

LUCERNE

- agronomy and grazing management

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Rg/Wc

Lucerne

CF/Sub

CF/Balansa

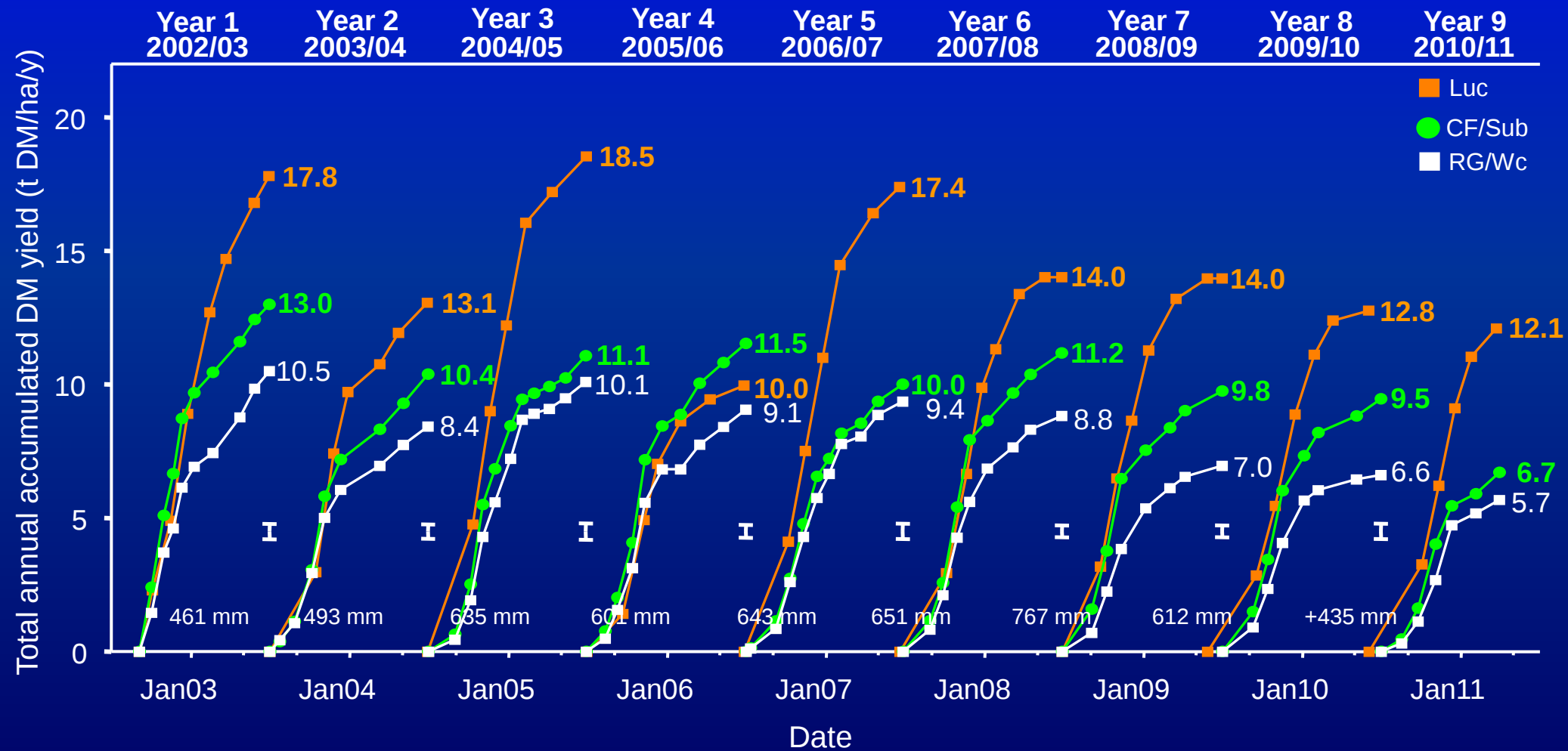
CF/Cc

CF/Wc

‘MaxClover’

'MaxClover' Total DM Yields

(to 30 March 2011)



