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For the latest in red meat R&D

Filling the winter feed gap:

Incorporating winter forages into the tropical pasture base

some key concepts

Nathan Jennings – Livestock Officer

North Coast Local Land Services

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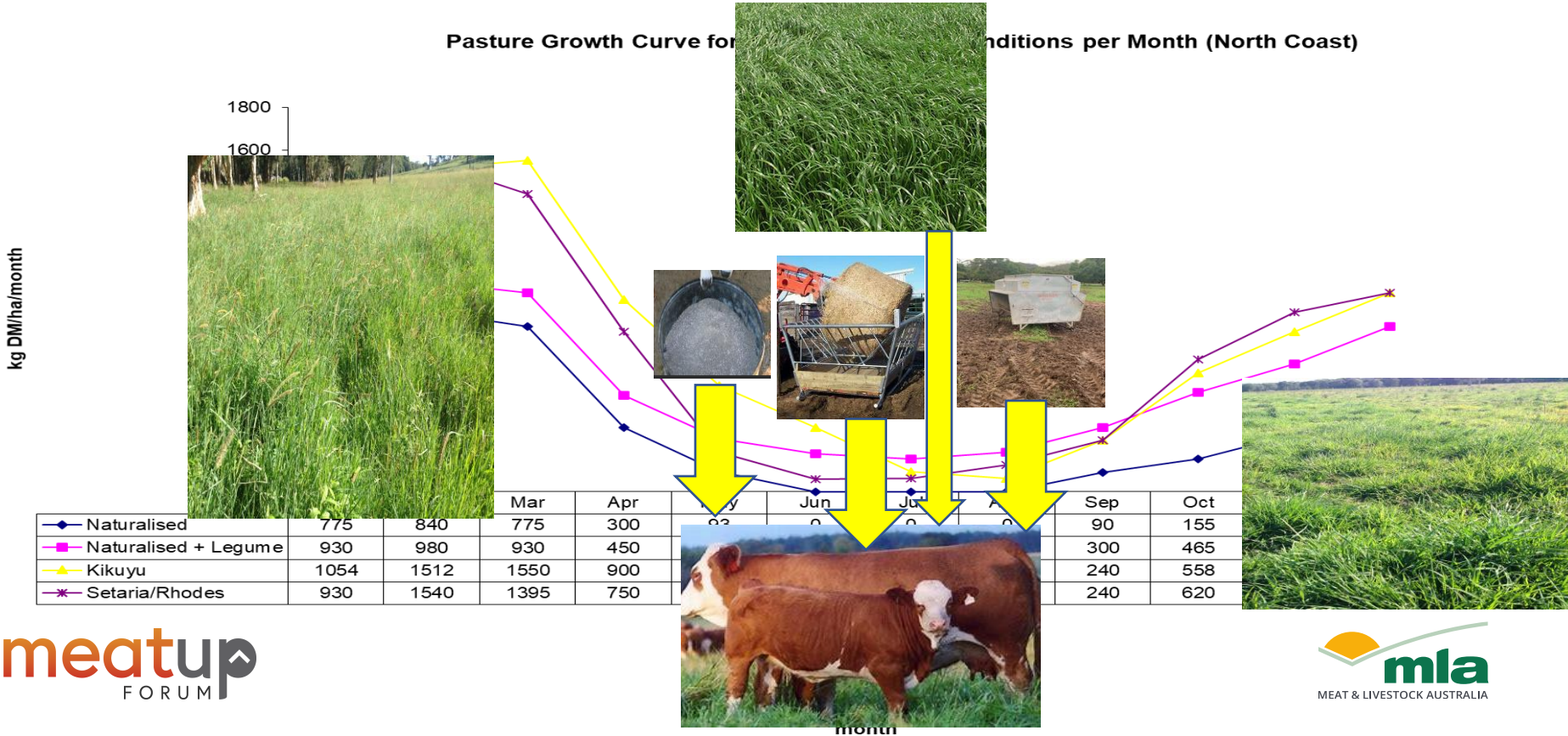
Winter feed gap isn't new, & there are many ways to fill it: So what exposes our enterprise the most?



			Mar	Apr					Sep	Oct
Naturalised	775	840	775	300					90	155
Naturalised + Legume	930	980	930	450					300	465
Kikuyu	1054	1512	1550	900					240	558
Setaria/Rhodes	930	1540	1395	750					240	620

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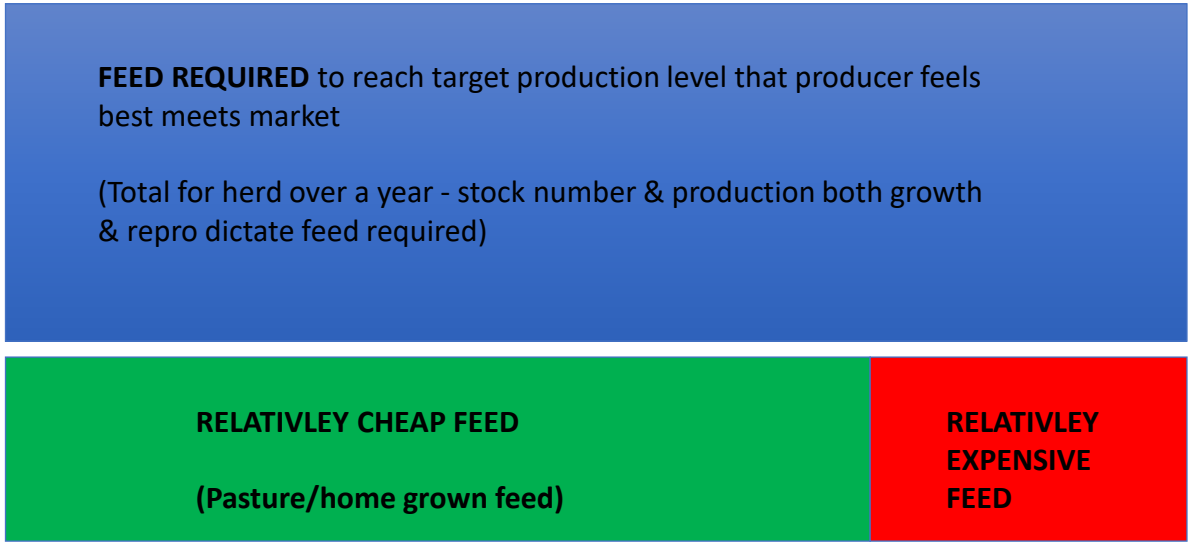
There is no one right farm system, but the concepts will apply equally to EVERY farm system



