

## 6. DEPARTMENT OF PRIMARY INDUSTRIES VARIETY TRIALS

**Researcher:** Angela Clough (Ballarat DPI)

**Co-operators:** Various SFS sites including Gnarwarre (Gnarwarre and Inverleigh), Streatham (Lake Bolac), Hamilton (Strathkellar and Cavendish) and Balliang East.

**Purpose:**

These types of experiments are conducted every year 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.



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Crop	LS wheat	LS barley, LS & Mid triticale	TT canola	LS wheat & LS barley	LS & mid triticale, Oats	TT & Mid canola	LS wheat & LS barley	S5 Oats	TT & Mid canola	Barley S3 & Barley S4
Site Name	Gnarwarre	Gnarwarre	Gnarwarre	Streatham	Streatham	Streatham	Hamilton	Hamilton	Hamilton	Balliang
Location	Gnarwarre	Gnarwarre	Inverleigh	Lake Bolac	Lake Bolac	Lake Bolac	Strathkellar	Strathkellar	Cavendish	Balliang E
Cooperator	SFS	SFS	John Hamilton	SFS	SFS	SFS	Wayne Ferguson	Wayne Ferguson	Rob Gardner	Eric Sharkey
Date soil collected	June	June	29 May	20 May	20 May	April 2003	21May	21May	22 April	15 April
Soil Properties (0-10cm) :										
NO3-N (mg/kg)	21	23	30	49	49	37	38	38	62	22
NH4-N (mg/kg)	3	3	1	3	3	3	4	4	14	4
P Colwell (mg/kg)	45	47	49	30	30	30	43	43	58	36
K Colwell (mg/kg)	490	302	270	158	158	559	300	300	255	486
Sulphur (mg/kg)	12.60	14.10	107.00	8.00	8.00	22.3	17.6	17.6	42.00	10.90
Organic carbon(%)	2.14	1.96	1.26	2.30	2.30	2.22	3.08	3.08	3.55	2.08
pH (water)	5.70	5.70	6.20	6.10	6.10	6.4	5.3	5.3	5.50	5.60
Date sown	19 June	20 June	29 May	Wheat 10 June, Barley 11 June	Mid 10 June, LS & Oats 11 June	19 May	Wheat 12 June, Barley 11 June	25 June	26 May	S4 24 June, S3 26 June
Sown by	DPI	DPI	DPI	DPI	DPI	DPI	DPI	DPI	DPI	DPI
Seed dressing	Vincit C	Vincit C (barley)	Mesuroi	Vincit C	nil	Mesuroi	Vincit C	Nil	Mesuroi	Vincit C
Seeding rate (kg/ha)	100	110 for trits, 100 for barley	6	100	110 for trits, 80 for oats	6	100	80	6	80
Paddock preparation	raised beds	raised beds	raised beds	raised beds	raised beds	raised beds	raised beds	raised beds	raised beds	flat
Straw bulk	moderate	light	Nil	Nil	Nil	light	light	Light	Nil	light



<b>Weeds present</b>	ryegrass, canola	ryegrass	ryegrass (1 leaf)	onion grass	onion grass	Nil	capeweed	wild radish, clover	Nil	Nil
<b>Weed density</b>	light	light	v. light	light	light	na	light	moderate	na	na
<b>Soil tilth</b>	ideal	ideal	fine	ideal	ideal	ideal	cloddy	cloddy	ideal (+ rocks)	ideal
<b>Top soil moisture</b>	moist	moist	dry	moist	moist	moist	wet	wet	moist	dry
<b>Seed bed moisture</b>	dry	moist	dry	moist	moist	moist	moist	wet	moist	dry
<b>Fertiliser applied at sowing</b>	DAP	DAP	13:16:0:7	13:16:0:7	13:16:0:7	13:16:0:7	13:16:0:7	DAP	DAP	S4-13:16:0:7, S3- DAP
<b>Fertiliser rate (kg/ha)</b>	100	100	100	100	100	110	100	100	100	80
<b>Sowing depth (cm)</b>	0.5-3	2-3	0.5-1	2-3	2-3	0.5-1	1-7	1-6	0.5-1.5	2-3
<b>No. of rows</b>	8	8	8	8	8	8	8	8	8	8
<b>Row spacing (cm)</b>	15	15	15	15	15	15	15	15	15	15
<b>Date windrowed</b>	NA	NA	3 Dec 2003	NA	NA	10 Dec	NA	NA	12 Dec	NA
<b>Date harvested</b>	22 Jan 04	Barley 31 Dec 03 , Trits 2 Jan 04	15 Dec 03	Wheat 12 Jan 04, Barley 11 Jan 04	Oats 9 Jan 04, Trits 15 Jan 04	TT 30 Dec 03, Mid 29 Dec 03	Wheat 19 Jan 04, Barley 15 Jan 04	14 Jan 04	TT 2 Jan 04, Mid 3 Jan 04	S4 16 Dec 03, S3 19 Dec 03
<b>Harvested by</b>	BCG	BCG	DPI	DPI	DPI	DPI	DPI	DPI	DPI	DPI
<b>Brand 1</b>	Talstar	Round Up	Meta slug baits	Dual Gold	Dual Gold	Round Up	Round Up	Round Up	Round Up	Achieve
<b>Date 1</b>	20 June	19 June	29 May	18 June	18 June	17 June	22 May	22 May	22 May	12 August
<b>Brand 2</b>	Dual Gold	Tigrex	Gesaprim	Talstar	Talstar	Meta slug baits	Tigrex	Talstar	Meta slug baits	Tigrex
<b>Date 2</b>	20 June	9 August	29 May	18 June	18 June	20 May	2 August	25 June	27 May	4 Sept
<b>Brand 3</b>	Achieve	Achieve	Gesatop	Tigrex	Tigrex	Dual Gold		Dual Gold	Dual Gold	Spear
<b>Date 3</b>	9 August	9 August	29 May	8 August	8 August	22 May		25 June	27 May	10 Sept
<b>Brand 4</b>	Tigrex		Talstar			Talstar		Tigrex	Talstar	
<b>Date 4</b>	9 August		29 May			22 May		2 August	27 May	

