

## No MORE BEARINGS Field day

April 4 2011

### Introduction

---

*Sheep production systems* continue to face rising costs and challenges therefore improved understanding of the relationship between winter ewe nutrition, feed management, productivity and profitability is critical to the sheep industry. Many farmers focus on ewe management before pregnancy and again around lambing but lose sight of the importance of the weeks in between.

*Traditional ewe winter management* practice in Southland is to manage the feed supply available from April until lambing using break feeding on pasture and brassica crops. Over the years this has often had an impact on ewe performance as the management focus is on the feed supply not the animal requirement. The result is often a loss of liveweight and body condition score.

On-farm demonstration (supported by SFF and Beef + Lamb) over the last six years in Otago and Southland has shown that an alternate feed management system can be used successfully.

### 4 day grazing management

---

The farmers involved in the demonstrations changed their winter management for a significant portion of their ewe flock.

Using intensive feed budgeting they increased the size of the allocated break and reduced shifting of the mobs (from either 1 or 2 day to 4 day shifts).

The aim was to maintain the BCS and minimise any weight loss during the period.

### And bearings

---

The initial hypothesis was that significant loss of condition or a series of physiological checks through temporary underfeeding could be contributing to the incidence of bearings. However the results have shown there were more benefits from this management including reduced cost (management time), improved feed management and utilisation and more settled sheep.

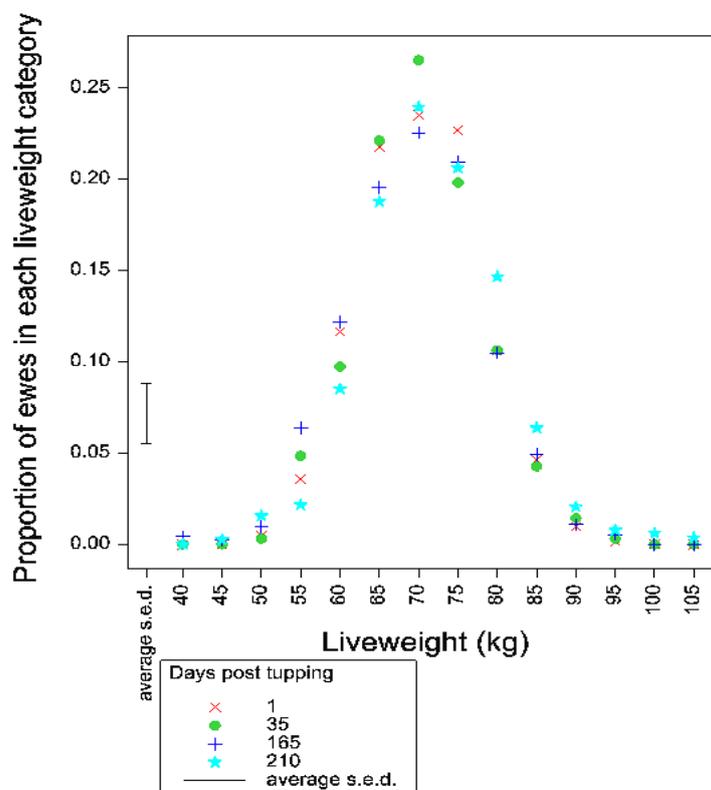
*The three key objectives* for this project - to look at management to reduce bearing incidence, and improve ewe nutrition and feed planning through pregnancy

### Ewe liveweight

Ewe liveweight measured on all the farms followed a similar normal distribution curve which is characteristic of sheep and how we farm them. There were no differences in liveweight or condition score spread between the two grazing managements.

Approximately 65% of the ewes were within 5 kg of the mean, while the range was approximately plus or minus 20kg with some outlying animals.

The intensive feed planning meant that ewe liveweight was maintained throughout the winter.

