

2a. MFMG Wheat Variety Trials

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Two MacKillop Farm Management Group (MFMG) wheat variety trials were sown in 2017 at Sherwood and Frances. These trials are conducted annually to enable growers to evaluate a selected number of varieties under specific local conditions. An additional two trials were conducted at Conmurra and Millicent evaluating high yielding varieties for the high rainfall zone. These results are reported separately in Chapter 7.

General Comments around MFMG Trial Results in 2017

Trial site annual and growing season rainfall for 2015, 2016 and 2017 are presented in Table 1. With three distinctly different seasons, the results again reiterate the importance of reviewing long-term data when making varietal choices.

At Sherwood (Table 2), the early-mid maturing variety Mace was the highest yielding variety (5.61 t/ha). Chief CL (5.39 t/ha) and RAC2341 (2018 release - Longsword) and RAC2388 followed closely (5.23 and 5.22 t/ha, respectively). The mid season variety, Scepter (5.10 t/ha) again demonstrated its ability to perform in this environment under different seasonal conditions, having also performed in the best at Sherwood in 2015 and 2016. Test weights for all varieties were over the minimum 76 kg/hl required for H1, with protein being a limiting factor for some varieties achieving maximum grade.

The results for the Frances trial are shown in Table 3. The experimental line RAC2388 was the highest yielding variety (7.46 t/ha) and was followed closely by Arrow (7.25 t/ha) and Cosmick (7.01 t/ha) (all early-mid and mid varieties). This is in contrast to 2016 when the mid-late season varieties performed well. As also shown at Frances in 2015 and 2016, these contrasting results suggest it may be important to have multiple varieties of varying maturity in this growing environment to assist with managing risk. Long term yield data for selected varieties in the Frances region can be accessed in the 2016 Trial Results Book. Screenings all fell below the 5.0% required for H1 with protein being a limiting factor for some varieties achieving maximum grade.

Table 1: The 2016 and 2017 annual growing season (April – October) rainfall data.

Trial Site	Average Rainfall (mm)			April-Oct Rainfall (mm)		
	2015	2016	2017	2015	2016	2017
Sherwood (Wirrega BOM)	277.6	635.6	548.6	194.4	462.0	405.2
Frances	325.2	655.8	644.8	244.8	529.2	416.4
Millicent	479.5	961.9	741.0	381.0	775.2	545.0

Table 2: MFMG 2017 Sherwood Wheat Variety Trial Grain Yield and Quality.

Variety	Yield t/ha	% Site Mean	1000 grain weight (g/1000 seeds)	Test Weight (kg/hl)	Protein (%)	Screenings (% < 2.00mm)
Arrow	4.37	91	39.7	79	11.7	0.4
Beckom	4.55	95	33.1	79	11.9	2.2
Chief CL	5.39	112	46.3	79	11.6	0.9
Cobra	4.54	95	37.0	77	12.1	1.6
Corack	4.69	98	44.0	79	12.0	0.8
Cosmick	5.02	105	36.8	79	11.5	1.3
Harper	4.02	84	37.6	79	12.1	1.3
Hatcher CL Plus	4.61	96	40.8	78	12.4	0.7
Mace	5.61	117	38.7	79	11.3	1.0
RAC2341	5.23	109	37.9	79	12.3	1.1
RAC2388	5.22	109	41.5	79	10.8	0.8
RAC2517	4.63	97	40.0	79	11.0	1.0
RGT Accroc	4.19	87	37.2	76	11.7	1.3
Scepter	5.10	106	40.5	80	10.8	1.4
Trojan	4.73	99	41.1	80	11.7	0.6

Site mean	4.79
P Value (0.05)	<.001
I.s.d (t/ha)	0.5144
CV (%)	3.4

Table 3: MFMG 2017 Frances Wheat Variety Trial Grain Yield and Quality.

Variety	Yield t/ha	% Site Mean	1000 grain weight (g/1000 seeds)	Test Weight (kg/hl)	Protein (%)	Screenings (% < 2.00mm)
Arrow	7.25	109	43.2	79	10.7	0.3
Beckom	6.90	104	36.3	77	10.6	1.0
Chief CL	6.79	102	50.9	78	10.5	0.2
Cobra	6.46	97	46.7	78	11.5	0.2
Corack	6.55	99	53.3	78	11.6	0.0
Cosmick	7.01	106	38.1	77	10.4	1.1
Hatchet CL Plus	5.51	83	47.0	78	12.0	0.3
Mace	6.75	102	44.0	78	11.5	0.4
Manning	5.67	86	37.5	74	10.4	1.1
RAC2341	6.72	101	43.7	78	10.5	0.0
RAC2388	7.46	113	50.2	78	9.6	0.0
RAC2517	6.27	95	47.0	78	10.7	0.3
RGT Accroc	6.35	96	40.2	75	8.7	0.5
Scepter	6.91	104	45.7	78	10.3	0.5
Scout	6.78	102	41.6	80	10.1	0.1
Trojan	6.64	100	41.6	76	9.7	1.0

Site mean	6.63
P Value (0.05)	0.003
I.s.d (t/ha)	0.822
CV (%)	3.1

