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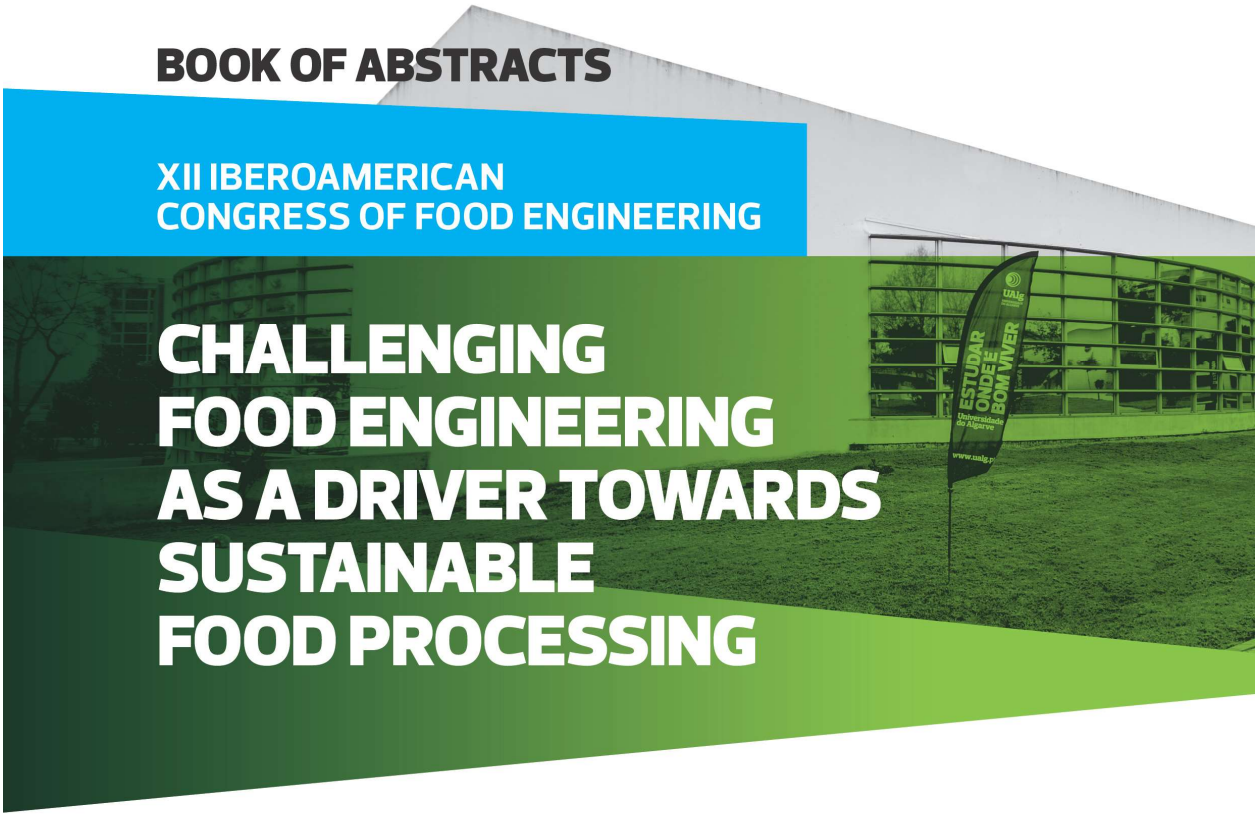

CHALLENGING FOOD ENGINEERING AS A DRIVER TOWARDS SUSTAINABLE FOOD PROCESSING

UNIVERSITY OF ALGARVE, GAMBELAS CAMPUS
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"Challenging Food Engineering as a Driver Towards Sustainable Food Processing"

e-Book of Abstracts

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Analysis of textural characteristics in bread prepared with incorporation of ewe's whey

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Bread is considered one of the basic foods consumed all over the world. Because the flours used for baking bread vary greatly in terms of chemical composition and also because of the differences in the baking processes used, breads constitute a group of food products with extremely heterogeneous structures, which in turn determine bread textural characteristics. The present trend to enrich breads with nutritional components has led to the utilization of residues from the food industry as a way to join the advantages of recuperation of beneficial compounds with the minimization of environmental impacts.
The objective of this work was to develop new breads incorporating whey residue obtained from ewe's milk after the production of Serra da Estrela Cheese. The developed products were analysed in terms of textural properties, and compared with a basic wheat bread also produced under similar conditions. To measure the textural properties, two types of test were performed (compression and puncture). The results indicated that the whey residue could be successfully used to produce bread with desirable textural properties, and this was particularly important for the improved formulation, which aimed to bring additional nutritional benefits to the consumer. The improved whey bread presented good textural characteristics, which remained practically unchanged after 24 h without any special type of container. This consistency in the textural properties was verified for all the properties evaluated: hardness, chewiness, resilience, cohesiveness, springiness evaluated by the compression test and external firmness, inner firmness, stickiness, adhesiveness evaluated by the puncture test. Furthermore, very strong correlations were found between some of textural properties, namely between cohesiveness and resilience and between adhesiveness and stickiness.

Keywords: Compression test, Puncture test, Residue valorisation, Textural properties