

Due to the late break, Urambie (a longer season variety) was sown well outside its optimum sowing window and therefore struggled with the harsh finish.

Partly due to the low yields the protein percentages were high. They ranged between 14-16 %.

Screenings were also very high for most varieties. As mentioned earlier, this was most likely due to cracked grain at harvest. The short season and lack of finishing rain may have also contributed to high screenings, between 20 and 40 percent for most varieties at both sites.

Weethalle Site

Background

Hosts Paul & Brenda McKinnon
Location "Labertouche"
Paddock history Long Fallow
Soil Type Red Clay Loam
Soil fertility pH (1:5 water) 6.1
Colwell P 25 mg/kg
Nitrate Nitrogen 7.3 mg/kg
Sulphate Sulphur 1.6 mg/kg
Zinc (DTPA) 0.36 mg/kg

Sowing Date 12 June 2009
Harvest Date 16 November 2009
Plot Size 13 m x 1.8 m
Seeding rate 40 kg/ha
Fertiliser rate MAP at 66 kg/ha
Herbicide Site treated with 2 L/ha Roundup 450 and 1.5L/ha Triflur Xcel at sowing.

Design Block design with three replications and fully randomised within reps.

Measurements Establishment, vigour, yield, protein, screenings, test weight and moisture

During the season, the trial was given a single spray with MCPA Lve, Verdict and Axial to control weeds.

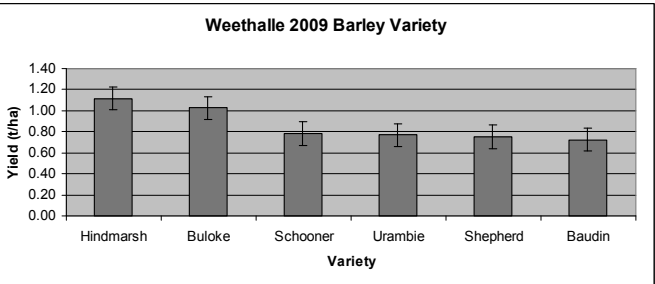
What Happened?

The late break caused a delay in seeding until 12 June. Establishment was good across all plots and early vigour was highest in Buloke and Shepherd, lowest in Urambie and Baudin.

The Spring Field Day at Weethalle was held in the first week of November. At this stage the barley was finishing and showing signs of moisture stress.

Results

Figure 2. Weethalle 2009 barley variety yields (error bars represent the LSD)



What does this mean?

These yields are similar to most other trials conducted across the Central West. Hindmarsh and Buloke have performed well in this and numerous trials in this region during both the 2008 and 2009 seasons (Figure 2).

The late break meant Urambie was sown well outside its optimum sowing window, and as a result suffered large yield penalties.

Due to low yields protein percentages were quite high. They ranged between 14.5-16.5 %.

The screenings were very high, between 20 and 40 percent for most varieties due to harvest error causing cracked grain, and the lack of finishing rainfall.

Acknowledgements

Thanks to all the co-operators, hosts, district agronomists, seed and product suppliers and CWFS staff for assistance with our trials throughout the year.

CWFS WEETHALLE WHEAT ROW SPACING & SEEDING RATE TRIAL

Brad Davis
Central West Farming Systems

Key Messages

- Yield was higher on 220 mm row spacings compared to 440 mm and 660 mm
- Reducing sowing rates to 40 kg/ha from 60 kg/ha produced the same yields.

Why was it done?

In other low rainfall areas and with other crops, sowing on wider row spacings has improved yields because water in the middle of the inter-row is not used by the crops until later in the season and thus helps them to fill grain. Lower seeding rates and full stubble retention have often been combined with the wider row spacings to gain these benefits.

This trial was set up to determine the effects of sowing rates and row spacing on yield of wheat in our low rainfall environment.

How was it done?

A fully replicated and randomised small plot trial was sown at Weethalle. The trial was split into two different seeding rates of 40 kg/ha and 60 kg/ha. Each seeding rate was then split into three row widths of 220 mm, 440 mm and 660 mm. MAP fertiliser was applied down the tube directly under the seed at a rate of 50 kg/ha for all treatments. It should be noted that when viewing the results of this trial that it was sown into a bare fallow and not standing stubble.

Background

Weethalle Site

Hosts Paul & Brenda McKinnon
Location "Labertouche"
Paddock history Long Fallow
Soil Type Red Clay Loam
Soil fertility pH (1:5 water) 6.1
Colwell P 25 mg/kg
Nitrate Nitrogen 7.3 mg/kg
Sulphate Sulphur 1.6 mg/kg
Zinc (DTPA) 0.36 mg/kg

Sowing Date 12th June 2009
Harvest Date 16th November 2009
Plot Size 13m x 1.8m
Seeding rate 40 or 60 kg/ha

Wheat variety EGA_Gregory
Fertiliser rate MAP at 50 kg/ha
Herbicide Site treated 2L/ha Roundup 450 and 1.5L/ha Triflur Xcel at sowing. During the season the trial was given a single spray with MCPA LVE, Verdict and Axial to control weeds
Design Block design with three replications and fully randomised
Measurements Establishment, vigour, yield, protein, screenings, test weight and moisture

Weethalle Rainfall 2009												
J	F	M	A	M	J	J	A	S	O	N	D	Total
15	15	35.5	41.5	6	98	16	4	16	10	29	70	356

What happened?

