

Tottenham - wheat varietal yield and quality trial

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This trial was part of a series of trials conducted also at Nyngan, Euabalong and Rankins Springs.

Key Messages

- Although there was a very late break to the season, cooler conditions through September and October maintained good yields. The faster maturing varieties (like H46 and Ellison) performed much better than the long season varieties (like Rosella and EGA-Wedgetail).
- Yield varied from 2.9 - 4.4t/ha.
- The protein levels were generally above 12.5%, except for H45 and H46. High protein values were a result of small grain size and a shortened grain filling period. Very high values (15.5 -16.1%) were seen for long season varieties like Petrie, Rosella, Marombi and EGA-Wedgetail.
- The screenings levels were generally between 5 -10%, except for H46 (fast maturing variety) and Arrivato (genetically large grain).
- The test weights were generally between 78 - 80kg/hl, except for the long season winter wheats (EGA-Wedgetail, 74.3kg/hl, Whistler, 75.8kg/hl, Marombi, 75.8kg/hl and Petrie 76kg/hl). The season was too short significantly reducing the grain fill period.

Background

The aim of these trials were to provide localised data on the yield and quality response of released and near release wheat lines at Nyngan, Tottenham, Euabalong and Rankins Springs. Under the new national variety testing system (NVT) these sites were no longer covered by trials.

Methods

Growing season rainfall for Tottenham was 154mm (June - November).

The trial was sown into a long fallow paddock (from lucerne) into good soil moisture on the 17th June 2005 and harvested on the 18th November 2005.

The trial consisted of 32 varieties and was sown on a red loam soil.

The treatments were replicated 3 times. Plot size was 2m X 15m.

Both early and late maturing wheat varieties were used in the trials. With the late break to the season the slower maturing varieties were significantly disadvantaged.

Varieties were sown at a seeding rate of 50kg/ha with 80kg/ha of DAP (18N; 20P).

Results

Variety	Yield (t/ha)	Protein (%)	Screenings (%)	Test wt (kg/hL)
H46	4.41	12.40	3.90	83.33
ELLISON	4.27	13.90	7.72	79.83
VENTURA	4.22	13.40	6.65	80.50
SW_ODIEL	4.12	13.40	6.58	79.50
STRZELECKI	4.02	13.76	5.81	78.67
DRYSDALE	3.94	13.67	9.08	79.33
ARRIVATO	3.93	14.60	3.14	82.33
EGA_GREGORY	3.92	14.03	5.40	77.50
WYALKATCHEM	3.84	13.40	7.17	78.17
DIAMONDBIRD	3.82	13.80	8.28	78.67
SUNSTATE	3.80	13.53	5.72	80.67
BAXTER	3.79	14.43	5.45	79.16
ANNUELLO	3.75	14.43	7.59	79.50
BOWERBIRD	3.69	13.63	10.47	78.17
JANZ	3.69	14.00	10.15	78.00
GBA_SAPPHIRE	3.66	14.07	9.00	79.33
CUNNINGHAM	3.63	14.57	8.62	79.83
GILES	3.63	13.73	10.02	78.00
SUNVALE	3.62	15.10	5.93	80.83
BABBLER	3.60	14.80	9.34	77.33
CHARA	3.59	14.86	10.67	77.67
CLF_JANZ	3.57	13.97	7.46	79.66
LANG	3.57	14.13	7.34	79.33
BANKS	3.53	15.06	6.98	80.50
MAROMBI	3.44	15.93	5.61	75.83
PETRIE	3.44	15.53	10.97	76.00
H45	3.42	12.03	9.49	79.83
WESTONIA	3.34	13.43	6.45	78.83
WYLAH	3.28	15.23	9.06	78.33
WHISTLER	3.02	15.13	10.84	75.83
EGA_WEDGETAIL	2.97	16.07	5.23	74.83
ROSELLA	2.92	15.73	10.55	77.00
Isd (5%)	0.44	1.08	2.44	1.58

Values that vary less than the Isd (5%) are not considered to be different.

Discussion

Although this is a relatively low growing seasonal rainfall, yields were very good. Rainfall fell at crucial times and the season remained cool through September and October. Yields ranged from 2.9 - 4.4t/ha. The very short season suited the quick maturing lines. Varieties like H46 and Ellison performed well. Stripe rust did cause a yield decline in this trial as susceptible varieties like H45, Westonia and Cunningham are amongst the lowest in yield.

Long season varieties like Rosella and EGA-Wedgetail should not be sown at these very late sowing dates in this region.

The trial will be repeated this year and planted at two sowing dates to optimise the performance of each variety.

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