

WHEAT VARIETY TRIALS

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Key Points:

- These trials are carried out each year to assess the range of wheat varieties at several sites across the South-East.
- Data from NVT (National Variety Trials) contains long-term site results. This data should be utilised to reduce the effect of seasonal variability in the decision-making process.

Sites:

Conmurra (NVT)

Keith (NVT)

Millicent

Sherwood MFMG NVT

Wolsley (NVT)

Farmer Co-operator:

L Seears

K Makin

C Gilbertson

T Menz

P McLellan

NVT:

Replicated (3 reps) Plot Trials

8m x 1.6m plots, 15cm row spacing's

Millicent:

Replicated (2 reps) Plot Trial

4m x 1.35m plots, 15cm row spacing's

Summary from NVT and general comments

No additional new hard milling varieties have been released specifically for South Australian production (at time of publication). The soft wheat variety, Longreach Orion and the durum wheat variety WID802 are recently released new additions to the sowing options for South Australia.

Disease guides should be consulted when making varietal choices. Growers need to minimise or avoid sowing susceptible varieties which do not meet minimum disease standards, unless a vigilant and successful disease control strategy is in place.

Where possible the growing of a single variety only should be avoided. Climatic, disease and price risks should be spread by growing at least two or more varieties with varying maturity, disease resistance and/or quality classification.

All NVT data sourced NVT & SARDI/GRDC (long term data based on weighted analysis of sites, 2008-2013) and NVT data analysis by GRDC funded National Statistics Group. Trial comments and information on varieties sourced from SARDI 2014 Sowing Guide.

Table 1: South East NVT Wheat Long Term Yield Average (2008-2013)

Variety	Predicted mean yield (t/ha)	as % sites average yield	# Trials
AGT Katana	4.3	106	15
AGT Scythe	4.2	103	3
Annuello	3.9	96	3
Axe	4.1	103	15
Barham	3.9	98	15
Beaufort	4.1	101	6
Bolac	3.9	97	5
Bowie	3.9	96	11
Catalina	4.0	100	15
Chara	3.8	95	6
Clearfield Jnz	4.0	98	12
Clearfield Stl	3.9	97	6
Cobra	4.4	110	4
Corack	4.5	111	9
Correll	4.1	102	15
Dart	4.2	104	4
Derrimut	4.1	103	15
EGA Eaglehawk	3.4	83	3
EGA Gregory	3.9	96	6
EGA Wentworth	3.7	92	3
EGA Wills	3.8	94	3
Elmore CL Plus	4.1	103	7
Emu Rock	4.3	107	9
Espada	4.3	107	15
Estoc	4.2	103	15
Excalibur	4.2	104	3
Forrest	3.7	91	6
Frame	3.7	93	11
Gascoigne	4.0	100	10
Gazelle	4.0	99	12
GBA Ruby	4.2	104	3
Gladus	4.1	103	15
Grenade CL Plus	4.0	99	7
Gruner	2.9	71	3
Guardian	4.3	106	11
Harper	4.2	106	2
Impala	4.3	106	12
Impose CL Plus	3.5	87	9
Janz	3.9	97	6
Justica CL Plus	4.0	101	9
Kord CL Plus	4.0	99	5
Krichauff	4.0	100	3
Kunjin	4.5	111	6
Lincoln	4.1	101	15
Mace	4.4	110	12
Magenta	4.2	104	15
McCubbin	3.1	77	3
Orion	3.9	97	15
Peake	4.1	102	15
Phantom	4.3	107	9
Preston	3.9	97	6
Pugsley	4.1	102	8
Sabel CL Plus	4.1	101	5
Scout	4.5	112	12
Sentinel	4.0	100	11
Shield	3.9	97	3
SQP Revenue	3.3	81	4
Trojan	4.4	108	7
Waagan	4.4	108	3
Wallup	4.3	107	9
Wyalkatchem	4.3	107	15
Yenda	3.7	93	5
Yitpi	4.1	101	11
Young	4.2	105	12
Mean site yield (t/ha) 2008-2013	4.0		

