

3.5.3 EXPERIMENTS WITH CEREALS (VICTORIA)

Researcher: Angela Clough, Ballarat DPI

Co-operators: Gnarwarre (Gnarwarre SFS), Lake Bolac (Streatham site), Strathkellar for wheat and Tabor for canola, barley and oats (Hamilton site).

Purpose:

These types of experiments are conducted every year in with the aim of identifying high yielding varieties that meet specific grain quality requirements and are suitable for the region's long cool season conditions. Information from the experiments is used to select material for commercial release.

Experimental design: Complete randomised block design with 3 replicates.



Department of
Primary Industries

Researchers:

Wheat:

Susan Kleven, CSIRO Plant Industries, and Canberra and Russell Eastwood, AGT, Horsham

Barley:

David Moody, VIDA Horsham

Oats:

Sue Hoppo, SARDI, Adelaide

Triticale:

Kath Cooper, Adelaide University, and Jeremy Roake, University of Sydney.

Table 48: Basic Soil Properties after Bed Formation and Before Sowing(0-10cm)

Site	OC%	pH (H ₂ O)	Colwell P mg/kg	Colwell K mg/kg	Sulphur mg/kg
Gnarwarre	2.0	5.7	50	342	12.9
Lake Bolac	2.8	5.3	23	361	9.7
Strathkellar	3.3	5.4	23	309	8.8

World Class Canola and Lucerne in the bag

Canola New 46C04 - Mid maturity conventional variety with high yields, multi-gene blackleg resistance, good oil levels and outstanding lodging resistance.

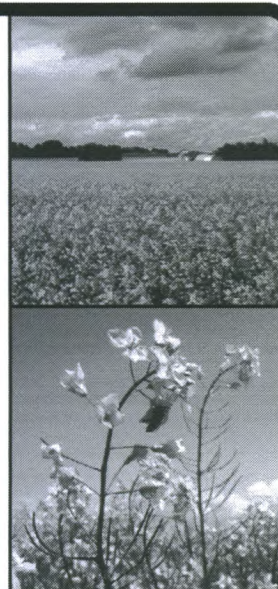
Lucerne L55 - All round lucerne variety and the benchmark for high resistance levels to multiple pests and diseases (MPR) including Phytophthora root rot, crown diseases, aphids and nematodes. High yields and excellent forage quality. Excellent for long-term pastures.

Lucerne L90 - Highly winter active specialist Lucerne. Excellent seedling vigour for undersowing crops and the leading winter-active for pest and disease resistance. Helps fill autumn and winter feed gaps.

Vic Ag Streatham 2002 trial result

Pioneer® 46C04	2.77 t/ha
AV Sapphire	2.47 t/ha
Pioneer® 45C05	2.41 t/ha
Lantern	2.34 t/ha
Hyola 60	2.24 t/ha
Ag Castle	1.97 t/ha
Charlton	1.69 t/ha

For further information contact Simon Nihill, Bendigo on 0427 342 188 or Alex Ford, Melbourne on 0428 886 727.



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3.5.4 LONG SEASON WHEAT (VICTORIA)

Table 49: Long Season Wheat Results - Grain Yield

	Gnarwarre %	Hamilton %	Streatham %
Sown:	4 June	24 May	12 June
Site mean t/ha:	4.98	5.72	3.81
CV%	13.5	7.3	7.9
Average LSD:	22	11	12
Kellalac t/ha	5.05	6.65	4.29