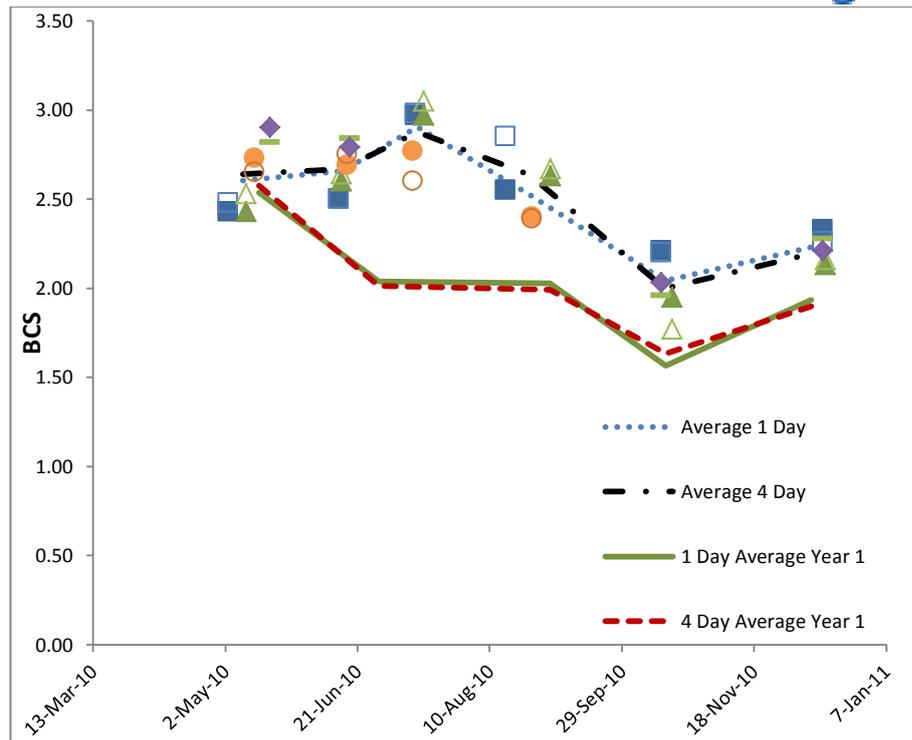


Ewe liveweight ranged from 40 to 105kg which highlights the opportunity available to farmers to have more targeted management, ie

- 1.) low liveweight animals for better feeding and
- 2.) high liveweight animals with BCS>2.5-3 to tidy up pastures or put on higher DM pastures of lower quality.

### Body Condition Score

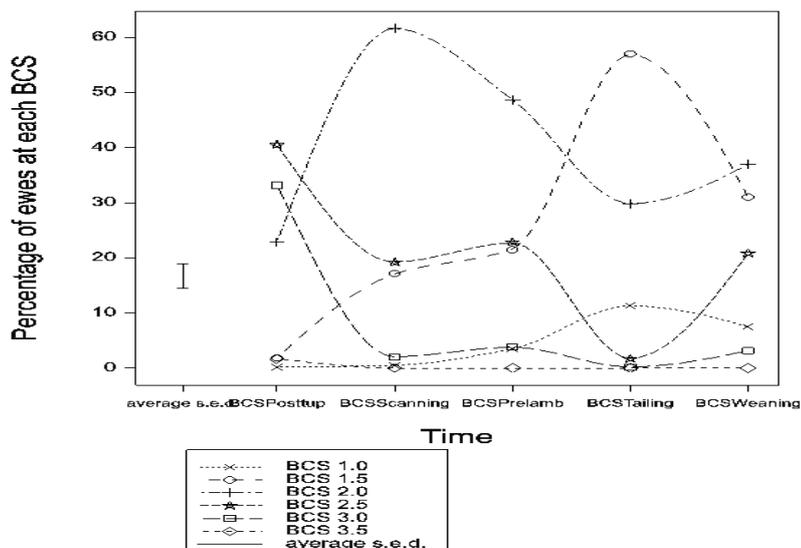
The condition score profiles were quite different in the two years of this comparison across the period from mating to tailing, although the pattern is the same for both 1 and 4 day mobs (see figure below).



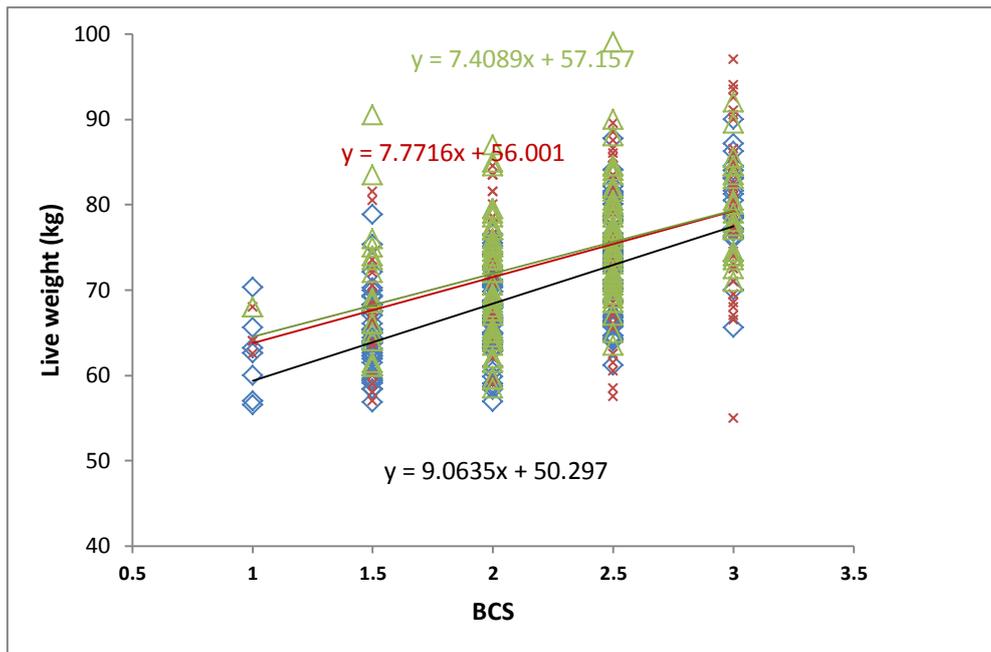
In year 1 with 3 farms the three mobs lost significant condition between the end of mating and scanning, while in year 2 the condition score increased to scanning. There is a very strong climate effect on the BCS profiles between mating and scanning. The BCS loss in year 1 was due to severe weather in May, while in year 2 the mild autumn conditions meant improved BCS in the ewes overall. Of note is the similar loss of condition from pre-lambing until tailing in both years.