1. **Feed** is the major driver of: animal Performance, hectare performance, enterprise Profit
2. **Ask yourself** am I making the most of the land I manage (ha efficiency)?

Feed is the main driver of animal performance – hectare performance – enterprise profitability
BUT WHAT ABOUT GENETICS???

LESS: older, lighter, poorly finished classes

MORE: younger, heavier, better finished stock

- Industry "wants" younger, heavier, better finished stock…..
- Producers want to increase kg/beef/ha to dilute costs….
- **Logical producer decision is: "select for growth"**

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Is poor nutrition wasting high growth genetics???

Can the farm sustain high growth genetics profitably???

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Nutritional requirements - common classes

Life stage	DMI (% LW)	ME (MJ/kg DM)	CP (%)	NDF (%)
Cow: maintenance	1.8	8	8	30-60
Bull: maintenance	1.9	8	8	30-60
Cow: mating	2.0	10	10	30-60
Cow: late pregnancy	2.0	9	10	30-48
Cow: lactating	2.5	10.5	15	30-48
Calf: 4 months	3.5	10.8	16	30-34
Calf: 8 months	3.0	10.5	14	30-40
Bull calf: > 12 months	2.8	10.8	12	30-42

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Source: MLA MBFP

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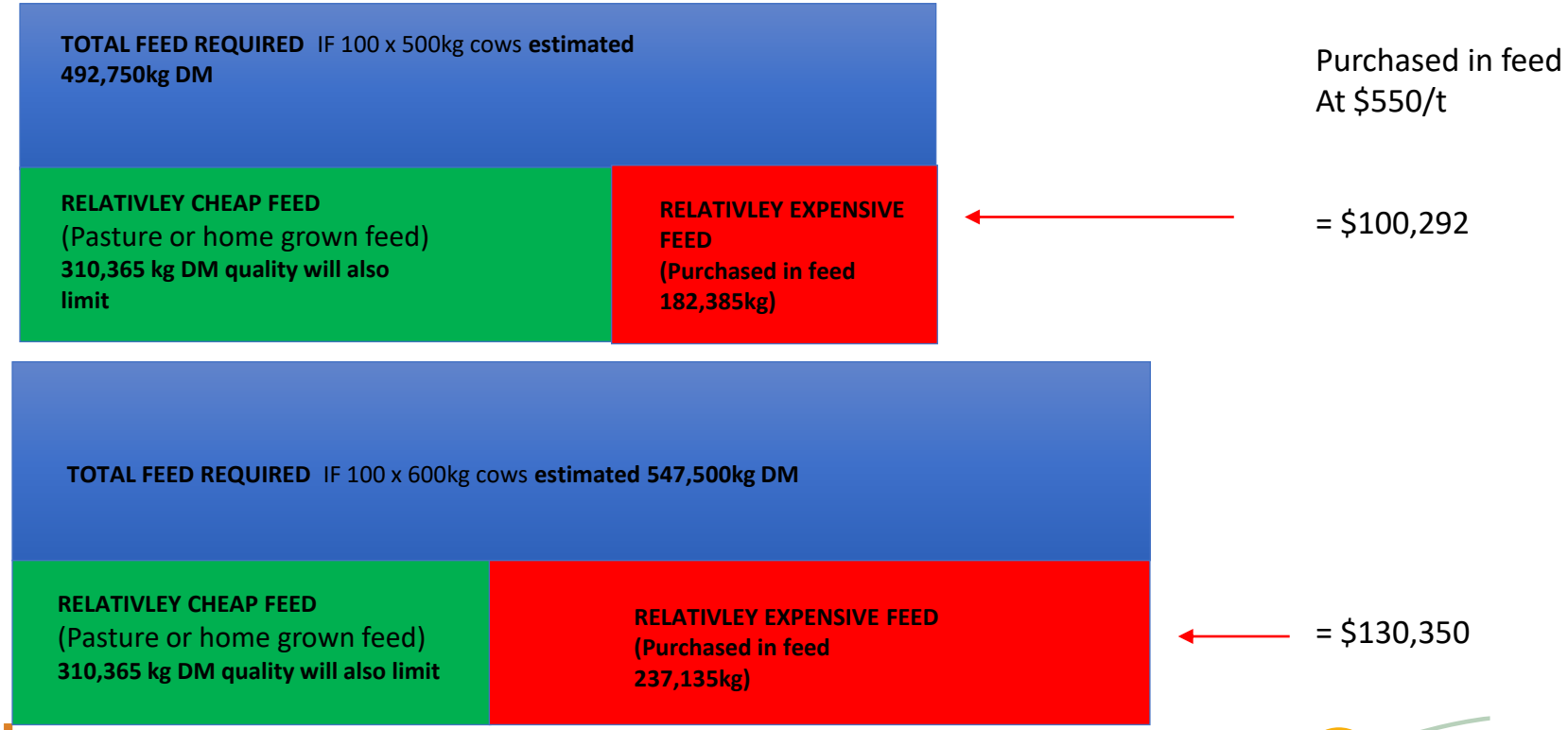
Example feed demand & supply for 100 500kg vs 600kg cows on 150ha naturalised pasture



