AN INITIATIVE OF

Making More From Sheep

Turning Pasture into Product

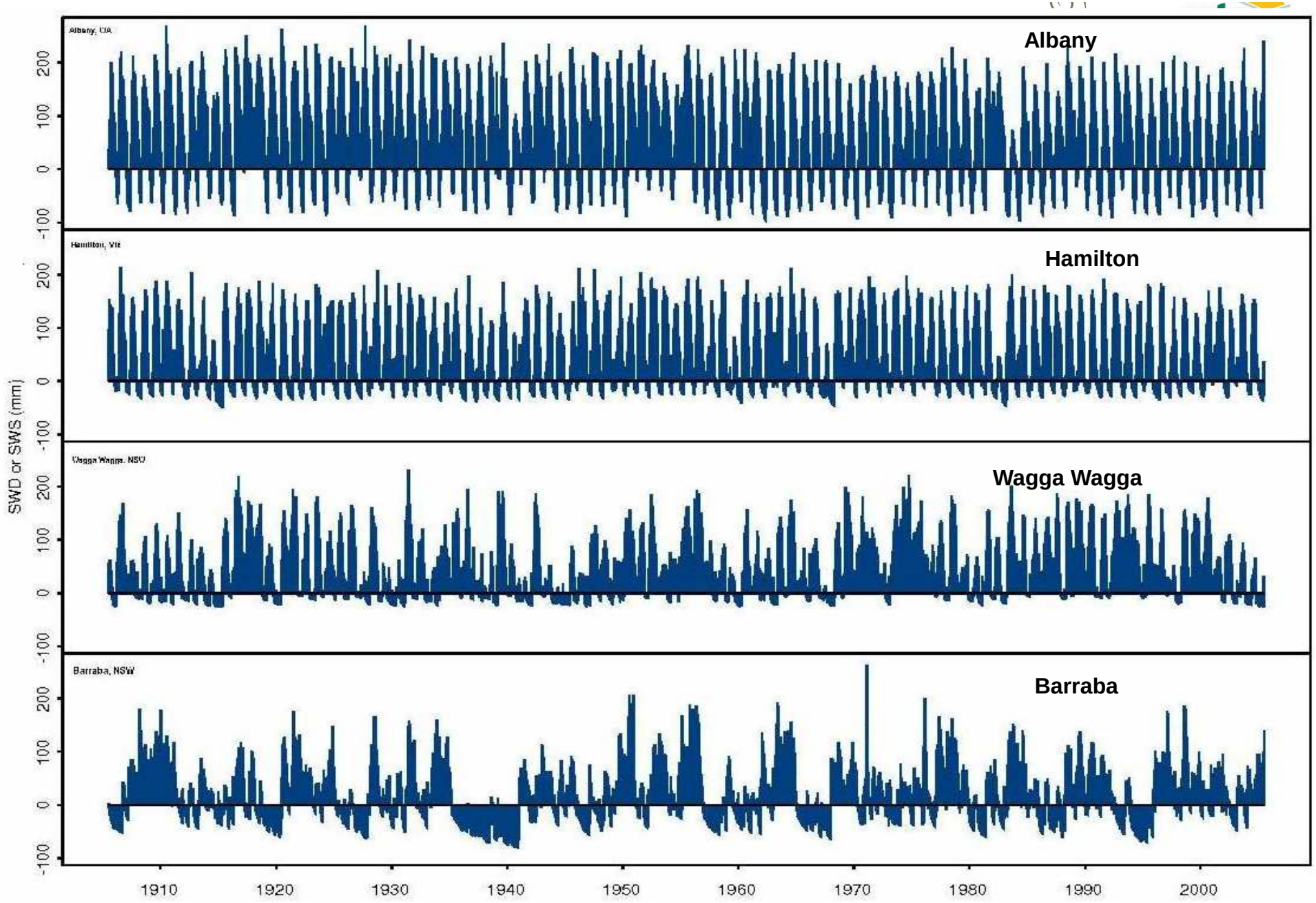
Lester McCormick, Technical Specialist Pastures (North)

EVENT PARTNERS: EVENT SUPPORTERS:

In My Presentation

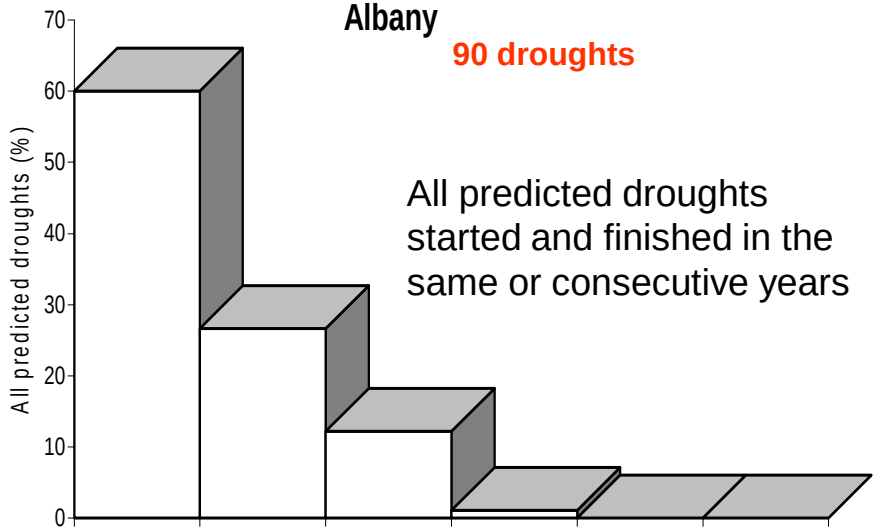
- Our Climate – Our greatest challenge
- Impacts of our climate
- Forage options, growth periods & trigger points
- New pasture species & pasture mixtures
- What has EverGraze shown
- Matching feed availability & animal requirements
- Driving the feed base – species & nutrition
- Grazing management

Drought defined as >50 days of predicted SWD



Albany

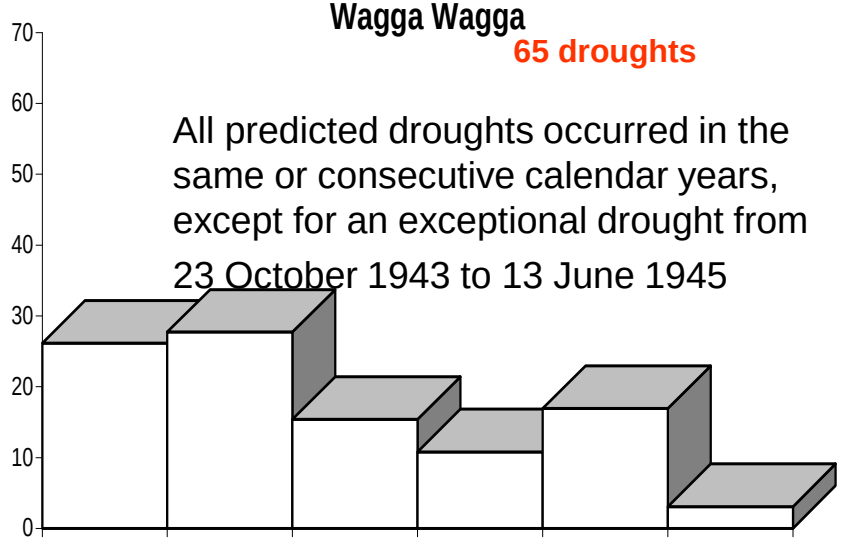
90 droughts



All predicted droughts started and finished in the same or consecutive years

Wagga Wagga

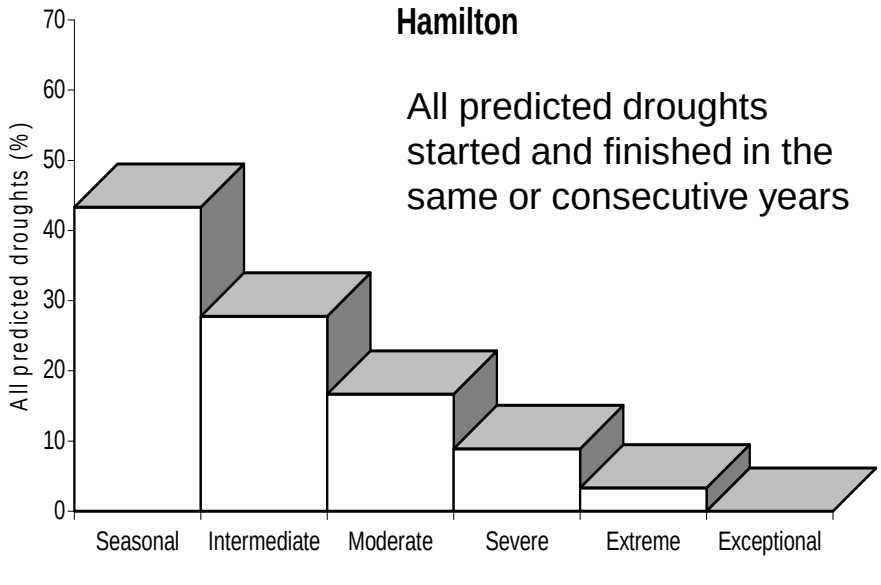
65 droughts



All predicted droughts occurred in the same or consecutive calendar years, except for an exceptional drought from 23 October 1943 to 13 June 1945

