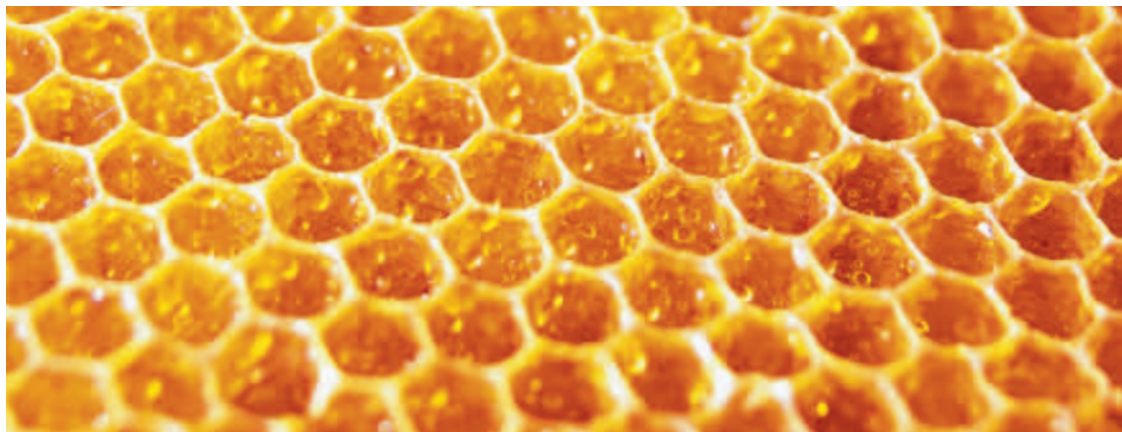


# NIRFlex N-500 Calibration for Honey



**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 honey 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 and Transfection cover
- the appropriate computer hardware and Büchi NIRWare

## Parameters

A «robust» calibration is guaranteed because more than 200 different samples were analyzed. The following parameters are measured:

- Fructose	31.50 – 45.40 %
- Glucose	21.50 – 38.20 %
- Turanose	0.70 – 3.10 %
- Melezitose	0.10 – 5.00 %
- Maltose	0.38 – 4.50 %
- Kojibiose	0.19 – 2.08 %
- Nigerose	0.30 – 5.30 %
- Trehalose/Isomaltose	0.10 – 2.40 %
- Electrical conductivity	0.10 – 1.60 mS/cm
- Moisture	13.40 – 18.80 %
- Proline	207 – 1128 mg/kg
- Free acidity	5.90 – 34.40 meq/kg
- pH	3.84 – 5.84 %

## 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 honey by NIRFlex N-500

Parameter	No. of samples for calibrations	Calibration range	SEP	R-Coefficient
Fructose	232	31.50 – 45.40 %	1.064	0.899
Glucose	235	21.50 – 38.20 %	0.997	0.963
Turanose	238	0.70 – 3.10 %	0.243	0.815
Melezitose	152	0.10 – 5.00 %	0.384	0.950
Maltose	245	0.38 – 4.50 %	0.380	0.834
Kojibiose	242	0.19 – 2.08 %	0.199	0.809
Nigerose	235	0.30 – 5.30 %	0.375	0.922
Trehalose / Isomaltose	90	0.10 – 2.40 %	0.172	0.941
Electical conductivity	248	0.10 – 1.60 mS/cm	0.083	0.971
Moisture	236	13.40 – 18.80 %	0.237	0.978
Proline	195	207 – 1128 mg/kg	81.00	0.887
Free acidity	193	5.90 – 34.40 meq/kg	2.870	0.929
pH	191	3.84 – 5.84 %	0.180	0.915

### Reliable

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

### Precise

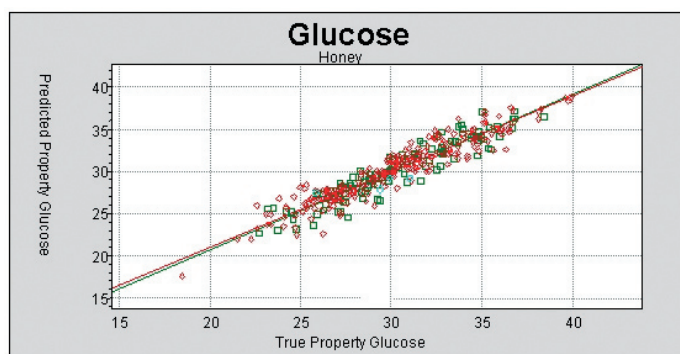
The precision of a calibration is judged by the standard error of the prediction (SEP) and the regression coefficient of the calibration fit. A regression coefficient close to 1 is optimal for the precise prediction of new samples.

### Flexible

The honey 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. N555-511

Pre-calibrated honey application

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