Table 2: South East 2013 NVT Wheat Yields

	Conmurra		Keith		Sherwood		Wolsley	
Variety	2013 Yield (t/ha)	2013 % site mean	2013 Yield (t/ha)	2013 % site mean	2013 Yield (t/ha)	2013 % site mean	2013 Yield (t/ha)	2013 % site mean
AGT Katana	6.3	100	4.7	95	4.4	99	5.0	104
Axe	6.0	95	4.4	90	4.1	93	4.5	93
Barham	5.3	84	4.9	99	4.3	97	4.2	87
Catalina	5.9	93	4.6	93	4.4	100	4.3	90
Cobra	7.9	125	5.4	109	4.9	111	5.3	112
Corack	6.8	108	5.3	106	4.7	107	5.3	111
Correll	5.2	82	4.8	96	4.4	100	4.4	93
Dart	6.1	97	4.7	95	4.4	101	4.9	101
Emu Rock	7.3	115	4.4	88	4.4	100	5.1	106
Espada	5.5	87	4.9	99	3.9	88	4.7	99
Estoc	6.8	108	5.1	103	4.3	97	4.5	95
Gazelle	6.3	100	5.4	108	4.1	93	4.5	93
Gladius	6.7	106	5.0	100	4.2	95	4.8	101
Grenade CL Plus	6.6	104	4.5	91	4.3	99	4.6	95
Harper	5.7	90	4.9	99	4.4	99	4.4	92
Impala	6.4	101	5.0	102	4.1	92	4.3	90
Justica CL Plus	7.0	110	4.7	96	4.3	98	4.7	98
Kord CL Plus	5.7	89	4.7	95	4.0	92	5.0	104
Mace	6.5	103	5.0	101	4.8	109	5.2	109
Orion	5.6	88	5.0	102	4.3	97	4.0	83
Peake	7.0	111	4.9	98	4.6	103	5.1	108
Phantom	5.5	88	5.1	103	4.2	95	4.8	101
Scout	6.6	104	5.4	109	4.5	102	5.3	110
Shield	6.1	96	4.5	91	4.3	97	4.7	99
Trojan	7.1	112	5.6	114	4.9	110	5.4	113
Wallup	6.2	98	5.3	107	4.8	109	4.8	100
Wyalkatchem	6.8	107	5.1	102	4.8	109	5.4	112
Yitpi	5.6	88	5.1	103	4.3	98	4.2	88

Site Mean Yield (t/ha)	6.33	4.95	4.40	4.78
LSD (t/ha)	0.85	0.40	0.36	0.31
CV (%)	8.2	4.7	4.8	3.7

Date Sown	11 th June 2013	30 th May 2013	29 th May 2013	29 th May 2013
Soil Type	Black Clay	Clay Loam	Clayed Sand	Clay
Rain April-Oct	520.2mm	366.4mm	389.2mm	400.0mm
pH _w (0-10cm)	7.60	8.20	6.00	7.90

NB/ The Sherwood site is fully funded by the MacKillop Farm Management Group and is then forwarded through to the National Variety Trials Program for inclusion on their database.

