

# Seasonal Outlook Winter 2016



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# The GrassGro modelling approach

- Biophysical model which mimics the physics and physiology of the major system components.



# What systems are modelled

- Bungarby Native System (1000ha)
  - Poa, Austrostipa, introduced annuals
  - 19 micron merino ewes @ 2.4 ewes/ha
  - Lamb 1<sup>st</sup> Sept
- Improved Pasture (1000ha)
  - Phalaris/Fescue, ann. grass and sub clover.
  - Same ewes and lambing time. @ 4.2 ewes/ha

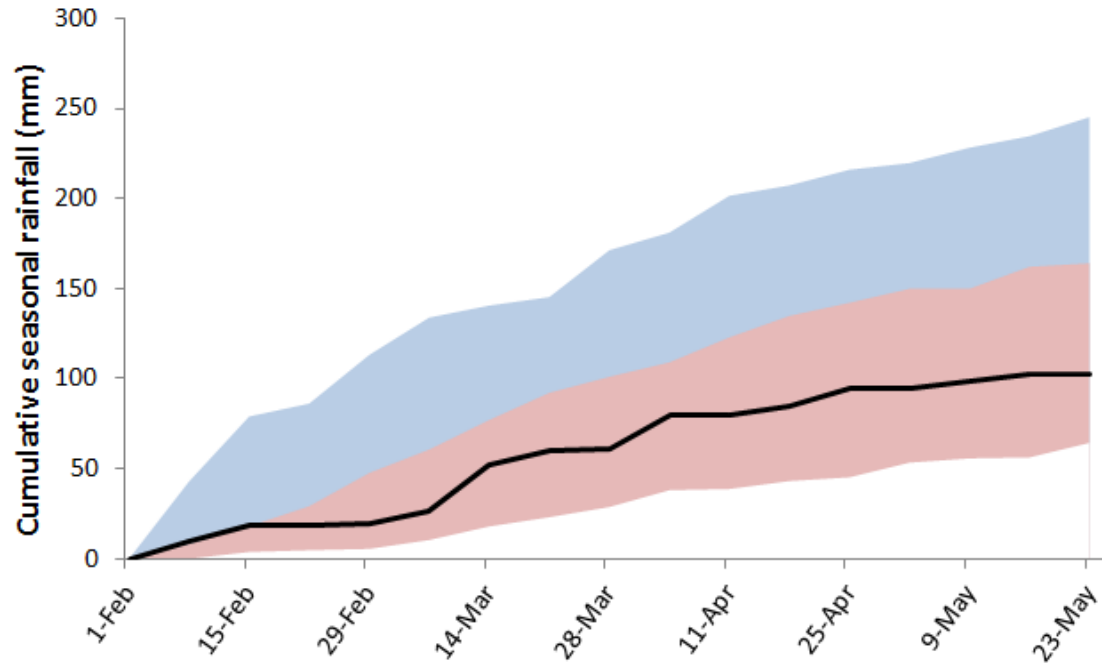


# Conditions for the “spin-up” to the 24<sup>th</sup> of May



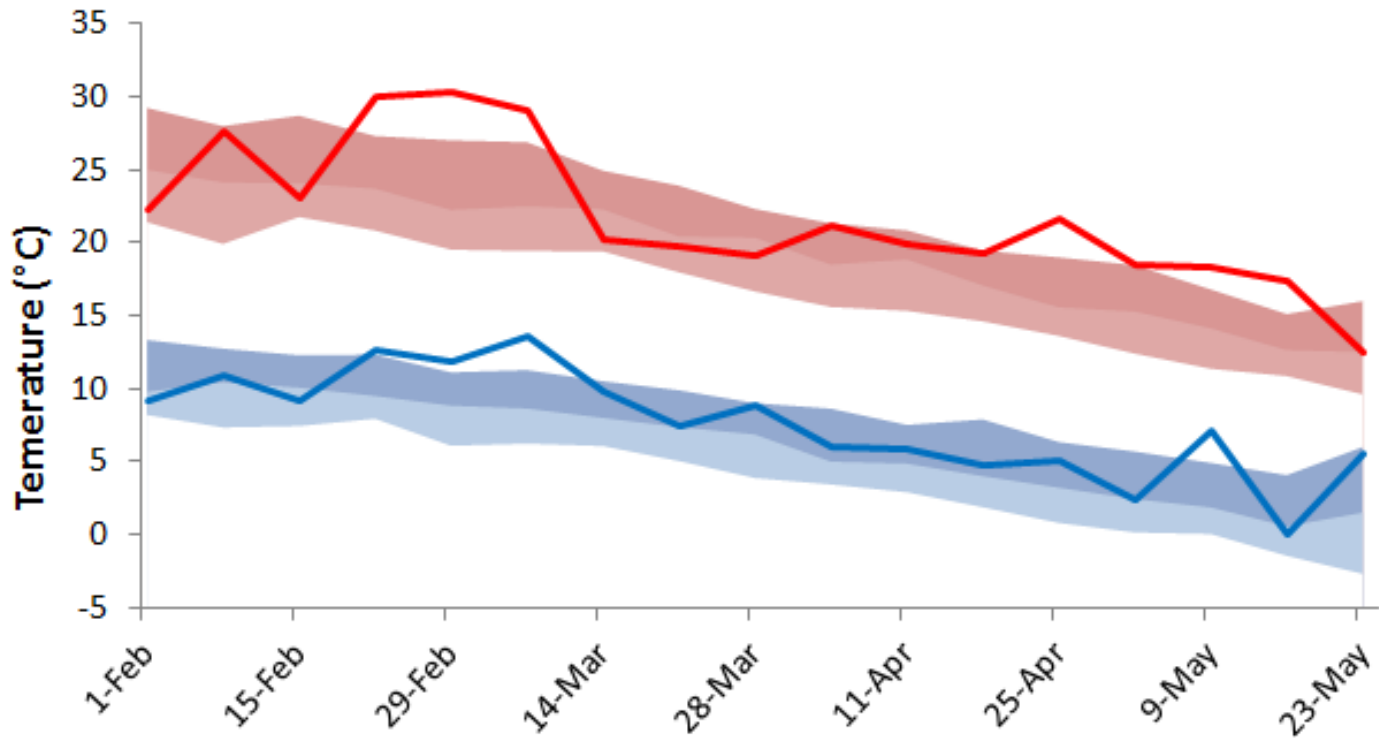
# Cumulative Rainfall since last outlook

