

BOOK OF ABSTRACTS

5th International Symposium on **RECENT ADVANCES IN FOOD ANALYSIS**

**November 1–4, 2011
Prague, Czech Republic**

Jana Pulkrabová and Monika Tomaniová
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G-28**EVALUATION OF SOME OF THE MAIN
INORGANIC IONS IN BRINE SOLUTIONS USED
FOR SEA SALT PRODUCTION BY FLOW
INJECTION ANALYSIS AND FOURIER-MID
INFRARED SPECTROSCOPY**

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In Portugal the production of 'traditional' sea salt is seen as a sustainable activity with a production increases during the last years [1]. Today, this type of salt is considered a 'gourmet' product due to its distinctive physico-chemical characteristics. The extraction of the 'traditional' sea salt is a hand-labour activity which requires the correct management of brine flows coming from the sea which travels through well defined sea pans areas until sodium chloride (NaCl), together with other types of salts (i.e. MgSO₄, MgCl₂ and others), crystallizes. The determination of inorganic constituents in the brine solutions which are used for the production of 'traditional' sea salt is of vital importance as the presence of trace elements in those brines will determine the final quality of 'traditional' sea salt. The main objective of the presented work was to ascertain whether the application of Fourier-mid-infrared spectroscopy in combination with flow injection analyses are well suitable for the rapid and simple evaluation of brine solutions in terms of inorganic constituents (i.e. sulfates and nitrates) and other parameters like the salinity and how these parameters are also influencing the final quality of sea salt.

[1] INE (2010) Statistical Yearbook of Portugal – 2009. Instituto Nacional de Estatística, I.P. Ed. p. 367. ISBN 978-989-25-0047-8

Keywords: *traditional-sea-salt, sea-water, trace-elements, flow-analysis, infrared-spectroscopy*

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