Table 3: South East 2013 NVT Wheat Quality; Conmurra and Wolseley

Variety	Conmurra			Wolseley		
	Protein (%)	Test wt (kg/hl)	Screenings (%<2.0mm)	Protein (%)	Test wt (kg/hl)	Screenings (%<2.0mm)
AGT Katana	13	81.6	1.4	11.9	86.6	1.4
Axe	13.7	78.6	0.8	12.6	83.2	1.6
Barham	11.7	77	2.3	11.2	79.2	3.5
Catalina	13	81.3	1.1	11.9	86.1	1.7
Cobra	13.4	80.9	1	12.1	82.3	2.3
Corack	13.3	80.6	0.6	11	84.5	2.1
Correll	12.8	78.1	2.3	11.6	82	3
Dart	13.4	81.6	0.9	11.8	85.5	2.4
Emu Rock	13.4	80.1	1.8	12.4	83.8	4.1
Espada	13.1	78.5	1.6	12.2	82.3	1.6
Estoc	12.5	82.7	1.3	11.5	85.8	1.7
Gazelle	11.3	76.2	1.4	10.5	81.2	2.7
Gladius	12.6	78.6	2	12.5	83.1	2.1
Grenade CL Plus	12.1	80	1.2	11.4	84.1	1.5
Harper	12.5	80.5	4.1	10.9	84	3.6
Impala	12.2	79.9	1.7	10.9	85.2	1.5
Justica CL Plus	13.2	79.2	1.1	11.4	82.6	0.9
Kord CL Plus	12.9	78.9	1.9	11.6	83.3	3.1
Mace	12.6	80	0.8	11.3	84.3	1.7
Orion	11.2	73.6	3.5	10.7	77.5	2.8
Peake	12.1	81.2	1.6	11.2	85.1	2.7
Phantom	12.6	79.9	3.1	10.9	84	3
Scout	12.3	82.7	2.4	10.9	86.5	2.2
Shield	12.4	78.7	2.1	11.3	84.1	3.4
Trojan	11.7	81.4	1.1	11.2	85.5	1.6
Wallup	13.8	79.9	0.5	11.8	84.7	0.8
Wyalkatchem	13.2	81.1	0.6	11.7	84.2	1.2
Yitpi	12.3	80.7	3.5	11.2	83.2	3.8

Table 4: South East 2013 NVT Wheat Quality; Keith and Sherwood

Variety	Sherwood			Keith		
	Protein (%)	Test wt (kg/hl)	Screenings (%<2.0mm)	Protein (%)	Test wt (kg/hl)	Screenings (%<2.0mm)
AGT Katana	12	84.9	1.2	9.9	85.6	1.3
Axe	12.5	81.4	0.7	10.2	83	0.3
Barham	11.2	79.9	1.1	8.7	80.9	1.2
Catalina	11.5	85.3	0.6	9.9	84.8	0.8
Cobra	11.6	81.3	1.3	9.5	83.7	1
Corack	10.9	82.9	0.3	9.7	83.4	1.2
Correll	11.2	81.6	1.2	9	82.3	1.8
Dart	12.2	83.1	1.3	10	83.5	1.3
Emu Rock	11.6	82.4	0.9	9.6	83.1	1.8
Espada	11.7	81.3	0.4	9.9	82.4	0.7
Estoc	11.6	85.3	1.6	9.3	85.4	1.1
Gazelle	10.5	80.3	1.4	8.5	80.7	0.6
Gladius	12.2	81	1	9.6	82.8	0.6
Grenade CL Plus	11.9	82.7	1	9.8	83.2	0.7
Harper	10.8	83.5	2.1	8.6	83.7	2.8
Impala	11.3	83.6	0.7	9.2	84.2	0.4
Justica CL Plus	11.5	82.1	0.4	9.5	82.8	0.5
Kord CL Plus	11.5	82.5	0.9	9.6	82.5	1.6
Mace	10.9	82.8	0.7	8.8	83.6	1.2
Orion	10.1	78.1	0.5	8.2	78.8	0.9
Peake	11.3	84.2	1.6	9.4	84.4	1.2
Phantom	11.3	82.8	1.6	8.7	84.9	1.4
Scout	11.6	85.1	0.6	8.9	85.1	1.1
Shield	11.6	81.6	2.1	9.8	82.7	1.8
Trojan	11.1	83.9	0.8	8.8	85	0.8
Wallup	12.4	82.9	1	9.4	84.2	0.4
Wyalkatchem	11.5	83	0.6	9.3	84.2	1.1
Yitpi	11	83.6	2.7	8.2	83.2	2.1

NOTES ON SELECTED VARIETIES

(Note: quality classification based on max. eligibility for SA grades)

CORACK

Corack (VW2316) is an early maturing, APW quality wheat derived from Wyalkatchem. It has CCN resistance and good yellow leaf spot resistance but is moderately susceptible to leaf and stripe rust and very susceptible to powdery mildew. Long term NVT results in SA show a high yield potential, particularly in low to medium rainfall situations, with good grain quality. Seed available through AGT (conditional Seed Sharing allowed).

EMU ROCK

Emu Rock (IGW3167) is a high yielding, AH quality variety for mid to late sowings in a broad range of environments across WA. This early maturing, large grained wheat, derived from Kukri, is susceptible to CCN but has moderate to good resistance to stem and stripe rust and is MSS to leaf rust and MS to yellow spot. Across two seasons NVT in SA, Emu Rock has shown yields aligning with Wyalkatchem. Seed available through Intergrain.

