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1356 Sumas Way
Abbotsford, BC V2S 8H2

Fraser Analytical Services

Laboratory Services for Agriculture

Services and Pricing Guide

August 2014

History

Fraser Analytical Services is a satellite facility of Cumberland Valley Analytical Services (CVAS) located in Abbotsford in British Columbia's Fraser Valley. Fraser Analytical is focused primarily on providing rapid turn-around of forage and feed analysis by NIR. Utilizing expanded equations, Fraser Analytical is able to provide nutrient evaluations not traditionally available by NIR to the Canadian feed industry.

CVAS was created in 1994 as a small chemistry forage lab serving the local dairy industry in Maryland and south central Pennsylvania. CVAS has grown significanty by providing cutting- edge forage evaluation services in a quick, accurate and cost-effective manner. CVAS was the first to commercially offer the Fermentation Analysis. CVAS was among the first laboratories to offer extensive invitro digestibility services and analysis for the Cornell and CPM nutritional models.

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

Forage and feed characterization ...

... from the field to the feed bunk.

NIR Packages

These options are available on hays, haylages, corn, corn silages, grain silages, small grains, and TMR.

NIR1 ..... 16.75
The NIR 1 Analysis includes tests for Dry Matter, Moisture, Crude Protein, ADF Protein, NDF Protein, Soluble Protein, ADF, NDF, Lignin, Starch, Sugar, Fat, Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), and Potassium (K) with pH by traditional method on an ensiled forage. Calculated values are provided for Available Protein, Adjusted Protein, Degradable Protein, NEL, NEM, NEG (OARDC Summative Energy Equation) and NFC.

NIR2 ..... 24.50
The NIR 2 is the NIR 1 Analysis with wet-chemistry Minerals - Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K), Sodium (Na), Iron (Fe), Manganese (Mn), Zinc (Zn) and Copper (Cu).

NIR3 ..... 31.50
The NIR 3 is the NIR 2 Analysis plus wet-chemistry on Chloride (Cl) and Sulfur (S).

NIR4 ..... 37.50
The NIR 4 is the NIR 2 Analysis plus wet-chemistry on Crude Protein, ADF and NDF.

NIR5 ..... 27.00
The NIR 5 is the NIR 1 Analysis plus wet-chemistry on Crude Protein, ADF and NDF.

NIR Plus Option 8.00
Provides 30 hr NDF Digestibility with Kd Rate, an NIR evaluation of Fermentation acids (for ensiled forages) for NIR1-NIR5 as well as Indigestible Fiber, Total Fatty Acids, and Soluble Fiber. This option also includes a soil contamination probability index of Low, Medium or High (not available for corn grain). For Corn Silages, the NIR Plus Option also provides 12 hr NDF digestibility and qualitative assessment of 7 hr starch digestibility.

CPM Option ..... No Charge
Provides Neutral Detergent Residue (NDR) in place of aNDF analysis.

Apparent Nutrient Digestibility by TMR and Fecal Evaluation..... 55.00
Includes a NIR Plus evaluation of a high group TMR and associated fecal matter to generate an evaluation of apparent NDF and starch digestibility.

TMR Mixture Evaluation..... 91.50
(Set of 5 samples analyzed to assess mixer efficiency) NIR analysis with chemistry minerals. This package includes DM, CP, Soluble Protein, ADF, NDF, Lignin, Fat, Starch, Sugar, Ash, Ca, P, Mg, K, Na, Cl, S, Fe, Mn, Zn, Cu.

TMR Control - NIR 49.00
NIR analysis with chemistry minerals. This package includes DM, CP, Soluble Protein, ADF, NDF, 24 hour NDF Digestibility, Lignin, Fat, Starch, Sugar, Ash, Ca, P, Mg, K, Na, Cl, S, Fe, Mn, Zn, Cu. Also included is an evaluation for peNDF, SPS (starch processing score), and the Penn State Particle Size Evaluation. Weekly contract price available.

NIR Packages

Manure.....26.75
Dry Matter, Crude Protein, ADF, NDF, lignin, indigestible NDF, starch, ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), and Potassium (K).