Spring
Year 2



Summer
Year 4

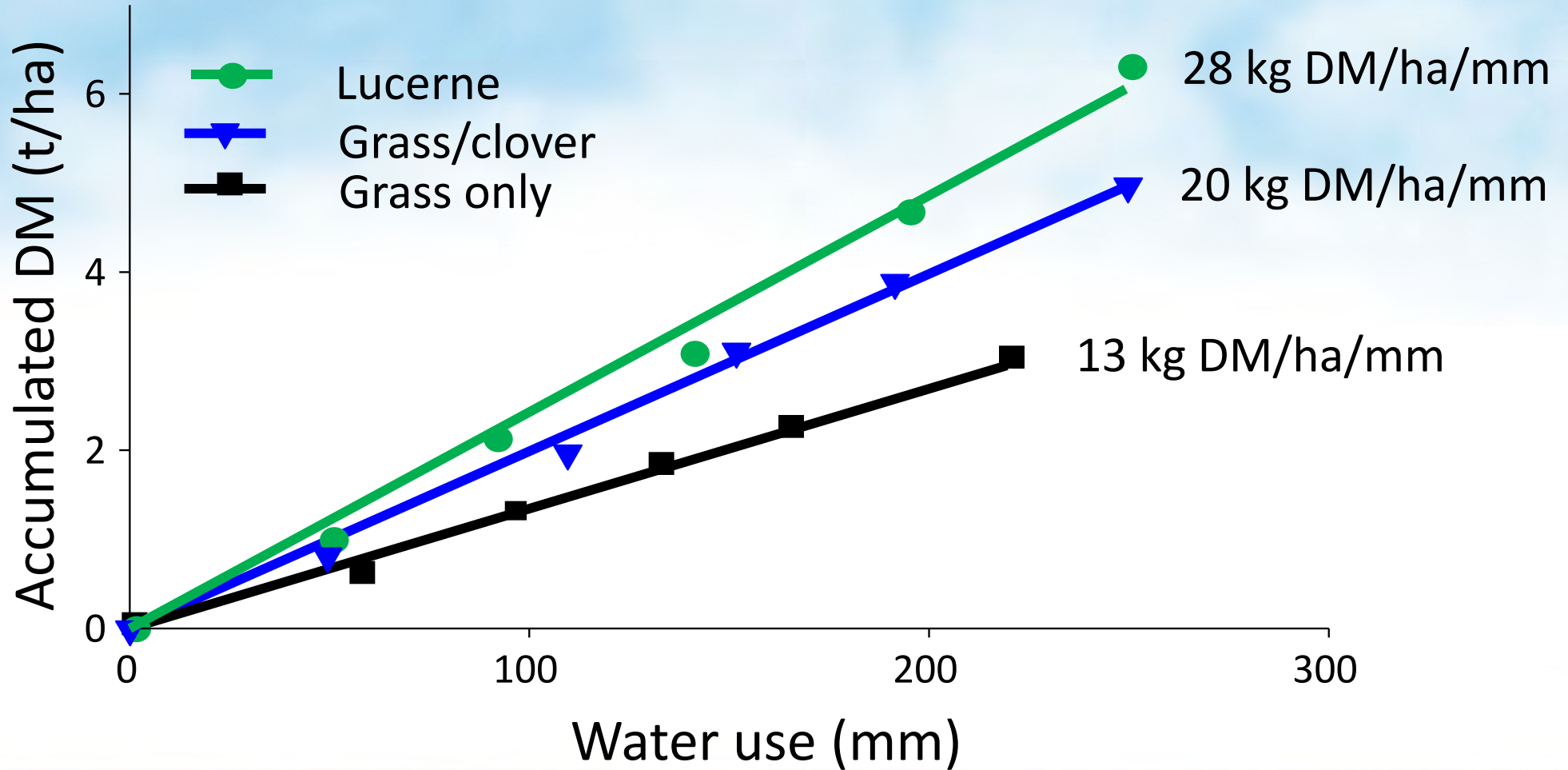


Annual grasses
Taprooted dicot weeds

Unsown species <5% in Year 1..>45% in Year 6

RG/Wc pastures

Spring WUE

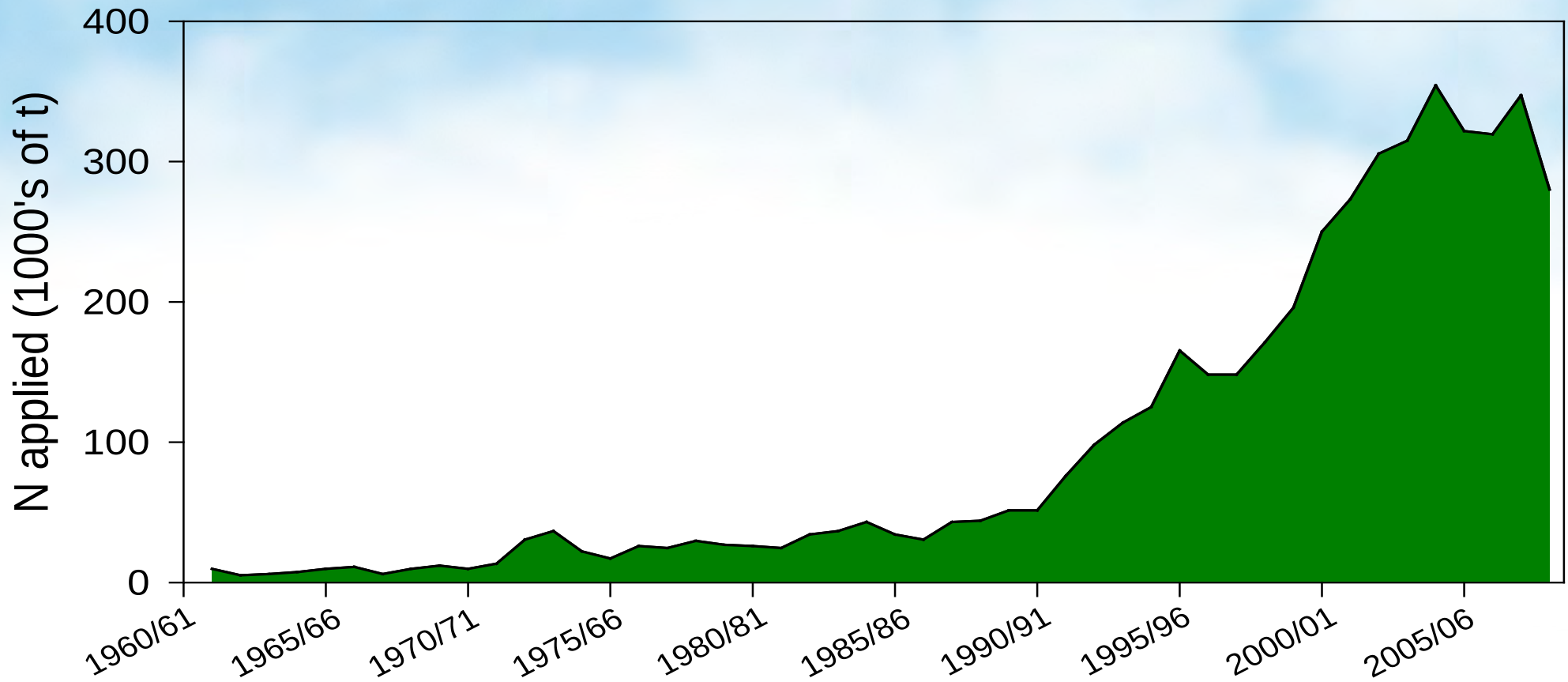


Nitrogen deficient pasture



1000 kg N/ha

Nitrogen fertiliser use



Ryegrass/clover vs. Lucerne



Photo: H.E. Brown
Lincoln University

Resistance to Pests and Diseases

Cultivar	Dormancy	BGA	PA	SAA	BW	SN	PRR	VW	LD
Grasslands Kaituna	I	R	R	R	R	R	R	-	MR
Grasslands Otaio	I	R	R	R	R	R	R	-	S
Grasslands Torlesse	D	HR	R	R	R	-	R	-	MR
P54Q53	D	MR	MR	MR	HR	HR	HR	-	-
P54V09	D	-	HR	R	HR	HR	HR	HR	-
Runner	D	-	-	-	R	-	S	-	-
Wairau	SD	S	S	S	S	S	S	S	S
WL 325HQ	I	R	R	R	R	MR	R	-	-

BGA = Blue-green aphid

BW = Bacterial Wilt

VW = Verticillium wilt

PA = Pea aphid

SN = Stem nematode

LD = Leaf diseases

SAA = Spotted alfalfa aphid

PRR = Phytophthora root rot

D = Dormant

SD = Semi-dormant

HR = 50%+ resistant

MR = 16-30%

R = Resistant = (31-50%)

S = Susceptible

1. Lucerne establishment

- Soils**
- deep free draining
 - pH 6.0 – 7.0
 - rg/wc fertility

- Sowing**
- inoculated
 - 10-25 mm
 - bare or coated 8-10 kg/ha
 - spring or autumn (grass grub)
 - cultivated or direct drilled
 - after fallow?

