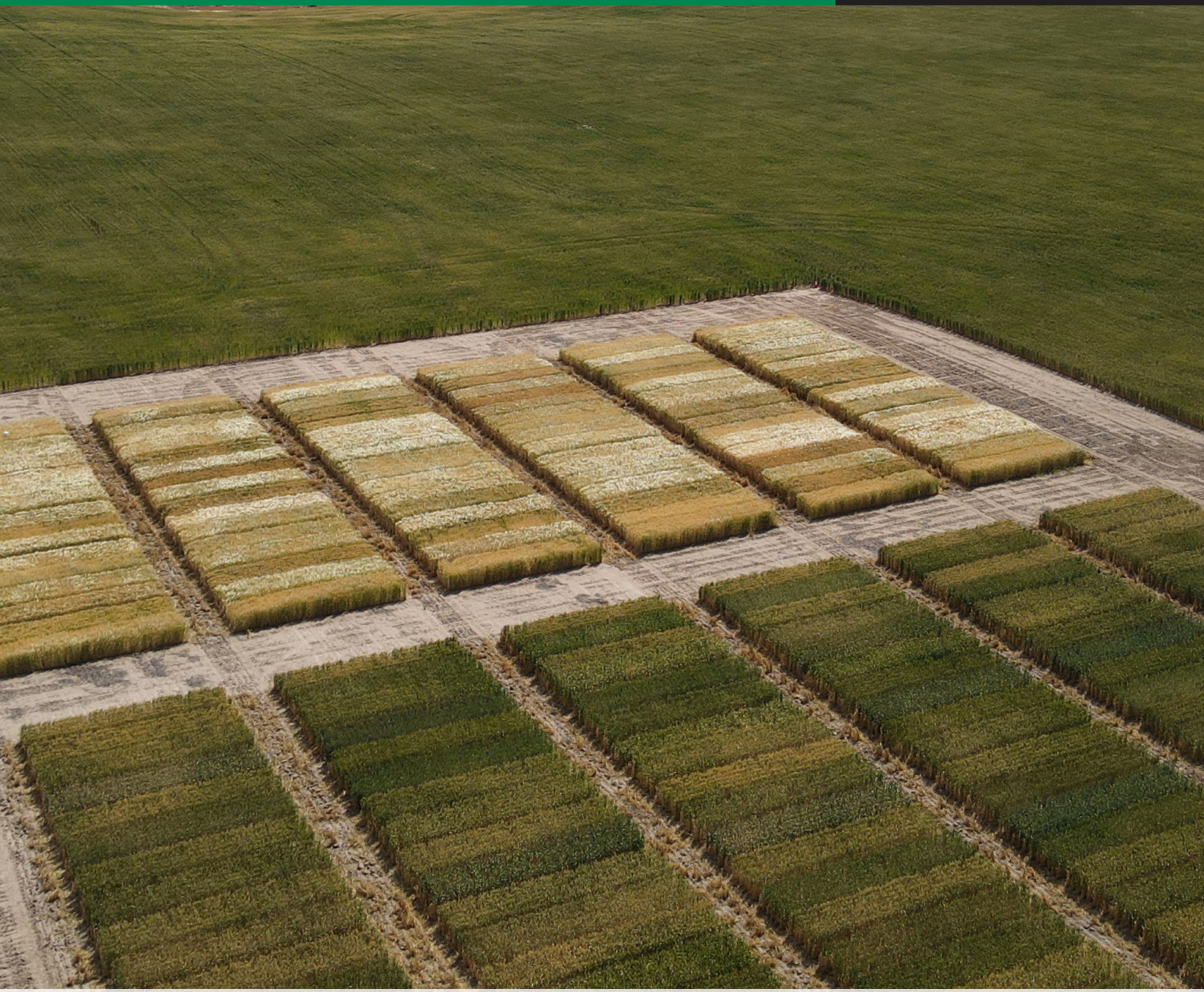
NVT HARVEST REPORT

GRDC NATIONAL VARIETY TRIALS™

REVISED MAY 2023



Mallee South Australia and Victoria
Southern Region

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COVER: NVT barley and wheat, Lake Grace, WA in 2022.
PHOTO: Isabelle Rogers

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LEGEND: MEAN VARIETY YIELD PERFORMANCE

LOW **HIGH**

Long-term mean yield illustrated by colour gradient from low (red) to high (green)

DISEASE RATING COLOUR RANGE

VS	SVS	S	MSS	MS	MRMS	MR	RMR	R

Disease severity scale from very susceptible (VS) to resistant (R)

The disease ratings in the report are current at the time of publication.
Regularly visit nvt.grdc.com.au/nvt-disease-ratings to find the latest NVT disease ratings.

Refer to the latest *Crop Sowing Guide* for further information at
grdc.com.au/nvt-crop-sowing-guides

INTRODUCTION

This ***NVT Harvest Report*** provides information to support growers and advisers with decisions on variety selection for **Mallee South Australia and Victoria**. The information has been generated from the Grains Research and Development Corporation's (GRDC) National Variety Trials (NVT) database. This publication provides a summary of the 2022 and long-term yield performance of varieties of crop species suitable for production in **Mallee South Australia and Victoria** together with their quality and disease responses.

The NVT program provides growers and advisers with comparative results on yield performance, quality and disease resistance ratings of commercially available grain varieties that is independent, consistent, timely and robust.

Conducted to a set of predetermined protocols, trials are sown and managed to reflect local best practice such as sowing time, fertiliser application, weed management, pest/disease control and fungicide application. The NVT is not designed to grow varieties to their maximum yield potential.

GRDC acknowledges that an ongoing project of this type would not be possible without the cooperation of growers prepared to contribute sites and who often assist with the management of trials on their property.

Interpreting long-term yield results

A factor analytic (FA) mixed model approach is used in the multi-environment trial (MET) analysis conducted by GRDC, supported by the Statistics for the Australian Grains Industry (SAGI) program.

This approach generates long-term MET values for varieties at an individual trial level.

This format provides more detailed results to better understand a variety's performance over several years at the individual trial/environment level, rather than just a single averaged value.

In this **Mallee South Australia and Victoria** Harvest Report, results are presented in year groupings for yield for the past five years and quality for the past two years. Further detailed interrogation of the NVT Online results using the Long Term Yield Reporter will provide more specific performance results on all varieties of each crop species in each NVT location throughout **Mallee South Australia and Victoria**.

The results presented in this Harvest Report are based on the default filters in the Long Term Yield Reporter. In some cases, trial results are excluded because they do not meet the default standards for statistical validity. These are listed in the tables as 'Trial results below standard'. Trials below standard can be viewed by reducing the default VAF settings within the Long Term Yield Reporter.

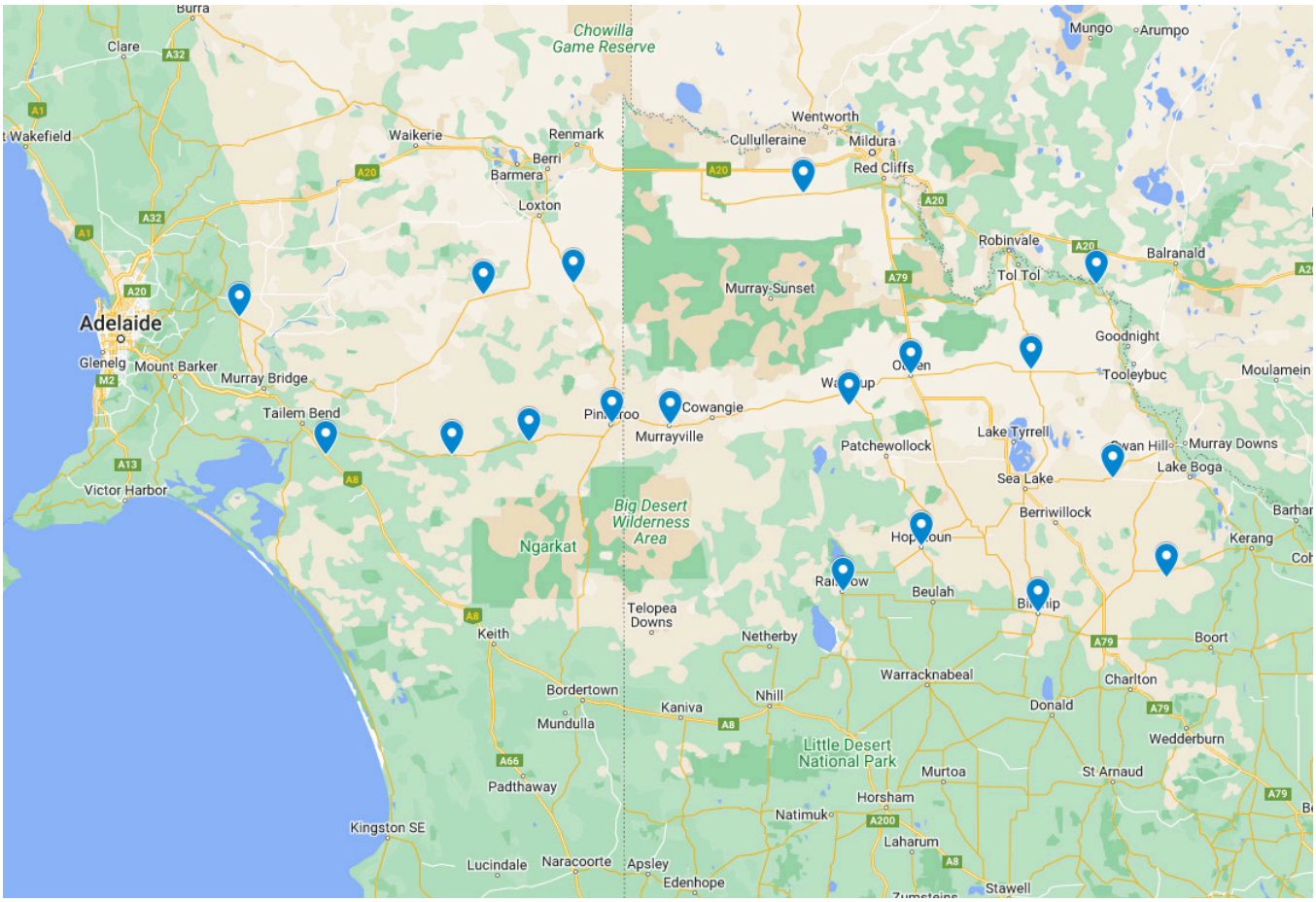
Trials listed as compromised are not suitable for making variety decisions. Results can be found in the Quarantined trial reports.

Refer to the latest ***Crop Sowing Guide*** for further information at **grdc.com.au/nvt-crop-sowing-guides**

NVT SITE LOCATIONS – Mallee South Australia and Victoria

Figure 1: Locality of NVT trial sites in Mallee South Australia and Victoria from 2018 to 2022.

SOURCE: NVT Online



See all NVT trial locations and view trial results at nvt.grdc.com.au/trial-results.

WHEAT

New wheat varieties

The following information is for wheat varieties released in the 12 months to the date when the MET analysis was published on NVT online.

Variety	Variety owner	Grain classification	End point royalty* ($)	Comments supplied by variety owner
Brumby(Φ)	InterGrain	Milling	3.50	Mid-maturing, with a slightly later time of flowering than Scepter(Φ), although earlier than RockStar(Φ). Well-suited to May sowing.
Kingston(Φ)	BASF Australia	Milling	3.55	Exhibits outstanding lodging resistance with a plant type that produces low residue to manage the following year.
LRPB Anvil(Φ)	LongReach Plant Breeders Pty Ltd	Milling	4.25	Clearfield® Plus wheat with two-gene tolerance to label rates of Intervix® herbicide with quick maturity and bold early growth. Fast grain fill with large grain, suited to low to medium-rainfall areas. Bred by Grains Innovation Australia, developed by LongReach Plant Breeders and marketed by Pacific Seeds.
Mowhawk(Φ)	LongReach Plant Breeders Pty Ltd	Milling	4.00	A quick winter variety with similar growth habit and maturity to Longsword(Φ). Mowhawk(Φ) has broad general adaption and is ideally suited to higher-production areas and early break scenarios. Mowhawk(Φ) is quicker to heading and higher-yielding than the current benchmark winter variety, Illabo(Φ).
Reilly(Φ)	BASF Australia	Milling	3.55	Shows yield stability in tough conditions. Provides new genetics for Australian growers.
Stockade(Φ)	LongReach Plant Breeders Pty Ltd	Milling	None provided.	Very slow spring maturity similar to RGT Accroc(Φ). Suitable for high-rainfall zones of south-west Victoria, south-east South Australia and Tasmania as main target area but will have relevance to north-east Victoria and south-east slopes. Growth habit with high production canopy with steady biomass accumulation over season based on its slower maturity. Potential variety replacement for RGT Accroc(Φ) and LRPB Beaufort(Φ) feed wheats.

* EPR amount is ex-GST, (Φ) denotes Plant Breeder's Rights apply.

Refer to the latest *Crop Sowing Guide* for further information at grdc.com.au/nvt-crop-sowing-guides

Wheat variety yield performance – Mallee South Australia and Victoria

Yield results are presented from the top-performing varieties within each NVT location in the region for the past five seasons. Results are presented (as a percentage) for each variety relative to the mean trial yield for the location within each year. Varieties are listed in descending order of average yield over the period.

The Long Term Yield Reporter provides additional information on varieties not listed and can be viewed as a table or chart with error bars. Rainfall is provided for January to March (J–M) and April to October (A–O) and, where relevant, irrigation from April to October.

Table 1: Birchip main season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	2.00	4.76	5.30	2.48	4.29
Ballista(b)		116	110	118	107
Vixen(b)	110	120	112	116	101
Calibre(b)			110	120	100
RockStar(b)		115	112	110	101
Brumby(b)				109	96
Beckom(b)	101	107	107	105	110
Boree(b)			108	108	96
Scepter(b)	112	112	107	109	95
Sunmaster(b)				105	112
Reilly(b)		103	100	112	111
IMI-TOLERANT					
Sunblade CL Plus(b)		107	106	109	111
Razor CL Plus(b)	106	107	101	108	96
Valiant(b) CL Plus				97	104
Sowing date	**16 May**	**15 May**	**14 May**	**10 May**	**9 May**
Rainfall J–M (mm)	**7**	**14**	**101**	**25**	**60**
Rainfall A–O (mm)	**138**	**197**	**205**	**172**	**384**

Special thanks to 2022 trial cooperator; permission to publish was not received.
Learn more via the NVT Long Term Yield Reporter

Table 2: Geranium main season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	2.75	3.44	3.57	1.64	2.44
Calibre(b)			115	113	111
Ballista(b)		113	117	108	113
RockStar(b)	109	120	109	108	112
Brumby(b)				107	108
Vixen(b)	108	104	126	104	104
Scepter(b)	107	113	112	105	103
Boree(b)			110	105	104
Catapult(b)	106	114	104	106	102
Sunmaster(b)				100	114
Reilly(b)					108
IMI-TOLERANT					
Sunblade CL Plus(b)		108	106	103	113
Razor CL Plus(b)	103	97	112	102	95
LRPB Anvil(b)				101	92
Sowing date	**7 May**	**22 May**	**11 May**	**2 Jun**	**17 May**
Rainfall J–M (mm)	**16**	**12**	**56**	**57**	**29**
Rainfall A–O (mm)	**179**	**226**	**224**	**186**	**344**

Special thanks to 2022 trial cooperator, David Slade.
Learn more via the NVT Long Term Yield Reporter

Table 3: Hopetoun main season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)		4.59	4.56	2.89	5.72
Ballista(b)	Compromised trial	117	110	113	110
Vixen(b)		126	110	112	103
Calibre(b)			110	117	104
RockStar(b)		112	111	112	108
Brumby(b)				111	105
Sunmaster(b)				104	119
Beckom(b)			106	104	113
Scepter(b)		114	108	109	101
Boree(b)			108	108	101
Kingston(b)		110	106	99	101
IMI-TOLERANT					
Sunblade CL Plus(b)		106	106	106	113
Razor CL Plus(b)		111	101	104	93
Valiant(b) CL Plus				100	107
Sowing date	**29 May**	**16 May**	**13 May**	**13 May**	**16 May**
Rainfall J–M (mm)	**8**	**16**	**87**	**31**	**43**
Rainfall A–O (mm)	**120**	**152**	**225**	**168**	**360**

Special thanks to 2022 trial cooperator, Devon Mills.
Learn more via the NVT Long Term Yield Reporter

Table 4: Manangatang main season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)			2.59	2.39	5.18
Calibre(b)	Compromised trial	Compromised trial	113	126	102
Ballista(b)			110	118	107
Vixen(b)			113	111	104
RockStar(b)			108	112	105
Sunmaster(b)				102	114
Brumby(b)				111	103
Scepter(b)			109	110	102
Reilly(b)			102	114	103
Beckom(b)			101	101	109
LRPB Scout(b)			100	111	104
IMI-TOLERANT					
Sunblade CL Plus(b)			102	107	109
LRPB Anvil(b)			105	110	99
Valiant(b) CL Plus				97	104
Sowing date	**11 May**	**8 May**	**12 May**	**25 May**	**17 May**
Rainfall J–M (mm)	**9**	**18**	**48**	**48**	**41**
Rainfall A–O (mm)	**122**	**133**	**227**	**150**	**462**

Special thanks to 2022 trial cooperator, Brad Plant.
Learn more via the NVT long Term Yield Reporter

Table 5: Merrinee main season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.76		2.33	1.49	3.22
Calibre(Ф)		Trial failed	107	120	114
RockStar(Ф)			107	112	114
Brumby(Ф)				111	111
Ballista(Ф)			106	112	111
Catapult(Ф)	105		105	109	108
Vixen(Ф)	110		106	109	106
Boree(Ф)			105	108	107
Scepter(Ф)	107		105	109	106
Beckom(Ф)	105		103	100	106
LRPB Trojan(Ф)	101		102	100	106
IMI-TOLERANT					
Sunblade CL Plus(Ф)			103	104	108
Sheriff CL Plus(Ф)	102		103	101	102
Valiant(Ф) CL Plus				98	104
Sowing date	**8 Jun**	**6 May**	**12 May**	**25 May**	**10 May**
Rainfall J–M (mm)	**11**	**4**	**49**	**55**	**86**
Rainfall A–O (mm)	**96**	**49**	**235**	**128**	**317**

