

# DBA-AURORA

## Quick Facts

*When compared to other current commercial grown varieties including Hyperno, Saintly, Tjilkuri, Yawa and WID802 in the southern region, DBA-Aurora stacks up by:*

- Maintaining a high relative yield (Table 1);
- Having a superior disease resistance package (Table 2);
- Has an acceptable protein average (Table 3);
- Delivering improved grain size (Table 4);
- Importantly, having reduced screenings compared to some varieties (Table 5);
- Showing early vigour and weed competitiveness.

DBA-Aurora will help alleviate some of the risk associated with growing durum and improve durum's fit in the farming system rotation.

DBA-Aurora has been granted the Wheat Quality Australia classification ADR (Australian premium durum) for both the southern and northern regions of Australia.

**Table 1. DBA-Aurora yield performance in southern national variety trials (NVT) averaged across five years (2009-2013).** Data calculated using Best Linear Unbiased Predictions (BLUPs) analysis and is expressed as a % above or below the area mean. Abbreviations: MN – Mid-North; YP – Yorke Peninsula; VIC – Victoria. Excluding Yawa, DBA-Aurora has out-yielded every current commercially grown durum (e.g. Jandaroi) by as much as 19% (region and variety dependent). On an average 4 t ha<sup>-1</sup> crop this could potentially translate to as much as a substantial 0.78 t ha<sup>-1</sup> yield improvement. Data kindly analysed by Dr Alison Kelly and team at Statistics for the Australian Grains Industry (SAGI).

	DBA-Aurora	WID802	Yawa	Tjilkuri	Hyperno	Saintly	Caparoi	Jandaroi	
Southern	MN	111	110	115	104	107	104	98	92
	YP	109	107	110	104	103	105	101	96
	VIC	111	104	114	103	107	110	102	98

## Pedigree

Tamaroi\*2/Kalka//RH920318/Kalka///Kalka\*2/Tamaroi.

## Breeding

The origin of DBA-Aurora is from the combination of two fixed lines. The first (maternal parent) of these is Tamaroi\*2/Kalka//RH920318/Kalka, which was crossed to the paternal parent Kalka\*2/Tamaroi.

## Grain Quality

- DBA-Aurora is an ADR classified durum variety for both the southern and northern regions of Australia.
- San Remo has assessed and confirmed that DBA-Aurora is a high quality variety for pasta production, using both small (20 kg) and large (30 t) scale mill tests.
- DBA-Aurora milled grain yields equivalent or better than the check varieties.
- The semolina has a superior yellow colour to that made from check varieties with b\* values in the high 20's; however this is not superior to varieties such as Yawa (low 30's).
- Dough properties are acceptable to check varieties.
- Pasta made from DBA-Aurora appears brighter and more desirable to the eye than the check varieties.

## Sowing Time

As for other durum varieties released in the southern region, DBA-Aurora is well suited to early-sowing (early-May) or mid-sowing (late-May/early-June).

Sowing beyond early-June may increase the likelihood of higher screenings, and subsequently result in quality downgrades.

## Herbicide Reaction

DBA-Aurora has tolerance to a range of common grass and broadleaf herbicides.

Further evaluation for DBA-Aurora is being undertaken by SARDI (Rob Wheeler) and the SADGA as part of a SAGIT-funded durum project.

**Table 2. DBA-Aurora disease resistance ratings compared to the currently grown dominant varieties in the southern region.** DBA-Aurora has equivalent or superior ratings for all of the diseases listed. SVS(p) is provisional and is based on two years data. All data has been sourced courtesy of the NVT disease ratings (2013 consensus).

Disease	DBA-Aurora	WID802	Yawa	Tjilkuri	Hyperno	Saintly
Leaf Rust	RMR	RMR	MR	RMR	RMR	MRMS
Stem Rust	RMR	RMR	RMR	MR	R	MR
Stripe Rust	RMR	MR	MR	MR	MR	MR
Yellow Leaf Spot	MRMS	MRMS	MRMS	MRMS	MRMS	MRMS
Powdery Mildew	RMR	MRMS	MS	S	MR	S
Bunt	MR	MS	MSS	MS	MSS	S
P. neglectus	MS	MS	MS	MSS	MS	S
P. thornei	RMR	MS	RMR	MS	MR	MR
Black-point	MS	MSS	MRMS	S	MS	MS
Crown Rot	SVS(p)	VS	VS	VS	SVS	VS

**Table 3. DBA-Aurora protein achievement in southern national variety trials (NVT) averaged across regional areas and for three years (2011-2013) when compared to those varieties commonly grown in the regions shown.** Abbreviations: MN – Mid-North (which includes the trial sites of Mintaro, Spalding and Turretfield); YP – Yorke Peninsula (which includes the trial sites of Paskeville, Wokurna and Urania); VIC – Victoria (where the trial site is represented from Kaniva alone).

