

2. MFMG Wheat Variety Trials

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Three MacKillop Farm Management Group (MFMG) wheat trials were sown in 2016 at Sherwood, Frances and Millicent. These trials are conducted annually to enable growers to evaluate a selected number of varieties under specific local conditions.

Trial site annual and growing season rainfall for 2015 and 2016 are presented in Table 1. In reviewing the data from 2015 and 2016 there were varieties that performed well over the two extremely different seasons, highlighting their suitability to the sites across a range of seasonal conditions. These results also reiterate the importance of reviewing long-term data when making varietal choices.

Table 1: The 2015 and 2016 annual growing season (April - October) rainfall data.

Variety	Yield t/ha	% site mean	1000 grain weight (g/1000 seeds)	Test weight (kg/hl)	Protein (%)	Screenings (%<2.0mm)
Beckom	5.13	117	41.02	80.03	8.7	0.1
Cutlass	5	114	40.82	82.2	8.5	0.2

The Sherwood trial (Table 2) benefited from a long growing season and mild spring conditions with the mid-late maturing variety Trojan being the highest yielding variety (6.91 t/ha). Beckom and Scepter followed closely (6.78 t/ha and 6.73 t/ha respectively). Both of these mid-season varieties also performed in the best at Sherwood in 2015, demonstrating their ability to perform in this environment under different seasonal conditions.

Test weights for all varieties are over the minimum 76 kg/hl and screenings all below 5.0 % required for H1, with protein the limiting factor for varieties achieving their maximum grade.

Table 2: MFMG 2016 Sherwood Wheat Variety Trial Grain Yield and Quantity.

Variety	Yield t/ha	%	1000 grain weight (g/1000 seeds)	Test weight (kg/hl)	Protein (%)	Screenings (%<2.0mm)
Cobra	5.86	111	39.8	83.1	10.4	0.44
Trojan	5.86	111	44.44	84.83	9.5	0.48
LRPB Arrow	5.74	109	41.83	83.48	9.9	0.84
DS Pascal	5.68	108	38.87	83.76	10.2	0.39
Beckom	5.67	107	35.6	84.2	9	0.79
Chief CL Plus	5.54	105	50.85	83.6	10	0.21
Scout	5.53	105	43.16	85.17	9.8	0.5
Cutlass	5.48	104	41.82	83.62	9.2	0.33
Harper	5.36	102	40.44	84.24	9.3	1.28
Impala	5.28	100	37.85	84.2	10.1	0.61
Phantom	5.28	100	41.98	81.79	9.5	0.88
Yitpi	5.25	100	39.34	82.74	10.1	0.61
Corack	5.24	99	47.77	83.24	10	0.18
Mace	5.24	99	43.68	82.2	9.8	1
Scepter	5.24	99	45.47	83.1	9.2	0.81
Wallup	5.23	99	37.86	83.1	10.7	0.7
Wyalkatchem	5.15	98	42.75	83.52	9.5	0.48
Hatchet CL Plus	5.13	97	43.19	82.76	10.2	0.56
DS Darwin	5.07	96	44.78	85.13	10.2	0.3

The results for the Frances trial are shown in Table 3. The site experienced widespread waterlogging throughout the season. Despite this, the variability of the trial (c.v 4.5%) is within acceptable levels. Zircon – a new line from Elders, was the highest yielding variety (7.11 t/ha) and was followed closely by Revenue (7.06 t/ha) and Trojan (6.84 t/ha) (all mid-late season varieties). These results are in contrast to 2015, when the early-mid season varieties performed extremely well. These contrasting results suggest it may be important to have multiple varieties of varying

maturities in this growing environment to assist with managing risk. Figure 1 compares long term yield data for selected varieties in the Frances region. Test weights for all varieties are over the minimum 76 kg/hl and screenings all below 5.0 % required for H1, with protein the limiting factor for varieties achieving their maximum grade.

Table 3: MFMG 2016 Frances Wheat Variety Trial Grain Yield and Quantity.

Variety	Yield t/ha	%	1000 grain weight (g/1000 seeds)	Test weight (kg/hl)	Protein (%)	Screenings (%<2.0mm)
Trojan	7.9	112	47.7	85.25	11.5	0.53
Cobra	7.87	111	40.02	82.8	12.4	0.8
Scout	7.56	107	43.43	85.27	11.5	0.79
LRPB Arrow	7.46	105	42.24	82.82	12.1	0.58
Beckom	7.43	105	35.22	84.24	11.5	1.28
Corack	7.42	105	49.08	83.26	11.9	0.68
Mace	7.35	104	42.83	82.98	11.9	0.85
Emu Rock	7.31	103	46.06	83.06	12	1.55
Scepter	7.29	103	48.24	84	11.6	0.99
DS Darwin	7.24	102	45.54	84.79	12.6	0.77
DS Pascal	7.18	101	40.15	84.81	12.1	0.61
Cosmick	7.14	101	36.79	84.3	11.7	1.55
Estoc	6.91	98	40.41	85.11	12.8	0.92
Gladius	6.86	97	47.64	82.7	12.9	0.83
Wallup	6.85	97	39.66	83.28	12.5	0.65
Phantom	6.84	97	41.25	82.58	11.3	1.31
Cutlass	6.8	96	43.64	83.72	11.5	0.92
Impala	6.8	96	35.11	84.28	11.8	1.23
Justica CL Plus	6.8	96	38.83	81.65	12.9	1.01
Yitpi	6.72	95	44.14	84.06	11.9	1.11

