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Of the large number of mould toxins in grain that could create a problem for livestock producers, only a handful are commonly encountered in North America. The most common mould toxin in Atlantic Canada is sometimes referred to as vomitoxin. Vomitoxin (*dioxynuvalenol* or DON) is a toxin produced by *Fusarium* and while it is common to encounter DON, the prevalence and level of contamination varies greatly.

This season, many grain fields have experienced varying levels of infection from Fusarium Head Blight, and thus, have the potential for mycotoxin (DON) contamination. Early harvest sampling and testing for DON is the best method to mitigate toxin problems. Both field observations and DON testing have demonstrated some variability between species, fields, and locations within regions and farms.

Most New Brunswick farms have not experienced any major production problems that could be linked to DON levels. However, hog farms utilizing high levels of on-farm, or locally-purchased grain as the main feed ration ingredient, could experience production problems and losses if they use grain contaminated with vomitoxin.

Due to the variation in DON levels from early field sampling, it is recommended that livestock feeders test their grain and complete feedstuffs to ensure recommended toxin levels are not exceeded. Please refer to Fusarium Head Blight Newsletter II and III for sampling guidelines and testing laboratories. <http://www.gnb.ca/0316/03160001-e.asp>

Interpreting Test Results

- When viewing test results, one must always bear in mind the quality of the sample, i.e., how much effort went into taking it, and how representative was the sample of the bin or field that it was taken from. Remember, that even with good sampling procedures, there will be some sampling and laboratory error that will occur.
- Published safe feeding recommendations vary considerably and, *for lactating dairy cattle*, in particular recommendations may be over-cautious. Dairy cattle, like beef, are ruminants and research suggest toxin levels recommended as safe for beef will have no deleterious effect on production and health of dairy cattle (Charmely and McQueen, 1993).

- Pigs are the livestock most affected by DON. Poultry and mature ruminants are reasonably tolerant of DON, and rarely would a problem level be encountered. As with any suspect feed, it is always best to avoid feeding it to young animals, and to incorporate it gradually into the diet of any animal.
- Grains with very high DON levels (over 5 ppm or 5 mg per kg) should be used with caution, and at low dietary levels especially for highly productive animals. These heavily contaminated grains may have reduced nutritional value, and could be contaminated with other mould toxins.

The following table provides some guidance on maximum DON levels in livestock diets expressed as ppm or milligrams per kilogram of DON (vomitoxin) in the diet dry matter.

CLASS OF LIVESTOCK	MAX. PPM, TOTAL DIET DRY MATTER	EXAMPLE	TOXIN SYMPTOMS
Swine	1 ppm (mg/kg)	A grain sample with 5 ppm could constitute 20% of the diet	Feed refusal, reduced intake and performance.
Lactating dairy cattle & young calves	1 ppm	A grain sample with 5 ppm DON could make up 40% of a grain mix that in turn constitutes 50% of the total diet dry matter.	Depressed intake and lower milk production? Research with levels as high as 8.4 ppm DON found no effect.
All other ruminants and poultry	5 ppm	A grain sample with 5 ppm could be used without restriction	Lower intake and performance.

Vomitoxin (DON) affects all classes of livestock with swine being the least tolerant. In most cases, DON levels in complete rations or total diets (including forages) should be well within acceptable levels.