## ■ Silo data drill 36°39' S : 149°00' E

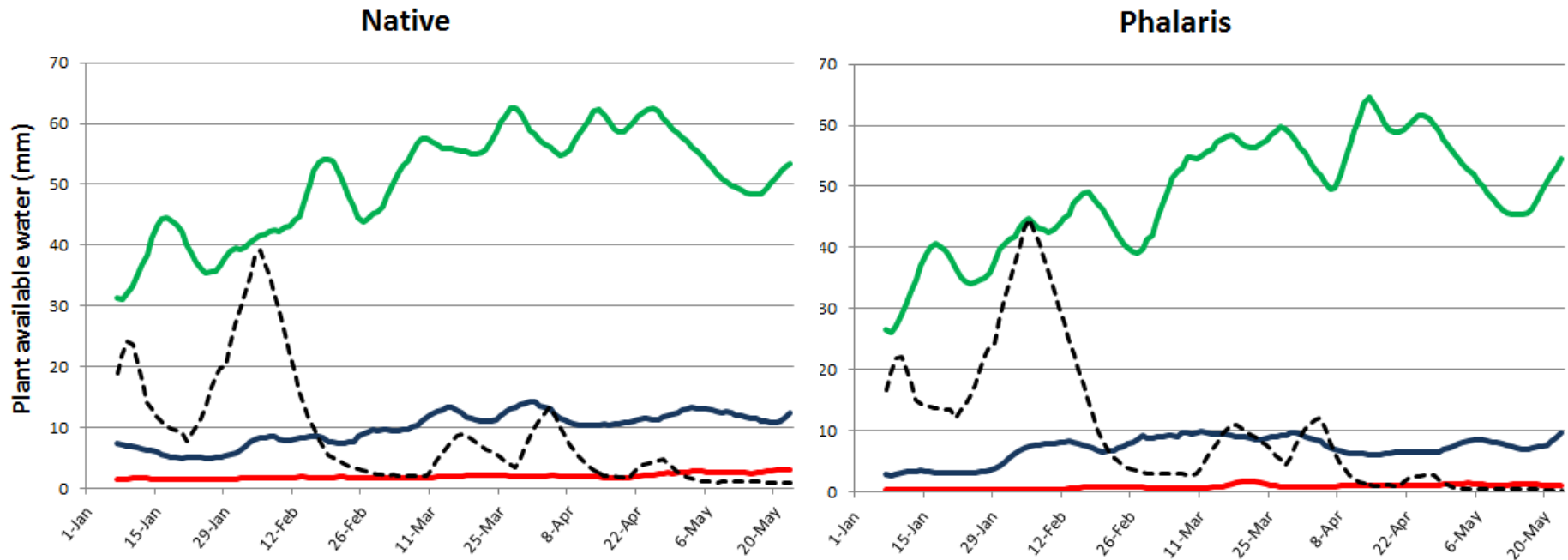


# Weekly Average temps since 1<sup>st</sup> Dec

■ Silo data drill 36°39' S : 149°00' E



# Plant Available Water through Autumn

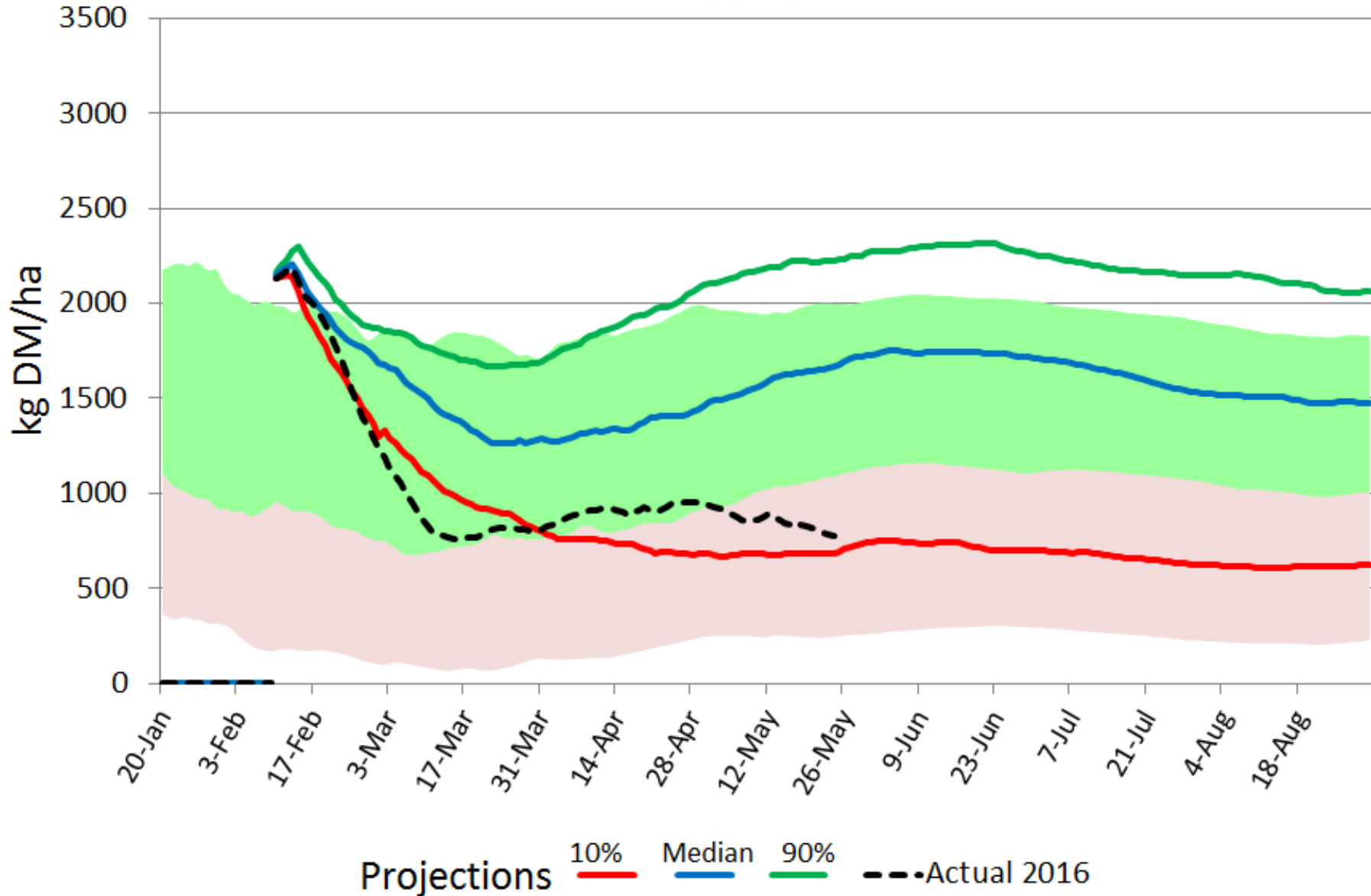


- Below median since the end of Feb and at or near wilting point most of this time
- Projections started with very low soil moisture.