Special thanks to 2022 trial cooperator, Matt Curtis.
Learn more via the NVT Long Term Yield Reporter

Table 6: Nangari main season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.26	0.52	3.09	1.29	4.11
Ballista(Ф)		123	109	106	109
Calibre(Ф)			111	108	105
Vixen(Ф)	129	129	110	107	106
RockStar(Ф)	110	105	111	106	109
Brumby(Ф)				106	105
Boree(Ф)			108	105	103
Scepter(Ф)	120	109	108	106	102
Sunmaster(Ф)				99	110
Reilly(Ф)					104
Catapult(Ф)	113	102	107	105	100
IMI-TOLERANT					
Sunblade CL Plus(Ф)		105	104	101	110
Razor CL Plus(Ф)	127	122	102	104	97
Valiant(Ф) CL Plus				98	104
Sowing date	**7 Jun**	**10 May**	**5 May**	**28 May**	**7 May**
Rainfall J–M (mm)	**10**	**5**	**55**	**41**	**34**
Rainfall A–O (mm)	**91**	**31**	**212**	**139**	**386**

Special thanks to 2022 trial cooperator, Clinton Scholz.
Learn more via the NVT Long Term Yield Reporter

Table 7: Palmer main season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.66	0.94	2.26	2.11	2.84
Calibre(Ф)			115	117	115
Ballista(Ф)		109	112	112	114
Vixen(Ф)	131	107	101	113	113
RockStar(Ф)	112	108	111	105	112
Reilly(Ф)					114
LRPB Scout(Ф)	99	100	101	111	115
Brumby(Ф)				103	103
Scepter(Ф)	118	109	110	104	101
Boree(Ф)			106	104	105
Catapult(Ф)	108	106	104	104	105
IMI-TOLERANT					
Sunblade CL Plus(Ф)		104	109	103	109
Razor CL Plus(Ф)	117	103	97	109	103
LRPB Anvil(Ф)				104	88
Sowing date	**11 May**	**14 May**	**4 May**	**8 Jun**	**9 May**
Rainfall J–M (mm)	**25**	**6**	**32**	**51**	**55**
Rainfall A–O (mm)	**184**	**121**	**222**	**285**	**316**

Special thanks to 2022 trial cooperator, Rodney Wachtel.
Learn more via the NVT Long Term Yield Reporter

Table 8: Pinnaroo main season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)		2.18	4.19	0.87	3.81
Ballista(Ф)	Compromised trial	109	112	125	113
Calibre(Ф)			113	125	107
RockStar(Ф)		113	113	114	105
Vixen(Ф)		99	110	127	112
Sunmaster(Ф)				111	110
Brumby(Ф)				114	101
Boree(Ф)			109	112	102
Scepter(Ф)		107	109	116	101
Reilly(Ф)					112
LRPB Scout(Ф)		101	101	108	113
IMI-TOLERANT					
Sunblade CL Plus(Ф)		106	107	112	111
Valiant(Ф) CL Plus				95	100
Razor CL Plus(Ф)		96	101	113	102
Sowing date	**15 May**	**13 May**	**5 May**	**2 Jun**	**10 May**
Rainfall J–M (mm)	**6**	**8**	**85**	**32**	**61**
Rainfall A–O (mm)	**130**	**157**	**236**	**184**	**363**

Special thanks to 2022 trial cooperator, Skeet Lawson.
Learn more via the NVT Long Term Yield Reporter

Table 9: Quambatook main season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.63	2.59	3.08	3.82	4.67
Vixen(Ф)	131	122	117	121	97
Ballista(Ф)		116	113	114	109
Calibre(Ф)			116	113	104
Reilly(Ф)		111	107	106	110
RockStar(Ф)		109	110	108	106
LRPB Scout(Ф)	100	109	105	103	113
Beckom(Ф)	102	107	103	105	111
Boree(Ф)			108	109	98
Brumby(Ф)				107	101
Scepter(Ф)	126	106	108	109	97
IMI-TOLERANT					
Sunblade CL Plus(Ф)		107	104	105	113
Razor CL Plus(Ф)	119	110	108	110	92
LRPB Anvil(Ф)			101	107	92
Sowing date	**29 May**	**15 May**	**13 May**	**6 May**	**17 May**
Rainfall J–M (mm)	**20**	**34**	**77**	**57**	**82**
Rainfall A–O (mm)	**134**	**176**	**222**	**171**	**404**

Special thanks to 2022 trial cooperator, Ash Marshall.
Learn more via the NVT Long Term Yield Reporter

Table 10: Ultima main season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.64		2.27	1.44	5.48
Ballista(Ф)		Compromised trial	112	116	110
Sunmaster(Ф)				108	115
Calibre(Ф)			113	124	102
LRPB Scout(Ф)	100		100	112	112
Beckom(Ф)	96		104	102	113
Reilly(Ф)			103	113	109
Vixen(Ф)	116		116	103	105
RockStar(Ф)			108	113	106
Brumby(Ф)				111	101
Ascot(Ф)	92		99	98	110
IMI-TOLERANT					
Sunblade CL Plus(Ф)			104	110	113
Valiant(Ф) CL Plus				102	105
Razor CL Plus(Ф)	113		108	101	96
Sowing date	**29 May**	**8 May**	**11 May**	**11 May**	**11 May**
Rainfall J–M (mm)	**22**	**18**	**47**	**29**	**63**
Rainfall A–O (mm)	**120**	**161**	**233**	**199**	**453**

Special thanks to 2022 trial cooperator, Damien O'Brien.
Learn more via the NVT Long Term Yield Reporter

Table 11: Walpeup main season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)		2.43	4.13	2.34	4.26
Ballista(Ф)	Compromised trial	115	108	113	110
Vixen(Ф)		120	108	112	106
Calibre(Ф)			108	116	105
RockStar(Ф)		110	109	113	106
Brumby(Ф)				112	103
Scepter(Ф)		113	107	110	102
Sunmaster(Ф)				104	114
Beckom(Ф)		104	104	104	110
Boree(Ф)			106	110	101
Reilly(Ф)		105	100	103	107
IMI-TOLERANT					
Sunblade CL Plus(Ф)		105	104	106	111
Razor CL Plus(Ф)		110	101	104	98
LRPB Anvil(Ф)			98	101	100
Sowing date	**7 May**	**7 May**	**11 May**	**25 May**	**14 May**
Rainfall J–M (mm)	**7**	**9**	**85**	**54**	**86**
Rainfall A–O (mm)	**134**	**118**	**247**	**189**	**444**

Special thanks to 2022 trial cooperator, Mick Pole.
Learn more via the NVT Long Term Yield Reporter

Table 12: Wanbi main season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)		0.43	2.88		
Cutlass(Ф)	Compromised trial	130	108	Trial failed	Compromised trial
RockStar(Ф)		106	111		
Calibre(Ф)			111		
Ballista(Ф)		97	107		
LRPB Trojan(Ф)		115	104		
Catapult(Ф)		101	106		
EG Titanium			99		
Boree(Ф)			106		
Scepter(Ф)		79	107		
Cosmick(Ф)		104	103		
IMI-TOLERANT					
Sunblade CL Plus(Ф)		111	106		
Sheriff CL Plus(Ф)		84	101		
Kord CL Plus(Ф)		95	97		
Sowing date	**6 Jun**	**22 May**	**5 May**	**25 May**	**16 May**
Rainfall J–M (mm)	**10**	**7**	**110**	**19**	**47**
Rainfall A–O (mm)	**99**	**111**	**237**	**139**	**332**

Special thanks to 2022 trial cooperator, Darren Eatts.
Learn more via the NVT Long Term Yield Reporter

Table 13: Wunkar main season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	**0.98**	**0.44**	**2.27**		**3.30**
Calibre(Ꝺ)			113	Trial failed	104
RockStar(Ꝺ)	111	109	110		109
Brumby(Ꝺ)					104
Ballista(Ꝺ)		126	108		103
Cutlass(Ꝺ)	96	84	105		114
Sunmaster(Ꝺ)					109
Catapult(Ꝺ)	110	105	106		103
Scepter(Ꝺ)	113	121	106		98
Boree(Ꝺ)			105		100
LRPB Scout(Ꝺ)	98	106	103		105
IMI-TOLERANT					
Sunblade CL Plus(Ꝺ)		107	105		108
Valiant(Ꝺ) CL Plus					108
Sheriff CL Plus(Ꝺ)	104	94	99		97
Sowing date	**7 Jun**	**12 Jun**	**6 May**	**28 May**	**26 May**
Rainfall J–M (mm)	**8**	**2**	**70**	**22**	**51**
Rainfall A–O (mm)	**97**	**81**	**187**	**137**	**409**

Special thanks to 2022 trial cooperator, David Gibbs.
Learn more via the NVT Long Term Yield Reporter

Table 14: Birchip early season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)		**3.45**	**5.31**	**3.77**	**4.54**
RockStar(Ꝺ)	No trial	127	111	112	99
Stockade(Ꝺ)					114
LRPB Beaufort(Ꝺ)		116	104	106	117
DS Pascal(Ꝺ)		129	101	101	102
Illabo(Ꝺ)		114	100	92	102
LRPB Nighthawk(Ꝺ)		111	97	94	105
Cutlass(Ꝺ)			104	105	101
Catapult(Ꝺ)		97	106	106	91
Denison(Ꝺ)			105	109	100
LRPB Bale(Ꝺ)				100	100
IMI-TOLERANT					
Sheriff CL Plus(Ꝺ)		109	101	104	89
Sowing date		**16 Apr**	**16 Apr**	**19 Apr**	**18 Apr**
Rainfall J–M (mm)		**14**	**101**	**25**	**60**
Rainfall A–O (mm)		**197**	**205**	**172**	**384**
Irrigation A–O (mm)		**16**		**15**	

Special thanks to 2022 trial cooperator, Birchip Cropping Group.
Learn more via the NVT Long Term Yield Reporter

Table 15: Pinnaroo early season wheat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)			**3.69**		**2.97**
Stockade(Ꝺ)	No trial	Compromised trial		Trial failed	113
RockStar(Ꝺ)			127		112
DS Bennett(Ꝺ)			113		120
Cutlass(Ꝺ)			108		104
DS Pascal(Ꝺ)			108		104
Denison(Ꝺ)			105		105
Illabo(Ꝺ)			108		99
Catapult(Ꝺ)			106		100
LRPB Nighthawk(Ꝺ)			101		100
LRPB Bale(Ꝺ)					99
IMI-TOLERANT					
Valiant(Ꝺ) CL Plus					103
Sheriff CL Plus(Ꝺ)			95		97
Sowing date		**11 Apr**	**15 Apr**	**19 Apr**	**19 Apr**
Rainfall J–M (mm)		**8**	**85**	**32**	**61**
Rainfall A–O (mm)		**157**	**236**	**184**	**363**
Irrigation A–O (mm)			**15**		**10**

Special thanks to 2022 trial cooperator, Skeet Lawson.
Learn more via the NVT Long Term Yield Reporter

Wheat variety quality – Mallee South Australia and Victoria

Grain quality for individual varieties varies from site to site and from year to year. However, long-term and across-site trends highlight varieties that can consistently achieve high protein percentage, high test weight or low grain screenings under a wider range of environments.

The following figures show the grain quality trends as histograms from 2021 and 2022 NVT averaged for trials in the Mallee South Australia and Victoria region. Only the varieties evaluated at every site are included. These are plotted in order of performance, up to a maximum of 20.

Protein and yield comparisons

Figure 1: Protein (%) and yield (t/ha) comparisons for main season wheat varieties from 12 NVT sites in Mallee SA - Victoria in 2021.

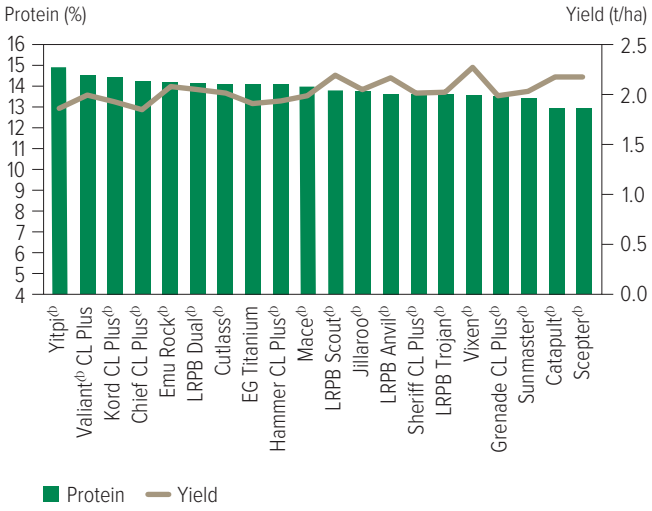


Figure 2: Protein (%) and yield (t/ha) comparisons for main season wheat varieties from 13 NVT sites in Mallee SA - Victoria in 2022.

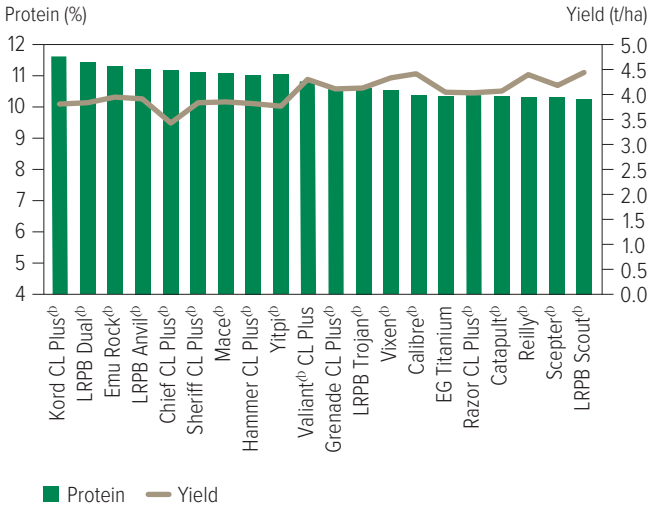


Figure 3: Protein (%) and yield (t/ha) comparisons for early season wheat varieties from one NVT site in Mallee SA - Victoria in 2021.

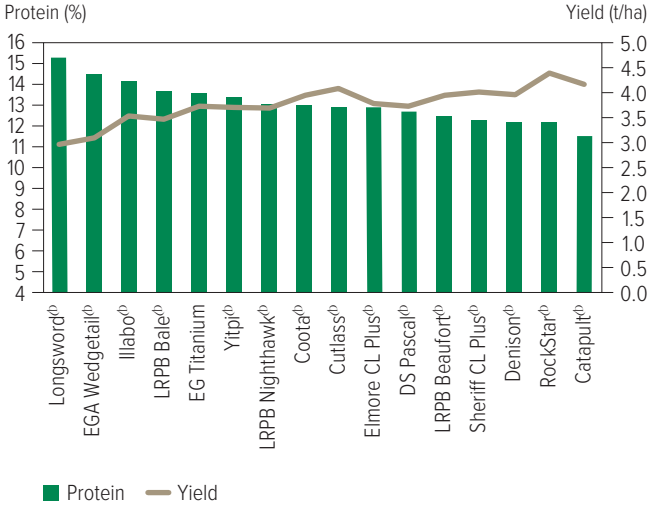
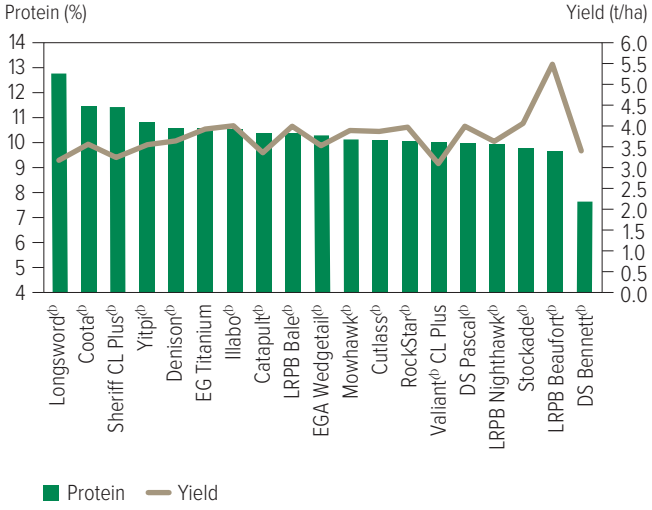


Figure 4: Protein (%) and yield (t/ha) comparisons for early season wheat varieties from two NVT sites in Mallee SA - Victoria in 2022.



Test weight comparisons

Figure 5: Test weight (kg/hL) comparisons for main season wheat varieties from 12 NVT sites in Mallee SA - Victoria in 2021.

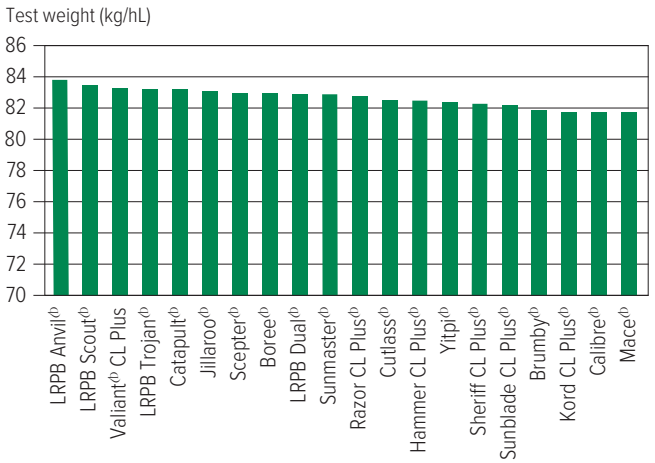


Figure 6: Test weight (kg/hL) comparisons for main season wheat varieties from 13 NVT sites in Mallee SA - Victoria in 2022.