90 droughts

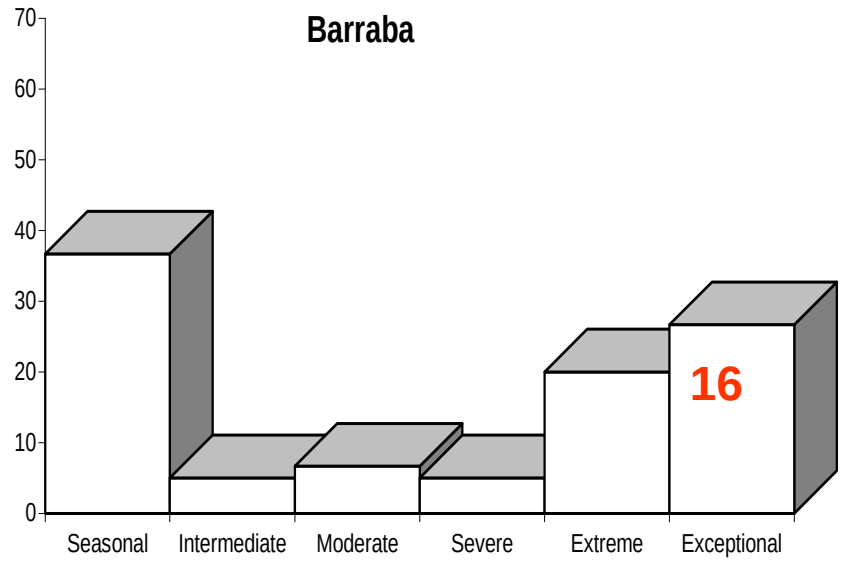
Hamilton

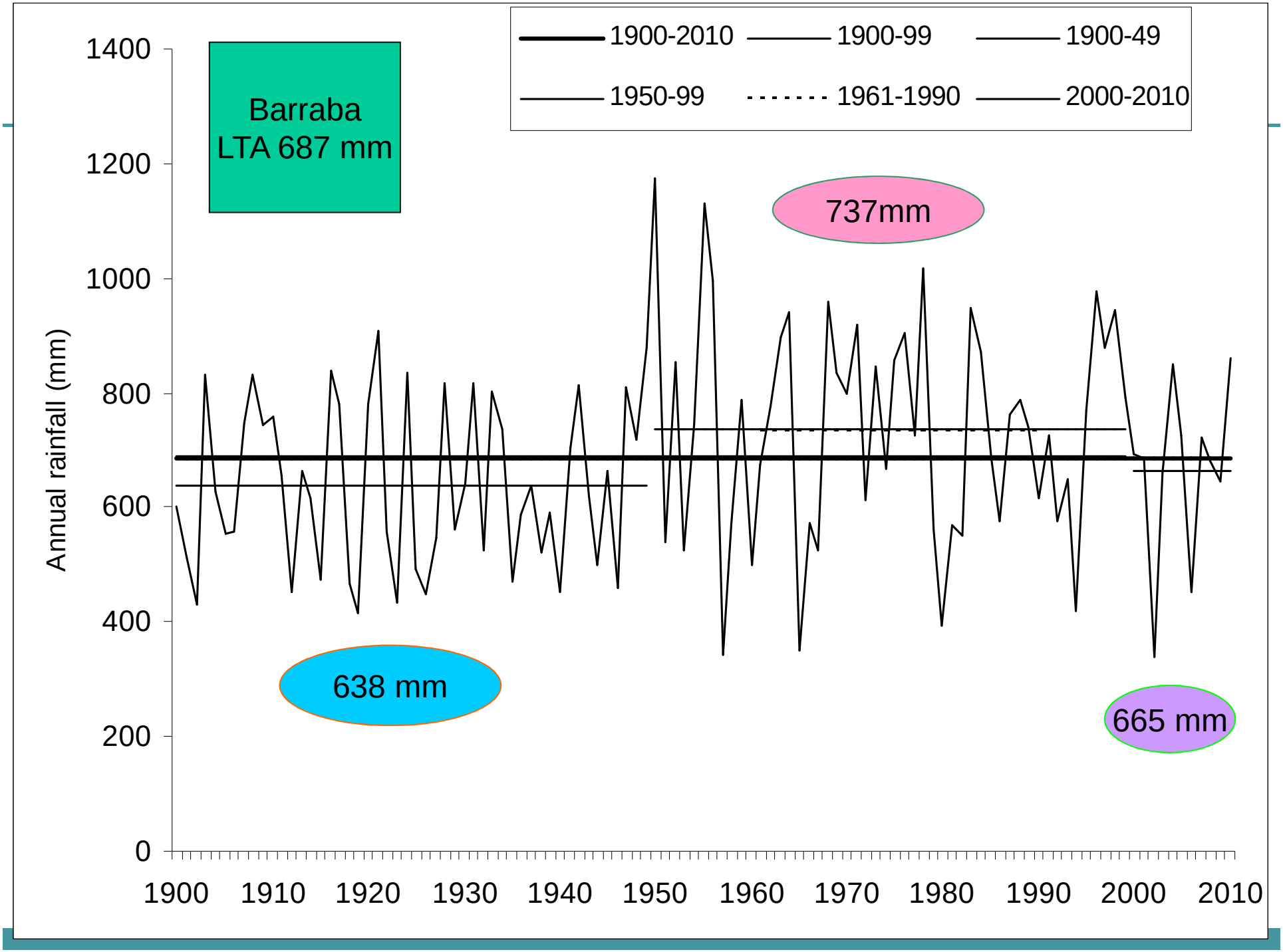


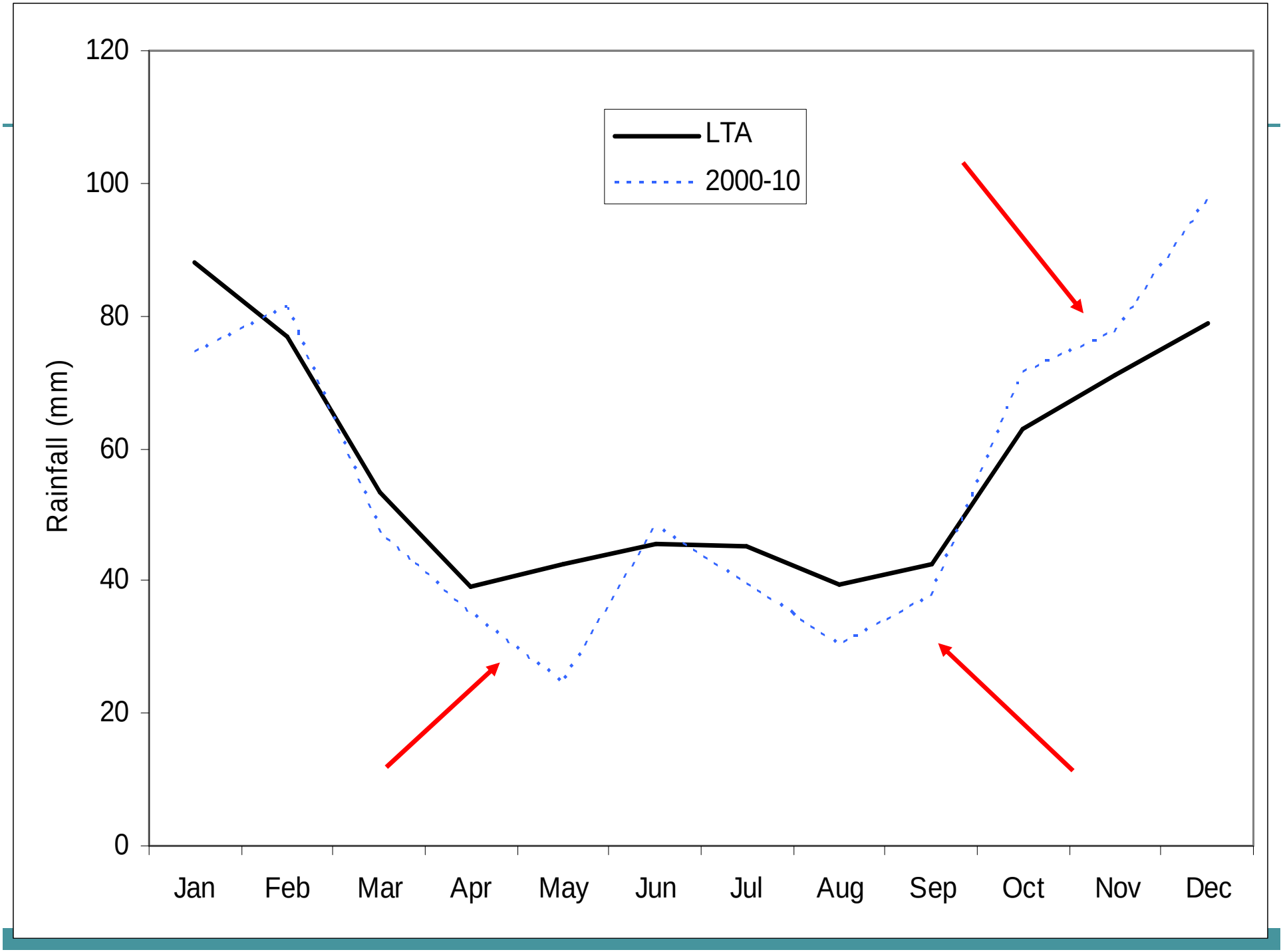
All predicted droughts started and finished in the same or consecutive years

60 droughts

Barraba



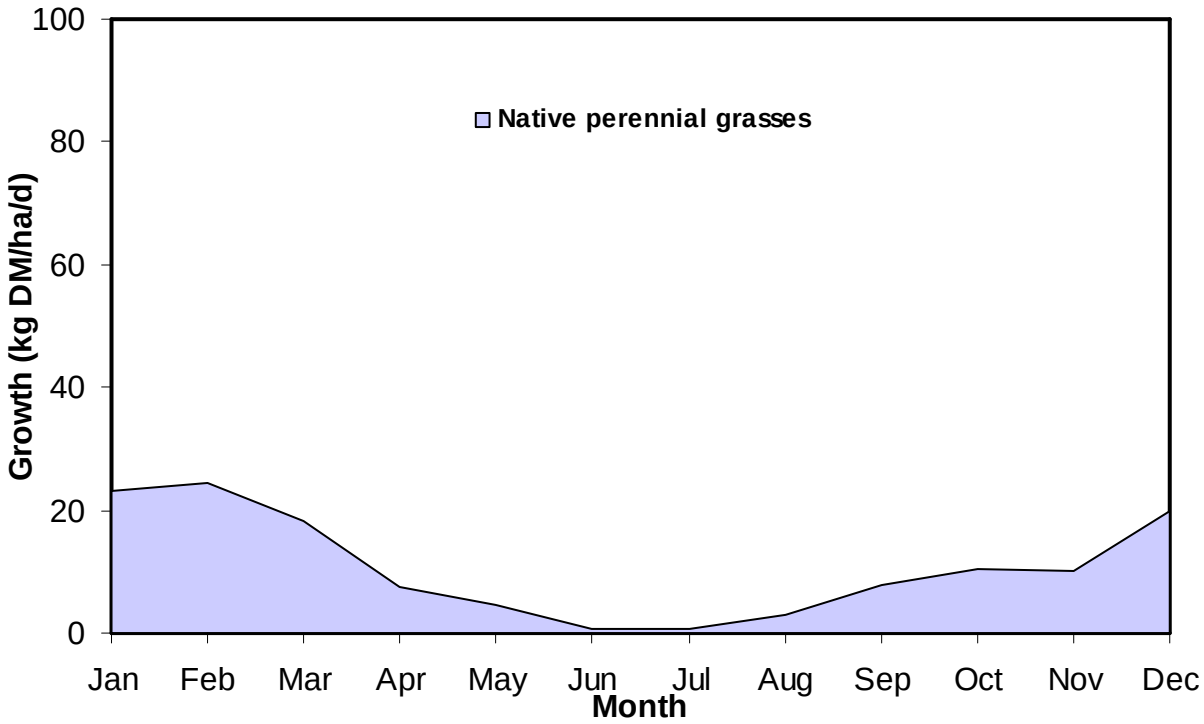

Barraba
LTA 687 mm
1900-2010
1900-99
1900-49
1950-99
1961-1990
2000-2010
737mm
638 mm
665 mm
Annual rainfall (mm)
1400
1200
1000
800
600
400
200
0