# Green Herbage through Autumn

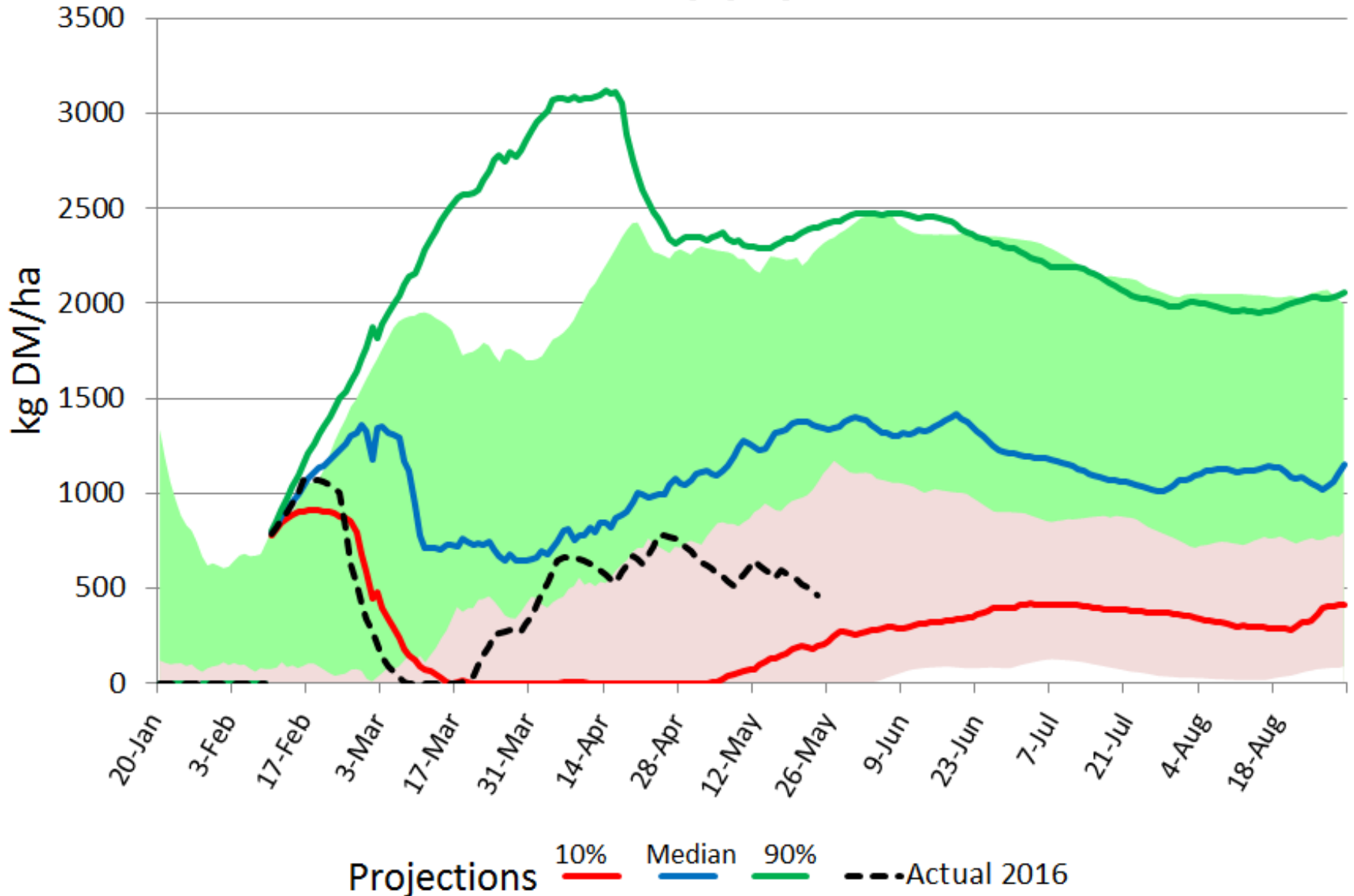
Native



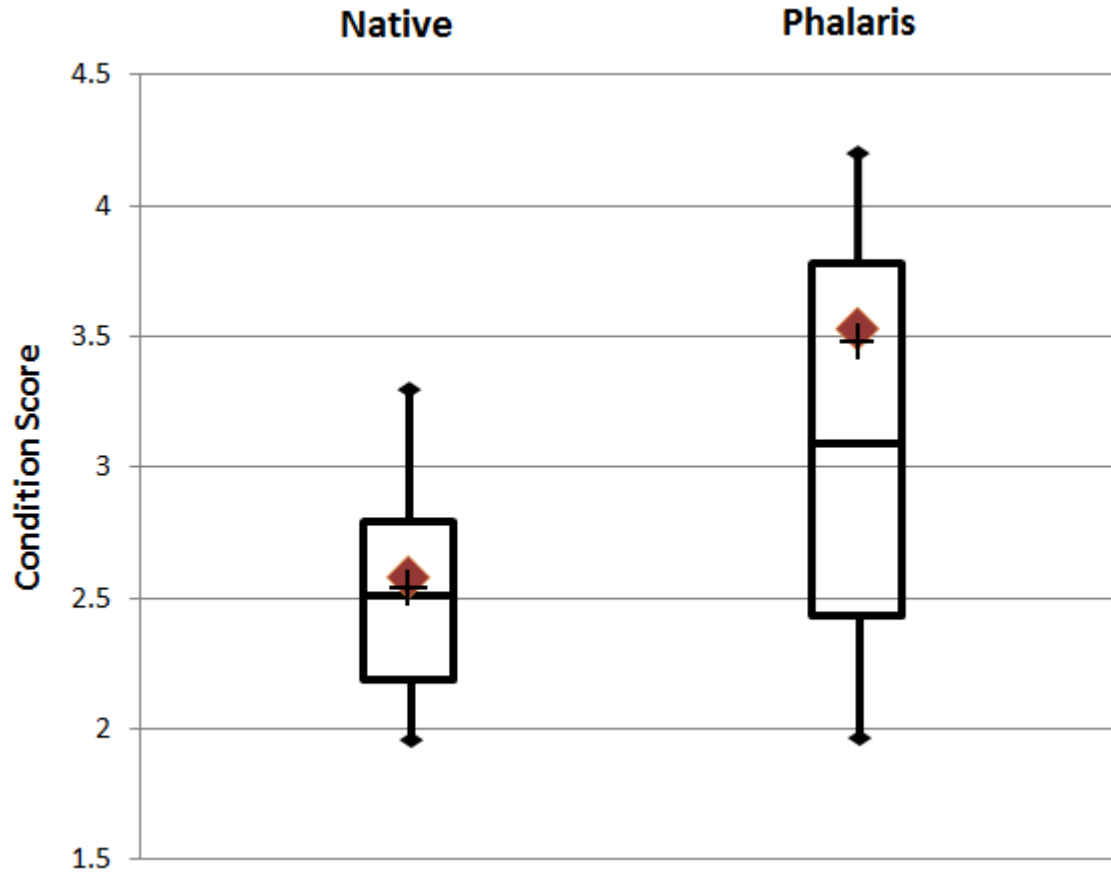


# Green Herbage through Autumn

## Phalaris



# Ewes still in good condition



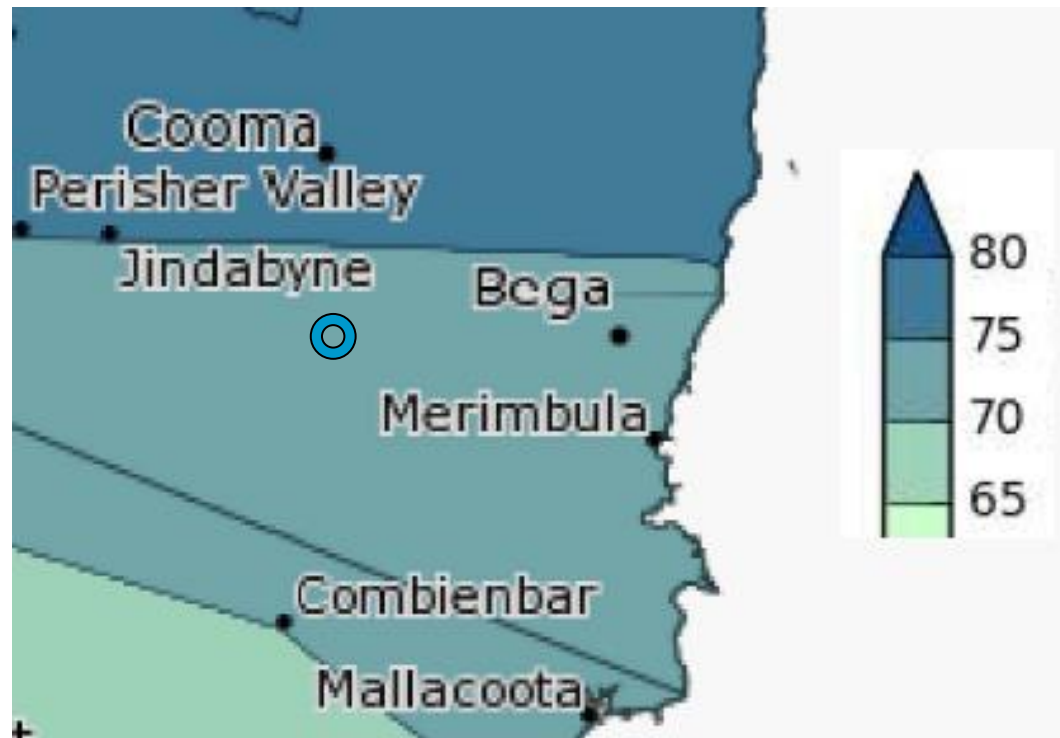
# Seasonal Projections for Bungarby

- Projecting from 24<sup>th</sup> May to 31<sup>st</sup> Aug
- Applying seasonal rainfall patterns from each year 1961 – 2015.
- Using a GrassGro tactical simulation
  - Assumes no outcome is any more or less likely than another. But....

What does BOM say?