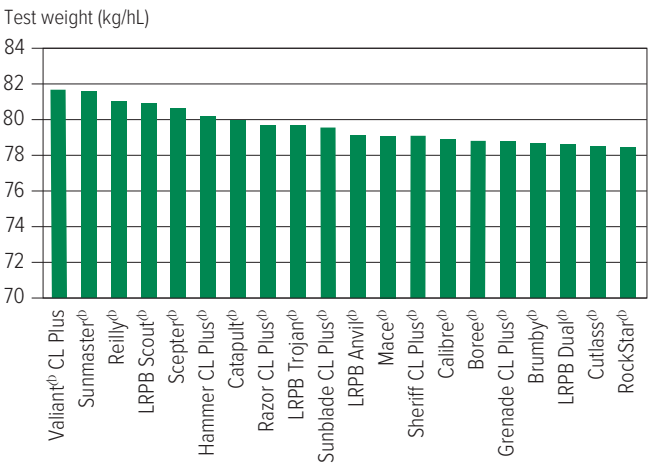


Figure 7: Test weight (kg/hL) comparisons for early season wheat varieties from one NVT site in Mallee SA - Victoria in 2021.

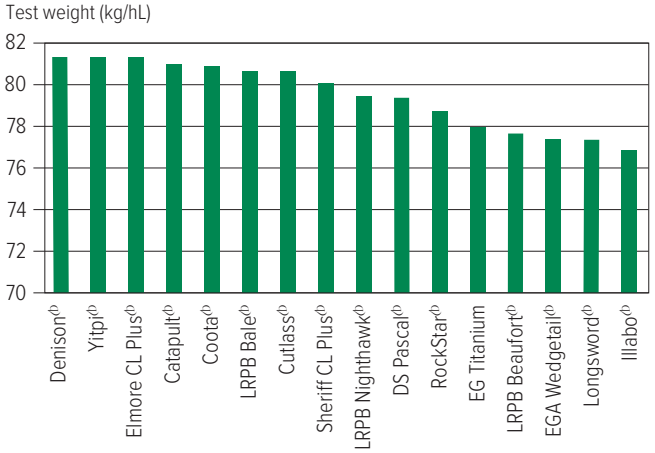
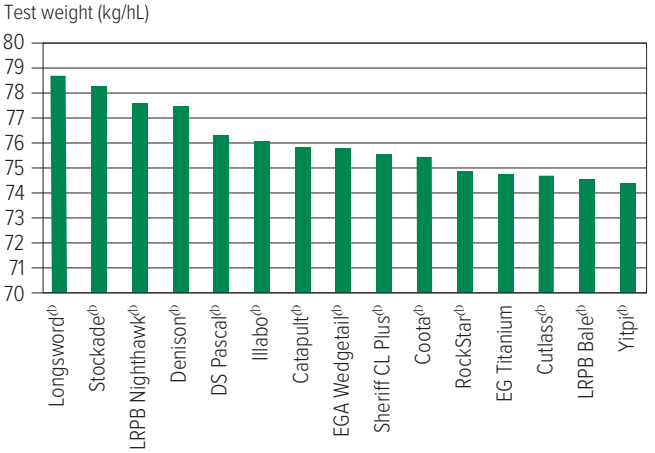


Figure 8: Test weight (kg/hL) comparisons for early season wheat varieties from two NVT sites in Mallee SA - Victoria in 2022.



Screenings comparisons

Figure 9: Screenings (<2.0mm) comparisons for main season wheat varieties from 12 NVT sites in Mallee SA - Victoria in 2021.

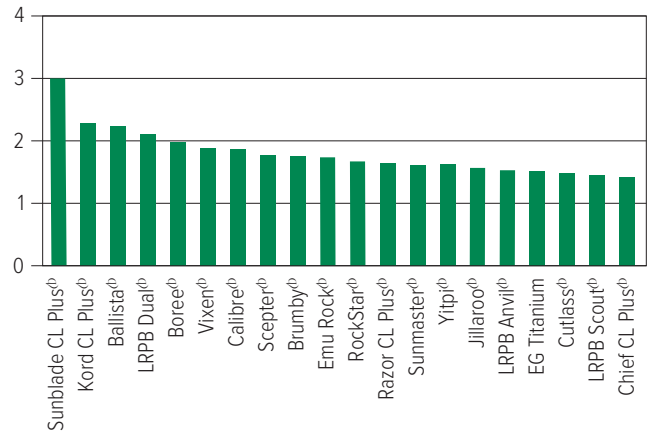


Figure 10: Screenings (<2.0mm) comparisons for main season wheat varieties from 13 NVT sites in Mallee SA - Victoria in 2022.

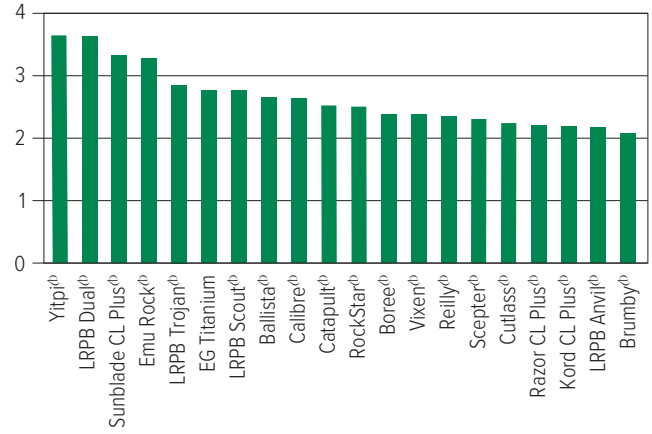


Figure 11: Screenings (<2.0mm) comparisons for early season wheat varieties from one NVT site in Mallee SA - Victoria in 2021.

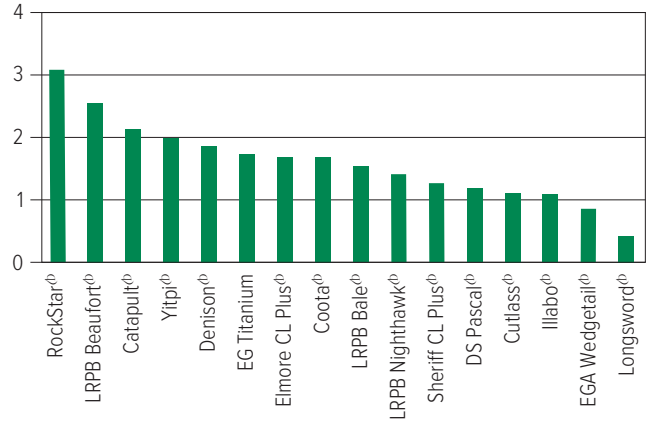
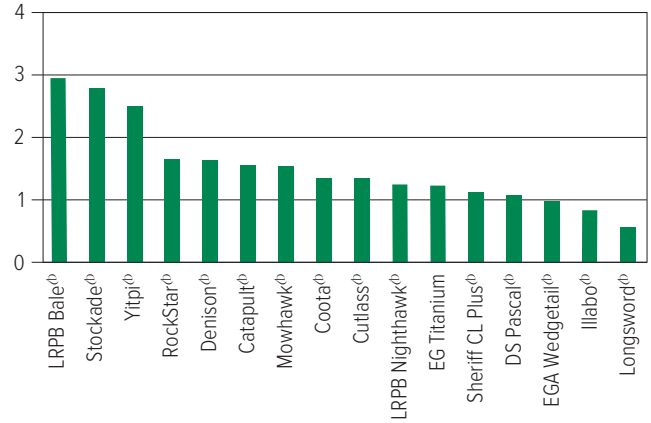


Figure 12: Screenings (<2.0mm) comparisons for early season wheat varieties from two NVT sites in Mallee SA - Victoria in 2022.



Wheat variety disease ratings – South Australia and Victoria

The following tables contain varietal ratings for the predominant diseases of wheat in South Australia and Victoria. These ratings are updated annually by crop pathologists and were released in March 2023.

Selected varieties of most relevance to South Australian and Victorian growers are listed in alphabetical order and disease ratings are colour-coded to match resistance and tolerance ratings.

Table 16: Wheat disease guide for South Australia.

Variety	Stem rust	Stripe rust (east coast resistance)	Leaf rust	Septoria tritici blotch	Yellow leaf spot	Powdery mildew	Black point	CCN	RLN resistance (*Pratylenchus neglectus*)	RLN resistance (*Pratylenchus thornei*)	Crown rot
Anapurna	MSS	RMR	MS	MRMS	MRMS	RMR	MSS	MRMS	MS	S (P)	SVS
Ascot(Φ)	MRMS	MSS	RMR	S	MRMS	S	S	MR	S	S	S
Ballista(Φ)	MR	MSS	S	SVS	MS	SVS	MS	MRMS	S	MRMS	S
Beckom(Φ)	MRMS	MRMS	MSS	S	MSS	MSS	MRMS	R	S	MSS	S
BigRed(Φ)	S	RMR	MRMS	MR	MR	RMR	MR (P)	S	MS	MS	S (P)
Boree(Φ)	MR	SVS	S	SVS	MRMS	SVS	S	MSS	S	MSS	S
Brumby(Φ)	MR	MS	SVS	S	MRMS	R/S	MS (P)	MRMS	MRMS	MS	S
Calibre(Φ)	MR	S	S	S	MRMS	S	MS (P)	MRMS	S	MSS	S
Catapult(Φ)	MR	S	S	MSS	MRMS	S	S	R	S	MS	MSS
Chief CL Plus(Φ)	MR	SVS	MR	S	MRMS	SVS	MS	MS	MRMS	MSS	MSS
Coolah(Φ)	MR	MSS	RMR	MSS	MSS	S	S	S	S	MS	MSS
Coota(Φ)	RMR	S	MR	S	MSS	S	MS	MR	MR	MS	MSS
Cutlass(Φ)	R	MSS	RMR	MSS	MSS	MSS	MS	MR	MSS	MSS	S
Denison(Φ)	MS	S	S	MSS	MRMS	S	MS	MS	S	S	MSS
Devil(Φ)	S	SVS	SVS	SVS	MRMS	S	MSS	MSS	MSS	S	MSS
DS Bennett(Φ)	MS	S	SVS	MSS	MRMS	R	MSS	S	S	S	VS
DS Pascal(Φ)	MSS	MRMS	MS	MSS	MS	RMR	MS	S	S	S	S
EG Jet(Φ)	S	MRMS	S	MSS	MRMS	SVS	MS	MRMS	S	S	S
EG Titanium	MS	MR	MS	MSS	MSS	S	MSS	R	MSS	MSS	MSS
EGA Wedgetail(Φ)	MRMS	MS	MSS	MSS	MSS	MSS	MS	S	S	VS	S
Emu Rock(Φ)	MS	SVS	SVS	S	MS	MSS	MSS	S	MSS	S	MSS
Grenade CL Plus(Φ)	MR	MRMS	SVS	S	S	MSS	MSS	R	MSS	S	S
Hammer CL Plus(Φ)	MR	MS	S	MSS	MRMS	S	MRMS	MRMS	MSS	S	MSS
Illabo(Φ)	MRMS	MRMS	S	MSS	MS	R	MRMS	MRMS	MSS	MSS	S
Kingston(Φ)	S	MSS	S	S	MSS	S	S	R	S	MRMS	S
Longsword(Φ)	MR	R/S	MR#	MS	MRMS	S	MS	MRMS	MRMS	MRMS	MSS
LRPB Anvil(Φ)	MR	S	SVS	VS	MSS	VS	S (P)	MRMS	MSS	S	MSS
LRPB Bale(Φ)	MRMS	MRMS	MSS	MSS	SVS	MSS	MSS (P)	R	S	S	S
LRPB Beaufort(Φ)	SVS	RMR	MSS	S	MRMS	RMR	MRMS	MS	MS	MSS	S
LRPB Cobra(Φ)	MR	S	MR#	MSS	MRMS	MSS	MSS	MS	MSS	MSS	S
LRPB Dual(Φ)	MRMS	MS	MSS	MSS	S	S	S (P)	R	MSS	MSS	S
LRPB Impala(Φ)	MR	MRMS	SVS	SVS	MSS	R	MS	MSS	SVS	S	MSS
LRPB Kittyhawk(Φ)	MRMS (S)	MR	MR	MRMS	MRMS	MS	MRMS	S	S	S	SVS
LRPB Nighthawk(Φ)	RMR	MRMS	MSS	MS	MS	SVS	MS	MS	MSS	MS	MSS
LRPB Oryx(Φ)	MR	MS	RMR#	SVS	MSS	RMR	MS	S	MSS	MSS	MSS
LRPB Parakeet(Φ)	MR	MR	R	SVS	MSS	SVS	MS	MS	MRMS	S	MSS
LRPB Scotch(Φ)	MSS	MRMS (P)	MR (P)	S (P)	MRMS	MR	MS (P)	MS	MS	S	S
LRPB Trojan(Φ)	MRMS	S	MR#	S	MSS	S	MS	MS	MSS	MSS	MS
Mace(Φ)	MRMS	SVS	S	SVS	MRMS	MSS	MRMS	MRMS	MS	MS	S
Manning(Φ)	MR	RMR	MSS	MRMS/S	MRMS	MS	S	S	MSS	S	VS

Table 16: Wheat disease guide for South Australia (continued).

Variety	Stem rust	Stripe rust (east coast resistance)	Leaf rust	Septoria tritici blotch	Yellow leaf spot	Powdery mildew	Black point	CCN	RLN resistance (*Pratylenchus neglectus*)	RLN resistance (*Pratylenchus thornei*)	Crown rot
Mowhawk(Ф)	RMR (P)	MRMS (P)	MR (P)	MSS (P)	MRMS (P)	MR					
Razor CL Plus(Ф)	MRMS	MS	S	SVS	MSS	S	MS	MR	S	MS	S
Reilly(Ф)	MR	MS	MSS	S	S	S	MSS (P)	R	MS	MSS	S
RGT Accroc(Ф)	MS	RMR	SVS	MS	MRMS	MSS	MRMS	S	S	MSS	SVS
RGT Calabro	MS	RMR	MSS	MRMS	MR	RMR	MS	S	S	MS	SVS
RGT Cesario(Ф)	R	RMR	RMR	MRMS	MR	RMR		MSS (P)	MRMS	MSS	VS
RGT Ivory	SVS	MR	MR#	MRMS	MR	RMR	MS	S	MSS	MRMS	SVS
RGT Waugh(Ф)	MS	RMR	S	MRMS	MRMS	R	MRMS (P)	MS	MS	MSS	S
RGT Zanzibar	VS	MRMS	SVS	MSS	MS	MR	MRMS	MSS	S	MS (P)	S
RockStar(Ф)	MRMS	S	S	S	MRMS	SVS	MSS	MSS	MRMS	MS	S
Scepter(Ф)	MRMS	MSS	MSS	S	MRMS	SVS	MS	MRMS	S	MSS	MSS
Severn(Ф)	MS	RMR	MRMS	MSS	MRMS	RMR	MR	MSS (P)	S	MRMS	S
Sheriff CL Plus(Ф)	MS	S	SVS	S	MRMS	SVS	MS	MS	MRMS	MRMS	S
SQP Revenue(Ф)	RMR	RMR	VS	MSS	MRMS	R	MS	S	S	S	S
Stockade(Ф)	MS	MR	MR (P)	MS	MRMS	SVS	MRMS (P)	MRMS	S	MSS	S
Sunblade CL Plus(Ф)	MS	MRMS	MSS	S	MSS	SVS	MRMS	MSS	MSS	MRMS	S
Sunflex(Ф)	MR	MRMS	RMR/S	SVS	MS	S	MSS	MS	S	MSS	MSS
Sunmaster(Ф)	MS	MRMS	RMR#	S	MSS	S	MR	MSS	MRMS	MS	S
Valiant(Ф) CL Plus	MR	MSS	S	MSS	MRMS	VS	MS (P)	MSS (P)	S	S (P)	S
Vixen(Ф)	MRMS	SVS	SVS	S	MRMS	SVS	MSS	MSS	MRMS	MS	S
Willaura(Ф)	MR	S	MRMS	S	MS	S	MRMS (P)	MS	MS	MS	S
Yitpi(Ф)	S	MS	S	S	SVS	MS	MS	MR	MSS	S	S
DURUM											
Bitalli(Ф)	RMR	MRMS	MR	MSS	MRMS	S	MS	MSS	MSS	RMR	SVS
Caparoi(Ф)	MR	MS	RMR	MRMS/S	MR	S	MSS	MRMS (P)	MS	MR	VS
DBA Bindaroi(Ф)	MR	MS	MR	MS	MRMS	SVS	MRMS	MS	MRMS	MR	SVS
DBA Mataroi(Ф)	MR	MS	MR	MSS	MRMS	S	MS	MRMS	MS	RMR	SVS
DBA Spes(Ф)	R	MS	RMR	S	MRMS	S	MS	MS	MRMS	RMR	VS
DBA Vittaroi(Ф)	MR	MS	RMR	MSS	MRMS	MRMS	MSS	S	MS	MR	SVS
DBA-Artemis(Ф)	MR	MRMS	RMR	MRMS/S	MRMS	SVS	MS	MS	MS	MR	VS
Patron(Ф)	RMR	MRMS	MR (P)	MRMS	MRMS	SVS	S (P)	S	MS	MR	SVS (P)
Westcourt(Ф)	RMR	MR	RMR	S	MRMS	S	MSS	MSS	MS	MR	VS

Learn more via the NVT Disease Ratings.
R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible, T = tolerant, MT = moderately tolerant, MI = moderately intolerant, I = intolerant, VI = very intolerant, (P) = provisional rating, / indicates pathotype differences, # warning, may be more susceptible to alternate pathotypes, ( ) show outlier.

Table 17: Wheat disease guide for Victoria.

