

Comparison of durum varieties

Emma Pearse, Hart Field-Site Group

Key findings

- The average grain yield for all durum varieties at Hart was 2.31 t/ha, not yielding significantly different.
- Grain protein levels were moderate (trial average 11.6%), while screenings and test weights were good averaging 2.5% and 77.9 kg/hL, respectively.

Why do the trial?

To compare the performance of new durum varieties against the current industry standards.

How was it done?

Plot size	1.75 m x 10.0 m	Fertiliser	DAP (18:20) + Zn + Impact @ 80 kg/ha
Seeding date	15 th May 2018		UAN (42:0) @ 60 L/ha on July 17 th UAN (42:0) @ 55 L/ha on August 2 nd

This trial was a randomised complete block design with three replicates and 7 durum varieties. Herbicides were applied as necessary to keep the crop free of weeds. All plots were assessed for grain yield, protein, test weight, and screenings with a 2.0 mm screen.

Results and discussion

Durum yields ranged from 2.08 t/ha (Saintly) to 2.45 t/ha (WID802) with a site average of 2.31 t/ha (Table 1). There was little difference (0.12 t/ha) between the highest yielding durum varieties; WID802, DBA Vittaroi, DBA Spes, DBA Aurora and SSD1476-067. The long-term data shows a range of durum varieties (DBA Aurora, Tjilkuri and Yawa) have generally performed well in terms of grain yield, across a number of seasons (Table 2).

Grain protein levels ranged from 10.7% to 12.5% with all but DBA Aurora, DBA Vittaroi and WID802 meeting the 11.5% receival standard for DR2 classification. No durum varieties trialed met the 13% standard for DR1 classification.

Grain test weights ranged from 76.2 to 79.5 kg/hL, all meeting the minimum test weight value of 76 kg/hL for DR1 (Table 1). Screening results were all below the 5% requirement for DR1, ranging from 1.1% (DBA Vittaroi) to 4.7% (SSD1476-067).

Table 1. Grain yield (t/ha), protein (%), test weight (kg/hL) and screenings (%) for durum varieties at Hart in 2018.

Variety	Grain yield t/ha	% of site average	Protein %	% of site average	Test weight kg/hL	% of site average	Screenings %	% of site average
DBA Aurora	2.35	102	11.2	97	78.1	100	1.4	55
DBA Vittaroi	2.41	104	11.2	97	79.5	102	1.1	44
Hyperno	2.19	95	12.0	104	78.7	101	4.4	173
Saintly	2.08	90	12.5	108	78.1	100	1.4	54
SSD1476-067	2.32	101	11.6	101	76.2	98	4.7	184
DBA Spes (UAD1154192)	2.37	102	11.6	100	77.6	100	2.0	80
WID802	2.45	106	10.7	92	77.4	99	2.8	110
<i>DR1 receival standards</i>			≥13.0		>76		<5%	
Site Average	2.31	100	11.6	100	77.9	100	2.5	100
LSD (P≤0.05)	0.15		0.83		0.78		0.64	

Table 2. Durum wheat variety performance at Hart by year (expressed as % trial average).

Variety	% of trial average					
	2013	2014	2015	2016	2017	2018
DBA Aurora		100	105	102	100	102
DBA Vittaroi						104
Hyperno	95	97	98	101	96	95
Saintly	105	97	97	85	100	90
Tamaroi	100	98	94	98	103	
Tjilkuri	101	102	102	109	100	
WID802	100					106
Yawa	100	107	105	116	104	
SSD1476-067						101
DBA Spes (UAD1154192)						102
Trial mean yield t/ha	3.73	4.23	3.07	4.08	4.24	2.31
Sowing date	18th May	8th May	6th May	10th May	9th May	15th May
A-O rain (mm)	303	280	230	356	191	160
Annual rain (mm)	377	426	353	485	331	224