DATA BULLETIN

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EXCELLENCE IN ELEMENTS

Analysis of very low nitrogen contents in starch using the rapid MAX N exceed

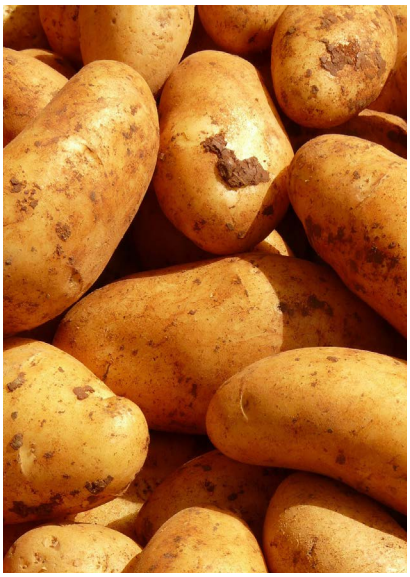
The determination of the nitrogen content of starch is a difficult task due to its relatively low nitrogen content. The rapid MAX N exceed is a macro analyzer designed for the fast and accurate determination of N/protein in plant material, food and feed as an environmentally friendly alternative to the classical Kjeldahl method. It utilizes the highly successful EAS REGAINER® technology, reducing costs of analysis and maintenance significantly.

INSTRUMENT:
rapid MAX N exceed

DETAILS:
carrier gas: helium
sample: 500–600 mg starch

Different types of starch were weighed into standard reusable stainless steel crucibles without any pre-treatment and were analyzed five times using a standard method. The sample weight ranged between 500 and 600 mg. A protein factor of 6.25 was applied to calculate the average protein content. The average nitrogen and protein content and the standard deviation of the nitrogen analyses are shown in the following table.

SAMPLE	N [%]	SD N [%]	PROTEIN [%]
wheat starch	0.029	0.002	0.179
corn starch	0.046	0.003	0.285
potato starch	0.013	0.002	0.083



The results show that the nitrogen content of all starch samples could be determined with a high precision, even for nitrogen contents down to 130 ppm. Due to its high possible sample weight and high quality analyses, the rapid MAX N exceed is very suitable for the analyses of low nitrogen concentrations in starch.

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, even in low nitrogen applications such as starch.

Elementar Analysensysteme GmbH
Elementar-Straße 1
63505 Langenselbold (Germany)
phone: +49 (0) 6184 9393-0
info@elementar.de | www.elementar.de

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