

3.5 CEREAL VARIETY TRIALS

3.5.1 WHEAT VARIETY TRIALS (TASMANIA)

Location: Symmons Plains and Riccarton
(Campbell Town)

Researchers: Geoff Dean, *SFS Ltd*
Simon Munford *DPIWE*

Growing season rainfall (April-Nov):
Symmons Plains 378mm
Riccarton 265mm

Background:

With the release of new varieties, greater awareness of potential yields and improved management practices, there has been a large increase in the area sown to wheat in Tasmania. In particular the CSIRO-bred varieties have shown adaptation to the Tasmanian environment and have dominated recent plantings. Newer varieties have improved leaf rust resistance and some are white-grained. Of particular interest is MacKellar, the first commercial wheat variety with Barley Yellow Dwarf Virus (BYDV) resistance and other new CSIRO BYDV resistant lines. Two wheat lines from Wrightson Seeds are also being tested following good performances in previous years. Only the major wheat varieties have been trialled at Campbell Town as barley is the predominant cereal sown in this area.

Aim:

To further compare existing wheat varieties and evaluate new breeding material.

Methodology:

Main entries and their origin are listed below:
Tennant, Brennan
MacKellar, Rudd, Paterson, CSIRO, Canberra
Rosella, Marombi, NSW
Kellalac, Mira, Chara, VIC

Sowing date:

Symmons Plains 25 May 2002
Riccarton 18 June 2002

Harvest date:

Symmons Plains 23 January 2003
Riccarton 13 January 2003

Fertiliser:

Symmons Plains: basal 250kg 9:13:17,
topdressing - 50kg N/ha
Riccarton: basal - 150kg 9:13:17

Weed Control:

Symmons Plains: 1.4/ha Brominil,
1.5/ha MCPA. 1.5/ Hoegrass
Riccarton: 1.4/ha Brominil,
1.5/ha MCPA, 1.5/ Hoegrass

Results and Discussion:

The dry finish to the season, particularly at Riccarton and lack of frosts at flowering favoured the early maturing wheats such as Mira, Marombi, Chara and Kellalac. The exception was Rosella which despite some current production should now be regarded as history. The very late maturing CSIRO lines yielded poorly. Tennant (late) was also affected by the sharp finish and was surprisingly low yielding. Although BYDV was not a severe problem it was noted in most plots of Paterson, Tennant and H267.3. Overall MacKellar (mid maturity) performed well with a better result at Symmons Plains than Riccarton due to the better finish. The two late CSIRO lines LH49E2 and LH50M16 (both BYDV resistant) yielded in a similar pattern to MacKellar ie dropped down the rankings at Riccarton. In a season with good late spring rainfall these two varieties could be expected to outyield MacKellar being a more similar maturity to Tennant. Nearly all the CSIRO lines were of low germination and vigour (poor seed) and this was particularly pronounced in the colder conditions at Riccarton. It is likely this reduced grain yield from these lines. The high yields from observation plots at Riccarton need to be treated with caution as these results are from only one plot.

Table 46: Wheat Trial Results - Grain Yields

Symmons Plains			
	Variety	Yield (t/ha)	% Tennant
Replicated plots	MacKellar	8.05	134.6
	LH49E2	7.97	133.2
	LH50M16	7.78	130.1
	Mira	7.78	130.0
	ISR619-30	7.70	128.7
	Marombi	7.57	126.7
	Chara	7.44	124.3
	ISR594-15	7.27	121.6
	Brennan	7.26	121.3
	Rudd	7.21	120.6
	Kellalac	7.18	120.0
	LH55G14	7.15	119.6
	VN0061	6.80	113.8
	LH46A10	6.69	111.9
	Paterson	6.63	110.9
	LH52T.11	6.55	109.5
	LH46A9	6.54	109.3
	Rosella	6.24	104.4
	Tennant	5.98	100.0
	H267.3	5.96	99.6

Riccarton			
	Variety	Yield (t/ha)	% Tennant
Replicated plots	Chara	4.38	121.9
	Rudd	4.26	118.6
	Brennan	4.21	117.4
	Kellalac	4.14	115.2
	MacKellar	4.09	113.9
	LH49E2	3.75	104.4
	Tennant	3.59	100.0
	LH55G14	3.51	97.9
	LH50M16	3.20	89.1
	H267.3	3.00	83.5
	LH52T.11	2.78	77.3
	LH46A9	2.46	68.4
Isd (5%)		0.38	
Observation plots	VN0061		135.6
	Marombi		133.7
	Mira		130.7
	Rosella		124.5
	Paterson		113.5

Conclusions:

Early maturing wheats generally performed well in 2002-03 due to the sharp finish to the season and lack of frosts at flowering. Overall MacKellar (mid maturity) continued to yield well. With one year of evaluation the two late CSIRO lines LH49E2 and LH50M16 showed good potential for Tasmanian conditions.

Acknowledgements:

Andrew Youl, Rob Ling, Crosby Lyne

Further details:

Geoff Dean, Ph 03 6336 5233

Email: Geoff.Dean@dpiwe.tas.gov.au

**Photo 5: Ian MacKinnon inspecting wheat trials at Symmons Plains**