

Prosaro® 420 SC for control of Glume Blotch (*Phaeosphaeria nodorum*) and Yellow Leaf Spot in Wheat

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Aim

To compare the disease control of Prosaro® 420 SC with commercially available foliar fungicides. To determine the best ROI from an application of either an in-furrow or foliar fungicide application or a complete program approach for control of Septoria nodorum or Yellow leaf spot.

Background

Septoria nodorum and Yellow Leaf Spot are stubble borne diseases of wheat. Prosaro® 420 SC is registered for the control of Yellow Leaf Spot, Septoria nodorum, Stripe Rust, Stem Rust, Leaf Rust and Powdery Mildew in wheat. Prosaro® 420 SC is a co-formulation of 210 g/L prothioconazole + 210 g/L tebuconazole. Raxil Pro is a new seed treatment from Bayer CropScience expected to be registered in time for the 2012 season. Raxil Pro will have a low use rate of 150 mL/ tonne seed. Raxil Pro will be registered for Bunt, Flag Smut and Loose Smut of wheat and Covered and Loose Smut of barley and oats. Raxil Pro is a co-formulation of 250 g/L prothioconazole + 150 g/L tebuconazole.

Trial Details

Property	Rob Nankvell, East Maya
Plot size & replication:	20 m x 2.5 m x 3 replicates
Soil type:	Red Loam
Seeding date:	25/5/2010
Seeding rate:	75 kg/ha Tammarin Rock
Fertiliser:	100 kg/ha Agstar Extra®, 80 kg/ha Urea
Herbicides:	0.8 L/ha Barracuda®, 2.5 g/ha *Ally®, 1.5 L/ha Sprayseed®, 1.5 L/ha Treflan®
Insecticides:	0.2 L/ha Talstar®, 0.1 L/ha Dominex®
Fungicide Application A:	2/7/2010
Fungicide Application B:	26/8/2010
Growing Season Rainfall	141mm

Site Comments

The trial was sown into 2009 Yandanooka stubble with moderate levels of yellow leaf spot and septoria nodorum on the ear. This was to replicate the common practice throughout the region of wheat on wheat rotations.

Consistent dry conditions throughout the season did not favour the early development of disease. A trial inspection on 3/8/10 observed very low levels of disease, too low to assess.

Dry conditions and plant stress throughout spring, affected end yields and added variability to the disease assessment taken on 6/9/10 when the crop was at (Z55) half inflorescence emerged.

A follow up assessment of infection of the head was not possible due to hot and dry conditions throughout September, resulting in early senescence of the crop.

Results

Table 1: Yield (t/ha) and grain quality analysis in Tammarin Rock wheat.

N	Treatment	rate/ha	t/ha	% untr	Protein (%)	Moisture (%)	Hecto litre (g)	Screenings (%)	Grade	Gross Return (\$/ha)
1	UNTREATED		1.20 a	100	12.8	9.7	78.3	6.3	AUH2	\$435.60
2	RAXIL PRO	15 mL/100 kg	1.45 a	121	12.8	9.1	77.6	7.4	AUH2	\$526.35
3	INTAKE® COMBI	400 mL/ha	1.31 a	109	12.6	9.8	79.0	7.4	AUH2	\$475.53
4	RAXIL PRO PROSARO 420 SC HASTEN®	15 mL/100 kg 150 mL/ha 1 % v/v	1.26 a	105	13.4	9.8	77.2	8.3	AUH2	\$457.38
5	INTAKE COMBI PROSARO 420 SC HASTEN	400 mL/ha 150 mL/ha 1 % v/v	1.15 a	96	13.3	9.3	77.7	7.7	AUH2	\$417.45
6	INTAKE COMBI TILT® 250 EC	400 mL/ha 500 mL/ha	1.29 a	107	13.0	9.8	79.1	7.0	AUH2	\$468.27
Foliar Only	7 PROSARO 420 SC HASTEN	150 mL/ha 1 % v/v	1.26 a	105	13.7	9.7	78.5	7.9	AUH2	\$457.38
	8 FOLICUR®	290 mL/ha	1.17 a	97	12.8	9.0	79.0	7.5	AUH2	\$424.71
	9 TILT 250 EC	250 mL/ha	1.12 a	94	13.0	9.5	79.5	7.3	AUH2	\$406.56
	10 TILT 250 EC	500 mL/ha	1.20 a	100	12.9	9.6	79.5	8.3	AUH2	\$435.60
	11 OPUS®	250 mL/ha	1.09 a	91	13.6	9.7	78.1	9.0	AUH2	\$395.67
	12 *OPERA®	500 mL/ha	1.21 a	101	13.7	9.6	77.6	7.7	AUH2	\$439.23

Yields t/ha followed by the same letter do not significantly differ (P= 0.05, Duncan's New MRT).