# BOM Chance of exceeding median rainfall June - August 2016

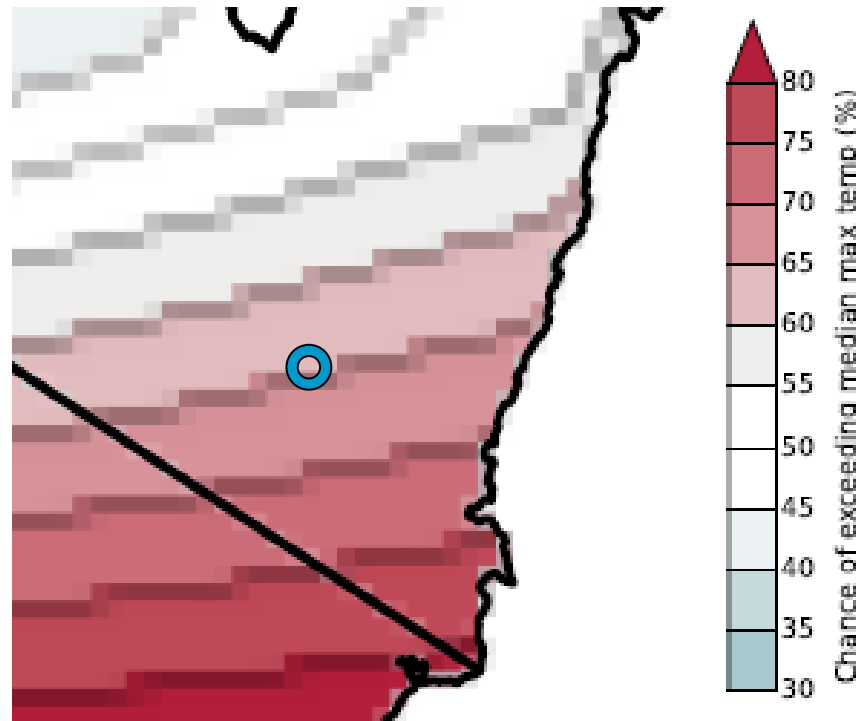


**Low Accuracy**



# What About Temperatures

## Chance of exceeding median Max temps

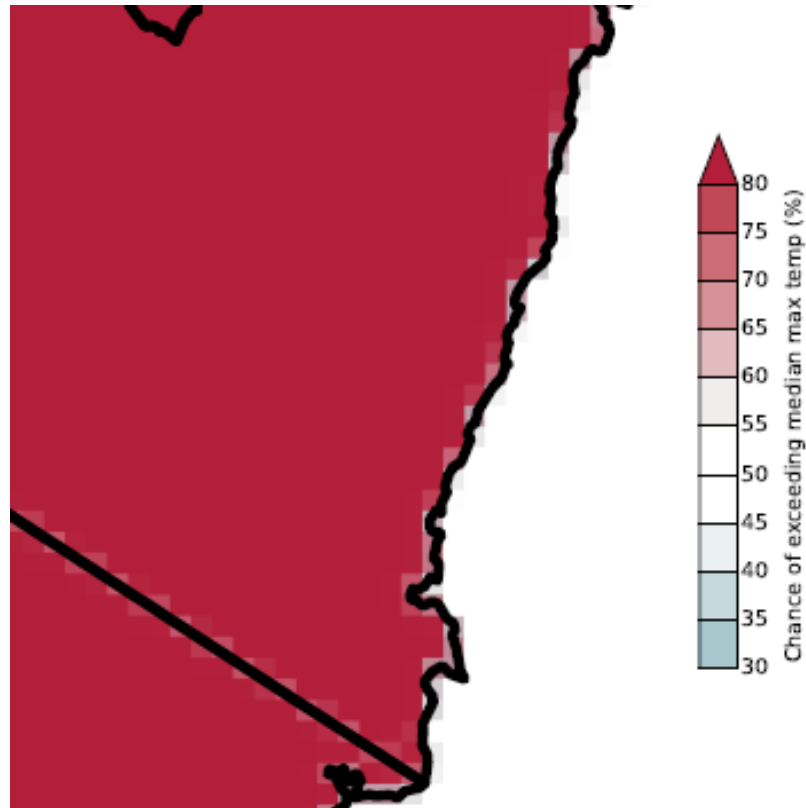


*High Accuracy*



# What About Temperatures

## Chance of exceeding median Min temps



*Moderate Accuracy*



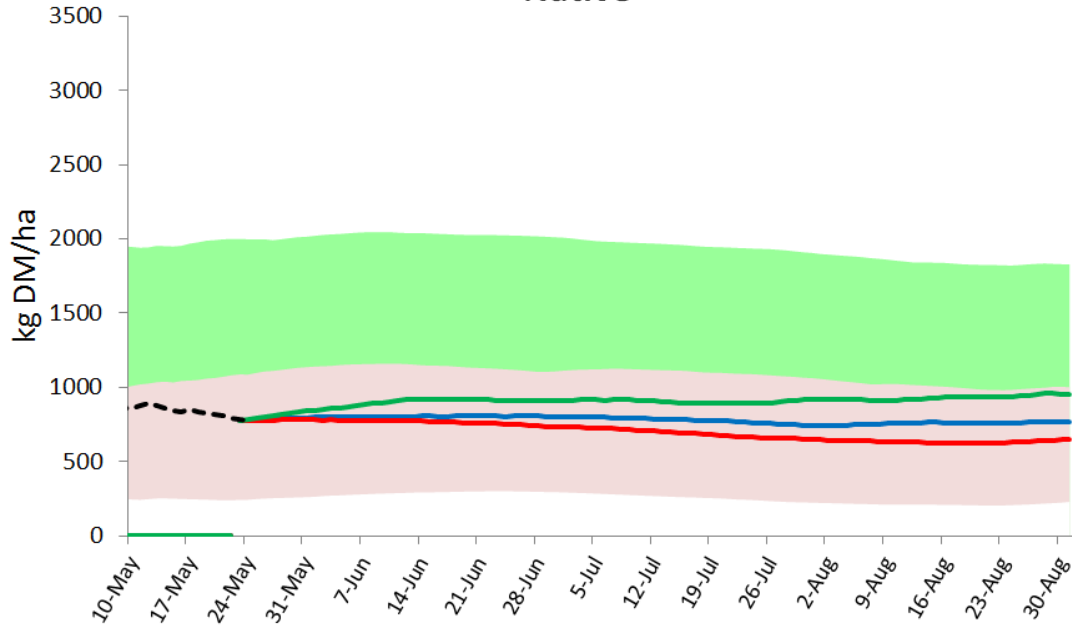
# Conclusion from BOM outlook

- Low Accuracy on Rainfall
- Higher probability of warmer temps suggest higher odds of above average pasture growth if rainfall occurs.

