

MLA Producer Demonstration: Pyle Sites

Samantha Cullen, Membership Officer, SCF

Trial Host: David Pyle

KEY MESSAGES:

- Pallaton Raphno had a higher nutritional value (NV) than the canola stubble control. This included a higher crude protein, digestibility and metabolisable energy.
- Excellent weight gain was achieved by lambs on the Raphno with 141g/head/day more than the canola stubble.
- Lamb live weight gain was 7.66kg/ha/day for the Raphno, which was more than double the canola stubble, at 3.57 kg/ha/day.

LOCATION- South Stirlings

SOIL TYPE- Sand

CONTROL- Canola stubble with a clover dominant pasture underneath, 30ha, 670 lambs, 22.3 lambs/ha

VARIABLE- Pallaton Raphno, 59ha, 1580 lambs, 26.8 lambs/ha

BACKGROUND

In 2020 Stirlings to Coast Farmers (SCF) began a project with Meat & Livestock Australia (MLA) looking at alternative forage crops for southern WA. The project is currently finalising data from the second of the three years. The aim of the project is to measure the benefit that alternate summer forages, such as Pallaton Raphno, Sorghum and Millet, can contribute to livestock weight gain and carrying capacity. The alternate forage crops were compared to traditional feed sources such as dry pastures and crop stubbles. The Great Southern region's decile 10 rainfall has delayed seeding for two of the forage crop demonstration sites (Smith and Metcalfe). Below are the summarised results obtained from Pyle's demonstration site.

RESULTS AND DISCUSSION



Figure 1 and 2: Left, photo of Pyle's 30ha Canola stubble control on Nov 25, 2021. Right, the same crop Dec 17, 2021, when the control mob were removed.



Figure 3 and 4: Left, photo of Pyle's 59ha Pallaton Raphno crop on Nov 25, 2021. Right, the same crop Dec 17, 2021, when the control mob were added to this paddock.



Table 1: Summary of the rainfall since August 20, 2021, from Pyle's digital rain gauge located in the Raphno paddock.

Period	Date (2021)	Rainfall (mm)
1 month prior to seeding	August 20 to September 20	74.8
Seeding to stock entering	September 21 to November 25	116.8
Stock in to stock removed	November 26 to December 17	3.6
Total rainfall	August 20 - December 17	195.2

Table 2: Key nutritional value analysis of forages (full analysis published in the SCF trials review booklet)

NV Analysis	Canola Stubble	Pallaton Raphno
Dry Matter (DM)	26.8 %	16.1 %
Moisture	73.2 %	83.9 %
Crude Protein	11.4 % of DM	16.6 % of DM
Digestibility (DMD)	54.8 % of DM	82.0 % of DM
Est. Metabolisable Energy	7.8 MJ/kg DM	12.5 MJ/kg DM

Table 3: The Average lamb weights recorded on December 3 2021 (Weigh In) and January 4 2022 (Weigh Out), and average liveweight gain across the 30 days.

Forage	Weigh In (Avg kg)	Weigh Out Avg kg)	Weight gain (Avg Kg)	Avg weight gain g/ hd/day	Weight gain g/ ha/day
Canola Stubble	38.2	41.4	3.2	145	3.57
Raphno	40.1	46.4	6.3	286	7.66

The demonstration compares two paddocks; a regrowth Canola stubble containing a clover-based pasture and a Pallaton Raphno stand.

The Raphno was sown on September 20 2021. Biomass cuts, soil samples and plant samples for nutritive value (NV) analysis were taken November 25, the same day lambs were weighed and introduced. Lambs recorded average weights of 38.2kg and 40.1kg for the canola stubble and the Raphno, respectively. The two paddocks had vastly different available biomass, with 2.54t/ha for the control paddock and 4.05t/ha for the Raphno. NV analysis revealed the Raphno was a much higher feed quality, possessing higher digestibility, metabolisable energy and crude protein than the canola stubble pasture mix (Table 2). David Pyle noted that the Raphno paddock was under stocked carrying 26.8 lambs per hectare and ideally the stocking rate would have been above 30 lambs per hectare.

At the conclusion of grazing, the canola stubble had been exhausted and the 670 sheep from the control mob were then added to the 1580 Raphno mob on December 17. Figure 4 shows that there was still plenty of biomass left in the Raphno paddock at this time.

Once weighed, lambs were found to have averaged 145g/hd/day on canola and 286g/hd/day on Raphno. This resulted in an extra 141g/hd/day produced on the Raphno, nearly double the

average daily gain (ADG) of lambs on canola. Once the stocking rate had been accounted for, the extra lamb weight gain for Raphno over canola was found to be over 4kg/ha/day. Lambs continued to graze the Raphno at a stocking rate of 38 lambs / ha for three weeks. That grazing pressure removed all leaf area from the Raphno. Seven weeks on David reports "The Raphno is looking good, roughly a foot tall, with blanket coverage. Unfortunately we have had a very dry summer, with only one 10mm rainfall event." SCF plan to collect more data at the next grazing opportunity planned for March.

For a more in-depth analysis and results from our other MLA PDS sites look out for our Trials Review Booklet, coming soon.

ACKNOWLEDGEMENTS

Thank you to our PDS hosts Pyles (Raphno vs Canola stubble), Smiths (Millet vs Barley stubble) and Metcalfes (Sorghum vs ryegrass).

This project is supported through funding from Meat and Livestock Australia.



Figure 5: David collecting final weights on Dec 17.



Figure 6: Lambs weighed from the Raphno paddock.