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# Cumberland Valley Analytical Services

Laboratory Services for Agriculture

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## Services and Pricing Guide

January 2024



# History

Cumberland Valley Analytical Services (CVAS) was started in 1994 as a small chemistry forage lab serving the local dairy industry in Maryland and south-central Pennsylvania. Beginning with only 800 square feet of leased space and one employee, CVAS has grown considerably moving into a new custom designed 33,000 sq. ft facility in Waynesboro, PA in March 2017.

CVAS employs about 100 people in its Waynesboro facilities and has satellite locations in Batavia, NY, Madison, WI, and Zumbrota, MN.

CVAS has grown significantly by providing cutting-edge forage and feed evaluation services in a quick, accurate, and cost-effective manner. CVAS was the first to commercialize the Fermentation Analysis in the U.S. and one of the first to offer extensive in vitro digestibility services and analyses for the Cornell and CNCPS nutritional models.

As the largest chemistry-based feed lab in the U.S., CVAS has the resources to offer one of the most comprehensive sets of NIR forage and feed evaluations available to the industry.

Building on its successful service model, CVAS supports 36 affiliate labs in the U.S., Canada, and globally with NIR technical services (see page 12).

Despite its size and growth, CVAS continues to operate as a fully independent family owned company.



Take a tour of the CVAS lab with this QR code!



Laboratory services for  
production and research,  
feed and food.

# NIR Packages

## **NIR1 22.50**

The NIR 1 Analysis includes tests for Dry Matter/Moisture, Crude Protein, ADFCP, NDFCP, Soluble Protein, ADF, NDF, Lignin, Starch, Sugar, Fat, Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K) and pH on ensiled forage. Calculated values are provided for Available Protein, Adjusted Protein, Degradable Protein, NEL, NEm, NEg (NRC Summative Energy Equations), NSC and NFC.

## **NIR2 36.00**

The NIR 2 is the NIR 1 Analysis with chemistry Minerals - Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K), Sodium (Na), Iron (Fe), Manganese (Mn), Zinc (Zn), and Copper (Cu).

## **NIR3 46.00**

The NIR 3 is the NIR 2 Analysis plus chemistry on Chloride (Cl), Sulfur (S), and DCAD.

## **NIR4 52.25**

The NIR 4 is the NIR 2 Analysis plus chemistry on Crude Protein, ADF and NDF.

## **NIR5 38.75**

The NIR 5 is the NIR 1 Analysis plus chemistry on Crude Protein, ADF, and NDF.

## **NIR Plus/CNCPS Option 11.25**

The option provides significant additional value. Graphical reporting and our expanded range reports are obtained using the Plus Option. Nutrients added include 12hr, 30hr, 120hr, and 240hr NDF digestibility evaluations as well as corresponding uNDF values; fermentation values and soluble fiber on ensiled forages; fatty acid values and a determination of amino acid nitrogen as a percentage of total nitrogen; 7hr starch digestibility; and a qualitative determination of soil contamination.

## **uNDF Precision Time Point Analysis**

### **with Pools and Rates 20.25**

### **Amino Acid Analysis 20.25**

### **Soluble Starch Option 11.00**

Provides a mechanically derived measure of soluble starch.

## **NIR1 Non-Forage Ingredients 22.50**

Almond hulls, Bakery, Beet Pulp, Brewers Grain, Canola Meal, Corn Distillers, Corn Gluten Feed, Wheat Midds, Soybean Meal, Soy Hulls, Sunflower Meal, and Small Grains (NIR2-5 are also available).

## **Manure Package 22.50**

Provides Dry Matter/Moisture, Crude Protein, ADF, NDF, Lignin, Starch, Ash, Ca, P, Mg, and K.

## **Apparent Nutrient Digestibility by TMR and Fecal Evaluation 74.50**

Includes an NIR1 Plus evaluation of a high group TMR and associated fecal matter to generate an evaluation of apparent NDF and starch digestibility.

## **TMR Mixer Evaluation Package 230.00**

(Set of 5 samples analyzed to assess mixer efficiency) NIR analysis with chemistry minerals. This package includes Dry Matter/Moisture, Crude Protein, Soluble Protein, ADF, NDF, ADFCP, NDFCP, Lignin, Fat, Starch, Sugar, Ash, Ca, P, Mg, K, Na, Fe, Mn, Zn, Cu, Cl, and S.

