



**MONTANA  
STATE UNIVERSITY**

*Mountains and Minds*

McCall Hall  
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Bozeman, MT 59717-3620

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**Agriculture Experiment Station Analytical Laboratory**

**Report To:** MSU-N Bio-Energy Center  
300 W 11th St  
Havre, MT 59501  
406-265-4199

**Copy To:** Jon Soriano

**From:** Heidi Hikes  
Laboratory Director

**Date Received:** 12/17/10

**Date Reported:** 1/3/11

**Invoice number:** 2518



**Sample Description:** JFCam-1 *Camelina Meal*  
**Lab Number:** AB04367

Test	Units	Results		
		As Received	Dry Matter	Air Dried
Acid Detergent Fiber	%	14.3	15.3	
Ash	%	5.6	6.0	
Crude Fat	%	13.9	14.9	
Crude Fiber	%	10.0	10.7	
Total Moisture	%	6.8		
Neutral Detergent Fiber	%	16.1	17.3	
Nitrate	%			< 0.15
Crude Protein	%	35.8	38.4	

**Sample Description:** BQSafHiO *Hi-Oleic Safflower Meal*  
**Lab Number:** AB04368

Test	Units	Results		
		As Received	Dry Matter	Air Dried
Acid Detergent Fiber	%	37.8	40.9	
Ash	%	2.9	3.1	
Crude Fat	%	11.2	12.1	
Crude Fiber	%	34.4	37.2	
Total Moisture	%	7.5		
Neutral Detergent Fiber	%	48.0	51.9	
Nitrate	%			< 0.15
Crude Protein	%	22.0	23.8	

QA/Technical Reviewer: *Lana Lueker*



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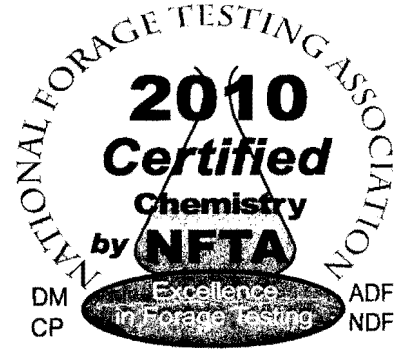
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*Heidi Hickes*

From: Heidi Hickes  
Laboratory Director



Date Received: 10/18/10

Date Reported: 10/29/10

Invoice number: 2465

Sample Description: CHCANDRY-6.5mm *Canola Meal*  
Lab Number: AB03663

Test	Units	Results		
		As Received	Dry Matter	Air Dried
Acid Detergent Fiber	%	13.1	14.2	
Ash	%	6.6		
Crude Fat	%	12.0		
Crude Fiber	%	8.8		
Total Moisture	%	7.5		
Neutral Detergent Fiber	%	15.7	17.0	
Nitrate	%			< 0.15
Crude Protein	%	37.4	40.5	

Sample Description: CHCANDRY-7mm *Canola Meal*  
Lab Number: AB03664

Test	Units	Results		
		As Received	Dry Matter	Air Dried
Acid Detergent Fiber	%	12.8	13.9	
Ash	%	6.6		
Crude Fat	%	14.6		
Crude Fiber	%	7.9		
Total Moisture	%	7.8		
Neutral Detergent Fiber	%	15.0	16.3	
Nitrate	%			< 0.15
Crude Protein	%	36.1	39.2	

QA/Technical Reviewer:

*Laura Luckey*

## NUTRITIONAL VALUES REPORT

Lab Number AB03663

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<b>TDN from ADF</b>	<b>= 80.0</b>	<b>%</b>
<b>Net Energy Maintenance</b>	<b>= 0.9</b>	<b>MCal/Kg</b>
<b>Net Energy Gain</b>	<b>= 0.6</b>	<b>MCal/Kg</b>
<b>Metabolized Energy</b>	<b>= 2.9</b>	<b>MCal/Kg</b>
<b>Relative Feed Value (RFV)</b>	<b>= 428</b>	

Lab Number AB03664

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<b>TDN from ADF</b>	<b>= 80.4</b>	<b>%</b>
<b>Net Energy Maintenance</b>	<b>= 0.9</b>	<b>MCal/Kg</b>
<b>Net Energy Gain</b>	<b>= 0.6</b>	<b>MCal/Kg</b>
<b>Metabolized Energy</b>	<b>= 2.9</b>	<b>MCal/Kg</b>
<b>Relative Feed Value (RFV)</b>	<b>= 448</b>	

### American Forage and Grassland Council (AFGC) Quality Standards Table

<b>Quality Standards</b>	<b>RFV</b>
<b>Prime</b>	<b>&gt;151</b>
<b>1</b>	<b>125-151</b>
<b>2</b>	<b>103-124</b>
<b>3</b>	<b>87-102</b>
<b>4</b>	<b>75-86</b>
<b>5</b>	<b>&lt;75</b>

#### NOTE:

Results are reported on a 'Dry Matter' Basis.

Nutritional Values are calculated from ADF Analyses.

Relative Feed Value is calculated from ADF/NDF analyses.

RFV has no units and is an index used to compare different qualities of feed.

Use the AFGC Table and the samples RFV to determine the Quality Standard numeric value of the sample.

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**of nitrate concentration on livestock:**

able illustrates 100% dry matter with percent units. Laboratory results are reported as "air dried" which may contain up to 10% moisture.

<b>% Nitrate</b>	<b>Comment</b>
< 0.15	Generally safe for all conditions and livestock
0.15 - 0.5	Generally safe for nonpregnant livestock. Potential early-term abortions or reduced breeding performance. Limit use to bred animals to 50% of the total ration.
0.5 - 1.0	Limit feed to 25-50% of ration for nonpregnant livestock. <b>DO NOT FEED TO PREGNANT ANIMALS</b> - may cause abortions, weak calves and reduced milk production.
> 1.0	<b>DO NOT FEED.</b> Acute symptoms and death.

*Reference: Montguide "Nitrate Toxicity of Montana Forages", Table 3, page 3.*