Pre-development

- browntop
- hieracium
- sweet vernal
- <5% legume



Low palatability
Low production
Low legume

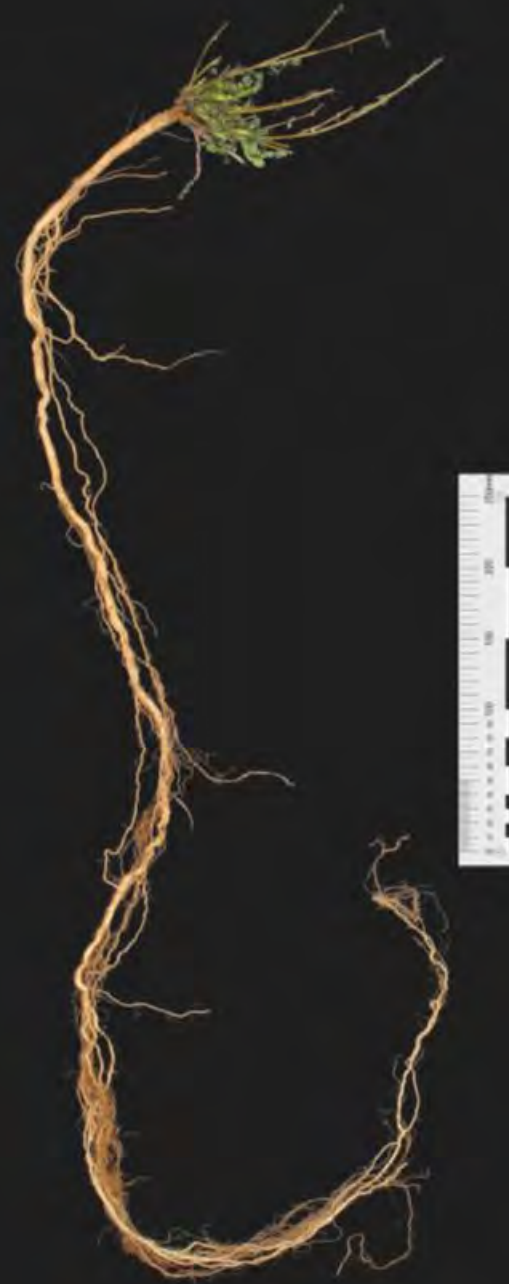
Lime and Fertiliser Application

Lime 3-5 ton/ha
Fertiliser 250-500kg/ha



Lucerne root

~8 months after sowing
> 1.5 m length



Autumn Spraying

- Timing is Critical
- Most important tool
- Glyphosate, granstar, penetrant

Key Results

- Conserve soil moisture
