



FT-NIR Analysis of Feed Ingredients

Application Note N285

The cost of animal nutrition represents the largest operating cost for most commercial livestock producers. Because the nutritional content of feedstuffs can vary widely depending on the origin, season, or year, it is important to analyze all feed ingredients for nutrition content.

Analysis information can then be used to formulate the rations and required supplements and thereby maintain an optimum balance between feed costs and productivity. Fourier Transform Near Infrared spectroscopy (FT-NIR) provides a fast and effective solution for the analysis of raw materials as well as finished feeds to optimize feed formulation, production steps and final product quality.

Easy Sample Analysis with FT-NIR

Bruker Optics offers the most comprehensive range of FT-NIR solutions for quality control and formulation adjustments. Samples can be analyzed non-destructively in seconds, saving costs by reducing time and reagent use. Analysis by FT-NIR in the lab or at-line close to production requires simply filling an easy-to-clean cup with the solid sample and placing it on the analyzer. Liquid samples like oils or molasses can be analyzed in disposable vials with the same instrument.

Ready to use Calibration Packages

A set of FT-NIR calibrations is available from Bruker for the analysis of a wide range of raw materials in the feed industry. These models are available for a range of parameters and help you to achieve a superior quality control, leading to enhanced performance of your products.

Standard Analysis Parameters:

- Moisture
- Fat
- Fiber
- Protein
- Ash

Specialized & Product Specific Parameters:

- ADF
- NDF
- Starch
- Fatty Acid Profile
- Amino Acids*

*Available and supported for Bruker instruments by a 3rd party supplier

Expect high standards

All Feed Ingredients calibration methods offered by Bruker are developed and validated according to ISO 12099 recommendations.



List of Feed Ingredients*

Cereals & By-Products

- Barley
- Corn/Maize
- Rice
- Sorghum
- Triticale
- Wheat
- Oats
- Rice & By-Products
- Corn/Maize:
 - Gluten Feed
 - Gluten Meal
- Cereals:
 - Bran
 - Germ
- Wheat Feed (Midds)
- Biscuit Meal
- DDGS

Oil Seeds & By-Products

- Rapeseed/Canola
 - Unground
 - Ground
 - Expeller
 - Meal
- Soybean
 - Unground
 - Ground
 - Expeller
 - Hulls
 - Meal
- Sunflower
 - Ground
 - Expeller
 - Meal
- Edible Oils

Animal Proteins

- Blood & Plasma Meal
- Feather Meal
- Fish Meal
- Meat & Bone Meal
- Poultry By-Product Meal
- Milk Powder

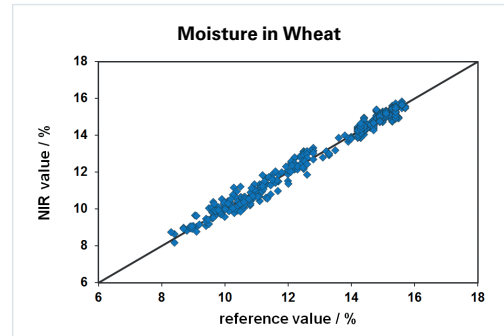
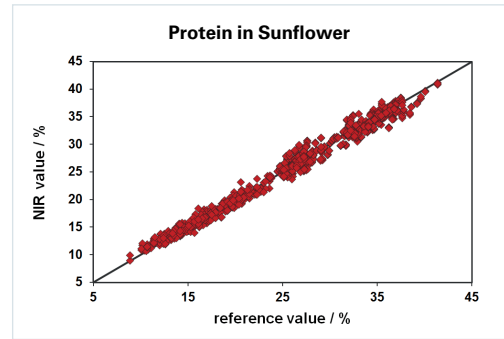
Forages / Silages

- Alfalfa
- Corn
- Grass
- Rice
- Hay
- Sorghum

Other Products

- Molasses
- Legumes

* Bruker Optics strives to continuously optimize its portfolio of calibration methods. Additional products and parameters may be available on request.



Calibration models: Models shown here display validation results for two example raw materials.

FT-NIR Spectrometers: Bruker Optics offers various FT-NIR spectrometer models for lab, at-line and on-line applications:

TANGO	MPA II	MATRIX-F II
FT-NIR analyzer for routine use in the lab	Multi Purpose Analyzer for maximum flexibility	Process monitoring with probes and sensor heads

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**Bruker Optics is ISO 9001, ISO 13485,
ISO 14001 and ISO 50001 certified.**