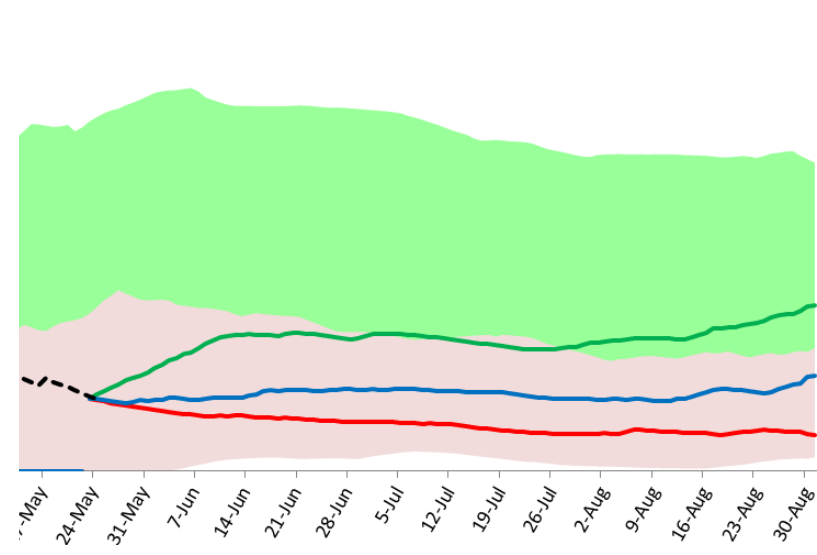


# Projections, *Green Herbage*

Native



Phalaris



Projections

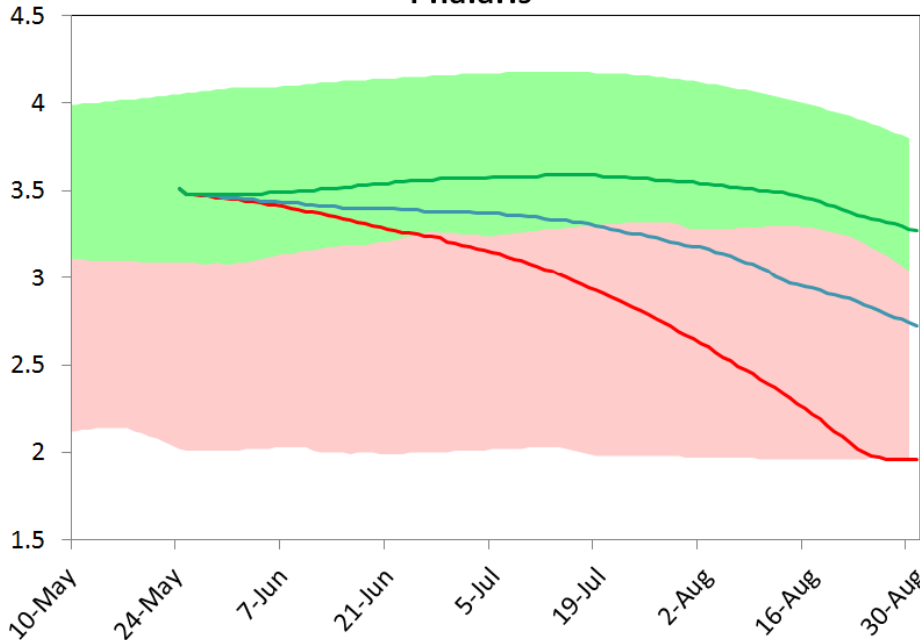
10%      Median      90%



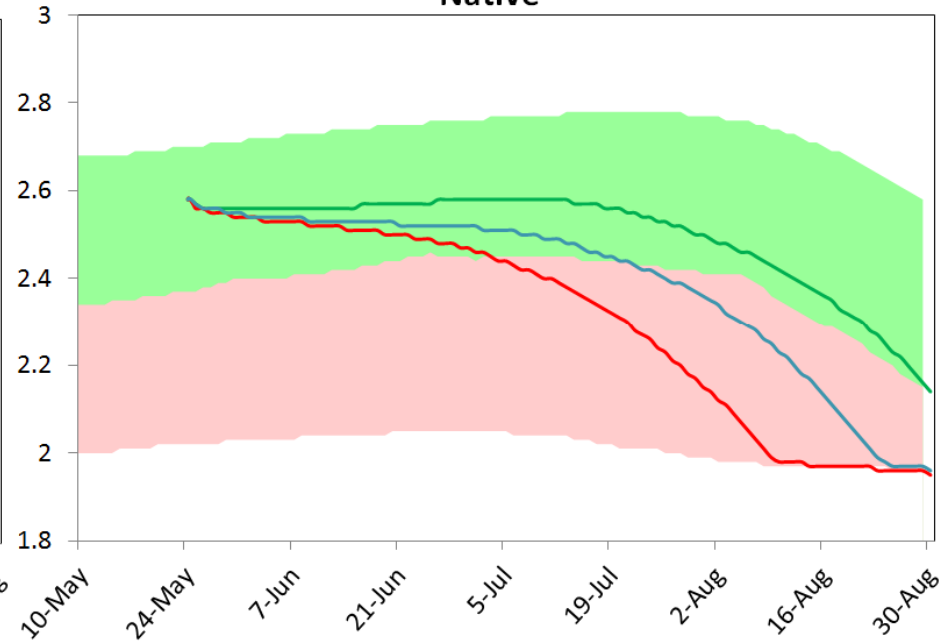


# Projections, *Ewe Condition Score*

### Phalaris



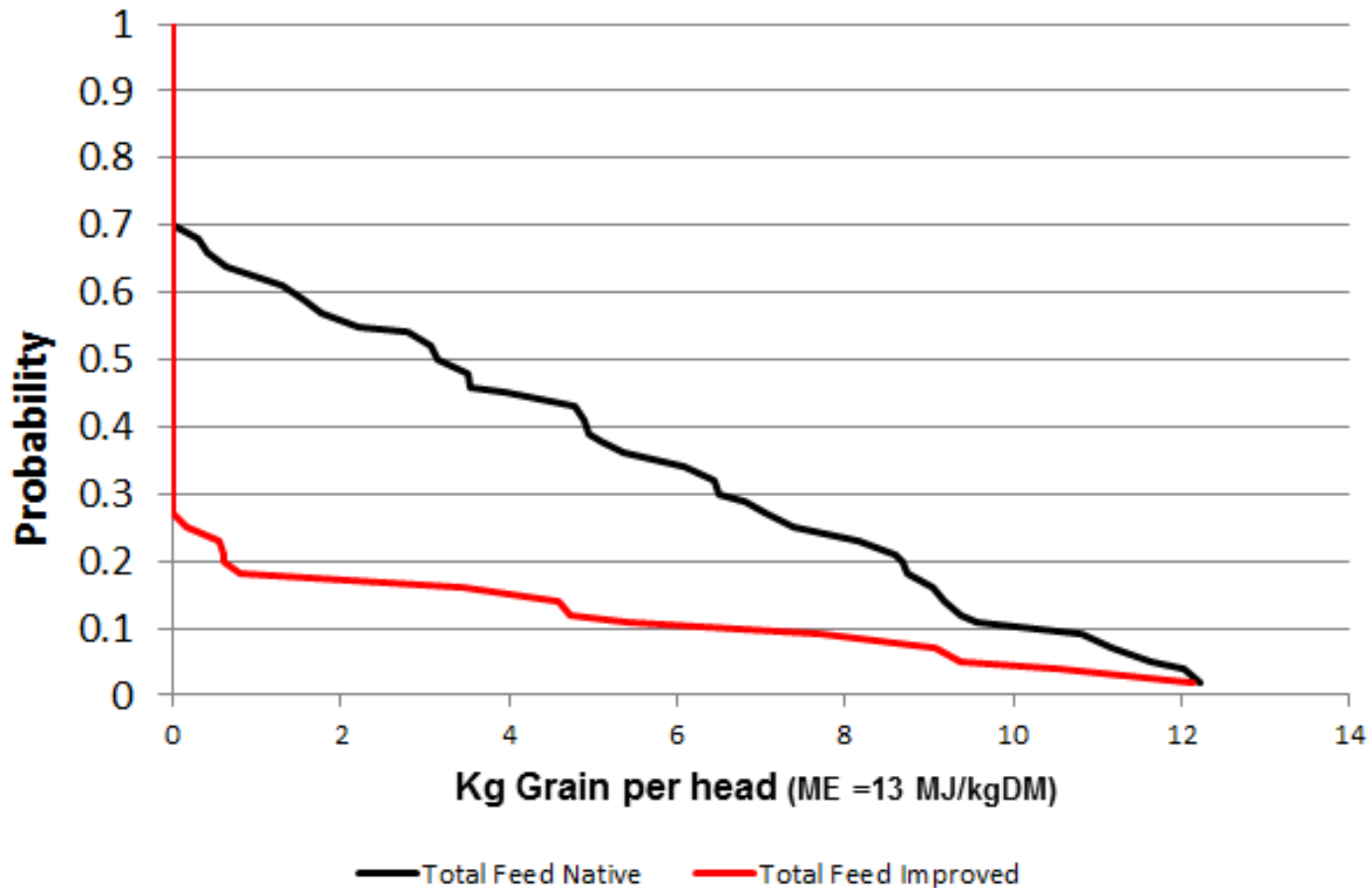
### Native



Projections 10% Median 90%



# Projections, *Ewe Feed Requirements*



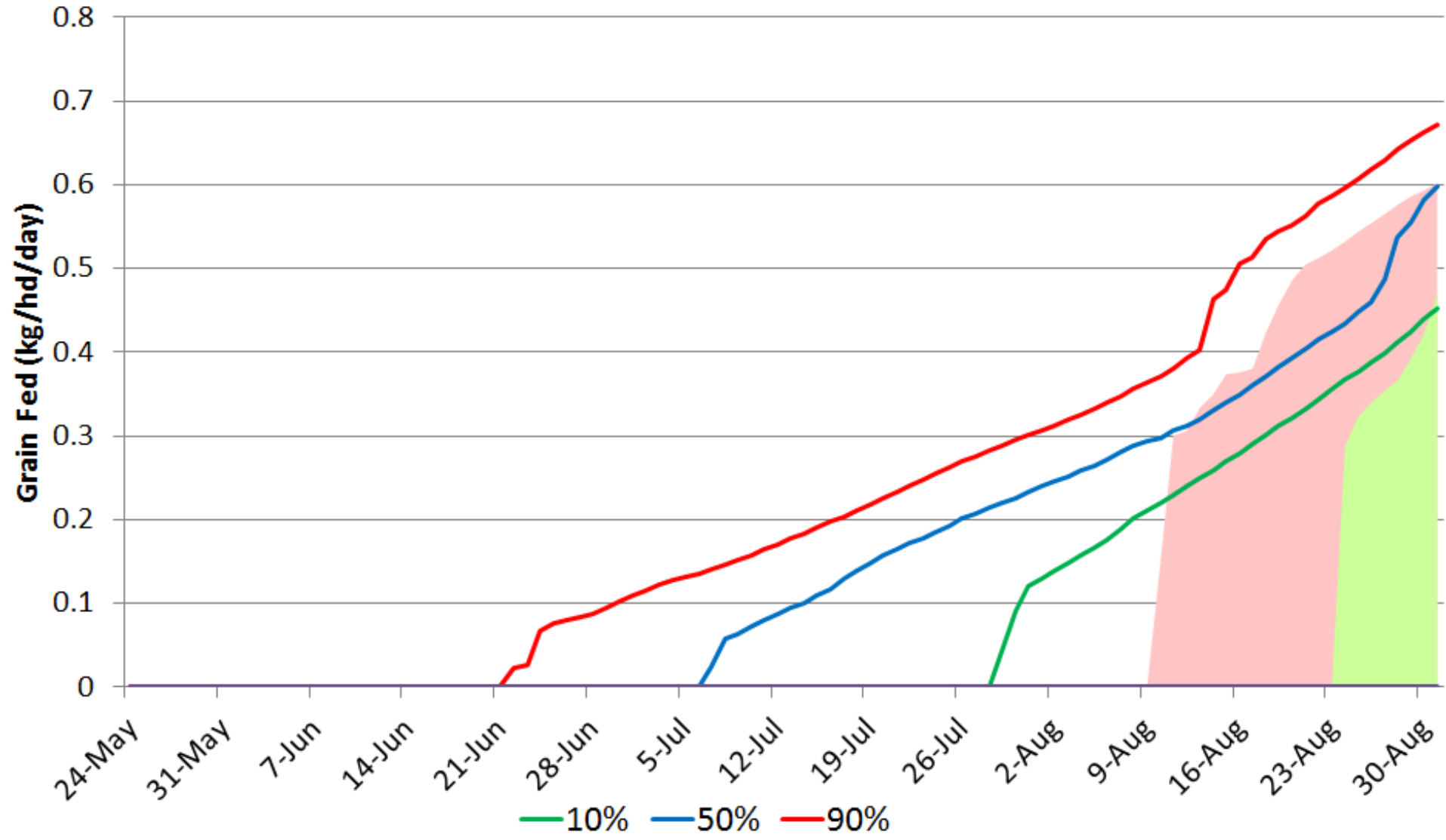
# Strategies for Winter?

- Planning ahead for lambing
- Feeding earlier to higher condition score
  - Feed to CS 2.5 not 2.
- Destock 1/3 of the property to conserve feed for lambing.



