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Lucerne sowing rates, yield and water use

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Note:

This presentation was made on 8 Nov 2012 in Gore at the New Zealand Grassland Association Annual Conference.

It is associated with the following scientific publication:

Moot, D.J., Pollock, K.M. and Lewis, B. 2012. Plant population, yield and water use of lucerne sown in autumn at four sowing rates. *Proceedings of the New Zealand Grassland Association*, **74**, 97-102. Online access: http://www.grassland.org.nz/publications/nzgrassland_publication_2276.pdf

Trial design

Established 2007

Coated 'Grasslands Kaituna' lucerne.

Split plot, three replicates

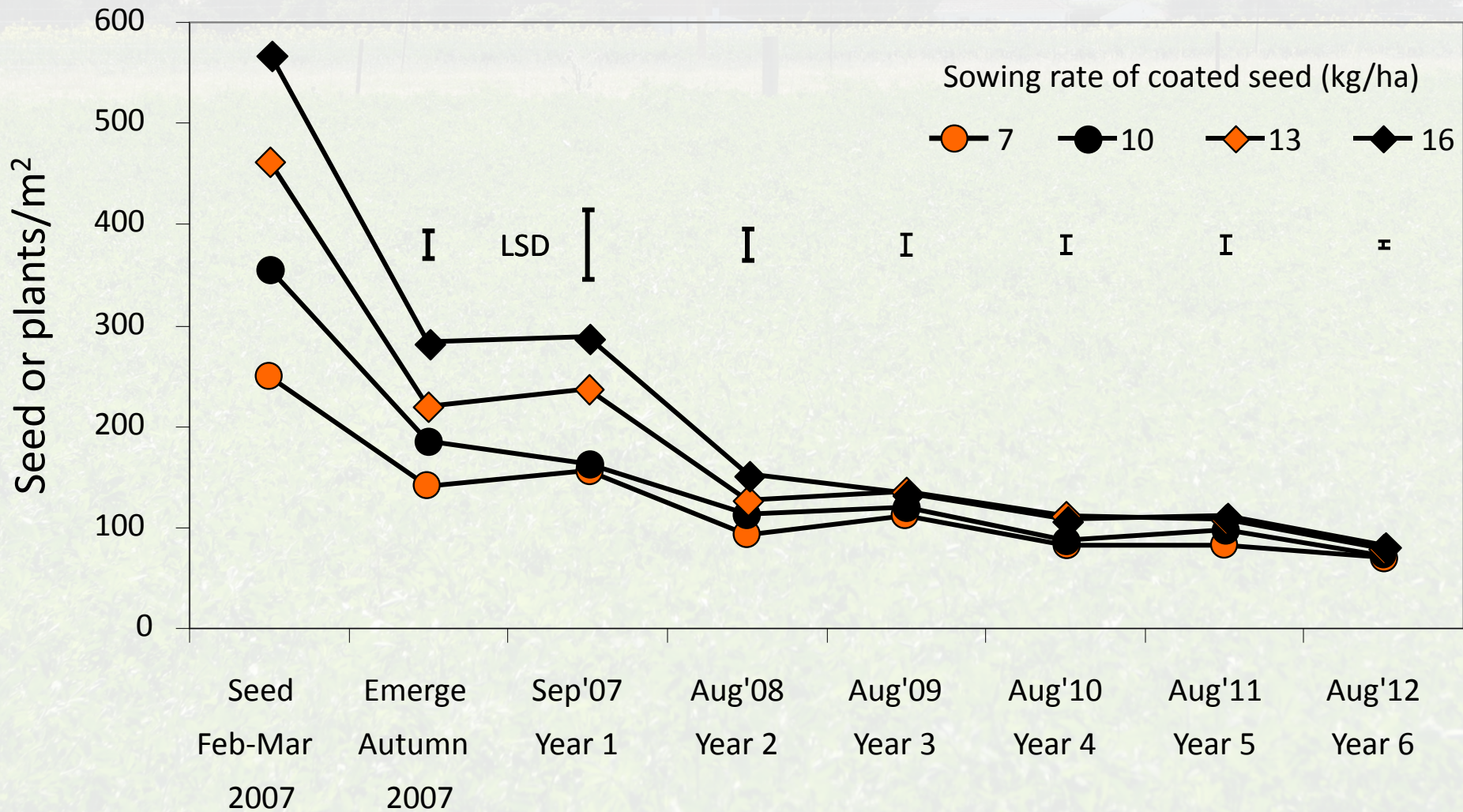
