www.foragelab.com mail@foragelab.com I•800•CVAS•LAB 4999 Zane A. Miller Drive

Waynesboro, PA 17268



# Cumberland Valley Analytical Services

Laboratory Services for Agriculture

# Services and Pricing Guide

January 2024

Revised I/I/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, Zumbrota, MN, and Fort Loramie, OH.

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!

**Ralph Ward** President rward@foragelab.com





Laboratory services for production and research, feed and food.

## NIR Packages

### NIRI

The NIR I 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, NEI, NEm, NEg (NRC Summative Energy Equations), NSC and NFC.

### NIR2

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

### NIR3

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

### NIR4

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

### NIR5

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

### NIR Plus/CNCPS Option

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	11.00
Provides a machanically devived measure of actuals stands	

## Provides a mechanically derived measure of soluble starch.

NIRI Non-Forage Ingredients

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

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

### Apparent Nutrient Digestibility by TMR and Fecal Evaluation

Includes an NIRI 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

(Set of 5 samples analyzed to assess mixer efficiency) NIR analysis with chemistry minerals. This package includes Dry Matter, Crude Protein, Soluble Protein, ADF, NDF, ADFCP, NDFCP, Lignin, Fat, Starch, Sugar and Ash by NIR, and Ca, P, Mg, K, Na, Fe, Mn, Zn, Cu, Cl, and S by chemistry. Report of analyses average, standard deviation and COV is available to download on foragelab.com.

### TMR Control - NIR Package

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.

## 22.50

22.50

## 22.50

### 74.50

230.00

113.25

### 3

### 46.00

52.25

38.75

11.25

36.00

## **Chemistry Packages**

### Standard Package

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, NEI, NEm, NEg, RFV (for hays and haylages), and Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu.

### Standard Plus Energy

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

### **CNCPS** Package

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

### **RFV Package**

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

### Basic NDF Package

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

### Mineral Only Package

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

## Mineral Only (High Concentration) Package

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

## TMR Diagnostic Package

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

Provides Dry Matter/Moisture, Crude Protein, Soluble Protein, Ash, Fat, Ca, P, CI, 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 157.25 other than moisture are present in the sample.

## Feed Mill Mixer Evaluation

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.

4

# 117.50

# 34.25

46.25

## 54.50

35.50

### 279.25

## 91.50

### 462.50

## 84.25

51.50

## **Chemistry Options**

<b>Fermentation</b> Includes Dry Matter/Moisture, Lactic Acid, Acetic Acid, Propionic Ac Butyric Acid, Iso-butyric Acid, I,2 - Propanediol, Total VFA, pH, Lac VFA ratio, Crude Protein equivalent from Ammonia as a percentage Matter and Crude Protein.	tic Acid/
Fermentation Analysis Plus Includes Fermentation Analysis as well as a breakdown of Alcohols, A and Lactates.	60.25 Acetates,
Fatty Acid Profile 30 meter column: 22 fatty acids from CI2 to C24, and total fatty acid	<b>87.50</b> Is.
Fatty Acid Profile Other products requiring 100 meter column: C4 to C24 with trans fat	<b>131.50</b> ty acids.
Milk Fatty Acid Profile 100 meter column: C4 to C24 with trans fatty acids, de novo, mixed, pr total saturated and unsaturated fatty acids, CLA, MUFA, and PUFA on a basis only.	
Free Fatty Acids	17.00
Mold / Yeast Count	37.75
<b>Mold Identification</b> Mold/Yeast Count with Mold Identification.	66.00
<b>PDI/Urease (soy products only; must be run with CP)</b> Protein Dispersibility Index (includes PDI and Urease Activity)	61.50
Micron Particle Size	29.00
<b>Byproduct</b> An add-on to the standard package, fat, lignin, ADFCP, NDFCP, sulfur, and chloride.	48.50
<b>DCAD (CI, S)</b> Must also include a package with chemistry minerals to calculate DCAD value.	21.00
<b>Corn Silage Processing Score (CSPS)</b> Needs to be run with Starch or a package that includes Starch.	27.75
<b>Physically Effective NDF (peNDF)</b> Needs to be run with an NDF or a package that includes NDF.	27.75
Particle Size Evaluation (Penn State Separator)	11.75
<b>Toxic Elements Panel</b> Includes Arsenic, Lead, Chromium, and Mercury.	81.75
Trace Elements Panel Includes Cobalt, Copper, Iron, Manganese, Molybdenum, Selenium, a	81.75 and Zinc