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## 6.1 LONG SEASON WHEAT & BARLEY - VICTORIA

**Table 59: Variety Trials Long Season Wheat and Barley Varieties at Gnarwarre, Streatham & Hamilton**

LS WHEATS	Gnarwarre	Streatham	Hamilton
	% Kellalac	% Kellalac	% Kellalac
<b>Kellalac (t/ha)</b>	5.02	6.40	5.83
CURRAWONG	81	102	118
DECLIC	98	100	117
EGA WEDGETAIL	90	109	112
KELLALAC	105	100	100
MAROMBI	100	105	112
MACKELLAR	116	105	119
RUDD	103	97	111
TENNANT	92	91	121
Site mean:	5.25	6.51	6.69
CV	5.4	5.8	5.8
Average SED:	0.26	0.322	0.324
Average LSD:	10	10	11

LS BARLEYS	Gnarwarre	Streatham	Hamilton
	% Gairdner	% Gairdner	% Gairdner
<b>Gairdner (t/ha)</b>	7.94	8.67	5.70
BAUDIN	90	87	111
DASH	103	106	90
FITZGERALD	95	97	115
FRANKLIN	93	84	101
GAIRDNER	100	100	100
GLEAM			84
KLN/TLN-139	89	74	114
SHERWOOD	98	96	122
T0-134	100	100	88
T98-189	95	90	119
VB0311	95	92	113
VB0313	100	97	101
VB0350	94	99	92
VB0351	96	85	105
VB0352	91	83	91
VB9926	94	109	102
WABAR2175	85	83	106
WB250	93	90	100
WB253	87	107	102
WB254	96	102	105
WB259	93	90	120
WB260	87	92	100
WI3385	106	100	123
WI3586-1747	96	99	118
WI3600	98	101	115
WRHV1234	103	97	114
WRHV13016	108	93	108
WRHV5499	103	96	101
WRHV5515	100	95	102
YAMBLA	96	96	105
Site mean:	7.72	8.22	6.02
CV	4.1	3.1	14.2
Average SED:	0.278	0.227	0.717
Average LSD:	7	5	25

**Table 60: Long Season Barley - Balliang**

Variety	% Gairdner	Variety	% Gairdner
<b>Gairdner t/ha</b>	<b>1.62</b>		
BARQUE	86	VB0214	100
BAUDIN	88	VB0216	90
DHOW	75	VB0217	101
FRANKLIN	87	VB0227	80
GAIRDNER	100	VB0229	92
KEEL	77	VB0234	86
SCHOONER	84	VB9935	90
SLOOP	77	WADH14101	78
SLOOPSA	76	WI3385	73
SLOOPVIC	74	WI3408	76
VB0021	99	WI3416	87
VB0105	89	WI3586-1739	101
VB0112	77	WI3586-1747	110
VB0128	79	WI3659	104
VB0135	93	WRHV5515	81
VB0203	94		
VB0204	107	Site mean:	1.43
VB0205	96	CV	9.8
VB0208	80	Average SED:	0.12
VB0209	92	Average LSD:	15



## 6.2 LONG SEASON OATS - VICTORIA

Table 61: Variety Trials Long Season Oats Varieties at Streatham and Hamilton

	Streatham	Hamilton		Streatham	Hamilton
	% Echidna	% Echidna		% Echidna	% Echidna
	7.62	7.67		7.62	7.67
ECHIDNA	100	100	SV97037-1	55	
EURO	79	81	SV97181-12	89	
MORTLOCK	61	77	SV97181-14	91	
POSSUM	87	90	SV97181-20	87	
POTOROO	94	95	SV97181-4	84	
QUOLL	106	99	SV97181-48	81	
SV93081-21	98	99	SV97181-49	93	
SV94046-57	80	86	SV97181-5	90	
SV95060-56	70	84	SV97181-8	92	
SV95111-48	74	77	SV97205-12	88	
SV96200-20	93		SV97205-18	76	
SV96204-11	103	94	SV97211-1	69	76
SV96204-5	103	90	SV97212-8	77	84
SV96204-9	100	95	SV97214-10	90	
SV97001-13-4	72		Site mean:	6.43	6.74
SV97002-11-8	78		Coefficient of Variation	4.5	4.8
SV97002-2	72	78	Average SED:	0.235	0.269
SV97002-72-6	71		Average LSD:	6	7

