Summary of barley variety demonstrations

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Barley variety demonstration sites were established on four Wimmera farms to investigate the suitability of some emerging and current barley varieties for the region. The sites were located at Minyip, Marnoo and Rupanyup and the results from each site are presented in the following pages. Table 1 summarises yield and quality data for the varieties tested over the four sites and an overview of the main varieties is provided below. These demonstrations were not replicated and reflect performance only for the 2003 season at each site. Therefore, consider long-term trial data before selecting a new variety.

Table 1. Summary of barley yield and quality data from four sites in the Wimmera[1].

Variety	Yield (t/ha)	Yield expressed as a % of the mean yield across all sites (4.4 t/ha)	Retention > 2.5mm (%)	Screenings <2.2mm (%)	Protein (%)	Test Wt (kg/HL)
Gairdner(4)[2]	4.6	104	57	5.4	11.3	66
VB 0021 (4)	4.6	103	72	2.7	11.0	62
Quasar (4)	4.6	103	58	4.6	11.3	66
Baudin (4)	4.5	101	66	3.5	11.3	65
WI 3586 (2)	4.5	100	29	8.6	11.3	65
Sloop Vic (3)	4.2	94	61	3.7	12.3	66
WI 3408 (2)	4.0	91	57	4.1	11.7	65
Galaxy (1)	4.0	89	68	2.7	12.5	66
Schooner (1)	3.9	87	72	2.3	12.1	66
LSD (5%)	**0.3**	**6**	**8.8**	**1.6**	**0.9**	**2**

[1.] Means are predicted means estimated from multi-site statistical analysis. [2.] Number in brackets indicates the number of sites for each variety. Care should be taken for interpreting results for varieties with limited sites.

Seasonal Overview

Despite the prevalence of cereal leaf disease in the Wimmera in 2003, these sites were relatively clean. Low levels of spot form of net blotch (SFNB) were present at most sites. Leaf rust was more notable with moderate levels observed on Baudin and Schooner. There were also symptoms of boron toxicity particularly in Baudin, Quasar and Gairdner. However, neither disease nor boron toxicity symptoms were reflected in the yield results. Yields ranged from 3.3 to 5.8t/ha with a mean yield across all varieties and sites of 4.4t/ha. Grain size was a topical issue this year with low retention at all sites (only 10 of the 36 samples harvested achieved retention greater than 70%). Test weights were also low and sites harvested later (after rain) had particularly low test weights. Protein levels varied between sites with those sown on pulse stubbles having higher protein than the site sown on barley stubble. Varietal differences for protein were not consistent.

Feed barley prices at Murtoa dropped about $20/t from the beginning of harvest to the season peak. This factor along with reduced test weight in late harvested samples emphasises the importance of timely harvesting.

Variety Summary

Gairdner continues to yield well in the Wimmera even in below average rainfall environments. Gairdner's small grain size reduced the probability of making malt grade in 2003, but historical data suggests that in the Wimmera environment, Gairdner can achieve retention higher than 70% in most seasons. The probability of this occurring decreases in the Southern Mallee. Gairdner should not be sown late and nitrogen inputs and disease (particularly Spot Form of Net blotch) should be managed carefully to reduce the likelihood of small grain. Gairdner is still the preferred variety in the Wimmera if CCN is not an issue.

Baudin had a similar yield to Gairdner and a slightly higher mean retention but retention was not consistently higher at all sites. The earlier maturity compared to Gairdner may have favoured Baudin in the hot dry finish of 2003. Baudin was more susceptible to leaf rust, had a similar level of SFNB to Gairdner and was less vigorous in the early growth stages.

Quasar is a potential malting variety available under contract with Barrett Burston as a replacement for Galaxy. It appears to be similar to Gairdner in terms of yield, grain quality and disease resistance.

SloopVic was lower yielding than the Gairdner types in these demonstrations. The low retention of SloopVic in these demonstrations was surprising. SloopVic may have a role in the Wimmera as a replacement for Schooner where mid-season maturity, CCN resistance and/or Boron tolerance is required. In the absence of any of these requirements, Gairdner is preferred in the Wimmera.

VB0021, WI3586 and WI3408 are potential new CCN resistant, malting quality varieties. VB0021 has reasonable yield potential and large grain size, but test weights were lower than other varieties. WI3408 is a Schooner type that yielded similar to SloopVic and Schooner in these trials. It had lower retention than Schooner but is reported to have excellent malting quality. WI3586 is a Gairdner type with similar yields to Gairdner but low retention. More will come to light on these varieties as evaluation continues in 2004.

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