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PASTA AS A VEHICLE OF BIOACTIVE COMPOUNDS: HOW TECHNOLOGY CAN HELP TO DELIVER HIGH QUALITY PRODUCTS

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The consumption of cereal-based products enriched in bioactive compounds has been increasing steadily, given the well-known health benefits of these compounds. Because of its simple formula and worldwide popularity, pasta has been a common product targeted by product developers for offering bioactive compounds-enriched formats. As an example, a single serving of whole grain pasta – with its 7 g of fiber per 100 g of pasta - could help in satisfying the recommended daily intake for this component. Beside the nutritional benefits, there are a spate of sensory and technological issues that may become problematic when dealing with bioactive compounds-enriched pasta, including whole wheat pasta. This kind of product appears dark in color, with a bitter taste and low cooking quality. Pasta producers are therefore called to meet the demand for a product with high nutritional interest, while paying due attention to the acceptability of the product. In this regard, particular attention should be paid to the choice of the raw material and the technological process. This presentation will provide an overview of the main pre-treatments (such as debranning) used to produce bioactive compounds-enriched pasta while keeping high the cooking behaviour of the final products, in terms of high firmness and low cooking loss. The case study of purple wheat – rich in antocyanidines - will be presented. Moreover, the effects of the main steps of the pasta-making processes on pasta quality will be also assessed. In particular, attention will be focused on shaping (extrusion vs sheeting) and drying (medium temperature vs high temperature) and on their role on determining macromolecular interactions and sensory profile of both buckwheat-enriched pasta and wholegrain pasta.

ABSTRACT