ARE EARLY FUNGICIDE APPLICATIONS EFFECTIVE FOR YELLOW SPOT AND STAGONOSPORA NODORUM ?

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ABSTRACT

A double spray strategy of applying fungicide at Z22 and Z39 gave the best disease control when a mixture of yellow spot and stagonospora nodorum struck early and persisted during the season in a Mace crop. However, none of the fungicide treatments gave a significant yield response, likely due to the dry season, but the double spray strategy and the treatment where Z39 was sprayed on its own, significantly increased hectolitre weight and lowered screenings.

TRIAL DETAILS

Property	*Shaun Earl – Mindah, Nabawa Rd East*
Soil type	*Yellow sandplain*
Crop & Variety / ies	*Wheat, Mace*
Treatments:	*4 fungicide treatments – Unsprayed (Nil), Prosaro® at 150 mL/ha at Z22 (11 July), Prosaro® at 150 mL/ha at Z22 + Prosaro® at 150 mL/ha at Z39, Prosaro® at 300 mL/ha at Z39. Z22 treatments were applied on 11 July, and Z39 treatments on 10 August.*
Replicates:	*4 reps – Each plot was 20 m x 5m, randomised block design.*
Sowing date	*20 May, 2012, Trial established in grower's wheat crop on 11 July, 2012.*
Seeding rate	*80 kg/ha*
Fertiliser (kg/ha)	*Agstar Xtra @ 50 kg/ha at seeding, Urea @ 30 kg/ha down boot*
Herbicides (mL/ha)	*Velocity 670 mL in July, LV680 @ 800 mL in Early August*
Paddock rotation	*2011 – Wheat (Mace) , 2010 - Lupin (Mandelup) , 2009 – Wheat*
Growing Season Rainfall	*GSR May to Oct - 125 mm*
Disease assessments	*Disease assessments were done on 11 July (Z22), 27 July (Z26), 16 August (Z39/41), 5 September (Z65).*

BACKGROUND AND AIM

In wheat on wheat situations in WA, growers are tending to apply foliar fungicides earlier than ever before, applying them at the same time as herbicides at 3-5 leaf stage or early tillering. Previous research in high rainfall zones or above average seasons has shown that in cases where leaf spot disease levels are high, very early fungicide application at these early stages is effective at reducing disease levels and increasing yield. The trial conducted here was investigating if the same results would be obtained in a lower rainfall environment.

The **aim** was to assess the efficacy of foliar fungicide application prior to stem extension for control of yellow spot or stagonospora nodorum in wheat in low rainfall zones.

RESULTS

	% LAD average of top three leaves						
	Z26	Z39	Z65	**Yield**	**Hectolitre Weight (kg/hl)**	**Protein**	**Screenings %**
Nil	5	9	9	1.0	81.23	13.1	2.2
Prosaro® @ 150mL/ha at Z22	3	5	1	1.1	81.54	12.8	2.2
Prosaro® @ 300mL/ha at Z39	5	8	8	1.1	81.83	12.8	1.7
Prosaro® @ 150mL/ha at Z22 and Z39	3	5	5	1.1	81.86	12.9	1.7
LSD (5%)	1.60	1.05	4.90	ns	0.39		0.4
LSD (10%) (if 5% not sig)						0.236	

Initially there was disease evident at the site (14% on top 4 leaves at Z22), Figure 2. The disease was found to predominantly yellow spot, with some septoria nodorum blotch also present (75:25). The disease continued to progress up the canopy and there were significant differences between fungicide treatments when disease was assessed at Z22, Z39 and Z65 (Table 1, Figure 1). There were no statistically significant yield differences, probably due to the dry spring, only approximately 60 mm of rain fell in the 8 weeks after flag leaf emergence. Average yield was 1.1 t/ha. Previous DAFWA research has found that at least 80 mm of rain needs to fall in this period for a Z39 flag leaf fungicide application to be profitable. While there were no significant yield impacts from the fungicide treatments there were significant grain quality results (see Table). The double spray strategy of applying fungicide at Z22 and Z39 gave the best disease control throughout the season. It, along with the Z39 spray on its own, were the best treatments for high hectolitre weight and lowest screenings.

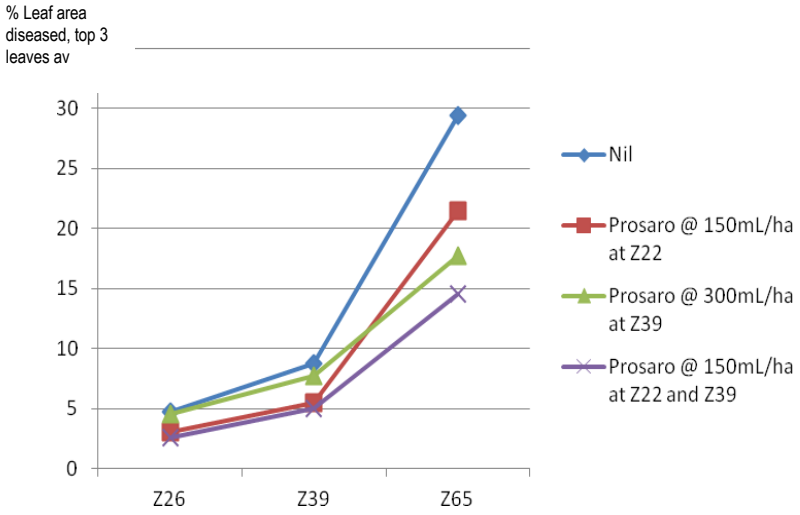

Figure 1. Leaf area diseased, average on top 3 leaves during the growing season at growth stages Z26, Z39 and Z65 on Mace at Mindah, East Nabawa in 2012.

TECHNICAL SUPPORT

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Figure 2. Early leaf spot disease on 11 July, 2012 (Z22) on Mace at Mindah.

Disclaimer: Mention of trade names does not imply endorsement or preference of any company's product by Department of Agriculture and Food, Western Australia.

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2012 SEASON

TRIALS REPORTS

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