

2013 Grain Corn Ear Mould and Vomitoxin Survey

Purpose:

As in previous years, the OMAF and MRA Field Crops team completed a survey of the 2013 Ontario corn crop to determine ear mould incidence as well as the occurrence of mycotoxins in the grain. These mycotoxins, particularly vomitoxin (DON) produced primarily by Gibberella/Fusarium ear moulds can be disruptive when fed to livestock, especially hogs. The purpose of this annual survey is to increase our understanding and access industry risk.

Figure 1. Close Up of Corn Ear Mould



Methods:

A total of 197 samples were collected from September 30 to October 4, 2013 from corn fields across the province. In each field, 2 random areas were selected and in each area 10 consecutive ears were hand harvested and bagged. In fields with several hybrids, representative samples were taken again from two areas for each hybrid (maximum of 4 hybrids per field). The 20 ear samples were then immediately dried and shelled. The resultant sample was thoroughly mixed and a sub-sample was provided to SGS AgriFood Laboratories in Guelph for vomitoxin (DON) analysis.

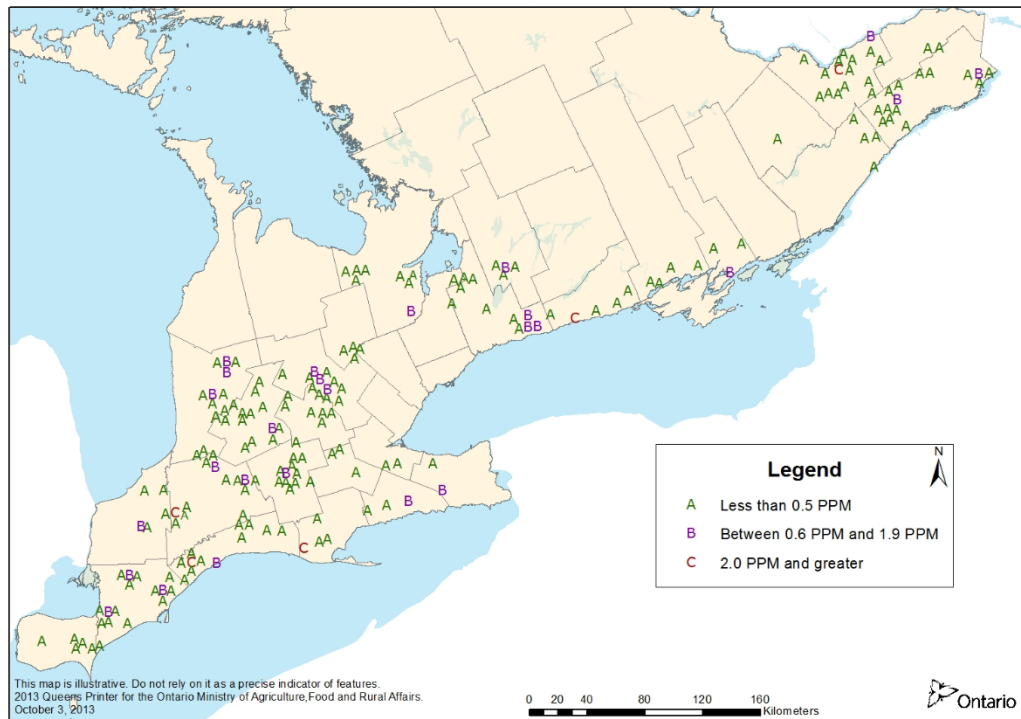
Results:

Of the 197 samples collected, **84 %** (165) had a DON level of less than 0.5 PPM; **14 %** (27) had DON concentrations of 0.6 to 1.9 PPM; and only **2 %** (5) were found to have DON levels of 2.0 PPM or greater; These results are very close to last year's findings when 4% of the samples were over 2.0 PPM and stand in contrast to the 2011 survey when 23% of the samples registered 2.0 PPM DON or higher.

Summary:

Gibberella and Fusarium ear moulds and DON concentrations in the grain are minimal again this year (Figure 2). For the 2013 samples that had slightly elevated DON levels they did not appear to be concentrated in any particularly area of the province (see map below). The survey did point out that in an area or field where the DON concentrations appear to be very low on average; hybrid impacts can be significant, as side by side hybrids sometimes had significantly different DON levels. Growers and seed company personnel need to be vigilant in checking for ear mould or DON risks that might be hybrid related.

Figure 2. Vomitoxin (DON) Levels in Ontario Grain Corn (ppm 03-Oct-2013)



Next Steps:

OMAFRA in conjunction with the Grain Farmers of Ontario and University of Guelph Ridgetown Campus review the ear mould and mycotoxin potential annually and will continue to do so in 2014.

Acknowledgements:

Appreciation is extended to the Grain Farmers of Ontario and SGS AgriFood Laboratories in Guelph for their support of this survey and analysis as well as to OMAFRA field crop staff/students/technicians for sample collection and processing. A special thanks to the producers involved in the survey for access and permission to sample their fields, Thank-You!

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Location of Project Final Report:

<http://fieldcropnews.com/2013/10/grain-corn-ear-mould-and-vomitoxin-survey>