

5.2 Fungal Disease Trial

Researchers

Steve Holden	DNRE - Hamilton
George Burdett	SFS
Robert Fraser	SFS
Neil Vallance	SFS
Una Allender	SFS

Sites

Lake Bolac and Hamilton

Background

Fungal disease is becoming an increasing problem on cereals grown in the south west due in part to the increased area now sown to crop but also due to the shortened rotation. Leaf and root diseases both have the potential to seriously limit yields and any method that can assist in controlling these problems needs to be investigated.

Aims

- To study the incidence of septoria and other fungal diseases on Kellalac wheat
- To determine the effectiveness of different fungicides against these diseases.

Management

Sown at Lake Bolac on the 7/6/99 and at Hamilton on the 10/6/99 with Kellalac Wheat at 120 kg/ha and DAP at 100 kg/ha. Two trials were established at Lake Bolac, one sown on a canola stubble and the other on a wheat stubble. The trial at Hamilton was sown on a triticale stubble.

The treatments were:

1. District Practise – Seed dressing of Vincit C at the registered rate (100mL/100 kg of seed).
2. Foliar spray – District practise of Vincit C as a seed dressing plus a foliar application of Folicur 430 SC at the registered rate
3. Armour – Seed dressing of Armour C at the registered rate (100 mL/100 kg of seed).
4. Impact® in Furrow – Impact in Furrow applied to the fertiliser at the registered rate (400ml/ha) + the use of Vincit as a seed dressing
5. Microbes – Microbe treatment of BTR and STL from Petrik Laboratories applied to the seed. Seed was previously treated with Vincit at the registered rate.

RESULTS

Treatment	Hamilton	Lake Bolac	Lake Bolac
	Trit Stubble	Wheat Stubble	Canola Stubble
District Practice	4.73	4.19	4.66
District Practise + Folicur	4.98	4.19	4.75
Armour treated seed	4.95	4.19	4.50
Impact in Furrow	5.32	4.30	4.52
Microbes	4.67	4.16	4.47
LSD (t/ha)	0.52	0.19	0.31

DISCUSSION

Very little Septoria was noticed at any of the locations, with leaf rust being the biggest leaf disease problem at all three sites. The W.A. Dept of Agriculture has found that the optimum time for applying foliar fungicides to minimise the effects of leaf rust is after flag leaf emergence and before head emergence. An economic response is still possible with later applications but becomes much less likely after flowering.

Folicur 430SC was applied to the appropriate plots after head emergence but before flowering and in each case did not result in a significant yield increase. In addition, a late fungicidal application to the plots in the canola stubble paddock, did not significantly increase the yield of the treatment compared with the district practice.

A moderate infection of Take-all (as determined by washing and scoring the roots) was present in both the wheat stubble and triticale stubble trials, but surprisingly there was only a significant yield increase where the fungicide Impact in Furrow was used at Hamilton. Rhizoctonia was also present at both Lake Bolac sites, with a moderate root score obtained in the wheat stubble and a slight root score on the canola stubble. None of the treatments had any affect on the level of Rhizoctonia.

The microbial seed dressing is supposed to increase the plants ability to take in nutrients, however at all three sites it was the lowest scoring treatment. However it was only significantly different in the Hamilton trial where it yielded 0.65 t/ha lower than the Impact treatment.