
Poster

VALIDATION OF THE DUMAS METHOD FOR THE DETERMINATION OF PROTEINS IN FOODS



Daniel Muñoz (1), M^a Menta Ballesteros (1), Manuel Santiago (2)

(1)Departamento de Biología Molecular e Ingeniería Bioquímica, Universidad Pablo de Olavide, Sevilla, España

(2)Microal S.L., Bollullos de la Mitación, Sevilla

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ABSTRACT

The analysis of the different raw materials or agro-food products is a previous and essential requirement to guarantee the adjustment of their parameters to the current environmental and food regulations. These analyses are carried out by specific laboratories, which have Quality Systems that guarantee their activity (UNE-EN ISO 9001: 2008, UNE-EN ISO 17025: 2005), allowing their results to be reliable for both the client and the final consumer.

There are many and very varied parameters that need to be determined to the different samples that arrive every day at this type of laboratory. Among them, proteins stand out for their importance in human and animal feeding. They are organic compounds that contain carbon, hydrogen, oxygen and nitrogen. They are composed of amino acids, many of them essential, which implies that the organism is not capable of producing them by itself and therefore it is fundamental to incorporate them into the diet. The most used method for the determination of proteins in food is the Kjeldahl method. However, and even though the results obtained with this method are reliable, other forms of nitrogen such as nitrites or nitrates are not taken into account, it involves long periods of analysis and it requires multiple steps for their determination, which increases the possibilities that mistakes are made. One of the alternatives to Kjeldahl digestion is the Dumas method, which solves the problems presented by the previous method and provides quite reliable results, provided that the experimental conditions have been adjusted correctly.

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