

NEAR INFRARED (NIR) SPECTROSCOPY ANALYSIS PACKAGES

	Moisture/Protein	ADCP, NDICP, & Soluble Protein	ADF, ANDF, & ANDFom	Fat (EE), Ash, & Lignin	Total & Individual Fatty Acids	Sugar (MSC)	Starch	Ca, P, K, Mg, & S (NIR)	pH (Except on hay samples)	Milk 2006 Energy Calcs	24, 30, 48, 120, & 240h NDFD	Fermentation Products*	CNCPs Inputs	Total Amino Acids, Lysine, Methionine, & Histidine**
Comprehensive Nutrition A thorough nutritional view of ration components comprised of each NIR analytic offering	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Dynamic CNCPs With Total Tract Neutral Detergent Fiber Digestibility (TTNDFD; Combs, 2012), 7h in situ Starch D, Dynamic NDF _{k_d} , & Dynamic Starch _{k_d}	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Dynamic NDFD With Total Tract Neutral Detergent Fiber Digestibility (TTNDFD; Combs, 2012) & Dynamic NDF _{k_d}	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Corn Grain Digestibility With NRC 2001 Calculations, 7 hour in situ Starch D (HMCS, Snaplage & Dry Corn) & Dynamic Starch _{k_d}	●	●	●	●	●	●	●	●	●	●	●	●	●	●
NDF Digestibility Choose one time point (24, 30, or 48 hour) Default is 48 hour & uNDF240	●	●	●	●	●	●	●	●	●	●	●	●	●	●
NIR Extra With NRC 2001 Calculations. Starch analysis on corn silage, small grain silage, or corn grain	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Forage-Based TMIRs For Dairy or Beef (No aNDFom) with NRC 2001 Calculations	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Basic NIR With Starch analysis on corn silage, small grain silage, or corn grain	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Commodities by NIR (No aNDFom or Lignin)	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Commodities Plus Starch by NIR (No aNDFom or Lignin)	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Distillers Grains by NIR With NRC 2001 Calculations, 16 hour Rumen in situ RUP and DMD (No Soluble Protein)	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Complete Equine Nutrition With Wet Chem Minerals & Digestible Energy KER	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Major Minerals (DCAD) by ICP with Na & Cl	Add to any package above.													
Total Minerals (DCAD) by ICP with Na & Cl	Add to any package above.													
Calibrate® GPN/FPN with an Existing NIR Package Forage Genetics Licensed Calibrations	Add to any package above.													
Calibrate® GPN/FPN Only Forage Genetics Licensed Calibrations	Calibrate option only, does not include additional NIR analysis.													

* Fermentation Products by NIR include: pH; NH₃-N; and Lactic, Acetic, and Butyric Acids
 **Dried and ground samples do not receive Propionic Acid analysis

WET CHEMISTRY ANALYSIS PACKAGES

Moisture
Protein
ADCP/NDICP
ADF
aNDF
Fat
Ash
Lignin
Sugar (WSC)
Starch
Salt
Ca, P, K, Mg, S, Na & Cl
Zn, Mn
NRC 2001 Energy Calcs
& Interpretation of results

