

WHAT'S IN YOUR BALE?

Adriane Good, M.Sc
December 21, 2019



Outline

Visual Analysis Of Bale

Is what you see what you get?

How to Take a Forage Sample

Anyone can take a forage sample, how do you take a GOOD forage sample?

Reading the Forage Analysis

What's it all mean, anyway?

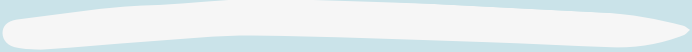


Visual Analysis

What does good hay
look like?



Visual Analysis

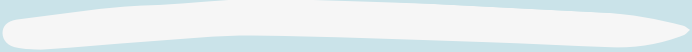


What does good hay look like?

- color
- leafiness
- maturity
- foreign material
- smell
- texture



Visual Analysis



What does good hay look like?

- color
- leafiness
- maturity
- foreign material
- smell
- texture

How do you know if all
nutritional requirements are
being met?



Feed Test!

Reasons to test your feed:

1. Identify gaps in the nutrition
2. Avoid problems caused by mineral deficiencies
3. Prevent issues with toxicity
4. Develop appropriate rations
5. Make feeding more economical
6. Price hay correctly when selling/buying



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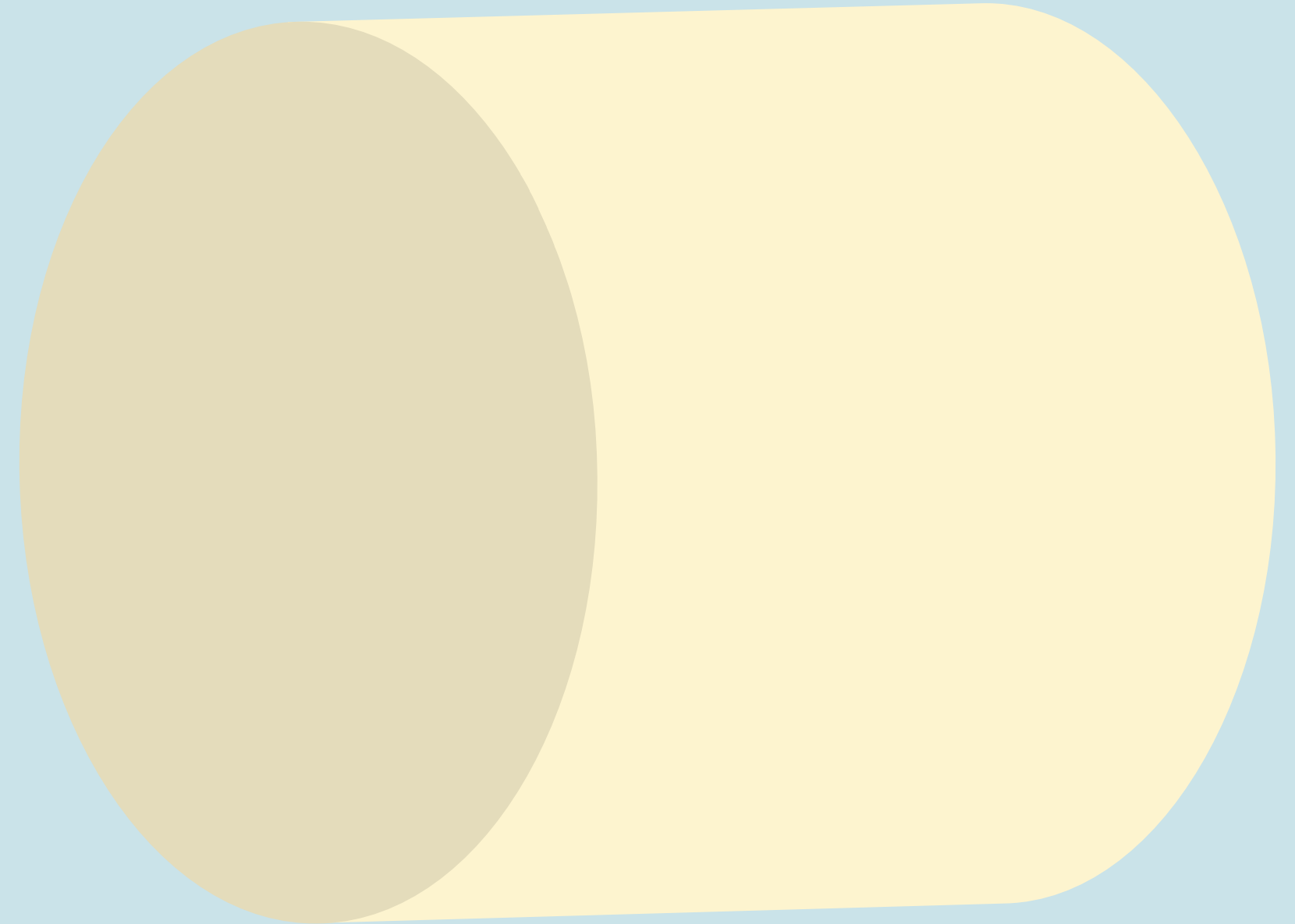
How do you
take a good
forage sample?



