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Response of ewes and lambs to barley grain supplementation while grazing a lucerne monoculture.

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Publication details

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It is associated with the following publication:

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Introduction

- Stock ingesting high protein diets may have an energy imbalance and low rumen efficiency and protein utilisation.

- Barley grain as a supplement may redress the imbalance and increase protein utilisation.

- Previous research has shown inconsistent results.

‘MaxLucerne’ Grazing Experiment

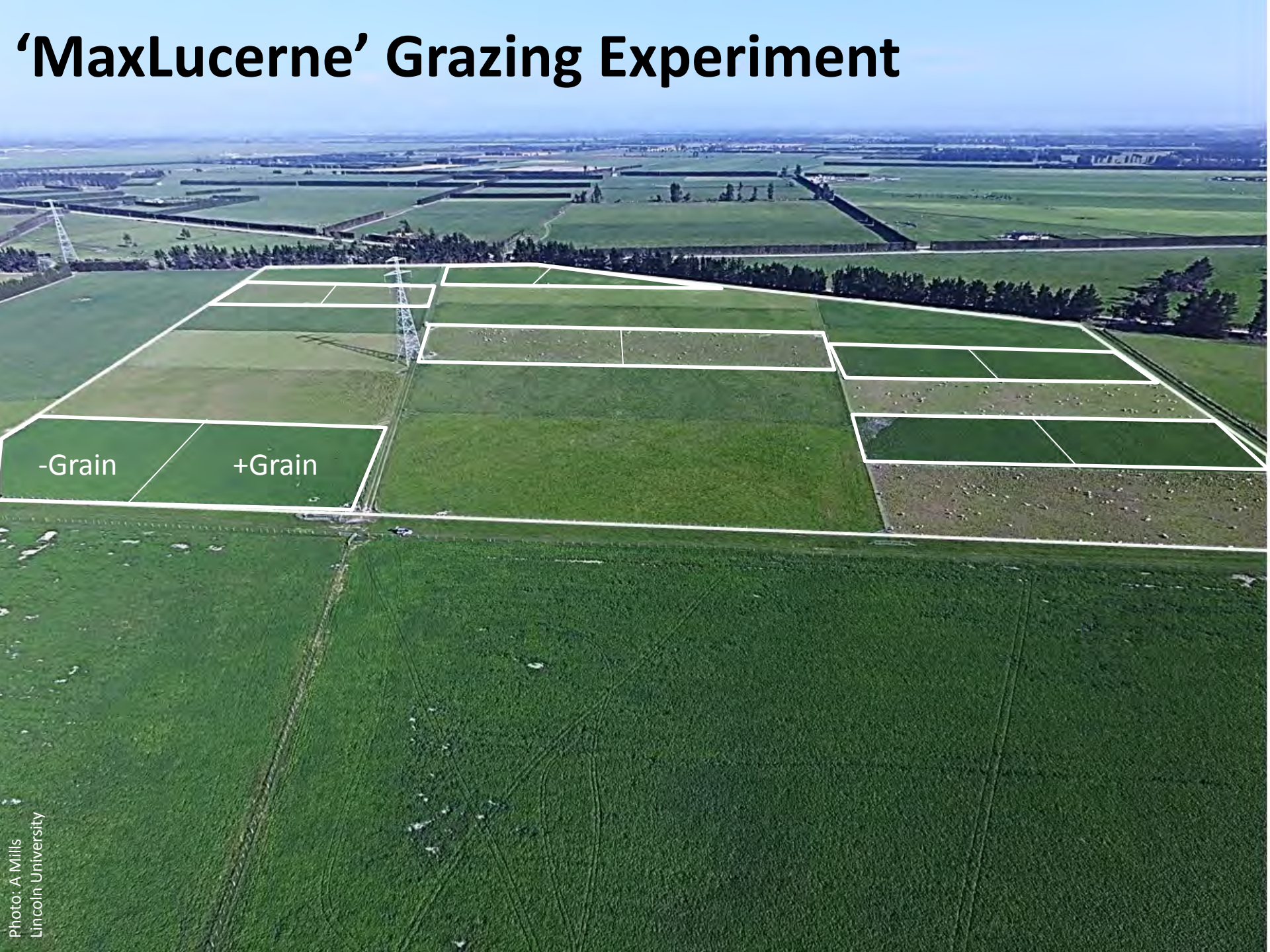

Photo: A Mills
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Materials & Methods