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010


120
100
80
60
40
20
0
Rainfall (mm)
LTA
2000-10
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

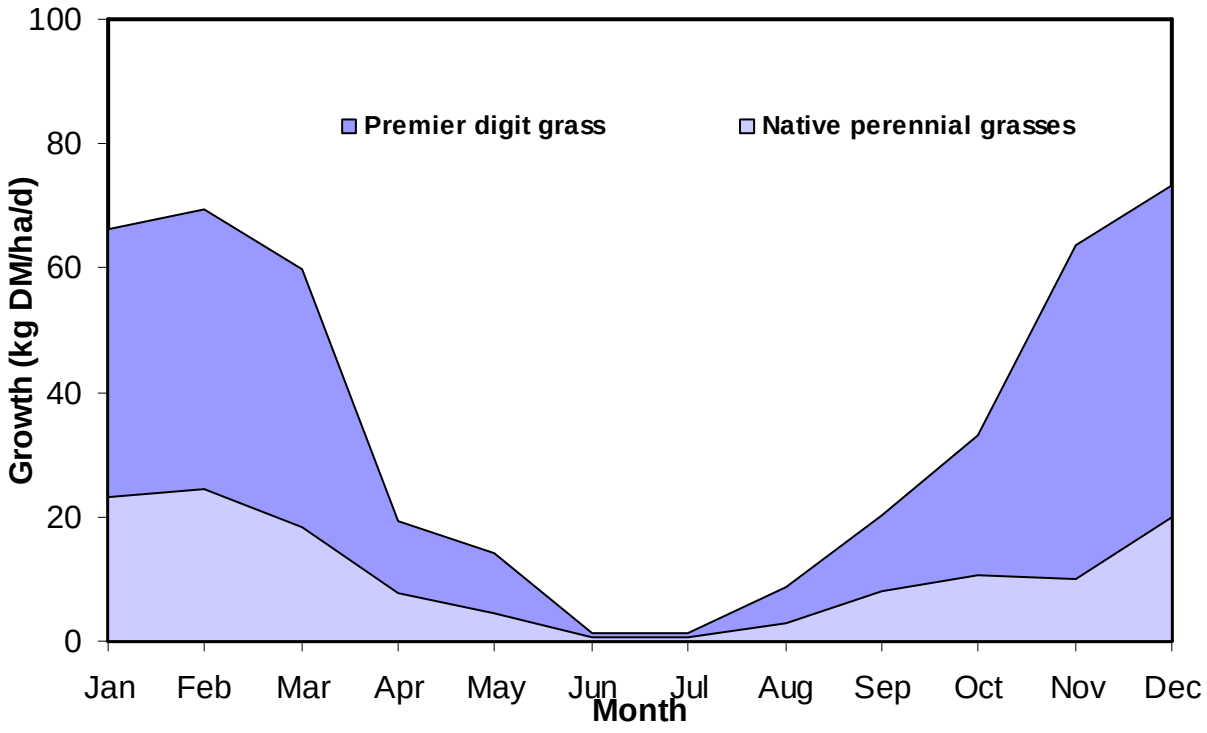
Impacts of Our climate

- Better understanding of climate, forecast & soil moisture
- Decision making around our enterprise & estimated growth period
- Which pastures and forages can we grow to utilise our variable rainfall
- Grazing strategies that match pasture and forage growth