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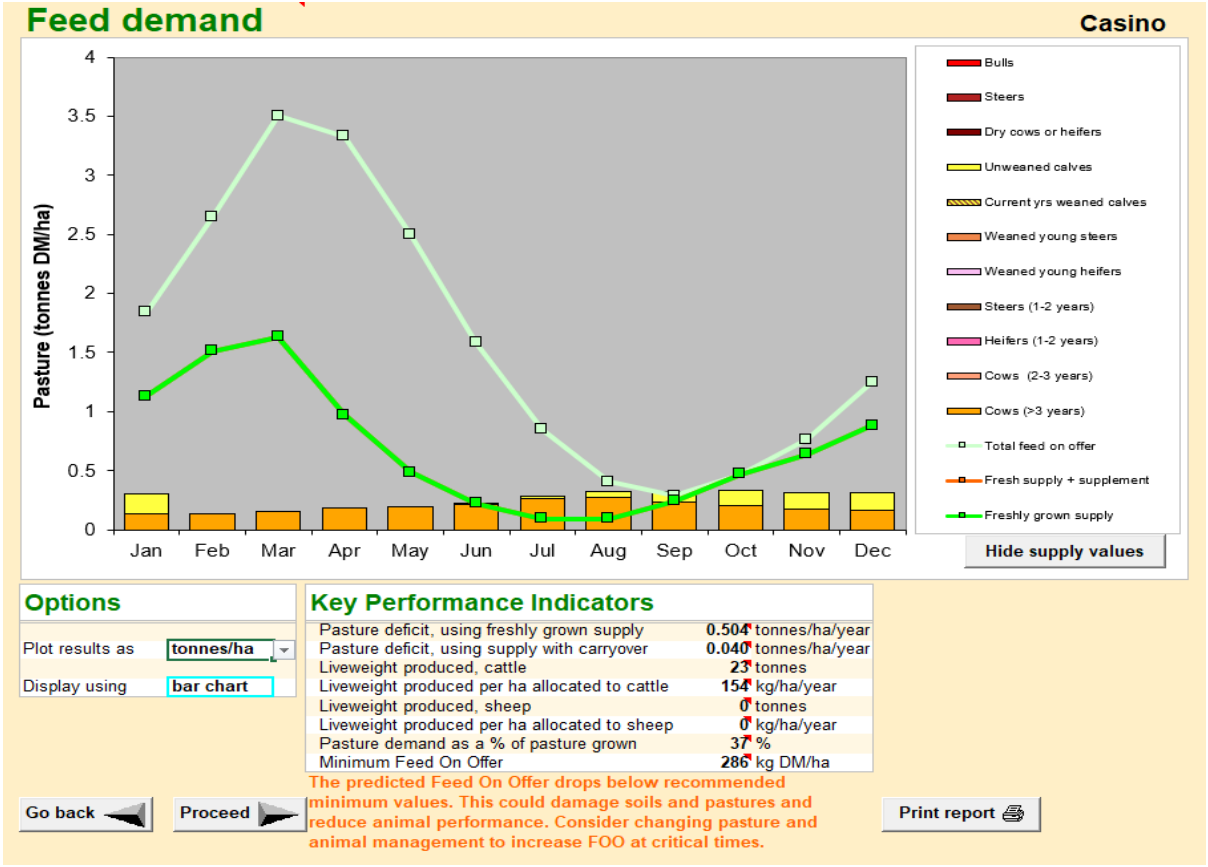
Example feed demand & supply for 100 500kg cows on 150ha naturalised pasture



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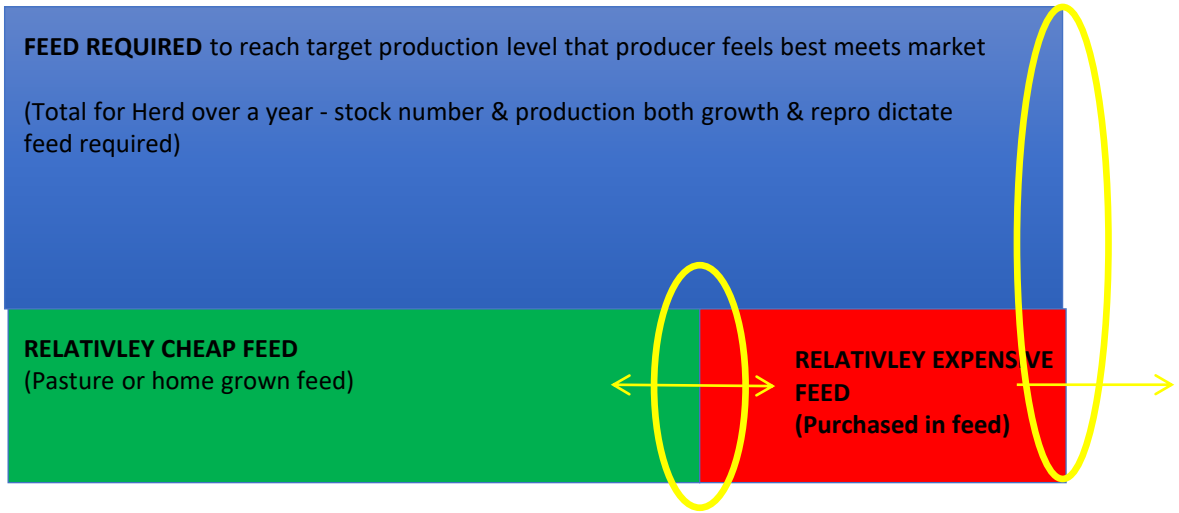
Operational decision becomes how do I plan to profitably address the feed shortfall??