- Kill mass root systems

2nd Spray – Spring
Glyphosate, insecticide, penetrant

Result from Autumn spray, photo taken 1 November 2010

Drilling seed with fertiliser
Direct drilling = seed + fertiliser



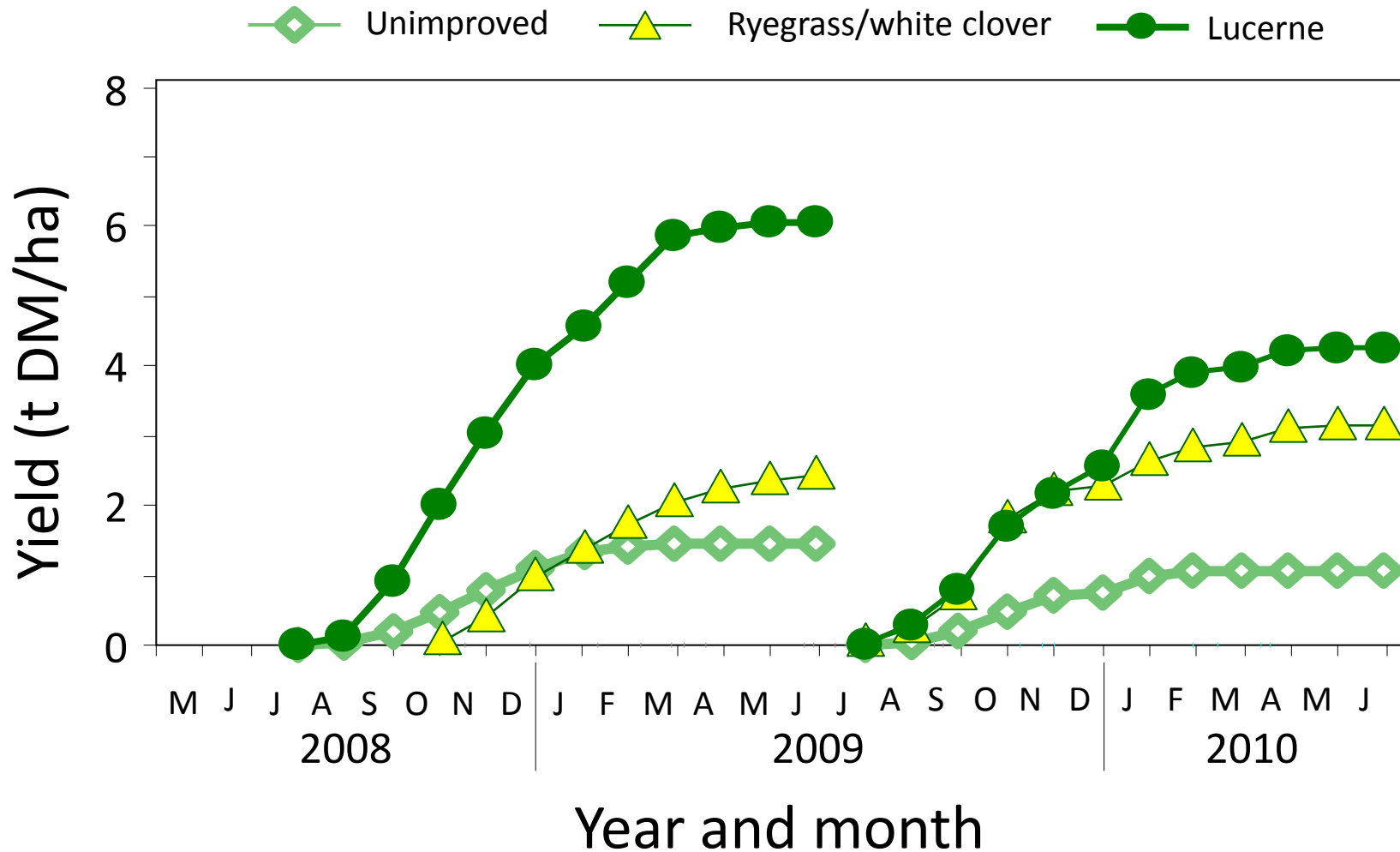
Sown 21/11/2007

Photo taken 1/11/2010

Styx Station



Pasture growth







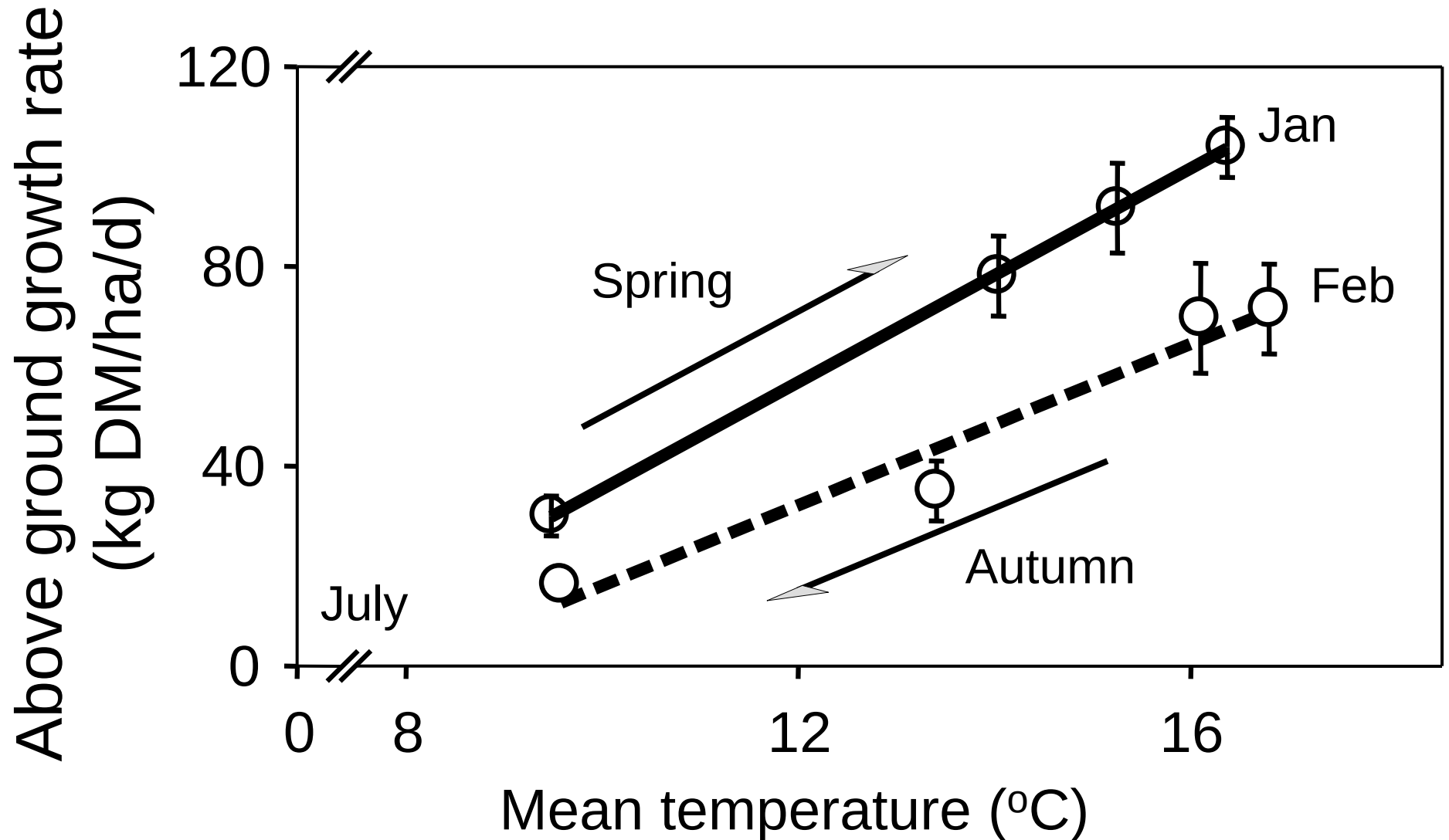
Seasonal grazing management

Spring

