NIRS Results

Grazingland Animal Nutrition Lab
Texas AgriLife Research

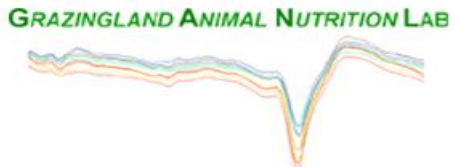
Prepared For:
Really Responsible Ranch
Farmer Brown
123 Anyplace Hwy
Anystate, USA 99999

Sample #:	7572
Profile Name:	Winter Calving Cow Herd
Pasture Name:	Back 40
Date Collected:	Mon, 14 Feb 2011
Date Received:	Wed, 23 Feb 2011
% Crude Protein:	12.45
% Digestible Organic Matter:	62.65
% Fecal Nitrogen:	1.23
% Fecal Phosphorus:	0.38

Near Infrared Reflectance Spectroscopy (NIRS) Results

The GAN Lab uses NIRS technology to evaluate the forage (grass and hay) component of the diet and predict the quality of the grass and/or hay the animals were consuming for the past 36 to 48 hours. Therefore, crude protein (CP) and digestible organic matter (DOM) analyses do not reflect any supplement that may be fed.

Fecal nitrogen (FN) and fecal phosphorus (FP) analyses measure the percent of nitrogen (N) and phosphorus (P), respectively, in the manure itself. FP can generally be used to coarsely gauge whether dietary P is adequate. Less than 0.1 % FP indicates a potential deficiency and 0.2% is a borderline area. The rule of thumb is that if FP is greater than 0.3%, dietary phosphorus intake is likely to be adequate. FN and FP can also be potentially used to monitor nutrient loading in intensively managed production systems.



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Nutbal Report

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Sample #:	7572	Sample Date:	02/14/2011
Profile Name:	Winter Calving Cow Herd	Animal Kind:	CATTLE
Pasture ID:	Back 40	Breed type:	BRANGUS
Vegetation Type:	Annual Rye Grass	Animal Class:	COW 60-? MONTHS

Animal Condition

Standard Ref. Wt. (lbs.):	1094.870	Days Pregnant:	30
Current Weight (lbs.):	1111.451	Days Lactating	90
Current Body Condition:	5.3		

Nutritional Status	Intake	Requirement	Balance
Crude Protein (lbs)	3.693	2.360	1.334
NEm (Mcal / day)	20.170	16.786	3.384
NEg (Mcal / day)	2.048	0.000	2.048

Performance

Weight Performance goal in lbs/day:	0.000
Estimated weight change in lbs/day:	0.743
Estimated body condition in 30 days:	5.390
Performance limited by:	ENERGY

Dry Matter Intake	Lbs/day	Percent Std. Ref. Wt.	AUE
Concentrates:	0.000	0.000	0.000
Roughage:	0.000	0.000	0.000
Forage:	29.666	2.710	1.141
Sub Total:	29.666	0.000	1.141
Calf DM/d:	2.439		0.094
Total:	32.105	2.710	1.235

Diet Quality	Overall	Forage
CP % consumption:	12.450	12.450
DOM % consumption:	62.650	62.650
DOM / CP Ratio	5.030	5.030

Milk	Lbs/day
Potential Milk Production:	16.16
Actual Milk Production:	16.16

Fecal	Lbs/day
Estimated Fecal Output:	10.151
Fecal P Output:	0.039
Fecal N Output:	0.125

Comment about NUTBAL Report Accuracy

The information above is accurate to the best of our ability based on the information submitted on the customer's fecal sample form and used to parameterize the animals within the NUTBAL model. If the information on the sample form is not accurate the predicted performance may not be observed. Under current forage conditions and physiological status of the animals described on your sample sheet you should expect to observe the animal performance described in the NUTBAL report above. Unless otherwise specified, the projected performance is based on the assumption that intake is not restricted due to lack of available forage. If forage availability is not adequate then the predicted performance might not be observed. The nutritional information provided in this report is accurate for approximately 14 to 30 days as long as pasture/forage conditions remain similar to what they were at the time the sample was collected.

Understanding the NUTBAL REPORT

This report describes the nutritional status, performance, dry matter intake and diet quality for the animals described on your sample sheet with or without supplementation. In the Section Animal Condition, scan down until you see *Standard Ref. Wt*. (Standard Reference Weight). This is how heavy these animals should be at a body condition score of 5.0.

Under Nutritional Status, the *Requirement* column describes how many pounds of crude protein (CP) and mega calories of Net Energy for Maintenance (NEm) is needed by these animals given their breed type, physiological status, environmental conditions, etc. Net Energy for gain (NEg) is the amount of energy consumed above NEm that can be applied toward gain. The *Balance* column indicates whether or not nutritional intake is sufficient for that animal's nutritional requirements. If either the Balance CP or NEm are negative, then the animal will be losing

weight. In the Performance section, you can see how much weight the animals are expected to gain or lose each day. When the Balance column has a negative number the *Performance Limited By* line identifies the most deficient diet component. If the animals are gaining weight, you can use this line to identify the diet component that could be improved to enhance performance.

The Dry Matter Intake section breaks down total intake by concentrates (supplement(s) currently fed or what you are considering to feed), roughage (see note), and forage (the pasture). Note: If you are currently feeding hay or silage, this is read in the NIRS analysis and predicted in the lab results (pasture + hay fed = lab results). NUTBAL allows you to hypothetically feed a hay or other feed supplement(s) to project how your cattle might perform with supplemental feed(s). The *Concentrates* and *Roughage* rows reflect that scenario. These numbers are reported in dry matter basis instead of "as fed" or "wet weight".

The Diet Quality section takes an overall (pasture + feed) look at CP and digestible organic matter (DOM) as well as just the forage. DOM is a measure of energy. DOM multiplied by 1.05 approximates total digestible nutrients (TDN). The DOM/CP ratio is an indicator of rumen efficiency. The acceptable range for this ratio is 4 to 7 with 4 being optimal. If the DOM/CP ratio is less than or greater than this range, rumen efficiency may be restricted resulting in reduced animal performance. A ratio of 4 or less usually coincides with lush, cool season or early spring pastures and extremely runny feces. Late summer or drought stressed forage, some stockpiled grasses, and mature dry grasses often have a ratio greater than 7 and 8.

The Milk section indicates whether or not the nutrition is adequate for animals to milk to their full potential.

The Fecal section describes in pounds, how much fecal material is deposited on the ground per day. Cattle recycle nutrients; they do not manufacture nutrients.

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