1. Do I purchase the feed needed?
2. Do I take an all round hit accept lower fertility and weights?
3. Do I adjust stocking rates to reduce feed demand?
4. Do I improve pastures?
5. Do I improve pastures and also include winter forages?

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Impact of breeder body condition on conception

Do I take an all round hit and accept lower fertility & weights?

	Feed availability	Condition score at calving		
		1.5	2.5 - 3.0	3.5 - 4.0
Days to return to oestrus post calving	High	49 days	38 days	31 days
	Low	65 days	45 days	38 days
Pregnancy rate	High	84%	92%	90%
	Low	70%	87%	86%

Beef CRC; NSW DPI

Adjust stocking rate to meet feed demand & supply
500kg vs 600kg cows on 150ha naturalised pasture

TOTAL FEED REQUIRED IF each 500kg cow needs
estimated 4,927kg DM/yr

RELATIVLEY CHEAP FEED
(Pasture or home grown feed)
310,365 kg DM quality will also limit

Do I adjust stocking rates to reduce feed demand?

310,365 kg / 4927kg/cow = 63 cows
= 1 to 2.3ha

TOTAL FEED REQUIRED IF each 600kg cow needs
estimated 5,475kg DM/yr

RELATIVLEY CHEAP FEED
(Pasture or home grown feed)
310,365 kg DM quality will also limit

310,365 kg / 5475kg/cow = 56 cows
= 1 to 2.6ha

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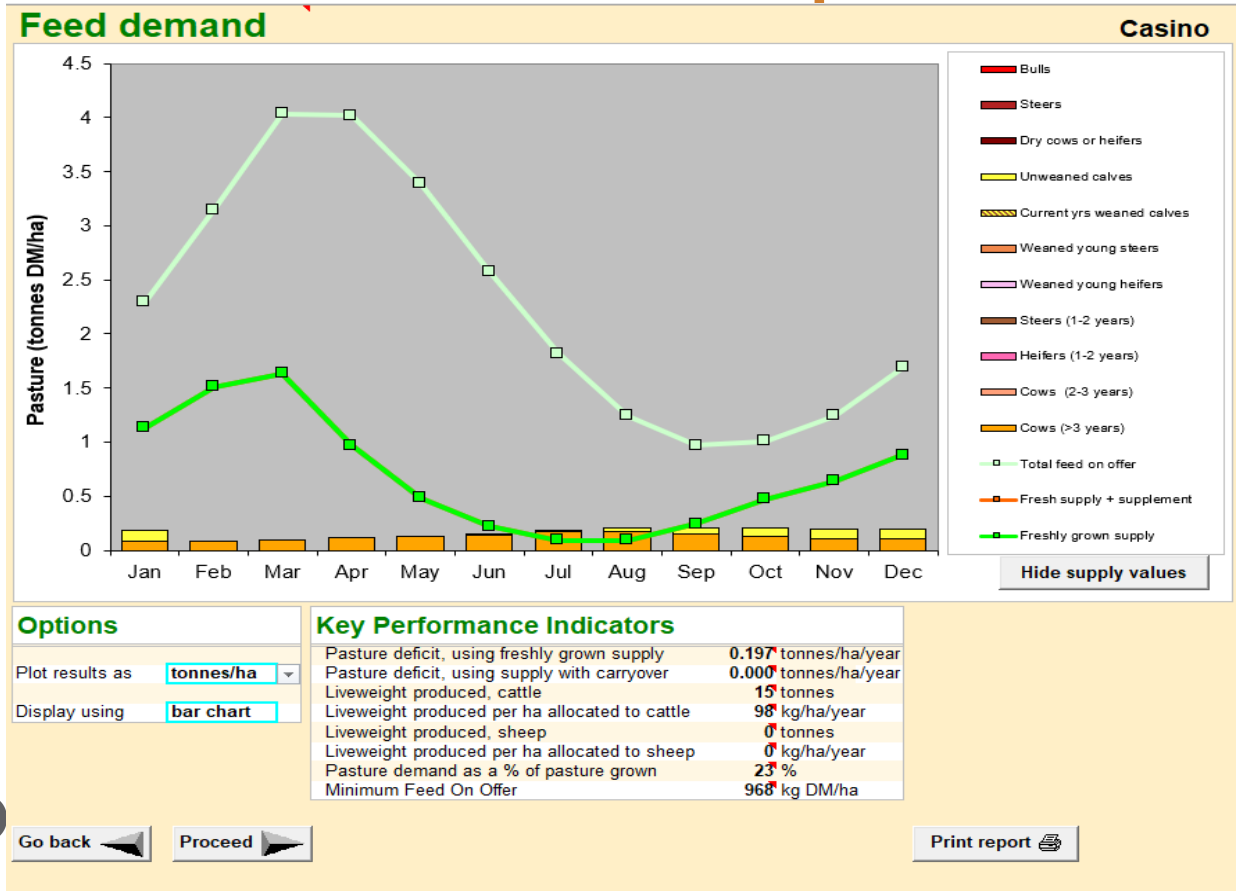
Example feed demand & supply for 63 500kg cows on 150ha naturalised pasture



