

Surface Cover Grazing Systems Trial

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Funded By: GRDC Stubble Initiative

Project Title: Surface Cover Grazing Systems Trial

Project Duration: 2014-2017

Project Delivery Organisation: PIRSA Rural Solutions SA and UNFS

Key Points:

- Trials are underway investigating the effects of rotational grazing versus set stocking of stubble residues on surface cover and soil characteristics in arable paddocks.
- Early rain in 2014 disrupted the trial’s implementation but initial results on a stubble / self-sown pasture grazed in June indicated no difference between set stocking and rotational grazing on surface cover.

Project Report:

Experiences of farmers using rotational grazing on stubbles (putting high numbers of stock on paddocks for short periods of time) suggest that more surface cover remains and less tracking is evident compared to paddocks where a lower stocking density for longer periods is used.

This theory is being tested on Don Bottrall’s paddock at Appila. The **Bottrall** paddock of 17 ha was wheat stubble from the 2013 season. It was split into approximately half, and an ungrazed or “control” strip was left in the middle.



The western end was left for set stocking while the rotationally grazed area was further subdivided into 3 areas.

The intention was that once the electric fences were set up, the sheep would be moved onto the trial.

However, bushfires and early rains thwarted our plans with the result that the sheep went onto the paddock in June for 18 days.

Image 1: The Bottrall paddock displaying the three treatment zones, Set Stocking (S), Control (C) and Rotational Grazing (R). The Rotational Grazing zone was divided into three sub-zones.

The original mob of 220 ewe lambs was split in two; one half going onto the set stocking area for 18 days, the other half rotated through the 3 subdivisions for 3 days at a time.

Assessments of surface cover were made (dry matter t/ha; proportion of bare ground / surface cover; and an erosion risk rating system used by the Department of Environment, Water and Natural Resources) prior to the sheep going onto the paddock and immediately after their removal.

Table 1: The Bottrall Paddock Results. There was no significant difference in surface cover between the 2 treatments:

	Dry Matter t/ha	Surface Cover %	Surface Cover Rating*
Control	1.99	97	2
Rotational Grazing	1.44	91	3
Set Stocking	1.50	91	3

* 1 = full cover; 8 = bare ground

While it was not measured, there was obviously more “green pick” on the rotationally grazed areas.

Stock tracks were counted on the grazed areas and it was found that while the number of tracks overall was about the same, one of the rotationally grazed areas had far more tracking than the other two. The reason for this is unclear but it is possible that because the sheep in this subdivision ran out of water one day, they were walking around looking for water more that day.

Aerial photos of the trial were taken using a UAV. While it is not yet possible to use the aerial imagery to measure cover, the images provide a good indication of the cover remaining after the sheep were removed.



Image 2: Aerial view of rotational grazing area in foreground, control strip and set stocking background, 26/06/14.

The paddock was sown to wheat in July 2014. After harvest in 2014 the paddock was subdivided and tested again. The results from the 2015 grazing are yet to be analysed. This paddock will continue to be grazed in this trial for the following 2 seasons to assess the longer term effects of grazing system on stubble and soil characteristic within a paddock used primarily for cropping.

Acknowledgements:

Thank you to Don Bottral for the use of his paddock and his effort in erecting the fencing and rotating the sheep. Thank you also to Jim Higgins, who was originally going to be part of the trial but the seasons and lack of stubble cover have meant that the trial was not possible. Thankyou also to Joe Koch for the loan and operation of his UAV to obtain the aerial imagery of the trial site.