



CUMBERLAND VALLEY ANALYTICAL SERVICES

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

Farm: **WEAVER FALLS**
Desc: **CORN SILAGE**
Submitter: **JONES, JOHN**
Account: **CVAS**

Copies to:

Lab ID: **12345 252**
Sampled: **09/13/2019**
Arrived: **09/17/2019**
Completed: **09/17/2019**
Reported: **09/19/2019**

CORN SILAGE

SAMPLE INFORMATION			
Lab ID:	12345 252	Version:	2.0
Crop Year:	2019	Series:	
Feed Type:	CORN SILAGE	Cutting#:	
Package:	BASIC NIR		

NIR ANALYSIS RESULTS	
Moisture	60.4
Dry Matter	39.6

PROTEINS	% SP	% CP	% DM
Crude Protein			8.5
Adjusted Protein			
Soluble Protein		22.7	1.9
Ammonia (CPE)	15.0	3.4	0.29
ADF Protein (ADICP)		9.1	0.77
NDF Protein (NDICP)		13.0	1.10
NDR Protein (NDRCP)			
Rumen Degr. Protein		61.4	5.2

FIBER	%NDFom	NDFom %DM	% NDF	% DM
ADF			56.0	17.7
aNDF		31.3		31.6
NDR (NDF w/o sulfite)				
Crude Fiber				
Lignin			7.38	2.33
NDF Digestibility (12 hr)			35.1	11.1
NDF Digestibility (24 hr)				
NDF Digestibility (30 hr)	57.2	17.9	56.7	17.9
NDF Digestibility (72 hr)				
NDF Digestibility (120 hr)	71.6	22.4	70.9	22.4
NDF Digestibility (240 hr)	74.8	23.4	74.0	23.4
uNDF (30 hr)	42.8	13.4	43.3	13.7
uNDF (120 hr)	28.4	8.9	29.1	9.2
uNDF (240 hr)	25.2	7.9	26.0	8.2

CARBOHYDRATES	% Starch	% NFC	% DM
Silage Acids		1.7	0.9
Ethanol Soluble CHO (ESC-Sugar)		7.5	4.1
Water Soluble CHO (WSC-Sugar)			5.2
Starch		78.7	42.9
Soluble Starch			
Soluble Fiber		15.8	8.59
Starch Dig. (7 hr, 4 mm)	55.4		
Crude Fat			2.97
Fatty Acids, Total			2.66
C16:0			0.48
C18:0			0.06
C18:1			0.61
C18:2			1.32
C18:3			0.06
Unsaturated Fatty Acids (RUFAL)			1.99
Fatty Acids (%Fat)			89.6

MINERALS	
Ash (%DM)	3.57
Calcium (%DM)	0.19
Phosphorus (%DM)	0.24
Magnesium (%DM)	0.16
Potassium (%DM)	1.17
Sulfur (%DM)	0.11
Sodium (%DM)	
Chloride (%DM)	
Iron (PPM)	
Manganese (PPM)	
Zinc (PPM)	
Copper (PPM)	
Molybdenum (PPM)	

QUALITATIVE	
Total VFA (%DM)	0.92
Lactic Acid (%DM)	
Lactic as % of Total VFA	
Acetic Acid (%DM)	0.92
Butyric Acid (%DM)	
1, 2 Propanediol (%DM)	
Nitrate Ion (%DM)	

Soil Contamination Probability	Probable low to none
Nitrate Probability	Probable low nitrate level
NIR Statistical Confidence	Good prediction potential

ENERGY & INDEX CALCULATIONS	
pH	4.21
TDN (%DM)	76.6
Net Energy Lactation (Mcal/lb)	0.79
Net Energy Maintenance (Mcal/lb)	0.82
Net Energy Gain (Mcal/lb)	0.54
ME (Mcal/lb)	3
NDF Dig. Rate (Kd, %HR, Van Amburgh, Lignin*2.4)	3.65
NDF Dig. Rate (Kd, %HR, uNDF)	4.2
Starch Dig. Rate (Kd, %HR, Mertens)	12.2
Relative Feed Value (RFV)	
Relative Forage Quality (RFQ)	
Milk per Ton (lbs/ton)	3233
Dig. Organic Matter Index (lbs/ton)	
Non Fiber Carbohydrates (%DM)	54.50
Non Structural Carbohydrates (%DM)	47.0
DCAD (meq/100gdm)	
RFC - Fill Index	4.44
Summative Index % (Mass Balance)	102.4

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



Values in bold were analyzed by wet chemistry methods.