Square Bale



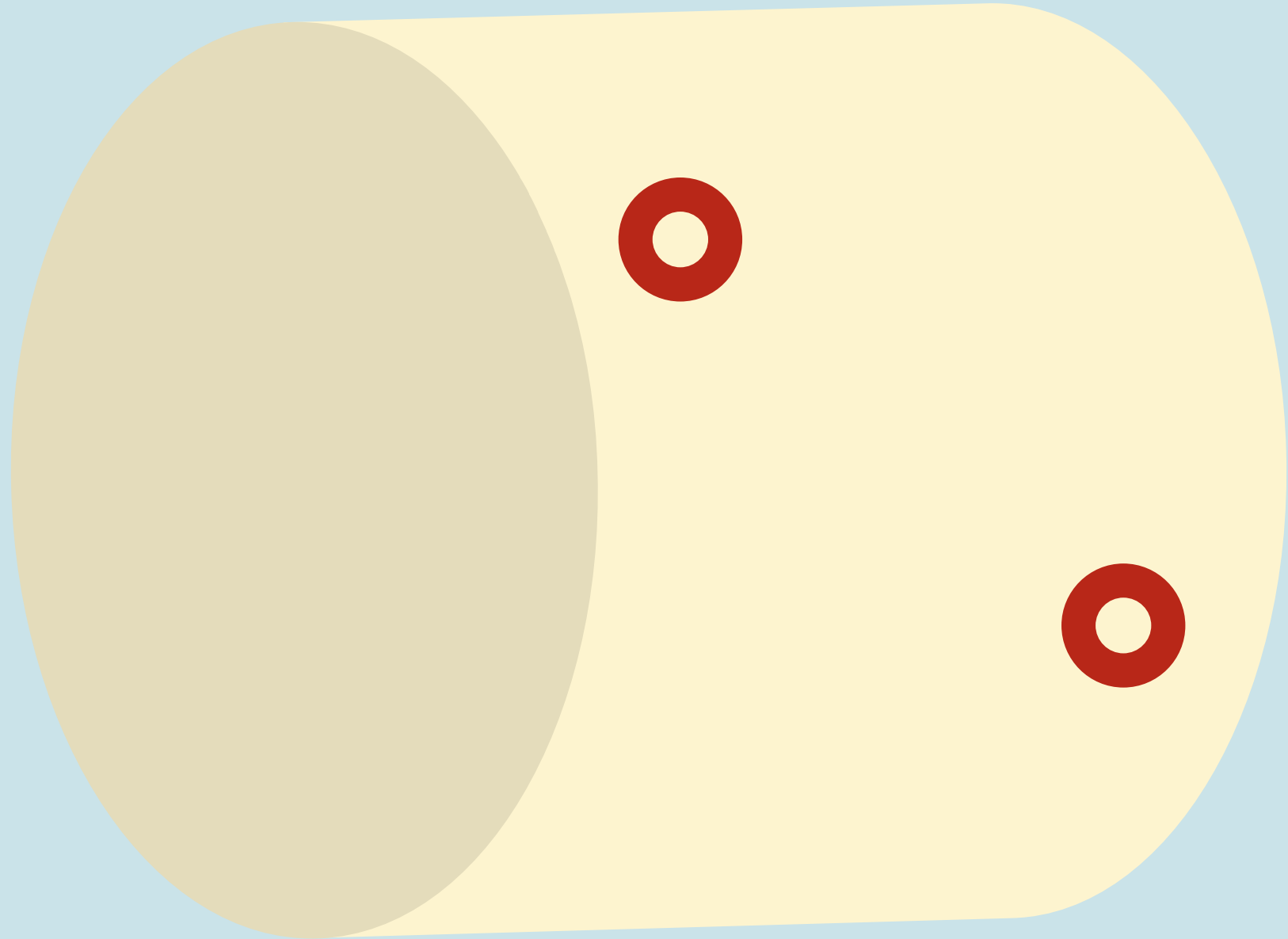
Round Bale



Square Bale



Round Bale



Things to Remember



Get a
Representative
Sample

Minimum of 10% of the lot



Get a big enough
sample

At least 250 g - 3/4 gallon
zip top bag



Label Bags
Accurately

Type of forage, name of lot



Which Test Package?