Main plots; four sowing dates

- 21 February,
- 2 March,
- 16 March and
- 30 March

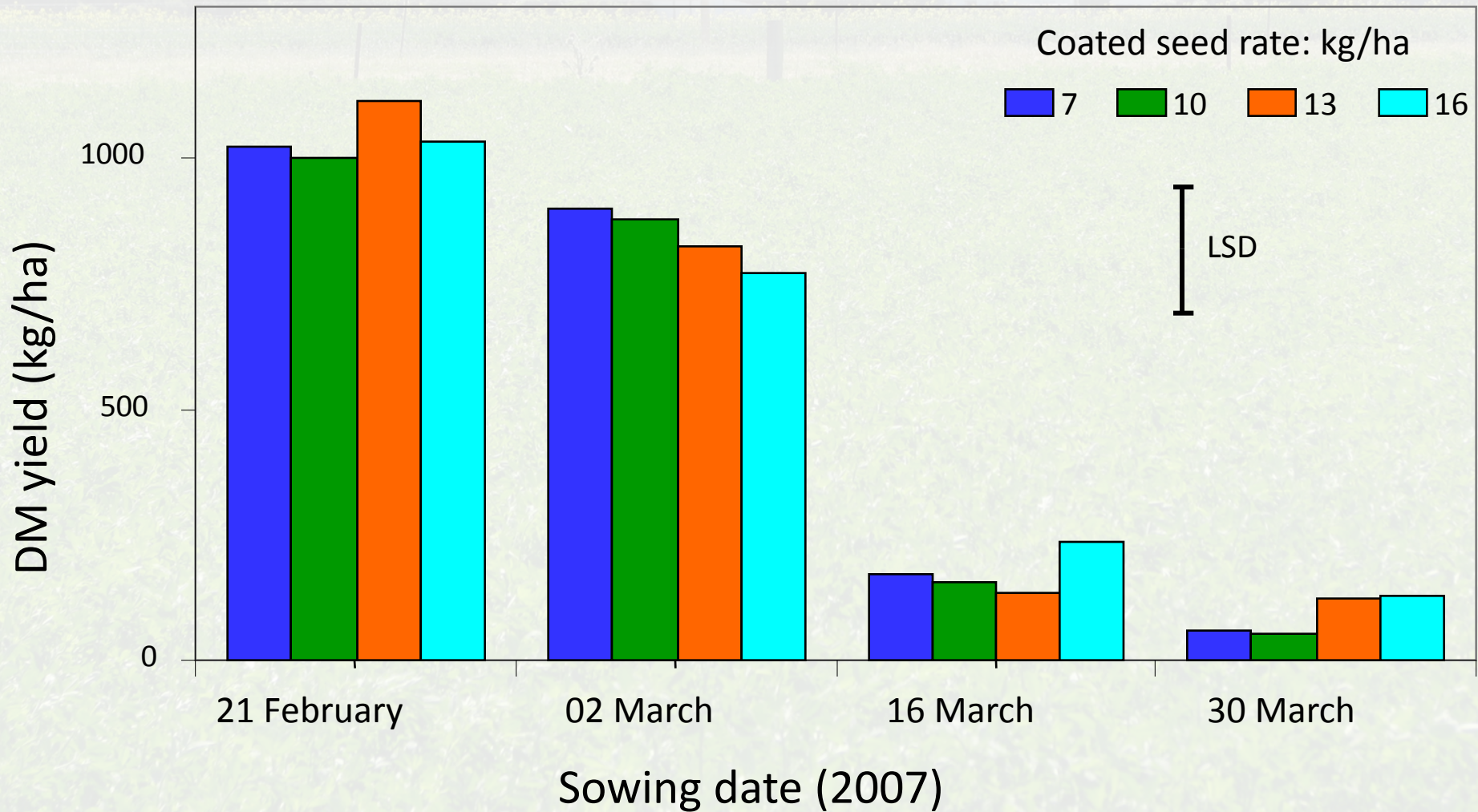
Sub plots; four sowing rates

- Equivalent to bare seed @ 7, 10, 13 and 16 kg/ha

Sown seed and plant population over time



Seedling lucerne yield to early June



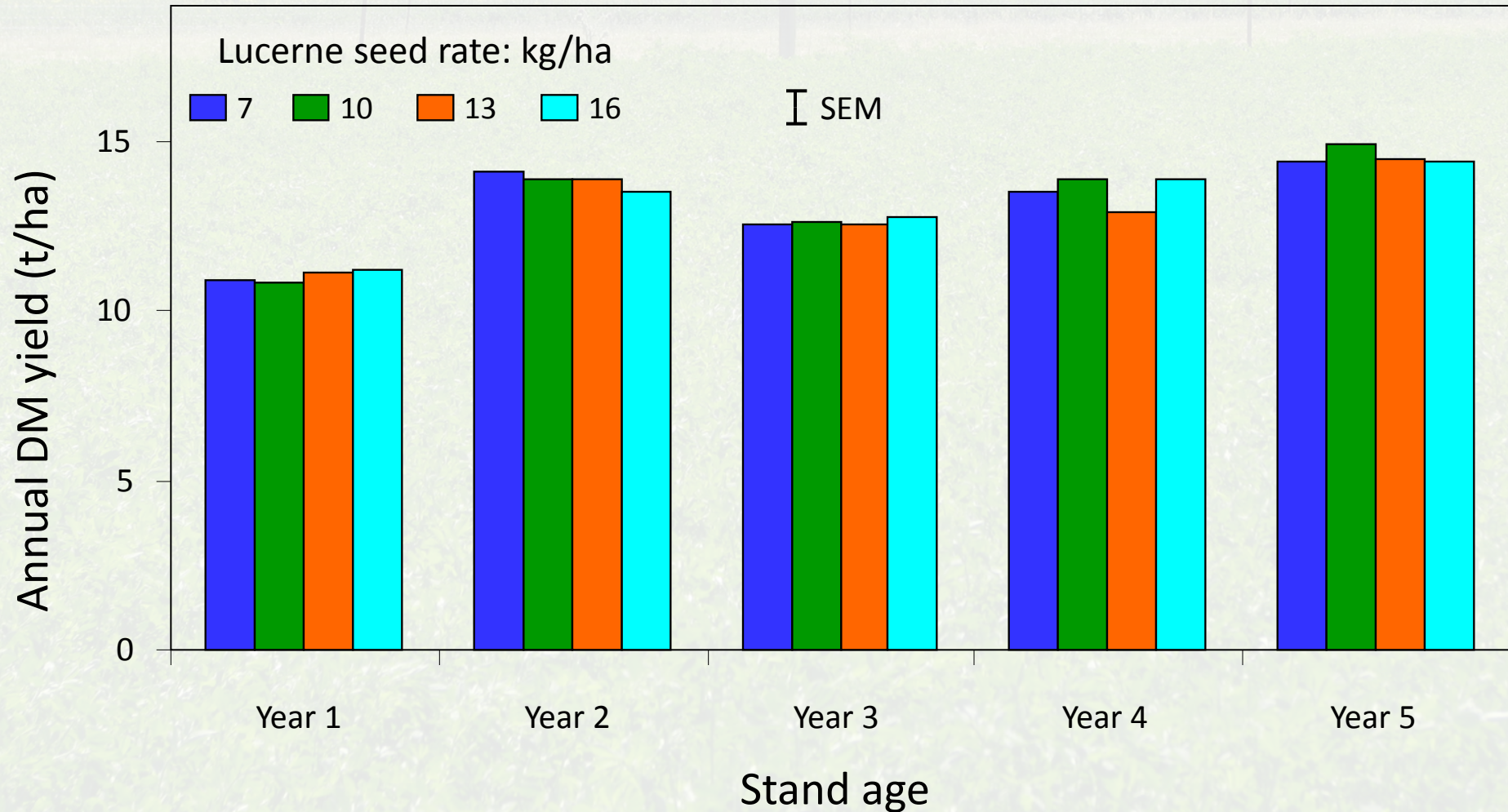
Weeds present @ 09 October 2007 (Year 1)

