



## Application Note AN N231

# FT-NIR Quality Control of Cheese

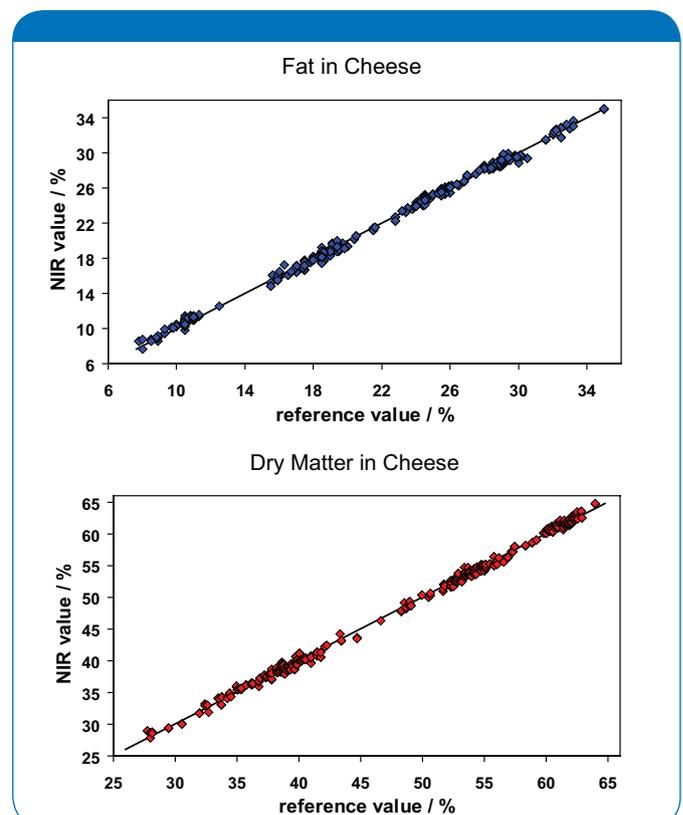
Various quality parameters in different cheese products like hard-, slicing-, cream-, preprocessed and soft cheese can be determined with the FT-NIR spectrometer MPA within seconds.

The near infrared measurements are carried out in easy to fill disposable Petri dishes, made of polystyrene. This way, the use of glass is avoided, as this is often required by the regulations. The grated cheese can be sprinkled, soft cheese smeared into the petri dish. By measuring the sample in the MPA spectrometer in transmission using a Si-diode detector, virtually the complete sample depth is scanned and analyzed.

Alternatively the sample can be measured in reflection. In any case a sample rotator is used to enlarge the scanned area and to enhance the reproducibility of the measurements. Depending on the type of cheese, additional parameters like salt content or pH-value can also be determined with only one measurement. Below are the results of calibrations containing various types of cheese. For dedicated product calibrations, the accuracy may improve significantly.

### Calibration results:

- Fat 7.5 - 35.0 ± 0.3 %
- Dry Matter 27.5 - 64.5 ± 0.5 %



Bruker Optics can look back on 30 years of experience in developing and producing optical spectrometers. Our experience is your benefit:

### Application Support

Bruker Optics is staffed by scientists and engineers that have an in-depth knowledge of instrumentation and applications. Our product specialists are available to assist you with method development either remotely or in your lab. FT-NIR application scientists will assist you in the selection and use of sampling accessories, choice of optical components and software operation. We offer customized instruction and support packages to fit your needs.



### Service and Maintenance

Bruker spectrometers are intended to provide years of trouble-free operation, but should a problem occur a network of Bruker companies and representatives around the world are ready to respond to your needs. Professional installations and a high standard of post-delivery service are commitments Bruker makes to each of its customers.



### Training

Customer training courses are held on a regular basis for the benefit of the FT-NIR instrument users. Both technical and software (e.g. OPUS/IR, IDENT, QUANT) practice seminars are offered. Customized on-site training is also available from our staff of FT-NIR specialists.



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