Distillers 16.75
The NIR 1 Analysis includes tests for Dry Matter, Moisture, Crude Protein, ADF Protein, NDF Protein, Soluble Protein, ADF, NDF, Lignin, Starch, Sugar, Fat, Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), and Potassium (K). Calculated values are provided for Available Protein, Adjusted Protein, Degradable Protein, NEL, NEM, NEG (OARDC Summative Energy Equation) and NFC.

Distillers Plus Option 8.00
Distillers analysis with qualitative evaluation for Vomitoxin

Soybean Meal..... 16.75
Dry Matter, Crude Protein, Crude Fiber, Fat , Calcium (Ca), Phosphorus (P).

CVAS NIR Equations

- Legume Forage
- Mixed Forage
- Grass Forage
- Small Grain Forage
- Straw
- Sorghum, Forage Hybrid
- Sorghum, Grain Hybrid
- Barley Silage, High Grain
- Corn Silage
- Corn Silage, BMR
- Pasture
- TMR
- TMR, Finishing
- Low Protein Feed Mix
- Mid Protein Feed Mix
- High Protein Feed Mix
- Manure
- Almond Hulls
- Bakery
- Beet Pulp
- Brewers Grains
- Blood Meal
- Corn Gluten Feed
- Corn Gluten Meal
- Corn Grain
- Corn Grain, fermented
- Corn Distillers
- Feather Meal
- Small Grains
- Soybeans
- Soybeans, heat treated
- Soybean Meal
- Soybean Meal, heat treated
- Soy Hulls

Some equations may not be available at all satellite locations. Constituents predicted will vary by equation. CVAS continues to develop NIR equations and constituents based on industry feedback. If you have an unusal ingredient or nutrient evaluation need, contact us for more information on how we can build calibrations to meet your feed evaluation objectives.

Chemistry Packages

Standard.....32.00
Includes Dry Matter, Moisture, Crude Protein, Unavailable Protein (Haylages only), Adjusted Protein, Soluble Protein, calculated Degradable Protein (Forages only), Acid Detergent Fiber (ADF), Neutral Detergent Fiber (NDF), Ash, NFC, (Energy values on forages only) TDN, NEL, NEM, NEG, RFV, and Ca, P, Mg, K, Na, Fe, Mn, Zn and Cu with pH on an ensiled forage.

Standard Plus Energy $50.75
Standard Package plus CNCPS option to get Energy Values on Non-Forages.

CPM Plus.....73.50
Includes the Standard Analysis and Lignin, Fat, ADFCP, NDFCP, Chloride, Sulfur, Starch and Sugar. When combined with our Fermentation Analysis a Soluble Fiber is calculated.

RFV.....20.50
Includes Dry Matter, Moisture, Crude Protein, ADF, NDF, calculated RFV (on hays and haylages), Adjusted Protein, NEL, NEM, NEG and TDN.

Basic NDF.....28.50
Dry Matter, Moisture, Crude Protein, ADF, NDF, Minerals (Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu), pH on ensiled forages, with calculated values for Adjusted Protein, TDN, NEL, NEG and NEM.

Beef.....16.50
Crude Protein, ADF. Includes energy values on forages.

Minerals Only.....25.75
Includes Dry Matter, Ca, P, Mg, K, Na, Fe, Mn, Zn and Cu.

TMR Diagnostic.....145.00
By chemistry; includes DM, CP, Soluble Protein, Ammonia, ADF, NDF, peNDF (physically effective NDF - Mertens) 24 hour NDF Digestibility, Lignin, Fat, Starch, SPS (starch processing score), 7 hour Starch Degradability, Sugar, Ash, Ca, P, Mg, K, Na, Cl, S, Fe, Mn, Zn, Cu, Lactic Acid, Acetic Acid, Butyric Acid and the Penn State Particle Size Evaluation.

TMR Control – Chemistry.....59.00
By chemistry; includes DM, CP, Soluble Protein, ADF, NDF, Starch, Ash, Ca, P, Mg, K, Na, Cl, S, Fe, Mn, Zu, Cu. Also included is an evaluation for peNDF, SPS (starch processing score), and the Penn State Particle Size Evaluation. Weekly contract price available.

