

3.4 NATIONAL VARIETY TRIALS (WHEAT, BARLEY, OATS, TRITICALE, CANOLA) (YALLA-Y-POORA, INVERLEIGH VIC)

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Location: 3 SFS Research sites:
Inverleigh, Yalla-Y-Poora, and
Hamilton.

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Rainfall (2005): 486 mm at Teesdale
543 mm at Yalla-Y-Poora
535 mm at Hamilton

GSR: (Apr – Nov)
305 mm at Teesdale
359 mm at Yalla-Y-Poora
379mm at Hamilton

Summary:

Seasonal conditions influenced the variety rankings in many trials. Some new varieties significantly out yielded older varieties.

Background:

NVT produces independent and statistically sound information for grain growers about crop varieties. Growers should note that NVT is a national program hence the presence of a variety in a trial does not automatically indicate that it is suitable for southwest Victoria.

Objectives:

Each trial evaluated the grain yield and grain quality of several varieties from a single crop that have been recently released, are very likely to be released or are considered to be the standard in the region.

Methodology:

All the trials have 3 replicates in a randomized block design over either 3 or 6 ranges depending upon the dimensions of the land. All trials were on 1.7m raised beds. All plots were 10m in length with 8 rows on top of the beds. Grain yields have been calculated using the conservative method of considering plot width to be equal to bed width (including unsown furrows). Good weed, slug and insect (not aphids) management was implemented for all trials. Trials were given blanket applications of fertilizer but not sprayed with fungicides. Wheat and barley seed was treated for smuts and bunts only.

Sowing dates:

16 - 17 June 2005 at Teesdale,
14 - 15 June 2005 at Yalla-Y-Poora, and
24 - 25 May 2005 at Hamilton.

Harvest Dates (2005):

	Teesdale	Yalla-Y-Poora	Hamilton
LS Wheat	21 Dec	29 Dec	4 Jan
LS Barley	20 Dec	22 Dec	4 Jan
Grain Oats	-	22 Dec	-
LS Triticale	-	29 Dec	5 Jan
MS Triticale	21 Dec	29 Dec	-
TT midseason canola	8 Dec	9 Dec	13 Dec
Conv. Midseason canola	-	9 Dec	14 Dec

Results and Discussion

WHEAT

	Classification	Yield (% of Kellalac at each site)		
		Hamilton	Yalla-Y-Poora	Teesdale
Kellalac t/ha		2.67	3.39	3.73
Chara	AH	103	91	87
Diamondbird	AH	77	79	86
EGA Gregory	⁴	81	91	86
EGA Wedgetail	APW	99	91	100
EGA Wylie	⁴	84	83	75
Kellalac	APW	100	100	100
Mackellar	Feed	104	98	110
Rudd	Feed	121	103	119
Tennant	Feed	106	104	112
Whistler	ASW	109	89	87
Wylah	APW	112	85	86
Site Mean (t/ha)		2.72	3.18	3.79
CV (%)		11.10	4.30	7.10
LSD (%)		19.00	6.00	12.00

⁴ not yet classified in Victoria. AH/APH in NSW

No new varieties were released specifically for the high rainfall zone. Due to disease pressures in 2005, feed wheats Mackellar, Rudd and Tennant out-yielded varieties Diamondbird and EGA Gregory at all sites despite the short season

BARLEY

	Classification	Yield (% of Gairdner at each site)		
		Hamilton	Yalla-Y-Poora	Teesdale
Gairdner t/ha		3.66	4.04	4.75
Capstan	Feed	115	101	105
Fitzroy	⁵	107	97	98
Flagship	Malt (P)	66	71	79
Fleet	Feed	87	96	96
Franklin	Malt	99	90	97
Gairdner	Malt	100	100	100
Gairdner Plus	Malt	101	87	90
Maritime	Feed	57	77	85
Site Mean (t/ha)		3.19	3.58	4.25
CV (%)		12.20	5.80	10.50
LSD (%)		17.00	8.00	15.00

⁵ Malting in NSW, Qld, P = provisional malting

Several new varieties have been released. The new variety Gairdner Plus did not out-yield Gairdner at any site. Short strawed feed variety Capstan was competitive with Gairdner for yield at all sites probably due to the short season. Maritime was notably low yielding at two sites due to disease pressure

OATS

In the 2005 NVT, the standard, Echidna and Quoll out-yielded preferred milling grade newcomers Possum and Mitika. Possum's relatively low yield was expected due to the late break. Naked oat Numbat and milling quality Mortlock were notably low yielding as usual.