Sown 21 Feb 2007

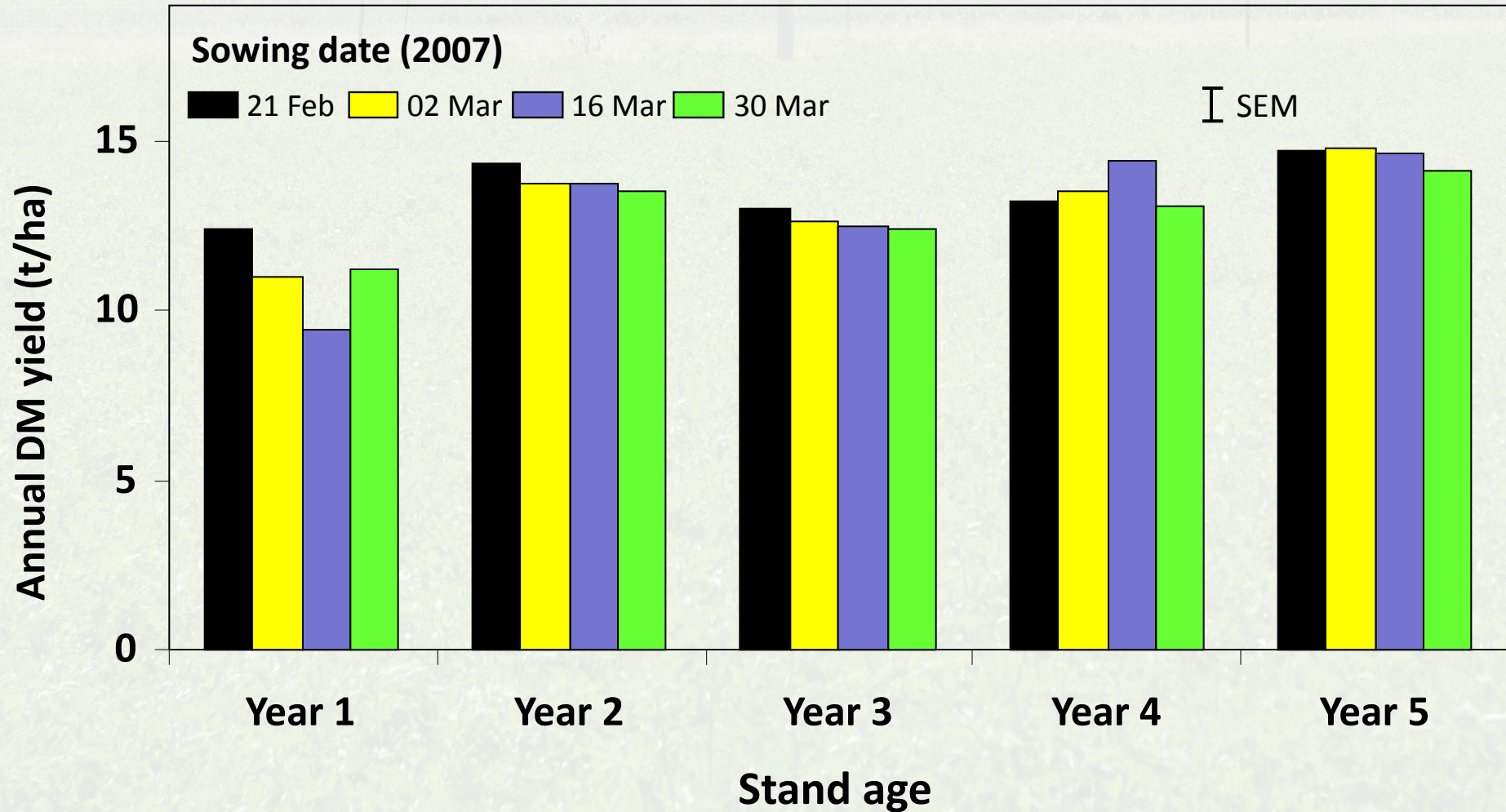
Sown 30 Mar 2007



Annual yield in relation to sowing rate



Annual yield in relation to sowing date



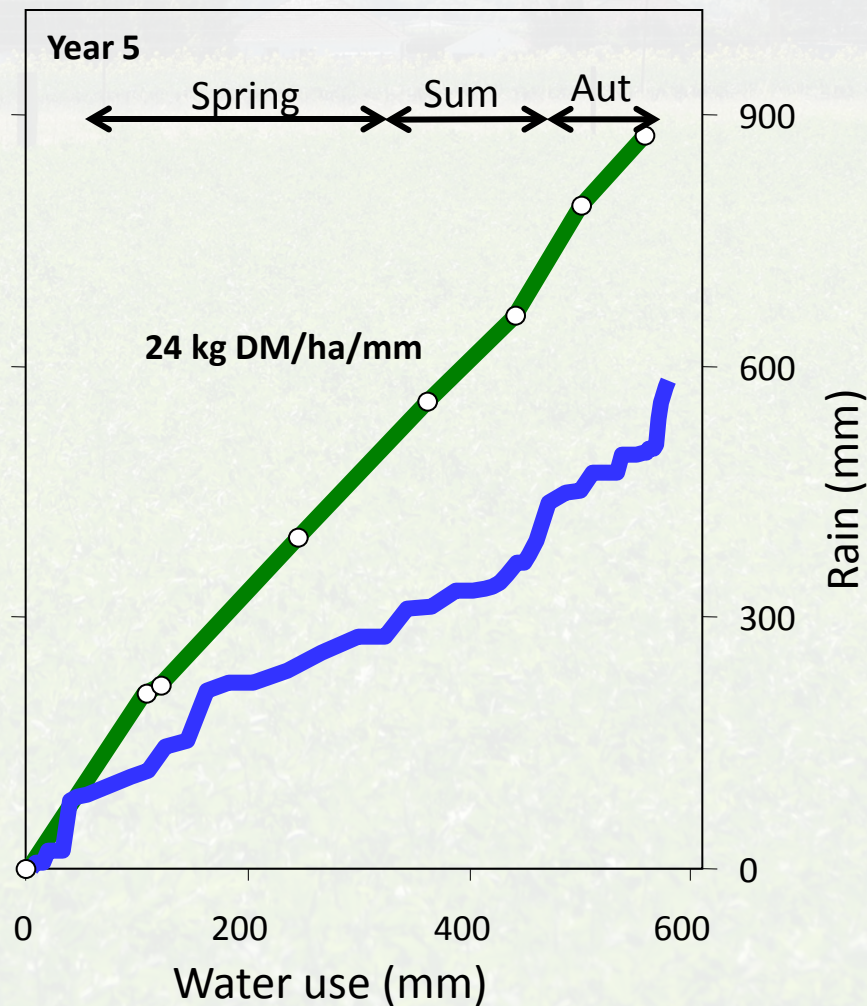
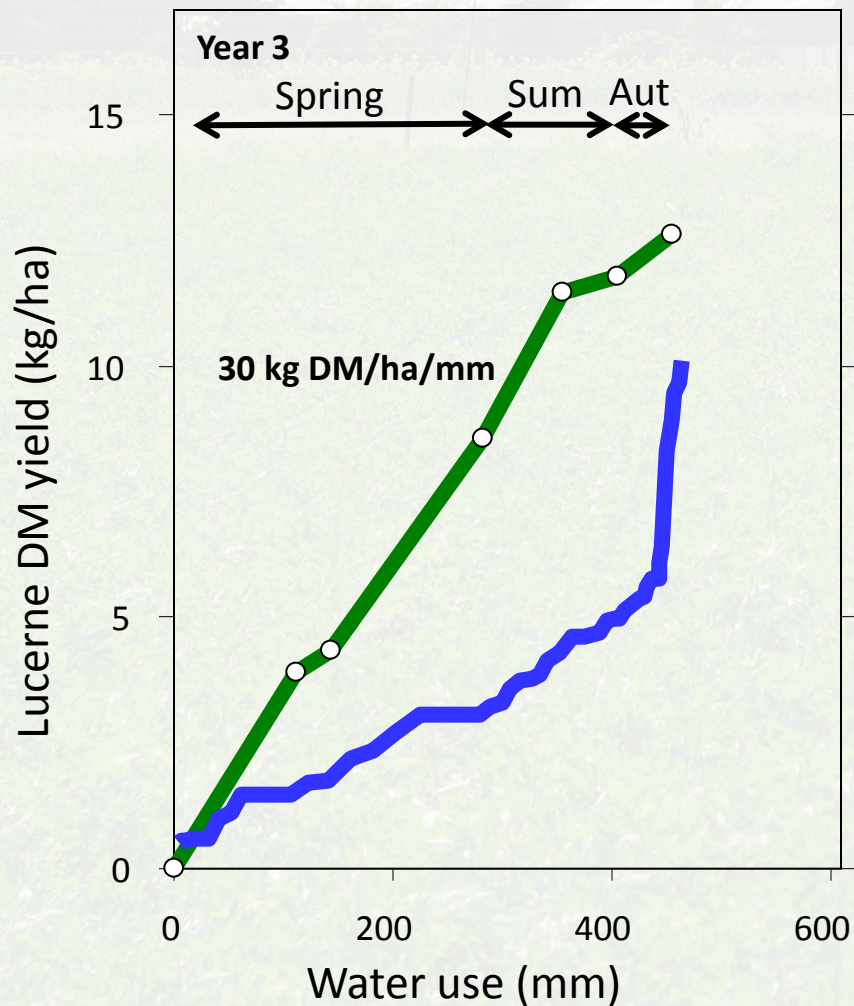
**5 wks regrowth:
early summer 2010**



Nearly dry: mid January



Annual lucerne yield in relation to water use



Take home

- Autumn sow at soil temp >15 °C
- 7 kg seed/ha
- Later sowing depressed yield in Year 2
- 30 kg DM/ha per mm of water used
- Yield related to summer rainfall and SWHC