Variety	Stem rust	Stripe rust (east coast resistance)	Leaf rust	Yellow leaf spot	Septoria tritici blotch	Powdery mildew	CCN	RLN resistance (*Pratylenchus neglectus*)	RLN resistance (*Pratylenchus thornei*)	Crown rot	Black tip (Black point)
Anapurna	MSS	RMR	MS	MRMS	MRMS	RMR	MRMS	MS	S (P)	SVS	MSS
Ascot(ɗ)	MRMS	MSS	RMR	MRMS	S	S	MR	S	S	S	S
Ballista(ɗ)	MR	MSS	S	MS	SVS	SVS	MRMS	S	MRMS	S	MS
Beckom(ɗ)	MRMS	MRMS	MSS	MSS	S	MSS	R	S	MSS	S	MRMS
BigRed(ɗ)	S	RMR	MRMS	MR	MR	RMR	S	MS	MS	*S* (P)	MR (P)
Boree(ɗ)	MR	SVS	S	MRMS	SVS	SVS	MSS	S	MSS	S	S
Brumby(ɗ)	MR	MS	SVS	MRMS	S	R/S	MRMS	MRMS	MS	S	MS (P)
Calibre(ɗ)	MR	S	S	MRMS	S	S	MRMS	S	MSS	S	MS (P)
Catapult(ɗ)	MR	S	S	MRMS	MSS	S	R	S	MS	MSS	S
Chief CL Plus(ɗ)	MR	SVS	MR	MRMS	S	SVS	MS	MRMS	MSS	MSS	MS
Coolah(ɗ)	MR	MSS	RMR	MSS	MSS	S	S	S	MS	MSS	S
Coota(ɗ)	RMR	S	MR	MSS	S	S	MR	MR	MS	MSS	MS
Cutlass(ɗ)	R	MSS	RMR	MSS	MSS	MSS	MR	MSS	MSS	S	MS
Denison(ɗ)	MS	S	S	MRMS	MSS	S	MS	S	S	MSS	MS
DS Bennett(ɗ)	MS	S	SVS	MRMS	MSS	R	S	S	S	VS	MSS
DS Pascal(ɗ)	MSS	MRMS	MS	MS	MSS	RMR	S	S	S	S	MS
EG Jet(ɗ)	S	MRMS	S	MRMS	MSS	SVS	MRMS	S	S	S	MS
EG Titanium	MS	MR	MS	MSS	MSS	S	R	MSS	MSS	MSS	MSS
EGA Gregory(ɗ)	MR	MS	RMR#	S	MSS	RMR	S	S	MSS	S	MSS
EGA Wedgetail(ɗ)	MRMS	MS	MSS	MSS	MSS	MRMS	S	S	VS	S	MS
Emu Rock(ɗ)	MS	SVS	SVS	MS	S	MSS	S	MSS	S	MSS	MSS
Grenade CL Plus(ɗ)	MR	MRMS	SVS	S	S	MSS	R	MSS	S	S	MSS
Hammer CL Plus(ɗ)	MR	MS	S	MRMS	MSS	S	MRMS	MSS	S	MSS	MRMS
Illabo(ɗ)	MRMS	MRMS	S	MS	MSS	R	MRMS	MSS	MSS	S	MRMS
Jillaroo(ɗ)	MS	MSS	S	MRMS	S	SVS	MS	S	MS (P)	S	MSS (P)
Kingston(ɗ)	S	MSS	S	MSS	S	S	R	S	MRMS	S	S
Longsword(ɗ)	MR	R/S	MR#	MRMS	MS	S	MRMS	MRMS	MRMS	MSS	MS
LRPB Anvil(ɗ)	MR	S	SVS	MSS	VS	VS	MRMS	MSS	S	MSS	S (P)
LRPB Bale(ɗ)	MRMS	MRMS	MSS	SVS	MSS	MSS	R	S	S	S	MSS (P)
LRPB Beaufort(ɗ)	SVS	RMR	MSS	MRMS	S	RMR	MS	MS	MSS	S	MRMS
LRPB Cobra(ɗ)	MR	S	MR#	MRMS	MSS	MSS	MS	MSS	MSS	S	MSS
LRPB Dual(ɗ)	MRMS	MS	MSS	S	MSS	S	R	MSS	MSS	S	S (P)
LRPB Kittyhawk(ɗ)	MRMS (S)	MR	MR	MRMS	MRMS	MS	S	S	S	SVS	MRMS
LRPB Nighthawk(ɗ)	RMR	MRMS	MSS	MS	MS	SVS	MS	MSS	MS	MSS	MS
LRPB Oryx(ɗ)	MR	MS	RMR#	MSS	SVS		S	MSS	MSS	MSS	MS
LRPB Parakeet(ɗ)	MR	MR	R	MSS	SVS	SVS	MS	MRMS	S	MSS	MS
LRPB Scotch(ɗ)	MSS	MRMS (P)	MR (P)	MRMS	S (P)	MR	MS	MS	S	S	MS (P)
LRPB Trojan(ɗ)	MRMS	S	MR#	MSS	S	S	MS	MSS	MSS	MS	MS
Mace(ɗ)	MRMS	SVS	S	MRMS	SVS	MSS	MRMS	MS	MS	S	MRMS
Manning(ɗ)	MR	RMR	MSS	MRMS	MRMS/S	MS	S	MSS	S	VS	S
Mowhawk(ɗ)	RMR (P)	MRMS (P)	MR (P)	MRMS (P)	MSS (P)	MR					
Razor CL Plus(ɗ)	MRMS	MS	S	MSS	SVS	S	MR	S	MS	S	MS
Reilly(ɗ)	MR	MS	MSS	S	S	S	R	MS	MSS	S	MSS (P)
RGT Accroc(ɗ)	MS	RMR	SVS	MRMS	MS	MSS	S	S	MSS	SVS	MRMS
RGT Calabro	MS	RMR	MSS	MR	MRMS	RMR	S	S	MS	SVS	MS
RGT Cesario(ɗ)	R	RMR	RMR	MR	MRMS	RMR	MSS (P)	MRMS	MSS	VS	
RGT Ivory	SVS	MR	MR#	MR	MRMS	RMR	S	MSS	MRMS	SVS	MS
RGT Waugh(ɗ)	MS	RMR	S	MRMS	MRMS	R	MS	MS	MSS	S	MRMS (P)
RGT Zanzibar	VS	MRMS	SVS	MS	MSS	MR	MSS	S	MS (P)	S	MRMS

Table 17: Wheat disease guide for Victoria (continued).

Variety	Stem rust	Stripe rust (east coast resistance)	Leaf rust	Yellow leaf spot	Septoria tritici blotch	Powdery mildew	CCN	RLN resistance (*Pratylenchus neglectus*)	RLN resistance (*Pratylenchus thornei*)	Crown rot	Black tip (Black point)
RockStar[Ф]	MRMS	S	S	MRMS	S	SVS	MSS	MRMS	MS	S	MSS
Scepter[Ф]	MRMS	MSS	MSS	MRMS	S	SVS	MRMS	S	MSS	MSS	MS
Severn[Ф]	MS	RMR	MRMS	MRMS	MSS	RMR	MSS (P)	S	MRMS	S	MR
Sheriff CL Plus[Ф]	MS	S	SVS	MRMS	S	SVS	MS	MRMS	MRMS	S	MS
SQP Revenue[Ф]	RMR	RMR	VS	MRMS	MSS	R	S	S	S	S	MS
Stockade[Ф]	MS	MR	MR (P)	MRMS	MS	SVS	MRMS	S	MSS	S	MRMS (P)
Sunblade CL Plus[Ф]	MS	MRMS	MSS	MSS	S	SVS	MSS	MSS	MRMS	S	MRMS
Sunflex[Ф]	MR	MRMS	RMR/S	MS	SVS	S	MS	S	MSS	MSS	MSS
Sunmaster[Ф]	MS	MRMS	RMR#	MSS	S	S	MSS	MRMS	MS	S	MR
Valiant[Ф] CL Plus	MR	MSS	S	MRMS	MSS	VS	MSS (P)	S	S (P)	S	MS (P)
Vixen[Ф]	MRMS	SVS	SVS	MRMS	S	SVS	MSS	MRMS	MS	S	MSS
Willaura[Ф]	MR	S	MRMS	MS	S	S	MS	MS	MS	S	MRMS (P)
Yitpi[Ф]	S	MS	S	SVS	S	MS	MR	MSS	S	S	MS
DURUM											
Bitalli[Ф]	RMR	MRMS	MR	MRMS	MSS	S	MSS	MSS	RMR	SVS	MS
Caparoi[Ф]	MR	MS	RMR	MR	MRMS/S	MSS	MRMS (P)	MS	MR	VS	MSS
DBA Bindaroi[Ф]	MR	MS	MR	MRMS	MS	MSS (P)	MS	MRMS	MR	SVS	MRMS
DBA Mataroi[Ф]	MR	MS	MR	MRMS	MSS	S	MRMS	MS	RMR	SVS	MS
DBA Spes[Ф]	R	MS	RMR	MRMS	S	S	MS	MRMS	RMR	VS	MS
DBA Vittaroi[Ф]	MR	MS	RMR	MRMS	MSS	MRMS	S	MS	MR	SVS	MSS
DBA-Artemis[Ф]	MR	MRMS	RMR	MRMS	MRMS/S	SVS	MS	MS	MR	VS	MS
Patron[Ф]	RMR	MRMS	MR (P)	MRMS	MRMS	SVS	S	MS	MR	SVS (P)	S (P)
Westcourt[Ф]	RMR	MR	RMR	MRMS	S	S	MSS	MS	MR	VS	MSS

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R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible, T = tolerant, MT = moderately tolerant, MI = moderately intolerant, I = intolerant, VI = very intolerant, (P) = provisional rating, / indicates pathotype differences, # warning, may be more susceptible to alternate pathotypes, ( ) show outlier.

BARLEY

New barley varieties

The following information is for barley varieties released in the 12 months to the date when the MET analysis was published on NVT online.

Variety	Variety owner	Grain classification#	End point royalty* ($)	Comments supplied by variety owner
Combat(Φ)	InterGrain	Feed	3.50	Mid-maturity suited to all regions. Semi-prostrate growth habit that will provide more weed competition than Rosalind(Φ). A potential variety replacement for Rosalind(Φ) with a more competitive plant type.
Titan AX(Φ)	Australian Grain Technologies	Under malt evaluation	4.55	The world's first CoAXium® barley variety. Mid-season maturity, slightly later than Compass(Φ), similar to RGT Planet(Φ). Agronomically similar to Compass(Φ).
Zena(Φ) CL	InterGrain	Under malt evaluation	4.25	Zena(Φ) CL is an imidazolinone-tolerant barley variety best-suited to medium-high rainfall environments.

* EPR amount is ex-GST, (Φ) denotes Plant Breeder's Rights apply, # barley malting quality accreditation correct at time of download (10 March 2023).

Refer to the latest *Crop Sowing Guide* for further information at grdc.com.au/nvt-crop-sowing-guides

Barley variety yield performance – Mallee South Australia and Victoria

Yield results are presented from the top-performing varieties within each NVT location in the region for the past five seasons. Results are presented (as a percentage) for each variety relative to the mean trial yield for the location within each year. Varieties are listed in descending order of average yield over the period.

The Long Term Yield Reporter provides additional information on varieties not listed and can be viewed as a table or chart with error bars. Rainfall is provided for January to March (J–M) and April to October (A–O) and, where relevant, irrigation from April to October.

Table 1: Birchip main season barley.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	3.42	5.45	5.52	2.27	5.13
Combat(ф)					106
Cyclops(ф)			112	115	100
Minotaur(ф)			110	111	106
RGT Planet(ф)	107	117	106	91	112
Rosalind(ф)	108	115	109	96	102
Laperouse(ф)	101	100	105	119	97
Yeti(ф)		99	104	115	97
Leabrook(ф)	110	91	100	124	97
Fathom(ф)	112	100	102	102	93
La Trobe(ф)	108	108	104	87	91
HERBICIDE TOLERANT (GROUP 1 AND IMIDAZOLINONE)					
Zena(ф) CL					107
Titan AX(ф)					95
Maximus(ф) CL	99	107	107	99	93
Spartacus CL(ф)	100	105	104	93	91
Sowing date	16 May	15 May	14 May	10 May	9 May
Rainfall J–M (mm)	7	14	101	25	60
Rainfall A–O (mm)	138	197	205	172	384

Special thanks to 2022 trial cooperator, Birchip Cropping Group.
Learn more via the NVT Long Term Yield Reporter

Table 2: Cooke Plains main season barley.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	3.15		6.03	4.00	
Leabrook(ф)	108	Compromised trial	103	118	Trial failed
Combat(ф)				114	
RGT Planet(ф)	105		109	102	
Minotaur(ф)			105	108	
Compass(ф)	105		99	114	
Cyclops(ф)			99	111	
Beast(ф)			98	112	
Yeti(ф)			101	105	
Laperouse(ф)	101		98	107	
Rosalind(ф)	102		102	100	
HERBICIDE TOLERANT (GROUP 1 AND IMIDAZOLINONE)					
Titan AX(ф)				117	
Commodus(ф) CL			98	112	
Maximus(ф) CL	95		93	93	
Spartacus CL(ф)	94		91	90	
Sowing date	14 May	17 May	12 May	10 Jun	1 Jun
Rainfall J–M (mm)	6	14	34	49	24
Rainfall A–O (mm)	193	241	292	232	342

Special thanks to 2022 trial cooperator, Matt Ballard.
Learn more via the NVT Long Term Yield Reporter

Table 3: Lameroo main season barley.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.79	3.74	3.88	0.82	4.12
Rosalind(ф)	115	110	114	112	107
Combat(ф)				115	113
Beast(ф)		111	111	126	95
Leabrook(ф)	125	111	110	123	98
RGT Planet(ф)	85	104	108	95	117
Cyclops(ф)			117	120	101
Minotaur(ф)			112	107	106
Fathom(ф)	117	107	108	118	98
Compass(ф)	132	110	105	123	93
Yeti(ф)		107	107	113	95
HERBICIDE TOLERANT (GROUP 1 AND IMIDAZOLINONE)					
Zena(ф) CL					115
Titan AX(ф)				123	95
Commodus(ф) CL			103	119	92
Maximus(ф) CL	119	102	106	111	92
Sowing date	25 Jun	21 May	6 May	26 May	26 May
Rainfall J–M (mm)	10	8	56	52	30
Rainfall A–O (mm)	129	197	241	149	302

Special thanks to 2022 trial cooperator, Robert Pocock.
Learn more via the NVT Long Term Yield Reporter

Table 4: Manangatang main season barley.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	3.12	2.52	2.68	2.97	5.96
Combat(ф)					118
Cyclops(ф)			118	122	112
Leabrook(ф)	118	120	114	119	106
Beast(ф)		114	117	122	101
Compass(ф)	119	120	112	118	100
Minotaur(ф)			111	110	111
Laperouse(ф)	104	104	112	112	108
Fathom(ф)	117	106	110	115	98
Yeti(ф)		103	115	111	100
Rosalind(ф)	114	97	112	111	99
HERBICIDE TOLERANT (GROUP 1 AND IMIDAZOLINONE)					
Titan AX(ф)					110
Commodus(ф) CL			110	115	99
Zena(ф) CL					95
Maximus(ф) CL	109	91	114	109	95
Sowing date	11 May	8 May	12 May	25 May	17 May
Rainfall J–M (mm)	9	18	48	48	41
Rainfall A–O (mm)	122	133	227	150	462

Special thanks to 2022 trial cooperator, Brad Plant.
Learn more via the NVT Long Term Yield Reporter

Table 5: Murrayville main season barley.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	**1.20**	**2.81**	**2.39**	**1.93**	**4.79**
Leabrook(Ф)	110	125	119	115	106
Beast(Ф)		120	121	112	100
Compass(Ф)	114	125	118	112	100
Combat(Ф)					118
Rosalind(Ф)	125	102	114	106	102
Cyclops(Ф)			110	109	108
Yeti(Ф)		107	114	108	98
Fathom(Ф)	120	109	111	104	98
Minotaur(Ф)			106	107	109
RGT Planet(Ф)	99	99	101	103	111
HERBICIDE TOLERANT (GROUP 1 AND IMIDAZOLINONE)					
Zena(Ф) CL					106
Titan AX(Ф)					107
Commodus(Ф) CL			115	110	99
Maximus(Ф) CL	122	91	107	99	90
Sowing date	**29 May**	**7 May**	**11 May**	**11 May**	**11 May**
Rainfall J–M (mm)	**7**	**33**	**50**	**38**	**49**
Rainfall A–O (mm)	**113**	**156**	**240**	**149**	**369**

Special thanks to 2022 trial cooperator, Giles Oster.
Learn more via the NVT Long Term Yield Reporter

Table 6: Palmer main season barley.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)			**2.09**	**2.60**	**3.89**
Leabrook(Ф)	No trial	No trial	131	128	108
Beast(Ф)			138	128	102
Compass(Ф)			133	128	104
Combat(Ф)				116	109
Cyclops(Ф)			126	122	99
Fathom(Ф)			125	116	100
Yeti(Ф)			122	114	98
Rosalind(Ф)			120	106	103
Minotaur(Ф)			109	109	103
Laperouse(Ф)			114	116	94
HERBICIDE TOLERANT (GROUP 1 AND IMIDAZOLINONE)					
Titan AX(Ф)				130	102
Commodus(Ф) CL			128	124	102
Zena(Ф) CL					116
Maximus(Ф) CL			119	107	88
Sowing date			**4 May**	**8 Jun**	**9 May**
Rainfall J–M (mm)			**32**	**51**	**55**
Rainfall A–O (mm)			**222**	**285**	**316**

Special thanks to 2022 trial cooperator, Rodney Wachtel.
Learn more via the NVT Long Term Yield Reporter

Table 7: Paruna main season barley.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)		**1.63**	**2.72**	**0.92**	**4.13**
Combat(Ф)	Compromised trial			139	129
Cyclops(Ф)			111	124	119
Leabrook(Ф)		139	114	106	106
Beast(Ф)		142	114	113	102
Rosalind(Ф)		116	115	121	105
Compass(Ф)		143	111	104	99
Fathom(Ф)		121	110	122	102
Minotaur(Ф)			107	107	114
Yeti(Ф)		128	107	97	99
RGT Planet(Ф)		88	109	112	110
HERBICIDE TOLERANT (GROUP 1 AND IMIDAZOLINONE)					
Titan AX(Ф)				112	112
Zena(Ф) CL					97
Commodus(Ф) CL			108	101	97
Maximus(Ф) CL		112	102	109	98
Sowing date	**7 Jun**	**13 May**	**5 May**	**26 May**	**4 May**
Rainfall J–M (mm)	**11**	**16**	**56**	**20**	**47**
Rainfall A–O (mm)	**110**	**126**	**214**	**129**	**363**

Special thanks to 2022 trial cooperator, Bernie Lehmann.
Learn more via the NVT Long Term Yield Reporter.\