		DBA-Aurora	WID802	Yawa	Tjilkuri	Hyperno	Saintly
Southern	MN	12.8	12.6	12.5	12.9	13	12.7
	YP	12	12.5	12.2	12.4	12.8	12
	VIC	11.5	11	11	11.6	11.3	11.3

## Risk Factors

DBA-Aurora may result in lower levels of protein as a consequence of its high yielding performance, so it is important to ensure that growers have suitable strategies in place for nitrogen management.

Screenings for DBA-Aurora will typically fall comfortably under 5% in the southern region (Table 5); however in 2012 and 2013 at Turretfield, heat events significantly impacted on the performance of all varieties (excluding Saintly, which is an earlier maturing variety) causing the average to be significantly higher than 5%.

**Table 4. Varieties differ in their thousand grain weight (TG) and test weight (TW) with DBA-Aurora showing consistently higher thousand grain weight and high hectolitre weight.** The data is from the durum NVT conducted in the southern region of Australia, with those varieties commonly grown in the region shown. Thousand grain weight (TG – g/1000 seeds) and hectolitre weight (TW – kg/hectolitre) is presented from two years (2011 and 2012), except Saintly at Kaniva where only one year's data for TW is available (2011). Abbreviations: MN – Mid-North (MIN – Mintaro,

SPA – Spalding, TUR – Turretfield); YP – Yorke Peninsula (PAS – Paskeville, WOK – Wokurna, URA – Urania); VIC – Victoria (KAN – Kaniva). Numbers have been rounded up or down appropriately to whole figures.

	MN MIN		MN SPA		MN TUR		YP PAS		YP WOK		YP URA		VIC KAN	
	TG	TW	TG	TW	TG	TW	TG	TW	TG	TW	TG	TW	TG	TW
DBA-Aurora	46	81	43	80	38	80	39	82	44	79	45	80	43	79
WID802	38	79	38	79	33	77	34	80	40	78	39	78	40	78
Yawa	35	80	36	80	30	79	36	82	34	79	37	82	38	79
Tjilkuri	41	79	42	80	36	77	37	82	42	79	43	80	36	78
Hyperno	43	81	43	81	34	79	36	82	40	80	43	81	44	79
Saintly	42	80	40	80	37	80	41	83	43	82	42	83	40	79

## Seed Availability

Seed will be available in time for the 2015 sowing season and can be purchased from the Southern Australian Durum Growers Association (SADGA) – see <http://durumgrowerssa.org.au/> or contact Neville Sharpe (0419 607 120).

DBA-Aurora is PBR protected and a royalty (EPR) will be required to be paid for growing this variety which will subsequently be used for reinvestment back into the University's durum breeding program.

**Table 5. DBA-Aurora screenings levels in southern national variety trials (NVT) averaged across three years (2011-2013). DBA-Aurora has reduced screenings in the majority of trials when compared to the varieties WID802, Yawa and Hyperno.**

An overall average screenings level from all trials (19) across the three years is shown in the last row. Kaniva (2011, 2013) and Mintaro (2011, 2012) are represented by only two years data.

	DBA-Aurora	WID802	Yawa	Tjilkuri	Hyperno	Saintly
Mintaro	1.5	2.3	3.4	1.6	1.5	1.5
Spalding	2.3	4	4.3	1.7	3.2	2
Turretfield	8.1	7.5	9.5	8	10.6	3.6
Paskeville	1.2	2.1	3.9	1.5	2.9	1.2
Wokurna	3.1	3.9	5.9	2.4	6	1.3
Urania	2.4	2.7	4.7	1.7	3.8	1.7
Kaniva	4.8	5.6	7.2	5.9	4.7	3.9
Overall Average	3.3	4	5.6	3.3	4.7	2.2

**Disclaimer:** The information in this fact sheet is current as of September 2014. Continuing agronomic, disease, and quality testing will make it necessary for growers to source updated information from time to time.

## Acknowledgements

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National Variety Trial (NVT) data has been used in compiling this fact sheet and the GRDC is acknowledged for its use.