- 1st rotation aided by root reserves to produce high quality vegetative forage.
- can graze before flowers appear (~1500 kg DM/ha) ideally ewes and lambs but

Never lamb on or set stock lucerne

Vegetative growth



Experiment 2

Next to my office (2)

38 days resting

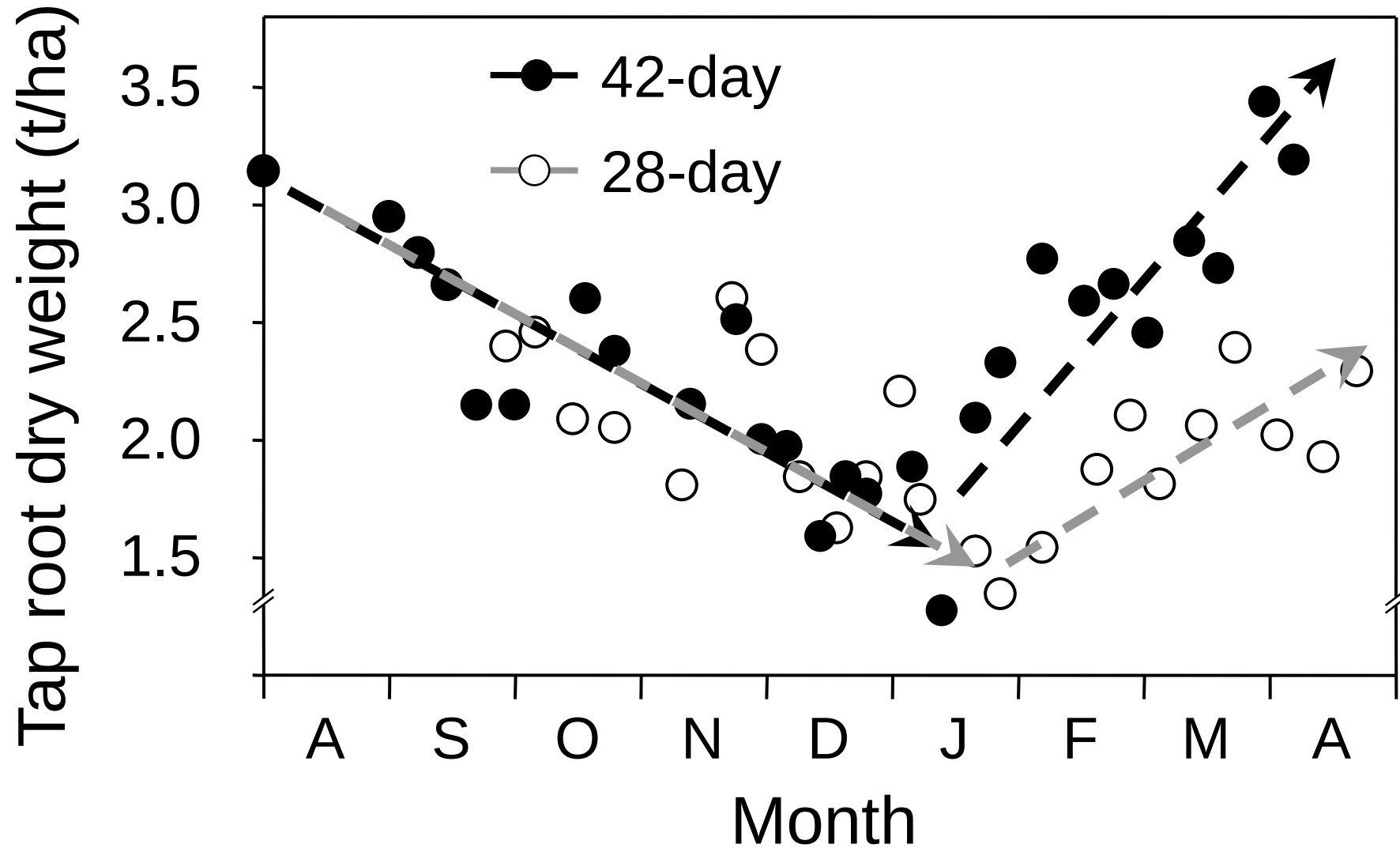
4 days grazing



25 days resting

3 days grazing

Partitioning to roots



Doug and Fraser Avery “Bonavaree”