Animal Protein.....51.25
Provides Dry Matter, Moisture, Crude Protein, Soluble Protein, Ash, Fat, Ca, P, Cl and S.

Liquid Sample
• Provides Dry Matter, Moisture, Crude Protein, Ammonia, Fat, Sugar, Ash, Ca, P, Mg, Na, Fe, Mn, Zn, and Cu as well as TDN, NEl, NEm, and NEg.....38.00
• Above analysis with Karl Fischer moisture - appropraite when volatiles other than moisture are present in the sample.....78.00

Feed Mill Mixer Evaluation.....158.00
Evaluation of CP, Ash, Ca, P, Mg, Na, Cl, Fe, Mn, Zn, Cu, on 10 samples. Includes report of analysis including AVG, SD, and COV for nutrients.

Multistep in vitro Protein Evaluation.....110.00/135.00
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.

Wet Chemistry Options

Fermentation **23.75**
Includes Dry Matter, Titratable Acidity, 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 and Ammonia N as a percentage of total N.

Fermentation Analysis Plus **33.75**
Includes Fermentation Analysis as well as a breakdown of Alcohols, Acetates and Lactates.

Fatty Acid Profile **89.50**
Cost and profile vary depending on sample.

Heavy Metals **58.00**
Includes Aluminum, Antimony, Arsenic, Barium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Phosphorus, Potassium, Selenium, Sodium, Sulfur, Thallium, Zinc.

Mold Count **23.75**
Mold/Yeast Count

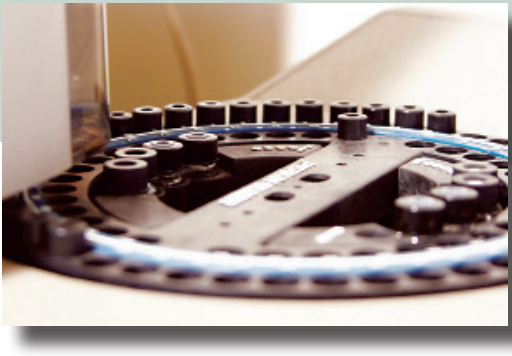
Mold Identification **43.75**
Mold/Yeast Count with Mold Indentification

PDI/Urease/KOH **84.00**
Protein Dispersibility Index (includes PDI, CP, Urease Activity, and KOH)

PDI/Urease **42.00**
Protein Dispersibility Index (includes PDI, CP and Urease Activity)

Selenium **38.50**
(expected levels needed)

Urease Activity **22.00**



Wet Chemistry Options

Fat (acid-hydrolysis) 34.00

CNCPS..... 18.75
Adds to the standard package fat, lignin, ADFCP and NDFCP. Allows energy values to be calculated on non-forage samples.

Micron Particle Size 18.50

Byproduct..... 23.25
Adds to the standard package fat, lignin, ADFCP, NDFCP, sulfur and chloride.

DCAD (CL, S)..... 10.50

Corn Silage Processing Score. 18.50
CSPS

Physically Effective NDF 18.50
peNDF

Particle Size..... 7.50
Particle Size Evaluation (Penn State Separator)

Molybdenum 10.50

Invitro Analysis

NDF Digestibility 24.50
Time points may include 6, 12, 24, 30, 48 or 240 hrs (iNDF).
Other time points available upon request.

NDF Digestiblity Time Point Series (6 points) with Rates.....115.00

Starch Digestibility 28.50
Time points may include 2, 4, 6, 7, 8, 12, 18, 24, 36, 72 hrs.
Other time points available upon request.

Starch Digestibility Time Point Series (6 points) with Rates 115.00

Dry Matter Digestiblity (Invitro)..... 19.00
Time points as determined by client.

Insitu Analysis

CVAS maintains 10-12 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.

Protein Digestibility 88.50
Rumen Undegradeable Protein (RUP) at 16 hrs

Dry Matter Digestibility 65.00
24, 30, 48 hours
Other time points available upon request.