	Moisture	Protein	ADCP/NDICP	ADF	aNDF	Fat	Ash	Lignin	Sugar (WSC)	Starch	Salt	Ca, P, K, Mg, S, Na & Cl	Zn, Mn	NRC 2001 Energy Calcs	& Interpretation of results
TMR-D (TMR Digestibility) <i>Submit 1 TMR and 1 fecal sample at the same time Please label samples accordingly</i>	●	●		●	●	●			●						●
Moisture/Protein	●	●													
Base Mix Check	●	●									●				
Simple Feed	●	●		●							●				
Simple Feed Plus NDF	●	●		●							●				
Core Nutrients	●	●		●	●	●	●				●				
Commodity Core Nutrient & Energy Check	●	●		●	●	●	●	●	●		●				
Core Nutrients Plus Energy	●	●		●	●	●	●	●	●		●				
Sugar by Difference (Includes Cl) (Liquid Samples)	●	●		●	●	●	●				●				
Swine Energy Package	●	●		●	●	●	●				●				
Simple Equine Analysis	●	●		●	●	●	●	●			●				
TMR Mixer Accuracy (min. 4 samples; price is per sample)	●	●								●					
Mixer Evaluation (min. 10 samples; price is per sample)	●	●													
Major Minerals (DCAD, ICP)	●	●													
Total Minerals (DCAD, ICP)	●	●													
3 or 7 hour Rumen in situ Starch Digestibility (Only)	●	●													
Fecal Starch with Total Tract Starch Digestibility									●						●
UW feed Grain Evaluation System 2.0 <i>(Dry corn, high moisture corn, & snaplage) With Ammonia, Prolamin, & Particle Size</i>	●	●		●	●	●	●		●						

WET CHEMISTRY ANALYTE ADD-ON MENU
ANALYTE MUST BE ADDED TO AN NIR OR WET CHEMISTRY PACKAGE

Protein
Acid Detergent Fiber (ADF)
Neutral Detergent Fiber (NDF)
Crude Fiber
Lignin
Soluble Protein
Fat
Nitrate
Starch
Sugar (WSC)
Individual Sugars <i>(Glucose, Fructose, Lactose, Sucrose & Mannitol)</i>
Salt <i>(Calculated from Chloride)</i>
Non-Protein Nitrogen (Urea)
Ash
pH
Selenium
Molybdenum
Feed/Grain Particle Size
Rumen in situ Starch Digestion (3, 7, or 16 hour) <i>Choose one time point; must be added to package with Starch</i>
Rumen in vitro Fiber Digestion (24, 30, 48, or 240 hour) <i>Choose one time point; base package must include NDF</i>
Fermentation Products (Wet) <i>pH, NH₃-N, 6 Ferm. Acids (Lactic, Acetic, Propionic, Butyric, Succinic, & Formic), 1 Ferm. Alcohol (Ethanol), & Ferm. Shrink (DM Loss, Goesser et al. 2015)</i>
Advanced Fermentation Products <i>pH, NH₃-N, Six Ferm. Acids (Lactic, Acetic, Propionic, Butyric, Succinic, & Formic), 6 Ferm. Alcohols (Ethanol, 1-2 Propanediol), 1 Propanol, 2 Propanol, 2 Butanol, & 2-3 Butanediol), & Ferm. Shrink (DM Loss, Goesser et al. 2015)</i>
Corn Silage Kernel Processing Score (KPS)
Three-Step 16 Hour RUP and Intestinal Digestibility
16 Hour Rumen in situ RUP Only
Protein Intestinal Digestion Only (Bloodmeal)
Ross/Multi-Step Protein Evaluation <i>(RUP, Intestinal Digestion)</i>

LIVESTOCK WATER ANALYSIS PACKAGES

Mineral Package <i>Includes Calcium, Magnesium, Copper, Iron, Zinc, Sodium, Aluminum, and Manganese</i>
Livestock Water Package <i>Includes Mineral Package, Total Hardness, Sulfate, pH, Chlorine, Nitrate Nitrogen, Electrical Conductivity, & Total Dissolved Solids</i>

RESEARCH AND DEVELOPMENT

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MOLD, YEAST, AND TOXIN ANALYSIS

Yeast and Mold Count (5-day incubation)
Yeast and Mold Count and Identification
Rapid Mold and Yeast Count (No ID, 2-day incubation)
Toxin Analysis Choose one of the following options: DON, Zearalenone, T-2, Fumonisin, Aflatoxin, or Ochratoxin-A
Fusarium Mycotoxin Screen <i>13 toxins produced by Fusarium</i>
Basic Mycotoxin Screen <i>12 toxins produced by Fusarium and Aflatoxin</i>
Comprehensive Mycotoxin Screen <i>19 toxins; includes Basic, Fusarium, and Citrinin</i>