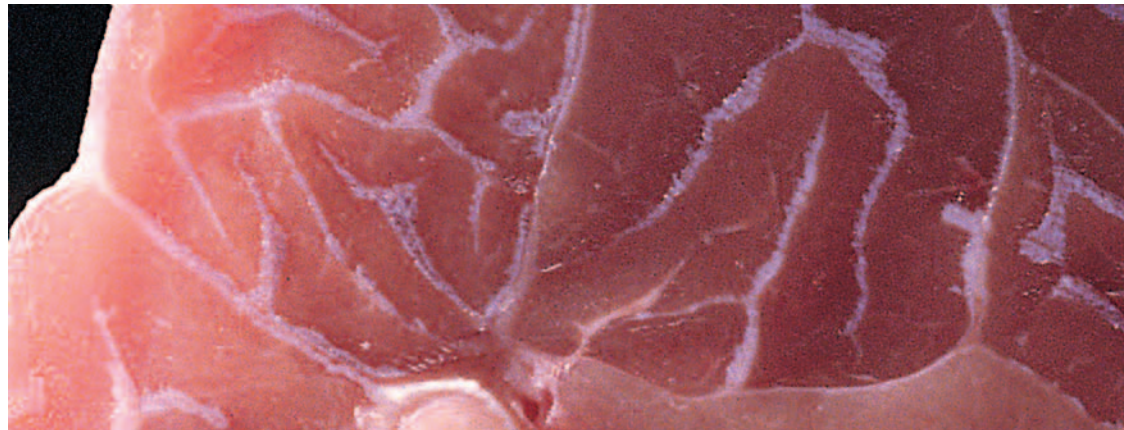


NIRFlex N-500 Calibration for Raw meat



Calibration is a question of experience. The Büchi pre-calibrated applications relieve you completely from that task. On the other hand you are not limited. The major Büchi advantage: you can use our pre-calibrations or you can calculate your own with NIRCal 5.0.

Uses

Fast and accurate simultaneous analysis of several parameters on raw meat using Büchi NIR-Technology. Rapid availability of defined quality criteria is vital for efficient production and quality control. Loss of production is avoided and high reproducibility from charge to charge guaranteed.

Reference methods

All the reference chemistry is performed with official methods; e.g. heating oven for solids, Soxhlet for fat, Kjeldahl for Protein...

Requirements for this application are:

- the Büchi NIRFlex N-500
- the Measurement Cell Solids with Petri Dish add-on
- the appropriate computer hardware and Büchi NIRWare

Parameters

A «robust» calibration is guaranteed because more than 300 different pork, turkey, chicken, beef and veal samples were analysed to calculate it. The following parameters are measured:

for beef, veal, pork:

- Fat 8.6 – 35.2 %
- Protein 10.1 – 20.7 %
- Moisture 51.0 – 79.0 %

for turkey:

- Fat 1.6 – 15.3 %
- Protein 17.8 – 26.3 %
- Moisture 66.9 – 75.0 %

for chicken:

- Fat 1.3 – 30.5 %
- Protein 14.0 – 24.3 %
- Moisture 58.1 – 77.5 %

Basis of calculation

The Büchi Chemometric software NIRCal® is used in the NIRFlex N-500 parameter predictions. NIRCal® is a proven and tested software tool with comprehensive calculating possibilities.

Calibration of properties in raw meat by NIRFlex N-500

for beef, veal and pork:

Parameter	No. of samples for calibrations	Calibration range [%]	SEP	R-Coefficient
Fat	236	8.6 – 35.2	0.47	0.998
Protein	322	10.1 – 20.7	0.47	0.976
Moisture	477	51.0 – 79.0	0.65	0.995

for turkey:

Parameter	No. of samples for calibrations	Calibration range [%]	SEP	R-Coefficient
Fat	211	1.6 – 15.3	0.27	0.998
Protein	213	17.8 – 26.3	0.54	0.980
Moisture	231	66.9 – 75.0	0.62	0.935

for chicken:

Parameter	No. of samples for calibrations	Calibration range [%]	SEP	R-Coefficient
Fat	110	1.3 – 30.5	0.52	0.998
Protein	104	14.0 – 24.3	0.38	0.994
Moisture	104	58.1 – 77.5	0.54	0.995

Reliable

An accurate robust calibration has been established over a wide and comprehensive calibration range using samples from many different sources.

Precise

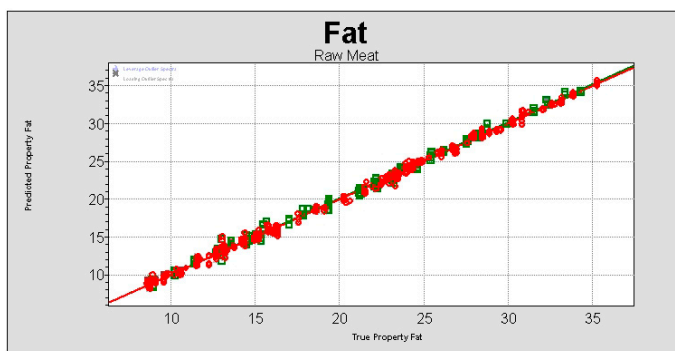
The precision of a calibration is judged by the standard error of the prediction (SEP) and the regression coefficient of the calibration fit. A regression coefficient close to 1 is optimal for the precise prediction of new samples.

Flexible

The raw meat application for the NIRFlex N-500 is ready-to-use. It allows results to be generated from Day One. With the necessary experience in Chemometrics, the user can adjust the calibration to a different sample matrix – alone or with our support.

Required hardware:

- Büchi NIRFlex N-500
- Measurement Cell Solids with Petri Dish add-on
- PC-installed Büchi software NIRWare



Order No. N555-501

Pre-calibrated application for beef, veal and pork

Order No. N555-516

Pre-calibrated application for turkey

Order No. N555-517

Pre-calibrated application for chicken

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