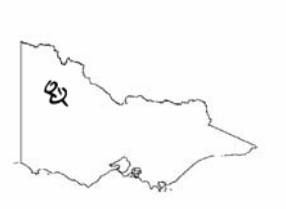

Good barley news from a season best forgotten

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Summary
In 2002 barley breeding and evaluation trials were as susceptible to drought conditions, as was the rest of the farming community. Only 12 of 21 advanced variety trials warranted harvesting, with trials in the Wimmera and north-central districts being the most severely effected – only 4 of 12 trials were harvested from these areas. Average yields of those trials harvested were only 1.4t/ha compared to the long-term average yields of these trials (on a State wide basis) of 3.0t/ha. Taking into account both the average yields of these trials, and the loss of almost 50% of trials, the trials reflect closely to a Victorian season where the crop harvest was only approximately 25% of average.

Interpreting results from these trials is challenging. Do results in 2002 reflect long term performance or rather do the results reflect a 1 in 20-year aberration? For lines that performed relatively well, and have performed well in previous seasons, the results indicate the lines have adaptability to a range of seasonal conditions ie these are lines that will give both the grower and breeder great confidence. Varieties or lines that have performed well in previous seasons, but performed relatively poorly in 2002, should not be immediately discarded but should be considered in the context of their performance over a range of seasonal conditions. Varieties and breeding lines that fall into these two categories will be discussed. Yields results are presented in Table 1.

1. Varieties with relatively high yields both in previous seasons and in 2002 season

Gairdner. In the Victorian Mallee, yields of Gairdner were 4% above Schooner, which is above Gairdner's average yield advantage (3%) over the last 5 years. State average yields were 3% higher than Schooner compared to a long term (LT) yield advantage of 11%. Gairdner's performance in 2002 causes us to revise our thinking regarding areas of Gairdner's adaptation. Previously Gairdner has been considered suited to more favourable seasons and cropping districts, and we would have expected Gairdner to perform poorly in the Mallee in a year such as 2002. The relatively robust performance of Gairdner, coupled with an average grain plumpness level not too dissimilar to Schooner, indicates Gairdner may be more suited to lower rainfall conditions than we had previously thought, grain plumpness issues aside. In results from the first 9 sites assessed, Gairdner averaged 65% grain plumpness (35%screenings), making Malt 2 grain size specifications at 3 of the 9 sites. This compares with Schooner (average 28% grain plumpness (i.e.35%screenings); Malt 2-grain size specifications at 5 of the 9 sites) and Sloop (average 76% grain plumpness, 24%screenings; Malt 2-grain size specifications at 6 of the 9 sites).

Keel. As expected Keel, with a reputation as a "drought specialist", performed well in 2002 being above the long-term yield advantage over Schooner (13% in 2002; 9% long term). For the second consecutive year, Keel was the lowest yielding variety when grown on deep sand near Ouyen, confirming earlier reports of poor performance on sand.

Sloop SA (formerly WI3167) – a new CCN resistant malting variety. Whilst Sloop SA has not been particularly high yielding in previous years, 2002 was a very good year for this variety. In the Mallee, Sloop SA was 4% higher yielding than Schooner, when historically the two varieties have been of equal yield. In comparison with Sloop Vic, Sloop SA was 10% higher yielding. Average grain plumpness for Sloop SA was 78% (22%screenings), with Malt 2-grain size specifications being achieved at 7 of the 9 sites. Fortunately seed production of Sloop SA occurred in South Australia and hence has been fairly successful. Growers interested in acquiring seed should contact their local rural trader.

Sloop. Historically Sloop has been 1% higher yielding than Schooner; during 2002 this advantage was 3%. Average grain plumpness for Sloop SA was 76% (24%screenings), with Malt 2-grain size specifications being achieved at 6 of the 9 sites so far assessed.

VB0021. VB0021 is a CCN resistant, semi-dwarf crossbred with malting potential entering commercial scale trials in 2003. The average Mallee yield advantage of VB0021 over Schooner in 2002 was 13% compared with a yield advantage of 7% in 2001. These results indicate VB0021 should have higher long-term yields than both Schooner and the CCN resistant Sloop types, in addition to being of superior quality and having superior head retention. Average grain plumpness for VB0021 was 75% (25%screenings), with Malt 2-grain size specifications being achieved at 6 of the 9 sites.

2. Varieties with relatively poor yields in 2002 compared to previous seasons

Schooner. In previous dry seasons, the relative performance of Schooner against other varieties and crossbreds has improved. This did not occur in 2002, reflecting that the competitor varieties are now better adapted to adverse conditions. From a breeder's point of view, it is reassuring that substantial breeding progress has been made since Schooner was released 18 years ago, with CCN resistant lines such as VB0021 demonstrating Mallee yield advantages of 7% – 11% across contrasting seasons (2001, 2002), as well as possessing superior malting quality.

Sloop Vic (formerly VB9953) – a new CCN resistant malting variety. Sloop Vic's Mallee yield performance relative to Schooner was down on previous years (6% lower yielding in 2002 compared to a 1% yield advantage in long term data). As mentioned, Sloop Vic performed relatively poorly compared with both Sloop and Sloop SA, both of which are 4 – 5 days earlier maturing. Average grain plumpness for Sloop Vic was 79% (21%screenings), with Malt 2-grain size specifications being achieved at 7 of the 9 sites. Sloop Vic is best suited to those areas with greater than 350mm annual average rainfall. Growers in areas with below 350mm annual average rainfall should consider Sloop SA. Unfortunately, seed production of Sloop Vic was severely effected by the Victorian drought; seed quantities of this variety will be limited for 2003. Growers interested in acquiring seed should contact their local rural trader.

Baudin (formerly WABAR2080). This variety is being considered as a Gairdner alternative in the medium rainfall districts, on the basis of reputedly superior grain size. In 2002, yields of Baudin in the Mallee were 12% lower than Gairdner compared to similar yields in 2001. Average grain plumpness was only 62% (38%screenings), with Malt 2-grain size specifications being achieved in only 3 of 9 trials, indicating no advantage over Gairdner. These results raise questions about the potential role of Baudin in Victoria.

Barque. Barque's yield advantage over Schooner in the Mallee was slightly below the long term yield advantage over Schooner (5% in 2002; 11% long term).

Torrens (formerly WI3107). Torrens is a hulless variety being considered for use in the monogastric animal and human food industries. This variety performed very poorly in 2002, with State yields 16% less than Schooner (compared with a 4% yield penalty in 2001).

Table 1: 2002 season and long term (LT) grain yields expressed as a % of Schooner. Average grain plumpness values from 9 sites are also presented, and the number of sites (out of 9) at which Malt 2 grain size specifications were achieved.

Variety	Mallee 2002	Mallee LT	State 2002	State LT	Average Grain Plumpness	Number sites achieving Malt 2 grain size specifications (Max 9)
Barque	105	111	104	110	79	7
Baudin	90	103	94	107	62	3
Franklin	71	98	84	104	27	0
Gairdner	104	103	103	111	65	3
Keel	113	109	104	109	80	8
Schooner	100	100	100	100	72	5
Sloop	103	101	104	103	76	6
Sloop SA	104	100	105	101	78	7
Sloop Vic	94	101	99	103	79	7
Torrens	82	97	84	96	37	0
VB0021	113	107	105	109	75	6