Table 8: Rainbow main season barley.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	**1.12**	**3.60**	**3.19**	**3.28**	**4.70**
Combat(Ф)					115
Cyclops(Ф)			108	109	108
Minotaur(Ф)			110	107	112
RGT Planet(Ф)	105	101	112	101	118
Rosalind(Ф)	112	115	101	100	111
Leabrook(Ф)	109	111	100	112	94
Beast(Ф)		116	95	108	92
Fathom(Ф)	115	113	96	102	96
Laperouse(Ф)	103	103	102	107	98
Yeti(Ф)		109	95	104	98
HERBICIDE TOLERANT (GROUP 1 AND IMIDAZOLINONE)					
Zena(Ф) CL					110
Titan AX(Ф)					94
Maximus(Ф) CL	106	112	92	97	99
Spartacus CL(Ф)	107	111	89	94	97
Sowing date	**11 May**	**16 May**	**22 May**	**18 May**	**19 May**
Rainfall J–M (mm)	**19**	**22**	**88**	**51**	**76**
Rainfall A–O (mm)	**143**	**199**	**253**	**205**	**421**

Special thanks to 2022 trial cooperator, Brett Fisher.
Learn more via the NVT Long Term Yield Reporter

Table 9: Ultima main season barley.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.41		2.67	1.29	6.91
Rosalind(Ф)	138	Compromised trial	116	114	106
Cyclops(Ф)			120	104	107
Combat(Ф)					114
Minotaur(Ф)			110	104	110
RGT Planet(Ф)	107		95	101	114
Beast(Ф)			122	113	96
Yeti(Ф)			118	114	98
Leabrook(Ф)	102		116	109	99
Fathom(Ф)	131		113	106	97
La Trobe(Ф)	147		112	105	96
HERBICIDE TOLERANT (GROUP 1 AND IMIDAZOLINONE)					
Zena(Ф) CL					107
Maximus(Ф) CL	130		119	111	96
Titan AX(Ф)					99
Spartacus CL(Ф)	138		115	110	94
Sowing date	**29 May**	**8 May**	**11 May**	**11 May**	**11 May**
Rainfall J–M (mm)	**22**	**18**	**47**	**29**	**63**
Rainfall A–O (mm)	**120**	**161**	**233**	**199**	**453**

Special thanks to 2022 trial cooperator, David O'Brien.
Learn more via the NVT Long Term Yield Reporter

Table 10: Walpeup main season barley.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	2.20	2.14	4.74	3.19	5.66
Combat(Ф)					118
Cyclops(Ф)			111	117	108
Leabrook(Ф)	124	125	101	115	102
Beast(Ф)		132	101	117	98
Minotaur(Ф)			108	108	110
Compass(Ф)	124	129	97	114	96
Rosalind(Ф)	95	118	104	110	105
Laperouse(Ф)	111	107	106	109	99
Fathom(Ф)	107	120	101	111	98
Yeti(Ф)		121	102	109	97
HERBICIDE TOLERANT (GROUP 1 AND IMIDAZOLINONE)					
Titan AX(Ф)					103
Zena(Ф) CL					108
Commodus(Ф) CL			97	111	95
Maximus(Ф) CL	96	117	104	108	93
Sowing date	**7 May**	**8 May**	**11 May**	**25 May**	**13 May**
Rainfall J–M (mm)	**7**	**9**	**85**	**54**	**86**
Rainfall A–O (mm)	**134**	**118**	**247**	**189**	**444**

Special thanks to 2022 trial cooperator, Mick Pole.
Learn more via the NVT Long Term Yield Reporter

Barley variety quality – Mallee South Australia and Victoria

Grain quality for individual varieties varies from site to site and from year to year. However, long-term and across-site trends highlight varieties that can consistently achieve high protein percentage, high test weight or low grain screenings under a wider range of environments.

The following figures show the grain quality trends as histograms from 2021 and 2022 NVT averaged for trials in the Mallee South Australia and Victoria region. Only the varieties evaluated at every site are included. These are plotted in order of performance, up to a maximum of 20.

Protein and yield comparisons

Figure 1: Protein (%) and yield (t/ha) comparisons for main season barley varieties from 10 NVT sites in Mallee SA - Victoria in 2021.

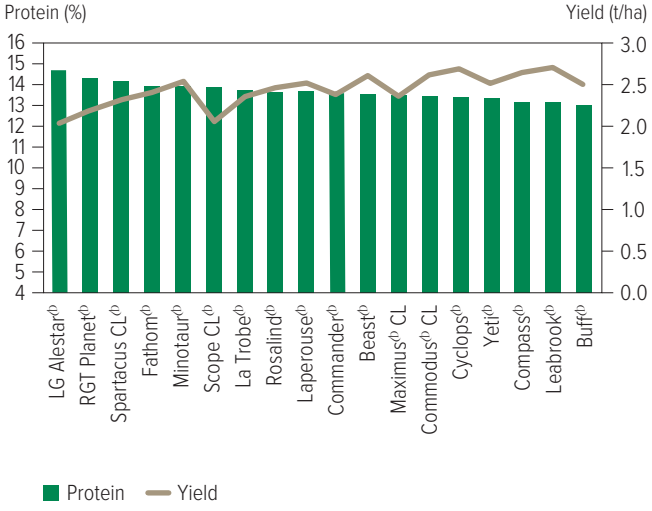
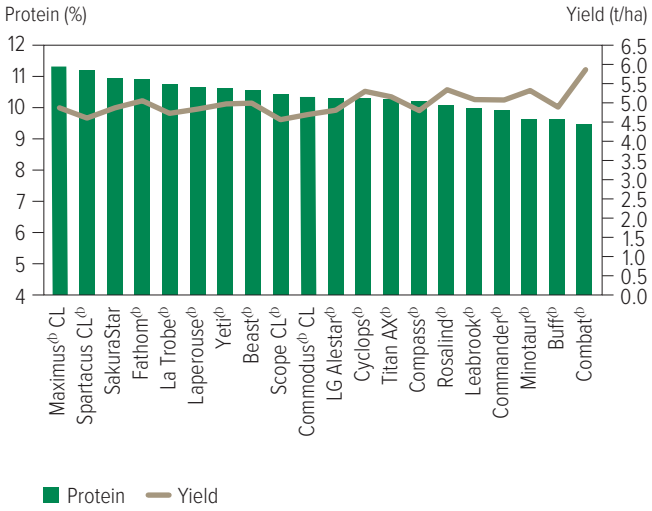


Figure 2: Protein (%) and yield (t/ha) comparisons for main season barley varieties from nine NVT sites in Mallee SA - Victoria in 2022.



Test weight comparisons

Figure 3: Test weight (kg/hL) comparisons for main season barley varieties from 10 NVT sites in Mallee SA - Victoria in 2021.

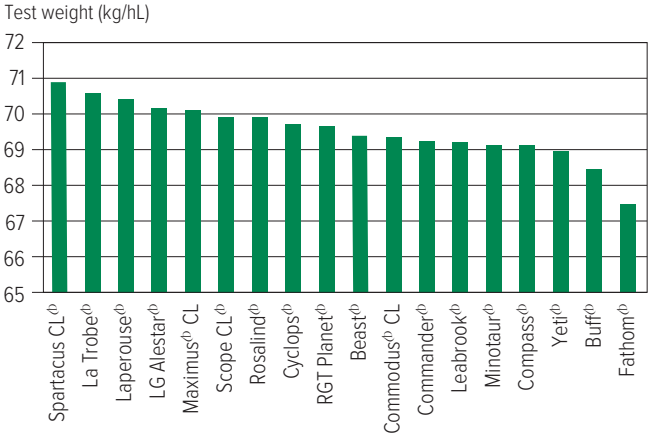
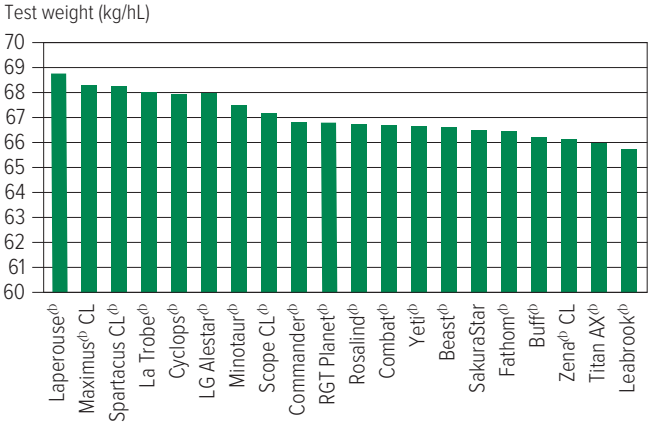


Figure 4: Test weight (kg/hL) comparisons for main season barley varieties from nine NVT sites in Mallee SA - Victoria in 2022.



Screenings comparisons

Figure 5: Screenings (<2.2mm) comparisons for main season barley varieties from 10 NVT sites in Mallee SA - Victoria in 2021.

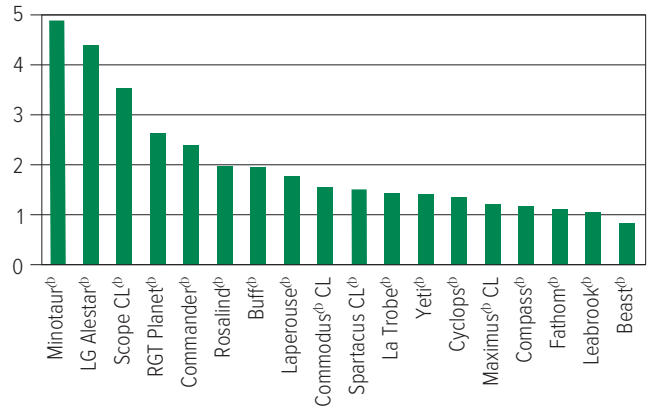
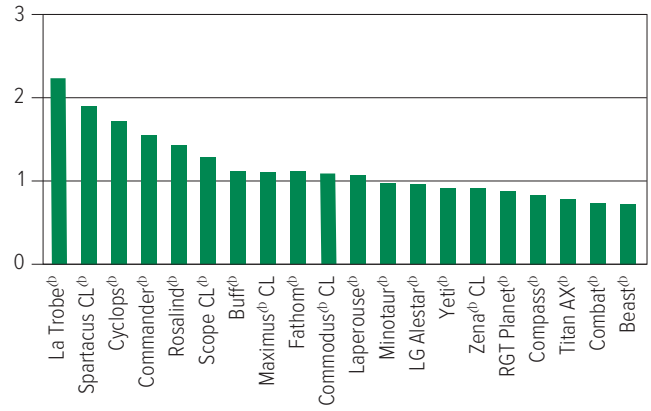


Figure 6: Screenings (<2.2mm) comparisons for main season barley varieties from nine NVT sites in Mallee SA - Victoria in 2022.



Retention comparisons

Figure 7: Retention (>2.5mm) comparisons for main season barley varieties from 10 NVT sites in Mallee SA - Victoria in 2021.

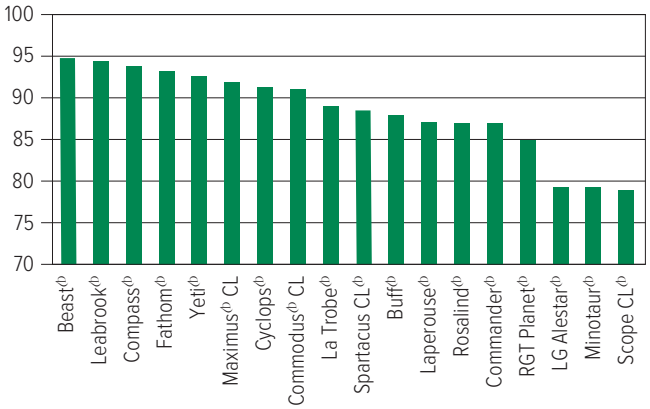
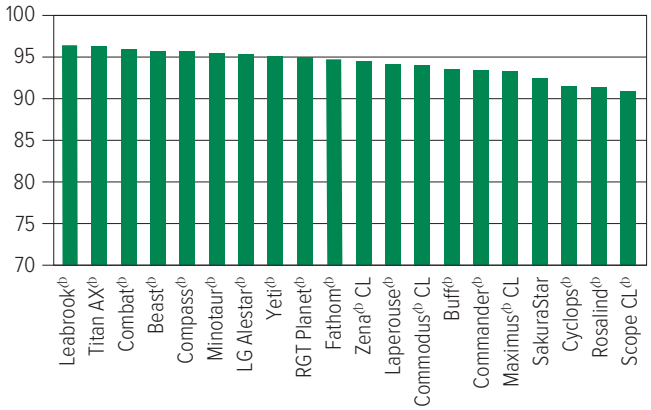


Figure 8: Retention (>2.5mm) comparisons for main season barley varieties from nine NVT sites in Mallee SA - Victoria in 2022.



Barley variety disease ratings – South Australia and Victoria

The following tables contain varietal ratings for the predominant diseases of barley in South Australia and Victoria. These ratings are updated annually by crop pathologists and were released in March 2023.

Selected varieties of most relevance to South Australian and Victorian growers are listed in alphabetical order and disease ratings are colour-coded to match resistance and tolerance ratings.

Table 11: Barley disease guide for South Australia.

Variety	CCN	Leaf rust	Net form net blotch	Spot form net blotch	Leaf scald	Powdery mildew	Black point	RLN resistance (*Pratylenchus neglectus*)	RLN resistance (*Pratylenchus thornei*)	Crown rot	Ramularia
Bass(ф)	S	SVS	MS-SVS	MSS	MSS	S	MRMS	MS	MRMS	MSS	VS (P)
Beast(ф)	MR	MS-SVS	MR-S	MS	SVS	S	MSS	MRMS	MRMS	S	SVS (P)
Bottler(ф)		MS	R-MS	MSS	SVS	RMR	MRMS	MS	RMR	SVS	SVS (P)
Buff(ф)		SVS	MR-MS	MSS	MS-VS	S	MS	MRMS	MS	S	SVS (P)
Combat(ф)	MRMS	MSS	MR-MSS	RMR	S	MS	MSS (P)	MR	MS	S (P)	SVS (P)
Commander(ф)	R	S	S-VS	MSS	SVS	MSS	MSS	MRMS	MRMS	S	SVS (P)
Commodus(ф) CL	R	S	MR-MSS	MSS	MSS-SVS	MS	MS	MRMS	MRMS	S (P)	SVS (P)
Compass(ф)	R	VS	MRMS-S	MS	MSS-SVS	MSS	MSS	MRMS	MR	S	SVS (P)
Cyclops(ф)	S	VS	MR-MS	MS	S	S	MS	MRMS	MRMS	S (P)	SVS (P)
Fandaga(ф)	R	MSS	MR-VS	S	SVS	R	MRMS (P)	MR	MR	MSS (P)	VS (P)
Fathom(ф)	R	MRMS-S	MSS-SVS	RMR	R-S	MRMS	MSS	MRMS	MR	SVS	SVS (P)
Kiwi(ф)	S	RMR-MS	R-MRMS	MSS	SVS	RMR	MS	MRMS	RMR	S	VS (P)
La Trobe(ф)	R	S	MS-S	S	R-SVS	MSS	MSS	MRMS	MRMS	S	SVS (P)
Laperouse(ф)	S	SVS	MR-MS	MRMS	SVS	MSS	MSS	MR	MR	S	VS (P)
Leabrook(ф)	RMR	SVS	MR-MSS	MS	MRMS-SVS	S	MS	MRMS	RMR	S	VS (P)
LG Alestar(ф)	R^ (P)	MS	MR-S	S	SVS	MR	MRMS	MR	MR	S	SVS (P)
Maximus(ф) CL	R	S	MR-MS	MS	R-SVS	MS	MSS	MRMS	MR	S	VS (P)
Minotaur(ф)	R	S-VS	MR-MS	S	VS	S	MS	MRMS	MR	MS	SVS (P)
RGT Planet(ф)	R (P)	MRMS-MS	MRMS-SVS	SVS	R-SVS	RMR	MRMS	MRMS	MR	MSS	VS (P)
Rosalind(ф)	R	MR-MS	R-MRMS	S	MR-S	MSS	MS	MRMS	MR	MSS	VS (P)
SakuraStar	R	S	S	MRMS	MS-SVS	MSS	MS	MR	MR	S	VS (P)
Scope CL(ф)	S	MS-SVS	R-MR	MSS	MRMS-SVS	MRMS	MS	MRMS	MRMS	S	SVS (P)
Spartacus CL(ф)	R	S	MS-VS	S	R-SVS	MSS	MSS	MRMS	MRMS	S	VS (P)
Titan AX(ф)	MR (P)	SVS	MRMS-MSS	MS	VS	MS	MSS (P)	R	MR	MSS (P)	VS (P)
Topstart	S	MRMS	MRMS-SVS	S-SVS	S	RMR	MRMS	RMR	RMR	MSS	VS (P)
Urambie		S	R-MR	S	R-S	MS	MRMS	MRMS	MR	MSS	VS (P)
Westminster(ф)		MRMS	R-S	S	R-S	RMR	MRMS	MRMS	MS	S	VS (P)
Yeti(ф)	RMR	MSS-VS	MR-MS	MS-MSS	VS	MSS	MSS	MR	MR	S	VS (P)
Zena(ф) CL	R	MS	MR-MSS	S	R-S	R	MRMS (P)	MRMS	MR	MSS (P)	VS (P)

MRMS (P)

Learn more via the NVT Disease Ratings.
R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible, (P) = provisional rating,
- hyphen indicates a range, ^ line contains a few susceptible off types.

Table 12: Barley disease guide for Victoria.