The data below shows a wide range of liveweight at each BCS in all the flocks. This is a dynamic relationship that changes through pregnancy and lactation.

changes in BCS at different times during pregnancy and lactation



### Condition score compared to liveweight



Breeding leaner lambs for sale has been a focus for the last 20-30 years. The BCS targets in use were set with a different type of sheep and management system and may not be as good as needed for current farmer management. Further research is needed to evaluate best practice BCS targets. The breeding focus for leaner sheep has an impact on both lamb survival and management on farm and this is not well defined yet.

### Lamb weights and growth rates

The table below shows the lamb weights and growth rates from tailing to weaning for all of the properties over the two years. There were no differences in any of the parameters, showing that similar liveweight gains were achieved from both the 1 and 4 day shifting regimes. There was a difference of approximately 30 g/d growth rate between the two years and this is consistent with the difference in BCS of approximately 0.5 units. Ewe lambs were approximately 1 kg lower than the average and ram lambs were approximately 1 kg higher than average.

Farm	Tmt	Tailing (kg)	Weaning (kg)	Growth (g/d)
Average	1 Day	11.8	27.6	259
Average	4 Day	11.9	27.4	254
Average	Year 1	11.9	26.7	242
Average	Year 2	11.8	28.3	271

### Impacts on pastures

Pasture growth response comparison – this was only able to be done as a small pilot study on this property (De Pass, Te Tipua) and was impacted by the heavy snowfall in early Sept 2010. The impact of the 1 and 4 day shifting management was compared on wet and dry paddocks to try to evaluate if there was any difference between the longer or

shorter grazing duration. The results are only indicative and should be treated with caution as there was no replication of treatments or control paddocks used.

More DM was measured on the 4 day shift breaks compared to the 1 day breaks (approx. 10 kgDM/day over a 140 day period.)

	1 Day		4 Day		lsd
	Dry	Wet	Dry	Wet	
Pasture growth (kg DM/ha/d)					
July-Aug	10.13	5.01	14.66	12.53	2.07
Aug-Sep	28.1	18.5	30	27.1	4.11
Sep-Oct	61.1	43.5	54.4	55	8.55
Oct-Nov	100.9	106.6	142.3	125.6	15.06
Nov-Dec	62.2	65.1	86.7	82.7	5.31
Pasture yield (kg DM/ha)					
	7466	6417	9062	8391	711
Late Spring Pasture Composition (%)					
Ryegrass	56.7	47.5	33.9	42	6.7
White Clover	19.2	21.1	16.4	10.8	5
Other Grass	22.9	29.7	45.5	45	6.6
Dead Matter	0.73	0.62	0.39	0.23	0.4

Overall the use of 4 day shifting decreased the amount of pasture damage, especially in wet conditions, and resulted in increased pasture growth during the early spring. Further work is needed using controlled experimentation to understand the changing pasture morphology between the two grazing managements. The 4 day shift management over winter may impact on pasture persistence as well as productivity and the long term impacts need to be understood.

### *Feeding ewes at maintenance*

After tupping, ewes can be put on a maintenance ration at the end of the first cycle. In high performance flocks 80-90% of ewes become pregnant at the first cycle so this provides the best management of feed over pregnancy.

### *Bearings*

Overall result is that the 4 day shifting is either neutral or decreases bearings, most often by a small amount. There has been no case of 4 day shifting increasing bearings on any property in the study. The large impact found at Owaka (South Otago) has not been repeated in Southland across 7 farms. Anecdotally bearing incidence appears to have been lower across all farms for the last two years.

## Summary

---

The data we have collected for the past two years confirms the hypothesis that a 4 day shifting regime in winter, especially early pregnancy, provides some small benefit in reducing bearings.

Most importantly, however, is the need to ensure that ewes are provided with maintenance feed rations that take into account the feed quality. The weight of the ewes and the stage of pregnancy must also be accounted for. If these are appropriate then ewes can be placed on a 4 day shifting regime that will reduce pasture damage while maintaining ewe condition.

