

Buchi applications Meat & Meat Products



Buchi offers a broad range of NIR applications dedicated to specific segments. The development of a calibration is a matter of experience that includes not only the spectroscopic model itself but the reference analytics in the laboratory. With more than 70 years of practical knowledge Buchi is a competent partner to support your daily business.

NIR Measurements

Measurements can be performed using the NIRFlex N-500 equipped with a Solids Measurement Cell or a Buchi NIRMasteR. Standard Petri Dishes are sufficient but a High Performance- or an Unbreakable- Sample Cup will be of advantage in several cases where a maximum of precision and accuracy is requested.

NIR Calibrations

A reliable NIR calibration has to include all kind of variation that is necessarily incorporated into your samples. Our databases consist of thousands of spectra covering geographical and seasonal variation.

Reference Methods

Buchi has many of the laboratory products necessary for an official and accredited analysis of the NIR reference parameters: e.g. heating oven for moisture determination in solids, Soxhlet and Extraction for fat and Kjeldahl for protein content.

Service and Support

NIR spectroscopy is a lively and a living business. Calibration models have to be customized to give the best possible results. Our application specialists will give you the support that you request no matter if you want to use a "Plug and Play" solution with one of our Precalibrations or you want to develop your own chemometric models with our NIRCAl software.

Product	Meat N555-501	Sausage N555-502	Turkey N555-516	Chicken Meat N555-517	Ham	Pepperoni dried
Property						
Moisture	25.0 - 78.3	22.2 - 80.7	67.0 - 75.0	58.1 - 77.1	52.5 - 64.9	29.7 - 43.2
Protein	5.6 - 26.3	3.9 - 37.1	17.8 - 26.3	14.0 - 24.3	24.1 - 33.1	18.7 - 23.2
Fat	0.8 - 64.0	0.4 - 54.0	1.6 - 15.3	1.3 - 30.5		27.8 - 43.5
Ash		0.6 - 7.5				
Collagen	In development	0.3 - 8.8				
Protein-Collagen		6.3 - 24.9				
Salt					4.2 - 8.8	3.6 - 4.4
Proteolysis Index					19.6 - 36.9	
N (TCA)					5.3 - 11.7	

Parameters:

If not written differently all units are given as [%].

The parameters Proteolysis Index is defined by the ratio: soluble protein / total protein.

N (TCA) refers to the amount of soluble nitrogen determined with Trichloroacetic acid.

Color Codes:

Blue:

Buchi Precalibrations

Yellow:

Applications in a growing state. Full access to all spectral data with the possibility for further development

Sample Preparation

Meat (pork, beef, chicken und turkey) and sausage samples are grinded at room temperature with the Buchi Mixer B-400 before filling them to a Petri dish (see NIRFlex Solid package with Mixer and applications: N500-011 or N500-012).

The Ham application was done with a Fibre Optic Probe using whole pieces of Ham.

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