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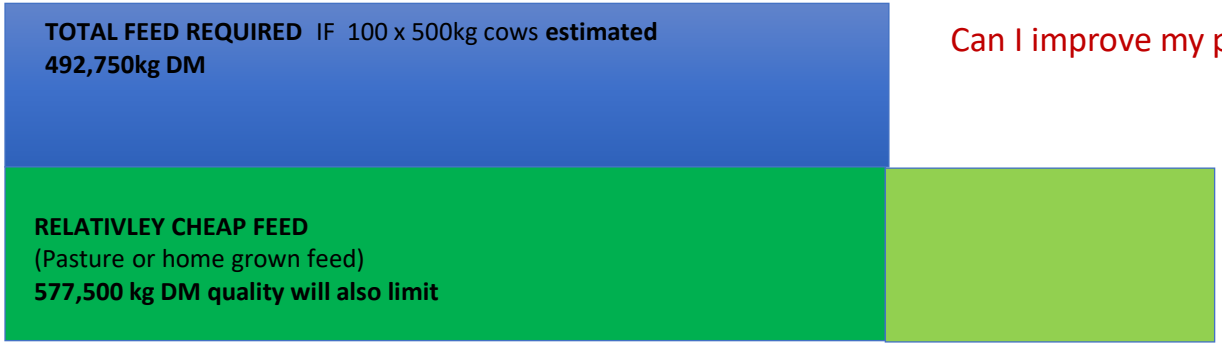
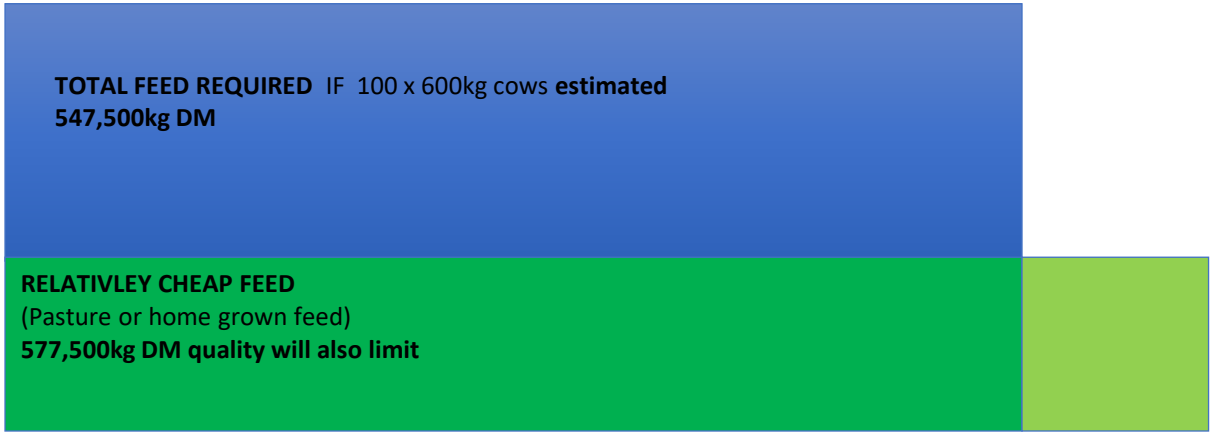
Example feed demand & supply for 100 500kg vs 600kg cows on 150ha 'improved' tropical pasture



Can I improve my pastures?

"Surplus" of 84,750kg = 17 more cows?



"Surplus" of 30,000kg = 5 more cows?

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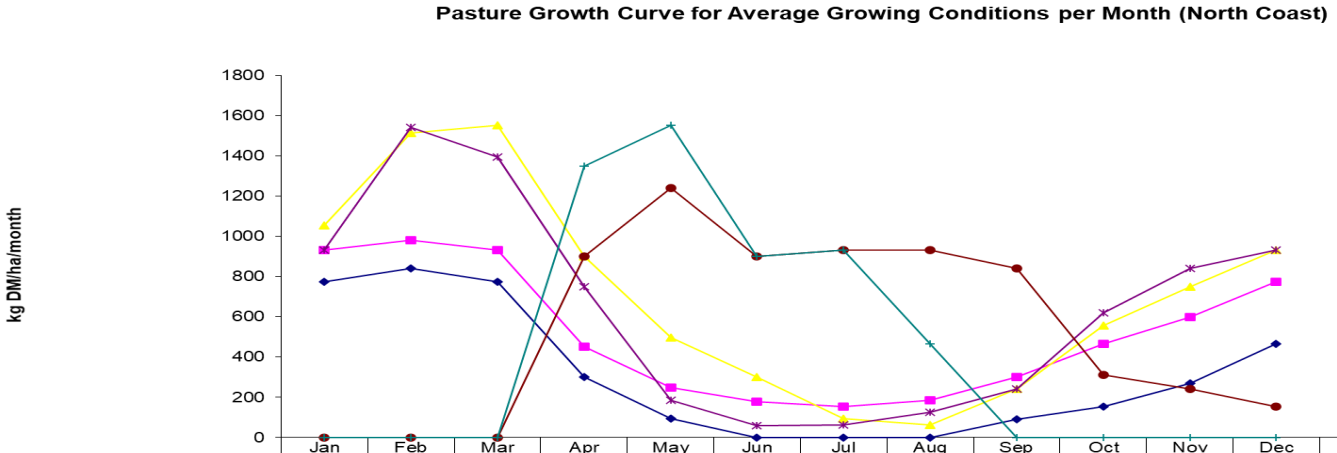
An opportunity for winter forages

if you have the country for it obviously….