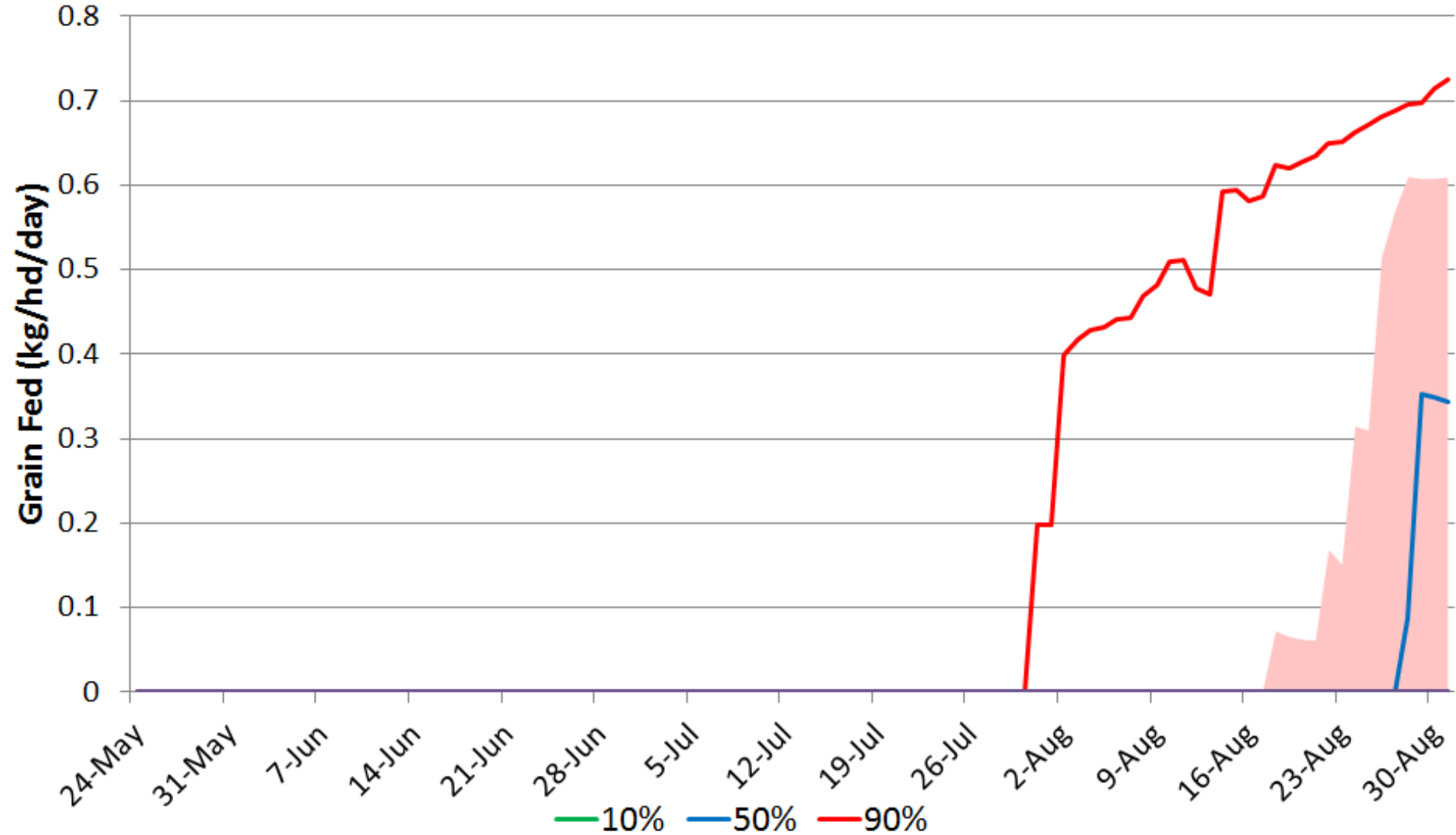
# Change in timing and amount of feeding

Native

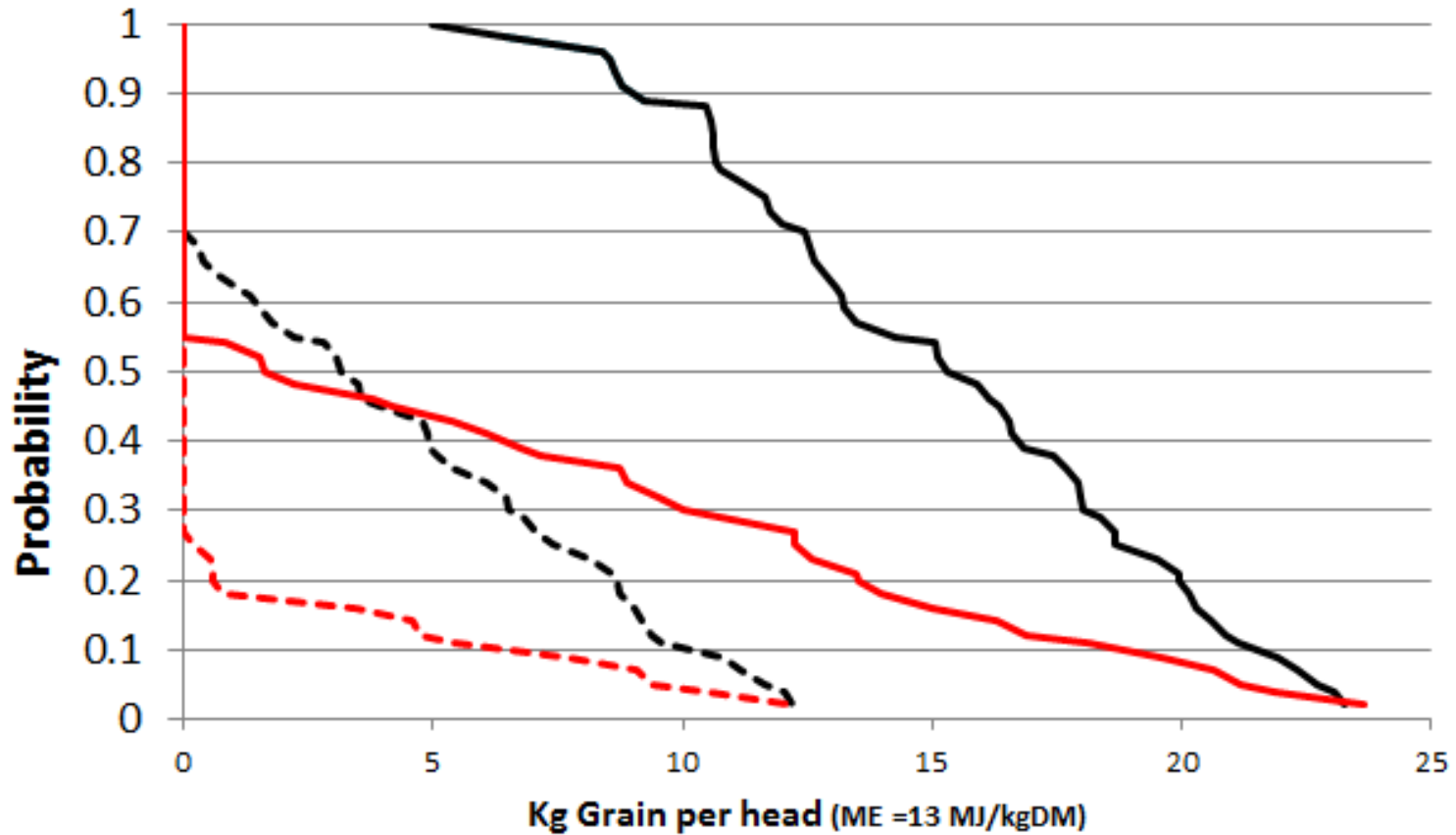


# Change in timing and amount of feeding

## Phalaris



# Projected Grain Requirement

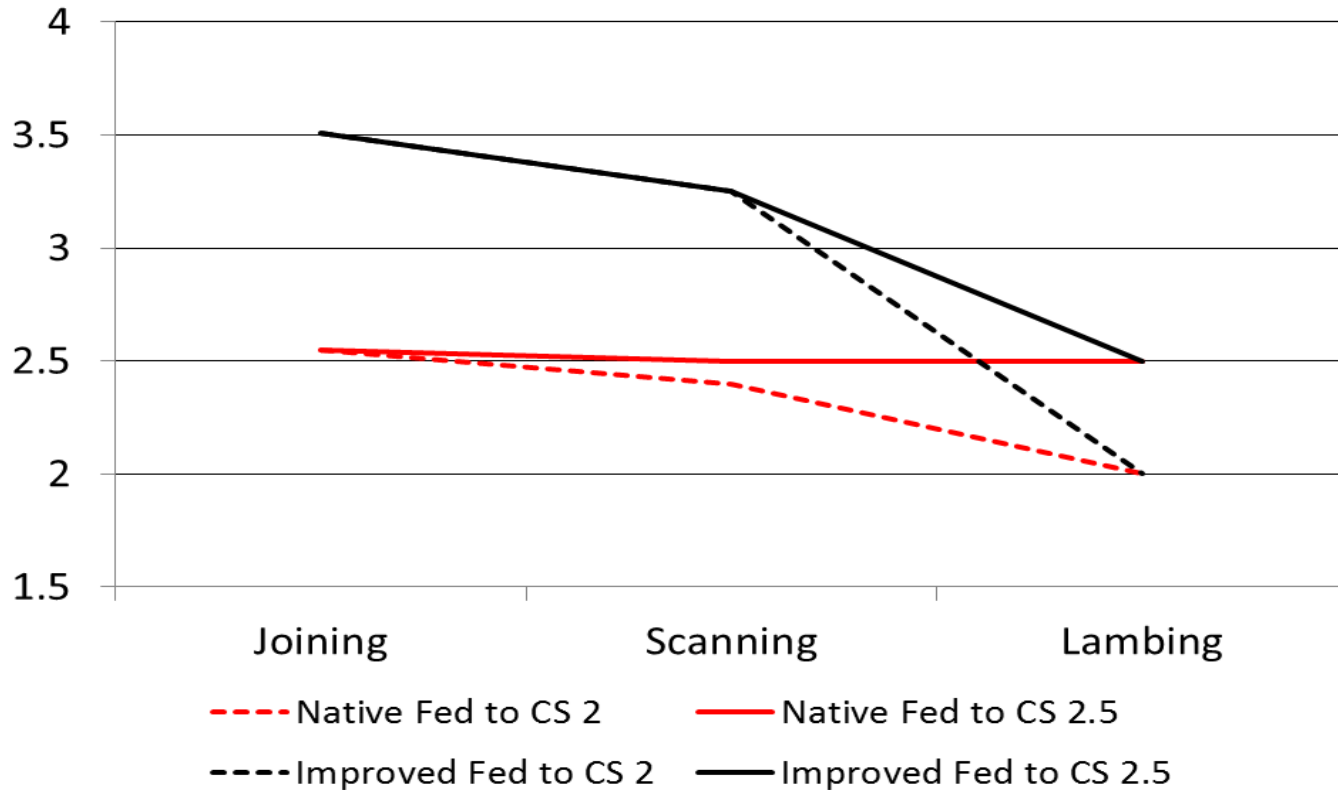


**Baseline**  
--- Native --- Improved

**Higher CS and Saved Lambing Paddocks**  
— Native — Improved



# New condition score profile



# Benefits

		Native		Improved	
		Base	Fed to CS 2.5	Base	Fed to CS 2.5
<b>Lambing %</b>		75%	92%	67%	82%
<b>Feed kg/100 ewes</b>		1000	2150	700	1870
<b>Extra Feed</b>	(kg/100 ewes)		1150		1170
<b>Cost*</b>	\$/100 ewes		345		351
<b>Extra Lambs</b>	/100 ewes		17		15
<b>Extra ewes Surviving<sup>#</sup></b>	/100 ewes		3		3
<b>Value<sup>?</sup></b>	\$/100ewes		1320		1200
<b>Net Return</b>	\$/100 ewes		975		849