## **TMR Control - NIR Package 113.25**

NIR analysis with chemistry minerals. This package includes Dry Matter/Moisture, Crude Protein, Soluble Protein, ADF, NDF, ADFCP, NDFCP, Lignin, Fat, Starch, Sugar, Ash, Ca, P, Mg, K, Na, Fe, Mn, Zn, Cu, Cl, and S. Also included is an evaluation for peNDF, SPS (starch processing score), and the Penn State Particle Size Evaluation.

# Chemistry Packages

## **Standard Package 51.50**

Includes Dry Matter/Moisture, Crude Protein, Adjusted Protein, Soluble Protein, calculated Degradable Protein (Forages only), Acid Detergent Fiber (ADF), Neutral Detergent Fiber (NDF), Ash, (Energy values on forages only) TDN, NEL, NEm, NEg, RFV (for hays and haylages), and Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu.

## **Standard Plus Energy 84.25**

Standard Package plus Fat, Lignin, ADFCP, NDFCP, NFC, and Energy Values on Non-Forages.

## **CNCPS Package 117.50**

Includes the Standard Analysis and Lignin, Fat, ADFCP, NDFCP, Chloride, Sulfur, Starch, Sugar, NFC, TDN, NEL, NEm, and NEg. When combined with our Fermentation Analysis a Soluble Fiber is calculated.

## **RFV Package 34.25**

Includes Dry Matter/Moisture, Crude Protein, ADF, NDF, calculated RFV (on hays and haylages), and Adjusted Protein. NEL, NEm, NEg and TDN on forages only.

## **Basic NDF Package 46.25**

Dry Matter/Moisture, Crude Protein, ADF, NDF, Minerals (Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu), with calculated values for Adjusted Protein, TDN, NEL, NEg, NEm and Ash. (Energy values on forages only).

## **Mineral Only Package 35.50**

Includes Dry Matter/Moisture, Ca, P, Mg, K, Na, Fe, Mn, Zn, Cu, and Ash.

## **Mineral Only (High Concentration) Package 54.50**

High concentration materials (mineral ingredients, premixes, high mineral concentrates).

## **TMR Diagnostic Package 279.25**

Includes Dry Matter/Moisture, Crude Protein, Soluble Protein, Ammonia, ADF, NDF, ADFCP, NDFCP, Lignin, Fat, Starch, 7-hour Starch Digestibility, 24-hour NDF Digestibility, Sugar, Ash, Ca, P, Mg, K, Na, Cl, S, Fe, Mn, Zn, Cu, Lactic Acid, Acetic Acid, Butyric Acid, peNDF, (physically effective NDF - Mertens), SPS (starch processing score) and the Penn State Particle Size Evaluation.

## **Animal Protein Package 91.50**

Provides Dry Matter/Moisture, Crude Protein, Soluble Protein, Ash, Fat, Ca, P, Cl, and S.

## **Liquid Sample Analysis Package**

- Provides Dry Matter/Moisture, Crude Protein, Ammonia, Fat, Sugar, Ash, Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu. **98.00**
- Above analysis with Karl Fischer moisture - appropriate when volatiles other than moisture are present in the sample. **157.25**

## **Feed Mill Mixer Evaluation 462.50**

Evaluation of CP, Ash, Ca, P, Mg, K, Na, Fe, Mn, Zn, Cu on 10 samples. Report of analyses including average, standard deviation and COV is available to download on [foragelab.com](http://foragelab.com).

# Chemistry Options

## **Fermentation 40.00**

Includes Dry Matter/Moisture, Lactic Acid, Acetic Acid, Propionic Acid, Butyric Acid, Iso-butyric Acid, 1,2 - Propanediol, Total VFA, pH, Lactic Acid/VFA ratio, Crude Protein equivalent from Ammonia as a percentage of Dry Matter and Crude Protein.

## **Fermentation Analysis Plus 60.25**

Includes Fermentation Analysis as well as a breakdown of Alcohols, Acetates, and Lactates.

## **Fatty Acid Profile 87.50**

30 meter column: 22 fatty acids from C12 to C24, and total fatty acids.

