

9. MFMG Barley Variety Trials

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Two MacKillop Farm Management Group (MFMG) barley variety trials were sown in 2018, at Frances and Sherwood. These trials are conducted annually to enable growers to evaluate a selected number of varieties under specific local conditions. An additional trial was conducted at Conmurra evaluating potential high yielding varieties for the high rainfall zone. Conmurra results are reported separately in Chapter 5.

General comments around MFMG Barley Trial Results in 2018

The importance of reviewing long term data when making varietal choices was evident at both Sherwood and Frances. Some varieties which performed well in 2018, also performed well in both 2016 and 2017, demonstrating their ability to perform well under different seasonal conditions in the environments at the respective sites.

The Frances site was sown on 24 May 2018. All varieties were F1 classification. Of the malting/food grade varieties evaluated, all varieties were above the required receivable standards for hectolitre weight of 65 kg/hL but protein levels were outside the

receivable standard of 9.0 % to 12.0 % for MALT1. Only RGT Planet fell below 12% and although classified as a feed variety for the 2018/2019 season, this variety has received malt accreditation in early March 2019. Yields averaged 3.41 t/ha and were reduced overall compared to 2017. Spartacus CL was the highest yielding (3.83 t/ha) closely followed by Rosalind (3.81 t/ha) and RGT Planet (3.79 t/ha) but as in 2017, yields were not significantly different (Table 1).

Table 1: MFMG 2018 Frances Barley Variety Trial Grain Yield and Quality.

Variety	Yield t/ha	% Site Mean	Julian Day	1000 grain weight (g/1000 seeds)	Test Weight (kg/hl)	Plump Grain	Screenings (% < 2.2 mm)	Protein (%)	Grade Achieved
Banks*	2.32	68	283	40.8	66.1	85.3	3.0	13.5	F1
Bottler	2.92	86	275	37.1	64.6	80.5	6.1	12.2	F1
Commander	3.41	100	278	45.4	67.3	91.6	2.0	12.5	F1
Compass	3.70	109	275	49.2	65.9	93.3	1.5	13.4	F1
RGT Planet	3.79	111	278	47.3	66.4	90.0	2.5	11.9	F1
Rosalind	3.81	112	275	42.9	66.2	88.2	2.6	12.2	F1
Spartacus CL	3.83	112	267	39.1	67.5	78.8	6.4	13.9	F1
Westminster	3.50	103	283	45.8	66.0	92.7	1.5	12.9	F1

Site mean	3.41
P value	0.36
LSD	NS
CV (%)	9.4

NS - Not significant.

* Undergoing malt accreditation.

Frost Events:

This trial experienced frost conditions on the following dates throughout the flowering period: 0 °C on Sep 2, -1 °C on Sep 26, -1.6 °C on Sep 29, -1.4 °C on Sep 30, -0.2 °C on Oct 24. Interpret results with caution.

Heat Events:

This trial experienced extreme heat conditions on the following dates throughout the flowering period: 32.2 °C on Oct 22. Interpret results with caution.

Trial Inputs (all plots)

2018 Date	Product and Rate/ha				
	Fertiliser	Herbicide	Fungicide	Insecticide	Other
18-May		Roundup PowerMax 2.5L Cavalier 75mL			Meta Slug and Snail Pellet 7.5kg
24-May Sowing	18:13:0:10 + 2 % Zn 140kg PLUS Impact (in furrow) 400 mL	Terbyne Xtreme 1.2kg Boxer Gold 2.5L		Lorsban 500mL Alpha Forte 80mL	Seed Treatment Gaucho 600 240 mL / 100 kg seed Raxil T 100mL / 100 kg seed
18-Jun					Meta Slug and Snail Pellet 7.5kg
6-Sep	Urea (200kg N)				
7-Sept		Buctril 2.0L	Prosaro 150mL	Lorsban 500mL Alpha Forte 80mL	Meta Slug and Snail Pellet 7.5kg
8-Oct			Prosaro 150mL	Lorsban 500mL	

The Sherwood site was sown on 6 June 2018. Yields averaged 2.96 t/ha (Table 2) and were lower overall compared to both 2016 and 2017, where more favourable conditions prevailed throughout the growing season. With the exception of Compass, all varieties were feed quality due to high protein levels. The malt variety Commander (3.51 t/ha) was the highest yielding variety similar to Rosalind (3.45 t/ha), Banks (3.09 t/ha) and Compass (3.03 t/ha) with Westminster significantly lower yield than all other varieties (1.87 t/ha).

Compass and Spartacus CL received malt accreditation in March 2018; as segregation is an issue for malting barley it is important growers ascertain if the variety chosen is able to be stored and marketed in your area. Banks is currently undergoing malt accreditation with further stage 2 assessment in 2019.

Table 2: MFMG 2018 Sherwood Barley Variety Trial Grain Yield and Quality.

Variety	Yield t/ha	% Site Mean	Julian Day	1000 grain weight (g/1000 seeds)	Test Weight (kg/hl)	Plump Grain	Screenings (% < 2.2 mm)	Protein (%)	Grade Achieved
Banks*	3.09 ab	103	281	39.8	68.6	70.3	5.9	13.1	F1
Commander	3.51 a	96	280	43.8	69.1	84.6	2.9	12.7	F1
Compass	3.03 ab	82	276	45.6	67.1	87.9	2.0	11.8	Malt
Rosalind	3.45 ab	98	275	43.3	69.1	81.7	3.1	12.3	F1
Spartacus CL	2.86 b	125	273	40.5	69.3	85.3	2.2	13.3	F1
Westminster	1.87 c	110	285	41.8	70.7	82.1	2.1	13.8	F1

Site mean	2.96
P value	<.001
LSD	0.5894
CV (%)	9.3

Means followed by same letter do not differ significantly.

* Undergoing malt accreditation

Frost Events:

This trial experienced frost conditions on the following dates throughout the flowering period: -0.1 °C on Aug 25, -0.4 °C on Sep 3, -0.3 °C on Sep 4, -1.5 °C on Sep 7, -2 °C on Sep 8, -0.2 °C on Sep 17, -2.6 °C on Sep 24, -2.1 °C on Sep 25, -2.2 °C on Sep 29, -3 °C on Sep 30, -1 °C on Oct 5, -2.3 °C on Oct 24, -0.7 °C on Oct 26, -0.6 °C on Oct 29. Interpret results with caution.

Heat Events:

This trial experienced extreme heat conditions on the following dates throughout the flowering period: 33.1 °C on Oct 2, 34 °C on Oct 22, 32.3 °C on Oct 25, 34.5 °C on Oct 30. Interpret results with caution.

Trial Inputs (all plots)

2018 Date	Product and Rate/ha				
	Fertiliser	Herbicide	Fungicide	Insecticide	Other
06-Jun Sowing	18:13:0:10 +2 % Zn 140 kg PLUS Impact (in furrow) 400 mL	Roundup PowerMax 2.5L Cavalier 75mL Boxer Gold 2.5 L			Seed Treatment Gaucho 600 240mL / 100 kg seed Raxil T 100mL / 100 kg seed
27-Jun		Boxer Gold 750mL		Lorsban 500mL	
23-Aug			Prosaro 150mL	Lorsban 500mL	
29-Aug	Urea + SOA (100kg N, 20 kg S)				
7-Sep		Buctril 2.0L Lontrel 150mL			
3-Oct	Urea (100 kg N)				
8-Oct			Prosaro 150mL	Lorsban 500mL	



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