



# CUMBERLAND VALLEY ANALYTICAL SERVICES

Laboratory services for agriculture ... from the field to the feed bunk.

**Farm:** SOUTHER HAY SUPPLIES  
**Desc:** BARLEY 14  
**Submitter:** NIR BILLABLE ACCOUNT, Malcolm  
**Account:** ACE LABORATORY SERVICES

**Copies to:**

**Lab ID:** 16730 151  
**Sampled:** 09/23/2014  
**Arrived:** 09/29/2014  
**Completed:** 09/30/2014  
**Reported:** 09/30/2014

## BARLEY 14

### SAMPLE INFORMATION

Lab ID: 16730 151      Version: 1.0  
Crop Year:                      Series:  
Feed Type: BARLEY FORAGE      Cutting#:  
Package: BASIC NIR

### NIR ANALYSIS RESULTS

Moisture 10.9  
Dry Matter 89.1

### PROTEINS

	% SP	% CP	% DM
Crude Protein			11.0
Adjusted Protein			11.0
Soluble Protein		50.0	5.5
Ammonia			
ADF Protein (ADICP)		8.7	0.96
NDF Protein (NDICP)		20.3	2.24
NDR Protein (NDRCP)			
Rumen Degr. Protein		75.0	8.3
Rumen Deg. CP (Strep.G)			

### FIBER

	% NDF	% DM
ADF	65.2	35.1
aNDF		53.8
aNDFom		51.4
NDR (NDF w/o sulfite)		
peNDF		
Crude Fiber		
Lignin	7.23	3.89
NDF Digestibility (12 hr)		
NDF Digestibility (24 hr)		
NDF Digestibility (30 hr)		
NDF Digestibility (48 hr)		
NDF Digestibility (240 hr)		
uNDF (30 hr)		
uNDF (240 hr)		

### CARBOHYDRATES

	% Starch	% NFC	% DM
Silage Acids			
Ethanol Soluble CHO (Sugar)		47.6	11.8
Water Soluble CHO (Sugar)			
Starch		14.9	3.7
Soluble Fiber			
Starch Dig. (7 hr, 4 mm)			
Fatty Acids, Total			0.98
Fatty Acids (%Fat)			
Crude Fat			2.17

Values in bold were analyzed by wet chemistry methods.

Definitions and explanation of report terms



### MINERALS

Ash (%DM)	10.43
Calcium (%DM)	0.43
Phosphorus (%DM)	0.28
Magnesium (%DM)	0.17
Potassium (%DM)	3.01
Sulfur (%DM)	0.19
Sodium (%DM)	
Chloride (%DM)	
Iron (PPM)	
Manganese (PPM)	
Zinc (PPM)	
Copper (PPM)	
Nitrate Ion (%DM)	
Selenium (PPM)	
Molybdenum (PPM)	

### QUALITATIVE

pH  
Total VFA (%DM)  
Lactic Acid (%DM)  
Lactic as % of Total VFA  
Acetic Acid (%DM)  
Butyric Acid (%DM)  
1, 2 Propanediol (%DM)  
Titratable Acidity (meq/100gm)

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Soil Contamination Probability      Probable moderate contamination  
Nitrate Probability  
NIR Statistical Confidence                      Excellent prediction potential

### ENERGY & INDEX CALCULATIONS

TDN (%DM)	59.4
Net Energy Lactation (mj/kg)	5.61
Net Energy Maintenance (mj/kg)	5.39
Net Energy Gain (mj/kg)	3.00
ME (mj/kg DM)	9.20
NDF Dig. Rate (Kd, %HR, Van Amburgh, Lignin*2.4)	3.90
NDF Dig. Rate (Kd, %HR, Van Amburgh, iNDF)	5.13
Starch Dig. Rate (Kd, %HR, Mertens)	
Relative Feed Value (RFV)	106
Relative Feed Quality (RFQ)	
Milk per Ton (kg/tonne)	1510
Dig. Organic Matter Index (kg/tonne)	
Non Fiber Carbohydrates (%DM)	24.8
Non Structural Carbohydrates (%DM)	15.5
DCAD (meq/100gdm)	
CNCPS / CPM Lignin Factor	
Summative Index %	
Additional sample information, source and lab pictures	