# Options

## 5

## 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) 60.50 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 2 Needs to be run with Crude Protein.	201.25
<b>Ross UIP</b> Total tract protein digestibility and indigestibility. Needs to be run wit Crude Protein.	<b>99.00</b> th
<b>NDF Digestibility In Vitro Per Time Point</b> 6, 12, 24, 30, 48, 120 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.	38.50
NDF Digestibility In Vitro Time Point Series (6 points) 2	225.25
<b>Starch Digestibility In Vitro Per Time Point</b> 2, 4, 6, 7, 8, 12, 24, or 30 hrs. Other time points may be available upor request. Starch by chemistry needs to be done.	<b>47.00</b>
Starch Digestibility In Vitro Time Point Series (6 points) Starch by chemistry needs to be done.	275.00
<b>Dry Matter Digestibility</b> <b>In Vitro Per Time Point</b> 4, 6, 12, 24, 30, 48, 72, 96, 120, or 240 hrs.	32.00
Dry Matter Digestibility In Vitro Time Point Series (6 points)	87.25
Needs to be run with NDFom.	50.25
Forage 12, 30, 120, and   Ingredient 12, 30, 72, and	
NDF Standard RPE	
	00.50 263.00

## 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 Needs to be run with Crude Protein	197.50
<b>Protein Digestibility In Situ</b> Rumen Undegradable Protein (RUP) at 16 hrs. Needs to be run with Crude Protein	134.00
Dry Matter Digestibility In Situ Per Time Point 24, 30, or 48 hrs. Other time points available upon request.	98.50
<b>Starch Digestibility In Situ Per Time Point</b> 7, 16, or 24 hrs. Other time points available upon request. Starch by chemistry needs to be done.	121.25
NDF Digestibility In Situ Per Time Point	134.00

NDF Digestibility In Situ Per Time Point134.6, 24, 30, 48, 96, or 120 hrs. Other time points available upon request.A request for a 72 hr or higher time point needs run with NDFom.



ln situ

7

## **Proximates**

TAG I Package Includes Dry Matter/Moisture, Crude Protein, Crude Fat, and Crude	<b>40.00</b> Fiber.
TAG 2 Package Includes Tag I plus Ash, Ca, and P.	53.00
<b>TAG 3 Package</b> Includes Tag I plus Ash and Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu.	66.00
<b>TAG 4 Package</b> Includes Dry Matter/Moisture, Ash, Ca, and P.	33.50

## **Amino Acids**

Must be run with a Crude Protein.

## Cysteine, Methionine, Lysine plus 9 more

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

Full Profile without Tryptophan	83.50
Cysteine, Methionine, Lysine, Aspartic Acid, Threonine, Glutamic Ac	id,
Proline, Glycine, Alanine, Valine, Isoleucine, Leucine, Serine, Tyrosine	e,
Phenylalanine, Ornithine, Histidine, and Arginine.	

## Full Profile with Tryptophan

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



34.50

211.00

Amino Acids/ Proximates

## **Mycotoxins**

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

Turn-around: 4-6 business days.

Rush service on individual toxins: \$75.50.

Detectic Limit	on Mycotoxin Basic Panel	Mycotoxin Plus Panel	Mycotoxin Premier Panel
Aflatoxin BI I ppl	o √	$\checkmark$	$\checkmark$
Aflatoxin B2 I ppl	o √	$\checkmark$	$\checkmark$
Aflatoxin GI I ppl	<b>o</b> √	$\checkmark$	$\checkmark$
Aflatoxin G2 I ppl	<b>o</b> √	$\checkmark$	$\checkmark$
Deoxynivalenol (DON/Vomitoxin) 0.1 pp	m √		$\checkmark$
Zearalenone 12.5 p	рЬ √	$\checkmark$	$\checkmark$
Fumonisin BI 0.1 pp	m	$\checkmark$	$\checkmark$
Fumonisin B20.1 pp	m	$\checkmark$	$\checkmark$
Fumonisin B30.1 pp	m	$\checkmark$	$\checkmark$
Т2 5 рр!	þ	$\checkmark$	$\checkmark$
НТ2 5 ррі	þ	$\checkmark$	$\checkmark$
Ochratoxin A I ppl	þ	$\checkmark$	$\checkmark$
3 Acetyl Don 0.1 pp	m		$\checkmark$
I5 Acetyl Don 0.1 pp	m		$\checkmark$
Citrinin 50 pp	b		$\checkmark$
Fusarenon X 0.5 pp	m		$\checkmark$
Nivalenol 0.5 pp	m		$\checkmark$
Neosolaniol 20 pp	b		$\checkmark$
Diacetoxyscirpenol (DAS)100 pp	ob		$\checkmark$
Price	\$130.75	\$195.50	\$323.50