- Ashley Dene ‘MaxLucerne’ monocultures were halved.
- Six rotationally grazed paddocks for each grain level.
- During lactation and weaned lamb liveweight periods ±Grain in 2013/14 and 2014/15.
- +Grain animals accessed grain from an NGF 800 feeder.

Photo: M Smith
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Materials & Methods

- Access was *ad lib*.
- Ewes were not trained to use the feeder.
- Ewes initially had access to train lambs at foot.
- Ewe exclusion failed in 2013/14 successful in 2014/15.
- Whole barley in 2013/14 and crushed barley in 2014/15

Whole barley grain in the feeder

Photo: M Smith
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Photo: M Smith
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Year 1
Whole barley grain
Year 2
Crushed barley grain

Results - DM yield & Utilisation

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2013/14 (3/9/13 to 3/2/14 = **150 days**)

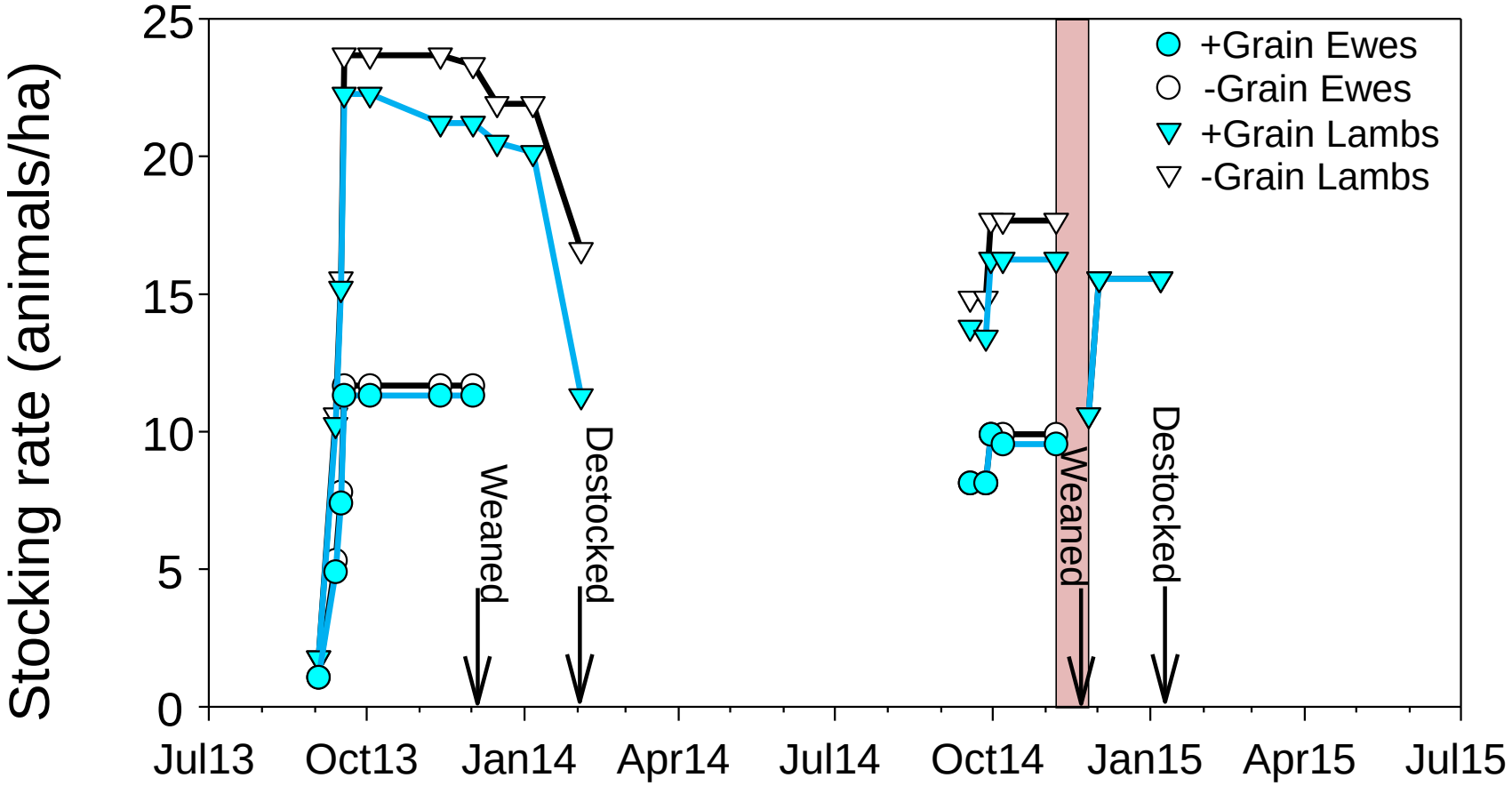
- Total yield (11.8 t DM/ha) not different