Cumberland Valley Analytical Services, Inc.



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Corn Silage Processing Score

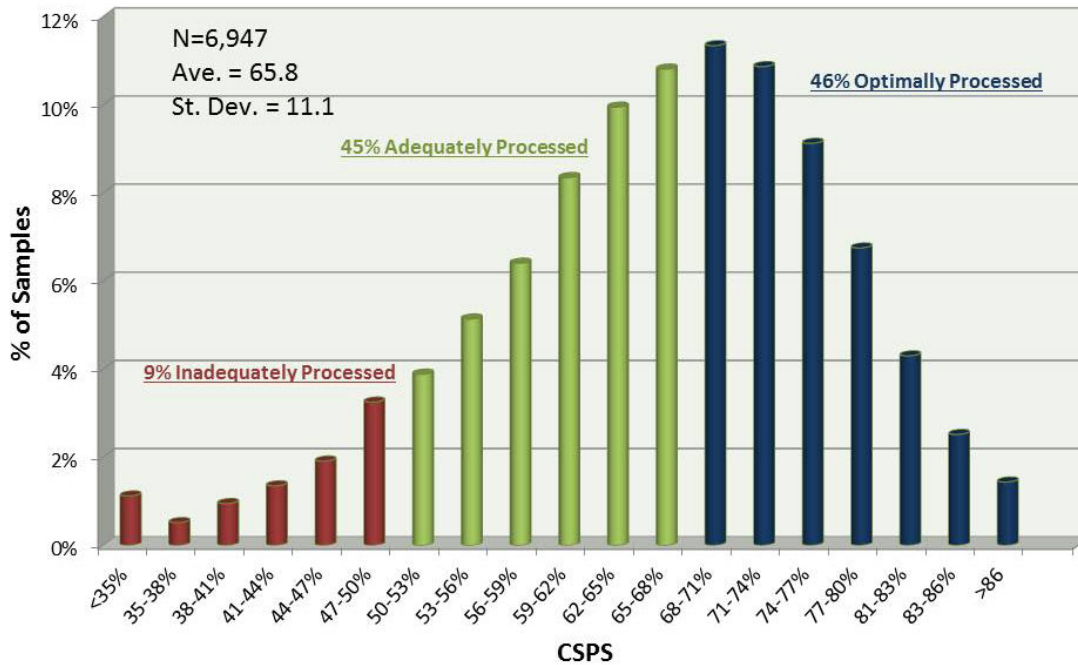
% of starch passing a 4.75mm screen **70.0**

The Corn Silage Processing Score (CSPS) was developed by Dr. Dave Mertens formerly of the USDA Forage Research Center as a tool to define the adequacy of kernel processing by forage harvesters. In addition, the CSPS is a tool that defines starch particle size and can be used to make inference on ruminal and total tract digestibility of corn silage starch. Approximately 600 ml of dried corn silage is sieved in a Ro-Tap Shaker for 10 minutes. This unit oscillates 278 times per minute and "taps" the top of the sieves 150 times per minute to create an aggressive shaking action. Material that passes through the 4.75 mm sieve is collected and analyzed for starch content. The percentage of starch that passes through the screen becomes the "Processing Score".

Guidelines:

- Greater than 70% Optimally Processed
- Between 50% and 70% Adequately Processed
- Less than 50% Inadequately Processed

Distribution of Corn Silage Processing Score CVAS, 2017 - 2018 Crop Years



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