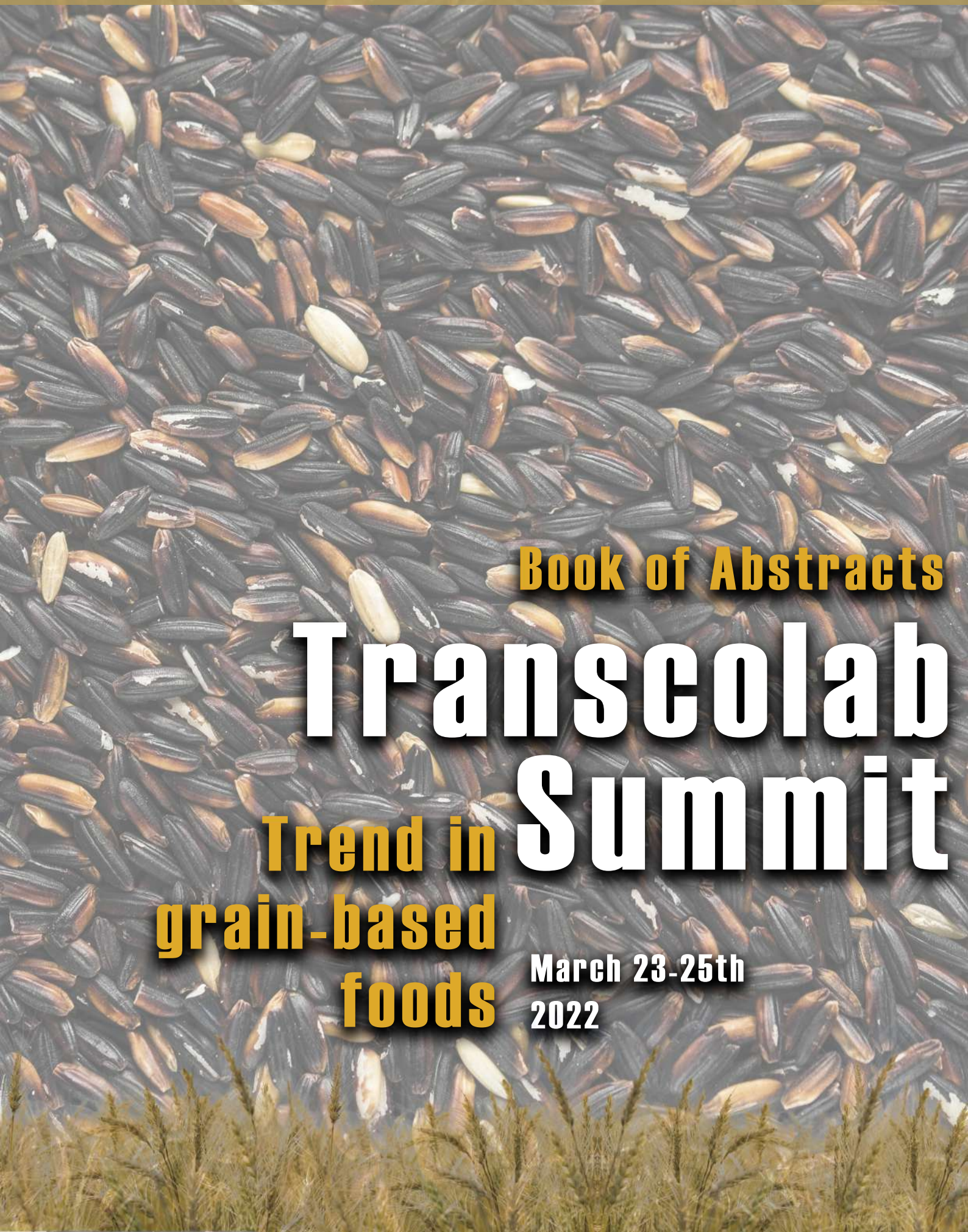

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Trend in grain-based foods

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1° Trends in grain-based foods

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Trends in grain-based foods

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About

TRANSCOLAB is a European project that brings together universities, research centres, foundations, and companies from Castilla y León and Northern Portugal. This project intends to strengthen the connection between research institutions and companies, identifying the challenges and needs of the cereal industry and the existing scientific-technological capacities of the participating entities. It also aims to generate novel products, promote knowledge and innovation transfer, and develop a series of actions to promote innovative products and processes in the cereal sector, particularly in bakery and pastry.