Variety	Leaf scald	Spot form net blotch	Net form net blotch	Powdery mildew	Leaf rust	CCN	RLN resistance (*Pratylenchus neglectus*)	RLN resistance (*Pratylenchus thornei*)	Ramularia
Banks(Φ)	SVS	S	MR	MRMS	SVS	S	MS	MR	VS (P)
Beast(Φ)	SVS	MS	MR#	S	S	MR	MRMS	MRMS	SVS (P)
Bottler(Φ)	SVS	MSS	MR	RMR	MR		MS	RMR	SVS (P)
Buff(Φ)	SVS	MSS	MS	S	SVS		MRMS	MS	SVS (P)
Combat(Φ)	S	RMR	MR (P)	MS	S	MRMS	MR	MS	SVS (P)
Commander(Φ)	SVS	MSS	MS	MSS	SVS	R	MRMS	MRMS	SVS (P)
Commodus(Φ) CL	SVS	MSS	MRMS	MS	S	R	MRMS	MRMS	SVS (P)
Compass(Φ)	SVS	MS	MS	MSS	SVS	R	MRMS	MR	SVS (P)
Cyclops(Φ)	S	MS	MRMS	S	SVS	S	MRMS	MRMS	SVS (P)
Fandaga(Φ)	SVS	S	MRMS	R	MSS	R	MR	MR	VS (P)
Fathom(Φ)	S	RMR	MS	MRMS	MS	R	MRMS	MR	SVS (P)
Kiwi(Φ)	SVS	MSS	MRMS	RMR	MS	S	MRMS	RMR	VS (P)
La Trobe(Φ)	SVS	S	MR	MSS	S	R	MRMS	MRMS	SVS (P)
Laperouse(Φ)	VS	MRMS	MR	MSS	SVS	S	MR	MR	VS (P)
Leabrook(Φ)	SVS	MS	MR	S	SVS	RMR	MRMS	RMR	VS (P)
LG Alestar(Φ)	SVS	S	S	MR	MRMS	R^ (P)	MR	MR	SVS (P)
Maximus(Φ) CL	SVS	MS	MRMS	MS	S	R	MRMS	MR	VS (P)
Minotaur(Φ)	VS	S	MRMS	S	SVS	R	MRMS	MR	SVS (P)
RGT Planet(Φ)	SVS	SVS	SVS	RMR	MR	R (P)	MRMS	MR	VS (P)
Rosalind(Φ)	S	S	MR	MSS	MRMS	R	MRMS	MR	VS (P)
SakuraStar	SVS	MS	MS	MSS	S	R	MR	MR	VS (P)
Scope CL(Φ)	SVS	MSS	MR	MRMS	S	S	MRMS	MRMS	SVS (P)
Spartacus CL(Φ)	SVS	S	S	MSS	S	R	MRMS	MRMS	VS (P)
Titan AX(Φ)	VS	MS	MS	MS	S	MR (P)	R	MR	VS (P)
Topstart	SVS	S	MS	RMR	MRMS	S	RMR	RMR	VS (P)
Urambie	MS	S	MR	MS	S		MRMS	MR	VS (P)
Westminster(Φ)	SVS	S	MRMS	RMR	MR		MRMS	MS	VS (P)
Yeti(Φ)	VS	MSS	MR	MSS	S	RMR	MR	MR	VS (P)
Zena(Φ) CL	S (P)	S	S	R	MSS	R	MRMS	MR	VS (P)

Learn more via the NVT Disease Ratings.
R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible, (P) = provisional rating,
# warning, may be more susceptible to alternate pathotypes, ^ line contains a few susceptible off types.

OAT

New oat varieties

The following information is for oat varieties released in the 12 months to the date when the MET analysis was published on NVT online.

Variety	Variety owner	Grain classification	End point royalty* ($)	Comments supplied by variety owner
Koala(Φ)	National Oat Breeding Program	Grain	None provided.	High-yielding, tall dwarf variety with similar height to Bannister(Φ) and taller than Mitika(Φ), Bilby(Φ) or Kowari(Φ). Koala(Φ) has a mid-season maturity that can be seven days later to head compared with Bannister(Φ) and Williams(Φ). Early vigour is similar to Bannister(Φ)and slightly slower than Bilby(Φ) and Yallara(Φ). Commercialised by Seednet.

* EPR amount is ex-GST, (Φ) denotes Plant Breeder's Rights apply.

Refer to the latest *Crop Sowing Guide* for further information at grdc.com.au/nvt-crop-sowing-guides

Oat variety yield performance – Mallee South Australia and Victoria

Yield results are presented from the top-performing varieties within each NVT location in the region for the past five seasons. Results are presented (as a percentage) for each variety relative to the mean trial yield for the location within each year. Varieties are listed in descending order of average yield over the period.

The Long Term Yield Reporter provides additional information on varieties not listed and can be viewed as a table or chart with error bars. Rainfall is provided for January to March (J–M) and April to October (A–O) and, where relevant, irrigation from April to October.

Table 1: Waikerie oat.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)		**0.66**	**2.78**		**3.65**
Koala[Φ]	Trial failed	79	105	Compromised trial	133
Bannister[Φ]		93	107		115
Williams[Φ]		83	104		108
Yallara[Φ]		105	102		98
Koorabup[Φ]		93	99		102
Bilby[Φ]		102	99		93
Possum		98	93		96
Kowari[Φ]		104	94		86
Mitika[Φ]		99	92		86
Durack[Φ]		107	91		80
Sowing date	**6 Jun**	**14 May**	**6 May**	**28 May**	**6 May**
Rainfall J–M (mm)	**17**	**10**	**93**	**19**	**28**
Rainfall A–O (mm)	**71**	**91**	**192**	**101**	**313**

Special thanks to 2022 trial cooperator, Brenton Kroehn.
Learn more via the NVT Long Term Yield Reporter

Oat variety disease ratings – South Australia and Victoria

The following tables contain varietal ratings for the predominant diseases of oat in South Australia and Victoria. These ratings are updated annually by crop pathologists and were released in March 2023.

Selected varieties of most relevance to South Australian and Victorian growers are listed in alphabetical order and disease ratings are colour-coded to match resistance and tolerance ratings.

Table 2: Oat disease guide for South Australia.

Variety	Stem rust (east)	Leaf rust (crown rust)	Barley yellow dwarf virus (BYDV)	CCN	Stem nematode resistance	Stem nematode tolerance	Septoria	Bacterial blight	Red leather leaf
Bannister(ф)	S	MSS	MS	MR	MRMS	MT	MSS	S	S
Bilby(ф)	S	MS	S	S	S	MI	S	SVS	MS
Durack(ф)	S	MSS	S	MRMS	S	MI (P)	S	S	SVS
Echidna	MS	SVS	MSS	MS	MRMS	MT (P)	SVS	S	S
Koala(ф)	MSS	MSS	MSS	R	S	MT (P)	MSS	S	S
Koorabup(ф)	S	MSS	MSS	MRMS	S	I	MRMS#	SVS	SVS
Kowari(ф)	S	S	S	S	S	I	S	S	S
Mitika(ф)	S	MSS	SVS	VS	S	MI (P)	SVS	S	SVS
Mulgara(ф)	MRMS	MR	MS	R	MR	MT (P)	S/MRMS	MSS	SVS
Possum	SVS	MSS	S	MSS	MS	MT (P)	S	SVS	SVS
Tungoo(ф)	MS	MR	MSS	MR	R	MT (P)	MRMS#	S	MRMS
Williams(ф)	S	MRMS	MSS	S	S	MI (P)	MSS	MSS	MS
Wintaroo(ф)	MSS	MSS	MS	R	MR	MT (P)	MSS	S	S
Yallara(ф)	MSS	S	MSS	R	MS	MI (P)	MSS	S	VS

Learn more via the NVT Disease Ratings.
R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible,
T = tolerant, MT = moderately tolerant, MI = moderately intolerant, I = intolerant, VI = very intolerant,
(P) = provisional rating, / indicates pathotype differences, # warning, may be more susceptible to alternate pathotypes.

Table 3: Oat disease guide for Victoria.

Variety	Stem rust	Leaf rust (crown rust)	CCN	Barley yellow dwarf virus (BYDV)	Septoria blotch	Bacterial blight	Red leather leaf
Bannister(ф)	S	MSS	MR	MS	MSS	S	MSS
Bilby(ф)	S	MS	S	S	S	SVS	MS
Durack(ф)	S	MSS	MRMS	S	S	S	SVS
Echidna	MS	SVS	MS	MSS	SVS	S	S
Koala(ф)	MSS	MSS	R	MSS	MSS	S	S
Koorabup(ф)	S	MSS	MRMS	MSS	MRMS#	SVS	SVS
Kowari(ф)	S	S	S	S	S	S	S
Mitika(ф)	S	MSS	VS	SVS	SVS	S	SVS
Mulgara(ф)	MRMS	MR	R	MS	S/MRMS	MSS	SVS
Possum	SVS	MSS	MSS	S	S	SVS	SVS
Tungoo(ф)	MS	MR	MR	MSS	MRMS#	S	MRMS
Williams(ф)	S	MRMS	S	MSS	MSS	MSS	MS
Wintaroo(ф)	MSS	MSS	R	MS	MSS	S	S
Yallara(ф)	MSS	S	R	MSS	MSS	S	SVS

Learn more via the NVT Disease Ratings.
R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible,
/ indicates pathotype differences, # warning, may be more susceptible to alternate pathotypes.

CANOLA

New canola varieties

The following information is for canola varieties released in the 12 months to the date when the MET analysis was published on NVT online.

Variety	Variety owner	End point royalty* ($)	Comments supplied by variety owner
Bandit TT(ф)	Australian Grain Technologies	10.00	Triazine-tolerant, open-pollinated variety suitable to low rainfall environments. Very quick to flower.
HyTTec® Velocity	Nuseed Pty Ltd	5.00	An early maturing variety that exhibits impressive early vigour, with a compact plant height and improved pod shatter tolerance built in to improve harvesting.
InVigor® T 4511	BASF Australia	-	InVigor® T 4511 is an early-mid triazine-tolerant hybrid of medium height. With excellent early vigour InVigor® T 4511 is ideally suited to early and mid-season growing regions. With higher seedling vigour, higher oil and better blackleg tolerance InVigor® T 4511 is a replacement for InVigor® T 3510 and InVigor® T 4510.
Nuseed® Hunter TF	Nuseed Pty Ltd	-	An early-mid maturity TruFlex® hybrid canola with adaptability from low to high-rainfall regions. It has improved pod shatter tolerance with a compact plant height, reducing head loss, and is suitable for medium to quick-growing regions.
Renegade TT(ф)	Australian Grain Technologies	10.00	Triazine-tolerant, open-pollinated variety. Quick to flower with best performance under medium yield potential conditions.

* EPR amount is ex-GST, (ф) denotes Plant Breeder's Rights apply.

Refer to the latest *Crop Sowing Guide* for further information at grdc.com.au/nvt-crop-sowing-guides

Canola variety yield performance – Mallee South Australia and Victoria

Yield results are presented from the top-performing varieties within each NVT location in the region for the past five seasons. Results are presented (as a percentage) for each variety relative to the mean trial yield for the location within each year. Varieties are listed in descending order of average yield over the period.

The Long Term Yield Reporter provides additional information on varieties not listed and can be viewed as a table or chart with error bars. Rainfall is provided for January to March (J–M) and April to October (A–O) and, where relevant, irrigation from April to October.

Table 1: Birchip low-med rainfall GLY.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	1.67	2.47	2.72		2.53
InVigor® R 4520P			106	Trial failed	106
InVigor® R 4022P		116	101		100
Nuseed® Raptor TF			96		101
Nuseed® Hunter TF					107
Pioneer® 44Y27 RR	102	100	105		104
Pioneer® 44Y30 RR					104
DG Lofty TF					91
Hyola® Battalion XC			94		94
Hyola® 410XX		86	95		96
Nuseed® Emu TF			97		92
Sowing date	**7 May**	**30 Apr**	**22 Apr**	**10 May**	**21 Apr**
Rainfall J–M (mm)	**7**	**14**	**101**	**25**	**60**
Rainfall A–O (mm)	**138**	**197**	**205**	**172**	**384**

Special thanks to 2022 trial cooperator, Birchip Cropping Group.
Learn more via the NVT Long Term Yield Reporter

Table 2: Hopetoun low-med rainfall GLY.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)		1.78	2.14		3.91
InVigor® R 4520P	Trial failed		105	Trial failed	108
Nuseed® Hunter TF					107
InVigor® R 4022P		117	100		102
Nuseed® Raptor TF			97		103
Pioneer® 44Y27 RR		101	105		105
Pioneer® 44Y30 RR					104
DG Lofty TF					95
Hyola® Battalion XC			95		95
Nuseed® Emu TF			99		94
Hyola® 410XX		86	95		94
Sowing date	**4 May**	**26 Apr**	**24 Apr**	**25 May**	**26 Apr**
Rainfall J–M (mm)	**8**	**16**	**119**	**31**	**43**
Rainfall A–O (mm)	**120**	**152**	**232**	**168**	**360**

Special thanks to 2022 trial cooperator, Ross Brown.
Learn more via the NVT Long Term Yield Reporter

Table 3: Lameroo low-med rainfall GLY.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)					2.03
Nuseed® Hunter TF	No trial	No trial	No trial	Trial failed	116
InVigor® R 4520P					116
Pioneer® 44Y27 RR					113
InVigor® R 4022P					105
Pioneer® 44Y30 RR					101
Nuseed® Emu TF					98
Nuseed® Raptor TF					97
Hyola® Battalion XC					88
Hyola® 410XX					85
DG Lofty TF					83
Sowing date				**25 May**	**3 May**
Rainfall J–M (mm)				**52**	**30**
Rainfall A–O (mm)				**149**	**302**

Special thanks to 2022 trial cooperator, Wade Dabinett.
Learn more via the NVT Long Term Yield Reporter

Table 4: Birchip low-med rainfall IMI.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	1.60	2.52	2.52		2.55
Pioneer® 44Y94 CL				Trial failed	109
Pioneer® 44Y90 CL	106	110	103		
Hyola® 575CL	90	95			
Pioneer® 43Y92 CL	101	100	97		99
Saintly CL		101			
VICTORY® V7002CL	100	92	89		
Hyola® Equinox CL					99
Sowing date	**7 May**	**30 Apr**	**22 Apr**	**10 May**	**21 Apr**
Rainfall J–M (mm)	**7**	**14**	**101**	**25**	**60**
Rainfall A–O (mm)	**138**	**197**	**205**	**172**	**384**

Special thanks to 2022 trial cooperator, Birchip Cropping Group.
Learn more via the NVT Long Term Yield Reporter

Table 5: Hopetoun low-med rainfall IMI.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.74	1.90	2.05		3.82
Pioneer® 44Y94 CL				Trial failed	109
Pioneer® 44Y90 CL	117	109	102		
Saintly CL		107			
Pioneer® 43Y92 CL	96	99	97		98
Hyola® 575CL	70	90			
VICTORY® V7002CL	99	97	91		
Hyola® Equinox CL					95
Sowing date	**4 May**	**26 Apr**	**24 Apr**	**25 May**	**26 Apr**
Rainfall J–M (mm)	**8**	**16**	**119**	**31**	**43**
Rainfall A–O (mm)	**120**	**152**	**232**	**168**	**360**

Special thanks to 2022 trial cooperator, Ross Brown.
Learn more via the NVT Long Term Yield Reporter

Table 6: Lameroo low-med rainfall IMI.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.31	0.96	1.02		2.21
Pioneer® 45Y95 CL	75			Trial failed	
Pioneer® 44Y94 CL		104			113
Saintly CL	165	107			
Pioneer® 44Y90 CL	77	104	102		
Hyola® Equinox CL					90
Pioneer® 45Y93 CL		100			
Pioneer® 43Y92 CL	103	99	102		93
Hyola® 575CL	63	93			
VICTORY® V7002CL	151		100		
Sowing date	**7 May**	**11 May**	**28 Apr**	**25 May**	**3 May**
Rainfall J–M (mm)	**8**	**2**	**56**	**52**	**30**
Rainfall A–O (mm)	**157**	**166**	**241**	**149**	**302**

Special thanks to 2022 trial cooperator, Wade Dabinett.
Learn more via the NVT Long Term Yield Reporter

Table 7: Birchip low-med rainfall TT.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	1.63	2.40	2.44		2.28
InVigor® LT 4530P			104	Trial failed	105
InVigor® T 4510	110	108	104		105
HyTTec® Trophy	105	102	105		108
Renegade TT(ф)					105
HyTTec® Trident	108	93	104		108
InVigor® T 4511					102
DG BIDGEE TT(ф)					106
HyTTec® Velocity					104
Hyola® Enforcer CT		100	96		101
SF Spark TT	102	98	99		98
Sowing date	**7 May**	**30 Apr**	**22 Apr**	**10 May**	**21 Apr**
Rainfall J–M (mm)	**7**	**14**	**101**	**25**	**60**
Rainfall A–O (mm)	**138**	**197**	**205**	**172**	**384**

Special thanks to 2022 trial cooperator, Birchip Cropping Group.
Learn more via the NVT Long Term Yield Reporter

Table 8: Hopetoun low-med rainfall TT.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)		1.59	2.16		3.67
InVigor® LT 4530P	Trial failed		104	Trial failed	107
InVigor® T 4510		112	104		107
HyTTec® Trophy		102	105		108
HyTTec® Trident		98	106		108
HyTTec® Velocity			105		105
Renegade TT(ф)					103
InVigor® T 4511					103
DG BIDGEE TT(ф)					101
Hyola® Enforcer CT			98		101
SF Spark TT		100	100		99
Sowing date	**4 May**	**26 Apr**	**24 Apr**	**25 May**	**26 Apr**
Rainfall J–M (mm)	**8**	**16**	**119**	**31**	**43**
Rainfall A–O (mm)	**120**	**152**	**232**	**168**	**360**

Special thanks to 2022 trial cooperator, Ross Brown.
Learn more via the NVT Long Term Yield Reporter

Table 9: Lameroo low-med rainfall TT.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.60	0.93	1.03		1.85
HyTTec® Trident	149	103	107	Trial failed	117
HyTTec® Velocity					115
InVigor® T 4510	109	107	104		115
HyTTec® Trophy	111	102	104		114
InVigor® LT 4530P					114
InVigor® T 4511					103
SF Spark TT		102	100		101
RGT Capacity™ TT			98		106
Bandit TT(ф)					97
Hyola® Enforcer CT		99	106		94
Sowing date	**7 May**	**11 May**	**28 Apr**	**25 May**	**3 May**
Rainfall J–M (mm)	**8**	**2**	**56**	**52**	**30**
Rainfall A–O (mm)	**157**	**166**	**241**	**149**	**302**

Special thanks to 2022 trial cooperator, Wade Dabinett.
Learn more via the NVT Long Term Yield Reporter

Australian canola variety disease ratings

The following table contains varietal ratings for blackleg disease of canola.
These ratings are updated twice a year by crop pathologists and were released in autumn 2023.
Varieties are listed in alphabetical order and disease ratings are colour-coded to match resistance and susceptibility ratings.

Table 10: Canola disease guide – autumn 2023 ratings.