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

9

## Components

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

Acid Insoluble Ash 26.00
ADF
ADFom (ash free)14.75
ADF Sequential21.50
ADFCP
Ammonia Nitrogen
Ash10.75
Barium 53.25
Boron
Calories (BTU) call for price
Carbon 20.25
Chloride 15.25
Cobalt
Crude Fiber 16.00
Crude Protein 10.75
Degradable Protein (S. Griseus) 19.00 Needs to be run with Crude Protein
Equine Energy No Charge
Ergot/Fescue Alkaloids in Feedstuff
Fat (Acid Hydrolysis) 29.50
Fat (Ether Extraction) 15.50
Fecal Starch 18.50
Gossypol Free 532.50
Gossypol Total 363.50
Initial Peroxide (on liquid materials) 42.00
Initial Peroxide (on dry materials) 124.00
Iodine Value (Fat & Oils) 69.75
Tourine Value (1 at & Olis)
Iodine, Elemental (Minerals & Metals)
Iodine, Elemental (Minerals & Metals) 107.25
Iodine, Elemental (Minerals & Metals) 107.25 Karl Fischer Moisture 59.25 KOH

# Components

Lignin 15.5	0
Moisture Only (Dry Matter)4.7 Moisture loss at 135°C for 2 hrs for feed ingredients; 105°C for 3 hrs for forages.	'5
Molybdenum 17.7	′5
aNDF 10.7	′5
aNDFom (ash-free) 14.7	′5
NDFCP 10.7 Needs to be run with NDF	5
NDR 10.7	5
Nitrate 16.7	5
Non-Protein Nitrogen (NPN) 43.0 Urea and ammonia, CPE basis.	0
Pepsin Digestibility 73.5   0.2% pepsin as per AOAC. Needs to be run with Crude Protein. 73.5	0
pH 9.5	0
Prolamin (corn grain only) 39.7	5
Prussic Acid (Cyanide) 83.5	0
Salt (as chloride) 17.7	5
Selenium	5
Soluble Protein 10.7 Needs to be run with Crude Protein.	5
Soluble Starch (Needs to be run with chemistry starch)	0
Starch	0
Starch (Gelatinized) 67.7	<b>′</b> 5
Sugar, ESC 16.7	<b>′</b> 5
Sugar, WSC 16.7	′5
Sulfur	′5
Trypsin Inhibitor 133.2	:5
Urease Activity (soy products only) 20.0	0
Expected Levels Needed For Items Below	
Vitamin ACall for pric	e
Vitamin D for premixes (LOD 45,359 IU/lb)Call for pric	e
Vitamin D by LC-MS/MS (LOD 18.1 IU/lb)Call for pric	e
Vitamin E Call for pric	<u>م</u>

## The CVAS Affiliate Network

Building on our successful integration of broad chemistry evaluation services, NIR applications, and web-based data management services, CVAS is able to support others in the business of providing analytical services to the feed industry. Our approach provides not just NIR equations but ongoing support, including definition of needs, equipment recommendations, assisting in the establishment of operations, technical support, quality control, software, and webbased data management. We support affiliate labs around the globe!







## 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**

Surdiversity for a sector (Severe (CHR) is an approximate laboratory forward on providing fined and through analysis involves the technologies support arean of production. Feel memorythrough approximate field through analysis involves or management results in the ULE and globally. Our success in making client neets is endered by our broad client basis. Using teem watershifts, and analysis. We look through the discussing properticities to be approximate in teed.