Therefore, and because the project is coming to an end, the TRANSCOLAB partners organised an international congress, bringing together researchers and professionals to share innovative ideas in this field. The congress is divided into four different topics:

1. Past as key to the future (ancient grains, wholemeal products, and sourdoughs)
2. New Ingredients in grain-based products (Pseudocereals, pulses, and new flour sources)
3. Novel technologies, processes, and products
4. Sustainability and Circular economy.

The TRANSCOLAB SUMMIT team would like to thank you for your application to the congress, contributing to its success, with more than 170 registrations. The submitted works were received, processed, divided into two main categories (Oral Communications and Posters), and later distributed according to the aforementioned topics. In total, 34 Oral and 42 Panel Communications will be presented, joined by three Technical Communications and six plenary lectures. Moreover, the TRANSCOLAB SUMMIT will start with a Traditional and Innovative Bakery workshop, with 45 participants. On the SUMMIT's last day, we will have a discussion panel regarding "Myths and truths regarding cereal consumption". Once again, we would like to thank you all for attending our congress, and we hope to see you again at future research events.

The TRANSCOLAB SUMMIT team.

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THE POTENTIAL OF AROMATIC EXTRACTS TO ENHANCE THE SENSORY PERCEPTION OF BREAD

Vanessa Vieira,[1*] Liege Aguiar Pascoalino[2], Eliana Pereira[2], Elisabete Ferreira[3], Andreia Afonso[1], Júlia C. Kessler[3,4], Isabel Martins[4,5], Madalena Dias[4,5], Isabel C.F.R. Ferreira[2], Cristina Gallego[6], Manuel Gómez[6], Lillian Barros[2]

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Aromas are widely recognized for influencing human stimulation, mood and, consequently, choices and decisions [1]. This work aims to study the extracts of *Rosmarinus of icinalis* L. leaves and *Prunus dulcis* (Mill.) D. A. Webb fruits as food ingredients.

The extracts were obtained by SFE-CO_2technology. Three sample groups were prepared: i) bread containing rosemary extract (40 µL/Kg of bread) ii) bread containing almond extract (10 µL/Kg of bread), and iii) bread without any functionalizing element (control sample). The samples were cooked in industrial ovens and the perception of the cooked products was evaluated by acceptability tests. The nutritional profile (protein, ash, fat, carbohydrate and energy content) was determined using official methodologies for the analysis of food products (AOAC). The chemical profile was evaluated, determining free sugars by HPLC-RI, fatty acids by GC-FID, and the most abundant terpene molecules (*D*-limonene and eucalyptol) by HS SPME-GC-MS.

The results showed a very similar nutritional profile in all tested samples. The moisture presented values of 40%, the protein content varied between 6.4 and 6.8 g/100g fresh weight (fw), the amount of ash was about 1 g/100g fw, and the lipid content was on average 0.15 g/100g fw. Considering the fiber concentration, the values ranging between 3 and 4%, being higher in the control sample. In chemical composition, fructose, glucose and maltose were detected in sugar profile, and in fatty acids composition the polyunsaturated fatty acids were the most abundant in all cases. Regarding the terpene composition of bread crust and crumb samples, the aroma molecules of *P. dulcis* fruit were manly detected in the crumb samples, with this behavior persisting over the time. Moreover, *R. of icinalis* molecules were firstly detected (*t0*) in the bread crust, but after 4 hours (*t4*), they were identified in crumbs. The inclusion of extracts improved consumer assessment of the visual appearance, texture and overall acceptability of the breads.

In conclusion, this work emphasizes the importance of studying natural aromas as food ingredients to improve the sensory perception of bread, maintaining their nutritional profile. It also represents as a steppingstone for a new generation of foods under the olfactive marketing concept, validated in an industrial context.

References

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