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Naturalised	775	840	775	300	93	0	0	0	90	155	270	465
Naturalised + Legume	930	980	930	450	248	180	155	186	300	465	600	775
Kikuyu	1054	1512	1550	900	496	300	93	62	240	558	750	930
Setaria/Rhodes	930	1540	1395	750	186	60	62	124	240	620	840	930
Ryegrass+ N	0	0	0	900	1240	900	930	930	840	310	240	155
Oats+ N	0	0	0	1350	1550	900	930	465	0	0	0	0

- What could an additional 3 – 6TDM/ha/yr of “quality feed” mean?
- 40ha Setaria 7t/ha/yr at 55%U = 154TDM/yr
- 40ha Setaria 5.6t/ha/yr + Rye 5t/ha/yr =10.6t/ha/yr at 55%U = 233TDM/yr
- 79T ‘additional feed’ from 40ha….

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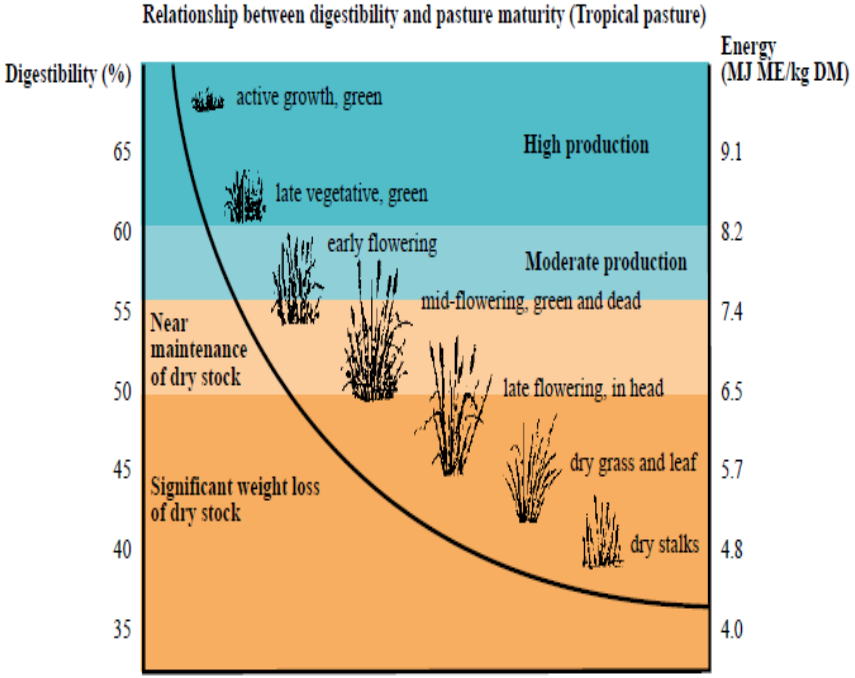
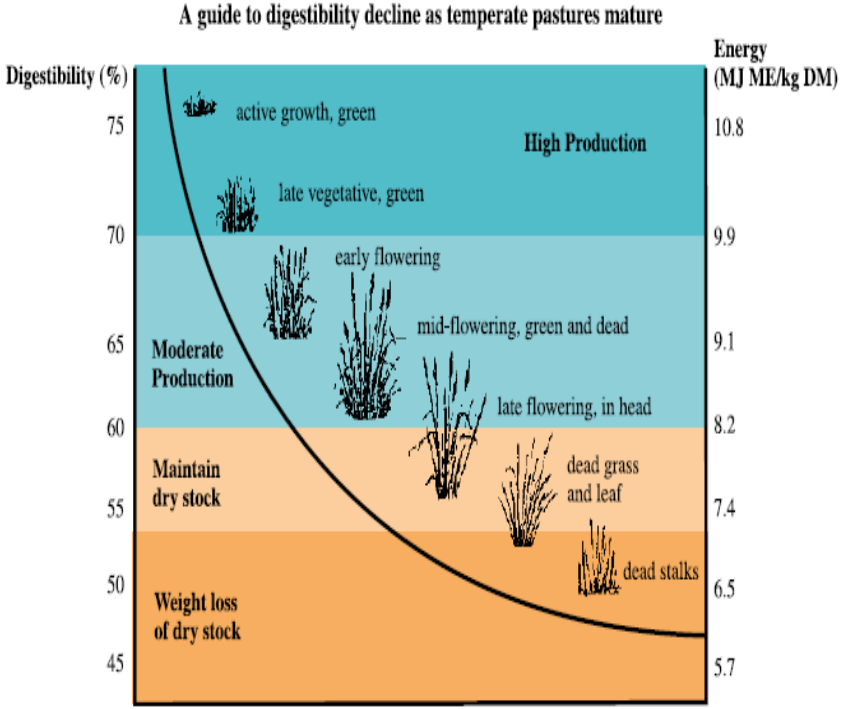
Supplying the feed - quality

What is the capability of our relatively cheap feed?





