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NEWS RELEASE

Purdue Livestock Specialists Recommend Testing Corn Before Feeding

Pork and poultry producers who don't test the new corn crop before feeding it are taking a risk this year, said one Purdue University expert. Mold in corn is present in much of the Midwest, including Indiana.

[Brian Richert](#), Purdue Extension swine specialist, said a couple producers have started feeding new crop corn and had near 100 percent feed refusal because of the high vomitoxin levels in the corn.

"Those producers had to suck all that feed back out of the feeders, find a source of new feed and try to get feed back in for those animals," he said. "It can cause some significant problems if producers don't test their corn up front."

Pigs will have reduced feed intake when deoxynivalenol (DON) levels are above 2 parts per million and near complete feed refusal when DON levels are at 10 ppm or greater in the complete diet, Richert said.

On the poultry side of things, [Todd Applegate](#), Purdue Extension poultry specialist, said not much is known about the ramifications of Diplodia, but poultry are not as sensitive as hogs are to the toxins produced by Giberella mold.

"From a nutritional standpoint, the lower test weights influence the corn kernel's proportions of the germ versus endosperm, causing amino acid and energy shifts," Applegate said when talking about Diplodia concerns. "If this is not accounted for during diet formulation, it could lead to decreased performance."

Zearalenone, also found in Giberella infected corn, at fairly high concentrations -- up to 800 parts per million -- may not cause any production impairments in laying hens, Applegate explained.

"However, part of the concern may lie in transference of those mycotoxins to the egg," he said. "DON or vomitoxin is known to suppress the immune system in poultry, making them more susceptible to sickness. Levels of DON known to have these effects begin to occur at about 7.5 parts per million, or less."

Richert said producers have a couple options to think about.

"If the corn is not harvested yet and you are not going to get to it for a week or two because of soybean harvest, you can walk the field and take a representative sample, shell it and send it in to the Indiana Animal Disease Diagnostic Lab (ADDL) at Purdue or to a grain company for a mycotoxin analysis," he said. "If you are harvesting corn, but can buy a little time by feeding old crop corn or purchasing feed for livestock, that will give you time to get your corn in a bin and test it."

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Once in the bin, there could be a dilution effect and producers should take multiple core samples to blend and then send in for analysis.

"Once you know what you have, then you can manage it," Richert said.

After getting the test results back, producers should ask questions such as:

What are we going to feed as a dilution? How much can we feed? Do we have a source of clean corn where we can blend this down to an acceptable level that still provides the producer satisfactory performance with their livestock? Do we have to source other feed ingredients in to help with the blend down and cut the amount of high vomitoxin (DON) or zearalenone levels in corn?

For producers who have reproductive animals on their farm, Richert recommends having the corn tested specifically for zearalenone, a toxin that is produced by the mold *Giberella*.

"If levels are too high, above 3-5 ppm, it could impact the breeding herd," Richert said. "Replacement gilts may not cycle and there could be problems getting sows bred."

Diplodia, another mold that has been found widespread in this year's corn crop, can cause low test weights and is prone to shattering, which creates a lot of fine material, explained Richert. *Diplodia* does not produce a known toxin and is safe to feed, but could throw off feed intake due to the moldiness of corn, he said. Long-term shattering and fine material is a concern during storage, because they increase the susceptibility to other molds including those that produce aflatoxin or ochratoxin.

Producers may need to look at options available to change the palatability and mask the taste with flavoring agents for *Diplodia* infected corn, he said.

"Some oil could be added to decrease the dustiness of the moldy feed and increase palatability," Richert said. "Molasses could also be added to reduce dustiness and partially cover these moldy off flavors."

Another available option is mycotoxin binders or enzymes. "We can bind about 2-4 parts per million of vomitoxin with some binding agents," Richert said. "There are only a few that are effective against vomitoxin or DON.

"The clays and aluminum silicates do no work well for vomitoxin or DON. They work with aflatoxin, which is a completely different mycotoxin that is not of concern this year."

Richert recommends producers look at food preservative type-products or enzyme-specific products for vomitoxin. The enzyme products will cleave the toxin to make it less toxic to the animal.

"Different toxins have different requirements for those compounds, and we have to be careful what we put into those diets," Richert said. "They may or may not help us."

Producers should talk with their feed company and nutritionist to look at performance test data for some of these compounds given what they're dealing with, and find out which ones they support as having efficacy for that particular mycotoxin, Richert advised.

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