

# Nyngan - wheat varietal yield and quality trial

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

## Key Messages

- The extremely late break to the season highlighted maturity differences very clearly. The fast maturing varieties like H45 and H46 yielded highest, while the long season varieties like Rosella, EGA-Wedgetail and Marombi yielded the lowest.
- Yield varied from 0.96 -1.9t/ha.
- The protein levels varied from 12.9% (H45) to 17.1% (Marombi). Protein levels were all high because of the short grain filling period.

The screenings levels were all 5.0% or under, except for Drysdale (6.5%) and Marombi (7.7%). Moisture stress early meant seeds aborted rather than having high numbers of seeds not filling properly. ■ The test weights were generally between 78 - 80kg/hl, except for the long season winter wheats (Marombi, 69.3kg/hl, EGA-Wedgetail, 75kg/hl, Whistler, 77kg/hl, Wylah, 77.5kg/hl). The season was too short significantly reducing the grain fill period for these varieties.

## 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 Nyngan was 255mm (June - November).

The trial was sown into a wheat stubble paddock into good soil moisture on the 8<sup>th</sup> July 2005 and harvested on the 8<sup>th</sup> December 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)
H45	1.90	12.86	3.53	79.16
H46	1.88	13.33	2.76	78.83
GILES	1.83	13.73	2.32	79.33
JANZ	1.79	14.20	2.18	79.33
ANNUELLO	1.78	14.86	3.30	80.50
WESTONIA	1.78	14.37	3.14	78.16
PETRIE	1.75	14.83	2.80	78.17
GBA_SAPPHIRE	1.74	13.90	2.02	80.33
EGA_GREGORY	1.69	13.76	3.20	79.33
WYALKATCHEM	1.69	13.33	5.60	78.17
LANG	1.66	14.73	2.04	80.33
BOWERBIRD	1.60	14.50	4.08	77.16
CLF_JANZ	1.60	15.03	1.77	79.83
ELLISON	1.60	15.53	5.06	78.66
BABBLER	1.59	14.53	1.94	78.66
BAXTER	1.59	14.90	2.62	78.33
CHARA	1.57	15.40	2.58	79.00
BANKS	1.56	14.56	2.42	79.33
CUNNINGHAM	1.54	15.20	1.83	79.16
DRYSDALE	1.53	14.20	6.52	78.67
SW_ODIEL	1.51	14.00	4.29	76.67
STRZELECKI	1.48	14.87	4.37	78.00
VENTURA	1.47	14.43	3.77	78.50
ARRIVATO	1.46	14.83	3.84	80.50
SUNVALE	1.45	15.33	1.85	78.83
WHISTLER	1.33	15.23	5.20	77.00
DIAMONDBIRD	1.32	15.60	3.85	79.17
WYLAH	1.24	16.40	2.40	77.50
SUNSTATE	1.13	15.50	4.47	78.83
MAROMBI	1.10	17.06	7.71	69.33
EGA_JVEDGETAIL	0.96	16.90	2.91	75.00
ROSELLA	0.96	16.23	2.26	78.33
lstd (5%)	0.19	0.68	0.77	1.24

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

## Discussion

The lack of fallow rainfall (0mm from Jan - May) and a low growing season rainfall (255mm from June - Nov) combined with very late sowing resulted in disappointing yields in this trial. Yields ranged from 0.96 - 1.9t/ha. The very short season suited the quick maturing lines. Varieties like H45 and H46 performed relatively well. Stripe rust, although evident at the site, did not cause as much yield decline as the short seasonal constraints.

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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