Midwest Labs

PACKAGES

F10: Relative Feed Value

\$26.00

[Order Analysis](#)

Turnaround Time: 3 BD

Description: Moisture, Crude Protein, Acid Detergent Fiber ADF, NDF, TDN, Net Energy (Gain, Lactation, Maintenance), RFV (Applies to alfalfa hay, mixed hays and silages where RFV and energy values are required.)

Requirements: Care must be taken in regard to sampling to ensure a representative sample is submitted.

[+ Sampling Instructions](#)

[Supplies](#)

F12: Moisture & Nitrate

\$21.00

[Order Analysis](#)

Turnaround Time: 3 BD

Description: (Applies to Forages)

Requirements: Care must be taken in regard to sampling to ensure a representative sample is submitted.

[+ Sampling Instructions](#)

[Supplies](#)

F6: Roughage with Complete Minerals

\$39.00

[Order Analysis](#)

Turnaround Time: 3 BD

Description: Moisture, Crude Protein, ADF, TDN, Net Energy (Gain, Lactation, Maintenance), Sulfur, Copper, Sodium, Magnesium, Potassium, Zinc, Iron, Calcium, Manganese, Sodium (Applies to haylages, mixed hays and silages where protein, energy and complete mineral content are required.)

Requirements: Care must be taken in regard to sampling to ensure a representative sample is submitted.

[+ Sampling Instructions](#)

[Supplies](#)

F7: Roughage

\$23.00

[Order Analysis](#)

Turnaround Time: 3 BD

Description: Moisture, Crude Protein, ADF, TDN, Net Energy (Gain, Lactation, Maintenance) (Does not include fat) (Applies to haylages, mixed hays and silages where protein, energy and complete mineral content are required.)

Requirements: Care must be taken in regard to sampling to ensure a representative sample is submitted.

[+ Sampling Instructions](#)

[Supplies](#)

F8: Roughage with Ca & P

\$34.00

[Order Analysis](#)

Turnaround Time: 3 BD

Description: Moisture, Crude Protein, Acid Detergent Fiber (ADF), Calcium, Phosphorus, TDN, Net Energy (Gain, Lactation, Maintenance) (Applies to haylages, mixed hays, silages, mixed rations, bunk samples.)

Requirements: Care must be taken in regard to sampling to ensure a representative sample is submitted.

[Supplies](#)



Which Test Package?

Dairyland Labs

Packages	Complete \$28.00	CNCPS 6.5+ \$28.00	CNCPS 6.1 \$28.00	NDF Digestibility \$25.00	Select \$19.50	Equine Choice DE \$22.00	Basic \$17.00
Moisture, Crude Protein, ADF, NDF	✓	✓	✓	✓	✓	✓	✓
pH (ensiled forages)	✓	✓	✓	✓	✓	✓	✓
AD-ICP	✓	✓	✓	✓	✓	✓	✓
ND-ICP-ss	✓	✓	✓	✓	✓	✓	
Fat, Ash	✓	✓	✓	✓	✓	✓	
TFA	✓	✓	✓	✓	✓	✓	
16:0, 18:0, 18:1, 18:2, 18:3	✓	✓					
Lignin	✓	✓	✓	✓	✓	✓	
Protein Solubility	✓	✓	✓	✓	✓	✓	✓
Adjusted Crude Protein	✓	✓	✓	✓	✓	✓	✓
Sugar (WSC)	✓	✓	✓	✓	✓	✓	✓
Ammonia-N (ensiled forages)	✓	✓	✓				
VFA Screen (ensiled forages)	✓	✓	✓				
Ca, P, K, Mg, S	✓	✓	✓	✓	✓	✓	✓
NFC	✓	✓	✓	✓	✓	✓	✓
RFV	✓	✓	✓	✓	✓	✓	✓
RFQ (requires NDFD 48hr. or 30hr.)	✓	✓	✓	✓			
NDFD & uNDF 24 and 30 hour	✓		✓				
NDFD & uNDF 24, 30, or 48 hour				✓			
NDFD & uNDF 12, 30, 120, 240 hour		✓					
uNDFom 240	✓	✓		✓	✓		
TDN, NEL, NEG, NEM Based on ADF	✓	✓	✓	✓	✓	✓	✓