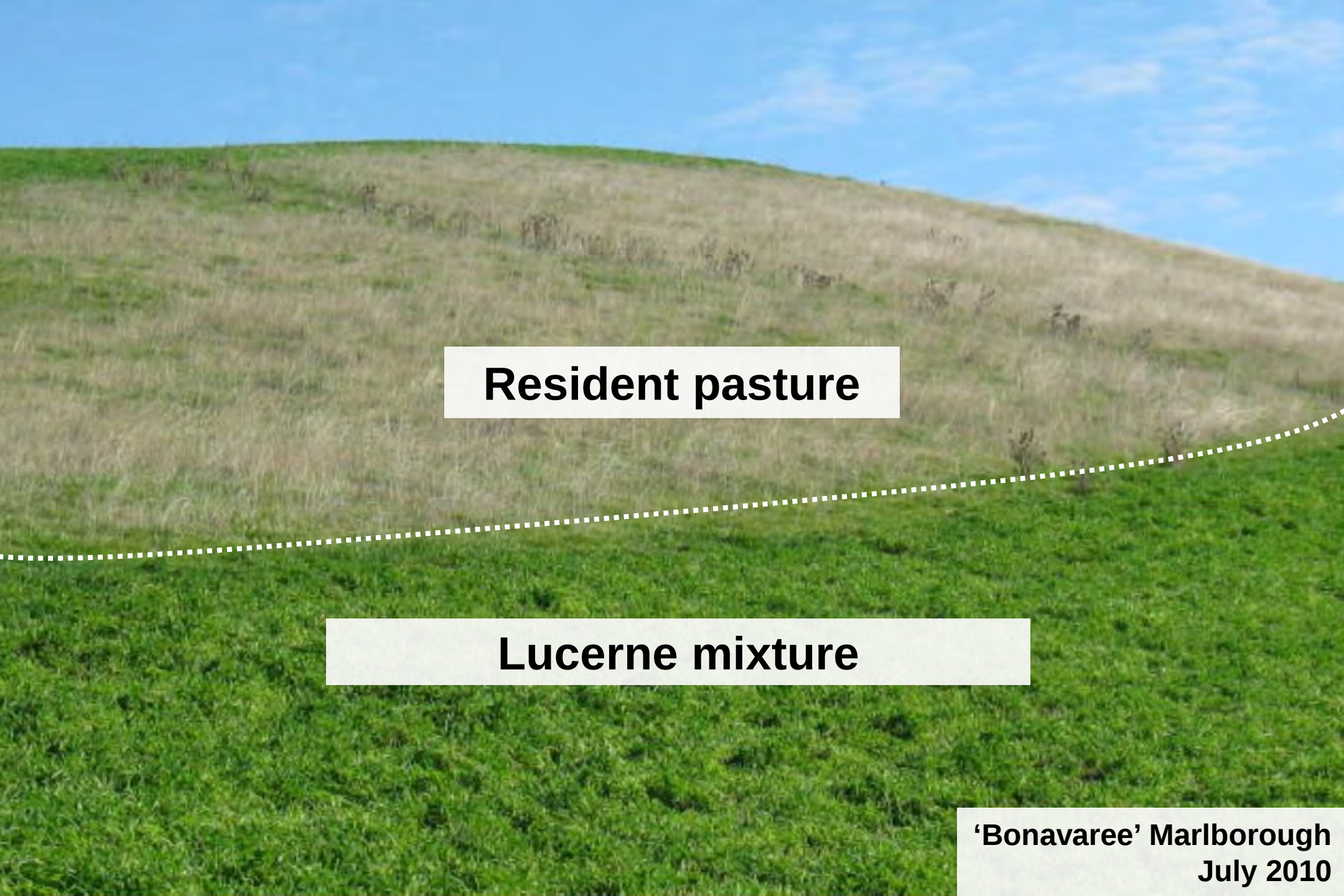


Where to plant

Seasonal grazing management

Spring/summer (Nov-Jan)

- Priority is stock production (lamb/beef/deer)
- graze 6-8 weeks solely on lucerne
- 5-6 paddock rotation stocked with one class of stock (7-10 days on)
- allowance 2.5-4 kg DM/hd/d – increase later in season