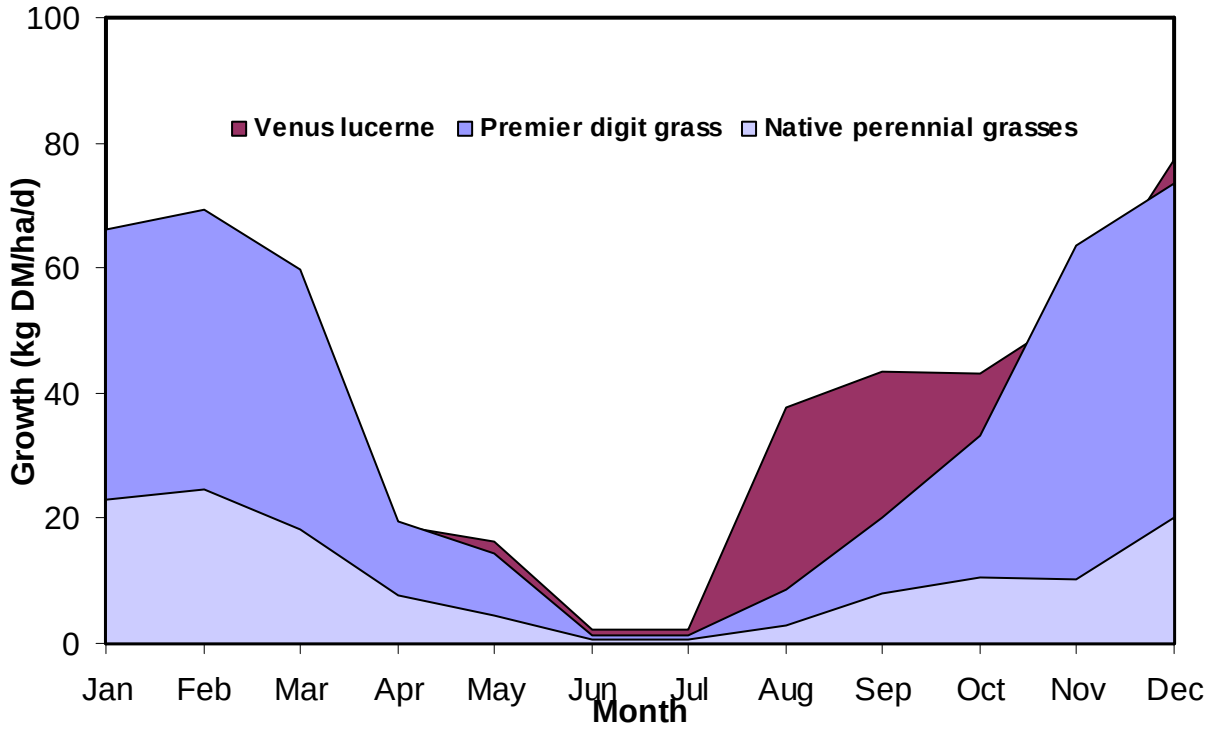
Contribution of forage type to feed gap



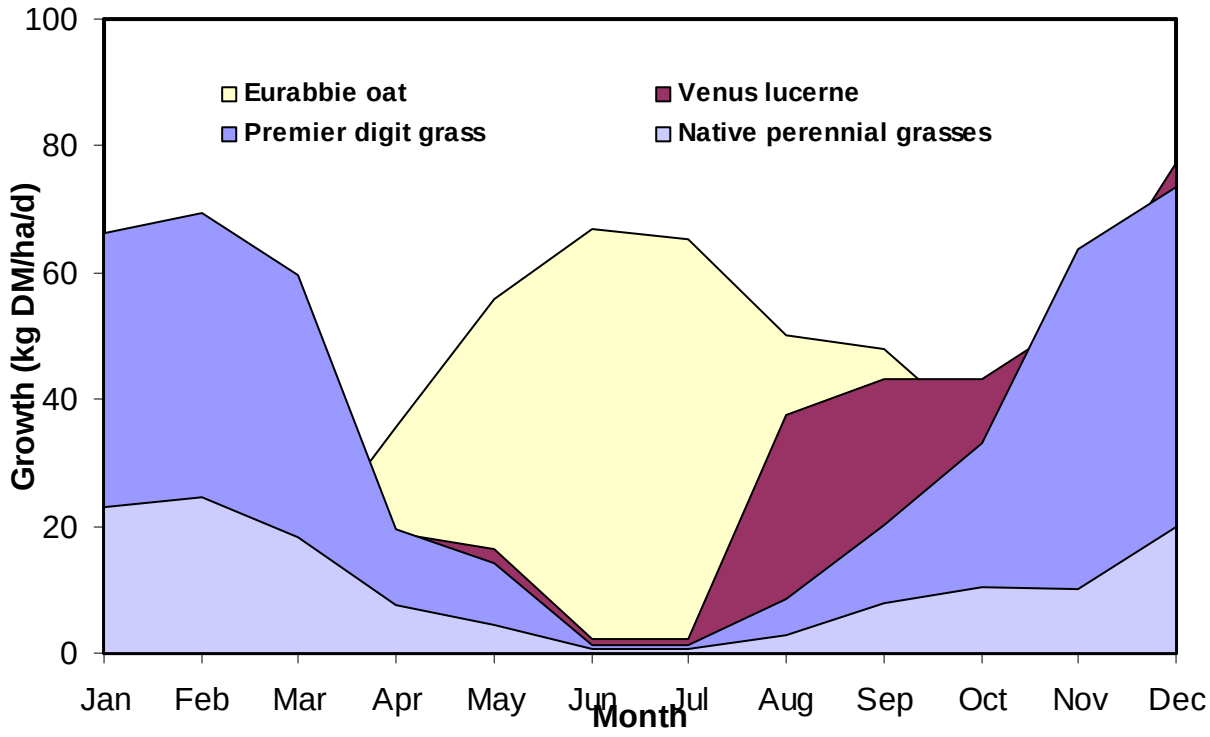
Contribution of forage type to feed gap



Contribution of forage type to feed gap



Contribution of forage type to feed gap



Forage trigger points

- Summer rain - ewes in condition over summer
- Rain Jan Feb - needed for early oats
- Is it going to be a good autumn
  - for sub
  - pressure in May **for** sub
- No oats, no sub,
- The last card, lucerne - coldest part of the year
- Probably OK up to 100 days of pregnancy
- At 100 days no oats ,no sub, no lucerne
- Supplementary feeding, standing dry feed

New pasture species

- Tropical grasses
- Hard seeded annual temperate legumes
- Tropical legumes

Yetman

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November 2009

January 2010

P. max_057

P. col_020

Why new legumes?