Table 3-28: SARDI Hay Trial At Yalla-Y-Poora⁶

	Yield (% Glider)	
Hay Trial ⁶	Hay Yield	Grain Yield
Glider (T/ha)	8.9	4.8
Eurabbie	98	120
Glider	100	99
Kangaroo	102	103
Riel	100	95
Targa	107	114
Site Mean (t/ha)	8.9	4.9
CV (%)	9.7	4.9
LSD (%)		

⁶ thanks to Sue Hoppo at SARDI for results

Table 3-29: NVT Grain Trial At Yalla-Y-Poora

	Yield (% Echidna)	
Grain Oats	Classification	Yalla-Y-Poora
Echidna t/ha		4.03
Echidna	Milling	100
Euro	Milling	92
Mitika	Milling	91
Mortlock	Milling	64
Numbat	Feed	74
Possum	Milling	92
Potoroo	Feed	92
Quoll	Feed	106
Site Mean (t/ha)		3.60
CV (%)		3.40
LSD (%)		5.00

TRITICALE

	Yield (% Abacus)	
Long Season	Hamilton	Yalla-Y-Poora
Abacus t/ha	3.30	2.49
Abacus	100	100
Breakwell	99	138
Credit	98	135
Jackie	81	126
Kosciuszko	92	130
Maiden	75	125
Tahara	116	140
Site Mean (t/ha)	3.18	3.20
CV (%)	5.70	5.40
LSD (%)	9.00	11.00

	Yield (% Tahara)	
Mid Season	Yalla-Y-Poora	Teesdale
Tahara	3.35	3.14
Abacus	71	112
Credit	102	123
Everest	84	111
Kosciuszko	-	125
Maiden	-	103
Prime 322	72	130
Tahara	100	100
Tickit	106	136
Treat	93	115
Site Mean (t/ha)	3.28	3.88
CV (%)	5.90	7.24
LSD (%)	10.00	16.00

The late break suited the midseason triticales better than the long season varieties. Tahara, the standard in the midseason trial out yielded all other named varieties in the long season trial. Results were site specific in the long season trial with Tahara, Tickit and Credit yielding equally well at Streatham and Credit, Kosciuszko, Prime322 and Tickit producing the highest yields at Teesdale.

CANOLA

Unfavourable rainfall distribution through the year appeared to reduce canola yields. However, the new hybrid, Hyola75, and speciality oilseed (HOLL), NMC-130, were stand outs in 2005 conventional trials for yield and had satisfactory oil contents. NMC-130 can only be grown under contract. Warrior was notable for it's relatively low yields at both sites.

Grain yields and oil contents for varieties in the TT trials varied with location. BravoTT and ThunderTT were consistently relatively high yielding at all three sites.

Mid Season Conv.	Grain Yield (% AGSpectrum)		Oil Content (%)	
	Hamilton	Yalla-Y-Poora	Hamilton	Yalla-Y-Poora
AGSpectrum (t/ha)	2.31	0.94		
AGDrover	128	91	47.8	41.4
AGSpectrum	100	100	44.1	40.4
AVJade	92	116	47.7	42.8
AVRuby	106	102	46.7	42.5
AVSapphire	132	133	45.3	42.0
Hyola 61	124	107	43.1	36.0
Hyola 75	123	183	45.7	41.8
NMC-130	119	169	46.3	42.9
Pioneer 46C04	115	128	43.5	39.7
Pioneer 46C76	110	118	44.2	41.4
RocketCL	105	124	45.8	42.7
Skipton	100	114	46.2	41.8
Warrior	80	108	45.9	41.5
Site Mean (t/ha)	2.25	1.19		
CV (%)	12.60	11.20		
LSD (%)	24.00	24.00		

Mid Season TT	Grain Yields (% ATRSummitt)			Oil Contents (%)		
	Hamilton	Yalla-Y-Poora	Teesdale	Hamilton	Yalla-Y-Poora	Teesdale
ATRSummitt t/ha	3.21	1.05	1.84			
ATRBacon	82	90	100	42.4	38.7	39.9
ATRGrace	91	101	110	42.4	39.0	40.8
ATRSummitt	100	100	100	44.0	39.2	40.3
Boomer	72	103	119	39.8	40.7	38.7
BravoTT	99	122	124	40.9	39.9	39.2
NMT-311	85	82	118	41.4	41.0	39.3
NMT-410	88	91	114	43.4	40.7	42.0
ThunderTT	94	122	111	42.9	41.0	40.0
TornadoTT	79	116	118	42.9	41.7	42.0
Site Mean (t/ha)	2.82	1.08	2.05			
CV (%)	7.6	10.90	9.70			
LSD (%)	12	16.00	16.00			

Further information on the trials is available at www.nvtonline.com.au.

The 2006 Winter Crop Summary (due out in March) has specific varietal information.