

3.1.3 FOLIAR FUNGICIDES ON BARLEY AND WHEAT (TASMANIA)

Wheat

Location: Symmons Plains

Researchers: Geoff Dean, *SFS Ltd*
Simon Munford, *DPIWE*

Background:

Leaf rust has caused yield reductions in wheat over the last 4 years. The problem has been largely overcome with the release of resistant varieties such as Tennant but other currently grown varieties are susceptible to leaf rust. In addition diseases such as septoria are also limiting yield. This trial was conducted to evaluate the performance of foliar fungicides in combating leaf diseases. In particular, a new class of fungicides (strobilurins) used extensively in the UK and NZ, was trialled.

Aims:

- To evaluate the effectiveness of foliar fungicides applied to wheat
- To compare strobilurin fungicides with triazole and conazole fungicides
- To compare the response of Tennant (resistant to leaf rust) and Kellalac (susceptible to leaf rust) to fungicide applications

Results and Discussion:

There was no rust in the trial and no consistent differences in the level of septoria. During early grain fill, plots were also scored for vigour and general appearance. Although differences were marginal the strobilurin/conazole mixtures and double dose (x2) of conazoles generally scored higher than the nil treatment.

Growing season rainfall (April-Nov): 378 mm

Methodology:

Fungicide treatments: A range of fungicides at different rates, time of application and some mixtures (see Table 12).

Applied to Kellalac and Tennant wheat at the start and end of elongation (GS32, GS39). Four replicates.

Sowing rate: 130 kg/ha

Harvest Date: 23 January 2003

Fertiliser: 250 kg/ha 9:13:17

Weed Control: Hoegrass 1.5//ha,
MCPA 1.5//ha,
Brominil 1.4//ha

Sowing date: 28 May 2002

Yields were reasonably good given the dry finish to the season. There was a trend towards Kellalac outyielding Tennant (6.97 t/ha and 6.80 t/ha respectively) but this was not significant ($P=0.16$). There was also no interaction between treatment and cultivar ie. Kellalac and Tennant responded similarly to the same fungicide treatments. Consequently yield data from Kellalac and Tennant were pooled.

Table 12: Effect of Different Fungicides Treatment on Grain Yield (t/ha) of Wheat.
Data from Kellalac and Tennant Pooled as No Variety x Fungicide Interaction.

Fungicide	Fungicide group	Yield (t/ha)
1 Nil/Nil	-	6.83
2 Nil / Folicur 145ml	conazole	7.08
3 Folicur 145ml / Nil	conazole	6.88
4 Folicur 145ml (x 2)	conazole	6.90
5 Folicur 290ml (x 2)	conazole	6.63
6 Folicur 145ml + Amistar 250g / Nil	conazole / strobilurin	6.62
7 Nil / Folicur 145ml + Amistar 250g	conazole / strobilurin	6.88
8 Folicur 145ml + Amistar 250g x 2	conazole / strobilurin	6.73
9 Folicur 145ml +Flint 500g (x2)	conazole / strobilurin	6.75
10 Opus + Pyraclostrobin 500ml (x 2)	conazole / strobilurin	7.14
11 Opus 250 ml (x 2)	conazole	7.23
12 Triad 500ml (x2)	triazole	6.98

There was statistically no significant difference between fungicide treatments ($P=0.49$). This was presumably due to the low disease pressure. Yield effects may also have been masked by non uniform topdressing of nitrogen. Some overlap was noticeable after nitrogen had been spun on.

Conclusion:

There was no yield benefit from the application of foliar fungicides and no differences in response between Kellalac and Tennant. Seasonal conditions were not conducive to disease and further trials are required.

Further details: Geoff Dean, Grain Legume Officer, TIAR, 03 6336 5233, Geoff.Dean@dpiwe.tas.gov.au