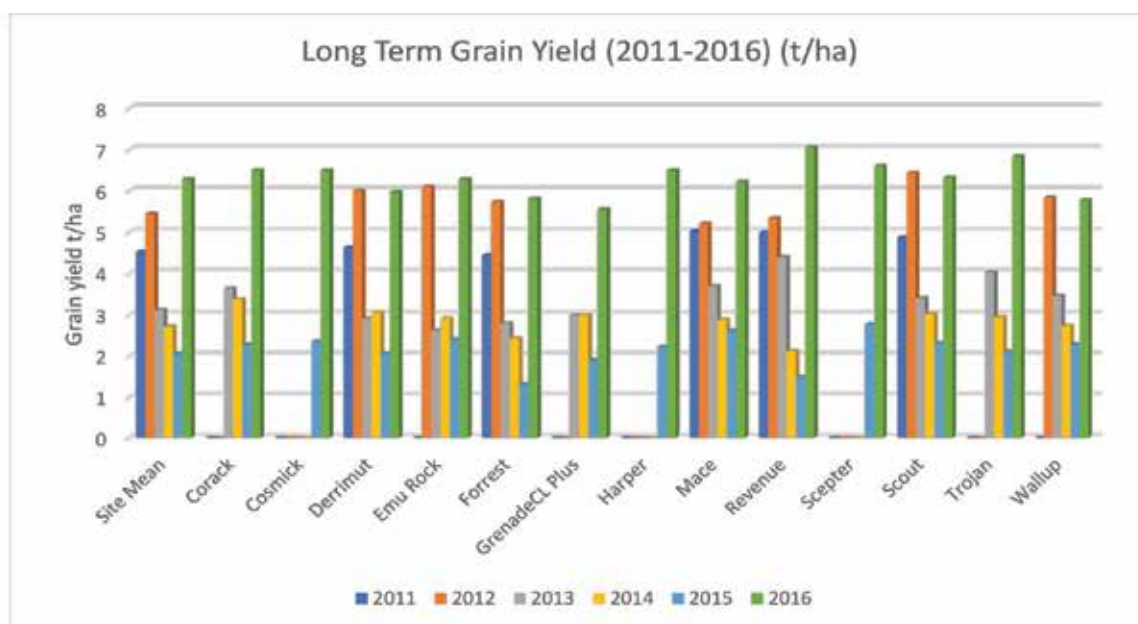


Figure 1: MFMG Frances Long Term Yield data (2011-2016) for selected varieties. Note that varieties with no data for that season were not sown in that year.

The Millicent site experienced intermittent waterlogging during the season, resulting in a highly variable trial (cv 17.9 %). As such, the results from the Millicent site (Table 4) should be treated with caution. Despite the high levels of variability, the longer season (winter wheat) varieties Scenario (9.13 t/ha), Revenue (8.37 t/ha) and Manning (7.49 t/ha) performed extremely well. These

varieties were also the highest yielding varieties in 2015, showing their suitability in this region as a dual purpose feed wheat option. Test weights for all varieties are over the minimum 76 kg/hl and screenings all below 5.0 % required for H1, with protein the limiting factor for varieties achieving their maximum grade.

Table 4: MFMG 2016 Millicent Wheat Variety Trial Grain Yield and Quality.

Variety	Yield t/ha	%	1000 grain weight (g/1000 seeds)	Test weight (kg/hl)	Protein (%)	Screenings (%<2.0mm)
Manning	6.68	120	45.78	77.78	7.4	0.11
SQP Revenue	6.66	119	48.24	77.66	6.9	0.16
Beaufort	6.58	118	45.5	75.45	8.2	0.59
RGT Accroc	6.58	118	49.1	76.95	6.9	0.25
SF Adagio	6.44	115	44.51	77.23	8.6	0.27
SF Ovalo	6.31	113	45.09	78.68	7.6	0.31
Trojan	5.87	105	52.26	79.93	9.1	0.12
SF Scenario	5.8	104	47.83	80.09	7.6	0.16
Kiora	5.69	102	42.35	79.5	8.8	0.46
Preston	5.68	102	48.13	77.88	9.2	0.28
Coolah	5.67	102	48.11	79.95	8.7	0.31
Beckom	5.56	100	41.06	78.54	8.5	0.49
Brennan	5.55	99	46.3	79.79	8.4	0.36
Cutlass	5.49	98	52.16	80.83	8.5	0.1
Forrest	5.43	97	45.89	80.81	8.5	0.46
Bolac	5.42	97	38.35	79.85	8.8	0.37
Chara	5.28	95	46.03	78.48	9.4	0.59
Elmore CL Plus	5.27	94	42.72	81.17	9.2	0.33
DS Pascal	5.25	94	43.58	79.2	9.4	0.4
Gazelle	5.24	94	44.55	74.8	8.4	0.22
QAL2000	5.19	93	49.16	77.03	8.1	0.28
EGA Wedgetail	5.18	93	45.86	77.54	8.8	0.15

Note: This site was highly variable and therefore results should be used with extreme caution

Notes on selected Varieties*

MAGNETITE*

Magnetite is an early-medium maturity variety (similar to Scout) with a very good stay-green (leaf persistence). It is similar in height to Mace, with good hectolitre weight, low screenings and large grain size. It has provisional ratings of MS for Strip Rust, R for Stem Rust and MR for Leaf Rust. It is MS-MR for Yellow leaf spot and moderately tolerant to Crown Rot. Seed is available from Elders.

ZIRCON*

Zircon is a medium-late maturity variety with strong straw, high protein and average hectolitre weight. It has provisional disease ratings of MR to strip rust, R to stem rust and MS to Leaf rust. It is highly resistant to Yellow Leaf Spot and has good Crown Rot tolerance. Seed is available from Elders.

* Information kindly supplied by Elders