GLADIUS

Gladius (RAC1262) has an AH classification and is broadly adapted, very high yielding, and is well adapted to low rainfall environments. It has boron tolerance, and has good resistance to stem rust, MRMS to stripe rust and MS to leaf rust, CCN and yellow leaf spot. Gladius has midseason maturity and good grain size like Yitpi albeit with slightly lower test weight, and is susceptible to pre harvest sprouting. Trials indicate Gladius to have a lower tolerance to Ally® and Hussar®. Seed available through AGT (conditional Seed Sharing allowed).

LONGREACH COBRA

Cobra (LPB07-0956) was recently released in Western Australia as an early maturing Westonia derivative with AH quality and high yield potential, although further evaluation in SA is required. Cobra has good resistance to stem and leaf rust but rated MSS to stripe rust, MRMS to CCN and MS to yellow leaf spot. Cobra has good grain size and moderate test weight and is moderately susceptible to pre-harvest sprouting. Seed available through Pacific Seeds.

LONGREACH SCOUT

Scout (LPB05-1164) is an AH quality variety with mid-season maturity, derived from Yitpi. It has good resistance to stem and leaf rust and the WA stripe rust pathotypes but carries VPM and is rated MS to the WA+Yr17 pathotype in eastern Australia. Scout is R to CCN and MRMS to powdery mildew but rated SVS to yellow leaf spot. Scout has good physical grain quality and similar sprouting tolerance to Yitpi but slightly more susceptible to black point. Seed available through Pacific Seeds (conditional Seed Sharing allowed).

MACE

Mace (RAC1372) is derived from Wyalkatchem, but has an AH classification, taller plant height, is MR to stem rust, MR to leaf rust and is rated MRMS to CCN, YLS and *Pratylenchus thornei*. Although Mace has good resistance to the older WA stripe rust race, it is rated as SVS to the WA+ Yr17 stripe rust strain and if grown, must be carefully monitored and best avoided in districts prone to stripe rust unless a fungicide regime is in place. Mace has been widely tested since 2009 in NVT in SA and shows wide adaptation coupled

with high yield potential and wheat on wheat application. Seed available through AGT (conditional Seed Sharing allowed).

PEAKE

Peake (NGSP006) released in 2007, is a medium-short strawed, mid maturing (5-6 days earlier than Yitpi) variety that is now generally outclassed for yield by newer varieties. Peake is MRMS to stem and stripe rust and R to leaf rust. Peake is CCN resistant, boron tolerant and is S to yellow leaf spot. Peake has AH quality and can produce small grain under dry spring conditions. Peake is available through Seedcell.

WALLUP

Wallup (VV4978-1) was recently in 2011 for the Victorian Wimmera and other medium to higher rainfall regions. Wallup has AH quality combined with early to mid-season maturity, CCN resistance, acceptable stem, stripe and leaf rust resistance, moderate (MSS) levels of yellow leaf spot resistance and good black point resistance. It has useful resistance to root lesion nematodes, excellent straw strength and limited evaluation in NVT

shows a moderate yield potential. Seed available through AGT (conditional Seed Sharing allowed).

SOFT WHEATS

LONGREACH IMPALA

Impala is an early to midseason soft biscuit (ASFT) wheat targeted to eastern Australia. Impala has mid-season maturity, is susceptible to CCN, has good stem and stripe rust resistance, but is susceptible to leaf rust. Impala produces large grain with improved test weight over Bowie and low screenings losses and is MRMS to black point. Seed is available through Pacific Seeds.

LONGREACH ORION

Orion is a mid to long season maturing soft biscuit (ASFT) wheat targeted to eastern Australia. Orion, is susceptible to CCN and YLS but has good stem and leaf rust resistance and is MSS to the WA-Yr17 stripe rust pathotype. Orion is MS to black point and susceptible to sprouting. Seed available through Pacific Seeds.

Did you see these symptoms in your crop last year?



It was probably caused by Barley Yellow Dwarf Virus (BYDV) – a virus transmitted by aphids.