## **Fatty Acid Profile 131.50**

Other products requiring 100 meter column: C4 to C24 with trans fatty acids.

## **Milk Fatty Acid Profile 131.50**

100 meter column: C4 to C24 with trans fatty acids, de novo, mixed, preformed, total saturated and unsaturated fatty acids, CLA, MUFA, and PUFA on relative basis only.

## **Free Fatty Acids 17.00**

## **Mold Count 37.75**

Mold/Yeast Count.

## **Mold Identification 66.00**

Mold/Yeast Count with Mold Identification.

## **PDI/Urease (soy products only; must be run with CP) 61.50**

Protein Dispersibility Index (includes PDI and Urease Activity)

## **Micron Particle Size 29.00**

## **Byproduct 48.50**

An add-on to the standard package, fat, lignin, ADFCP, NDFCP, sulfur, and chloride.

## **DCAD (Cl, S) 21.00**

Must also include a package with chemistry minerals to calculate DCAD value.

## **Soluble Starch Option (Needs to be run with chemistry starch) 30.00**

Provides a mechanically derived measure of soluble starch.

## **Corn Silage Processing Score (CSPS) 27.75**

Needs to be run with Starch or a package that includes Starch.

## **Physically Effective NDF (peNDF) 27.75**

## **Particle Size Evaluation (Penn State Separator) 11.75**

## **Toxic Elements Panel 81.75**

Includes Arsenic, Lead, Chromium, and Mercury.

## **Trace Elements Panel 81.75**

Includes Cobalt, Copper, Iron, Manganese, Molybdenum, Selenium, and Zinc

## In Vitro Analysis

CVAS has the capacity to run most any sized in vitro project with all samples inoculated from a single run of comingled rumen fluid. Our in vitro facility has over 2000 incubator flask positions.

### **Multistep In Vitro Protein Evaluation (MSPE) 160.50**

Based on work by Dr. Debbie Ross and Dr. Mike Van Amburgh. An In vitro evaluation of feed material is followed by treatment sequentially with acid and enzymes. Rumen availability as well as intestinal digestibility is provided. Needs to be run with Crude Protein.

### **MSPE, Freeze Dry 201.25**

Needs to be run with Crude Protein.

### **Ross UIP 99.00**

Total tract protein digestibility and indigestibility. Needs to be run with Crude Protein.

### **NDF Digestibility In Vitro Per Time Point 38.50**

6, 12, 24, 30, 48 or 240 hrs (uNDF). Other time points may be available upon request. A request for a 72 hr or higher time point needs to be run with NDFom.

### **NDF Digestibility In Vitro Time Point Series (6 points) 225.25**

### **Starch Digestibility In Vitro Per Time Point 47.00**

2, 4, 6, 7, 8, 12, 24, or 30 hrs. Other time points may be available upon request. Starch by chemistry needs to be done.

### **Starch Digestibility In Vitro Time Point Series (6 points) 275.00**

Starch by chemistry needs to be done.

### **Dry Matter Digestibility**

### **In Vitro Per Time Point 32.00**

4, 6, 12, 20, 24, 30, 48, 72, 96, 120, or 240 hrs.

### **Dry Matter Digestibility**

### **In Vitro Time Point Series (6 points) 187.25**

### **NDF Basic RPE (Rate Pool Evaluation) 150.25**

Needs to be run with NDFom.

Forage 12, 30, 120, and 240 hrs

Ingredient 12, 30, 72, and 120 hrs

### **NDF Standard RPE**

Needs to be run with NDFom.

Forage 4, 8, 12, 24, 48, 72, 120, and 240 hrs **300.50**

Ingredient 4, 8, 12, 24, 48, 72, and 120 hrs **263.00**

## In Situ Analysis

CVAS maintains 10 to 12 cannulated lactating cows. This provides flexibility to hang large numbers of bags for in situ evaluations, at the same time having access to large amounts of rumen fluid for in vitro incubations. In Situ Analysis are not available for international samples.

**MSPE, In Situ** **197.50**

**Protein Digestibility In Situ** **134.00**

Rumen Undegradable Protein (RUP) at 16 hrs.

**Dry Matter Digestibility**

**In Situ Per Time Point** **98.50**

24, 30, or 48 hrs. Other time points available upon request.