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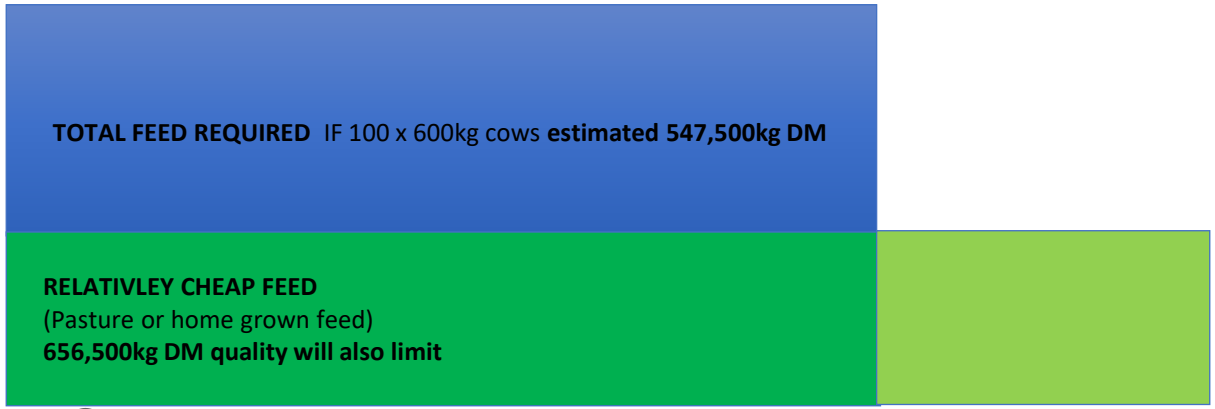
An opportunity for winter forages
if you have the country for it obviously…. even 40ha of the 150ha

Can I improve my pastures & include some winter forage?

"Surplus" of 163,750kg = 33 more cows?



"Surplus" of 109,000kg = 20 more cows?

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Does it pay……$$$$???

- Depends on <u>your</u> farm system and enterprise

- 2022 average ryegrass cost $740/ha (excl. machinery)
  - (35kg/ha Tetila + 125kg/ha DAP + 100kg/ha urea June, Aug, + 150kg/ha Greentop K Jul)

- Ryegrass from May to Sept = 120 days & 5000kg DM/ha
- $740/ha x 40ha = $29,600
- 40ha x 5000kgDM/ha = 200TDM of feed
- $29,600 ÷ $550/T (grain/hay) = 53T (~50TDM)
- $29,600 ÷ $880/T (Canola Meal) = 34T (~28.5TDM)

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Does it pay……$$$$???

- Depends on <u>your</u> farm system and enterprise
- Compared to other feed sources it is ‘relatively cheap’
  - 1ha ryegrass approx. 5TDM for $740 = $148/TDM
  - 1T Grain approx. 0.9TDM for $550 = $611/TDM
  - 1T Canola Meal approx. 0.9TDM for $880 = $977/TDM

- In terms of feeding, regardless of the feed source, for every farm there is a point where you will go from
  - Making a profit to
  - Maximising profit to
  - Making less profit

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Does it pay…. ‘Back of the envelope summary’ all scenarios

	100hd on 150ha naturalised pasture		SR to Supply naturalised pasture		SR to Supply "improved" pasture		SR to Supply "improved" pasture inc winter forage	
Cow weight	**500**	**600**	**500**	**600**	**500**	**600**	**500**	**600**
Cow Number	100	100	63	56	117	105	133	120
Pature G /ha/yr	3761	3761	3761	3761	7000	7000	7956	7956
Pasture U /ha/yr (kg)	2069	2069	2069	2069	3850	3850	4376	4376
Pasture U	55%	55%	55%	55%	55%	55%	55%	55%
SR	1 to 1.5ha	1 to 1.5ha	1 to 2.3ha	1 to 2.6ha	1 to 1.3ha	1 to 1.4ha	1 to 1.1ha	1 to 1.2ha
PR	87%	87%	87%	87%	92%	92%	92%	92%
Calves	87	87	55	49	108	97	122	110
Calf wt (kg)	227	250	227	250	227	250	248	271
Calf wt	38+ 189 (0.9x210)	40 + 210 (1x210)	38+ 189 (0.9x210)	40 + 210 (1x210)	38+ 189 (0.9x210)	40 + 210 (1x210)	38+ 210 (1x210)	40 + 231 (1.1x210)
TTL Calf wt (kg)	19749	21750	12485	12250	24516	24250	30256	29810
kg/beef/ha	131.66	145	83.23	81.66	163.44	161.66	201.7	198.73
Calf at $4.50/kg	$88,870	$97,875	$56,182	$55,125	$110,322	$109,125	$136,152	$134,145
Less Feed	$100,311	$130,424	$4,536	$4,838	$8,424	$9,072	$0	$0
Less Pasture	$0	$0	$0	$0	$30,000	$30,000	$56,000	$56,000
Margin	**-$11,441**	**-$32,549**	**$51,646**	**$50,287**	**$71,898**	**$70,053**	**$80,152**	**$78,145**

