



# CUMBERLAND VALLEY ANALYTICAL SERVICES

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

**Farm:** WEAVER FALLS DAIRY  
**Desc:** ALFALFA SILAGE SAMPLE #1  
**Submitter:** JONES,JOHN  
**Account:** FOUR STATE FEEDS

**Copies to:**

**Lab ID:** 22004 082  
**Sampled:** 05/02/2017  
**Arrived:** 05/04/2017  
**Completed:** 05/05/2017  
**Reported:** 05/05/2017

## ALFALFA SILAGE SAMPLE #1

### SAMPLE INFORMATION

Lab ID: 22004 082      Version: 1.0  
Crop Year: 2016      Series:  
Feed Type: LEGUME FORAGE      Cutting#:  
Package: NIR Wet CP, ADF, NDF, Mineral

### NIR ANALYSIS RESULTS

Moisture 72.3  
Dry Matter 27.7

### PROTEINS

	% SP	% CP	% DM
<b>Crude Protein</b>			<b>20.7</b>
Adjusted Protein			20.7
Soluble Protein		70.4	15.3
<b>Ammonia (CPE)</b>	<b>44.3</b>	<b>32.8</b>	<b>6.77</b>
ADF Protein (ADICP)		6.6	1.43
NDF Protein (NDICP)		8.8	1.92
NDR Protein (NDRCP)			
Rumen Degr. Protein		85.2	17.6
Rumen Deg. CP (Strep.G)			

### FIBER

	% NDF	% DM
<b>ADF</b>	<b>90.0</b>	<b>27.4</b>
<b>aNDF</b>	<b>43.6</b>	<b>13.8</b>
aNDFom		<b>30.4</b>
NDR (NDF w/o sulfite)		
peNDF		
Crude Fiber		
Lignin	24.8	7.54
NDF Digestibility (12 hr)		
NDF Digestibility (24 hr)		
NDF Digestibility (30 hr)	30.0	12.3
NDF Digestibility (48 hr)		
NDF Digestibility (120 hr)	34.6	14.2
NDF Digestibility (240 hr)	36.4	15.0
uNDF (30 hr)	70.0	28.8
uNDF (120 hr)	65.4	26.9
uNDF (240 hr)	63.6	26.1

### CARBOHYDRATES

	% Starch	% NFC	% DM
Silage Acids		64.4	15.1
Ethanol Soluble CHO (Sugar)		3.4	0.8
Water Soluble CHO (Sugar)			
Starch		6.5	1.5
Soluble Fiber		45.5	10.7
Starch Dig. (7 hr, 4 mm)			
Fatty Acids, Total			2.66
Fatty Acids (%Fat)			61.7
Crude Fat			4.31

### MINERALS

<b>Ash (%DM)</b>	<b>23.1</b>
<b>Calcium (%DM)</b>	<b>2.21</b>
<b>Phosphorus (%DM)</b>	<b>0.28</b>
<b>Magnesium (%DM)</b>	<b>0.45</b>
<b>Potassium (%DM)</b>	<b>2.07</b>
Sulfur (%DM)	0.27
<b>Sodium (%DM)</b>	<b>0.30</b>
Chloride (%DM)	
<b>Iron (PPM)</b>	<b>3675</b>
<b>Manganese (PPM)</b>	<b>138</b>
<b>Zinc (PPM)</b>	<b>33</b>
<b>Copper (PPM)</b>	<b>19</b>
Nitrate Ion (%DM)	
Selenium (PPM)	
Molybdenum (PPM)	

### ENERGY & INDEX CALCULATIONS

pH	5.41
TDN (%DM)	53.5
Net Energy Lactation (Mcal/lb)	0.59
Net Energy Maintenance (Mcal/lb)	0.55
Net Energy Gain (Mcal/lb)	0.29
NDF Dig. Rate (Kd, %HR, Van Amburgh, Lignin*2.4)	2.47
NDF Dig. Rate (Kd, %HR, uNDF)	2.76
Starch Dig. Rate (Kd, %HR, Mertens)	
Relative Feed Value (RFV)	207
Relative Feed Quality (RFQ)	151
Milk per Ton (lbs/ton)	1519
Dig. Organic Matter Index (lbs/ton)	290
Non Fiber Carbohydrates (%DM)	16.0
Non Structural Carbohydrates (%DM)	2.3
DCAD (meq/100gdm)	
CNCPS / CPM Lignin Factor	10.9
Summative Index % (Mass Balance)	98.0
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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Desc: **ALFALFA SILAGE SAMPLE #1**  
Submitter: **JONES,JOHN**  
Account: **FOUR STATE FEEDS**

Copies to:

Lab ID: **22004 082**  
Sampled: **05/02/2017**  
Arrived: **05/04/2017**  
Completed: **05/05/2017**  
Reported: **05/05/2017**

## Fermentation Analysis Results

Analytical Results	DM Basis	Units	Observed Range
Dry Matter	27.7		
pH	5.41		4.2 - 5.3
Ammonia	6.77	%DM	3.4 - 12.0
	32.8	%CP	
Total VFA	15.4	%DM	7.5 - 12.4
Lactic Acid	25.3	% Total VFA	50.0 - 88.5

Lactic Acid and Volatile Fatty Acids			
Lactic Acid	3.90	%DM	2.1 - 6.9
Acetic Acid	6.84	%DM	2.3 - 5.6
Propionic Acid	1.13	%DM	0.2 - 1.1
Butyric Acid	4.38	%DM	0.0 - 1.9
Iso-butyric Acid	0.29	%DM	0.1 - 0.6

Alcohols, Acetates, and Lactates			
1, 2 Propanediol	ND	%DM	-0.2 - 0.6
1-Propanol	0.19	%DM	0 - 0.61
Methanol	0.53	%DM	0.15 - 0.47
Ethanol	0.56	%DM	0.15 - 0.47
2-Butanol	0.03	%DM	0.01 - 0.01
Methyl Acetate	ND	%DM	0 - 0.04
Ethyl Acetate	ND	%DM	-
Propyl Acetate	ND	%DM	-
Ethyl Lactate	ND	%DM	-
Propyl Lactate	ND	%DM	-

ND = non detect. Observed ranges are average +/- 1 SD based on the dry matter category of the silage; see [www.foragelab.com](http://www.foragelab.com) for more information.



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