Dry Matter Digestiblity Time Point Series (6 points).....Inquire

Starch Digestibility.....88.50
Time points may include 2, 4, 6, 7, 8, 12, 18, 24, 36 or 72 hrs.
Other time points available upon request.

Starch Digestibility Time Point Series (6 points) with Rates..... Inquire

NDF Digestibility 88.50

Proximates

TAG 1 ..... **24.50**
Includes Dry Matter, Moisture, Crude Protein, Crude Fat and Crude Fiber

TAG 2 ..... **34.00**
Includes Tag I plus Ash, Ca and P.

TAG 3 ..... **42.00**
Includes Tag I plus Ash and Ca, P, Mg, K, Na, Fe, Mn, Zn, Cu.

TAG 4 ..... **21.00**
Includes Dry Matter, Moisture, Ash, Ca and P.

Protein Only **5.75**
Protein (combustion)

Moisture Only **6.00**
Moisture (Moisture loss drying at 135°C for 2 hrs)

Fat (ether extraction) **9.50**

Fat (acid hydrolysis) **34.00**

Crude Fiber **8.50**

Ash **5.75**

Karl Fischer Moisture **45.00**

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Amino Acids

Cystine, Methionine.....77.50
Cystine, Methionine

Cystine, Methionine,Lysine plus 9 more.....102.50
Cystine, Methionine, Lysine, Aspartic Acid, Threonine, Glutamic Acid, Proline, Glycine, Alanine, Valine, Isoleucine and Leucine.

Full Profile w/o Tryptophan.....138.00
Cystine, Methionine, Lysine, Aspartic Acid, Threonine, Glutamic Acid, Proline, Glycine, Alanine, Valine, Isoleucine, Leucine, Taurine, Hydroxyproline, Serine, Lanthionine, Tyrosine, Phenylalanine, Hydroxylysine, Ornithine, Histidine and Arginine,

Full Profile.....160.00
Cystine, Methionine, Lysine, Aspartic Acid, Threonine, Glutamic Acid, Proline, Glycine, Alanine, Valine, Isoleucine, Leucine, Taurine, Hydroxyproline, Serine, Lanthionine, Tyrosine, Phenylalanine, Hydroxylysine, Ornithine, Histidine, and Arginine and Tryptophan.

Components

Please add $6.00 processing charge to each sample not run with a package.

Acid Insoluble Ash **24.50**

ADF **5.75**

ADFom (ash free) **8.75**

ADFCP **5.75**

Ammonia Nitrogen **10.50**

Ash **5.75**

Barium **36.00**

Boron **10.00**

Chloride **6.00**

Crude Fiber **8.50**

Cobalt **36.00**

Crude Protein **5.75**

Deg. Protein (strep. Griseus) **11.00**

Dry Cow Option **10.50**
Chloride, Sulfur

Dry Matter **6.00**

Elemental Iodine **75.50**

Ergononovine **105.00**

Fat (Acid-Hydrolysis) **34.00**

Fat (Ether Extraction) **9.50**

Free Fatty Acids **26.50**

Gossypol **485.50**

Initial Peroxide (on liquid materials) **29.50**

Initial Peroxide (on dry materials) **90.00**

Iodine Value **50.00**

Karl Fischer Moisture **45.00**

KOH **46.00**

Lead **36.00**

Lignin **9.50**

Micron Particle Size **18.50**

Molybdenum **10.50**

Moisture Only **6.00**
Moisture (Moisture loss drying at 135°C for 2 hrs)

Components

aNDF **5.75**

aNDFom (ash-free) **8.75**

NDF-CP **5.75**

NDR **5.75**

Nitrate **10.50**

Non-Protein Nitrogen (NPN) **27.00**

Particle Size Evaluation (Penn State Separator) **7.50**

Pepsin Digestibility **46.00**
(0.2% pepsin as per AOAC-includes crude protein determination)

Ph **5.50**

Protein Only **5.75**
Protein (combustion)

