CUMBERLAND VALLEY ANALYTICAL SERVICES
Laboratory services for agriculture ... from the field to the feed bunk.

Apparent Nutrient Digestibilities through TMR and Fecal Evaluation

Farm Name: **WEAVER FALLS DAIRY** **Date Reported:** **06/13/2016**

Paired Samples used in determination

TMR INFORMATION	
Lab ID:	14736 114
Description:	1 - TMR - BAG
Date Sampled:	06/10/2016
Date Received:	06/13/2016

FECAL INFORMATION	
Lab ID:	14736 115
Description:	2 - MANURE - BOWL
Date Sampled:	06/10/2016
Date Received:	06/13/2016

TMR ANALYSIS	% DM Basis
Dry Matter	46.6
Starch	26.2
NDF	29.5
Crude Protein	16.1
Lignin	2.99
uNDF	10.1

FECAL ANALYSIS	% DM Basis
Dry Matter	15.30
Starch	5.70
NDF	49.10
Crude Protein	16.2
Lignin	6.75
uNDF	27.00

APPARENT NDF DIGESTIBLITY	% NDF
Apparent pdNDF Digestibility as % of pdNDF	57.4
Apparent NDF Digestibility as % of Total NDF	37.7
Expected Range (% of pdNDF)	48.5 - 77.1
Expected Range Average	62.8

APPARENT PROTEIN DIGESTIBLITY	% Protein
Apparent Protein Digestiblity	62.4
Expected Range (% of Total Protein)	51.5 - 74.1
Expected Range Average	62.8

APPARENT STARCH DIGESTIBLITY	% Starch
Apparent Starch Digestiblity	91.9
Ideal Range	94 - 98
Expected Range	88.5 - 99.6
Expected Range Average	94.5
Estimated Rumen Digestibility	52
Estimated Post Rumen Digestibility	39.6

Starch digestibility will vary based on many factors including amount of starch in the diet, starch particle size, dry matter of corn and corn silage, length of time starch products have fermented in storage, diet composition, milk production level, and general rumen health. Estimated rumen and post rumen digestibility values are based on a summarization of studies reported by Ferraretto et al., JDS Vol. 96, No.1, 2013 page 542.

Apparent Nutrient Digestibilities through TMR and Fecal Evaluation

Evaluation of 300 TMR and Fecal Pair
TMR STATISTICS

	AVERAGE	RANGE	
Starch %DM	24.4	20.7	27.9
NDF, %DM	32.1	28.8	35.4
PDNDF, %DM	21.3	19.7	23.0
CP, %DM	16.4	15.0	17.9

Evaluation of 300 TMR and Fecal Pair
FECAL STATISTICS

	AVERAGE	RANGE	
Starch %DM	4.50	1.75	7.24
NDF, %DM	52.5	49.5	55.6
PDNDF, %DM	21.5	18.7	24.3
CP, %DM	16.6	15.0	18.2

Evaluation of 300 TMR and Fecal Pair
APPARENT DIGESTIBILITY

	AVERAGE	RANGE	
Starch %DM	93.3	89.5	97.2
NDF, %DM	40.1	31.8	48.3
PDNDF, %DM	60.1	49.6	70.5
CP, %DM	62.6	54.7	70.5

Sampling Instructions for Apparent Nutrient Digestibility Analysis

Fecal Sampling for Nutritional Information Parameters

- Sample 10 cows in a group that have been consuming the same ration for a period of two weeks. Cows should be less than 150 days in milk.
- Sample (one good handfull per cow) should be taken rectally and mixed well in a bucket.
- If rectal grab samples are not possible, carefully sample 10 fresh cow manure piles being careful to not collect straw or other foreign matter and insure that the sample is representative of what the cow dropped.
- Utilize manure sample containers obtained from the laboratory. These are free and can be requested by calling the lab.
- We need about 250 ml for analysis.

TMR Sampling for Nutritional Information Parameters

- Sample fresh TMR from multiple locations in the bunk prior to cows eating, taking care to sample the beginning, middle, and end of the mix that is run off. Carefully sample handfuls into a 5 gallon bucket, working to insure that the samples represent the ratio of grain and forage present.
- Mix the sample well in the bucket taking care that the grain and fines do not drop to the bottom.
- Pour into a cone on a flat, clean surface.
- Sample a wedge from the cone and transfer to a quart Ziplock bag for shipping to the laboratory. Press out as much air as possible.

Labeling for Analysis

- Label the TMR "Apparent Starch Digestibility" by chemistry or NIR
- Label the Fecal sample "Apparent Starch Digestibility" by chemistry or NIR
- Make sure that the account and farm name information is consistent on these two samples and ship together in the same package.
- Ship for the samples to arrive in one to two days.
- If NIR analysis is requested, you will receive an NIR Fecal Analysis Report, a NIR TMR Analysis Report, and an Apparent Starch Digestibility Report. If chemistry is requested, the DM, Starch, Lignin, and Apparent Starch Digestibility will be reported on one report.