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# CUMBERLAND VALLEY ANALYTICAL SERVICES

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**Farm:** SOUTHER HAY SUPPLIES  
**Desc:** WHEAT 14  
**Submitter:** NIR BILLABLE ACCOUNT, Malcolm  
**Account:** ACE LABORATORY SERVICES

**Copies to:**

**Lab ID:** 16730 152  
**Sampled:** 09/23/2014  
**Arrived:** 09/29/2014  
**Completed:** 09/30/2014  
**Reported:** 09/30/2014

## WHEAT 14

### SAMPLE INFORMATION

Lab ID: 16730 152      Version: 1.0  
Crop Year:                      Series:  
Feed Type: WHEAT FORAGE      Cutting#:  
Package: BASIC NIR

### NIR ANALYSIS RESULTS

Moisture 10.7  
Dry Matter 89.3

### PROTEINS

	% SP	% CP	% DM
Crude Protein			14.5
Adjusted Protein			14.5
Soluble Protein		49.9	7.2
Ammonia			
ADF Protein (ADICP)		6.6	0.96
NDF Protein (NDICP)		16.1	2.33
NDR Protein (NDRCP)			
Rumen Degr. Protein		74.9	10.9
Rumen Deg. CP (Strep.G)			

### FIBER

	% NDF	% DM
ADF	64.8	36.5
aNDF		56.2
aNDFom		53.6
NDR (NDF w/o sulfite)		
peNDF		
Crude Fiber		
Lignin	7.56	4.25
NDF Digestibility (12 hr)		
NDF Digestibility (24 hr)		
NDF Digestibility (30 hr)		
NDF Digestibility (48 hr)		
NDF Digestibility (240 hr)		
uNDF (30 hr)		
uNDF (240 hr)		

### CARBOHYDRATES

	% Starch	% NFC	% DM
Silage Acids			
Ethanol Soluble CHO (Sugar)		53.2	10.1
Water Soluble CHO (Sugar)			
Starch		15.3	2.9
Soluble Fiber			
Starch Dig. (7 hr, 4 mm)			
Fatty Acids, Total			0.73
Fatty Acids (%Fat)			
Crude Fat			2.31

### MINERALS

Ash (%DM)	10.42
Calcium (%DM)	0.42
Phosphorus (%DM)	0.31
Magnesium (%DM)	0.20
Potassium (%DM)	2.90
Sulfur (%DM)	0.23
Sodium (%DM)	
Chloride (%DM)	
Iron (PPM)	
Manganese (PPM)	
Zinc (PPM)	
Copper (PPM)	
Nitrate Ion (%DM)	
Selenium (PPM)	
Molybdenum (PPM)	

### QUALITATIVE

pH	
Total VFA (%DM)	
Lactic Acid (%DM)	
Lactic as % of Total VFA	
Acetic Acid (%DM)	
Butyric Acid (%DM)	
1, 2 Propanediol (%DM)	
Titrateable Acidity (meq/100gm)	
Soil Contamination Probability	Probable moderate contamination
Nitrate Probability	
NIR Statistical Confidence	Excellent prediction potential

### ENERGY & INDEX CALCULATIONS

TDN (%DM)	58.4
Net Energy Lactation (mj/kg)	5.51
Net Energy Maintenance (mj/kg)	5.25
Net Energy Gain (mj/kg)	2.87
ME (mj/kg DM)	9.00
NDF Dig. Rate (Kd, %HR, Van Amburgh, Lignin*2.4)	3.62
NDF Dig. Rate (Kd, %HR, Van Amburgh, iNDF)	3.73
Starch Dig. Rate (Kd, %HR, Mertens)	
Relative Feed Value (RFV)	100
Relative Feed Quality (RFQ)	
Milk per Ton (kg/tonne)	1415
Dig. Organic Matter Index (kg/tonne)	
Non Fiber Carbohydrates (%DM)	18.9
Non Structural Carbohydrates (%DM)	13.0
DCAD (meq/100gdm)	
CNCPS / CPM Lignin Factor	
Summative Index %	
Additional sample information, source and lab pictures	

Values in bold were analyzed by wet chemistry methods.

