

Grain and Graze 2 – Winter trials

Cereals for fodder has been a topic of interest for a few years now and we have a good idea on the amount of production expected, but a few questions remained on trying to maximise early growth and grazing potential and the trade-off in grain production.

Cereals for fodder

Autumn 2010 saw an early start again for trials at the Block. Following on from previous work on early sown cereals, a fodder trial looking at a few aspects of fodder production was sown on March 25th. Issues such as the reported negative effect of Logran[®] on early vegetative growth, adding cereal rye to the other cereals in an effort to boost early growth and grazing post stem elongation to see the effect on grain production if the extra grazing is considered more important than grain.

Unfortunately the locust descended upon the trial block a fortnight later, badly affecting some of the plots, so the decision was made to resow on April 28th

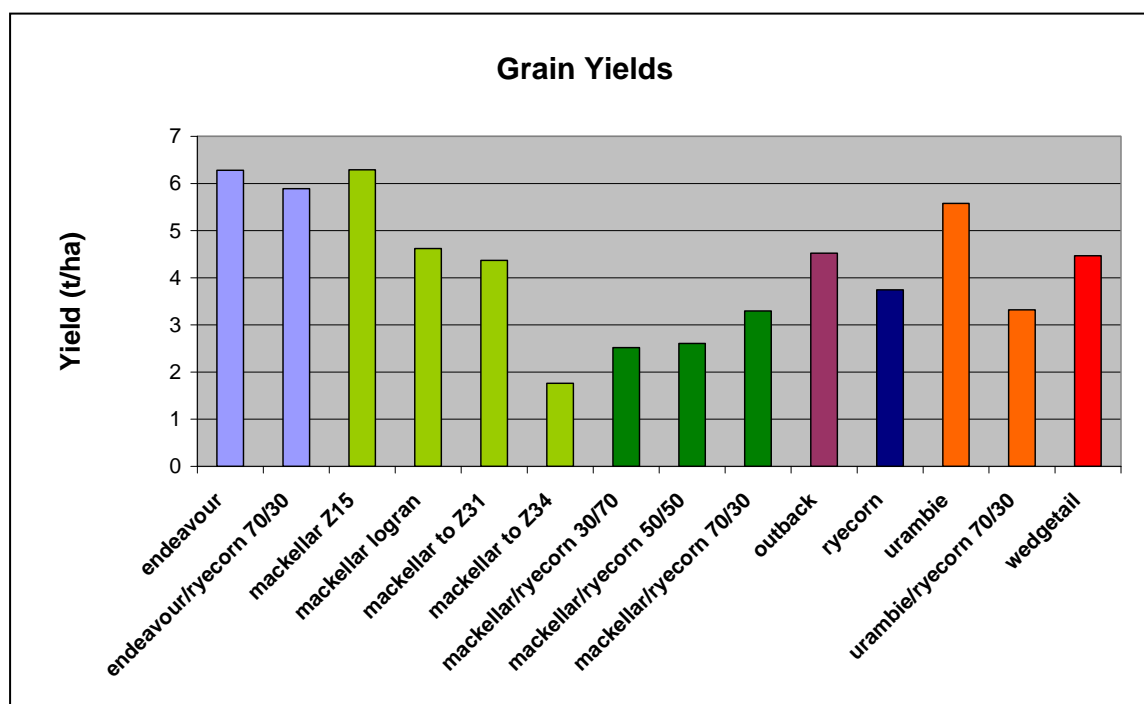
The first “grazing” (i.e. cut with a mower) was on June 23, and again on July 26. Both these “grazings saw all plots cut, however all varieties apart from Mackellar wheat had begun or was about to begin the stem elongation phase, and no further “grazings” were done. The Mackellar had reached the start of stem elongation at the next “grazing” on August 23, and all Mackellar treatments were “grazed” apart from one. Subsequent “grazings” did remove the growing point and it was known that it would cause grain yield loss but the aim was to quantify the losses if you saw more value in the grazing rather than the grain.

Table 1: Dry matter yields

Treatment	Cut 1	Cut 2	Cut 3	Cut 4	Cut 5	Cut 6	Total
Adrenalin ryegrass	0.14	0.95	1.70	1.17	1.56	0.33	5.85
Endeavour	0.33	1.09					1.42
Endeavour/ryecorn 70/30	0.26	1.14					1.40
Feast ryegrass	0.05	0.57	1.53	1.10	1.69	0.30	5.24
Mackellar	0.08	0.68	1.62				2.38
Mackellar early	0.08	0.68					0.76
mackellar cont gr	0.10	0.83	1.57	1.39	1.45		5.34
mackellar to Z31	0.06	0.58	1.52				2.16
mackellar to Z34	0.07	0.71	1.64	1.42			3.84
mackellar to Z49	0.08	0.57	1.62		5.11		7.38
mackellar to Z60	0.10	0.70	1.74			9.82	12.36
Mackellar + logran	0.06	0.52	1.42				2.00
Mackellar/ryecorn 30/70	0.25	0.90	1.34				2.49
Mackellar/ryecorn 50/50	0.29	1.08	1.49				2.85
Mackellar/ryecorn 70/30	0.15	0.86	1.57				2.58
Outback oats	0.38	1.29					1.67
Ryecorn	0.32	1.18					1.50
Urambie barley	0.09	1.08					1.17
Urambie/ryecorn 70/30	0.19	1.14					1.33
Wedgetail wheat	0.35	1.00					1.35
lsd	ns	0.21	0.265	0.204	0.518	0.523	
cv%	>20	14.7	10	8	10.6	12.7	

“Mackellar early” treatment saw grazing halted early, ie grazed at the five leaf stage (Z15) but not again. “Mackellar to” treatments were grazed subsequent to the Z31 (1st node) stage where reduction to grain yields would be expected. “Grazing” with the mower saw little regrowth from anything cut later than the 4th node (Z34) stage.

Graph 1: Grain yields



lsd = 1.05t
cv% = 14.8

Logran[®] treated plots did yield slightly lower dry matter, but not a statistically lower amount, and had no effect on grain yields.

The addition of cereal rye or rye corn (Southern Green) to the cereals by weight did boost early dry matter production in Mackellar, but did affect the grain yields of Mackellar and urambie barley. Endeavour triticale did not suffer grain loss or affect early production by the addition of 30% rye corn by weight.

While there were no “not grazed” treatments to compare, the grazing of the triticale and barley shortly before stem elongation did not seem to affect grain yields. However grazing at the same time did result in grain yield losses in Mackellar, particularly when compared with the Mackellar grazed at Z15 or late tillering stage.

The timing of the grazing rather than the growth stage may have played a bigger part in the yield decline – i.e. the plant may not be able to recover to the same degree as it is know getting close to spring and the grazing may also delay the period of grain fill into the warmer temperatures.

Wedgetail grain yields would have been affected by stripe rust.