

# Faecal NIRS Results and Interpretation



## Kyneton

## Westech

Date of report: 20/03/2017

Report for: Kiri Broad

Property name: Kyneton

Date Sample taken : 24/02/2017

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### Interpretation & report by:

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### Property Information

Rainfall amount mm 0 Rainfall when See attached

Type of country Buffel

Pasture/herbage types Buffel

Pasture condition Mostly hayed off, with leaf

Topfeed, browse species Wattle and Eucalyptus

### Cattle Information

Cattle breed Brahman Cross

Class of cattle (major) Steers Class of cattle (minor)

Months pregnant Age of calves

Breeders

	Dry	Wet
Empty	0%	0%
Pregnant	0%	0%

Weight of cattle 360 kg Weight change Gaining

### Supplement Information

Supplement - Yes/No No

Name of Supplement

Supplement intake

(gms/day)

Supplement P%

Supplement CP%

Supplement Urea%

Decision to be made from

interpretation Track weight gain

### Results

Forage crude protein %	Forage Digestibility %	Faecal Nitrogen%	Metabolizable energy intake MJ/100 kg LWT	ASH % faeces	Diet Non-grass %	P % by Wet Chem.	DMD:CP ratio	P:N ratio
9.81	66.66	1.79	18.54	20.55	37.66	0.29	6.79	0.19

### Interpretation

#### Diet protein:

The predicted dietary crude protein level indicated that, at the time of sampling, protein was high enough in the diet for the steers to be gaining well over 1.0 kg/head/day if energy weren't limiting in the diet (see "Diet digestibility"). The DMD:CP (dry matter digestibility:crude protein) ratio which provides an indication of the balance between energy and protein, is well below the threshold at which you would expect to see a response to supplementing nitrogen (eg. urea).

#### Diet digestibility:

The predicted dietary digestibility level indicates that energy was high enough in the diet for the steers to be gaining more than 0.8 kg/head/day at the time of sampling. If this sample was taken following a considerable amount of rain (I did not receive the rainfall information you attached - you might have sent it with your submission form to the lab - they only send me the results and delete all other information) then the steers may have undergone compensatory gain, in which case their weight gain would have been over 1 kg/head/day.

#### Non-grass in diet:

The non-grass component refers to all herbage, legumes, browse and bushes in the diet. For this sample, the non-grass level is quite high, and is obviously comprised of high quality non-grass species. Because there is a high C3 (non-grass) component in the diet, this means that the dietary crude protein and digestibility levels may have been slightly underestimated so the steers could actually be gaining slightly more than what the diet quality results indicate.

## Faecal NIRS Results and Interpretation



### **Faecal phosphorus:**

*The faecal phosphorus level indicates that dietary phosphorus is adequate in the diet and meeting all of the steers' requirements for maintenance and growth. The P:N (phosphorus:nitrogen) ratio which provides an indication of the balance between phosphorus and protein, is marginally deficient however, this is not cause for concern because energy is also limiting to the utilization of protein so there would be no benefit at this stage from supplementing additional phosphorus to the cattle.*

### **Conclusion:**

*The diet quality is extremely high for this paddock, owing to the high non-grass (herbage and legume) content in the diet. The diet quality results indicate that the steers are gaining more than 0.8 kg/head/day, however, there is a large C3 component in the diet which means that diet quality could be slightly underestimated and if the feed was dry before this rain, the steers might be undergoing some compensatory gain as well which means that their weight gain may be even higher. Once the non-grass level in the diet declines significantly, the diet quality will also decline rapidly because grass is much less nutritious than herbage and legumes, even when both are dry.*

### **Key to Results:**

<b>Forage Crude Protein % :</b>	<i>Estimate of Crude Protein % of forage portion of diet.</i>
<b>Non-grass %:</b>	<i>% Non-grass (browse) portion of the diet</i>
<b>Diet digestibility:</b>	<i>Predicted digestibility of the forage eaten.</i>
<b>Ash %:</b>	<i>% Ash content of faeces. Maybe very high if sample contaminated with sand, dung beetles or other mineral matter.</i>
<b>Faecal nitrogen:</b>	<i>Faecal Nitrogen content as a % - used as an indicator of the N status of the animal.</i>
<b>Metabolizable Energy:</b>	<i>MJ/100 kg: Provides estimate of metabolizable energy content of forage per 100 kg animal liveweight.</i>
<b>P mg/kg:</b>	<i>Faecal Phosphorus measured by wet chemistry expressed as mg P/kg faecal material.</i>
<b>DMD/CP ratio:</b>	<i>The ratio of digestibility to crude protein (DMD/CP) as measured with faecal NIRS is a useful index to indicate whether cattle are likely to respond to urea supplements.</i>
<b>P/N ratio:</b>	<i>The ratio of faecal P concentration to dietary N concentration (P/N ratio) provides a measure of the amount of P in the diet relative to the productive potential of the diet, or in other words, an index of diet P relative to requirements</i>

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