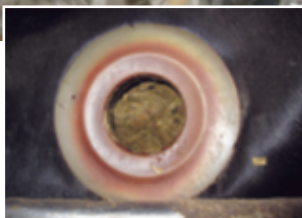
**Starch Digestibility In Situ Per Time Point** **121.25**

7, 16, or 24 hrs. Other time points available upon request.

**NDF Digestibility In Situ Per Time Point** **134.00**

6, 24, 30, 48, 96, or 120 hrs. Other time points available upon request.

In situ



## Proximates

### **TAG 1 Package 40.00**

Includes Dry Matter/Moisture, Crude Protein, Crude Fat, and Crude Fiber.

### **TAG 2 Package 53.00**

Includes Tag 1 plus Ash, Ca, and P.

### **TAG 3 Package 66.00**

Includes Tag 1 plus Ash and Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu.

### **TAG 4 Package 33.50**

Includes Dry Matter/Moisture, Ash, Ca, and P.

## Amino Acids

Must be run with a Crude Protein.

### **Cysteine, Methionine, Lysine plus 9 more 134.50**

Cysteine, Methionine, Lysine, Aspartic Acid, Threonine, Glutamic Acid, Proline, Glycine, Alanine, Valine, Isoleucine. and Leucine.

### **Full Profile without Tryptophan 183.50**

Cysteine, Methionine, Lysine, Aspartic Acid, Threonine, Glutamic Acid, Proline, Glycine, Alanine, Valine, Isoleucine, Leucine, Serine, Tyrosine, Phenylalanine, Ornithine, Histidine, and Arginine.

### **Full Profile with Tryptophan 211.00**

Cysteine, Methionine, Lysine, Aspartic Acid, Threonine, Glutamic Acid, Proline, Glycine, Alanine, Valine, Isoleucine, Leucine, Serine, Tyrosine, Phenylalanine, Ornithine, Histidine, Arginine, and Tryptophan.

### **Total Lysine 118.50**

### **Total Methionine 118.50**

### **Tryptophan 118.50**

**800-282-7522**

**[www.foragelab.com](http://www.foragelab.com)**





# Mycotoxins

Method: Liquid chromatography-tandem mass spectrometry (LC-MS/MS).

Turn-around: 4-6 business days.

Rush service on individual toxins: \$75.50.

	Detection Limit	Mycotoxin Basic Panel	Mycotoxin Plus Panel	Mycotoxin Premier Panel
Aflatoxin B1 . . . . .	1 ppb	√	√	√
Aflatoxin B2 . . . . .	1 ppb	√	√	√
Aflatoxin G1 . . . . .	1 ppb	√	√	√
Aflatoxin G2 . . . . .	1 ppb	√	√	√
Deoxynivalenol (DON/Vomitoxin). . .	0.1 ppm	√	√	√
Zearalenone . . . . .	12.5 ppb	√	√	√
Fumonisin B1 . . . . .	0.1 ppm		√	√
Fumonisin B2 . . . . .	0.1 ppm		√	√
Fumonisin B3 . . . . .	0.1 ppm		√	√
T2 . . . . .	5 ppb		√	√
HT2 . . . . .	5 ppb		√	√
Ochratoxin A . . . . .	1 ppb		√	√
3 Acetyl Don . . . . .	0.1 ppm			√
15 Acetyl Don . . . . .	0.1 ppm			√
Citrinin . . . . .	50 ppb			√
Fusarenon X . . . . .	0.5 ppm			√
Nivalenol . . . . .	0.5 ppm			√
Neosolaniol . . . . .	20 ppb			√
Diacetoxyscirpenol (DAS) . . . . .	100 ppb			√
<b>Price . . . . .</b>		<b>\$130.75</b>	<b>\$195.50</b>	<b>\$323.50</b>

**Individual toxins: Detection limits as listed above - \$87.50**

Toxins

# Components

Please add \$8.50 processing charge  
to each sample not run with a package.