Resident pasture

Lucerne mixture

**'Bonavaree' Marlborough
July 2010**



July 2010

Spring = animals



Maximize reliable spring growth – high priority stock





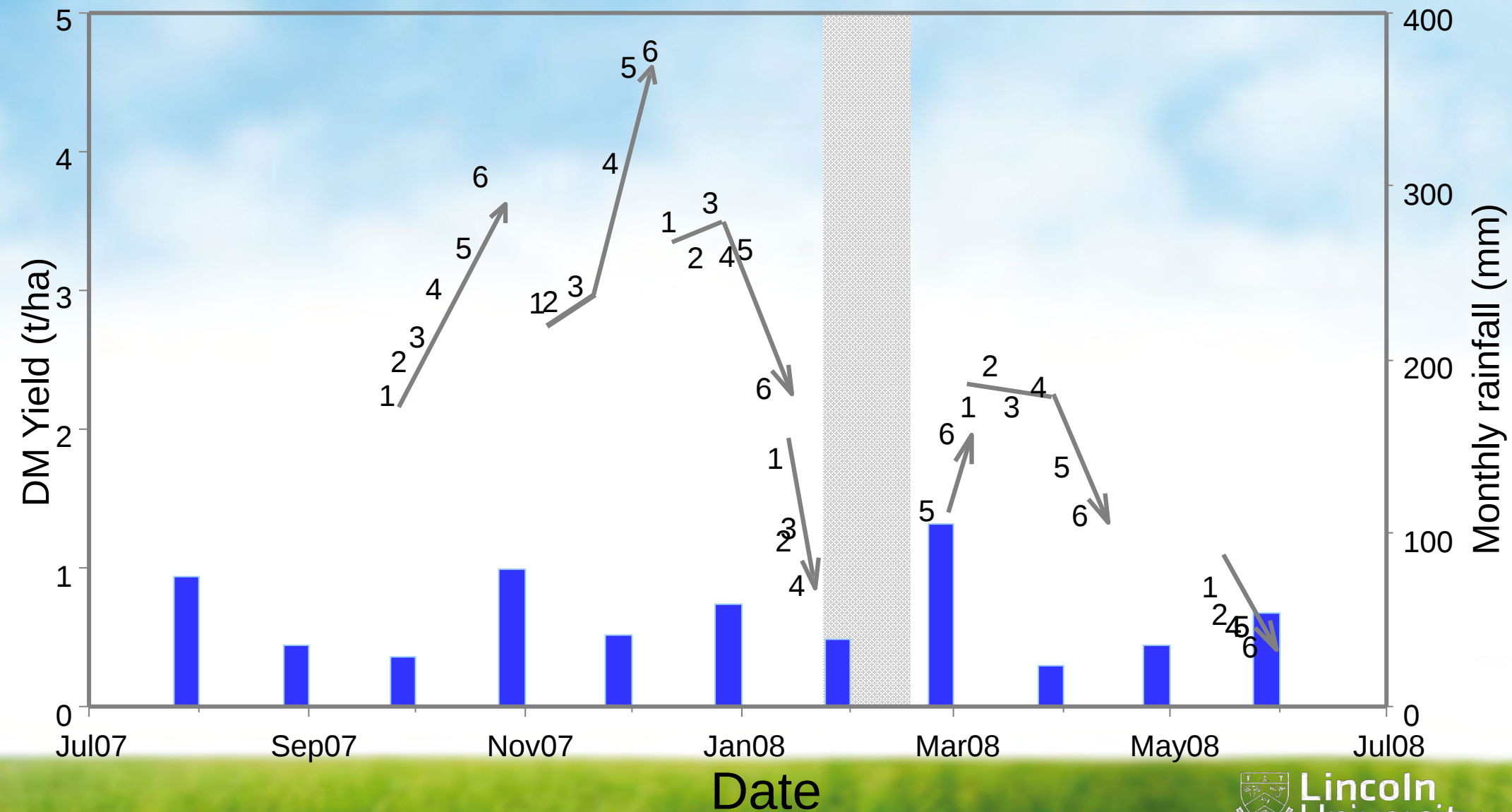
Rotation 1 Pre-graze
Plot 1 (21/9/07)
2.3 t DM/ha
20-25 cm tall



Rotation 2 Pre-graze
Plot 1 (2/11/07, 38 d)
2.9 t DM/ha
35-40 cm tall

Plot: 31
Date: 2/11/07
Pre-graze

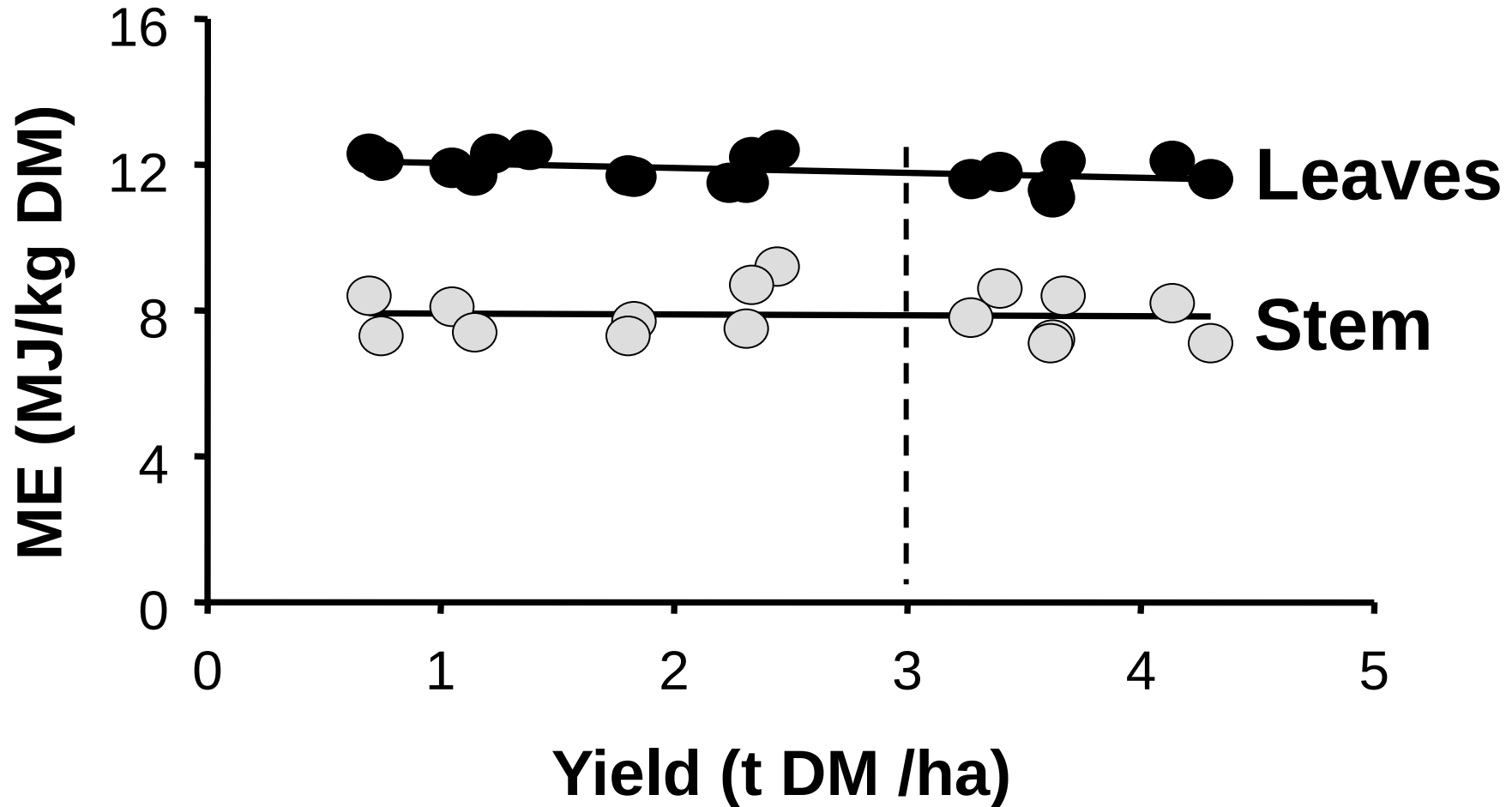
Experiment 3 (MaxClover)





