

Proline[®] 480 Fungicide for Leaf and Fusarium Head Blight Control in Spring Wheat

Purpose:

To evaluate the effectiveness of PROLINE[®] 480 in cereal leaf disease and fusarium head blight (FHB) control in spring wheat. The project measured yield, grain test weight and grain protein PROLINE[®] 480 and FOLICUR[®] 432 F treated strips compared to a non-treated strip.

Methods:

PROLINE and FOLICUR were applied on spring wheat at the 90 % head-emerged stage of the spring wheat and a non-treated (check) strip was to be left for comparison. At harvest, combine weights of each treated and non-treated (no fungicide strip) to measure Grain Yield, Moisture, bushel weight. Grain samples were collected and sent for analysis for visible Fusarium Head Blight (FHB) and for toxin levels.

Results:

Table 1: Fusarium % from the Grain Samples of each Treatment in 2007

Co-operator	Untreated Fusarium %	Folicur Fusarium %	Proline Fusarium %
1	0.1	0.4	0.3
2	0.1	0.1	0.1
3	0.4	0.3	0.1
4	0.9	0.1	0.4
5	0.1	0.1	0.2
6	0.4	0.4	0.2
7	0.3	0.2	0.2
8	0.8	2.6	1.0
9	0.2	0.4	0.3
Average	0.4	0.5	0.3

Summary:

FHB pressure was generally not a problem in 2007. Given this, most of the grain sample comparisons between treated and untreated showed little or no reduction in the visible FHB. However the toxin levels analyses of the grain samples showed that Proline gave a greater reduction than the Folicur. In this trial, Folicur reduced the toxin levels by about 11% as compared to no fungicide. (past results have shown about a one-third reduction in toxin levels with the use of Folicur.) Proline reduced the toxin levels by about 45% as compared to no fungicide. The retail product and application costs for Folicur are about \$24 per acre and the cost for Proline is about \$35 per acre. With most 90 foot boom

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sprayer, trampling is about 2.6%, which on a 65 bu/ac crop would equal about 1.7 bu/ac. At \$7.00 per bushel spring wheat, the trampling costs add close to \$12 per acre. Trampling loss can be significantly reduced with the use of tramlines or in the case of Folicur if it is aerial applied.

Table 2: VOM (ppm) Reduction - 2007 Fungicide on Spring Wheat - Side-by-Side Strip Plots

Co-operator	Untreated VOM ppm	Folicur VOM ppm	Proline VOM ppm
1	0.95	0.70	0.35
2	0.95	0.85	0.81
3	1.67	1.59	0.56
4	1.85	1.34	0.63
5	0.46	0.37	0.41
6	0.60	0.63	0.57
7	0.69	0.57	0.57
8	1.64	1.68	1.35
9	1.02	1.00	0.49
Average	1.09	0.97	0.64

Table 3: Yield (bu/ac) - 2007 Fungicide on Spring Wheat – Side-by-Side Strip Plots

Co-operator	Untreated (bu/ac)	Folicur Change (bu/ac)	Proline Change (bu/ac)
1	70.81	5.1	3.8
2	70.81	2.8	2.7
3	49.28	0.5	14.4
4	49.57	-2.0	7.8
5	71.55	13.9	4.7
6	66.08	2.5	3.4
7	69.66	-3.6	-0.2
8	64.96	3.1	2.3
9	66.33	0.4	0.4
10	61.81	3.6	4.9
11	73.80	2.3	4.8
Average	64.97	2.6	4.5

These results indicate that in years with greater FHB pressure and more risk of higher toxin levels, Proline has an increased chance of reducing the toxin levels and improving the grain grade.

Table 4: Yield (bu/ac) - 2007 Folicur Only - Fungicide on Spring Wheat - Side-by-Side Strip Plots

Co-operator	Untreated (bu/ac)	Folicur Change (bu/ac)
1	70.81	5.08
2	70.81	2.83
3	49.28	0.50
4	49.57	-2.02
5	71.55	13.89
6	66.08	2.51
7	69.66	-3.62
8	64.96	3.10
9	66.33	0.43
11	60.70	13.30
12	48.90	7.50
13	61.81	3.60
15	73.80	2.30
16	80.30	4.60
Average	64.61	3.86

Next Steps:

2007 was the first year of a three year project in eastern Ontario. The project will be repeated again in 2008 & 2009, with a final report in the fall of 2009.

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Project Contacts:

Scott Banks, OMAFRA Scott.Banks@ontario.ca, 613-258-8359

Location of Project Final Report:

Scott Banks, OMAFRA