<b>Acid Insoluble Ash.....</b>	<b>26.00</b>
<b>ADF .....</b>	<b>10.75</b>
<b>ADFom (ash free).....</b>	<b>14.75</b>
<b>ADF Sequential .....</b>	<b>21.50</b>
<b>ADFCP.....</b>	<b>10.75</b>
Needs to be run with ADF	
<b>Ammonia Nitrogen.....</b>	<b>19.50</b>
<b>Ash.....</b>	<b>10.75</b>
<b>Barium .....</b>	<b>53.25</b>
<b>Boron.....</b>	<b>17.75</b>
<b>Calories (BTU) .....</b>	<b>call for price</b>
<b>Carbon .....</b>	<b>20.25</b>
<b>Chloride.....</b>	<b>15.25</b>
<b>Cobalt.....</b>	<b>51.50</b>
<b>Crude Fiber.....</b>	<b>16.00</b>
<b>Crude Protein .....</b>	<b>10.75</b>
<b>Degradable Protein (S. Griseus) .....</b>	<b>19.00</b>
Needs to be run with Crude Protein	
<b>Equine Energy.....</b>	<b>No Charge</b>
<b>Ergot/Fescue Alkaloids in Feedstuff.....</b>	<b>182.50</b>
<b>Fat (Acid Hydrolysis) .....</b>	<b>29.50</b>
<b>Fat (Ether Extraction).....</b>	<b>15.50</b>
<b>Fecal Starch .....</b>	<b>18.50</b>
<b>Gossypol Free .....</b>	<b>532.50</b>
<b>Gossypol Total.....</b>	<b>363.50</b>
<b>Initial Peroxide (on liquid materials).....</b>	<b>42.00</b>
<b>Initial Peroxide (on dry materials) .....</b>	<b>124.00</b>
<b>Iodine Value (Fat &amp; Oils).....</b>	<b>69.75</b>
<b>Iodine, Elemental (Minerals &amp; Metals) .....</b>	<b>107.25</b>
<b>Karl Fischer Moisture .....</b>	<b>59.25</b>
<b>KOH.....</b>	<b>49.25</b>
Needs to be run with Crude Protein	
<b>Lactose.....</b>	<b>104.00</b>
<b>Lead.....</b>	<b>51.50</b>

# Components

<b>Lignin</b> .....	<b>15.50</b>
<b>Moisture Only (Dry Matter)</b> .....	<b>4.75</b>
Moisture loss at 135°C for 2 hrs for feed ingredients; 105°C for 3 hrs for forages.	
<b>Molybdenum</b> .....	<b>17.75</b>
<b>aNDF</b> .....	<b>10.75</b>
<b>aNDFom (ash-free)</b> .....	<b>14.75</b>
<b>NDFCP</b> .....	<b>10.75</b>
Needs to be run with NDF	
<b>NDR</b> .....	<b>10.75</b>
<b>Nitrate</b> .....	<b>16.75</b>
<b>Non-Protein Nitrogen (NPN)</b> .....	<b>43.00</b>
Urea and ammonia, CPE basis.	
<b>Pepsin Digestibility</b> .....	<b>73.50</b>
0.2% pepsin as per AOAC. Needs to be run with Crude Protein.	
<b>pH</b> .....	<b>9.50</b>
<b>Prolamin (corn grain only)</b> .....	<b>39.75</b>
<b>Prussic Acid (Cyanide)</b> .....	<b>83.50</b>
<b>Salt (as chloride)</b> .....	<b>17.75</b>
<b>Selenium</b> .....	<b>61.25</b>
Expected levels needed	
<b>Soluble Protein</b> .....	<b>10.75</b>
Needs to be run with Crude Protein.	
<b>Starch</b> .....	<b>18.50</b>
<b>Starch (Gelatinized)</b> .....	<b>67.75</b>
<b>Sugar, ESC</b> .....	<b>16.75</b>
<b>Sugar, WSC</b> .....	<b>16.75</b>
<b>Sulfur</b> .....	<b>10.75</b>
<b>Trypsin Inhibitor</b> .....	<b>133.25</b>
<b>Urease Activity (soy products only)</b> .....	<b>20.00</b>

## Expected Levels Needed For Items Below

<b>Vitamin A</b> .....	<b>Call for price</b>
<b>Vitamin D for premixes (LOD 45,359 IU/lb)</b> ....	<b>Call for price</b>
<b>Vitamin D by LC-MS/MS (LOD 18.1 IU/lb)</b> .....	<b>Call for price</b>
<b>Vitamin E</b> .....	<b>Call for price</b>

CVAS Affiliate  
Network

A map of Latin America showing the locations of 15 research sites. The map includes Mexico, Central America, and South America. Green pins indicate sites in Mexico, Central America, and southern South America. A red pin indicates a site in Colombia. Labels for countries and major cities are provided.



