

# DATA BULLETIN

## *Determination of the N/protein content of animal feed with the rapid N exceed*

The N/protein content is a determining factor concerning the quality of animal feed. It must be measured accurately in order to assess the nutritional quality. The rapid N exceed is a fully automated analyzer for fast, precise and environmentally friendly analyses of N/Protein. The innovative EAS REGAINER® technology allows the analysis of several thousands of samples with minimum maintenance. This results in a reduction of the costs per analysis with more than a factor two compared to similar instruments on the market.

The samples were finely ground and weighed into tin boats. Analyses were run using a standard method implemented in the instrument software with a total analysis time of about 5 minutes. All samples have been analyzed ten times. A protein factor of 6.25 was applied to calculate the average protein content. The average difference between two successive analyses has been calculated to compare to international standard ISO 16634-1 (diff. N < 0.1%) and the relative standard deviation (RSD) to compare to international standard AOAC 990.03 (RSD < 2%).

SAMPLE	N [%]	PROTEIN [%]	RSD [%] of 10 analyses	DIFF. N [%] of 2 analyses
mare feed	3.10	19.4	0.45	0.021
dairy cow feed	3.03	18.9	0.85	0.023
laying hen feed	2.44	15.3	1.48	0.039
piglet breeding feed	3.03	19.0	1.57	0.064
ewe lamb feed	2.96	18.5	0.54	0.024
quail breeding feed	3.30	20.6	1.19	0.052

The results demonstrate the excellent analytical performance of the rapid N exceed. All samples could be analyzed well within the required precision of the international standards ISO 16634-1 and AOAC 990.03.

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

**INSTRUMENT:**  
rapid N exceed

**DETAILS:**  
carrier gas: carbon dioxide  
sample: 300 g animal feed



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