



# Changing paddock management to increase stocking rates

## SITE INFORMATION

**Landholder:** Neville Hoffrichter

**Location:** Ceduna

**Property Size:** 2,100 ha

**Annual Rainfall:** 275 mm

## Site Description

Prior to 2008, Neville's farming enterprise mainly focused on cropping. However, after a run of droughts, Neville realised he needed to decrease his risk and better look after his livestock enterprise. The property of 2100 ha is mainly calcareous sand to sandy loam. Approximately 1,500 ha is planted to cereals annually, of which 1,000 ha is harvested for sale and seed (wheat and barley). The remainder is sown to mixed oats and barley for grazing and/or harvested for stored stock feed.

## Aims and Objectives

Neville has been farming west of Ceduna for over 17 years and wanted to reduce the financial risk of poor returns from cropping in dry years.

He identified that in order to increase his stocking numbers and spread his risk this would require a number of changes across the farm. Ideally Neville wanted to move towards a 50:50 sheep / crop enterprise, with the ability to sell off all wether lambs and non replacement ewes in a six month period.

The first step was to assess returns from the whole farm business, and then identify; the areas of his property most likely to give a return for cropping, those areas where returns from input costs were more variable, and those areas of his property not suitable for cropping.

Each year Neville benchmarks his sheep enterprise as a management tool to review his program. Stocking rates increased from 1.5 DSE/Winter grazed hectares (Wgha) to 1.8 DSE/Wgha in 2009. The gross margins increased in that first year from \$16.56/DSE in 08/09 to \$25.59/DSE.

In 2011 Neville ran 1,000 ewes (SAAMs and Dorpers) in four paddocks at 2.5 DSE over 12 months on a mixture of pasture and cereal (oats) planted for grazing. Neville now has two years fodder reserve on hand with hay and grain.

Neville's key exit strategy in the drier seasons, when paddock feed and ground cover is low, is to establish a confined feeding area to finish off lambs and maintain ewe condition. However, to reduce the impact, both on ground cover and livestock health, this plan needs to be implemented early if seasonal conditions are below average.

## Approach/Methodology

### How and what was done?

A simple grazing stubble trial was conducted for two years in a row. In both years extra grazing and feed utilisation was achieved by rotating livestock through smaller paddocks at higher stocking pressure every one to two weeks.

Temporary electric fencing may be used to subdivide paddocks further to intensively graze cereals.

In 2009 Neville sowed oats and barley at 50 kg/ha without fertiliser. He subsequently subdivided a 240 ha paddock into four cells using permanent and temporary electric fencing. The electric fence was constructed using three rows of 2.5 mm fencing wire and steel tread-ins with steel posts every 200 metres. This system costs \$750 / km, plus the energiser. Neville's plans are to leave the fence in place for two to three years, after which it will be removed and used for the same purpose in another area of the farm.

One thousand one hundred and seven Dry Sheep Equivalent (DSE) were grazed in the system from August to November and 570 DSE until January resulting in a stocking rate of 4.6 DSE/Wgha and 1.5 DSE over the year. Due to a favourable season, one cell was not needed for grazing, allowing 30 tonne of grain to be harvested. The gross margins for sheep averaged \$38.75/ha across the 240 ha.

On the stubble trial area in 09/10 Neville was able to stock the site with 257 dry ewes set stocked at 2 DSE/ha in a 152 ha paddock, utilising 150 kg DM/ha for 51 days in February/March. Sheep had to be removed as they had started to bare out some areas of the paddock. However, in the other split paddock, 287 ewe lambs at 2 DSE/ha rotated through two 80 ha paddocks every one to two weeks, utilised 240 kg DM/ha for 89 days.

Neville sowed barley and oats in the same paddock again in 2010 at a rate of 50 kg/ha with 18:20 fertiliser applied at 10 kg/ha. The four cells were rotationally



grazed with 800 ewes with lambs at foot for seven months. The system supported 2400 DSE resulting in 10 DSE/Wgha and 5.7 DSE over the year. The gross margin in 2010 was \$159/ha.

During the 2010 spring flush the sheep could not utilise all the biomass grown and again 60 hectares was harvested and kept as feed on hand. These favourable seasonal conditions for grain production and ample standing feed reserves, allowed the sheep to be rotationally grazed through the four paddocks over summer and autumn.

Currently Neville sows 23% of winter grazed pasture to barley and oats for grazing and the intention is to increase this in the future.

Neville is also upgrading existing watering points and adding more efficient central watering points with 2,500 litre tanks. To allow livestock access to a high water volume these tanks have a 50 mm ID Rural B' Class diameter pipe from tank to trough and a 40 mm float valve. Flow rates into troughs of over one litre/sec, provide a large mob with clean cool water, thus, eliminating the issue of stock camping around watering points.

Water is a major issue for this enterprise. Problems with mains water quality (calcium build up) and the future rising costs of reticulated water has made

Neville look at alternative sources. In 2011-12 Neville replaced a large amount of the water infrastructure to accommodate the subdivision of more paddocks divided by raceways. Most perimeters will require electric fencing. In some instances installing two water points located at each end of the paddock will help manipulate grazing pressure. Other paddocks will have one central water point allowing livestock access from each connecting paddock.

Neville's aim is to become mostly self sufficient. He has consequently installed a water catchment system on his property during 2012-13. On a sloping corner in one of his paddocks, Neville has laid out 500m<sup>2</sup> of plastic on ground to collect water into two underground tanks. He then uses a solar powered pump and windmills to pump this water up into larger holding tanks located on top of hills. This facilitates distribution to the required watering points around his property.

This system enabled Neville to turn off his mains water in March 2013 due to a rainfall event (15mm) that caught enough water to carry him through to the opening rains. Neville indicated that by the end of June 2013 he would achieve his maximum water holding capacity and is anticipating that during most seasons, he would be able to rely solely on this water catchment for livestock water.



Central watering point and electric fence servicing four paddocks.





## Conclusions/Recommendations

### What was achieved?

Neville showed that grazing efficiency can be increased by splitting the paddocks and rotationally grazing the area compared with set stocking paddocks. With smaller paddocks his sheep are grazing less selectively and using less energy walking to water and looking for the best feed.

Neville observed that when mobs were set stocked in the larger paddocks, they would come into water and then walk all the way back to the other end of the paddock before starting to graze which resulted in tracking and trampling of feed. Changing to rotational grazing in smaller paddocks meant that they were trampling less feed in the process.



Solar electric fencing to subdivide a paddock.

Neville has continued this grazing program of rotating large flocks through smaller paddocks thus maintaining good ground cover. He is continuing to subdivide more paddocks and establish raceways on the property over a two to three year program. The sheep enterprise is in the process of changing from a wool and prime lamb enterprise to solely meat production.

By conducting a number of small on-farm trials, Neville has shown that subdivision of large paddocks and combining rotational grazing with increased water flow rates to troughs wastes less feed.

Increasing the stocking rate is the key to increasing income and livestock gross margins. However, this can only be achieved through better grazing management such as rotational grazing. It is also very important to have an exit strategy to deal with variable seasons. As a risk management strategy, Neville has established grain and hay as fodder reserves for 12 months in advance and continues to monitor and maintain a feed strategy well in advance of his livestock needs.

Neville will continue to develop further innovative ideas on his property as he gradually reduces his risks, cropping only the lower risk areas and increasing his livestock enterprise.

### References/Acknowledgements

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