# CVAS Web-based Data Review and Management System

CVAS continues to provide the most extensive internet-based data management programs available to the industry. Our online data management system not only gives you historical access and unique reporting capabilities but allows you to “mine” valuable statistical information from your samples.

The website provides co-branded reporting, custom report formats, client logging of samples with user-defined data fields, and support for multiple languages.

Samples can now be logged by the user, minimizing the potential for transcription errors and providing additional fields for descriptive data to be associated with the sample.

Results are available by website, fax, email (numerous formats available for importing into most nutritional models) as well as by mail.



## Our Mission

Cumberland Valley Analytical Services (CVAS) is an agricultural laboratory focused on providing **feed and forage analysis** services. Our technologies support animal production, feed manufacturing, agronomy, biofuel production, water quality, and moisture management needs in the U.S. and globally. Our success in meeting client needs is evidenced by our broad client base, long-term relationships, and scale of operations. We look forward to discussing opportunities to support your analytical needs.



## CVAS Client Portal

CVAS will be introducing a new client portal in 2024. This portal will include enhanced features for efficient logging of samples and will provide the ability to track samples from point of shipment to receipt at the lab, and through the lab analysis process. This will be functional for desktop, tablet, and phone.

For those using the portal there will be opportunity to improve the accuracy of submittal information provided as well as to create a more detailed record of information regarding a sample submission.

The portal will be an easy way to view all samples in process, to track changes in key client forages over time and to monitor overall forage quality on the individual farm or across multiple farms.

## Water Analysis

As a provider of diagnostic services to animal agriculture, CVAS provides livestock suitability evaluations of water. Do you know if water quality is an issue in your operation?

<b>Total Coliform and E.coli</b>	<b>30.00</b>
<b>Nitrate Nitrogen and pH</b>	<b>20.75</b>
<b>Livestock Suitability Package</b>	<b>55.50</b>
Includes pH, hardness, total dissolved solids, chlorides, sulfate, nitrate, Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu.	
<b>pH</b>	<b>9.50</b>
<b>Alkalinity</b>	<b>17.75</b>
<b>Fluid Elements</b>	<b>81.75</b>
Antimony, Arsenic, Barium, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Phosphorus, Selenium, Sodium, Sulfur, Thallium, Zinc.	

## Manure Analysis

CVAS is certified by the Minnesota Department of Agriculture for manure testing. With increasing emphasis on stewardship of resources, including implementation of nutrient management planning, manure testing is becoming a routine evaluation for animal production facilities. Please contact CVAS prior to shipping any international manure samples. Regulations vary depending on country of origin.

### Packages

<b>Base Test Package 1</b>	<b>52.75</b>
Total Nitrogen, Organic Nitrogen, $P_2O_5$ , $K_2O$ , $NH_4^+-N$ , Total Solids, Density.	

<b>Base Test Package 2</b>	<b>46.50</b>
Total Nitrogen, Organic Nitrogen, $P_2O_5$ , $K_2O$ , $NH_4^+-N$ , Total Solids.	

### Additional Options

<b>Water Soluble Phosphorus (PSC included)</b>	<b>17.00</b>
<b>Minerals (Ca, P, K, Mg, Na, Fe, Mn, Zn, and Cu)</b>	<b>20.25</b>
<b>Volatile Solids</b>	<b>10.75</b>
<b>pH</b>	<b>9.50</b>
<b>Carbon (C/N Ratio)</b>	<b>20.25</b>

## Plant Tissue Analysis

<b>Standard</b>	<b>30.75</b>
N, P, K, Ca, Mg, Na, S, Fe, Mn, Zn, Cu, and B.	
<b>Trace Minerals each</b>	<b>51.50</b>
Cd, Pb, Ni, and Co	
<b>Molybdenum</b>	<b>17.75</b>
<b>Nitrate</b>	<b>20.75</b>
<b>Nitrogen</b>	<b>10.75</b>
<b>Carbon</b>	<b>20.25</b>
<b>Sulfur</b>	<b>10.75</b>
<b>Chloride</b>	<b>15.25</b>

