Choosing an Oat Variety

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Take home messages:

- Bannister and Echidna yielded significantly higher than Mitika and Yallara.
- Oats can provide another option in rotation and can be hay.
- Susceptible varieties of oats such as Mitika need to be monitored for red leather leaf

Method

This trial was sown on the 31st May in canola stubble and harvested on the 27th December. The four different varieties below were chosen to compare the yield and quality of both popular and new varieties. All varieties were replicated by four and each was treated the same for fertiliser, fungicide and herbicide.

Echidna (1984) – The semi dwarf variety Echidna is used for feed and milling and is high yielding, however it is regularly outclassed by the newer varieties. It's moderately tolerant to stem nematode but is susceptible to the rusts and CCN.
Mitika (2005) – Mitika is a dwarf variety that's well suited to high rainfall areas. This variety is generally used for milling, but also has very good feed value. It has a rating of MR-MS to leaf rust, and is susceptible to stem rust and CCN.
Yallara (2009) – A tall variety used primarily for milling. Yallara is resistant to leaf rust but is rated MS-S to stem rust and septoria and resistant but intolerant to CCN.
Bannister (2013) – Bannister is a new dwarf variety for high rainfall areas of milling quality. It has good resistance to stem and leaf rust, and is less susceptible to septoria than other varieties.

Results and Discussion

Echidna produced the highest yield for the trial. It produced a significantly greater yield than Mitika and Yallara but not Bannister(see FTable 1).

Protein and estimated metabolisable energy were calculated via bulk composite samples. Mitika had the highest protein content at 12.3%, and Bannister was the most valuable for estimated metabolisable energy at 13.3mJ/kg (See Table 1). However since this data is from bulk composite samples, it cannot be taken as significant – rather an indicator.

The data set for screenings was very tight and so, highly significant (P=0.05). However all varieties had screening values less than the cut off of 10% required for milling grade oats (see Table 1). The CV for this assessment was 7.25, and so can be considered reliable.

The test weights for Bannister, Mitika and Yallara were not significantly different from each other, however Echinda's test weight was significantly lower than the other three varieties, and in fact did not make the minimum test weight required for milling oats (Table 1). A CV of 1.48 makes this data very reliable.

Table 1 Protein and estimated ME

Variety	Yield (t/ha)	Protein (%)	Est. ME (mJ/kg)	Test Weight (kg/hL)	Screenings (%)
Echidna	8.33	10.4	11.6	48.85	8.3
Bannister	7.92	10.0	13.3	52.08	3.2
Mitika	7.05	12.3	13.1	51.75	2.5
Yallara	7.01	11.7	12.2	52.53	4.5
LSD (p=0.05)	0.81	N/A	N/A	1.21	0.08

Conclusion

Throughout this trial, Bannister, to be released in 2013, performed on par with the other popular varieties used in the trial. It would definitely be one to watch in the coming seasons. Mitika and Yallara had good grain qualitie, but lower yields. On the other hand, Echidna had a lower quality but a rather high yield. Future work by SFS will include further variety trials, including varieties for hay production.