## 6.3 LONG SEASON TRITICALE - VICTORIA

Table 62: Variety Trials Long and Mid Season Triticale Varieties at Gnarwarre and Streatham

LS TRITICALE	Gnarwarre	Streatham	MID TRITICALE	Gnarwarre	Streatham
	% Abacus	% Abacus		% Tahara	% Tahara
Abacus t/ha	5.94	4.37	Tahara t/ha	6.17	5.05
ABACUS	100	100	29ITSN-35	99	89
AT314-244	92	98	ABACUS	99	79
AT314-267	88	88	CREDIT	91	72
AT519	81	115	KOSCIUSKO	102	104
AT528	87	99	PRIME322	96	96
AT552	85	95	T6061	89	104
AT562	73	88	TAHARA	100	100
AT568	76	77	TICKIT	96	104
AT572	79	81	TREAT	94	76
AT574	95	130	TX94-98B	98	88
AT575	79	99	Site mean:	5.95	4.61
AT576	79	89	CV	4.3	5.6
AT577	95	118	Average SED:	0.231	0.204
JACKIE	91	114	Average LSD:	8	8
MAIDEN	80	90			
Site mean:	5.08	4.31			
CV	4.7	7.5			
Average SED:	0.194	0.272			
Average LSD:	7	13			



## 6.4 LONG SEASON CANOLA - VICTORIA

Table 63: Variety Trials Long Season TT Canola Varieties at Gnarwarre, Streatham and Hamilton

TT CANOLA	Gnarwarre	Streatham	Hamilton	Varietal
Grace T/Ha	2.14	3.38	3.83	Blackleg
	% Grace	% Grace	% Grace	Rating (@LB)
AGT111	104	83	98	6.5
ATR_BEACON	110	100	106	6.5
ATR_GRACE	100	100	100	6.5
ATR_HYDEN	104	96	114	6.0
BLN2673TT	87	85	99	5.5
BLN2676TT	99	78	96	7.0
PINNACLE	97	89	112	7.0
RGAS02T14	97		97	7.0
SURPASS501TT	101	100	77	7.5
Tornado 555TT (T2015)	102	95	100	6.0
TQ008	113	103	97	8.0
TR004	107	94	106	8.5
TR005	117	100	117	8.0
TR006	128	102	111	7.5
TR007	109	84	104	na
TR008	115	108	110	na
Site mean:	2.26	3.19	3.93	
Coefficient of Variation	7.0	10.4	5.5	
Average SED:	0.136	0.272	0.181	
Average LSD:	13	16	10	

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**Table 64: Variety Trials Long Season Non-TT Canola Varieties at Streatham and Hamilton**

	Streatham	Hamilton	Varietal
			<b>Blackleg</b>
<b>AV_SAPPHIRE T/Ha</b>	<b>3.45</b>	<b>3.71</b>	<b>Rating (@LB)</b>
	<b>% Sapphire</b>	<b>% Sapphire</b>	
45C05	93	95	7.0
45C75	83	96	6.0
46C04	101	125	7.0
46C74	78	94	5.5
AG_CASTLE	95	105	7.0
SPECTRUM (AGC111)	85	115	7.0
AGC114	104	115	7.5
AGC214	91	126	7.5
AV_SAPPHIRE	100	100	7.0
AV_SAPPHIRE_ treated	93	108	7.5
AV_SAPPHIRE+ Jock+mesurol	97	109	7.5
BLN2372	92	101	6.0
BLN2677	99	124	6.5
CHARLTON	73	83	5.5
Hyola 61 (H1480)	95	102	7.5
HYOLA60	94	127	9.0
LANTERN	90	115	7.5
MC201	89	104	6.0
MC202	91	96	6.5
46C76 (NSO4397)	103	112	6.0

	Streatham	Hamilton	Varietal
			<b>Blackleg</b>
<b>AV_SAPPHIRE T/Ha</b>	<b>3.45</b>	<b>3.71</b>	<b>Rating (@LB)</b>
	<b>% Sapphire</b>	<b>% Sapphire</b>	
RAINBOW	92	105	5.5
RAINBOW treated	97	110	7.5
RAINBOW+ Jock+mesurol	86	118	7.5
RIVETTE	91	112	5.5
RQ009	95	112	7.5
RQ011	111	113	8.0
RR009	92	111	7.5
RR010	103	116	8.0
RR011	89	112	8.0
RR012	101	94	8.0
RR013	101	114	8.0
RR014	115	119	7.5
RR015	107	119	7.5
RR016	85	102	8.5
RW8823	88	112	7.0P
SURPASS603CL	92	110	9.0
Site mean:	3.25	4.05	
Coefficient of Variation	7.5	8.6	
Average SED:	0.198	0.325	
Average LSD:	11	17	