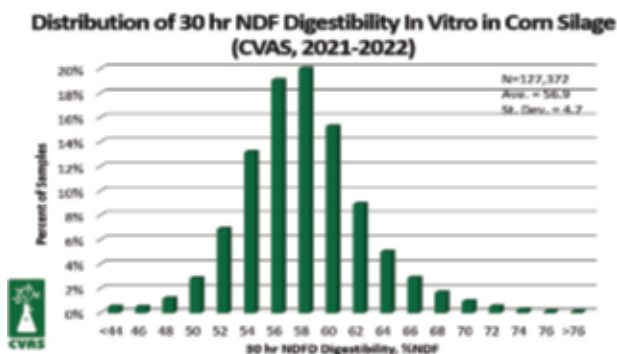
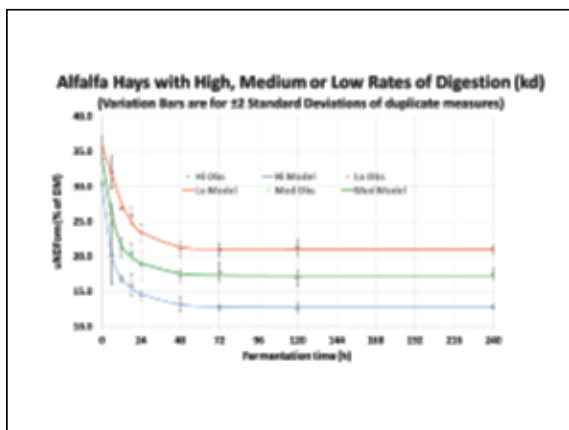
Samples run for Nitrate, Nitrogen, Carbon, or Sulfur without a mineral package will incur a \$8.50 processing charge.

# Data Services

CVAS supports research institutions and industry by providing nutrient data on forages and feeds with data available spanning the U.S. and international geographies. We work with clients on custom analytical needs and have the ability to utilize our database to quickly generate summaries and comparisons of analyses.

Data are only provided in an anonymous fashion that does not compromise any individual business or clients' privileged information.

Below is an example of relationships that can be developed from evaluation of data:



# Equine Services

Understanding equine nutrition is of critical importance to a horse's health and well-being and has radically changed in recent years. As we learn more about how horses digest and utilize nutrients from feeds, feed choices have broadened and changed. The importance of sugars, fructans, and fiber digestibility is better recognized.

## Equine Basic

**22.50**

This NIR package includes Dry Matter/Moisture, Digestible Energy, NSC, NFC, RFV (hays and haylages only), Starch, Sugar (WSC and ESC), Crude Protein, Soluble Protein, ADFCP, NDFCP, Lignin, ADF, NDF, NDFom, Fat, Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), and Potassium (K).

## Equine Lancer

**36.00**

This package includes Dry Matter/Moisture, Digestible Energy, NSC, NFC, RFV (hays and haylages only), Starch, Sugar (WSC and ESC), Crude Protein, Soluble Protein, ADFCP, NDFCP, Lignin, ADF, NDF, NDFom, Fat, and Ash by NIR. Chemistry minerals are provided, superior analytically to NIR predictions, including Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K), Sodium (Na), Iron (Fe), Manganese (Mn), Zinc (Zn), and Copper (Cu).

## Equine Chemistry Basic

**86.75**

This package is similar to the Equine Lancer package but uses reference chemistry methods in place of more economical NIR. It provides Dry Matter/Moisture, Digestible Energy (forages only), NSC, NFC, RFV (hays and haylages only), Starch, WSC, Crude Protein, Soluble Protein, ADF, NDF, Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K), Sodium (Na), Iron (Fe), Manganese (Mn), Zinc (Zn), and Copper (Cu).

## Equine Chemistry Complete

**134.25**

This package includes Dry Matter/Moisture, Digestible Energy, NSC, NFC, RFV (hays and haylages only), Starch, Sugar, Crude Protein, Soluble Protein, WSC, ADF, NDF, ADFCP, NDFCP, Lignin, Fat, Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K), Sodium (Na), Sulfur (S), Chloride (Cl), Iron (Fe), Manganese (Mn), Zinc (Zn), and Copper (Cu).

