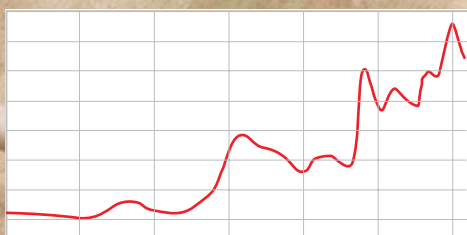


Application Note

INGOT — 'Ready to go' feed calibrations for the AgriQuant analyser



Introduction

The production of finished feed requires constant knowledge about major components in the raw materials in order to optimize the finished feed to meet standards and lower the cost. Normally, chemical analysis is used for this purpose but being slow, costly and using reagents, FT-NIR technology is a far better alternative and provides analysis results of major components within seconds.

The AgriQuant analyses components like moisture, fat, protein, fiber, ash, starch, Total sugar and NDF in feed and raw materials (feed ingredients) for feed production. The sample can be measured ground or "as is", and the result for all the major components will be on the screen within 40 seconds. The calibrations used with AgriQuant comes from INGOT, which are calibrations made from a large spectral database using the joint efforts from Aunir (UK) and Wallon Agricultural Research Centre of Gembloux (CRA-W, Belgium).

Analyser: The FT-NIR AgriQuant

The AgriQuant FT-NIR analyser is used for non-destructive analysis of heterogeneous agricultural samples. The sample is filled into the lidded glass bottle to avoid changing in moisture content during the analysis and placed on the accessory. To ensure consistency and analysis of a large amount of the sample, the sample is mixed during analysis. The sample can be kept due to the sealed bottle.

The AgriQuant is powered by the latest ABB Bomem FT-NIR technology and measures the entire spectrum of the sample, i.e. in the range 14000-3800 cm^{-1} (700-2600 nm). It generates a large amount of high-quality spectral data, which makes it possible to precisely determine multiple components.

With no scheduled maintenance for five years, the AgriQuant is practically maintenance-free. It is equipped with parts with a long lifetime. For instance, the laser and NIR source have an expected lifetime of ten years.

AgriQuant is operated with the InfraQuant software, which makes it easy for everybody to work with analyses. Two clicks with the mouse is enough to make the analysis. Among the features is a wizard that guides the operator through the program, spectra are displayed right away, and sample information and trends can be reviewed easily.

INGOT – 'ready to go' calibrations

For industries such as milling, grain, animal feeds and food processing, INGOT offers new and existing users of NIR technology a highly cost-effective solution for the analysis of multiple components: Moisture, protein, ash, fat, fiber, starch and other nutritional and physical parameters in products like finished feeds, raw materials, milling products, pet food, aqua feed, forages etc. The calibration models are developed from a data base containing more than 120,000 samples making the models very broad and robust to geographical origins, seasonal variations, varietal and formulation differences.

With INGOT, the end user has a simple 'plug and play' solution and the possibility of maximum benefit from their AgriQuant investment from day one.

For the animal feed and ingredients application the models are available in three levels. Level 3 gives access to models for major components like protein, fat, moisture, fiber etc. A single model for protein will work on all kinds of products. Level 2 is more specific and provides a protein model that suits either mixed feed or raw materials. Level 1 is the optimum level with a protein model developed for pig feed, another protein model for cattle feed and so forth.

Aunir

Aunir is the company providing INGOT calibrations to the end user. Aunir takes care of handling the calibration models and making them work on the AgriQuant. Aunir offers calibrations for:



- Animal feed and ingredients
 - Flour and milling
 - Pet food
 - Aqua feed
 - Forages
 - Animal by-products
 - Plant breeders
- More info can be found on www.aunir.co.uk

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