

# DBA-AURORA

## DBA-Aurora *Quick Facts*

When compared to other current commercial grown varieties in the northern and southern regions of NSW, DBA-Aurora stacks up by:

- Maintaining a very high relative yield (Table 1);
- Having an equivalent to superior disease resistance package (Table 2);
- Delivering equivalent grain size when compared to most varieties (Table 3).

### Grain Quality

- DBA-Aurora is ADR (Australian premium durum) classified for the southern, south-eastern, and northern zones of Australia.
- San Remo has assessed DBA-Aurora as a high quality variety for pasta production with commercial scale mill tests.
- DBA-Aurora milled grain yields equivalent to check varieties.
- The semolina has an equivalent yellow colour to that made from varieties such as Jandaroi and Caparoi; however it is not superior to varieties such as Bellaroi.
- Dough properties are acceptable to check varieties.

### Sowing Time & Herbicide Reaction

- DBA-Aurora appears well suited to a tighter sowing window between mid-May to end-May. Sowing beyond the first week of June may increase the likelihood of higher screenings, and subsequently result in quality downgrades.
- DBA-Aurora has tolerance to a range of common grass and broadleaf herbicides.

### Risk Factors

- DBA-Aurora may result in lower levels of protein (Table 4) as a consequence of its high yielding performance (yield-protein dilution effect), so it is important to have suitable nitrogen management strategies in place.
- Depending on the region and season, screenings for DBA-Aurora can be above 5% (Table 5), as is the case with Hyperno which is another high yielding variety. Growers need to be aware of this risk which would impact on the grading received if screenings were above 5%.

### Breeding & Plant Type

- DBA-Aurora was bred by the Southern Node of DBA at the University of Adelaide.
- DBA-Aurora originated from the combination of two fixed lines. The first being Tamaroi\*2/Kalka//RH920318/Kalka, which was crossed to Kalka\*2/Tamaroi.
- DBA-Aurora has good early vigour and is a mid-season maturity durum, with flowering time between Jandaroi and Caparoi.

### Seed Availability

- Southern Australian Durum Growers Association (SADGA) – see <http://www.durumgrowerssa.org.au/> or contact Neville Sharpe (0419 607 120).
- DBA-Aurora is PBR protected and a royalty (EPR) of \$3.00 ex. GST will be required to be paid for growing this variety.

### Disclaimer

- The information in this fact sheet is current as of October 2015.
- Continuing agronomic, disease, and quality testing will make it necessary for growers to source updated information from time to time.

### Acknowledgements

- GRDC, SAGIT and San Remo for funding support to the University of Adelaide's breeding program.
- National Variety Trial (NVT) data has been used in compiling this fact sheet and the GRDC is acknowledged for its use.
- DBA is a national initiative established between the GRDC, NSW DPI and the University of Adelaide. It aims to develop new durum varieties to meet 'tomorrow's markets'.

**Table 1. DBA-Aurora yield performance in northern national variety trials (NVT) averaged across five years (2010-2014).**

Data calculated using Best Linear Unbiased Predictions (BLUPs) analysis and is expressed as a % above or below the area mean (t ha<sup>-1</sup> equivalent in parentheses). Abbreviations: NENSW – North East NSW; NWNSW – North West NSW; SNSW – Southern NSW; SWQ – South-West QLD; CQ – Central QLD. DBA-Aurora out-yields the current dominant commercially grown durum variety (Jandaroi) by as much as 19% (region and variety dependent). On an average 4 t ha<sup>-1</sup> crop this may translate to a substantial 0.96 t ha<sup>-1</sup> yield improvement over a variety such as Bellaroi or 0.76 t ha<sup>-1</sup> over Jandaroi. With such an improved yield return, the gross margin over other commonly grown varieties will be significant when achieving a DR1 grade. Data kindly analysed by Dr Alison Kelly and team at Statistics for the Australian Grains Industry (SAGI).