Protein Dispersibility Index **42.00**
(includes PDI, CP and Urease Activity)

Prolamin **18.00**

Prussic Acid (Cyanide) **55.00**

Salt (as chloride) **5.75**

Selenium **38.50**
(expected levels needed)

Soluble Fiber (M. B. Hall) **54.50**

Soluble Protein **5.75**

Starch **11.50**

Starch (Gelatinized) **58.00**

Starch (Ungelatinized) **8.00**
Enzyme available

Sugar **9.50**

Sulfur **5.75**

Trypsin Inhibitor **97.50**

Urea **27.00**

Urease Activity **22.00**

Vitamin A **78.00**

Vitamin D **120.00**

Vitamin E **120.00**

5/6 Carbon Sugar **27.00**

Mycotoxins

Mycotoxin Screen
Screen includes Aflatoxin, B1, B2, G1, G2, Deoxynivalenol, Zearalenone, 15 Acetyl-Don, 3 Acetyl-Don and T-2 Toxin

With DON by GC 67.75

With DON by HPLC 84.50

Mycotoxins, per Toxin

DON by GC 38.50

DON by HPLC 55.00

DON by Elisa 25.00

Aflatoxin by HPLC 38.50

Aflatoxin by ELISA 25.00

Zeralenone by HPLC 68.75

Zeralenone by ELISA 25.00

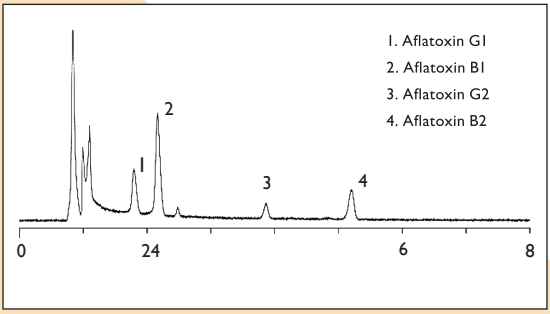
Fumonisin by HPLC 68.75

Fumonisin by ELISA 25.00

Ochratoxin by HPLC 68.75

Ochratoxin by ELISA 25.00

T2 by ELISA 25.00



Water Analysis

As a provider of diagnostic services to animal agricultural, CVAS provides livestock suitability evaluations of water. Data is available by web access for printing, sorting and summarization. Do you know if water quality is an issue on your operation?

Nitrate Nitrogen and pH 13.00

Livestock Suitability Package 35.50
Includes pH, hardness, total dissolved solids,
Ca,P,Mg,K,Na,Fe,Mn,Zn,Cu,
chlorides, sulfate and nitrate

pH 5.50

Alkalinity 11.00

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. Our web-based data management system offers tools for efficient administration of manure testing data.

Best Test Package 1 ..... 34.50
Total Nitrogen, $P_2,0_5,K_2O$,NH3, DM, Density

Best Test Package 2 ..... 29.00
Total Nitrogen, $P_2,0_5,K_2O$,NH3, DM

Best Test Package 3 ..... 26.00
Total Nitrogen, $P_2,0_5,K_2O$,NH3

Water Soluble Phos 10.50

Minerals (Ca,Mg,Na,Fe,Mn,Zn, & Cu) 7.50

Volatile Solids 5.50

pH 5.50

Total Carbon (C/N Ratio) 5.50

Lagoon Analysis 46.00
pH, Nitrogen, Total Solids, Minerals

Plant Tissue Analysis

Standard 24.00
N, P, K, Ca, Mg, Na, S, Fe, Mn, Zn, Cu, B, Mo

Trace Minerals 30.00
Cd, Co, Pb, Mo, Ni

Nitrate Nitrogen 10.50

Total Nitrogen 5.75

Total Carbon 9.50

Total Sulfur 5.75

Samples run for Nitrate Nitrogen, Nitrogen, Carbon, or Sulfur without a mineral package will inclur a $6.00 processing charge.

Equine Services

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

Equine Basic.....20.25
This NIR package includes Dry Matter, Moisture, Digestible Energy, NSC, NFC, RFV, Starch, Sugar (WSC), Protein, ADF, NDF, NDFom, Fat, Fatty Acids (total), Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), and Potassium (K).