Variety	2023 autumn blackleg rating			Type
	Bare	Fluopyram (e.g. ILeVO®)	Pydiflumetofen (e.g. Saltro®)	
CONVENTIONAL VARIETIES				
Nuseed® Quartz	R			Hybrid
Nuseed® Diamond	RMR	R	R	Hybrid
Outlaw(Φ)	RMR	R	R	Open pollinated
TRIAZINE-TOLERANT VARIETIES				
HyTTec® Trident	R			Hybrid
HyTTec® Trifecta	R			Hybrid
HyTTec® Trophy	R	R	R	Hybrid
Hyola® Blazer TT	R			Hybrid
DG BIDGEE TT(Φ)	R	R	R	Open pollinated
InVigor® T 4511	R	R		Hybrid
DG MURRAY TT(Φ)	R			Open pollinated
DG Torrens TT(Φ)	R		R	Open pollinated
Monola® H421TT	RMR			High stability oil, hybrid
Monola® 420TT	RMR			High stability oil, open pollinated
ATR-Bluefin(Φ)	RMR			Open pollinated
InVigor® T 4510	MR	R	R	Hybrid
SF Spark TT	MR	R	R	Hybrid
HyTTec® Velocity	MR			Hybrid
Renegade TT(Φ)	MR	R	R	Open pollinated
Monola® 422TT	MR			High stability oil, open pollinated
ATR-Stingray(Φ)	MRMS	R	R	Open pollinated
RGT Baseline™ TT	MRMS	R	R	Hybrid
ATR-Swordfish(Φ)	MRMS			Open pollinated
SF Dynatron™ TT	MRMS	R	R	Hybrid
InVigor® T 6010	MRMS	R	R	Hybrid
RGT Capacity™ TT	MRMS	R	R	Hybrid
Bandit TT(Φ)	MRMS	R	R	Open pollinated
AFP Cutubury(Φ)	MS	RMR	RMR	Open pollinated
ATR-Bonito(Φ)	MS	RMR	R	Open pollinated
IMIDAZOLINONE-TOLERANT VARIETIES				
Hyola® Feast CL	R			Winter, hybrid, Clearfield®
RGT Nizza CL	R			Winter, hybrid, Clearfield®
Hyola® Solstice CL	R			Hybrid, Clearfield®
Captain CL	R			Winter, hybrid, Clearfield®
Hyola® Equinox CL	R			Hybrid, Clearfield®
Pioneer® 45Y93 CL	R		R	Hybrid, Clearfield®
RGT Clavier™ CL	R			Winter, hybrid, Clearfield®
Hyola® 970CL	R			Winter, hybrid, Clearfield®
Phoenix CL	R			Winter, hybrid, Clearfield®
Nuseed® Ceres IMI	R			Hybrid
VICTORY® V7002CL	R			High stability oil, hybrid, Clearfield®

R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible.
Please check updated ratings using the Blackleg Management Guide or the NVT Disease Ratings.

Table 10: Canola disease guide – autumn 2023 ratings (continued).

Variety	2023 autumn blackleg rating			Type
	Bare	Fluopyram (e.g. ILeVO®)	Pydiflumetofen (e.g. Saltro®)	
Pioneer® 43Y92 CL	R		R	Hybrid, Clearfield®
Pioneer® 45Y95 CL	R		R	Hybrid, Clearfield®
Pioneer® 44Y94 CL	R		R	Hybrid, Clearfield®
VICTORY® V75-03CL	RMR	R		High stability oil, hybrid, Clearfield®
IMIDAZOLINONE AND TRIAZINE-TOLERANT VARIETIES				
Hyola® Enforcer CT	R			Hybrid, Clearfield®, Triazine
Pioneer® PY520 TC	RMR	R	R	Hybrid, Clearfield®, Triazine
GLYPHOSATE-TOLERANT VARIETIES				
Nuseed® Raptor TF	R			Hybrid, TruFlex®
Nuseed® Eagle TF	R		R	Hybrid, TruFlex®
DG Hotham TF	R		R	Hybrid, TruFlex®
VICTORY® V55-04TF	R	R		High stability oil, hybrid, TruFlex®
VICTORY® V5003RR	R	R		High stability oil, hybrid, Roundup Ready®
DG Lofty TF	R		R	Hybrid, TruFlex®
Pioneer® 45Y28RR	RMR		R	Hybrid, Roundup Ready®
Nuseed® Hunter TF	RMR		R	Hybrid, TruFlex®
Pioneer® 44Y27 RR	RMR	R	R	Hybrid, Roundup Ready®
InVigor® LR 4540P	RMR	R		Hybrid, LibertyLink®, TruFlex®
Pioneer® 44Y30 RR	RMR		R	Hybrid, Roundup Ready®
Nuseed® Emu TF	MR		R	Hybrid, TruFlex®
Hyola® 410XX	MR			Hybrid, TruFlex®
DG Bindo TF	MR			Hybrid, TruFlex®
InVigor® R 4022P	MR	R		Hybrid, TruFlex®
InVigor® R 4520P	MRMS	R		Hybrid, TruFlex®
GLYPHOSATE AND IMIDAZOLINONE-TOLERANT VARIETIES				
Hyola® Regiment XC	R			Hybrid, TruFlex®, Clearfield®
Hyola® Battalion XC	R			Hybrid, TruFlex®, Clearfield®
Hyola® Garrison XC	R			Hybrid, TruFlex®, Clearfield®
GLUFOSINATE AND TRIAZINE-TOLERANT VARIETIES				
InVigor® LT 4530P	RMR	R		Hybrid, LibertyLink®, Triazine

R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible.
Please check updated ratings using the Blackleg Management Guide or the NVT Disease Ratings.

CHICKPEA

Chickpea variety yield performance – Mallee South Australia and Victoria

Yield results are presented from the top-performing varieties within each NVT location in the region for the past five seasons. Results are presented (as a percentage) for each variety relative to the mean trial yield for the location within each year. Varieties are listed in descending order of average yield over the period.

The Long Term Yield Reporter provides additional information on varieties not listed and can be viewed as a table or chart with error bars. Rainfall is provided for January to March (J–M) and April to October (A–O) and, where relevant, irrigation from April to October.

Table 1: Birchip desi chickpea.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.66	1.51	2.08	2.09	
PBA Striker(Φ)	104	110	105	105	
PBA Slasher(Φ)	99	109	103	104	
PBA Maiden(Φ)	108	106	104	101	Trial failed
Ambar(Φ)	86	112			
CBA Captain(Φ)	105	102	98	104	
Neelam(Φ)	105	101	101	101	
Sowing date	14 May	14 May	14 May	20 May	10 May
Rainfall J–M (mm)	7	14	101	25	60
Rainfall A–O (mm)	138	197	205	172	384

Special thanks to 2022 trial cooperator - permission to publish was not received.
Learn more via the NVT Long Term Yield Reporter

Table 2: Rainbow desi chickpea.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.41	1.29	1.54	1.35	1.84
Ambar(Φ)	101	101			
PBA Striker(Φ)	101	110	105	114	94
PBA Slasher(Φ)	100	105	102	109	102
CBA Captain(Φ)	105	106	99	111	97
PBA Maiden(Φ)	100	111	108	107	87
Neelam(Φ)	101	103	102	105	94
PBA Seamer(Φ)					81
Sowing date	11 May	17 May	23 May	18 May	20 May
Rainfall J–M (mm)	19	22	88	51	76
Rainfall A–O (mm)	143	199	253	205	421

Special thanks to 2022 trial cooperator, Brett Fisher.
Learn more via the NVT Long Term Yield Reporter

Refer to the latest *Crop Sowing Guide* for further information at grdc.com.au/nvt-crop-sowing-guides

Table 3: Birchip kabuli chickpea.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.70	1.50	2.15	2.22	
Genesis™ 079	93				Trial failed
PBA Royal(Ф)	105	101	102	100	
Genesis™ 090	97	98	101	101	
PBA Monarch(Ф)	94	95	102	98	
PBA Magnus(Ф)	103	102	94	98	
Genesis™ Kalkee	101	88	101	90	
Almaz(Ф)	92	89	98		
Sowing date	**14 May**	**14 May**	**14 May**	**20 May**	**10 May**
Rainfall J–M (mm)	**7**	**14**	**101**	**25**	**60**
Rainfall A–O (mm)	**138**	**197**	**205**	**172**	**384**

Special thanks to 2022 trial cooperator - permission to publish was not received.
Learn more via the NVT Long Term Yield Reporter

Table 4: Rainbow kabuli chickpea.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.38	1.42	1.46	1.36	1.32
Genesis™ 079	101				
PBA Monarch(Ф)	95	101	103	93	107
Genesis™ 090	100	94	97	102	107
PBA Magnus(Ф)	103	103	97	96	
PBA Royal(Ф)	101	100	102	101	89
Almaz(Ф)	94	94	98		113
Genesis™ Kalkee	93	92	102	76	90
Sowing date	**11 May**	**17 May**	**23 May**	**18 May**	**20 May**
Rainfall J–M (mm)	**19**	**22**	**88**	**51**	**76**
Rainfall A–O (mm)	**143**	**199**	**253**	**205**	**421**

Special thanks to 2022 trial cooperator, Brett Fisher.
Learn more via the NVT Long Term Yield Reporter

Chickpea variety disease ratings – South Australia and Victoria

The following table contains varietal ratings for the predominant diseases of chickpea in South Australia and Victoria. These ratings are updated annually by crop pathologists and were released in March 2023.

Selected varieties of most relevance to South Australian and Victorian growers are listed in alphabetical order and disease ratings are colour-coded to match resistance and tolerance ratings.

Table 5: Chickpea disease guide for South Australia and Victoria.

Variety	Ascochyta blight (pathogen group 1 – south)	Phytophthora root rot	RLN resistance (*Pratylenchus neglectus*)	RLN resistance (*Pratylenchus thornei*)
DESI				
CBA Captain(Ф)	S	S	MR	MS
Neelam(Ф)	S		MRMS	MS
PBA Maiden(Ф)	S		MRMS	MRMS
PBA Seamer(Ф)	S	S	MRMS	MRMS
PBA Slasher(Ф)	S		MRMS	MRMS
PBA Striker(Ф)	S		MRMS	MRMS
KABULI				
Almaz(Ф)	S		MRMS	S
Genesis™ 090	MS		MRMS	MSS
Genesis™ Kalkee	S		MRMS	MS
PBA Magnus(Ф)	S		MR	MSS
PBA Monarch(Ф)	S		MRMS	MS
PBA Royal(Ф)	MS		MR	MS

Learn more via the NVT Disease Ratings.
R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible.

FABA BEAN

Faba bean variety yield performance – Mallee South Australia and Victoria

Yield results are presented from the top-performing varieties within each NVT location in the region for the past five seasons. Results are presented (as a percentage) for each variety relative to the mean trial yield for the location within each year. Varieties are listed in descending order of average yield over the period.

The Long Term Yield Reporter provides additional information on varieties not listed and can be viewed as a table or chart with error bars. Rainfall is provided for January to March (J–M) and April to October (A–O) and, where relevant, irrigation from April to October.

Table 1: Lameroo faba bean.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)		**0.95**			**4.75**
PBA Zahra^{Ф}	Trial results below standard	97	Trial failed	Compromised trial	111
PBA Samira^{Ф}		99			103
PBA Bendoc^{Ф}		101			100
PBA Amberley^{Ф}		96			100
Farah^{Ф}		92			96
Fiesta VF		89			95
PBA Marne^{Ф}		81			95
Nura^{Ф}		93			92
PBA Rana^{Ф}		84			91
Sowing date	**8 May**	**11 May**	**28 Apr**	**25 May**	**16 May**
Rainfall J–M (mm)	**8**	**2**	**56**	**52**	**30**
Rainfall A–O (mm)	**153**	**166**	**241**	**149**	**302**

Special thanks to 2022 trial cooperator, Andy Hunt.
Learn more via the NVT Long Term Yield Reporter

Refer to the latest *Crop Sowing Guide* for further information at grdc.com.au/nvt-crop-sowing-guides

Faba bean variety disease ratings – South Australia and Victoria

The following table contains varietal ratings for the predominant diseases of faba bean in South Australia and Victoria. These ratings are updated annually by crop pathologists and were released in March 2023.

Selected varieties of most relevance to South Australian and Victorian growers are listed in alphabetical order and disease ratings are colour-coded to match resistance and tolerance ratings.

Table 2: Faba bean disease guide for South Australia and Victoria.

Variety	Ascochyta blight	Cercospora leaf spot	Chocolate spot (Botrytis)	RLN resistance (*Pratylenchus thornei*)	Leaf rust
Farah[ф]	S	S	S	MS	VS
Fiesta VF	S	S	S	MS	VS
Nura[ф]	MR (P)	S	MS	MS	VS
PBA Amberley[ф]	MR	S	MRMS	MS	VS
PBA Bendoc[ф]	MR	S	S	MRMS	VS
PBA Marne[ф]	MS (P)	S	MS (P)	MS	MRMS
PBA Rana[ф]	MRMS	S	MS	MS	VS
PBA Samira[ф]	MR (P)	S	MS	MRMS	S
PBA Zahra[ф]	MRMS	S	MS	MRMS	S

Learn more via the NVT Disease Ratings.
R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible, (P) = provisional rating.

FIELD PEA

Field pea variety yield performance – Mallee South Australia and Victoria

Yield results are presented from the top-performing varieties within each NVT location in the region for the past five seasons. Results are presented (as a percentage) for each variety relative to the mean trial yield for the location within each year. Varieties are listed in descending order of average yield over the period.

The Long Term Yield Reporter provides additional information on varieties not listed and can be viewed as a table or chart with error bars. Rainfall is provided for January to March (J–M) and April to October (A–O) and, where relevant, irrigation from April to October.

Table 1: Birchip field pea.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	1.56	2.76	2.74	2.82	
PBA Butler(Ф)	103	113		109	
PBA Taylor(Ф)	103	113	106	106	
PBA Pearl	102	107	108	104	
Kaspa(Ф)	99	106	102	106	
PBA Noosa(Ф)	97	107	97	103	Trial failed
PBA Gunyah(Ф)	97	102		102	
PBA Wharton(Ф)	100	101	96	98	
PBA Oura(Ф)	99	94	97	96	
PBA Percy	101	88	101	94	
GIA Kastar(Ф)*			84	88	
Sowing date	**14 May**	**14 May**	**14 May**	**20 May**	**10 May**
Rainfall J–M (mm)	**7**	**14**	**101**	**25**	**60**
Rainfall A–O (mm)	**138**	**197**	**205**	**172**	**384**

Special thanks to 2022 trial cooperator - permission to publish was not received.
* herbicide-tolerant variety. Learn more via the NVT Long Term Yield Reporter

Table 2: Lameroo field pea.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	1.07	0.18		1.61	3.83
PBA Pearl	144	199		104	114
PBA Butler(Ф)	92	138		104	112
PBA Noosa(Ф)	134	171		103	98
PBA Percy	114	96		97	105
PBA Taylor(Ф)	91	116	Trial failed	104	104
PBA Oura(Ф)	115	103		98	98
PBA Gunyah(Ф)	95	103		100	96
Kaspa(Ф)	69	86		101	102
PBA Wharton(Ф)	100	86		100	93
GIA Ourstar(Ф)*				92	84
Sowing date	**15 May**	**21 May**	**18 May**	**3 Jun**	**16 May**
Rainfall J–M (mm)	**8**	**2**	**56**	**52**	**30**
Rainfall A–O (mm)	**153**	**166**	**241**	**149**	**302**

Special thanks to 2022 trial cooperator, Andy Hunt.
* herbicide-tolerant variety. Learn more via the NVT Long Term Yield Reporter

Refer to the latest *Crop Sowing Guide* for further information at grdc.com.au/nvt-crop-sowing-guides

Table 3: Ouyen field pea.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)			2.04		3.26
PBA Taylor(b)	No trial	No trial	108	Compromised trial	117
PBA Butler(b)					116
PBA Pearl			107		107
PBA Wharton(b)			102		100
Kaspa(b)			93		104
PBA Noosa(b)			100		98
PBA Oura(b)			99		93
PBA Gunyah(b)					96
PBA Percy			99		91
GIA Kastar(b)*			87		77
Sowing date			**12 May**	**25 May**	**10 May**
Rainfall J–M (mm)			**50**	**25**	**89**
Rainfall A–O (mm)			**277**	**157**	**387**

Special thanks to 2022 trial cooperator - permission to publish was not received.
* herbicide-tolerant variety. Learn more via the NVT Long Term Yield Reporter

Table 4: Rainbow field pea.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)		2.62		2.61	3.11
PBA Butler(b)	Compromised trial	111	Trial results below standard	110	112
PBA Taylor(b)		106		111	107
PBA Pearl		102		100	117
Kaspa(b)		108		106	98
PBA Noosa(b)		93		102	102
PBA Gunyah(b)		99		101	95
PBA Wharton(b)		96		102	95
PBA Percy		99		89	103
PBA Oura(b)		95		94	98
GIA Kastar(b)*				90	74
Sowing date	**11 May**	**17 May**	**22 May**	**18 May**	**20 May**
Rainfall J–M (mm)	**19**	**22**	**88**	**51**	**76**
Rainfall A–O (mm)	**143**	**199**	**253**	**205**	**421**

Special thanks to 2022 trial cooperator, Brett Fisher.
* herbicide-tolerant variety. Learn more via the NVT Long Term Yield Reporter

Table 5: Ultima field pea.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.45	0.74	1.05	1.48	
PBA Pearl	133	118	147	104	Trial failed
PBA Noosa(b)	116	110	124	114	
PBA Butler(b)	87	106		113	
PBA Oura(b)	115	101	111	93	
PBA Percy	120	100	120	83	
PBA Taylor(b)	92	106	88	111	
PBA Gunyah(b)	88	97		109	
PBA Wharton(b)	102	100	89	100	
Kaspa(b)	64	93	83	113	
GIA Ourstar(b)*			105	78	
Sowing date	**21 May**	**8 May**	**11 May**	**11 May**	**10 May**
Rainfall J–M (mm)	**22**	**18**	**47**	**29**	**63**
Rainfall A–O (mm)	**120**	**161**	**233**	**199**	**453**

Special thanks to 2022 trial cooperator - permission to publish was not received.
* herbicide-tolerant variety. Learn more via the NVT Long Term Yield Reporter

Field pea variety disease ratings – South Australia and Victoria

The following table contains varietal ratings for the predominant diseases of field pea in South Australia and Victoria. These ratings are updated annually by crop pathologists and were released in March 2023.