Nutrient Analysis

Analysis	Level Found		Units	Reporting		Analyst- Date	Verified- Date
	As Received	Dry Weight		Limit	Method		
Sample ID: 1 Lab Number: 13333333							
Moisture	17.91	///////	%	0.01	AOAC 930.15	kjf3-2019/11/11	cmw4-2019/11/12
Dry matter	82.09	///////	%	0.010	Calculation	Auto-2019/11/12	Auto-2019/11/12
Protein (crude)	7.66	9.33	%	0.20	AOAC 990.03	hns0-2019/11/11	cmw4-2019/11/12
Fiber (acid detergent)	28.6	34.9	%	0.5	ANKOM Tech. Method	kjf3-2019/11/11	cmw4-2019/11/12
Fiber (neutral detergent)	50.1	61.0	%	1.0	Ankom Technology/AOAC 2001.11	bjp7-2019/11/11	cmw4-2019/11/12
Total digestible nutrients	51.6	62.8	%	0.1	Calculation	Auto-2019/11/11	Auto-2019/11/12
Net energy (lactation)	0.52	0.64	Mcal/lbs	0.01	Calculation	Auto-2019/11/11	Auto-2019/11/12
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Net energy (gain)	0.29	0.35	Mcal/lbs	0.01	Calculation	Auto-2019/11/11	Auto-2019/11/12
Relative Feed Value		94		0.0	Calculation	Auto-2019/11/11	Auto-2019/11/12

This report was reissued on 2019-12-02 14:33:20 by lmh7 for the following reason:

Added PO Number.

Relative Feed Value (RFV) is calculated using National Forage Testing Association (NFTA) guidelines.

For questions please contact:



Derrick Kendrick
Account Manager

dkendrick@midwestlabs.com (402)590-2989

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[LOOKING FOR FORAGEBEEF.CA? CLICK HERE FOR MORE INFO](#)

850 to 1150 lbs, for Mature Cows are between 1100 and 1600 lbs, for Mature Bulls are between 1800 and 2500 lbs; mid-ranges will round down, e.g. 550 rounds to 500.

Step 4: Enter your own feed test results on a dry matter basis, starting with **Dry Matter (DM,%)**.

Select Cattle Class

Select Stage of Production

Enter Weight (lbs)

** Enter weight between 1100 and 1600 lbs.*

Enter Test Feed Data

Dry Matter (DM,%)	Total Digestible Nutrients (TDN, %)	Crude Protein (CP, %)	Calcium (Ca,%)	Phosphorus (P, %)	Ca:P Ratio	Potassium (K, %)	Magnesium (Mg, %)	Tetany Ratio
<input type="text" value="82"/> %	<input type="text" value="62.8"/> %	<input type="text" value="9.33"/> %	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>

Calculate Single Feed Data

Interpretation:

Suitability of the feed is indicated by a color coded response. **Green** indicates that the nutrient is adequate to meet nutritional requirements. **Yellow** is within +/- 2.5% of TDN requirements, +/- 5% of CP requirements and 0.05% below mineral requirements.. **Red** indicates the feed does not meet animal requirements.

The indicator colors are linked to the nutritional requirements of a specific animal type and stage of production. If the animal type or stage of production is altered, the colors indicating suitability for use can change. For example: nutritional requirements for a cow in late pregnancy are substantially higher than that of a cow in early gestation. A feed that is not adequate for one group may be satisfactory for a different animal type.

Approximate Requirements for Different Classes of Cows

Nutrient Requirements for Pregnant Cows and Bred Heifers*						
	TDN (lb/day)	Net Energy Maintenance (Mcal/day)	Net Energy Gain (Mcal/day)	Crude Protein (lb/day)	Calcium (g/day)	Phosphorus (g/day)
<i>1300 lb Mature Cow (Body Condition Score of 3.0, assumed to be maintaining weight)</i>						
1 st trimester	11.0	10.7	-	1.5	17	14
2 nd trimester	12.8	12.4	-	1.6	17	14
3 rd trimester	15.3	15.2	-	2.1	30	19
<i>900 lb Heifer (Body Condition Score of 3.0, assumed to gain 1.25 lb/day)</i>						
1 st trimester	12.7	8.1	2.3	1.7	24	16
2 nd trimester	14.9	10.4	2.5	1.9	25	16
3 rd trimester	18.0	13.6	2.7	2.4	36	22

* Values are from www.BeefResearch.ca and were generated using Alberta Agriculture's [CowBytes](#) Program, with assumptions including breeding for June 1 calving, typical Canadian winters, access to shelter from wind and a daily gain of 1.25 pounds for bred heifers in addition to weight gain from pregnancy.

What if Our Hay
Isn't Good
Enough???



A photograph of a large herd of cattle in a field. The cattle are of various colors, including white, brown, and black. The background shows a clear blue sky with some light clouds. The ground is dark and appears to be a mix of dirt and grass.

Questions?

406-271-4054

adriane.good@montana.edu