Equine Lancer.....28.00
This package included Dry Matter, Moisture, Digestible Energy, NSC, NFC, RFV, Starch, Sugar, Protein, ADF, NDF, NDFom, Fat, Fatty Acids (total), 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.....54.25
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, NSC, NFC, RFV, Starch, Sugar, Protein, ADF, NDF, Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K), Sodium (Na), Iron (Fe), Manganese (Mn), Zinc (Zn), Molybdenum (Mo), and Copper (Cu).

Equine Chemistry Complete.....77.00
This package includes Dry Matter, Moisture, Digestible Energy, NSC, NFC, RFV, Starch, Sugar, Protein, ADF, NDF, Lignin, Fat, Ash, Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K), Sodium (Na), Sulfur (S), Chloride (Cl), Iron (Fe), Manganese (Mn), Zinc (Zn), Copper (Cu), and Molybdenum (Mo).

Analyses important to trouble shooting equine nutritional problems are listed on other pages. Various nutritional components are listed on pages 11-12, mycotoxins on page 13, mold and yeast evaluations on page 6, and water on page 14.

Turn-around Time

Wet-chemistry results are returned three to five days following receipt with exceptions for special analyses. Results on NIR1/NIR1+ samples received by noon are posted within 24 hours.

Accuracy and Precision

FAS and CVAS are certified by the National Forage Testing Association. CVAS also participates in the AAFCO, MAP, BIPEA and SQT check sample programs and collaborates with other commercial and university labs. Multiple internal quality control samples are run daily and all results are reviewed by trained personnel before posting.

Pricing

The intent of this Services and Pricing Guide is to illustrate to our current and prospective clients the services that CVAS provides. To meet your needs, we are continually expanding our services through new forage characterization services, adoption of cutting-edge information technology, and unsurpassed data management services. Please use this as a reference and check www.foragelab.com for the most up-to-date services and pricing. Prices are as of August 1, 2014, and are subject to change without notice.

Other Charges

Special handling or sample prep..... up to $10.00
Sample forwarding fee.....$6.00
Archival Report Charge (per sample up to 5).....$2.50

After 5 samples, $40.00/hour in 15 minute ($10.00) increments.

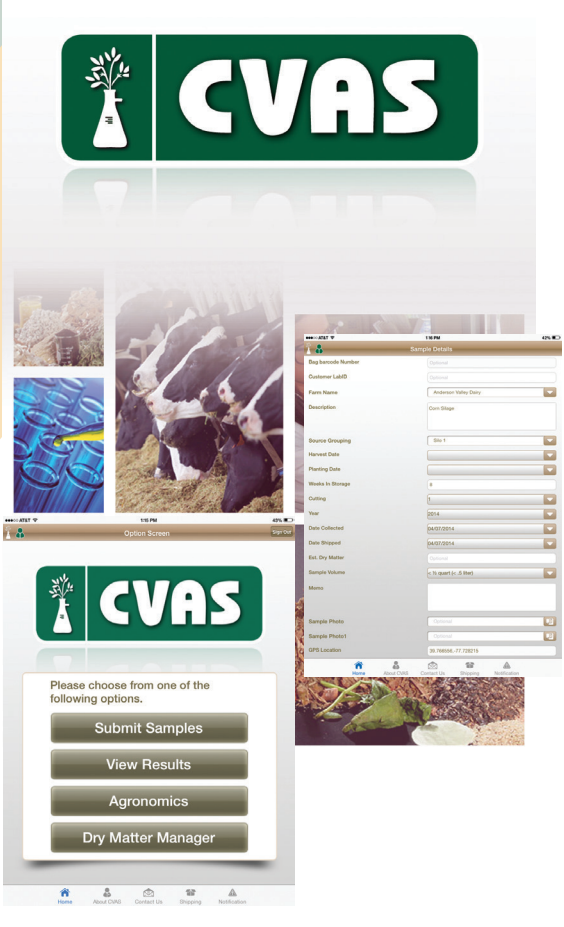
Billing

CVAS bills twice monthly. Terms are generally 20 days for volume discounts and net 30 for everything else. We provide an itemized invoice detailing charges by sample. We will bill third parties.