The trial established well and as expected plant numbers increased on row as the row spacing increased from 220 mm to 440 mm and 660 mm. Plant numbers also increased on row as seeding rate increased from 40 kg/ha to 60 kg/ha. There were no visual differences in vigour between any of the treatments.

At the Weethalle spring field day on 11 November there were obvious signs that the trial plots were severely moisture stressed. Visually, there did not appear to be any advantage of the wider rows or seeding rates under this moisture stress.

Results

Table 1. Yield and grain quality of wheat with different row spacings and seeding rates

Seeding Rate (kg/ha) & Row Space (mm)	Yield (t/ha)	Protein %	Screening %
40-220	0.96	11.8	8.3
40-440	0.77	12.5	8.9
40-660	0.70	12.2	10.8
60-220	0.93	12.1	8.2
60-440	0.78	12.8	9.7
60-660	0.75	12.7	10.6

Figure 1. Yield response of wheat to seeding rates and row spacing (error bars represent the LSD)

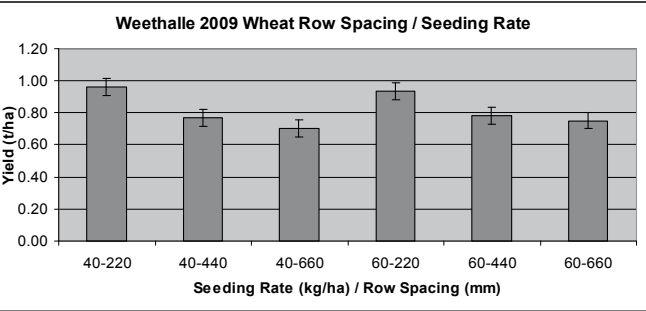


Table 2. Plant population of wheat on different row spacings and seeding rates

Seeding Rate (kg/ha) & Row Space (mm)	Plants/ m row	Plants/m2
40-220	21	94
40-440	37	81
40-660	41	68
60-220	27	118
60-440	44	97
60-660	51	85

What does this mean?
Focusing on the yield results in Figure 1, on a bare fallow at Weethalle last year and under extremely dry conditions, the narrower row spacing of 220 mm yielded better than the wider spacings of 440 mm and 660 mm.

Row spacings of 440 mm and 660 mm produced similar yields. Keep in mind, the yields were less than 0.8t/ha for these row spaces and they suffered considerably from moisture stress.

The protein and screening percentage both increase on wider rows. This is maybe correlated to the decrease in yield on wider row spacing.

Yields were the same at sowing rates of 40 kg/ka or 60 kg/ha across all three row space widths.

Plant numbers, per square metre, decreased with wider row spacing, as well as decreased with seeding rate as displayed in Table 2.

These results are consistent with previous trials conducted in the region.

Acknowledgements
Thanks to all the co-operators, hosts, district agronomists, seed and product suppliers and CWFS staff for assistance with our trials throughout the year.

CWFS 2009 EARLY & MAIN WHEAT VARIETY TRIALS

Brad Davis
Central West Farming Systems

- Key Messages**
- A good farming system will utilise two to three with varying maturities, to spread risk.
 - Sowing varieties inside their recommended window is essential and will maximise yield and reduce screenings.
 - Storing summer fallow moisture is the key to producing good yields in these short finishing seasons.
 - In the 2009 season, quick maturing varieties and earlier sowing dates produced the best yields across the region.

Why was it done?
To determine the performance of various wheat varieties across the low rainfall regions of Central West NSW.

New varieties are constantly being released, promoting a variety of benefits. Some National Variety Trials (NVT's) are conducted in the Central West region but there was a call for more sites from local growers. This trial was conducted so local farmers could compare their current varieties to newly released lines and determine which of these may suit their farming system. The trial also allowed a number of unreleased varieties to be examined in these low rainfall environments.

How was it done?
Seven replicated and randomised small plot trials were sown at five sites Euabalong, Rankins Springs, Tottenham, Weethalle and Wirrinya. At two of these sites, Rankins Springs and Tottenham, the trial was sown twice, once at an early sowing time, the other during the main season.
Each trials contained between 18 and 20 lines of newly released, unreleased and current varieties, most with a grain quality equal to or better than AH. The varieties differed in maturity from mid season to very quick.
Due to the lack of late season rain across the Central West, the trials at Wirrinya failed and were not harvested. Yields at the other four sites also suffered considerably.

Table 1. Agronomics of wheat varieties used in the trials.

Variety	Recommended Sowing Period	Grain Quality (Central NSW)
Axe	late	APW
Carinya	main	AH
Crusader	main-late	APH
EGA Bounty	main	AH
EGA Gregory	early-main	AH
Ellison	main	APH
Espada	main	APW*
Gladius	main	APW*
Hornet	main	APW*
Janz	main	APH
Lincoln	main	AH
Livingston	main	AH
LPB 0291		
LPB 0965	early-main	APW
LPB 2148	main-late	AH
LPB 2271	main-late	AH
LPB 2461	main	AH
Merinda	main	AH
Strzelecki	early-main	AH
Sunvale	main	APH
Sunvex	main	AH
Sunzell	main-late	AH
Sun521C		
Ventura	main-late	AH

* Indicates a default quality classification and is under review.



Above and below: CWFS Rankins Springs spring field day at Michael Pfitzner's "Hill End"



Hyola 502RR

Hybrid yields at an open pollinated RR price

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