

MANAGEMENT OF WHEAT LEAF DISEASE

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BACKGROUND

This trial was developed to examine the efficacy of seeding and foliar fungicide combinations for control of rust (stripe and leaf rust) and leaf spotting diseases (septoria nodorum and yellow spot) in wheat. No rust and only extremely low levels of yellow spot were observed throughout the season.

Plant counts 3 weeks after seeding showed no significant difference between numbers of plants in each plot (ie the Jockey seed treatment and Triadimefon in-furrow treatments did not effect wheat emergence).

At the time of application of Z39 fungicide, no disease was present and the trial was exhibiting severe moisture stress.

In the absence of disease, no fungicide responses were observed in yield or grain quality.

TRIAL DETAILS

Property	Hyde Park Farms, Liebe Group Main Trial Site, Dalwallinu
Soil type	Red loamy sand, Surface pH 5.4 (CaCl ₂)
Sowing date	14 th May 2005
Seeding rate	80 kg/ha Calingiri
Fertiliser (kg/ha)	14 th May 120 kg/ha Agras at seeding, 28 th June 54 kg/ha Urea topdressed
Paddock rotation	2004 = pasture, 2003 = wheat, 2002 = pasture, 2001 = lupins 14 th May - 1.5 L/ha Triflur X, 2.4 L/ha Sprayseed 250; 27 th May – 100
Herbicides & Insecticides	mL/ha Le Mat; 15 th July – 250 mL/ha Lontrel, 1 L/ha Jaguar
Fungicide treatment dates	Z31 spray – 19 th July, Z39 spray - 18 th August, Z55 spray - 12 th Sept Fungicide applied with flat fan nozzles from 0.5m above canopy in 80 L/ha spray volume.
Growing Season Rainfall	May 14 to October 31 ~199mm

RESULTS

Table 1. Impact of pre-seeding and foliar fungicides on average emergence and yield of Calingiri wheat at Dalwallinu (Liebe Group main trial site 2005).

FACTOR 1 (seeding fungicide)	Emergence (pl/m²)	Yield t/ha
Untreated	34.8	1.68
Jockey @ 450 mL/100 kg seed	32.1	1.55
Triadimefon 500 in-furrow @ 200 g/ha	35.4	1.70
Triad 125 EC @ 1 L/ha at Z31		1.62
Full Control (Jockey + Triad at Z31 & Z55)		1.62
LSD 5%	ns	ns
FACTOR 2 (flag leaf spray)		
Nil		1.64
Tilt 250 EC @ 250 mL/ha at Z39		1.63
LSD 5%		0.3

In the absence of disease, no yield response to fungicide application

occurred and accordingly no economic benefit was obtained through the use of any fungicide treatment. The seed and In-furrow fungicide treatments were applied primarily to reduce the impact of rust diseases. Neither

stripe nor leaf rust occurred in this trial and as a result the initial input costs were not recouped. Under non-experimental cropping situations foliar fungicide sprays would not have been applied in the absence of disease, however in this trial the cost of foliar applications were not returned through improved yield.

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DISEASE MANAGEMENT IN WHEAT AND BARLEY

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Agronomy

AIM

To evaluate and determine the profitability of different strategies of disease management.

BACKGROUND

Leaf spot diseases, namely septoria nodorum (*Phaeosphaeria nodorum*) and yellow spot (*Pyrenophora tritici-repentis*) in wheat and net and spot type net blotch (*Pyrenophora teres* sp.) in barley, are often neglected and more importance is placed on other diseases, such as stripe rust. In wheat, yield gains of 30% have been demonstrated from controlling these diseases (Bhathal et. al., 2003) and they frequently occur together. Barley growers around the region are beginning to realise the benefits of controlling net blotch in barley.

This trial examines the benefits of applying two disease management regimes to Hamelin barley, Arrino & Bonnie Rock wheat. The two packages are **1)** Full protection (aiming at nil disease), **2)** Foliar sprays (depending on seasonal conditions) and **3)** A nil treatment.

TRIAL DETAILS

Property	Hyde Park Farms, Main Trial Site
Plot size & replication	1.8m x 20m x 6 reps
Soil type	Red Loam
Sowing date	13 th May 2005
Seeding rate	Wheat at 100 kg/ha, Barley at 65 kg/ha
Fertiliser (kg/ha)	110 kg/ha Agstar Extra drilled, 100 kg/ha urea and 50 kg/ha Muriate of Potash topdressed.
Treatments	<ol style="list-style-type: none"> 1. Full – Impact on fertiliser + 2 x fungicide sprays. 2. Foliar Spray – 2 x fungicide sprays at Z31 (first node) and at full flag emergence. 3. UTC – untreated control.
Herbicides	3 L/ha Sprayseed and 1.5 L/ha Treflan as knockdown, 7th July 2005: 750 mL/ha Jaguar + 300 mL/ha Lontrel
Growing Season Rainfall	258mm

TREATMENTS

	Wheat	Barley
Full treatment	400mL Impact on fertiliser 145mL Folicur at first node (Z31) 145mL Folicur at ear emergence (Z53)	400mL Impact on fertiliser 250mL Tilt Xtra at first node (Z31) 400mL Amistar Xtra at ear emergence (Z53)
Foliar Spray	145mL Folicur at Z31	250mL Tilt Xtra at Z31