- Suited to wider range of soils and climates

- Hard seeded temperate annual legumes, temperate and tropical perennial legumes, and tropical shrubby legumes

Bladder clover

Source B Hackney 2010

Biserrula

Source B Hackney 2010

French serradella

Source B Hackney 2010

Gland clover

New suite of tropical legumes

- Desmanthus
- Leucaena
- Round-leaf cassia
- Fine stem stylo

Desmanthus cv. Marc

Leucaena cv. Tarramba

Round-leaf cassia cv. Wynn

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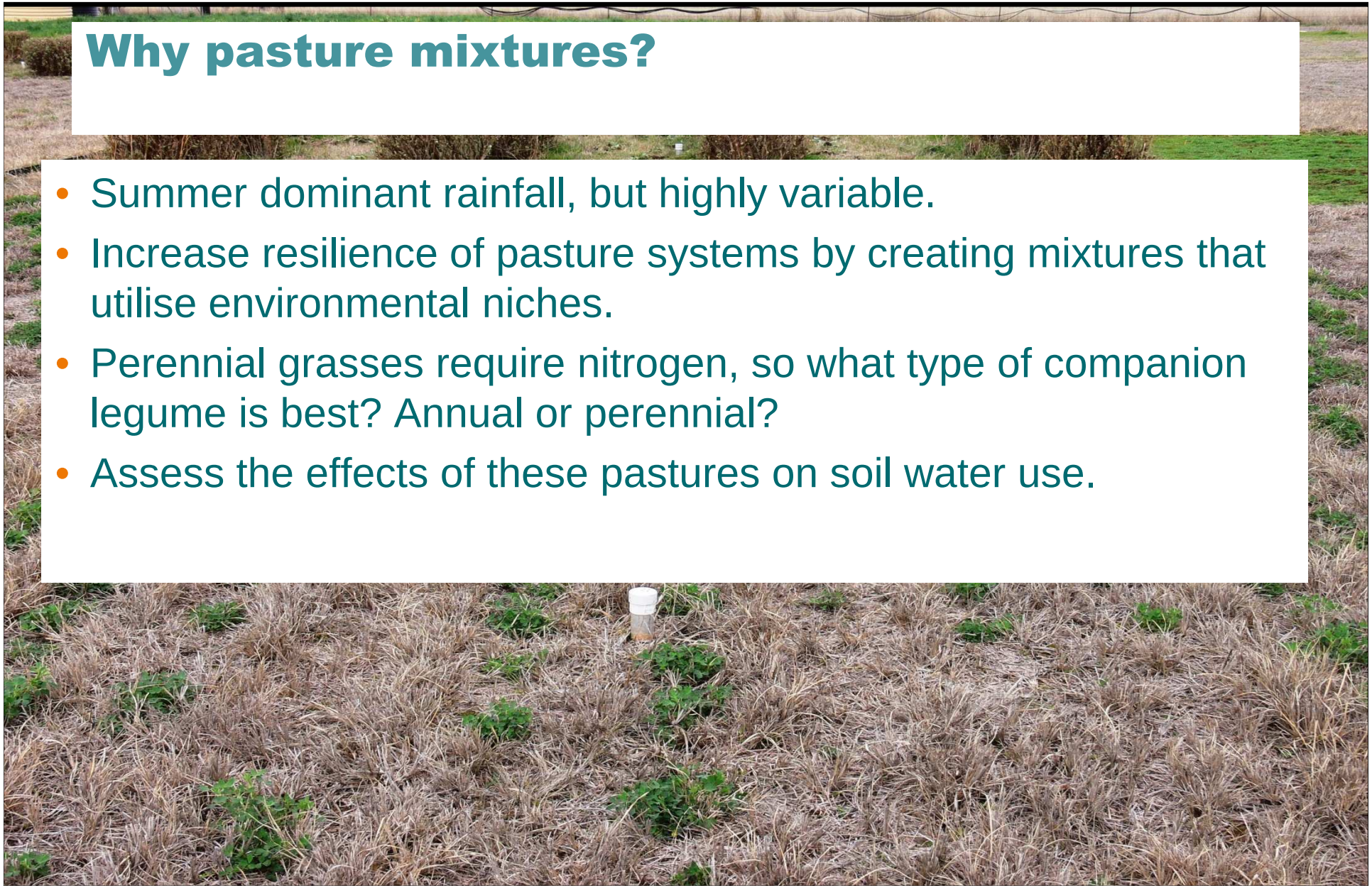
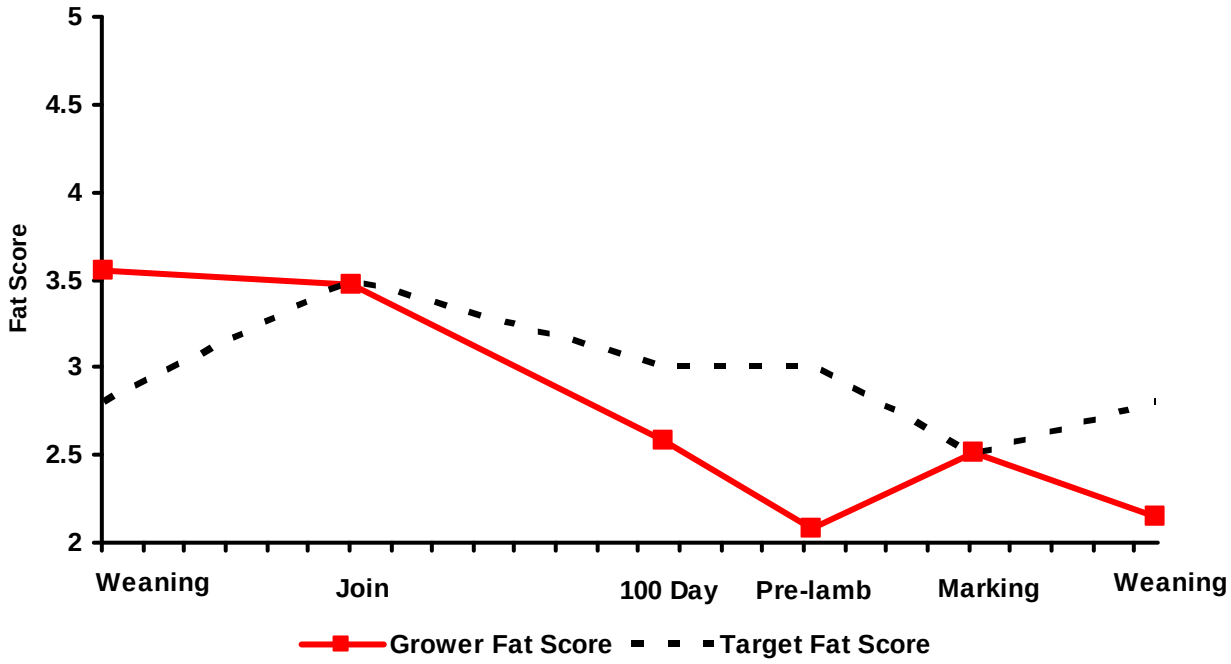
Fine stem stylo

Why pasture mixtures?

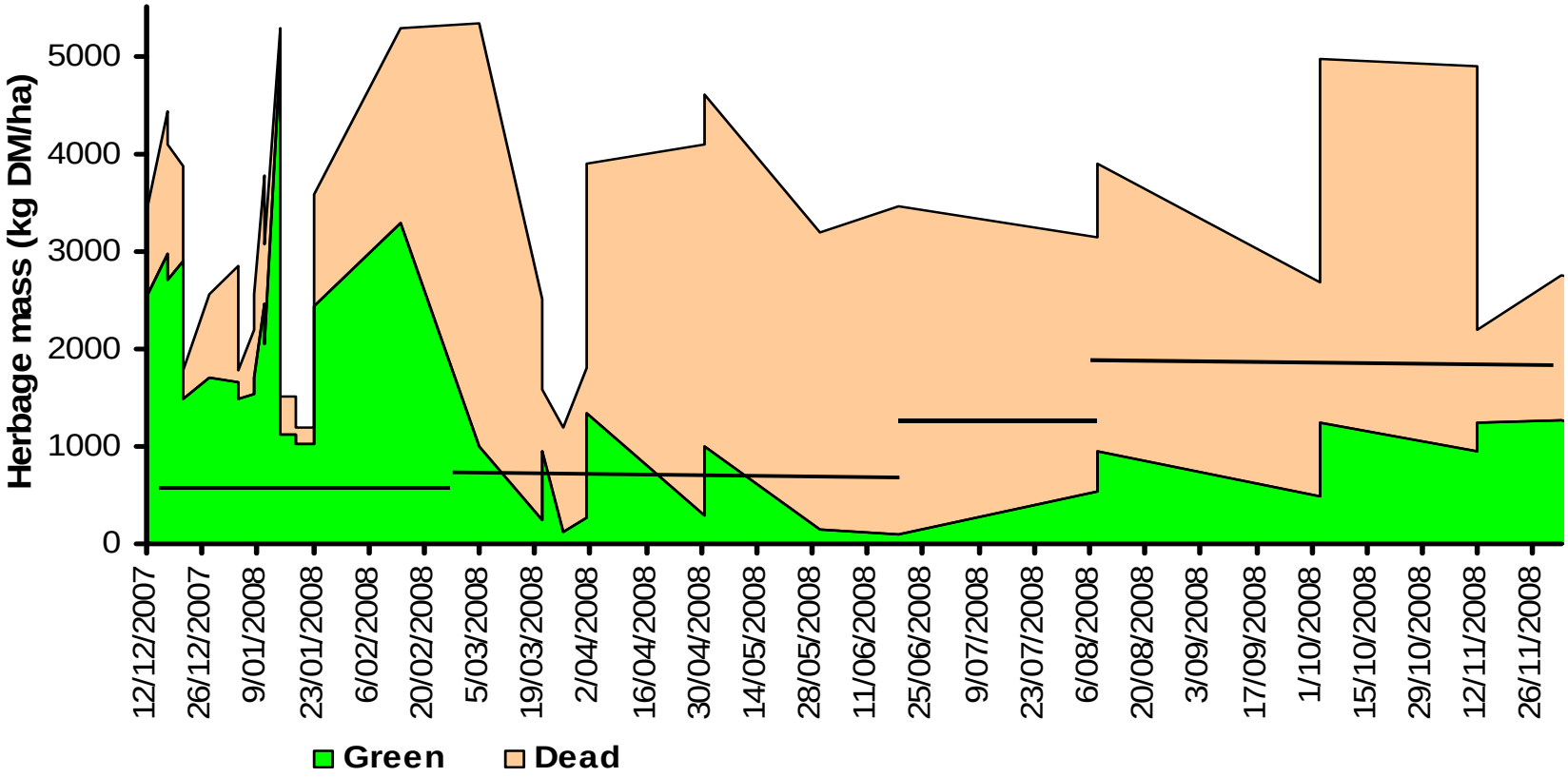
- Summer dominant rainfall, but highly variable.
- Increase resilience of pasture systems by creating mixtures that utilise environmental niches.
- Perennial grasses require nitrogen, so what type of companion legume is best? Annual or perennial?
- Assess the effects of these pastures on soil water use.