	% Kellalac		
	Gnarwarre	Hamilton	Streatham
94008.4	113	80	92
94012.1	97	90	87
95029.12	118	92	98
95095.5	113	70	95
95102.1	110	103	97
95173.2	117	84	93
95192.14	108	89	100
96001.2	95	72	72
96006.24	101	74	82
96048.3	100	89	92
96054.1	124	102	99
BRENNAN	108	84	95
CHARA	114	99	85
CURRAWONG	79	96	92
DECLIC	112	102	107
DENNIS	112	90	94
H123.1	108	85	95
H150.2	109	85	92
H154.4	113	100	106
H229.3	116	98	93
H230.3	104	84	105
H267.3	114	84	90
I166.1	97	84	95
I59.5	104	89	93
K167.6	88	83	
K37.18	84	95	103
K81.8	97	88	90
K89.44	97	93	99
KELLALAC	100	100	100
LH_39_I1	74	74	66
LH_41_I1	95	68	90
LH_44_L17	100	76	87
LH_46_A9	89	72	82
LH_49_E2	101	71	85
LH_50_M16	87	80	73
LH_52_T13	92	73	73
LH_53_L31	85	72	84
LH_55_G14	80	76	77
LH_59_M1	82	77	84

	% Kellalac		
	Gnarwarre	Hamilton	Streatham
LH_64_A9	91	64	85
LH_71_A4	111	72	91
H11.2	109		
MAROMBI	116	97	95
MACKELLAR	116	87	95
R69	83	68	76
R90	99	86	95
ROSELLA	88	85	76
RUDD	74	94	97
TENNANT	97	80	106
VN0061	101	87	85
VP5320	89	85	66
VP6159	95	92	87
VQ2563	100	90	85
VQ2599	106	96	80
VQ2600	105	98	91
VQ2604	102	79	83
VQ2615	103	98	88
VQ2619	99	83	100
VQ2620	110	87	89
VQ2621	98	94	82
VQ2791	85	91	83
VQ2907	94	88	84
VQ2947	98	86	85
VQ2975	80	92	73
VQ3149	92	99	79
VQ3153	82	91	76
VQ3207	90	81	81
VQ3249	96	97	86
VQ3290	86	86	92
VQ3291	90	86	104
VQ3292	107	80	95
VQ3293	95	88	99
VQ3331	94	83	88
VQ3341	86	89	89
WEDGETAIL		94	83
WHISTLER	107	97	86
WRTA2119			93
WYLAH	88	80	79

Long Season Wheat (proteins %)**Table 50: Long Season Wheat Results - Proteins (%)**

	Gnarwarre	Hamilton	Streatham
BRENNAN ²⁶	11.2	10.8	14.4
CHARA ²⁶	11.9	11.1	15.5
CURRAWONG ²⁶	11.2	11.0	14.0
DECLIC ²⁶	8.5	11.0	13.7
DENNIS ²⁶	9.1	10.0	15.2
KELLALAC ²⁶	10.8	10.7	14.9
MAROMBI ²⁶	10.7	11.4	15.1
MACKELLAR ²⁶	10.6	10.5	15.3
ROSELLA ²⁶	11.3	11.5	15.2
RUDD ²⁶	9.0	10.8	14.5
TENNANT ²⁶	13.3	10.7	14.6
WEDGETAIL ²⁶		11.8	15.2
WHISTLER ²⁶	11.2	11.3	15.0
WYLAH ²⁶	10.7	12.6	16.2
SITE AVERAGE	10.7	11.1	14.9

²⁶ Plant Breeder's Rights Apply.

Findings:

The varieties behaved differently depending upon location. It is difficult to find released varieties that performed better than Kellalac at all three sites. Best bets for the whole of South-west based on 2002 results is Declic and Kellalac. This is in line with best bets from long term averages.

No released varieties yielded statistically better than Kellalac at any site. However, Chara gave similar yields to Kellalac at Gnarwarre and may have been a better choice because of its quality. At Streatham, Declic, Tennant and Kellalac yielded well while Chara gave significantly lower yields. At Hamilton, Kellalac, Declic and Chara produced similar yields while the yield of MacKellar was significantly lower.

Results for up-coming varieties differed markedly from 2001 season results. LH lines performed very well in 2001 season due to the high disease pressure. In 2002 season, the LH lines gave yields closer to the site average. In their place, many of the BYDV susceptible lines, also from CSIRO, ranked highly.

**Photo 6: Angela Clough talking about cereal trials at Lake Bolac**