



FT-NIR Analysis of Animal Feed

Application Note N287

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 finished feeds to optimize feed formulation, the 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 assortment of finished products 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
- Starch

Specialized & Product Specific Parameters:

- Calcium
- Sodium
- Phosphorus
- 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.



Finished Feed Types

Ruminant Feed

- Calf
- Dairy
- Beef Cattle

Poultry Feed

- Chick
- Broiler
- Breeder
- Layer

Swine Feed

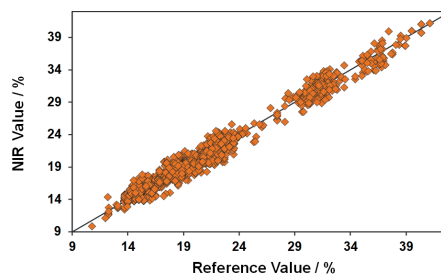
- Piglet
- Weaner
- Grower
- Finisher
- Sow

Aqua Feed

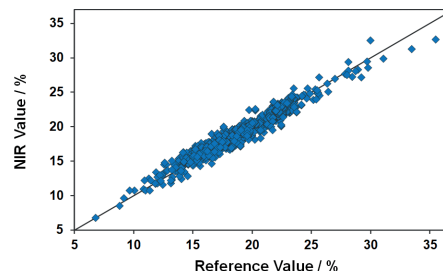
Other Feed Products

FT-NIR can also easily be used for the analysis of many other products and raw materials in the animal feed industry. Products such as feed concentrates, as well as feed ingredients can all be measured on the same equipment used for finished feed analysis. Analysis of wet and dry forages is also possible, and calibration models available from Bruker ensure a quick start and accurate results.

Protein in Poultry Feed



Protein in Ruminant Feed



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



FT-NIR analyzer for routine use in the lab

MPA II



Multi Purpose Analyzer for maximum flexibility

MATRIX-F II



Process monitoring with probes and sensor heads

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