Analyses important to troubleshooting equine nutritional problems are listed on other pages. Various nutritional components are listed on pages 10–11, mycotoxins on page 9, mold and yeast evaluations on page 5, and water on page 14.





## Turn-around Time

Chemistry results are returned three to six days following receipt with exceptions for special analyses. Results on NIR samples received by noon for NIR-1, 2 & 3 are posted the same day. NIR samples submitted to a satellite facility requiring additional chemistry analysis will increase turn-around time by one day.

## Accuracy and Precision

CVAS is certified by the National Forage Testing Association in both chemistry and NIR analyses. CVAS also participates in NAPT, AAFCO, MAP, and BIPEA check sample programs. In addition, CVAS is an AOCS approved laboratory to analyze Oilseed meal and DDGs from cornmeal.

All samples released by CVAS are reviewed by in-house personnel with years of industry experience.

## Mailing / Shipping Options

All shipping charges are subject to change.

CVAS provides USPS sample bags at no charge and shipping materials at 25 cents for large bags and 70 cents for extra large bags. This allows for Priority Mail shipping with no money or paperwork required. We pay the shipping charges and bill back. Packages ship for \$9.00 or more depending on weight.

CVAS also offers UPS Authorized Return Service Labels. Ship samples with no money or paperwork required for a flat rate for the following services:

UPS Return Labels have a 50lb limit. Please remove all old shipping labels from reused boxes to avoid fines from UPS.

UPS Ground Service	\$13.50
UPS Second Day Service	\$30.00
UPS Overnight Service	\$44.00

USPS  
PO Box 999  
Waynesboro, PA 17268

UPS/Fedex  
4999 Zane A. Miller Drive  
Waynesboro, PA 17268

## Pricing

The pricing and packages provided in this brochure may change without notice.

Please go to [www.foragelab.com](http://www.foragelab.com) for up-to-date information.

## Fees and Other Charges

CVAS is committed to keeping charges as low as possible in support of the use of analytical services. However, there are situations where additional charges are necessary due to specific costs of administration or handling.

Please go to [www.foragelab.com](http://www.foragelab.com) for additional information.

### International samples (excluding Canada)

A handling fee of \$12.50 (USD) is charged for each international sample.

**Special handling** – Some samples that are bulky or required special drying, processing, subsampling, or grinding may be assessed an additional charge.

- Up to \$12.75 per sample without contact for client approval.
- Freeze drying – \$10.75 per sample.

**Liquid samples** – Up to \$12.75 per sample without contact for specific client approval.

**“Grind All”** – \$8.75 per sample

**Ball Milling** – \$11.50

**Cryo Milling** – \$17.25

**Additional Labor Charge** – \$50 / hour in 15-minute increments

### Sample forwarding fee

\$20.00 per package. Actual shipping charges will be billed back.

**Calling Fee** – \$5.50 per specific occurrence

**Archival Report Charge** – \$2.50 per sample report

### Shipping Charges

At published rates using CVAS in-bound shipping services, go to [www.foragelab.com/Submitting-Samples/Shipping](http://www.foragelab.com/Submitting-Samples/Shipping).

## Billing

CVAS sends out bills twice per month around the 1st and 15th of the month for services completed in the previous two weeks. Terms are net 30 with any volume discounts available only when within terms. We do bill third parties on request. To pay by credit card go to our website or <https://payment.foragelab.com/>. A convenience fee will be charged at 3.5% of the transaction amount.

Clients utilizing our drop box route system will be billed \$3.00 per sample to underwrite the cost of drivers, vehicle use, and mileage.

## Key Staff



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Global Laboratory Officer /

NIR and EDXRF Application Specialist

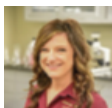
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## **Our Mission:**

Cumberland Valley Analytical Services is committed to providing innovative and cost-effective forage and feed laboratory testing for the agriculture industry. Combining the most comprehensive array of forage characterization services, cutting-edge information technology, and outstanding customer focus, we will be the global leader in feedstuff analysis and analytics as we support world food production needs.