Definitions and explanation of report terms



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# CUMBERLAND VALLEY ANALYTICAL SERVICES

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**Farm:** SOUTHER HAY SUPPLIES  
**Desc:** LUCERNE 14  
**Submitter:** NIR BILLABLE ACCOUNT, Malcolm  
**Account:** ACE LABORATORY SERVICES

**Copies to:**

**Lab ID:** 16730 153  
**Sampled:** 09/23/2014  
**Arrived:** 09/29/2014  
**Completed:** 09/30/2014  
**Reported:** 09/30/2014

## LUCERNE 14

### SAMPLE INFORMATION

Lab ID: 16730 153      Version: 1.0  
Crop Year:                      Series:  
Feed Type: ALFALFA FORAGE      Cutting#:  
Package: BASIC NIR

### NIR ANALYSIS RESULTS

Moisture 13.8  
Dry Matter 86.2

### PROTEINS

	% SP	% CP	% DM
Crude Protein			25.7
Adjusted Protein			25.7
Soluble Protein		42.7	11.0
Ammonia			
ADF Protein (ADICP)		5.1	1.30
NDF Protein (NDICP)		6.5	1.67
NDR Protein (NDRCP)			
Rumen Degr. Protein		71.4	18.3
Rumen Deg. CP (Strep.G)			

### FIBER

	% NDF	% DM
ADF	84.9	24.5
aNDF		28.9
aNDFom		27.5
NDR (NDF w/o sulfite)		
peNDF		
Crude Fiber		
Lignin	17.96	5.19
NDF Digestibility (12 hr)		
NDF Digestibility (24 hr)		
NDF Digestibility (30 hr)		
NDF Digestibility (48 hr)		
NDF Digestibility (240 hr)		
uNDF (30 hr)		
uNDF (240 hr)		

### CARBOHYDRATES

	% Starch	% NFC	% DM
Silage Acids			
Ethanol Soluble CHO (Sugar)		29.3	9.7
Water Soluble CHO (Sugar)			
Starch		9.4	3.1
Soluble Fiber			
Starch Dig. (7 hr, 4 mm)			
Fatty Acids, Total			1.50
Fatty Acids (%Fat)			
Crude Fat			2.61

Values in bold were analyzed by wet chemistry methods.

Definitions and explanation of report terms



### MINERALS

Ash (%DM)	11.39
Calcium (%DM)	1.55
Phosphorus (%DM)	0.32
Magnesium (%DM)	0.32
Potassium (%DM)	2.60
Sulfur (%DM)	0.35
Sodium (%DM)	
Chloride (%DM)	
Iron (PPM)	
Manganese (PPM)	
Zinc (PPM)	
Copper (PPM)	
Nitrate Ion (%DM)	
Selenium (PPM)	
Molybdenum (PPM)	

### QUALITATIVE

pH  
Total VFA (%DM)  
Lactic Acid (%DM)  
Lactic as % of Total VFA  
Acetic Acid (%DM)  
Butyric Acid (%DM)  
1, 2 Propanediol (%DM)  
Titratable Acidity (meq/100gm)  
Soil Contamination Probability      Probable moderate contamination  
Nitrate Probability  
NIR Statistical Confidence      Excellent prediction potential

### ENERGY & INDEX CALCULATIONS

TDN (%DM)	64.9
Net Energy Lactation (mj/kg)	6.18
Net Energy Maintenance (mj/kg)	6.15
Net Energy Gain (mj/kg)	3.68
ME (mj/kg DM)	10.20
NDF Dig. Rate (Kd, %HR, Van Amburgh, Lignin*2.4)	4.68
NDF Dig. Rate (Kd, %HR, Van Amburgh, iNDF)	4.60
Starch Dig. Rate (Kd, %HR, Mertens)	
Relative Feed Value (RFV)	225
Relative Feed Quality (RFQ)	
Milk per Ton (kg/tonne)	1619
Dig. Organic Matter Index (kg/tonne)	
Non Fiber Carbohydrates (%DM)	33.1
Non Structural Carbohydrates (%DM)	12.8
DCAD (meq/100gdm)	
CNCPS / CPM Lignin Factor	
Summative Index %	
Additional sample information, source and lab pictures	



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