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Feeding Vomitoxin-Infested Grain May be Best Solution, NDSU Specialist Says

Cattle and sheep may be the best solution to the abundance of scab-infected grain harvested this fall, says a North Dakota State University beef specialist.

"Research shows that vomitoxin, a toxin produced by the Fusarium fungi in scab-infected grain, does not have an adverse effect on beef cattle or sheep," says Greg Lardy of the NDSU Extension Service. "Reports indicate that there is a lot of wheat and barley out there that won't make milling or malting grade and is being discounted because of vomitoxin. Feeding it to livestock may be a way to add some significant value to that crop."

Studies at the NDSU Carrington Research Extension Center suggest that cattle can be fed vomitoxin levels up to 12.6 parts per million (ppm) in the ration without adversely affecting feedlot performance or carcass characteristics. Researchers there also fed gestating and lactating beef cows barley containing vomitoxin at levels up to 36.8 ppm with no adverse effects. Similar results were seen in research at the University of Minnesota.

Grain containing vomitoxin can also be fed to sheep. Researchers at NDSU fed feeder lambs grain containing up to 76 ppm with no effect on performance. The research suggests that diets containing up to 25 ppm vomitoxin can be fed to ewes throughout pregnancy and have no effect on weight gain in pregnant ewe lambs, reproductive performance of the ewe lambs or survivability of the lamb crop.

More caution may be required with dairy cattle, says J.W. Schroeder, dairy specialist with the NDSU Extension Service. "Some guidelines indicate that 10 ppm of vomitoxin in feed for dairy animals is acceptable, but we're not sure if feed intake and production may be depressed at levels lower than that."

To be safe, it may not be advisable to feed grain containing vomitoxin during breeding and the first trimester, Schroeder says. "Remember that other toxins in the feed or health problems in the cattle may make cattle more susceptible to the effects of vomitoxin." He notes that vomitoxin is often considered a "marker" for other toxins in grains and feeds.

"If you have scabby grain, have it tested for vomitoxin," he says. "If tests are positive, mix the contaminated feed with undamaged feed to dilute the toxins." Schroeder also encourages producers to fully understand test results. Some testing techniques are more accurate at high levels of vomitoxin and results may be reported in parts per million or parts per billion.

Research shows significant problems in feeding grain containing vomitoxin to pigs and should be avoided.

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