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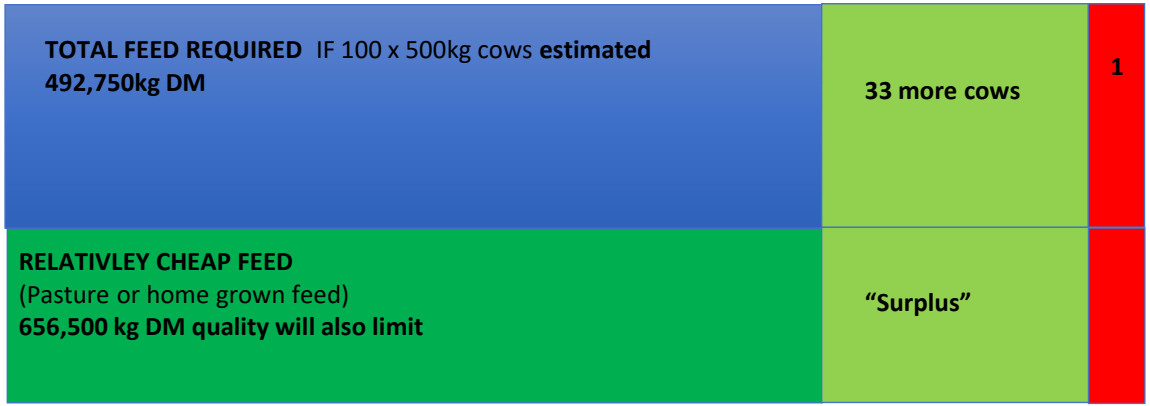
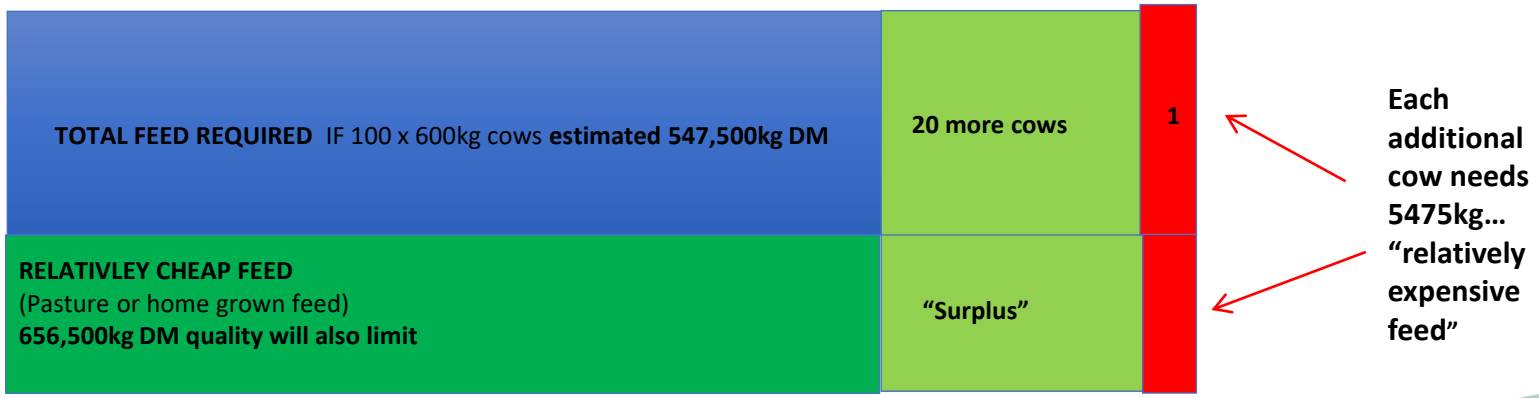
At what point do we ‘tip over’?..... The marginal cow!!!





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As if 1 cow makes that much difference?

	SR to Supply "improved" pasture inc winter forage		SR above Supply buy 1 cow "improved" pasture inc winter forage	
Cow weight	**500**	**600**	**500**	**600**
Cow Number	133	120	134	121
Pature G /ha/yr	7956	7956	7956	7956
Pasture U /ha/yr (kg)	4376	4376	4376	4376
Pasture U	55%	55%	55%	55%
SR	1 to 1.1ha	1 to 1.2ha	1 to 1.1ha	1 to 1.2ha
PR	92%	92%	92%	92%
Calves	122	110	123	111
Calf wt (kg)	248	271	248	271
Calf wt	38+ 210 (1x210)	40 + 231 (1.1x210)	38+ 210 (1x210)	40 + 231 (1.1x210)
TTL Calf wt (kg)	30256	29810	30573	30167
kg/beef/ha	201.7	198.73	203.82	201.11
Calf at $4.50/kg	$136,152	$134,145	$137,578	$135,754
Less Feed	$0	$0	$2,710	$3,011
Less Pasture	$56,000	$56,000	$56,000	$56,000
Margin	**$80,152**	**$78,145**	**$78,868**	**$76,743**

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But every season is different so how much can I rely on my pastures? Especially if winter forages are considered?

- A lot, but only if I understand
- Feed demand and supply (quantity & quality)
- Graze appropriately (stocking rate & rest)
- Apply marginal thinking to feeding
- Know that adjusting stock number is the single biggest factor that affects profit… all be it variable

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Take home messages

- Knowing your herd's feed requirement is essential if you are to profitably mange anything else.

- Supplementary feed costs range from relatively inexpensive to expensive. The more producers rely on expensive supplementary feed sources, the more exposed to beef price drops they become.

- When it comes to supplying feed to a herd, including pasture, knowing the individual animal and mob's daily feed requirements is essential to feeding in the most economically efficient form.

Tools and resources

MLA Feed Demand Calculator - https://etools.mla.com.au/tools/fdc/v140/#/

MLA Stocking rate calculator - https://etools.mla.com.au/src/?v=4&r=18&linking=1#/Home

Feedbase hub - https://www.mla.com.au/extension-training-and-tools/feedbase-hub/

More Beef from Pastures - https://www.mla.com.au/extension-training-and-tools/more-beef-from-pastures/

Gra$$ to Dollars - https://www.mla.com.au/extension-training-and-tools/profitable-grazing-systems/

Pasture Principles - https://www.pinionadvisory.com/training-workshops/

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