



MLA PDS: Alternate forage crops for southern WA

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LOCATION – Porongurup

SOIL TYPE – Gravely loam

CONTROL – Ryegrass / clover pasture, 25.5ha, 35 yearling steers, ~1.4 yearling cattle/ha

VARIABLE – Winter wheat (Bennett), 85ha, 210 yearling heifers, ~2.5 yearling cattle/ha

Stirlings to Coast Farmers have been managing the MLA PDS project 'Alternate forage crops for Southern WA' since the start of 2020. The project is currently in its third and final year and at its completion will include a total of six separate demonstration sites in the high rainfall zone (HRZ) of WA. The sites aim to demonstrate the feed value of alternate high biomass forage crops in increasing stocking rates and liveweight gain of prime lamb or yearling cattle relative to current systems in the HRZ of Western Australia. Forage crops that have been assessed to date include Pallaton Raphno, sorghum and millet. Each alternate forage crop has supported a greater stocking density than their control counterpart.

One of the final demonstration sites is being hosted by the Metcalfe family at the Porongurups. Tim Metcalfe commented that it was a struggle last year to control the grasses under his canola crop after such a wet season. Due to this, a double knock down spray of glyphosate with Le-mat, for RLEM, followed by paraquat and Sakura was completed to prepare the paddock for seeding of the forage crop. This was then followed by Boxer-Gold a few weeks later. The 85ha paddock was planted to Bennett winter wheat on 15th April, 2022 sown at 115kg/ha. The crop received 150kg/ha of super potash 3:1 top dressed and 80L of Flexi-N per ha.

So far biomass cuts, soil samples and plant samples for nutritive value (NV) analysis have been collected. Four quadrant cuts were collected from each paddock to determine biomass prior to grazing. The control paddock of clover and ryegrass pasture equated to 1.86t dry matter/ha across 25.5ha and the Bennett wheat averaged 3.88t/h across 85ha. Nutritive value samples were analysed by Feedtest, Werribee, VIC. Both feed sources were relatively comparable in quality, with the Bennett being slightly higher quality (Table 1). Both had comparable crude protein at ~20%, with Bennett having ~5% less acid detergent fiber (ADF). ADF is the least digestible component of the plant,

so the Bennett has a slightly better digestibility than the clover and ryegrass pasture. The Bennett winter wheat also had a higher metabolisable energy (ME) of 12.9MJ/kg DM compared to 10.6 MJ/kg DM in the clover ryegrass mix. It will be interesting to see if the yearling heifers grazing the Bennett fodder crop can convert the slightly better feed source into more kg/hd than their clover ryegrass pasture grazing counterparts.

Yearling cattle started grazing on the 1st July. Tim weighed the steers and heifers onto their respective paddocks. The yearling steers on the clover and ryegrass pasture averaged 389kg/hd and the yearling heifers on the Bennett winter wheat averaged 385 kg/hd for their initial weights.

Table 1: Nutritive value analysis of the clover ryegrass pasture and Bennett wheat.

NV Analysis	Clover / Rye Pasture	Bennett Wheat
Dry Matter (DM)	18.5 %	14.9 %
Moisture	81.5 %	85.1 %
Crude Protein	20.0 % of DM	21.7 % of DM
Acid Detergent	22.1 % of DM	17.3 % of DM
Neutral Detergent Fiber	42.5 % of DM	37.9 % of DM
Digestibility	71.1 % of DM	84.3 % of DM
Digestibility	67.1 % of DM	78.2 % of DM
Est. Metabolisable Energy	10.6 MJ/kg DM	12.9 MJ/kg DM
Fat	5.6 % of DM	6 % of DM
Ash	9.8 % of DM	9.6 % of DM

One of Tim's favourite aspects of Bennett wheat is the versatility and range of options it gives you. This includes winter grazing with the option to lock up for silage production or if it looks good continue on to harvest the grain. Final results will be reported in the next newsletter.



Figure 1. Heifers grazing winter wheat (Bennett) early July. Sown 15th April 2022. The heifers had an average weight of 385 kg when they entered the paddock.



Figure 2. Steers grazing clover rye pasture mix early July. The steers had an average weight of 389 kg when they entered the paddock.



Figure 3. Image of the Metcalfe's winter wheat on July 5th, 2022, before 210 heifers were added to the paddock. Tim is looking forward to calculating the yearling growth rate compared to the paddock of ryegrass clover mix next door.

