% moisture and feed before summer temperatures rise.

Calculate the maximum inclusion level of moldy corn:

- ✦ % max inclusion rate = safe level/ level in corn DM x 100
if corn analysis is 5 ppm DON then:
 $1 / 5 \times 100 = 20\%$ maximum inclusion level based on DON level .
- ✦ despite these calculations, poor palatability of moldy corn may lower feed intake. If in doubt, be conservative and watch for problems!

Need mycotoxin analysis:

Send a sample to the University of Missouri Veterinary Medical Diagnostic Laboratory:

Address: **Veterinary Medical Diagnostic Laboratory**
Atten: Toxicology
1600 East Rollins Street
Columbia, MO 65211
Phone 573-882-6811

If a grain handler has questions call: Missouri Department of Agriculture, Plant Industries Division, Bureau of Feed and Seed at 573-751-4310.

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