"Barley Agronomy Trials"

Trent Potter, SARDI, 08 8762 9132, trent.potter@sa.gov.au

Key Outcomes:

- Varietal differences in disease ratings will be reflected in the level of response achieved to a fungicide application.
- Even with a dry spring, inclusion of a fungicide in the program improved the effectiveness of a nitrogen application.

Trial Objectives: To assess the yield of a range of agronomic treatments on barley varieties

Trial Duration: 2011-12
Location: Wolseley
Soil Type: Clay
Paddock History:
Monthly Rainfall:

Farmer Co-operators:
Simon Ballinger

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Apr-Oct	Total	*Jan - Mar*
Wolseley (BoM)	116	38	38	18	24	39	66	47	31	44	31	26	269	**519**	*192*

Yield Limiting Factors:
Type of Trial: Replicated Plot Trial
Trial Design: 8m long plots x 8 rows at 15cm spacings (1.2m total width); 3 replicates

Treatments:

All trials were sown with small plot equipment and managed as per usual agronomic treatment (except where specified). Grain yield was determined by machine harvest.

Treatments included;

- Variety Treatments (x4)
- Fungicide Treatments (with and without a foliar fungicide application)
- Nitrogen top-dress rates (x4) at GS30
- Interactions between all of the above

NB. Quality Data for this trial will be available at a later date

Results:

Table 1: Yield Response to the interaction between variety, nitrogen and Fungicide application (Yield results expressed as kg/ha)

Nitrogen Rate / Variety	Nil Fungicide 0	25	50	100	Plus Fungicide 0	25	50	100
Buloke	5039	4525	4765	4234	5787	5879	5577	5598
Commander	4901	4438	4552	4077	6568	6661	6852	6907
Gairdner	4901	4438	4552	4077	6044	5802	6142	5670
Hindmarsh	6290	6260	6138	6000	6568	6636	6852	6454

Table 2: 2011 Varietal response in yield to fungicide application

Variety	Fungicide Nil	Plus
Hindmarsh	6171	6627
Commander	4492	6747
Gairdner	4492	5914
Buloke	4641	5710

Table 3: 2011 Yield Responses to Nitrogen with and without fungicide application

Nitrogen rate	Fungicide Nil	Plus
0	5283	6242
25	4915	6244
50	5002	6355
100	4596	6157

Site Statistics for all tables (Wolseley)

Site mean (kg/ha)	5600
CV%	3.89

Comments:

Yield Results suggested a significant difference between varieties within the trial, with Hindmarsh being the stand-out performer across all treatments.
There were significant yield responses by variety to the addition of fungicide applications as shown in Table 2. The yield of Commander reached the same level as Hindmarsh when each variety was treated with a fungicide.

The inclusion of a fungicide also improved the response to nitrogen (see Table 3).

Acknowledgements:

Funded by GRDC under the "Increasing Water Use Efficiency" Project