

# Manitoba Agriculture Barley Fusarium Head Blight Risk Model

**Project duration** May 2018 – August 2018  
**Objectives** To increase understanding of resulting Fusarium Head Blight (FHB) infection for wheat and barley based on the current model.  
**Collaborators** Holly Derksen – Field Pathologist, Crop Industry Development  
Anne Kirk – Cereal Specialist, Crop Industry Development  
Rejean Picard and Earl Bergen – Farm Production Extension

**Results**  
Grain samples were sent away for Fusarium specific analysis, but no report for these results has yet been generated. PCDF will post a link when this report is available. Other collected data and yield results for the Roblin site are included below.

Figure 1: Yield by Location and Timing of Fungicide Application for AAC Synergy

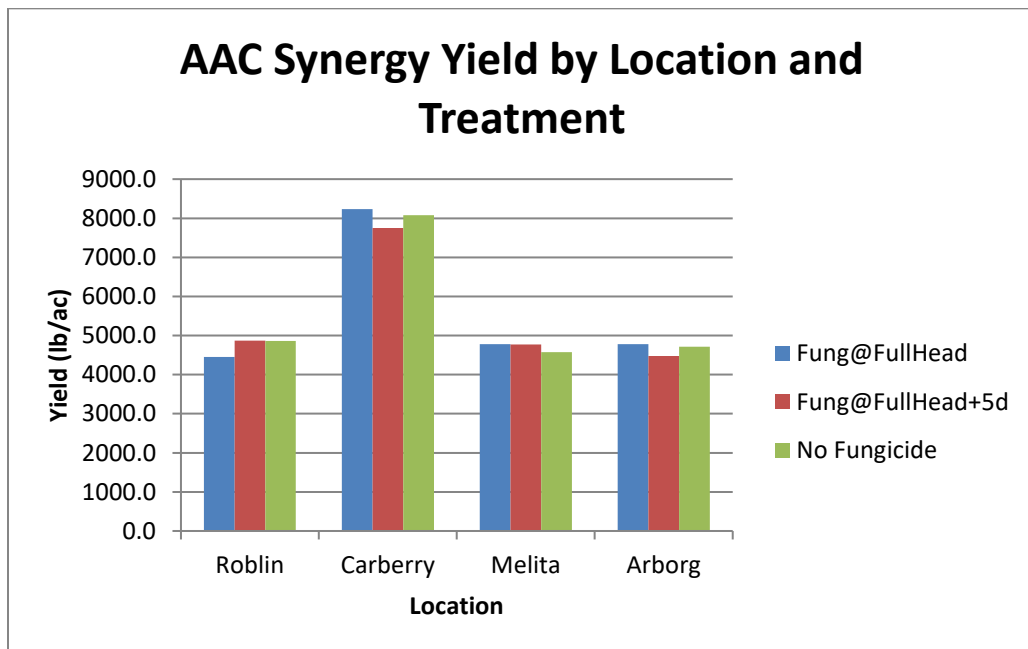


Figure 2: Yield by Location and Timing of Fungicide Application for CDC Austenson

