

Dual-purpose barley as a risk management tool for mixed livestock enterprises in Western Australia

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Background and Aim

Background

- ❖ Dual-purpose cereals provide the opportunity to graze a crop during the vegetative phase, yet still harvest the grain at the end of the season. They can provide a valuable feed resource during the winter feed gap, and also help to spread frost risk by delaying flowering to later in the growing season.

Aim

- ❖ The aim of the experiment was to determine the benefits of a dual purpose barley in relation to livestock feed and risk mitigation, and whether a malting variety can also be used for dual-purpose use.



Methods

A simulated grazing experiment was conducted in Perth over the 2015 growing season;

- ❖ Using four varieties of barley;
 - Bass and Baudin (malting),
 - Lockyer and Yagan (feed),
- ❖ With four treatments cut to 5cm;
 - Control (not cut),
 - early July graze,
 - early August graze and
 - grazing at both dates



Results

Analysis of variance summary

Variable	Variety			Treatment			variety x treatment		
	df	F-ratio	F pr.	df	F-ratio	F pr.	df	F-ratio	F pr.
Total Biomass	3	0.19	ns	3	48.78	<0.01	9	0.49	ns
Grain yield	3	4.4	<0.05	3	13.91	<0.01	9	0.56	ns
% Grain									
Crude protein	3	3.21	0.05	3	0.56	ns	9	0.37	ns

- ❖ Grain yield was reduced by grazing, particularly at 2nd cut, or both cuts.
- ❖ Yield loss driven by maturity length rather than variety type – feed or malt.
- ❖ No grain protein penalty by grazing
- ❖ Screenings did not increase



Conclusions

- ❖ With an early break, grazing crops enables farmers to sow earlier to maximise the use of early winter rains, but reduces the risk of frost impacting on grain yield by delaying flowering.
- ❖ Dual-purpose cereals provide animals with a green winter feed source when pasture growth can be slow and there may be feed gaps in the system
- ❖ Suggested that amount of vegetative biomass available for livestock more than compensates for the reduction in grain yield

Further work

- ❖ Nutritive value of biomass still to be determined
- ❖ Economics