# Sensitivity to price

Lamb value/hd	Price of Grain (\$/tonne as fed)				
	\$ 200	\$ 250	\$ 300	\$ 350	\$ 400
\$ 40	\$ 750.00	\$ 692.00	\$ 635.00	\$ 577.00	\$ 520.00
\$ 50	\$ 920.00	\$ 862.00	\$ 805.00	\$ 747.00	\$ 690.00
\$ 60	\$ 1090.00	\$ 1032.00	<b>\$975.00</b>	\$ 917.00	\$ 860.00
\$ 70	\$ 1260.00	\$ 1202.00	\$ 1145.00	\$ 1087.00	\$ 1030.00
\$ 80	\$ 1,430.00	\$ 1,372.00	\$ 1,315.00	\$ 1257.00	\$ 1200.00

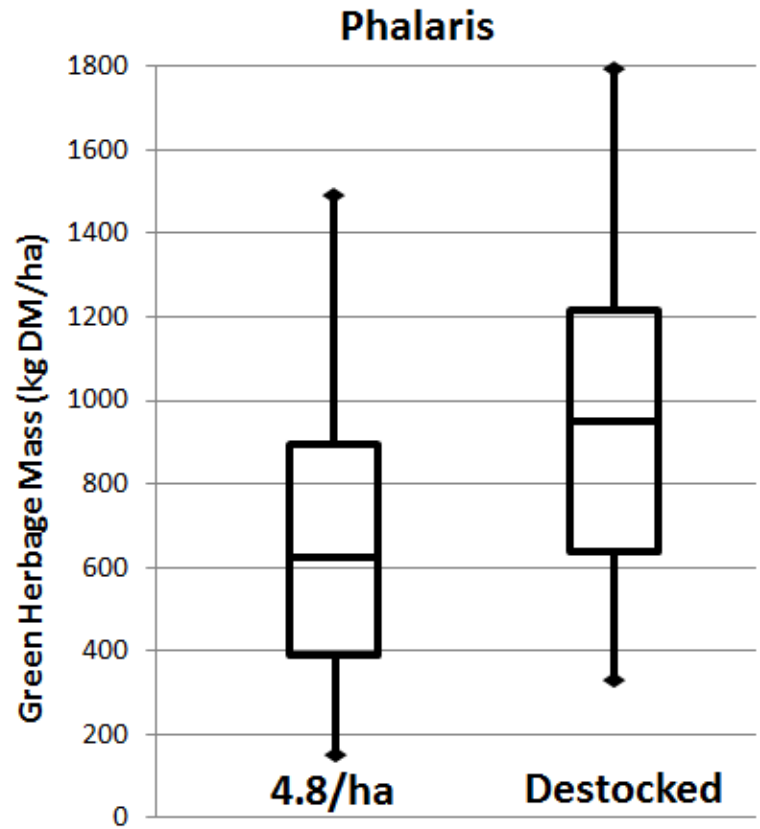
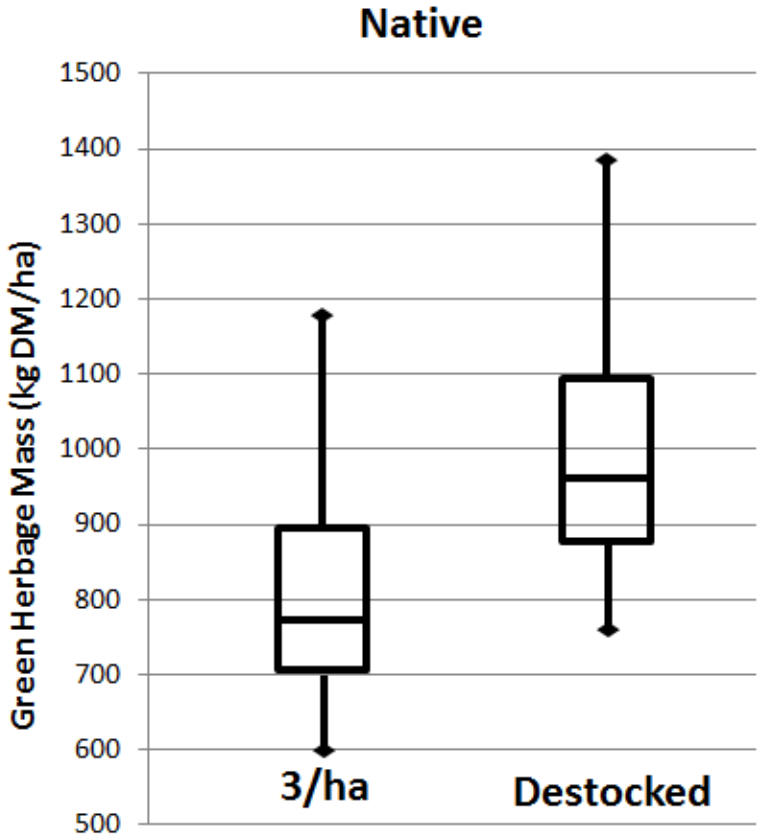


# Sensitivity to assumptions

- Break even at
  - 5 extra lambs
  - PLUS
  - 1 extra ewe surviving.
- Only  $\frac{1}{3}$ <sup>rd</sup> of the potential response.