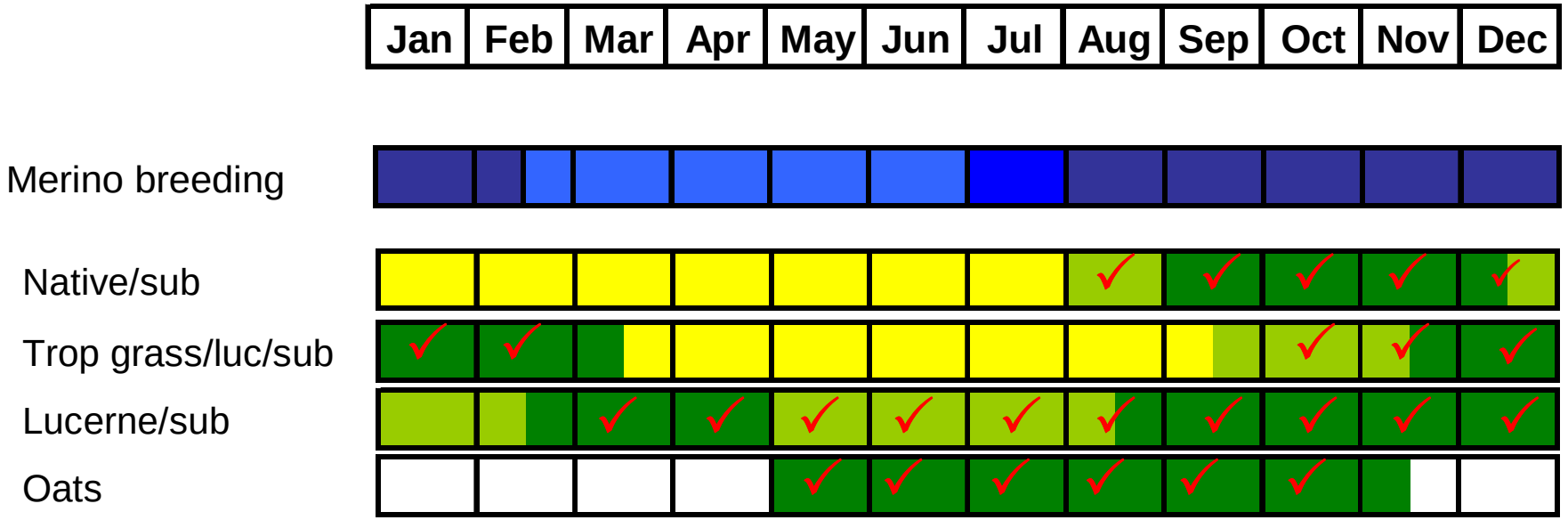
From EverGraze
Average fat scores Dec 2007-Nov 2008



Green & dead feed quantities Dec 2007-Nov 2008 on native pasture



Matching feed availability and requirements



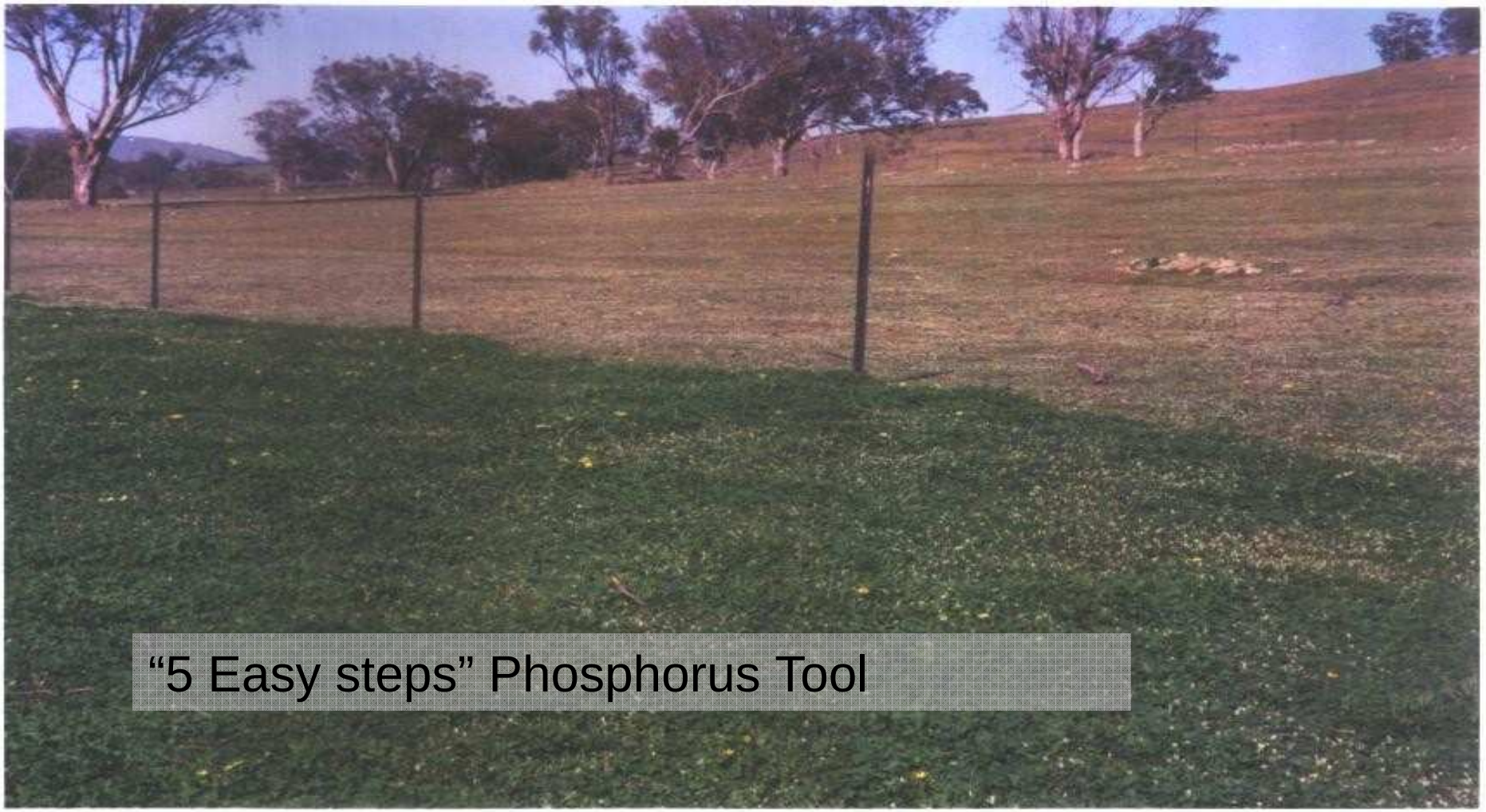
Feed Demand Calculator

- The feed demand calculator can be used to gain an appreciation of the pattern of feed supply and demand over a twelve-month period
- Show when "feed gaps" are likely to occur, opportunities to modifying the sheep enterprise to close these gaps.
- The calculator can also be used for planning within the enterprise.
- Available on the MLA Web site:

