

# DATA BULLETIN

## *Determination of the N/protein content of grain products with the rapid MAX N exceed*

The N/protein content is a determining factor concerning the quality of grain products. It must be measured accurately in order to assess the nutritional quality. The rapid MAX N exceed is capable of analyzing the protein content with a high precision. The instrument utilizes the innovative EAS REGAINER® technology, reducing costs of analysis and maintenance significantly.

The samples were used without pre-treatment/homogenization and weighed into standard reusable open crucibles. Analyses were run using a standard method implemented in the instrument software, with a total analysis time of about 5 minutes and argon as carrier gas. A protein factor of 6.25 was applied to calculate the average protein content.

All samples have been analyzed ten times. The average difference between two successive analyses was calculated to compare to international standard ISO 16634-2 (diff. N < 0.1%) and the relative standard deviation (RSD) to compare to international standard AOAC 992.23 (RSD < 2%).

### INSTRUMENT:

rapid MAX N exceed

### DETAILS:

carrier gas: argon

sample: 500 mg grain products

SAMPLE	N [%]	PROTEIN [%]	RSD [%] of 10 analyses	DIFF. N [%] of 2 analyses
wheat flour	1.78	11.1	0.46	0.012
rye flour	1.25	7.80	0.61	0.008
buckwheat flour	1.49	9.30	1.24	0.019
grape seed flour	1.91	11.9	0.93	0.019
wheat bran	2.51	15.7	1.42	0.033
gluten-free flour	0.64	3.98	1.85	0.020

The results clearly demonstrate the excellent analytical performance. All samples could be analyzed well within the required precision of the international standards ISO 16634-2 and AOAC 992.23.

The rapid MAX N exceed offers fast N/protein determination with minimal maintenance, resulting in a high sample throughput, ideal for applications in industrial quality control, such as in the grain industry.



### Elementar Analysensysteme GmbH

Elementar-Straße 1

63505 Langenselbold (Germany)

phone: +49 (0) 6184 9393-0

info@elementar.de | www.elementar.de

