3.1.7 Milling Wheat

Location: Cavendish, Tarrington and Wickcliffe

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Background:
While the emphasis of the wheat evaluation program in the western districts over the last few years has been on high yielding long season feed wheats, many growers still want the option of growing potentially high quality milling wheats. As well many growers report the fact that they prefer looking at larger scale plots rather than the small-scale research plots, hence these trials were sown and managed by the local landholders using their normal cropping equipment.

This trial was first established in 1999 at Tarrington and was expanded this year to include two new locations at Cavendish and Wickcliffe.

Aim:
To evaluate a range of milling wheats of different maturities, disease resistance and qualities under broad acre farmer sown plots.

Methodology:
Ten different varieties were sown by the farmer cooperators with their conventional sowing equipment. All plots were at least six metres by one hundred metres long and were managed by the cooperator in conjunction with the rest of the paddock. Harvested with conventional headers the yield results were obtained using a grain weighing trailer.

To enable basic statistical analysis to be performed every third plot was sown to a control variety (Kellalac) so that comparisons could be made across the paddock.

Disease was a major issue at all of the sites this year with Barley Yellow Dwarf Virus affecting all of the sites. As well some Septoria and leaf rust was observed at Tarrington although it came in late and did not appear to affect yields greatly. As well the Cavendish site appears to have a major nutritional problem that affected yields dramatically. At this stage we believe it is a Potassium deficiency but more investigation is continuing.

Results:

VARIETY	Yield For Location (t/ha)			Percent of Kellalac
	Cavendish	Tarrington	Wickcliffe	
Camm	2.57	5.07	5.86	101
Chara	2.99	5.61	5.87	109
Goldmark	2.31	4.49	4.89	88
H45	3.53	6.03	6.31	119
Kellalac	2.16	5.81	5.36	100
Lorikeet	2.02	5.11	4.94	91
Mitre	2.26	5.33	5.58	99
Silverstar	2.89	5.49	5.18	102
VL326	1.39	4.16	4.93	79
Yitpi	2.99	4.13	4.98	91
5170	2.89	N.A.	N.A.	N.A.
Least significant difference (t/ha)	0.91	0.19	1.01	

Conclusions:

These results must be treated with caution, as one years results can be fairly misleading. When choosing varieties other factors (such as quality) must be taken into account besides yield. Disease resistance is critical and you should always aim to grow a variety with the best resistance you can possibly get for the type of diseases you could reasonably expect to get.

Variety Information:

Camm.
A mid maturity APW wheat with resistance to all of the rusts, although in NSW a new strain of stripe rust has been found that is virulent on the resistance gene present in Camm. Susceptible to both yellow leaf spot and septoria. This variety is large seeded and because of this sowing rates should possibly be increased.

Chara
A mid maturity AH variety that is resistant to all of the rusts. It is moderately susceptible to yellow leaf spot and septoria.

Goldmark
Medium maturity APW wheat that is moderately resistant to stem and stripe rust and resistant to leaf rust. Tolerant of acid soils, however it does suffer from physiological yellowing and is intolerant of group B herbicides under some conditions.

H45
An early maturing APW variety that is moderately resistant to all of the rusts. However it is very susceptible to septoria and there is grave concerns about growing it in the high rainfall zones. It has the potential to rapidly build up septoria in the region and put excessive pressure on the resistance genes of other varieties that are currently resistant to it. It is not recommended for this area despite its high yields. Hence it should only be sown as an option for a late sowing.

Kellalac
The standard APW variety in the western districts. It is a late maturing variety well adapted to the longer growing season environment, however it is susceptible to stem rust and moderately susceptible to leaf rust. Its disease resistance is a concern and once a replacement can be found its use should be minimised. However until then it will remain the backbone of the local milling wheat industry.

Lorikeet
A potential Rosella replacement that is agronomically similar to Rosella. It has been bred for better stem rust resistance. It is currently registered as ASW noodle in NSW.

Mitre
An export quality AH wheat of early to mid maturity. It is resistant to all of the rusts although there is a question mark over its leaf rust resistance as one of its resistance genes is now being attacked by a race of leaf rust found in SA and NSW. It is also moderately susceptible to septoria.

Silverstar
A very maturing AH variety that was originally bred for the low rainfall environments. Moderately resistant to stem and stripe rust, but moderately susceptible to leaf rust and septoria. Silverstar does tend to produce higher screenings than other varieties and hence has lost favour in many districts. More suited for later plantings in the high rainfall zone.

VL326
Originally bred as a potential replacement for Kellelac, it has been very disappointing this year. It would appear to be very susceptible to BYDV. Not commercially available.

Yitpi
An AH quality wheat with moderate resistance to stem and stripe rust, although moderately susceptible to leaf rust and septoria. It is of medium maturity and is expected to replace Frame in those areas that grow it.

Variety 5170
This is a red grained milling wheat for speciality markets that is currently being evaluated by AWB Seeds. Not commercially available.