2014/15 (18/9/14 - 7/11/14; 26/11/13 -7/1/15 = **92 days)**

- Total yield (4.5 t DM/ha) not different

- Utilization not different between treatments
- Grain was a supplement not a substitute for lucerne
- Low ingestion 25 to 83 g/hd/day

Stocking rate



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YR 1 – LWt production (kg/ha)

2013/14 (150 days)	+Grain	-Grain
Lactating ewes	13 [a]	(-)16 [b]
Lambs at Foot	457	
Weaned lambs	213	
Total Lambs	670	

Yr 2 – Live weight (kg /ha)

2014/15 (92 days)	+Grain	-Grain
Lactating ewes	14 $_{b}$	35 $_{a}$
Lambs at Foot	298 $_{b}$	306 $_{a}$
Weaned lambs	84 $_{b}$	102 $_{a}$
Total Lambs	382 $_{b}$	408 $_{a}$

Weighted seasonal LWt gains - Yr 2

2014/15	Treatment	Ewes (g/hd/day)	Lambs (g/hd/day)
Spring (Lactation)	+Grain	27.4 (9.9 ewes/ha)	353 (16.3 lambs/ha)
	-Grain	67.9 (9.9 ewes/ha)	334 (17.7 lambs/ha)
Summer (Post-weaning)	+Grain	-	154 (15.5 lambs/ha)
	-Grain	-	188 (15.5 lambs/ha)

- -Grain ewes gained more weight = higher LWt production/ha
- Lambs at foot – differences in SR/ha meant –Grain lambs grew more LWt/ha
- Weaned lambs higher growth rate at same SR

Why did +Grain animals produce less LWt than –Grain animals in Yr 2?

- Literature indicates crushed barley suitable for cattle **BUT** sheep perform better when fed whole barley.

- Average grain intake was minimal – no evidence of acidosis (25-31 g/hd/day).

- Evidence in both years lambs primarily used the feeder for shelter.

Photo: M Smith
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Weaned lambs sheltering in Jan 2014

Why did +Grain animals produce less LWt than –Grain animals in Yr 2?

- Camping = more flies
- 7 weaned lambs from +Grain treated for flystrike
- 2 from the – Grain mob treated.

- 20% of the +Grain weaned lambs required dagging whereas only 10%–Grain mob needed dagging.

Conclusions

- No difference in total lucerne yield or utilisation.
- 2013/14 no benefit to grain supplementation.
- 2014/15 +Grain animals produced less LWt than – Grain animals ?crushed barley and use of feeder for shelter.
- After 2 years results do not support investment in grain to supplement sheep grazing lucerne.

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