## **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?

Total Coliform and E.coli	30.00
Nitrate Nitrogen and pH	20.75
Livestock Suitability Package Includes pH, hardness, total dissolved solids, chlorides, sulfate, nitr Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu.	<b>55.50</b> rate,
рН	9.50
Alkalinity	17.75
Fluid Elements	87.50

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	
Base Test Package I	52.75
Total Nitrogen, Organic Nitrogen, P <sub>2</sub> O <sub>5</sub> , K <sub>2</sub> O, NH <sub>4</sub> <sup>+</sup> -N, Total Solids,	Density.
<b>Base Test Package 2</b> Total Nitrogen, Organic Nitrogen, P,O,, K,O, NH, <sup>+</sup> -N, Total Solids.	46.50
Total full ogen, organic full ogen, $r_2 \sigma_5$ , $\kappa_2 \sigma_5$ , $\kappa_1 \sigma_4$ -full solids.	
Additional Options	
Water Soluble Phosphorus (PSC included)	17.00
Minerals (Ca, P, K, Mg, Na, Fe, Mn, Zn, and Cu)	20.25
Volatile Solids	10.75
рН	9.50
Carbon (C/N Ratio)	20.25
Plant Tissue Analysis	
Standard	30.75
N, P, K, Ca, Mg, Na, S, Fe, Mn, Zn, Cu, and B.	
Trace Minerals each	51.50
Cd, Pb, Ni, and Co	
Molybdenum	17.75
Nitrate	20.75
Nitrogen	10.75

Standard	30.75
N, P, K, Ca, Mg, Na, S, Fe, Mn, Zn, Cu, and B.	
Trace Minerals each	51.50
Cd, Pb, Ni, and Co	
Molybdenum	17.75
Nitrate	20.75
Nitrogen	10.75
Carbon	20.25
Sulfur	10.75
Chloride	15.25
Samalaa uun fan Nijensen Nijensen Canhan an Sulfun wijehaw	

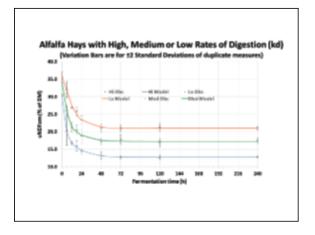
Samples run for Nitrate, Nitrogen, Carbon, or Sulfur without a mineral package will incur a \$8.50 processing charge.

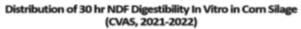
## **Data Services**

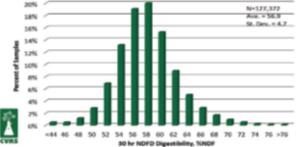
CVAS supports research institutions and industry by providing nutrient data on forages and feeds with data available spanning the U.S. and international geographies. We work with clients on custom analytical needs and have the ability to utilize our database to quickly generate summaries and comparisons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







**Data Services** 

## **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**

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

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).

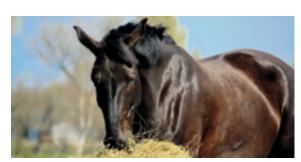
## **Equine Chemistry Basic**

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

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.



### 36.00

86.75

134.25

22.50

## **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-I, 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 60 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.

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	
Postal Service	\$9.00 or as billed by the Post Office.	

USPS	UPS/Fedex
PO Box 999	4999 Zane A. Miller Drive
Waynesboro, PA 17268	Waynesboro, PA 17268

## **Pricing**

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

Please go to 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 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

### Additional fiber testing fee

\$4.00: Organic matter method per sample per fiber type \$10.75: Sequential ADF per sample \$10.75: Fat extracted method per sample per fiber type.

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.

## Billing

CVAS sends out bills twice per month around the Ist and I5th of the month for services completed in the previous two weeks. 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.

## Sample Pick Up Routes

CVAS offers sample pick up routes in California, Indiana, New York, Ohio and Pennsylvania.

When dropping off samples, please send a text message to the number on the top of the drop box (also found below) with the location, account name, and number of samples.

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

Results for NIR analysis should be available the next business day, following drop off. Sample bags and testing information is available at each drop location. Supplies may also be requested by emailing mail@foragelab.com.



Scan for more information

## Pick Up Route Contact Numbers

Location	Text Number
California (North)	855-933-3531
California (South, Bakersfield and Shafter areas)	855-490-1039
Indiana	888-910-9728
New York (Western, and Wed. pick up)	888-573-9205
New York (Western, Batavia area)	888-443-2039
New York (Central)	855-219-0751
Ohio	888-907-9167

Pennsylvania

877-888-1523





## **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.