For more information around disease management (including outcomes of a GRDC funded project run by the MFMG) go to:

<https://www.grdc.com.au/Resources/Factsheets/2013/09/Barley-Yellow-Dwarf-Virus>

Table 6: Conmurra Wheat Variety Trial – Early Time of Sowing (28/05/2013) NVT

Variety	2013 Yield (t/ha)	2013 % site mean	Test Weight (kg/hl)	Protein %	Screenings (<2.0mm) %
Manning	9.44	135	78.5	11.4	1.9
Beaufort	8.4	120	76.6	12.7	2.7
Bolac	7.5	107	79.7	13.0	1.0
Brennan	6.2	88	80.3	12.6	1.9
Chara	7.5	107	79.2	13.3	0.9
EGA Gregory	6.1	86	80.4	12.8	1.8
EGA Wedgetail	6.6	94	77.0	13.5	0.9
Elmore CL Plus	7.4	106	81.8	12.7	1.2
Forrest	6.2	88	80.1	12.8	2.5
Gascoigne	7.0	100	81.3	14.3	1.2
Gazelle	7.1	101	76.5	11.6	1.1
Kellalac	6.5	92	77.2	14.2	1.7
Lancer	7.1	101	80.0	13.2	1.2
Mansfield	7.4	105	79.4	14.0	1.5
Naparoo	6.1	87	79.7	13.1	3.2
Orion	6.0	85	74.5	11.8	1.6
Phantom	6.0	85	79.9	12.8	1.1
Preston	7.6	109	79.1	12.7	1.3
QAL2000	6.5	93	77.7	11.6	1.6
Sentinel	6.5	92	77.9	13.6	0.5
SQP Revenue	7.6	107	76.1	11.2	2.4
Trojan	7.4	105	80.6	12.1	0.7

Site Mean Yield (t/ha)	7.0
LSD (t/ha)	0.63
CV (%)	5.2

Date Sown	28 th May 2013
Soil Type	Black Clay
Rain April-Oct	520.2mm
pH _w (0-10cm)	7.60

NOTES ON NEWLY RELEASED LONG SEASON WHEAT

MANNING

Manning (CS9274) has been bred by CSIRO/GRDC plant breeding program. Manning is a white grained feed wheat, has a winter habit, and is long season (similar maturity to Revenue). It is BYDV resistant. It is dual purpose, able to cope with grazing until GS30. Manning is hardy, showing tolerance to temporary drying conditions. Manning is protected by Plant Breeders Rights.

