

## Cereal Leaf Disease Management with Headline, Tilt and Folicur Fungicides

### (Interim Report)

#### **Purpose:**

To evaluate the effectiveness of HEADLINE foliar fungicide and compare the Cereal Leaf Disease Control of HEADLINE, TILT and FOLICUR with a non-treated strip. HEADLINE is a new fungicide for the control of leaf diseases in cereal crops and has the same application window as TILT. Company literature promotes a greater yield advantage to using HEADLINE as compared to TILT. HEADLINE is not the same product as FOLICUR, although, some growers found that FOLICUR gave some control of late diseases and yield increases. HEADLINE should be applied by the flag leaf stage. This product can be applied, with a latter application of Folicur if there is a risk of Fusarium Head Blight.

#### **Methods:**

HEADLINE and TILT were applied on the cereal crop immediately after flag leaf emergence in strips, leaving a non-treated (check) strip for comparison. For 2005, HEADLINE was also applied earlier than the flag-leaf stage in a tank mix with the herbicide by some cooperators. This is referred to as "HEADLINE EARLY" for comparison. FOLICUR was applied at the 75% head emerged stage of the spring wheat. Strips of each treatment were harvested.

#### **Results:**

The results for the fungicide treatments in 2005 are shown in Table 1.

The use of *HEADLINE - early* applied at the same timing as the herbicide did not show any improved yield (the negative yield response is due to field variability and lodging at this site). Since leaf diseases are rarely present at this stage of wheat growth, we would not expect and yield response from a fungicide product.

The use of *HEADLINE at the flag leaf* emerged stage showed an economical yield advantage of 454 kg/ha (6.7 bushels per acre (bu/ac)) at the Dunrobin site only. There was Septoria leaf disease pressure apparent in stand at the flag leaf emerged stage when the HEADLINE was applied. At the field near Douglas, the weather had been dry and there was no leaf disease present at the flag leaf stage of the wheat, therefore no yield improvement was expected.

The use of *FOLICUR only* showed about a 200 to 340 kg/ha (3 to 5 bu/ac) increase in yield. The use of *HEADLINE* with the herbicide and followed by the application of *FOLICUR* did not show an advantage over the use of *FOLICUR* only.

Crop Advances: OMAFRA Field Crop Project Reports

Table 1 - Fungicide Spring Wheat Strip Plots 2005

Fungicide Spring Wheat Strip Plots 2005												
Cooperator Location	Treatment	Test Wt. (lbs/bu)	Protein %	Treated Yield @ 14.5% (bu/ac)	Untreated Yield @ 14.5% (bu/ac)	Yield Diff	Treated Fusarium %	Untreated Fusarium %	Fusarium Treatment Less Check	Treated VOM (ppm)	Untreated VOM (ppm)	VOM Diff
Osgoode	Headline - early	52.2	14.9	45.8	56.4	-10.6	6.04%	5.54%	0.50%	6.00	6.00	0.00
Kemptville	Headline - early	57.5	15.7	44.5	47.9	-3.5	0.21%	0.21%	0.00%	0.37	0.76	-0.39
Pakenham	Headline - early	55.5	15.2	54.0	52.5	1.5	0.66%	0.21%	0.45%	1.52	0.35	1.17
				<b>Avg</b>	<b>bu/ac</b>	<b>-4.2</b>		Average	<b>0.32%</b>		Average	<b>0.26</b>
					<b>kg/ha</b>	<b>-282.0</b>						
Kinburn	Headline @ flag	61.0	16.1	47.9	41.2	6.7	1.19%	62.00%	0.57%	2.33	1.97	0.36
Renfrew	Tilt @ flag leaf	56.8	15.9	38.9	41.1	-2.3	0.14%	0.29%	-0.15%	0.20	0.20	0.00
				<b>Avg</b>	<b>bu/ac</b>	<b>2.2</b>		Average	<b>0.21%</b>		Average	<b>0.2</b>
					<b>kg/ha</b>	<b>178.0</b>						
Osgoode	Folicur Only	57.6	15.0	68.9	57.1	11.8	1.59%	1.26%	0.33%	2.43	2.24	0.19
Renfrew	Folicur Only	57.4	15.9	41.3	41.1	0.1	0.13%	0.29%	-0.16%	0.20	0.20	0.00
Kemptville	Folicur Only	59.2	15.5	53.5	47.9	5.5	0.42%	0.21%	0.21%	1.20	0.76	0.44
Pakenham	Folicur Only	57.5	14.9	55.8	52.5	3.4	0.99%	0.21%	0.78%	2.01	0.35	1.66
				<b>Avg</b>	<b>bu/ac</b>	<b>5.2</b>		Average	<b>0.29%</b>		Average	<b>0.6</b>
					<b>kg/ha</b>	<b>349.0</b>						
Kemptville	Headline + Folic	60.4	15.5	54.1	47.9	6.2	0.20%	0.21%	-0.01%	0.66	0.76	-0.10
Pakenham	Headline + Folic	56.4	15.0	58.3	52.5	5.8	1.00%	0.21%	0.79%	0.71	0.35	0.36
				<b>Avg</b>	<b>bu/ac</b>	<b>6.0</b>			<b>0.39%</b>			<b>0.10</b>
					<b>kg/ha</b>	<b>403.0</b>						

**Summary:**

HEADLINE, TILT and FOLICUR cost about \$13.00 per acre plus application. Custom application rates are about \$9.00 per acre. Grain yield loss due to sprayer trampling is about 2.5% or about 100 to 136 kg/ha (1.5 to 2 bu/ac). The break-even on spring wheat is about 375 kg/ha (5.5 bu/ac) (\$22/ac @ \$5.25/bu = 4bu +1.5 bu for trampling). In 2005, the leaf disease pressure was low at most sites. Under these conditions, yield response would not be expected to be great. Only when leaf diseases are present would there be an economical yield response to the HEADLINE or TILT such as at the Dunrobin site. FOLICUR was applied in only 4 side-by-side comparison strips in 2005 with an average yield advantage of 355 kg/ha (5.2 bu/ac). However the past 3-years experience with FOLICUR has shown an average yield advantage of only 115 kg/ha (1.7 bu/ac).

**Next Steps:**

2005 is the second year of a 3-year project and is to be repeated the 2006 crop year and a final report will be prepared to summarize the results from the three years.

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