

GREEN MOUNTAIN LABORATORY

The mission of the Green Mountain Forage Laboratory at Poulin Grain, Inc. is to provide rapid and accurate analysis of feed samples free of charge to Poulin Grain, Inc. customers. Green Mountain Forage Laboratory is affiliated with Cumberland Valley Analytical Services, Maugansville/Hagerstown, MD. Poulin Grain operates this NIR forage testing laboratory in Newport, VT. You only have to contact your Poulin Grain, Inc. dealer or Poulin Grain directly at 1-800-334-6731, or place an inquiry at <http://www.poulingrain.com/>.



The Green Mountain Laboratory utilizes the forage samples via near infrared reflectance spectroscopy (NIR) (shown below). This provides our customers with rapid, start-of-the-art information regarding forage quality. Currently, the Green Mountain Laboratory can perform analysis on alfalfa and grass hay samples for our goat and veterinary customers.



Hay Analysis*

(%) Dry Matter: Represents everything in sample except water.

Range: 90 to 94

Protein

(%) Protein : Crude protein includes true protein and non-protein nitrogen (NPN) such as urea and ammonia. Proteins are organic compounds of amino acids. Proteins can be analyze further. (*RUP % Prot, SOL % Prot, ADFIP, NDFIP, ADICP, NDICP*).

Range: 7 to 15

Energy

NEL Level 1: an estimate of the energy value of a feed used for maintenance plus lactation.

Range: 0.41 to 0.57

NEL 1X: an estimate of the energy value of a feed used for maintenance.

Range: 0.43 to 0.57

Total Digestible Nutrients (TDN%) (Not listed on Current Hay Analysis):

Determining the energy content of a forage, feedstuff or mixed ration is more difficult than measuring nitrogen and calculating crude protein. Total digestible nutrients are actually calculated from crude protein, crude fat, crude fiber, and more soluble carbohydrates.

Range: 52 to 62

Fiber

(%) ADF: Acid Detergent Fiber (%) is a percentage of highly indigestible or slowly digestible fiber (cellulose or lignin) in a feed or forage. For example, the greater the ADF, the less digestible the feed and the less energy it will contain.

Range: 34 to 44

(%) NDF: Neutral Detergent Fiber is the most common measure of fiber used for forage analysis. It measures most of the structural components in plant cells (i.e. lignin, hemicellulose, and cellulose). As NDF values increase, total feed intake decreases. NDF is negatively correlated with feed intake.

Range: 57 to 70

Lignin, %NDF: Lignin as a % of NDF.

Range: Calculated

%Lignin:

Lignin is the key element that limits cell wall digestibility.

Range: 5 to 8

* *Grass hay ranges are from Dairy One Forage Laboratory Ithaca, New York*