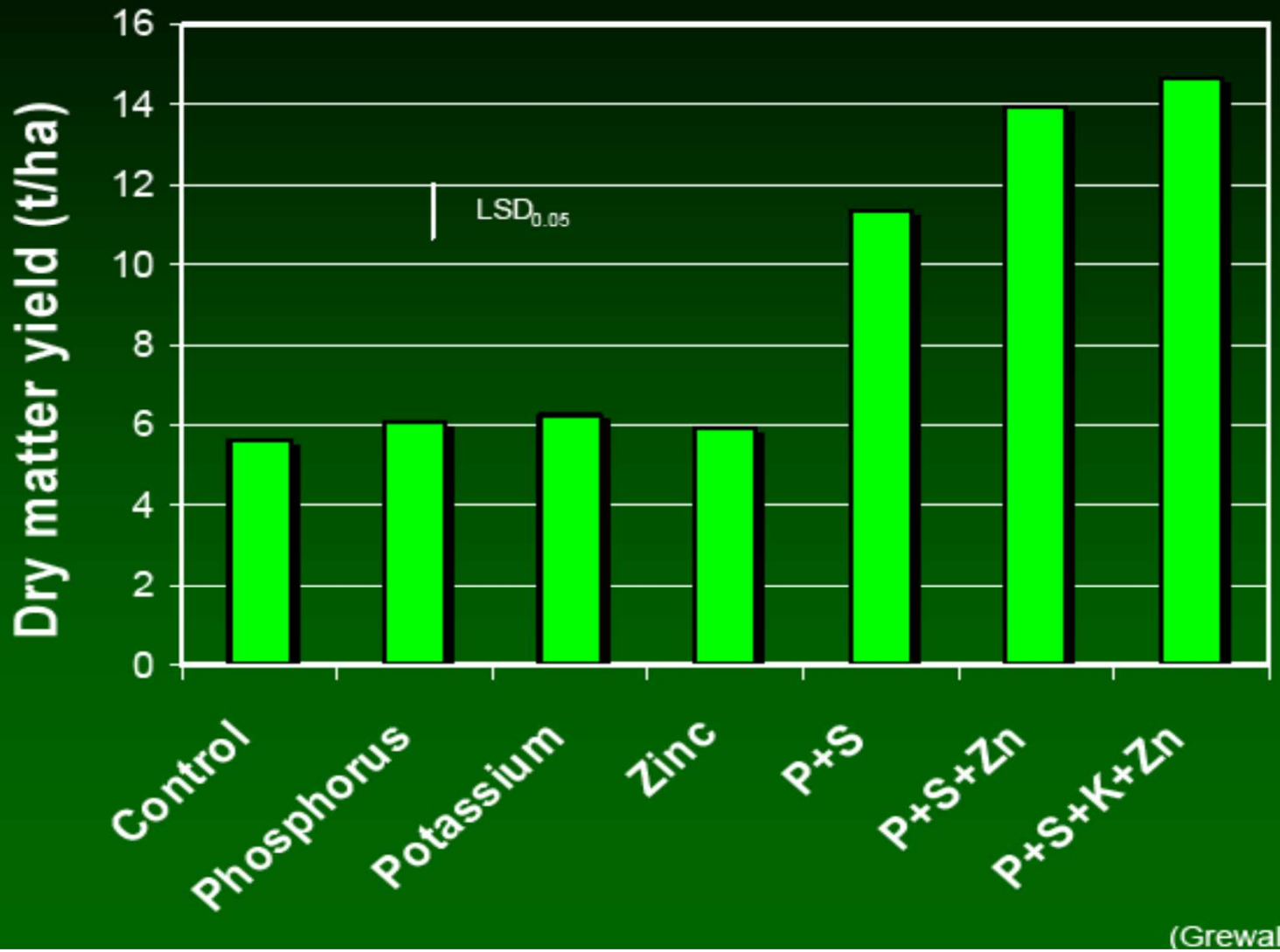
http://www.mla.com.au/Publications-tools-and-events/Tools-and-calculators/Feed-demand-calculator

Driving the feed base species and nutrition

Sub clover with and without fertilisers



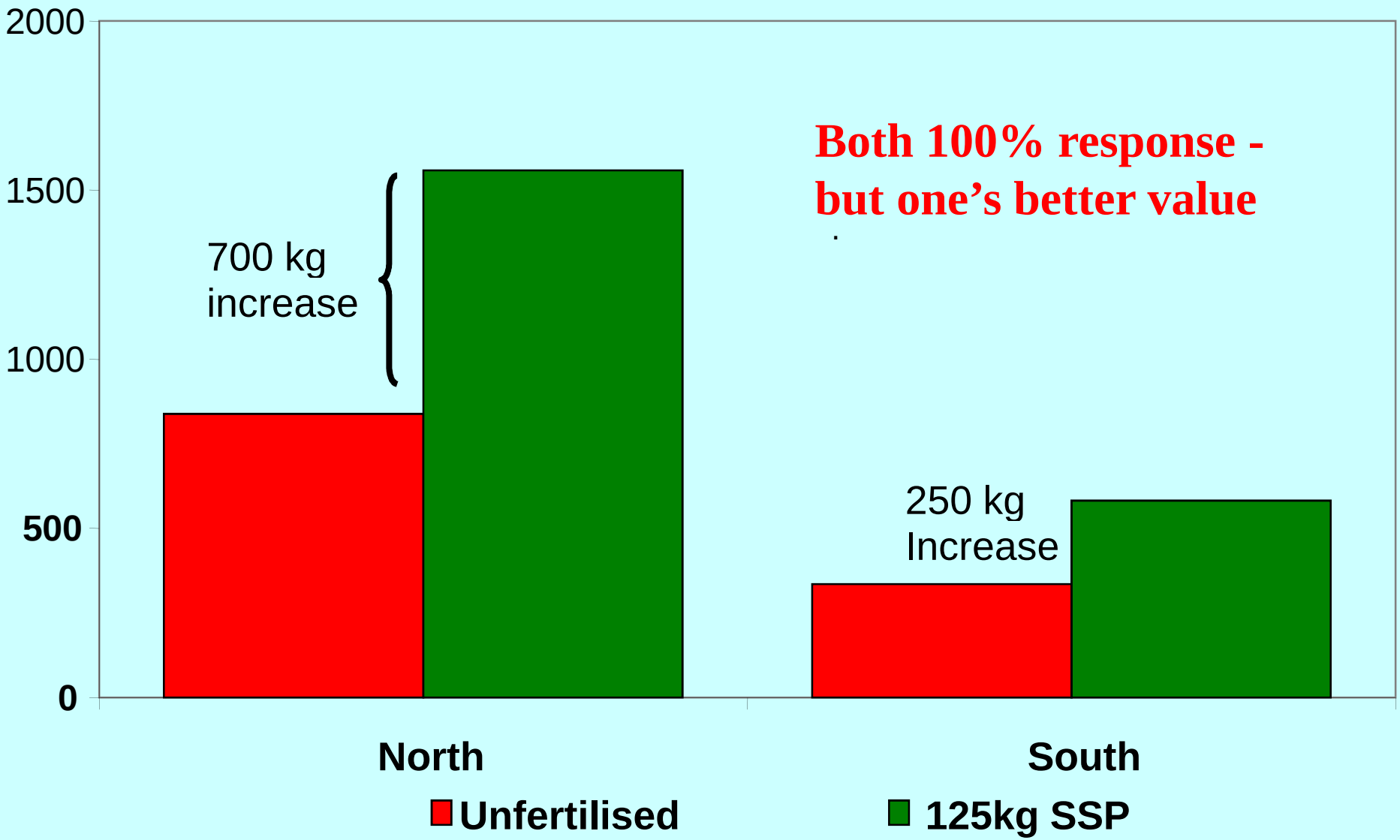
Response of lucerne to applied nutrients

