Introduction

This application note describes the general results when measuring dried and ground forage samples using the Phoenix NIR Analyzers.

Method

All samples were run on a Phoenix Series NIR Analyzer and calibrations were developed using Alligator Calibration software.

All samples were dried to industry standards. Samples should be ground to 1mm and mixed well before being analyzed.

Results

Samples were collected from many locations around the United States and include many different types of Legume hay.
All results are on a dry matter basis.

Definitions

# of Samples: Total number of samples for each constituent.

Range: Constituent range in the calibration

R²: Correlation coefficient is the agreement between the wet chemistry and NIR results. Correlation is dependent on lab accuracy and constituent range.

SECV: Cross Validation Error of the calibration. This value is approximately what can be expected when using the calibration for routine analysis.

Constituent	# of Samples	Range	R^2	SECV
DM	601	87.3 – 96.7	.785	.832
Protein	764	8.5 – 27.5	.920	1.01
Fat	239	.7 – 3.1	.527	.39
Ash	199	5 – 24.5	.783	1.83
Lignin	73	2.5 – 12	.656	1.36
ADF	865	18 – 54	.894	2.09
NDF	1148	19 – 70	.920	2.52
Ca	508	.28 – 3	.712	.22
P	514	.14 - .55	.561	.05
K	458	.65 – 4.75	.717	.38
Mg	416	.15 - .95	.640	.07

DM

Ash

Protein

Lignin

FAT

ADF

NDF

K

Ca

Mg

P