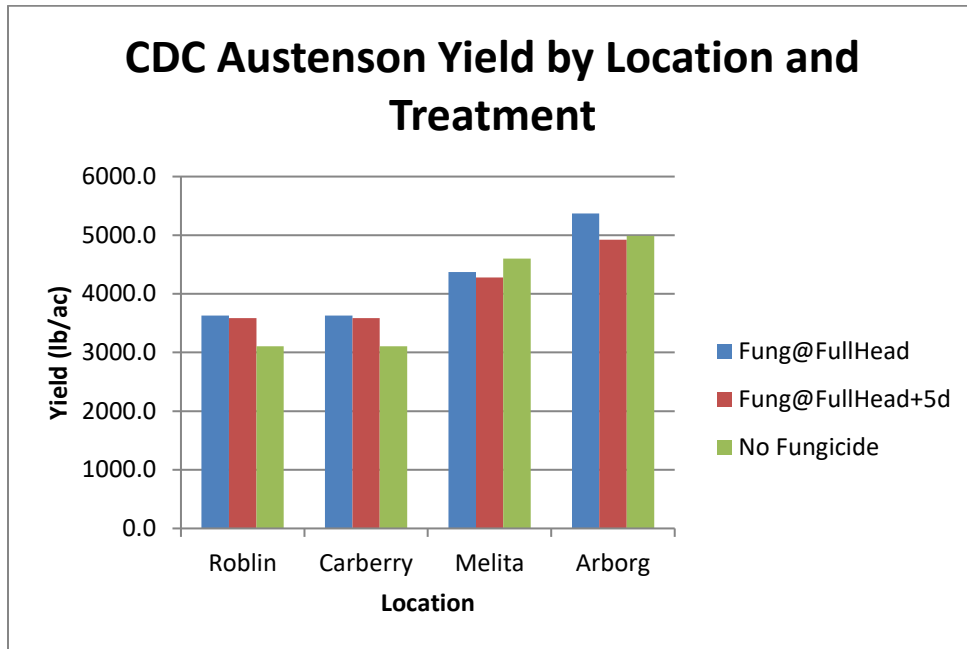
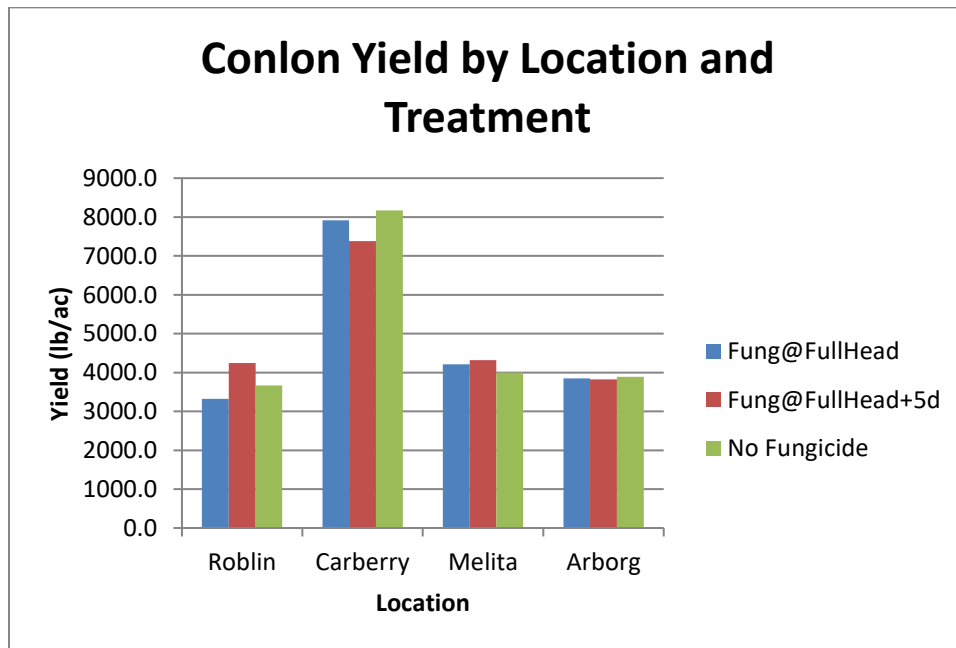


Figure 3: Yield by Location and Timing of Fungicide Application for Conlon



### Background

Farmers need improved decision-making tools in order to assess the local risk of Fusarium Head Blight (FHB). Better tools would improve judgement on whether or not to use fungicide and how to time application. The project recognizes that the current model for predicting the presence of FHB is

insufficient and is gathering data across the province for different treatment plans using known fusarium resistant or fusarium susceptible varieties.

**Materials & Methods**

Experimental Design Random Complete Block Design  
 Entries 9 for both wheat and barley (3 varieties x 3 treatments)

**Barley**  
 Seeding May 16  
 Harvest Aug 23  
 Varieties CDC Austenson  
 Conlon  
 AAC Synergy

Target population 30 plants/ft2 assuming 15% seedling mortality  
 Treatments No fungicide  
 Fungicide at full head emergence/early anthesis  
 Fungicide five days after full head emergence/early anthesis

**Data collected**

**Date collected**

Emergence -  
 Heading Jul 5 - 11  
 Flowering Jul 22 to Aug 3  
 Rust rating Jul 31  
 Fungal rating Jun 20  
 FHB rating Aug 3  
 Heights Aug 2  
 Yield Aug 2  
 Moisture Aug 17  
 Samples sent away to analyze for fusarium damaged kernels and kernel accumulation of DON

**Agronomic info**

Previous 2 years crop Oat barley silage  
 Soil Type Erickson Loam Clay  
 Landscape Rolling with trees to the east  
 Seedbed preparation No-till due to moisture concerns; direct-seeded into stubble

Table 1: Spring 2018 Soil Test

	Available	Needed for Barley
N	54 lb/ac	80 lb/ac
P	13 ppm	10 lb/ac
K	228 ppm	
S	118 lb/ac	

Table 2: Barley Added N and P

Blend	Blend (actual lbs/ac)	Actual lbs N	Actual lbs P
46-0-0	169.31	80	0
11-52-0-0	19.23	2.12	10
Total	-	82.12	10

*N banded with seed; P side-banded*

Table 3: Pesticide Application for Barley

Crop stage	Date	Product	Rate
Pre-emerge	May 18	Heat	28.4g/ac
		Round-up	0.67L/ac
In-crop	Jul 13	Prestige XC	0.13 L/ac
		Axial	0.48 L/ac
Desiccation	Aug 17	RoundUp	0.94 L/ac

*Priaxor applied July 13 and July 17 as a fungicide according to predetermined treatments described above at the rate of 0.06 L/ac*