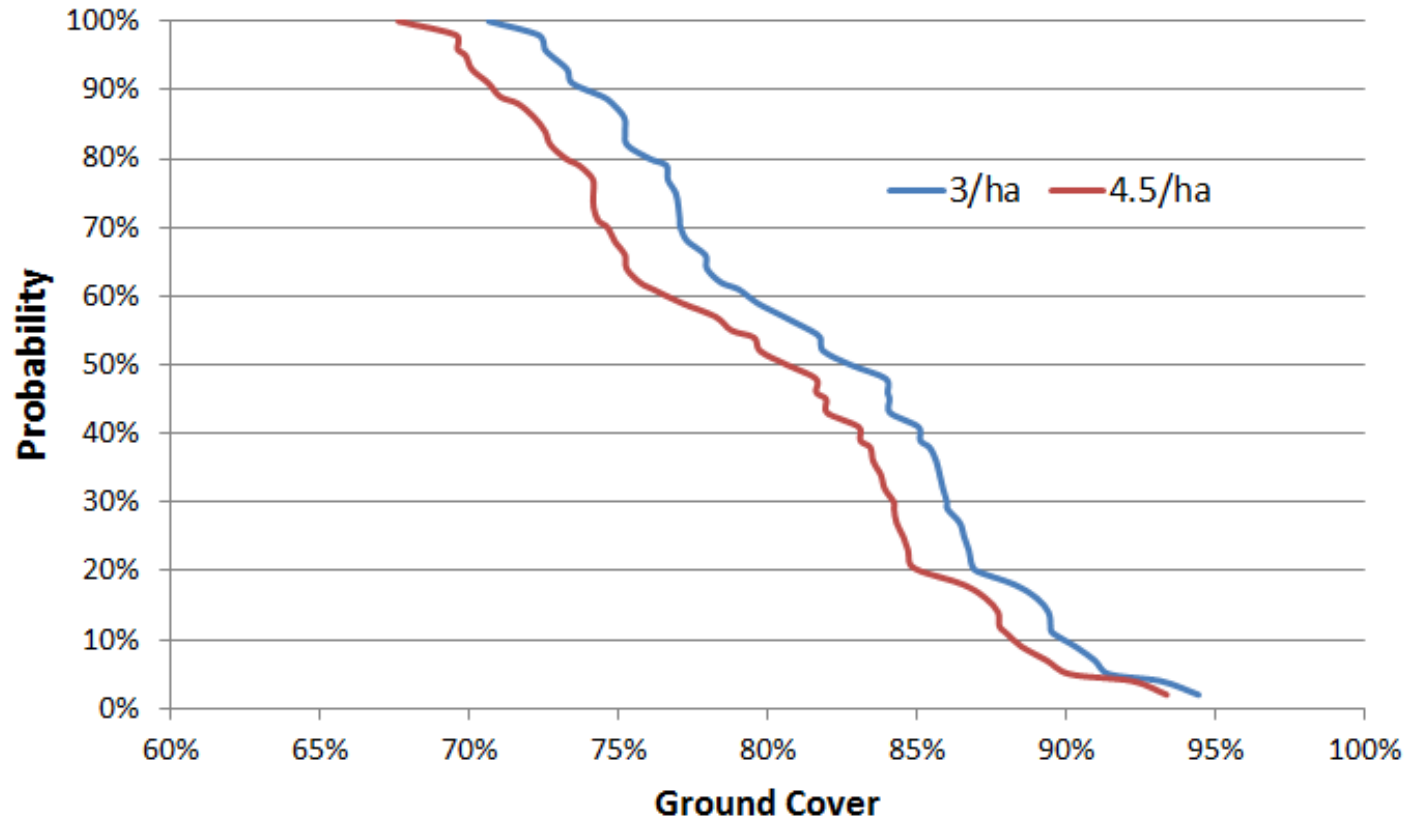


# Impact on the pasture



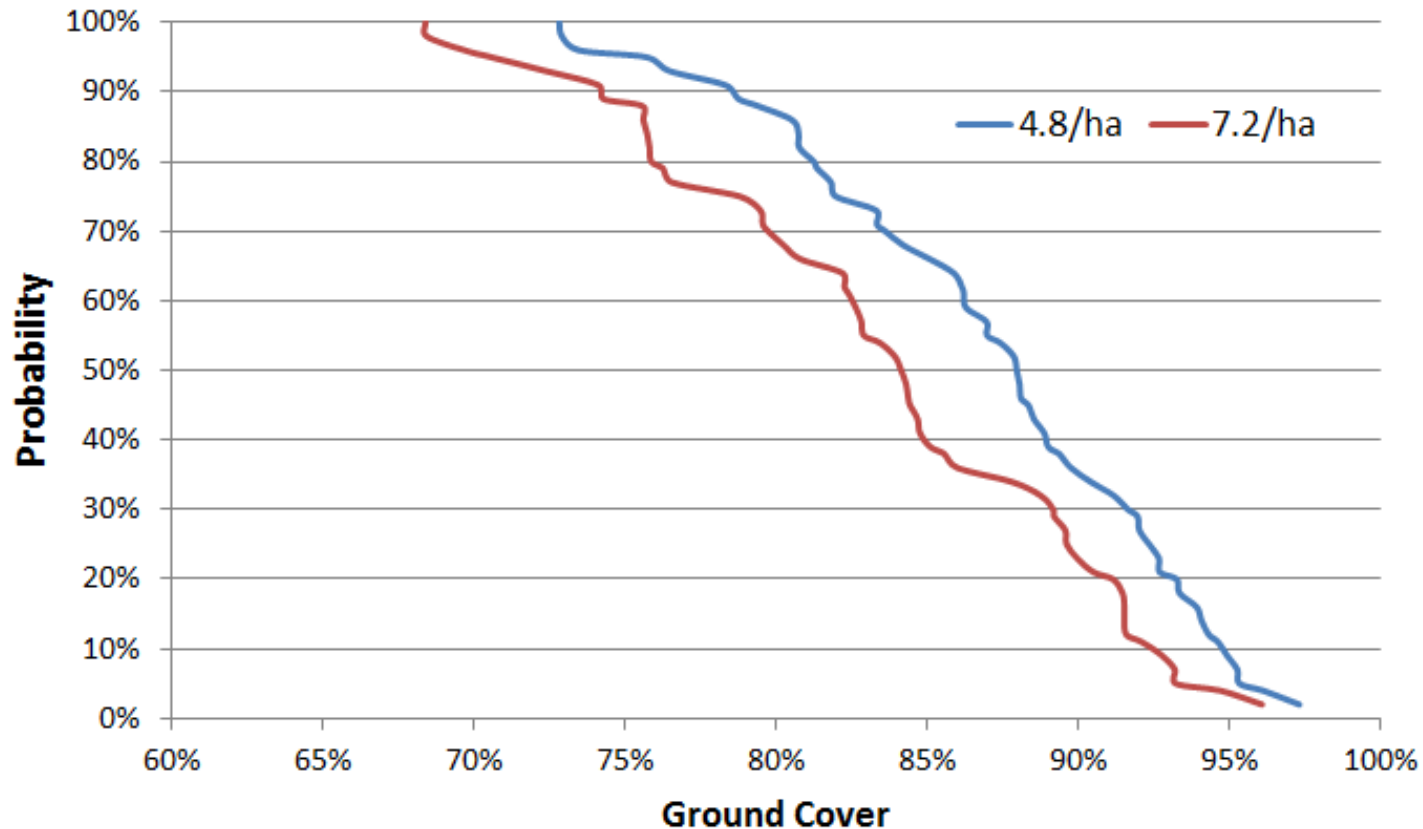
# Ground Cover in the stocked area

Native



# Ground Cover in the stocked area

## Phalaris



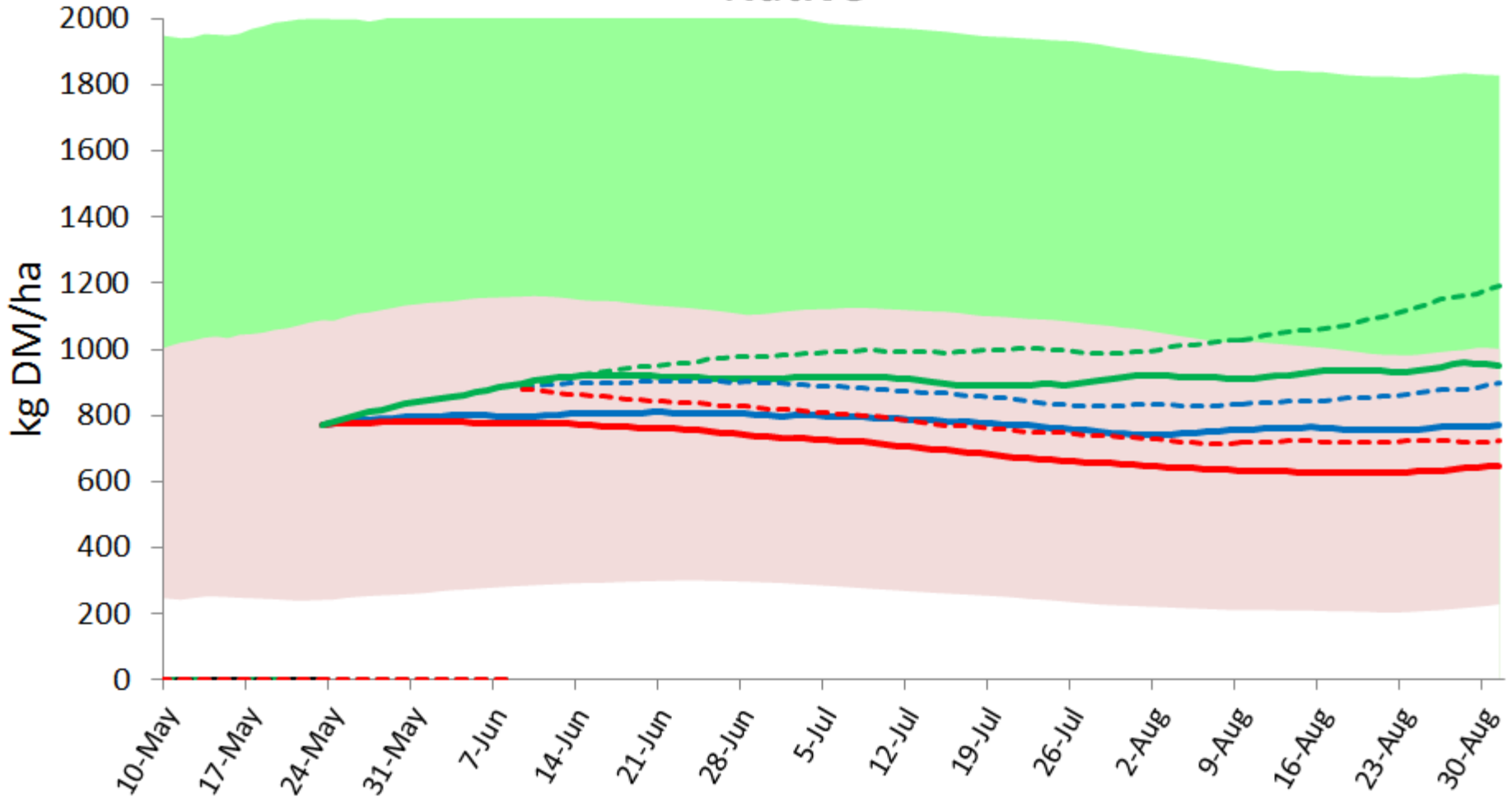
# Has the conclusion changed?

- What impact will the recent rain have.



# Green Available Herbage

## Native



23rd May Projections 10% Median 90%

8th June Projections 10% Median 90%

# Has the conclusion changed?

- What impact will the recent rain have.
- Still better to target higher condition score but
  - This will take less feed.
  - The probability of requiring feeding in the lambing paddock is lower still.