Selected varieties of most relevance to South Australian and Victorian growers are listed in alphabetical order and disease ratings are colour-coded to match resistance and tolerance ratings.

Table 6: Field pea disease guide for South Australia and Victoria.

Variety	Bacterial blight	Downy mildew	Powdery mildew	RLN resistance (*Pratylenchus neglectus*)	RLN resistance (*Pratylenchus thornei*)
GIA Kastar(Φ)	S	S	RMR	MR	MS
GIA Ourstar(Φ)	S (P)	S	S	MRMS	MSS
Kaspa(Φ)	S	S	S	RMR	MRMS
PBA Butler(Φ)	MS	S	S	RMR	MRMS
PBA Gunyah(Φ)	S	S	S	RMR	MRMS
PBA Noosa(Φ)	S	MS	S	MR	MRMS
PBA Oura(Φ)	MS	S	S	MR	MRMS
PBA Pearl	MS	S	S	MR	MRMS
PBA Percy	MRMS	S	S	RMR	RMR
PBA Taylor(Φ)	S	S	S	RMR	MRMS
PBA Twilight(Φ)	S	S	S	MR	MRMS
PBA Wharton(Φ)	S	S	RMR	MR	MRMS

Learn more via the NVT Disease Ratings.
R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible, (P) = provisional rating.

LENTIL

New lentil varieties

The following information is for lentil varieties released in the 12 months to the date when the MET analysis was published on NVT online.

Variety	Variety owner	Grain classification	End point royalty* ($)	Comments supplied by variety owner
GIA Leader(Φ)	Grains Innovation Australia	Red	5.40	An imidazolinone-tolerant red lentil variety well suited to reliable lentil growing areas in medium to higher-rainfall zones. GIA Leader(Φ) has a good level of foliar disease resistance (both Botrytis grey mould (BGM) and Ascochyta blight) and improved vegetative frost tolerance compared to PBA Hurricane XT(Φ). This variety has imidazolinone and soil residue sulfonylurea herbicide tolerance similar to existing XT varieties. GIA Leader(Φ) has mid to late flowering and maturity, similar to Nugget, making it well suited to early sowing. It has a spreading plant type that can assist protection of pods at maturity. Uniform grey seed coat and the grain is well suited to the medium-sized Nugget-type market.
GIA Lightning(Φ)	Grains Innovation Australia	Red	5.40	An imidazolinone-tolerant, high-yielding small round red lentil with superior adaptation to light textured sandy soils than other lentil varieties, making it suitable for growing in Mallee regions. GIA Lightning(Φ) has an upright plant type, which aids harvestability. This variety has imidazolinone and soil residue sulfonylurea herbicide tolerance similar to existing XT varieties. GIA Lightning(Φ) is mid to late flowering with mid-maturity, has moderate resistance to pod drop and lodging, and is resistant/moderately resistant to shattering at maturity. GIA Lightning(Φ) has the same Ascochyta blight disease rating as GIA Thunder(Φ) but is more susceptible to BGM. GIA Lightning(Φ) is not well suited to soil types or regions prone to BGM.
GIA Metro(Φ)	Grains Innovation Australia	Red	7.50	The first lentil to combine imidazolinone and metribuzin herbicide tolerances. This unique combination of herbicide tolerance will expand weed control options in lentil, particularly in light-textured soils prone to damage from the application of Group 5 (previously Group C) herbicides. Grain yield is significantly lower than existing lentil varieties in the absence of weed pressure, or where weeds are controlled effectively without crop damage from Group 5 herbicides. GIA Metro(Φ) is a large, lens-shaped red lentil with a grey seed coat.
GIA Sire(Φ)	Grains Innovation Australia	Red	TBC	The first lentil with improved tolerance to Clopyralid soil residues from a prior crop applied according to product label directions. GIA Sire(Φ) is a premium, small, round red lentil with a grey seed coat. Its tolerance to imidazolinone and soil residue sulfonylurea is similar to existing XT varieties. GIA Sire(Φ) is slow-growing with smaller plant parts, increased basal branching and shorter plant height compared to other lentil varieties. It is best suited to agronomic practices such as early sowing and lentil growing environments that maximise growth, harvest height and grain yield. Avoid growing this variety in low-fertility sandy soils or low-rainfall, frost-prone environments. Seed of GIA Sire(Φ) is available only under small, scale-controlled release.
GIA Thunder(Φ)	Grains Innovation Australia	Red	5.40	A broadly adapted, imidazolinone-tolerant, small, round red lentil, offering growers high and stable yields across all lentil growing regions. GIA Thunder(Φ) is a mid-flowering and mid-maturing variety, with better vegetative frost tolerance than PBA HighlandXT(Φ), PBA Hallmark XT(Φ), PBA Hurricane XT(Φ) and GIA Lightning(Φ). GIA Thunder(Φ) has similar Group 2 (imidazolinone and soil residue sulfonylurea) herbicide tolerance to existing XT varieties. GIA Thunder(Φ) has the same Ascochyta blight disease rating as PBA Hurricane XT(Φ) and GIA Lightning(Φ) but an improved BGM rating over both. The grain is well suited to the small premium round grain market with a uniform grey seed coat with seed size similar to PBA Hurricane XT(Φ).

* EPR amount is ex-GST, (Φ) denotes Plant Breeder's Rights apply, TBC denotes to be confirmed.

The table above has been updated in this ***Revised May 2023*** harvest report. Please disregard all previous versions of this report, which regrettably contained incorrect information. Of specific importance, it should be noted that GIA Thunder(Φ) lentil is in the same small round lentil market class as PBA Hurricane XT(Φ); this was incorrectly stated in previous editions.

Refer to the latest *Crop Sowing Guide* for further information at grdc.com.au/nvt-crop-sowing-guides

Lentil variety yield performance – Mallee South Australia and Victoria

Yield results are presented from the top-performing varieties within each NVT location in the region for the past five seasons. Results are presented (as a percentage) for each variety relative to the mean trial yield for the location within each year. Varieties are listed in descending order of average yield over the period.

The Long Term Yield Reporter provides additional information on varieties not listed and can be viewed as a table or chart with error bars. Rainfall is provided for January to March (J–M) and April to October (A–O) and, where relevant, irrigation from April to October.

Table 1: Birchip lentil.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.89	2.40	2.15	2.72	
GIA Lightning(ф)*			107	109	Trial failed
PBA Ace(ф)	108	105	112	103	
GIA Thunder(ф)*			111	106	
PBA Jumbo2(ф)	108	100	112	101	
GIA Leader(ф)*		104	106	100	
PBA Hurricane XT(ф)*	98	104	102	101	
PBA HighlandXT(ф)*	91	104	99	105	
PBA Hallmark XT(ф)*	99	103	102	100	
PBA Bolt(ф)	98	101	97	103	
PBA Kelpie XT(ф)	90	95	87	100	
Sowing date	**14 May**	**14 May**	**14 May**	**20 May**	**10 May**
Rainfall J–M (mm)	**7**	**14**	**101**	**25**	**60**
Rainfall A–O (mm)	**138**	**197**	**205**	**172**	**384**

Special thanks to 2022 trial cooperator, Cameron Warne.
* herbicide-tolerant variety. Learn more via the NVT Long Term Yield Reporter

Table 2: Lameroo lentil.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.80	0.37			3.29
GIA Thunder(ф)*			Trial failed	Compromised trial	124
GIA Leader(ф)*		114			107
PBA Hallmark XT(ф)*	116	115			106
PBA Hurricane XT(ф)*	114	108			104
GIA Lightning(ф)*					95
PBA Jumbo2(ф)	88	84			105
Nipper(ф)	67	125			101
PBA Kelpie XT(ф)*	82	87			100
PBA HighlandXT(ф)*	109	91			93
PBA Ace(ф)		98			86
Sowing date	**15 May**	**21 May**	**18 May**	**3 Jun**	**16 May**
Rainfall J–M (mm)	**8**	**2**	**56**	**52**	**30**
Rainfall A–O (mm)	**153**	**166**	**241**	**149**	**302**

Special thanks to 2022 trial cooperator, Andy Hunt.
* herbicide-tolerant variety. Learn more via the NVT Long Term Yield Reporter

Table 3: Ouyen lentil.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)					2.71
GIA Thunder(ф)*	No trial	No trial	No trial	Compromised trial	112
PBA Hallmark XT(ф)*					103
GIA Lightning(ф)*					102
PBA Jumbo2(ф)					102
PBA HighlandXT(ф)*					99
PBA Kelpie XT(ф)*					99
PBA Ace(ф)					96
Nipper(ф)					93
PBA Bolt(ф)					91
PBA Blitz(ф)					90
Sowing date				**25 May**	**10 May**
Rainfall J–M (mm)				**25**	**89**
Rainfall A–O (mm)				**157**	**387**

Special thanks to 2022 trial cooperator, Dean Munro.
* herbicide-tolerant variety. Learn more via the NVT Long Term Yield Reporter

Table 4: Rainbow lentil.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.42	1.69	1.29		2.87
GIA Thunder(ф)*			129	Compromised trial	131
PBA Jumbo2(ф)	100	113	107		122
GIA Lightning(ф)*			128		89
PBA Kelpie XT(ф)*	97	102	92		101
PBA Hallmark XT(ф)*	102	94	105		98
PBA HighlandXT(ф)*	104	99	110		89
PBA Ace(ф)	103	101	109		86
PBA Blitz(ф)		100	64		87
PBA Bolt(ф)	101	98	98		69
Nipper(ф)		92	50		96
Sowing date	**11 May**	**17 May**	**22 May**	**18 May**	**20 May**
Rainfall J–M (mm)	**19**	**22**	**88**	**51**	**76**
Rainfall A–O (mm)	**143**	**199**	**253**	**205**	**421**

Special thanks to 2022 trial cooperator, Brett Fisher.
* herbicide-tolerant variety. Learn more via the NVT Long Term Yield Reporter

Table 5: Ultima lentil.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.35		1.31		3.93
GIA Thunder(Φ)*		Compromised trial	116	Compromised trial	128
PBA Jumbo2(Φ)	110		108		117
GIA Lightning(Φ)*			122		93
PBA Hallmark XT(Φ)*	94		101		100
PBA Kelpie XT(Φ)*	109		92		101
PBA HighlandXT(Φ)*	107		109		92
PBA Ace(Φ)	96		113		87
Nipper(Φ)			60		94
PBA Blitz(Φ)			76		86
PBA Bolt(Φ)	99		106		73
Sowing date	**21 May**	**8 May**	**11 May**	**11 May**	**10 May**
Rainfall J–M (mm)	**22**	**18**	**47**	**29**	**63**
Rainfall A–O (mm)	**120**	**161**	**233**	**199**	**453**

Special thanks to 2022 trial cooperator - permission to publish was not received.
* herbicide-tolerant variety. Learn more via the NVT Long Term Yield Reporter

Lentil variety disease ratings – South Australia and Victoria

The following table contains varietal ratings for the predominant diseases of lentil in South Australia and Victoria. These ratings are updated annually by crop pathologists and were released in March 2023.

Selected varieties of most relevance to South Australian and Victorian growers are listed in alphabetical order and disease ratings are colour-coded to match resistance and tolerance ratings.

Table 6: Lentil disease guide for South Australia and Victoria.

Variety	Ascochyta blight (Pathotype 2 PBA Hurricane XT(Φ) virulent)	Ascochyta blight (Pathotype 1 Nipper(Φ) virulent)	Botrytis grey mould	RLN resistance (*Pratylenchus neglectus*)	RLN resistance (*Pratylenchus thornei*)
GIA Leader(Φ)	MR	MR	MRMS (P)	R	MR
GIA Lightning(Φ)	MRMS	R	MS	R	MR
GIA Metro(Φ)	RMR	MR	MRMS	MR	MRMS
GIA Sire(Φ)	MRMS (P)	R	MS	MR	MR
GIA Thunder(Φ)	MRMS	R	MRMS	MR	R
Nipper(Φ)	MR	MRMS	MRMS (P)	RMR	MR
PBA Ace(Φ)	MR	R	MS	MR	MRMS
PBA Blitz(Φ)	MR	MRMS	MS (P)	MR	MRMS
PBA Bolt(Φ)	MRMS	MR	S	MR	MR
PBA Hallmark XT(Φ)	MRMS	RMR	MRMS (P)	MR	MRMS
PBA HighlandXT(Φ)	MR	MR	MS	MR	MRMS
PBA Hurricane XT(Φ)	MRMS	RMR	MS	MRMS	MRMS
PBA Jumbo2(Φ)	RMR (P)	R	MR (P)	MR	MRMS
PBA Kelpie XT(Φ)	MRMS	MRMS	MS (P)	MRMS	MRMS

Learn more via the NVT Disease Ratings.
R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible, (P) = provisional rating.

LUPIN

New lupin varieties

The following information is for lupin varieties released in the 12 months to the date when the MET analysis was published on NVT online.

Variety	Variety owner	End point royalty* ($)	Comments supplied by variety owner
Lawler[ф]	Australian Grain Technologies	4.00	A widely adapted variety, offering growers high and stable yields across all NSW, Victorian and South Australian lupin growing regions.

* EPR amount is ex-GST, [ф] denotes Plant Breeder's Rights apply.

Refer to the latest *Crop Sowing Guide* for further information at grdc.com.au/nvt-crop-sowing-guides

Lupin variety yield performance – Mallee South Australia and Victoria

Yield results are presented from the top-performing varieties within each NVT location in the region for the past five seasons. Results are presented (as a percentage) for each variety relative to the mean trial yield for the location within each year. Varieties are listed in descending order of average yield over the period.

The Long Term Yield Reporter provides additional information on varieties not listed and can be viewed as a table or chart with error bars. Rainfall is provided for January to March (J–M) and April to October (A–O) and, where relevant, irrigation from April to October.

Table 1: Hopetoun narrow-leaf lupin.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)		1.81	1.66	2.08	3.02
PBA Gunyidi[Ф]	Trial failed	110	110		103
Jenabillup[Ф]		105	108		108
PBA Bateman[Ф]		106	103	103	105
PBA Jurien[Ф]		102	96		111
PBA Barlock[Ф]		98	97	98	111
Quilinock		98	101	94	108
Mandelup[Ф]		96	94	100	104
Coyote[Ф]			93	105	98
Lawler[Ф]			91	103	99
Wonga		87	96	86	107
Sowing date	**4 May**	**26 Apr**	**24 Apr**	**25 May**	**5 May**
Rainfall J–M (mm)	**8**	**27**	**87**	**31**	**43**
Rainfall A–O (mm)	**120**	**135**	**225**	**168**	**360**

PBA Gunyidi[Ф] and PBA Jurien[Ф] were not included in 2021 due to a seed quality issue.
Special thanks to 2022 trial cooperator, Devon Mill.
Learn more via the NVT Long Term Yield Reporter

Table 2: Lameroo narrow-leaf lupin.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)			2.14		3.79
PBA Jurien[Ф]	Compromised trial	Trial failed	99	Trial failed	114
PBA Bateman[Ф]			102		107
PBA Barlock[Ф]			100		108
Mandelup[Ф]			98		106
Coyote[Ф]			96		107
Lawler[Ф]			96		106
PBA Gunyidi[Ф]			105		100
Jenabillup[Ф]			105		100
Wonga			100		92
Jindalee			93		77
Sowing date	**28 May**	**21 May**	**28 Apr**	**25 May**	**12 May**
Rainfall J–M (mm)	**8**	**2**	**56**	**52**	**30**
Rainfall A–O (mm)	**157**	**166**	**241**	**149**	**302**

Special thanks to 2022 trial cooperator, Brad Moyle.
Learn more via the NVT Long Term Yield Reporter

Table 3: Walpeup narrow-leaf lupin.

Year	2018	2019	2020	2021	2022
Mean yield (t/ha)	0.87	0.89	1.44	1.41	3.82
PBA Jurien[Ф]		106	93	95	113
PBA Barlock[Ф]		113	93	94	112
Jenabillup[Ф]	94	132	98		110
PBA Bateman[Ф]	111	112	98	97	107
PBA Gunyidi[Ф]		126	102	97	106
Quilinock	99	121	96	96	108
Mandelup[Ф]		94	96	98	104
Wonga	89	113	94	97	103
Coyote[Ф]	119		99	102	98
Lawler[Ф]			98	101	98
Sowing date	**7 May**	**8 May**	**28 Apr**	**25 May**	**5 May**
Rainfall J–M (mm)	**7**	**9**	**85**	**54**	**86**
Rainfall A–O (mm)	**134**	**118**	**247**	**189**	**444**

Special thanks to 2022 trial cooperator, Ross Stone.
Learn more via the NVT Long Term Yield Reporter

Lupin variety disease ratings – South Australia and Victoria

The following table contains varietal ratings for the predominant diseases of lupin in South Australia and Victoria. These ratings are updated annually by crop pathologists and were released in March 2023.

Selected varieties of most relevance to South Australian and Victorian growers are listed in alphabetical order and disease ratings are colour-coded to match resistance and tolerance ratings.

Table 4: Lupin disease guide for South Australia and Victoria.

Variety	Anthracnose resistance	Cucumber mosaic virus (CMV)	Phomopsis pod infection	Phomopsis stem infection
Coyote[Φ]	MRMS	MRMS	MRMS	S
Jenabillup[Φ]	MS	MRMS	MR	MS
Jindalee	MRMS	S	MR	RMR
Lawler[Φ]	MR	MRMS	MS	MR
Mandelup[Φ]	MRMS	MRMS	S	RMR
PBA Barlock[Φ]	RMR	MR	MR	MR
PBA Bateman[Φ]	MRMS	MR	MS	RMR
PBA Gunyidi[Φ]	MRMS	MRMS	MRMS	RMR
PBA Jurien[Φ]	RMR	MS	MR	RMR
Quilinock	VS	MS	S	S
Wonga	RMR	MR	MR	MR

Learn more via the NVT Disease Ratings.
R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible.

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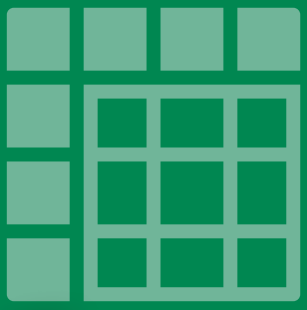

NVT Disease Ratings

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