

Jandaroi

Durum Wheat

VARIETY SUMMARY

- High yielding quick maturing durum wheat
- Improved disease resistance
- Erect, semi dwarf plant type with strong straw strength.
- Grain quality is similar to EGA Bellaroi and superior to Wollaroi.
- Adapted to most durum producing regions.
- ADR1 classification in QLD, Nth NSW and SA. Temporary classification of FEED for all other areas pending upgrade.



BREEDING

Jandaroi (formerly TD 97 E) was bred by the NSW Department of Primary Industries Durum breeding team as part of the National Program.



AREA OF ADAPTATION

Jandaroi was bred for the main durum producing areas of QLD, and NSW.

Suggested areas are Central and Southern QLD , Northern NSW, and Western Australia.

Trial data has suggested it could also be adapted to Southern NSW and South Australian production areas.



MATURITY

A quick maturing variety, Jandaroi matures approximately 150 days following a main season planting at Tamworth.

This makes it ideal for main and late season plantings.



PLANT CHARACTERISTICS

Jandaroi has good seedling vigour.

It is a semi dwarf plant type, with erect plant growth, and attains a harvestable height of approximately 80cm.

Harvestability is enhanced by good straw strength, lodging and shedding resistance.

Jandaroi has a large grain size with higher yellow pigment content compared to Wollaroi and equal in quality to EGA Bellaroi.



DISEASE RESISTANCE

Jandaroi has shown a high level of resistance (VR) to Stem rust.

Also Resistance to Stripe Rust, Leaf Rust, Flag Smut, Yellow Leaf Spot, Stinking Bunt, Root Lesion Nematode (P.thornei.),and Common Root Rot.

Like all durum varieties, Jandaroi is susceptible to Crown rot and Fusarium head blight.

Crown rot can be managed by appropriate crop rotations.

Table 1: Disease comparison of Durum varieties

Variety	Rust Resistance			Crown Rot	Common Root Rot	Flag Smut	Septoria tritici	Yellow Leaf Spot	RLN	Black Point
	Stem	Leaf	Stripe							
Jandaroi	VR	R	R	VS	R	R	MR	R	R	MR
EGA Bellaroi	R	R	MR	VS-S	MR-R	R		R	MR-MS	MR-R
Wollaroi	R	R	MR-MS	VS	R	R	MR	MR-R	MR-MS	MR-R
Yallaroi	R	R	R	VS-S	R	R	MR	MR	MR-R	MR

 **YIELD**

The grain yield of Jandaroi was generally greater than the check cultivars EGA Bellaroi, Kamilaroi, Yallaroi and Wollaroi across all regions, depending on seasonal conditions. It was clearly superior in Queensland and Western Australia.

Table 2. Yield of Jandaroi as a % of listed varieties

Region	Wollaroi	Yallaroi	EGA Bellaroi	Kennedy
Central QLD	108	107	128	99
Southern QLD	108	115	110	-
Northern NSW	105	98	118	-
South Aust	97	-	109	Tamaroi 99
Western Aust	103	124	119	Bonnie Rock 76

Mean across sites (102) and years (1999 - 2007), Australia wide

Trials conducted by QDPI, NSWDPPI, SARDI, WADA

 **QUALITY**

Jandaroi provides grain protein content usually higher than Wollaroi, Yallaroi and Kamilaroi, but generally less than Bellaroi. This line was deliberately bred to achieve an improved grain protein without the usual loss in grain yield. This enhanced protein content has strong and elastic rheological properties, the desirable combination for pasta making and slightly superior to those displayed by the checks. Grain protein is a primary receival criterion on which the grower is paid, and significant differential premiums are offered for high protein levels. This genetic improvement for protein accumulation will assist growers to deliver more grain into the high quality grades and aid the subsequent marketing of this grain.

The yellow pigment (lutein and related compounds) content within the grain endosperm is higher than Wollaroi, but slightly lower than Bellaroi, the best check. This pigment level together with a very low brown discolouration reaction translates into a bright, clean yellow semolina and pasta product.

 **AGRONOMIC GUIDELINES**

- The sowing window in the prime target area is mid-May to mid-June, although crops sown later than the middle of June can perform satisfactorily.
- Adapted to neutral and alkaline soils, but not saline or acid soils
- Performs well under irrigation
- Irrigation scheduling should aim to provide adequate moisture prior to and during anthesis to avoid stress. Irrigation post anthesis should be avoided for all durumms due to the following risks:
 - root release may have begun, which may result in lodging
 - grain protein will be diluted by increased starch concentration
 - there is an increased risk of head scab infection
 - delays in harvest, which may result in weather damage
- Not known to be frost resistant
- Must not be sown below a soil depth of 10 cm, as coleoptiles may not emerge (Rht B1 height control gene)
- Herbicide reactions are being measured and are expected to be similar to current durum cultivars. All breeding trials have been treated with standard rates of Logran 750WG, and Avadex BW, without any observed adverse reactions
- As with all durum cultivars, header concave settings need to be adjusted to avoid cracking/shattering the very hard grain.

 **PLANT BREEDER RIGHTS AND ROYALTIES**

Jandaroi is protected by Plant Breeder Rights, any unauthorised commercial propagation or any sale, conditioning, export, import or stocking of propagating material of this variety is an infringement under the Plant Breeder's Rights Act, 1994.

Growers are allowed to retain seed from production of this variety for their own use as seed only.

An End Point Royalty of \$2.75 per tonne (GST inclusive), which includes breeder royalties, applies to this variety.

ACKNOWLEDGEMENTS

Jandaroi was bred by the NSW Department of Primary Industries with support from growers through the GRDC



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