3.5.5 WHEAT VARIETY DEMONSTRATION PLOTS

Location: Lake Bolac and Strathkellar

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Background:
While the emphasis of the wheat evaluation program in the western districts over the last two years has been on high yielding long season feed wheats, many growers still want the option of growing potentially high quality milling wheats of differing maturity. This trial was first established four years ago to look at potential milling wheat options. Since then ten separate trials have been run over a wide range of locations and seasons. These trials are sown and managed by the local landholders and hence they tend to mimic closely what is happening in the paddock based on current farming practise.

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

Methodology:
These demonstration trials were established to test different wheat varieties under broad acre conditions. Each plot is 6 to 7 metres wide by 80 to 100 metres long and every third plot is sown to a control (Chara at Strathkellar and Kellalac at Lake Bolac) so that comparisons can be made across the paddock. This has meant that basic statistics can be performed to determine differences between varieties.

The Lake Bolac site was sown on the 8th of July and the Strathkellar site sown on the 3rd of July with both trials sown with 100kg/ha of seed.

All of the plots were sown and harvested with conventional equipment and the yields were determined with a grain weighing trailer.

Results:

Table 51: Wheat Grain Yields

VARIETY	Yield for Location (t/ha)		% Kellalac
	Lake Bolac	Strathkellar	
Bowerbird	2.59	n.a.	
Brennan	2.23	4.57	78
Chara	3.39	5.40	101
Goldmark	3.26	5.16	97
Kellalac	3.22	5.48	100
Kukri	3.17	5.54	100
Rudd	2.60	4.32	80
Silverstar	2.97	5.63	99
Tennant	2.45	3.76	71
Yitpi	3.29	n.a.	
Least significant difference	0.33 t/ha	0.63 t/ha	
cv %	6.8	4.1	

Conclusions:
These results must be treated with caution as one years results can be fairly misleading. It is better to make varietal decisions on trials conducted over a number of years and a wide range of seasons. As well varieties should be selected that have the best disease resistance available for the diseases that can be expected to be encountered in the district.

However of particular interest is how Kellalac is performing. This variety has consistently been one of the better performers over the last six to seven years, in drier years as well as longer season wetter years. Chara is also performing well and while slightly shorter season than Kellalac it can provide an alternative especially if sowing is delayed.

Both of these trials were sown far latter than recommended for the Winter Wheats and this is reflected in their yields, with all of the winter wheats being significantly lower yielding than most of the milling wheats. If the winter wheats are going to reach their yield potential then they must be sown early. If sowing is delayed past early June then the shorter season spring wheats should be sown instead.

Variety Information:

Brennan
A white grained feed quality winter wheat that is resistant to all three of the rusts and moderately resistant to septoria tritici. Its flowering is intermediate between Kellalac and Tennant.

Chara
An AH quality wheat that is resistant to all of the rusts and moderately resistant to septoria tritici. It is a medium maturity wheat that performs well on acid soils. In the short term it is showing potential as a replacement for Kellalac

Goldmark
A 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

Kellalac
The standard APW variety in the western districts. It is a late maturing variety well adapted to the longer growing season environment. Its disease resistance
is a concern as it is susceptible to stem rust and moderately susceptible to leaf rust. As newer varieties with better disease resistance are released, it should be phased out.

Kukri
A variety from South Australia that is an early maturing AH quality variety. Resistant to stem and leaf rust and moderately susceptible to moderately resistant to stripe rust. It is moderately resistant to septoria tritici but very susceptible to bunt.

Rudd
A newly released high yielding red grained feed quality winter wheat. It is resistant to the three rusts as well as septoria tritici and yellow leaf spot. In trials last year it was on a par with Brennan.

Silverstar
A very early maturing AH variety that was originally bred for a low to medium rainfall environment. It has performed well in the south west over the last few years especially when sown late. It is moderately resistant to stem and stripe rust but moderately susceptible to leaf rust. It is moderately susceptible to septoria tritici and it appears to be susceptible to septoria nodurum (this disease while not common did cause serious damage in a Silverstar crop near Hamilton last year). Silverstar tends to produce higher screenings than other varieties and hence must be grown with caution.

Tennant
A red grained feed quality winter wheat. It is resistant to all of the rusts and is moderately resistant to septoria tritici. It is one of the latest maturing winter wheats and really needs a long season if it is to perform.

Yitpi
An AH quality wheat with moderate resistance to stem and stripe rust and moderately susceptible to leaf rust. It generally produces large grains and low screenings. It is moderately susceptible to septoria tritici and susceptible to yellow leaf spot. Hence it should not be grown as the second crop if wheat is being sown on wheat.

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