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This document is based on the results from an individual trial and may contain experimental use patterns that are currently off-label. **This document does not provide any interpretation and should not be taken as an endorsement of any unregistered use pattern.**

Professional advice should be sought for specific recommendations to ensure access to the most up to date information and knowledge.

**Any product referred to in this document must be used strictly as directed, and in accordance with all label or permit instructions. Always consult the label prior to use.**

### Impact of Stripe Rust on Moderately Resistant (MR) Rated Wheat Varieties

Trial ID: <b>AM1004</b>	Location: <b>Tulloona</b>	Trial Year: <b>2010</b>
	Investigator: <b>Anthony Mitchell</b>	

<b>Objective:</b>	To evaluate the impact of stripe rust on yield and grain quality on moderately resistant (MR) rated Wheat varieties	
<b>Planting Date:</b>	9/6/2010	
<b>Plant Population:</b>	Uniform between varieties (~59-68/m <sup>2</sup> )	
<b>Application - First Sign of Disease:</b>	T1	T2
<b>Application Date:</b>	15/08/2010	8/09/2010
<b>Growth Stage at Application:</b>	GS31-32	~GS37-41
<b>Disease Level at T1 Application:</b>	Leaf area affected with stripe rust ranged from 0-1.5% on the third fully emerged leaf down from top of canopy. No disease detected on top 2 leaves of any variety. EGA Wylie had significantly higher stripe rust levels than all varieties except Sunvale	
<b>Nozzles:</b>	DG110015	
<b>Volume:</b>	70L/ha	

EGA Wylie included as stripe rust Moderately Susceptible (MS) check

Trt No.	Variety	Treatment	Application Timing	% Leaf Area Affected with Stripe Rust					
				8/09/2010 24DAT1			21/09/2010 37DAT1/ 13DAT2		
				Flag or Flag-1	Flag-1 or Flag-2	Flag-2 or Flag-3	Flag	Flag-1	Flag-2
1	EGA Wylie	Untreated	-	0.00	2.3 a	4.0 a	10.6 a	12.0 a	11.6 a
2	EGA Wylie	Folicur 145 mL/ha	T1	0.00	0.0 c	0.1 de	3.1 b	4.3 b	1.1 c
3	EGA Wylie	Folicur 145 mL/ha	T1 & T2	0.00	0.1 bc	0.1 e	0.1 c	1.6 bcd	1.1 c
4	EGA Gregory	Untreated	-	0.00	0.0 c	0.7 c	0.4 c	0.6 cde	1.7 bc
5	EGA Gregory	Folicur 145 mL/ha	T1	0.00	0.0 bc	0.0 e	0.0 c	0.6 cde	1.0 c
6	EGA Gregory	Folicur 145 mL/ha	T1 & T2	0.00	0.0 c	0.0 e	0.0 c	0.0 e	1.0 c
7	Sunvale	Untreated	-	0.00	0.2 bc	0.6 cd	0.4 c	1.9 bc	1.3 c
8	Sunvale	Folicur 145 mL/ha	T1	0.00	0.2 bc	0.8 bc	0.4 c	0.8 cde	1.2 c
9	Bellaroi	Untreated	-	0.00	0.0 bc	0.6 cd	0.1 c	0.3 de	1.2 c
10	Bellaroi	Folicur 145 mL/ha	T1	0.00	0.0 bc	0.4 cd	0.0 c	0.1 e	0.5 c
11	Caparoi	Untreated	-	0.00	0.5 b	1.7 b	0.5 c	3.3 b	4.9 ab
12	Caparoi	Folicur 145 mL/ha	T1	0.03	0.0 bc	0.0 e	0.1 c	0.3 de	0.9 c
			P=	0.47	0.00	0.00	0.00	0.00	0.00
			LSD=	nsd	Arcsin transformation	Arcsin transformation	Log transformation	Log transformation	Log transformation

Treatment means followed by the same letter are not significantly different at P = 0.05

nsd = No significant difference

DAT1 = Days after Treatment 1      DAT2 = Days after Treatment 2

Assessment at 24DAT1 was on the top 3 fully unfurled leaves. The top leaf was either the Flag or Flag-1, the 2nd leaf was either Flag-1 or Flag-2 and the 3rd leaf was Flag-2 or Flag-3.

NB: A final assessment of stripe rust was attempted at 66DAT1. A combination of stripe rust and yellow spot were present but were unable to be separated

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Tulloona

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2010

Trt No	Variety	Treatment	Application Timing	Yield 11/11/2010 t/ha	Test Weight kg/hL	Screenings %	Protein %
1	EGA Wylie	Untreated	-	3.74g	71 bcd	5.8 a	13.9 bc
2	EGA Wylie	Folicur 145 mL/ha	T1	4.28f	72 abc	6.3 a	14.0 ab
3	EGA Wylie	Folicur 145 mL/ha	T1 & T2	4.65ef	74 ab	3.7 b	14.2 ab
4	EGA Gregory	Untreated	-	4.88cde	71 bcd	1.7 de	12.3 f
5	EGA Gregory	Folicur 145 mL/ha	T1	5.23abc	73 ab	1.7 de	12.5 f
6	EGA Gregory	Folicur 145 mL/ha	T1 & T2	5.19abc	71 bcd	1.8 d	12.6 f
7	Sunvale	Untreated	-	4.60ef	75 a	1.8 cd	13.1 e
8	Sunvale	Folicur 145 mL/ha	T1	4.74de	75 a	2.7 c	13.6 d
9	Bellaroi	Untreated	-	5.51a	65 f	1.0 ef	14.2 ab
10	Bellaroi	Folicur 145 mL/ha	T1	5.43ab	65 ef	1.2 def	14.3 a
11	Caparoi	Untreated	-	4.91cde	69 cde	1.3 def	13.6 cd
12	Caparoi	Folicur 145 mL/ha	T1	5.06bcd	67 def	1.0 f	13.5 d
				P=	0.00	0.00	0.00
				LSD=	0.38	Arcsin transformation	Sqrt transformation
							Log transformation

Yield cv 5.4%

Stripe rust developed on all varieties but with significantly higher levels on EGA Wylie (as expected).

Application of fungicide significantly reduced stripe rust levels on all varieties except Sunvale and Bellaroi at 24DAT1

There was no significant difference in yield for any MR rated variety in a situation with significant and large levels of yield benefit in the MS rated variety.

There was however a trend to increased yield in EGA Gregory in a situation where 40% of flag leaf area was affected by either stripe rust or yellow spot at 66DAT1.

The only indication of grain quality benefit from fungicide treatment was for protein level in Sunvale.