



Cumberland Valley Analytical Services, Inc.
Laboratory Services for Agriculture

Wet Chemistry

The standard battery includes a comprehensive set of tests satisfying most requirements for feed and forage nutrient profile definitions. Tests are performed on all livestock feedstuffs, TMRs, and by-products. These tests are performed by Cumberland Valley Analytical Services.

Standard Analysis

The Standard Analysis includes tests for Dry Matter, Crude Protein, Unavailable Protein (haylages only), Adjusted Protein, Soluble Protein, Degradable Protein (calculated for forages only), Acid Detergent Fiber (ADF), Neutral Detergent Fiber (NDF), Ash, NFC, TDN, NEL, NEM, NEG, RFV (on hays and haylages - not corn silage), and Calcium (Ca), Phosphorus (P), Magnesium (Mg), Potassium (K), Sodium (Na), Iron (Fe), Manganese (Mn), Zinc (Zn), Copper (Cu) with pH analysis on an ensiled silage.

CPM Plus Analysis

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

CPM Plus Kd Analysis

This is our popular CPM Plus Analysis with the addition of a 24 hour fiber digestibility and the calculation of the B2/B3 Kd for use in the CPM Model.

RFV Report Analysis

The RFV (Relative Feed Value) Report option provides results for Dry Matter, Moisture, Crude Protein, ADF, NDF and calculated RFV (on hays and haylages - not corn silage), Adjusted Protein, NEL, NEM, NEG, and TDN.

Mineral Analysis Package

This package must be run on all minerals mixes, mineral ingredients, and high mineral content supplements. High levels of minerals require special procedures and handling to provide more accurate analytical results.

Tag Guarantee Options

The Tag guarantee series provides analyses specific to the needs of feedstuff manufacturers and formulators.

Tag Guarantee I:

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

Tag Guarantee II:

Tag I plus Ash, Calcium, and Phosphorus.

Tag Guarantee III:

Tag I plus Ash and Minerals (Ca, P, Mg, K, Na, Fe, Mn, Zn, and Cu).

Tag Guarantee IV:

Dry Matter, Moisture, Ash, Calcium, and Phosphorus.

Special Tests

In conjunction with the NIR and/or Wet Chemistry packages, we offer a broad range of additional chemistry analyses, including fermentation analysis and mycotoxin testing options, as well as specific analyses that may be run stand-alone or in combination with one of the standard analysis packages. Each description includes a sample report for that test. Review the Special Testing Options prices and Energy Equations for the energy equation options.

Additional Wet Chemistry Options

Dry Cow Option: Includes Sulfur and Chloride.

Byproduct Option: Includes Lignin, Fat, ADF Protein, NDF Protein, Sulfur, and Chloride. This option may be used with the Standard or Basic/NDF chemistry packages.

Fermentation Analysis: Includes Dry Matter, Titratable Acidity, Lactic Acid, Acetic Acid, Propionic Acid, Butyric Acid, Iso-butyric Acid, Total VFA, pH, Lactic Acid/VFA ratio, Crude Protein equivalent from Ammonia, and Ammonia N as a percentage of total N.

Relative Forage Quality Index (RFQ): Provided with hay-crop forage evaluations requesting Invitro 48 hour NDF Digestibility at no additional charge.

In Vitro Fiber Digestibility: This must be run with NDF or an option that includes NDF. The time periods are 24, 30, or 48 hours.

In Vitro Starch Digestibility: This must be run with Starch or an option that includes Starch. The time period is six (6) hours.

In Situ Undegradable Protein - (RUP): Samples are placed in three cows for sixteen hours to determine rumen un-degradable protein.

Yeast/Mold Count

Mold Identification

Corn Silage Processing Score

Other Testing Options

Beef: Dry Matter, Moisture, Crude Protein, ADF, pH on ensiled forages, with calculated values for Adjusted Protein, TDN, NEL, NEG, and NEM.

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

Mycotoxin Screen (Quantitative): Aflatoxin B1, B2, G1, G2, Deoxynivalenol, Zearalenone, 15 Acetyl-Don, 3 Acetyl-Don, and T-2 Toxin by TLC & HPLC.

Vomitoxin or Aflatoxin (by HPLC): This analysis is performed by HPLC. Vomitoxin values reported include DON, 15 Acetyl-DON, and 3 Acetyl-DON with a .5 ppm detection level. Aflatoxin values reported include Aflatoxin B1, Aflatoxin B2, Aflatoxin G1, and Aflatoxin G2 with a 5 ppb detection level.

Fumonism (by HPLC): This analysis is performed by HPLC with a detection limit of 0.1 ppm and includes results for Fumonison B1, Fumonison B2, and Fumonison B3.

Custom Components

Special options are available for requesting custom components with any existing analysis package. These include the basic nutrient values, minerals, amino acids, fats & oils, and other special testing such as proximate evaluation, the Karl Fisher Moisture test, etc.

In situ Digestibility Services

This is an introduction to the *in situ* services that we offer through a 3rd party. Additional information will be forthcoming. Time points listed are traditional but can be defined by the client. Some time points may require cost adjustment. Samples are generally ground to a 6mm grind size using a knife mill, or if particle size is smaller, then ran as-received.

In situ Protein Digestibility at 16 hours

- 6 replications (3 cows in duplicate)
- Dry matter digestibility, protein, and protein digestibility reported

In situ Starch Digestibility at 3 or 7 hours

- 6 replications (3 cows in duplicate)
- Dry matter digestibility, starch, and starch digestibility reported

In situ NDF Digestibility at 30 hours

- 6 replications at 30 hours (3 cows in duplicate)
- Dry matter digestibility, NDF, and NDF digestibility reported

In situ Dry Matter Digestibility at 30 hours

- 6 replications at 30 hours (3 cows in duplicate)
- Dry matter digestibility reported