For more information pertaining to each individual assay, please visit our website www.foragelab.com or email us at mail@foragelab.com.

CVAS Mobile App

Our FORAGELAB app is a convenient way to submit and view sample information via your mobile device. The app is available on the iPhone, iPad and Android platforms. Clients are able to retrieve results almost immediately after the analysis is complete. In addition, you can ensure prompt handling of your samples by submitting them through prompt handling of your samples by submitting them through the FORAGELAB app. You can include detailed descriptions of your sample, select the analysis you require and even take a source picture of the sample.



CVAS Mobile App Options

CVAS Mobile App Options

In addition to providing opportunity for logging of sample information and access to data, the CVAS Mobile App offers several other unique features:

- **Precipitation Monitor**

This function allows the user to access current and historical precipitation data for your current GPS location or for a designated location.

- **Heat Index Monitor**

This heat index function provides the user the ability to see the current and historical heat index data for your current GPS location or for a designated location.

- **Dry Matter Manager**

Newest of our mobile apps allows the consultant or individual farm manager to input oven or microwave dry-down data for calculating dry matters on single or multiple replications of a forage or feed mix. These data are saved for defined forage sources over time to allow the user to track changes and generate averages for use in adjusting rations.

CVAS Web-based Sample Logging

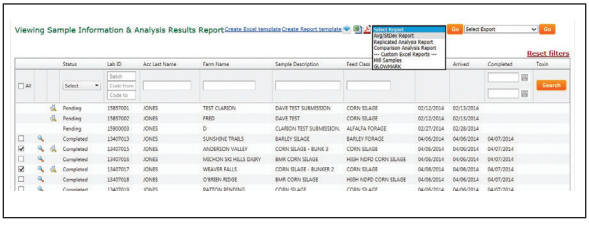
CVAS has established the ability for those submitting large numbers of samples at one time to pre-log samples and to bring a spreadsheet of data into our LIMS system. This insures data integrity as there is no manual logging of sample information and description information can be returned with results exactly as the user desires.

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 on line data management system not only gives you historical ac cess and unique reporting capabilities, but allows you to “mine” valuable statistical information from your samples.

The new 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 samples.

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



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 technical support, including definition of needs, equipment recommendations, assisting in the establishment of operations, ongoing technical support, quality control, software, and web-based data management. We support affiliate labs around the globe!

Data Services

CVAS supports research institutions and industry by providing nutrient data on forages and feeds with data available back as far as 15 years and spanning 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.

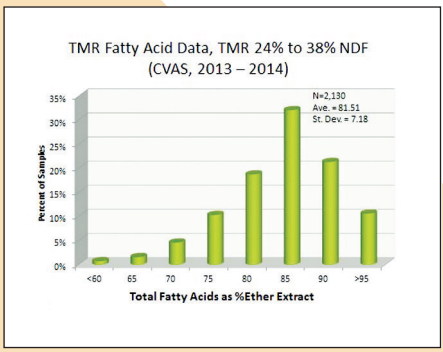
Data is only provided in an anonymous fashion that does not compromise any individual business or clients' privileged information.

Below are examples of relationships that can be developed from evaluation of data:

Industry Makes Advances in Corn Silage Processing
(CVAS Data, 2006 to 2013)

Corn Silage Processing Score

Crop Year	Number	Average	Percent Optimum	Percent Poor
2006	97	52.8	8.2	43.3
2007	272	52.3	9.2	37.9
2008	250	54.6	5.2	34.8
2009	244	51.1	6.1	48.0
2010	373	51.4	5.9	43.4
2011	726	55.5	12.3	33.1
2012	871	60.8	14.8	19.9
2013	2658	64.6	36.0	12.9



Our Mission:

Fraser Analytical Services, through our partnership with 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 become the global leader in feedstuff analysis and analytics as we support world food production needs.