

## GRAIN & GRAZE 2 CASE STUDY

# Grazing canola on the coastal plain: Providing a free lunch

*Written by Michelle Handley, Farm and General, Esperance  
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### Profile

#### Rohan and Ruth Marold

**Location:** 40km west of Esperance in the Dalyup district, Western Australia

**Farm Size:** 2,200 ha

**Annual Rainfall:** 600mm, with 25% typically falling over the summer and early autumn months

**Soil Type:** Sand over gravel duplex

**Enterprises:** Sheep and cropping.

2011 saw a 70:30 ratio of cropping to annual pasture.

Esperance farmers Rohan and Ruth Marold hadn't tried grazing their crops before participating in the Grain and Graze 2 Grazing Crops Trial in 2011. Although, after reviewing results of the 2005 Department of Agriculture WA trial grazing cereal varieties at the Esperance Downs Research Station, they thought it might not be a great idea!

The Marold's understanding was that effective grass weed control in cereals was not possible, yield penalties could be high and that specific grazing varieties were needed. However, always prepared to look at new methods to increase their return on investment, from the same amount of land, Rohan agreed to trial winter grazing of his canola. He could see the potential for free sheep feed at a time of year when pasture growth rates were slow.

### A change in enterprise mix

Through the 14 years of Marold's farming experience, economics has been the main driver for the change in enterprise mix, given there have been years when returns from sheep have been very low. In that time, the enterprise mix has changed to a 70:30% ratio in 2011, from a 30:70% ratio of full cultivation cropping to pasture ten years ago. There has been a gradual increase each year in the area cropped, stock numbers have been reduced and cropping has changed to 100% minimum tillage. One of the main contributing factors to the enterprise change was the need to alleviate the impact water logging has had on cropping reliability.



## The trial begins

In April and May 2011, the Marold's planted 800 hectares of canola, 550 hectares of which was Round-up Ready and 250 hectares Clearfield. Of this, a 22-hectare paddock was committed to be part of the Grain and Graze 2 Grazing Crops trial. Portable electric fencing was used to establish an area that remained ungrazed throughout the trial and as their header had yield mapping capability, grain yield from the ungrazed and grazed areas was easy to compare.

Dry ewes were put into the unfenced area of the paddock for grazing at a stocking rate of 39.3 DSE when the canola was at growth stage 5-6 leaf, and removed

after four days. There was no delay in the sheep grazing canola, as they were practiced on brassica species having had a lot of experience with wild radish. Their grazing was even and efficient, and the sheep showed no digestive ill effects. From this experience, Rohan could see that it would be easy to overgraze a crop and was keen to watch the rate of regrowth.

As the growing season progressed there was a visible difference in the size and growth stage timing of the crop between the grazed and ungrazed areas. Rohan was however, surprised at how quickly the grazed area matured to flowering and this helped to maintain his confidence that both areas would yield similarly at harvest time due to the extended growing season available in his farm's region.

## Weed control a critical management factor

In terms of weed control throughout the growing season, Rohan did notice a slight increase in weed burden in the grazed area, compared to the ungrazed area, which did concern him. It reinforced the issue that if he was looking to graze canola in subsequent years, he would not use Clearfield varieties due to the limited chemical weed control options. It also reaffirmed his reluctance to graze cereal crops due to concerns about limited rye grass and brome



*ABOVE: An optimistic Rohan Marold on the day his canola grazing trial commenced.*



*ABOVE: Grazed (left of fence) and ungrazed (right) trial areas, one day after 550 ewes were removed. The crop in the grazed area is noticeably shorter and evenly eaten.*





**ABOVE:** The Dalyup field trial on 16<sup>th</sup> August 2011. The ungrazed trial area (left of centre) supports canola plants that are larger and more advanced than plants in the grazed trial area (right of centre).



**ABOVE:** Plants collected from the trial site in October 2011. The grazed specimen (left) has multiple stems regrowing from the base and less seed pods than the ungrazed specimen (right).

grass control options given both are significant management issues on his property.

He also found he needed to be well versed in chemical withholding periods to ensure that weed control occurred before the crop was grazed, but that grazing could occur when the crop was at the appropriate growth stage for this to happen.

## Yield results provide a positive outcome

Following harvest Rohan was keen to review the yield results from the trial paddock to ascertain if his enterprise had lost or gained financial ground as a result of grazing his canola. Rohan was pleased to report that the grazed area had not incurred a significant yield penalty, concluding that there really was such a thing as a ‘free lunch’!

As a result of his experiences with his trial grazing canola trial this year, in 2012 Rohan is planning to increase his sheep flock to 1,400 ewes from 1,150 ewes, so as to have three mobs of lambing ewes graze 200ha of non-hybrid TT canola. In addition, he may also try some of his hoggets on hybrid canola. Furthermore, if the season starts poorly and he’s caught with insufficient feed, he’ll consider grazing more.

## Yield results from crop grazing trial

	Grazed Paddock	Ungrazed Paddock
Average Adjacent Run Line Yield (tonne/ha)	1.967	2.039
Oil (%)	45	44.4
Protein (%)	18.5	18.7
Admixture (%)	0.84	0.75
Grain Classification	Canola 1	Canola 1
Farm Gate Price (\$/tonne)	\$550	\$550
<b>Return (\$/ha) – before costs</b> (based on adjacent run line yield)	\$1082	\$1121

## 2012 to determine more grazing crop benefits

Additional benefits of grazing crops Rohan will be assessing in 2012 is:

1. to see if it will help reduce the worm burden in his sheep by spelling his annual pasture paddocks at peak worm burden time, and
2. if it will enable him to sow cereals and clover into his pasture paddocks and improve the pasture composition.

*“Grazing crops isn’t a silver bullet but it is a way to get more money from the same amount of land and it does provide a buffer for dry starts when pasture is poor.”*

In summary, Rohan said his participation in the Grain & Graze 2 trial had altered his views about grazing crops and that he was keen to incorporate it in to his farming enterprise.



**ABOVE:** Harvesting underway in the trial paddock on 21<sup>st</sup> November 2011.

### Acknowledgments



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