CUMBERLAND VALLEY ANALYTICAL SERVICES

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

Farm: APPLE VALLEY
Desc: CORN SILAGE
Submitter: WARD, RALPH
Account: CVAS

Copies to:

Lab ID: **12345 064**
Sampled: **03/26/2021**
Arrived: **03/29/2021**
Completed: **03/29/2021**
Reported: **03/29/2021**

SAMPLE INFORMATION

Lab ID:	12345 064	Feed Type:	CORN SILAGE	Version:	1.0
Crop Year:	2020	Package:	BASIC NIR	Cutting#:	

NIR ANALYSIS RESULTS

Moisture	**61.9**
Dry Matter	**38.1**

PROTEINS	%SP	% CP	% DM	AVERAGE	90% RANGE
Crude Protein			**8.0**	7.6	5.7 - 9.5
Adjusted Protein					
Soluble Protein		61.0	**4.9**	3.8	1.6 - 6.1
Ammonia (CPE)	18.4	11.3	**0.90**	0.79	0.06 - 1.51
ADF Protein (ADICP)		6.5	**0.52**	0.80	0.50 - 1.00
NDF Protein (NDICP)		8.5	**0.68**	0.95	0.46 - 1.45
NDR Protein (NDRCP)					
Rumen Degr. Protein		80.5	**6.4**	5.7	4.0 - 7.4
Amino Acid Nitrogen, Total		59.4	**4.75**	4.60	3.56 - 5.64

FIBERS	% NDF	% DM	AVERAGE	90% RANGE
ADF	60.6	**20.2**	23.7	18.0 - 29.3
ADFom				
aNDF		**33.3**	39.2	30.9 - 47.6
aNDFom		**32.8**	38.4	30.3 - 46.5
NDR (NDF w/o sulfite)				
peNDF				
Crude Fiber				
Lignin	7.40	**2.46**	2.86	1.96 - 3.76

NDF DIGESTIBILITY	%NDFom	NDFom %DM	% NDF	% DM	AVERAGE	90% RANGE (%DM)
NDF Digestibility (12 hr)	**36.1**	11.9	36.7	**12.2**	12.9	8.2 - 17.5
NDF Digestibility (30 hr)	**59.1**	19.5	58.4	**19.4**	22.5	16.7 - 28.3
NDF Digestibility (120 hr)	**67.0**	22.1	66.4	**22.1**	26.9	20.0 - 33.9
NDF Digestibility (240 hr)	**71.0**	23.4	70.1	**23.3**	28.2	21.0 - 35.4
uNDF (12 hr)	63.9	21.1				
uNDF (30 hr)	40.9	13.5	41.6	**13.8**	16.6	11.4 - 21.8
uNDF (120 hr)	33.0	10.9	33.6	**11.2**	12.2	7.3 - 17.1
uNDF (240 hr)	29.0	9.6	29.9	**9.9**	10.9	6.1 - 15.7

CARBOHYDRATES	% Starch	% DM	AVERAGE	90% RANGE
Silage Acids		**7.8**	6.4	0.9 - 11.8
Ethanol Soluble CHO (Sugar)		**0.7**	1.5	0.0 - 5.3
Water Soluble CHO (Sugar)		**2.4**	3.2	0.0 - 8.9
Starch		**39.6**	33.4	22.2 - 44.6
Soluble Starch				
Soluble Fiber		**5.84**	6.17	2.95 - 9.40
Starch Digestibility (7 hr, 4 mm)	79.6		72.9	58.0 - 87.8
Crude Fat		**3.27**	2.90	2.10 - 3.80
Fatty Acids, Total		**2.68**	2.37	1.60 - 3.13
C16:0		**0.47**	0.44	0.35 - 0.52
C18:0		**0.07**	0.06	0.04 - 0.08
C18:1		**0.58**	0.53	0.31 - 0.76
C18:2		**1.37**	1.13	0.66 - 1.59
C18:3		**0.14**	0.11	0.00 - 0.22
Unsaturated Fatty Acids (RUFAL)		**2.09**	1.76	1.09 - 2.43
Fatty Acids (%Fat)		**82.0**	81.0	64.0 - 98.1

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MINERALS		AVERAGE	90% RANGE
Ash (%DM)	**3.43**	4.04	1.58 - 6.49
Calcium (%DM)	**0.20**	0.21	0.08 - 0.34
Phosphorus (%DM)	**0.23**	0.23	0.18 - 0.29
Magnesium (%DM)	**0.16**	0.17	0.10 - 0.25
Potassium (%DM)	**0.96**	1.04	0.49 - 1.60
Sulfur (%DM)	**0.12**	0.11	0.09 - 0.14
Sodium (%DM)			
Chloride (%DM)			
Iron (ppm)			
Manganese (ppm)			
Zinc (ppm)			
Copper (ppm)			
Molybdenum (ppm)			

QUALITATIVE		AVERAGE	90% RANGE
pH	**3.65**	3.92	3.44 - 4.41
Total VFA (%DM)	**7.78**	6.29	0.82 - 11.77
Lactic Acid (%DM)	**5.65**	4.14	0.47 - 7.80
Lactic as % of Total VFA	**73**	63	29 - 96
Acetic Acid (%DM)	**2.13**	2.42	0.00 - 4.94
Butyric Acid (%DM)			
1, 2 Propanediol (%DM)	**0.15**		
Nitrate Ion (%DM)			
Nitrate-Nitrogen, ppm			
Soil Contamination Probability			Probable low to none
Nitrate Probability			Probable low nitrate level
NIR Statistical Confidence			Excellent prediction potential

INDEX CALCULATIONS		AVERAGE	90% RANGE
NDF Dig. Rate (Kd, %HR, Van Amburgh, Lignin*2.4)	**3.85**	3.76	2.93 - 4.58
NDF Dig. Rate (Kd, %HR, uNDF)	**4.9**	4.56	3.79 - 5.34
Starch Dig. Rate (Kd, %HR, Mertens)	**24.1**	20.38	11.82 - 28.94
Relative Feed Value (RFV)			
Relative Forage Quality (RFQ)			
Milk per Ton (lbs/ton)	**3379**	2694	1116 - 4272
Dig. Organic Matter Index (lbs/ton)			
Non Fiber Carbohydrates (%DM)	**52.7**	47.2	37.7 - 56.7
Non Structural Carbohydrates, ESC (%DM)	**40.3**	34.8	24.3 - 45.2
Non Structural Carbohydrates, WSC (%DM)	**42.0**	34.8	24.3 - 45.2
DCAD (meq/100gdm)			
Summative Index % (Mass Balance)	**100.5**	99.2	95.7 - 102.7

ENERGY CALCULATIONS	DAIRY 2001	PSU-ADF	EQUINE
TDN (%DM)	**75.7**	73.56	
Net Energy Lactation (Mcal/lb)	**0.79**	0.79	
Net Energy Maintenance (Mcal/lb)	**0.89**	0.79	
Net Energy Gain (Mcal/lb)	**0.60**	0.51	
Metabolizable Energy (Mcal/lb)	**1.33**	1.21	

Nutrients names in bold were analyzed by wet chemistry methods.

Definitions and explanation of report terms

Additional sample information, submitted documents and lab pictures linked to QR code.