Table 7: Millicent Wheat Variety and Quality

Variety	2013 Yield (t/ha)	2013 % site	Test Weight (kg/hl)	Protein %	Screenings (2.0mm) %	1000 grain weight
Barham	6.8	95	77.8	12.2	0.8	40.9
Beaufort	8.6	120	75.1	12.0	1.6	43.2
Bolac	7.8	109	78.6	12.2	1.3	36.9
Brennan	8.1	113	78.4	12.3	0.7	45.5
Catalina	5.5	77	78.0	13.1	0.5	44.9
Chara	4.1	57	77.2	13.7	1.1	40.4
Clearfield Jnz	6.6	91	77.7	12.7	0.4	45.8
Correll	6.6	92	77.5	12.6	0.6	46.4
Dart	6.0	84	79.2	13.4	0.5	43.2
Derrimut	6.6	93	79.2	12.1	0.7	37.7
EGA Gregory	5.9	82	78.4	12.5	0.6	45.7
EGA Wedgetail	7.1	100	75.6	13.0	0.2	43.3
Elmore CL Plus	6.3	88	80.3	12.4	0.7	39.0
Emu Rock	5.5	76	77.8	13.9	1.2	42.0
Espada	6.4	90	75.5	13.9	0.4	43.2
Estoc	7.2	100	79.6	13.4	0.9	41.9
Forrest	8.7	121	81.6	12.0	0.7	45.0
Gascoigne	7.1	100	79.4	13.5	0.7	48.5
Gazelle	7.9	110	75.5	11.2	0.1	40.1
Gladius	6.6	92	75.9	13.7	0.2	49.4
Grenade CL Plus	6.4	89	78.9	12.4	0.3	45.2
HRZ Wakelin	6.8	94	80.3	12.7	0.8	41.0
HRZ03.0056	6.8	95	80.0	13.2	0.5	47.3
HRZ04.0120	7.4	103	79.1	12.6	0.5	47.4
Impala	6.1	85	77.8	12.1	0.7	35.9
Impose CL Plus	5.6	78	79.8	13.4	0.0	48.5
Justica CL Plus	7.2	101	78.3	13.6	0.6	41.7
Kellalac	8.1	112	78.8	13.7	0.6	37.5
Lincoln	7.3	102	80.3	12.8	0.6	49.9
Mace	6.2	87	79.5	12.6	0.4	43.4
MacKellar	9.5	133	78.3	11.2	1.7	40.6
Magenta	6.4	89	79.2	13.0	0.9	44.7
Manning	10.9	152	76.5	11.1	1.0	41.9
Mansfield	8.4	117	78.0	12.8	2.0	34.5
Naparoo	6.2	87	79.0	11.3	0.7	44.9
Orion	7.2	100	74.8	10.6	0.4	48.6
Peake	6.3	88	77.4	12.4	0.5	77.5
Phantom	6.3	88	80.4	12.1	0.6	51.0
Preston	9.8	137	77.0	11.9	0.6	45.4
Pugsley	7.4	104	79.7	11.7	0.6	45.9
QAL2000	7.4	103	77.1	10.9	0.5	48.3
Rudd	7.7	108	75.7	12.1	0.3	43.6
Scout	7.3	102	80.5	12.3	0.5	45.0
SQP-Revenue	9.3	130	77.1	10.9	0.7	43.8
Trojan	7.9	110	79.4	12.2	0.5	48.0
VX2485	8.0	112	79.7	12.0	0.7	41.4
Wallup	6.5	90	78.2	14.0	0.4	43.6
Wyalkatchem	6.8	95	79.8	13.1	0.6	46.6
Yitpi	6.7	93	79.6	12.3	0.9	44.6
Site Mean Yield (t/ha)	7.2		Date Sown		27 th May 2013	
LSD (t/ha)	0.76		Soil Type		Peat	
			Rain April-Oct		90.0mm	
			pH _w (0-10cm)		8.00	

Table 8: Durum Wheat 2013 NVT 2013 % site average

	York Peninsula	Mid North	Average 2013 trials		
Variety	2013 Yield % site mean	2013 Yield % site mean	Test Weight (kg/hl)	Protein %	Screenings (<2.0mm) %
Caparoi	100	100	13.1	82.9	1.6
Hyperno	96	91	13.1	78.5	8.2
Saintly	104	106	12	81.7	2.6
Tamaroi	98	95	12.9	80.5	2.9
Tjilkuri	100	100	12.6	78.8	4
WID802	100	99	12.5	78.5	4.1
Yawa	97	98	12.6	78.7	7.8
Site Mean t/ha	4.4	3.15	12.7	79.9	4.5
Number of trials	2	3			

NOTES ON SELECTED DURUM WHEATS

Tjilkuri^A

Tjilkuri (WID801) has a similar maturity, adaptation and disease resistance profile to Tamaroi, but generally offers greater yields, like Hyperno together with improved semolina colour. Tjilkuri is eligible for APDR grade in SA and was released from the University of Adelaide in 2010 with seed available from the Durum Growers Association.

Yawa^A

Yawa (WID803) was released from the University of Adelaide with seed available from the Durum Growers Association. Yawa has a similar maturity, adaptation and disease resistance profile to Tamaroi,

but offers very high yields, albeit with generally small grain size and high screening potential under stress conditions. Yawa has excellent semolina colour and is eligible for APDR grade in SA.

WID802^A

WID802 has just been released from the University of Adelaide with seed available from the Durum Growers Association. WID802 is targeted for the SE of SA (Tatiara districts) and has a similar maturity, adaptation and disease resistance profile to Tamaroi, but offers high yields, albeit with sometimes small grain size. WID802 is eligible for APDR grade in SA.

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- GRDC National Variety Trials initiative.
- MFMG Variety Trials