5th September 2011 – Cave Sth Canterbury

Metabolisable energy of lucerne





How to graze



Autumn = flowering plants



Rotation 4 Pre-graze
Plot 6 (28/2/08) **2.0 t DM/ha produced in 51 d**
Post-graze (4/3/08) **0.6 t DM/ha**
UTILISATION = **70%**

Creating a net of opportunity



Any autumn rain grows high quality feed



Seasonal grazing management

Late autumn/winter (May-July)

- hard grazing once growth stops (frost)
 - ⇒ decrease aphid population
- spray for weeds 10-14 days after winter graze
 - grazing/spraying early July
 - nodes developing at low temperatures

3. Animal health

- **Redgut:** problem on high quality feeds – fibre
- **Bloat:** cattle more than sheep – capsules
- **Na def. (0.03%):** salt licks/fence-line weeds/pasture
- Require 0.11% Na - sheep/beef/dairy (13%)

3. Animal health (cont'd)

- **Clostridial bacteria:** vaccinate
- **Cobalt:** vitamin B12 injection
- **Worm haven:** Camping on small area – river edge?
- **Avoid flushing if:** leaf spots or flowering lucerne
 - new regrowth or tops only are O.K.

Which animals?







What else to feed

Ewe hoggets grown on lucerne 54 kg ave





Corriedale 2th flushed on wilting lucerne



Lucerne (is not grass!!!)

- flushing at Bonavaree

04.03.2009

Photo: DJ Moot
Lincoln University



Close up of a prairie grass and lucerne mixture



'Bonavaree' Marlborough
July 2010

‘Tama’ annual ryegrass overdrilled into runout lucerne (12 yrs)



'Tama' annual ryegrass overdrilled into runout lucerne (12 yrs)
- Close up -



Lucerne + cocksfoot



Lucerne + Prairie grass





Lambing onto Omaka Barley – North Face

Posted on [August 27, 2012](#) by [Cath Goulter](#)

Omaka Barley is a great crop to use at Bonavaree. Barley is used here because it really fits in well with the Avery's system. The Omaka variety has been bred locally, and is very suitable for reliable dry matter production in a Marlborough dryland environment.

It is a multipurpose crop at Bonavaree, in that it is used as a green feed crop, and as a break crop. The Omaka is grazed multiple times from March till the end of August. Dry matter production is usually between 6–8 T/ha, and is grazed by both cattle and sheep.

Omaka Barley is also used regularly at Bonavaree for the purpose of breaking weed/pest cycles, and increasing base soil fertility in preparation for sowing lucerne, or a Bonavaree mix. Barley is used as the 2nd break crop in a multi stage lucerne renovation system that has been working very well. The 1st break crop used is an Annual Ryegrass that is grazed by multiple bearing ewes at lambing, and prime bull beef production. We will be following the progress of this renovation system through, with regular updates.

Some paddocks are used to grow Omaka Barley for two consecutive years, but because of the Avery's wider interest in establishing paddocks with Lucerne, barley is normally used as a 2nd break crop in the renovation process.



Recent Posts

- † [Lambing onto Omaka Barley – North Face](#)
- † [Lambing onto Lucerne – Jaffries Front Flat \(August\)](#)
- † [Bonavaree Dryland Blog](#)
- † [Welcome to dryland pastures blog](#)

Recent Comments

- Cath Goulter on
- † [Bonavaree Dryland Blog](#)
- Cavin snow Loxton on
- † [Bonavaree Dryland Blog](#)
- † Barbara Stuart on
- † [Bonavaree Dryland Blog](#)

Archives

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The Blog.....

- On-farm activity diary
- Slide shows, photos and video
- Ability for farmers to comment/question/query
- Farmers and researchers can respond

Acknowledgements



New Zealand's specialist land-based university



Ministry of Agriculture and Forestry
Te Manatū Ahuwhenua, Ngāherehere

References

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- Moot, D.J. and Smith, M.C. Practical Lucerne Management Guide. 9 pp. Online: www.lincoln.ac.nz/dryland
- New Zealand Fertiliser Manufacturers' Research Association. 2011. Annual update (New Zealand Fertiliser Manufacturers' Research Association). 15 pp. Date Accessed: 5/5/2011. Online: <http://www.fertresearch.org.nz/resource-centre/annual-updates> . Last Updated: Dec 2009.

Lucerne: agronomy & grazing management

Professor Moot gave this presentation at the:
“Profitable Lucerne and Lamb Production” Field day

At:

H & A Craw’s, Little Akaloa
Banks Peninsula

On:

26 October 2012