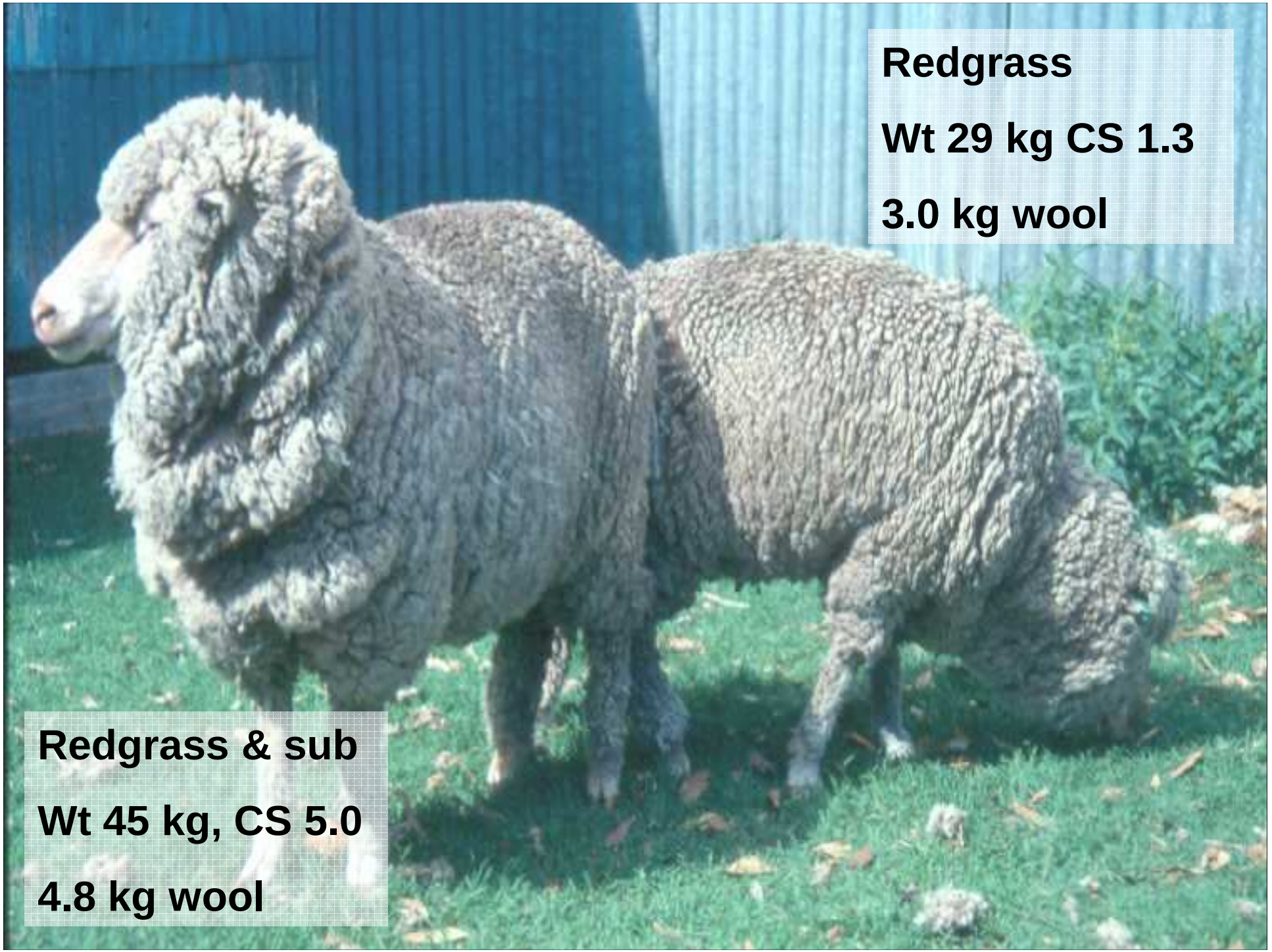


(Grewal & Williams)

Aspect Effects on Winter Dry Matter

(kg/ha July August 1998 & 99)




Redgrass
Wt 29 kg CS 1.3
3.0 kg wool
Redgrass & sub
Wt 45 kg, CS 5.0
4.8 kg wool

Grazing management

- The best production comes from the highest quality pasture or forage with the best nutrition.
- When is rotational grazing beneficial?
- When is set stocking beneficial?
- How and when do we utilise these systems?

Rotational Grazing

- Increase ground cover.
- Improve litter levels
- Species manipulation.
- Manipulate forage quality& quantity.
- Buffer dry periods.

Runoff and Ground Cover at Barraba – SGS site

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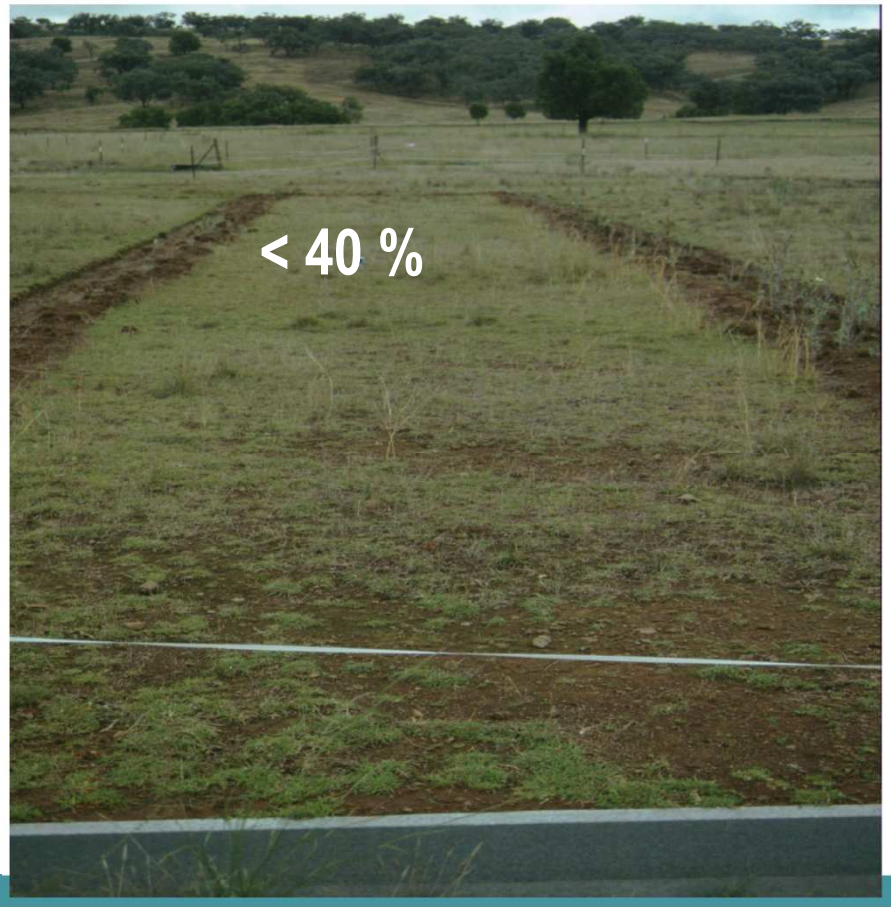
At 40% ground cover, runoff was 116 mm,

At >70% ground cover, runoff was 4 mm for spring 1997 to spring 2001.



Set Stocking

- Associated with overgrazing
- Periods of less disturbance
- Grazing days match starting quantity and growth
- Spring paddocks allowed to accumulate feed
- Botanical composition changes.

Key points

- We have a challenging climate
- Native grass pastures are resilient but don’t meet feed quality targets for breeding
- Understand trigger points for forage and livestock targets
- Match feed quality and quantity to livestock targets
- Fodder budget
- Consider options
- Be flexible

Acknowledgements

- The following people from NSW DPI have contributed data and comment from research towards this presentation:
- Greg Lodge, Sean Murphy, Carol Harris, Sue Boschma, Bob McGufficke and Belinda Hackney