



# TECHNICAL REPORT

by Groupe Cérés and Nutrition Athéna



## CORN ANALYSIS FOR CROP 2017

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Before feeding the new crop of corn to your pigs, it is crucial to know its humidity, bushel weight and toxin contamination concentration. Based on the loads received and analyzed so far in our system for the period of Nov 15th up to date, we can say that the corn quality is for most parts excellent. The following analysis is based on a total of 325 samples of corn received in Quebec and 1100 samples received in Manitoba. We didn't have enough data from Ontario millers to make a reliable analysis.

corn of more than 68 kg/HL. In Quebec, the average bushel weight of corn is 69.1 kg/HL. The lowest bushel weight corn received was 62 kg/HL; which has an energy content of 1% less than a >68 kg/HL, so nothing alarming. In Manitoba, the bushel weight is 1 kg/HL higher than what is received in Quebec.

### HUMIDITY

The humidity content of corn should be around 15%. More the humidity of the corn is high, the shorter the storage length should be to avoid rancidity and toxin development in the corn. As an example, <15% humidity corn can be stored for a year, but at 18% only 2 months. Quebec's humidity in corn was on average at 14.1% with highest samples at 15.5%. In Manitoba, the average was 14.3%, but some samples had a humidity content as high as 17.3%.

### TOXINS

We have conducted several trials to demonstrate that the toxin concentration of the diet can impact performance in swine production. This is especially true in sows and early nursery diets. It is therefore recommended to have corn tested for vomitoxins (DON) and zearalenones. If contaminated corn is detected, we recommend adding a toxin-binder in the sow diets to neutralize the negative effects of toxins on sow performance. Among toxin binders available, we often recommend using the product Novin (distributed by Premier AG Resources) for its large spectrum of toxin protection and its price is competitive.

### BUSHEL WEIGHT

As to opposed to what most would think, the bushel weight of corn is not the most concerning variable affecting nutritional value in swine nutrition. In fact, at low bushel weight (kg/HL) of 58 kg/HL, the corn has 3% less energy as to compared to a

In Quebec, the amount of DON in corn is on average low at 0.36 ppm DON, but some samples have detected contamination concentration of 3.6 ppm of DON. In Manitoba, the DON toxin contamination of the corn is on average lower with 0.24 ppm of DON with the highest sample received at 1.1 ppm.

#### Quebec - 325 samples

	Average (%)	Std. Dev.*	Min.	Max.
Humidity (%)	14.1	0.81	11.3	15.5
Bushel Weight (kg/HL)	69.1	1.65	62.0	73.4
Toxins (ppm)	0.36	0.45	0	3.6

#### Manitoba - 1100 samples

	Average (%)	Std. Dev.*	Min.	Max.
Humidity (%)	14.3	1.07	8.9	17.3
Bushel Weight (kg/HL)	70.4	2.02	63.3	75.1
Toxins (ppm)	0.24	0.16	0	1.1

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