	DBA-Aurora	Caparoi	Bellaroi	Hyperno	Jandaroi
NENSW	109 (3.80)	100 (3.51)	92 (3.22)	107 (3.74)	95 (3.33)
NWNSW	111 (3.18)	99 (2.84)	87 (2.49)	110 (3.14)	92 (2.63)
SNSW	112 (4.81)	103 (4.43)	97 (4.17)	107 (4.60)	93 (4.01)
SWQ	102 (2.99)	96 (2.82)	85 (2.50)	106 (3.12)	100 (2.93)
CQ	108 (3.59)	100 (3.31)	92 (3.03)	107 (3.54)	95 (3.15)

**Table 2. DBA-Aurora disease resistance ratings compared to the currently grown dominant varieties in the northern region.** DBA-Aurora has equivalent or superior ratings for all of the diseases listed. SVS(p) is provisional and is based on three years data. All data has been sourced courtesy of the NVT disease ratings (2014 consensus); dashed line indicates no rating available.

Disease	DBA-Aurora	Caparoi	Bellaroi	Hyperno	Jandaroi
Leaf Rust	RMR	MRMS	MRMS	RMR	MR
Stem Rust	RMR	MR	MR	R	RMR
Stripe Rust	RMR	MR	MR	MR	MR
Yellow Leaf Spot	MRMS	MR	MRMS	MS	MRMS
Powdery Mildew	MR	MS	MRMS	MR	MRMS
Bunt	MR	MSS	-	MSS	MR
P. neglectus	MRMS	S	MS	MS	MSS
P. thornei	RMR	MR	MR	RMR	MSS
Blackpoint	MS	MSS	-	MS	MSS
Crown Rot	SVS(p)	VS	VS	SVS	VS

**Table 3. DBA-Aurora shows consistently good thousand grain weight and hectolitre weight.**

Data is sourced from selected NSW and QLD NVT conducted during 2011-2014, with those varieties commonly grown in the region shown. NENSW – North East NSW; NWNSW – North West NSW; SNSW – Southern NSW; QLD – South-West QLD and Central QLD averages combined. Numbers have been rounded up or down appropriately to whole figures.

	NENSW		NWNSW		SNSW		QLD	
	TG	TW	TG	TW	TG	TW	TG	TW
DBA-Aurora	42	80	42	80	44	81	45	77
Caparoi	43	81	43	82	44	83	45	78
Bellaroi	42	79	42	80	44	81	46	77
Hyperno	42	81	42	81	42	82	45	78
Jandaroi	43	80	45	81	45	81	49	78

**Table 4. DBA-Aurora protein achievement summary from selected trials evaluated in the northern region between 2011-2014.** Mean CP is the average protein result across all trials evaluated. Range is the % protein range across the trials for all varieties listed. Frequency is the number of trials in which a variety either achieved a protein result >13% (DR1) or >11.5% (DR2).

	DBA-Aurora	Caparoi	Bellaroi	Hyperno	Jandaroi
Mean CP (%)	12.0	12.4	13.4	12.1	13.3
Trial Count	38	38	38	31	38
2xstdev	2.90	3.28	3.68	3.38	3.22
Range (%)	8.5-14.2	9.3-15.7	9.3-16.9	8.7-15.3	9.6-17.0
Frequency 13% +	12	15	24	11	26
Frequency 11.5% +	26	29	31	21	34

**Table 5. DBA-Aurora screenings levels in selected northern national variety trials (NVT) averaged across four years (2011-2014).** An overall average screenings level from all trials shown (34) across the four years is shown in the last row for each variety.

	DBA-Aurora	Caparoi	Bellaroi	Hyperno	Jandaroi
Spring Ridge	2.9	1.7	2.7	4.1	1.3
North Star	3.4	2.2	3.1	5.6	1.5
Bellata	9.1	8.9	7.6	10.3	8.5
Merriwa	5.1	3.2	4.6	4.4	2.6
Bullarah	11.9	12.8	14.2	10.5	12.1
Coonamble	3.4	2.6	2.7	4.5	1.6
Tulloona	6.1	3.9	3.7	5.7	2.5
Walgett	3.2	1.7	0.2	2.8	0.4
Mayrunga	3.8	2.1	2.6	1.9	1.7
Willbriggie	0.3	0.2	0.6	0.9	0.1
Lockhart	5.6	2.4	2.3	7.6	1.3
Benerambah	0.2	0.1	0.1	0.7	0.1
Merriwagga	3.2	1.1	1.0	6.0	0.5
Overall Average	4.5	3.3	3.5	5.0	2.6