Pricing based on AWB contract pricing delivered to Fremantle port zone, AUH2 = \$363 on 9/12/2010

All treatments met the receival standards for Australian Hard Varieties Utility Grade (AUH2).

Yield

High screenings prevented any of the treatments from achieving a higher grade.

None of the yield differences between treatments were statistically significant (P≤ 5%).

Prosaro 150 mL/ha + Hasten 1% recorded the highest yield from a foliar only spray.

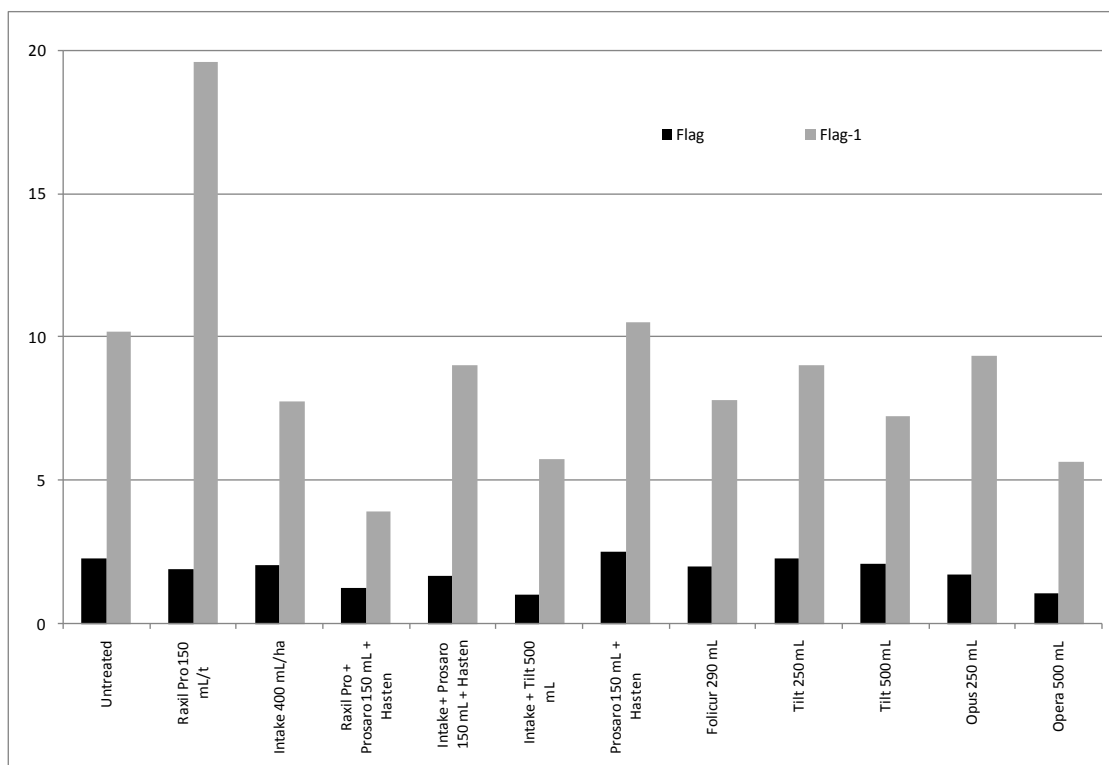


Figure 1: 6/9/10 (11 DAA) % Leaf area infected (LAI) by Glume blotch (*P. nodorum*) – Flag Leaf and Flag-1

Disease control

Due to the dry stressed conditions experienced throughout this trial there was very little difference observed between the untreated and the fungicide treatments.

Comments

Yield is the most accurate way to assess the efficacy of the different fungicides given the dry conditions and low levels of infection seen early in this trial.

There is a slight trend towards lower levels of infection where a pre seeding fungicide such as Raxil Pro or Intake in furrow are followed up by a foliar fungicide application.

*Ally® 2.5 g/ha is not a registered label rate.

*Opera is not registered for control of Yellow Leaf Spot in wheat.

At the time of publication Raxil Pro is not registered. An application for the registration of Raxil Pro has been made.

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Paper reviewed by Greg Skinner, Technical advisory manager, Bayer CropScience.

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